

Notice of Meeting
UNIVERSITY OF HAWAI'I
BOARD OF REGENTS COMMITTEE ON BUDGET AND FINANCE

Members: Regents Moore (Chair), Higaki (Vice-Chair), Acoba,
McEnerney, and Tagorda

Date: Thursday, September 6, 2018

Time: 12:15 p.m.

Place: University of Hawai'i at Mānoa
Information Technology Building
1st Floor Conference Room 105A/B
2520 Correa Road
Honolulu, Hawai'i 96822

AGENDA

I. Call Meeting to Order

II. Approval of Minutes of the August 2, 2018 Meeting

III. Public Comment Period for Agenda Items: All written testimony on agenda items received after posting of this agenda and up to 24 hours in advance of the meeting will be distributed to the board. Late testimony on agenda items will be distributed to the board within 24 hours of receipt. Written testimony may be submitted via US mail, email at bor@hawaii.edu, or facsimile at 956-5156. Individuals submitting written testimony are not automatically signed up for oral testimony. Registration for oral testimony on agenda items will be provided at the meeting location 15 minutes prior to the meeting and closed once the meeting begins. Oral testimony is limited to three (3) minutes. All written testimony submitted are public documents. Therefore, any testimony that is submitted verbally or in writing, electronically or in person, for use in the public meeting process is public information and will be posted on the board's website.

IV. Agenda Items

- A. FY18 Fourth Quarter UBS Legacy Endowment Fund Investment Performance Report
- B. Discussion on UBS Investment Strategy
- C. Recommend Board Approval of Fiscal Biennium 2019-2021 Budget Policy Paper
- D. FY18 Fourth Quarter Financial Report
- E. FY17 Bond Post-Issuance Compliance Update
- F. Review and Approval of Committee Work Plan

V. Adjournment



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SYSTEM

UNIVERSITY OF HAWAII
BOARD OF REGENTS

18 AUG 30 P5:01

August 29, 2018

19062 A
Kalbert K. Young
Vice President for Budget and Finance
Chief Financial Officer

RECEIVED

'18 AUG 30 P2:14

UNIVERSITY OF HAWAII
PRESIDENT'S OFFICE

TO: Lee Putnam
Chair, Board of Regents

Randy Moore
Chair, Committee on Budget and Finance, Board of Regents

VIA: David Lassner
President

FROM: Kalbert K. Young
Vice President for B&F/CFO

SUBJECT: FY18 Q4 UBS Investment Performance Report

Attached is a report on investment performance of the Legacy Endowment Fund provided by UBS for the fourth quarter of the fiscal year ending on June 30, 2018. The report highlights performance of the overall portfolio and the specific funds or investment products that comprise the Legacy Endowment Fund portfolio. This report is an information item for discussion at the Committee on Budget and Finance (B&F Committee) meeting on September 6, 2018.

Ms. Lori Hamano and Mr. Kyle Yoneshige from UBS will be present to discuss this before the B&F Committee and will be available to answer any questions the Regents may have on the report or on the portfolio in general.

Attachment

c: University Controller (w/o attachment)



Branch office:
 2029 Century Park East
 Suite 3000
 Los Angeles, CA 900673016

Financial Advisor:
 Foundational Wealth Management
 808-536-4511

UBS Client Review

as of June 30, 2018

Prepared for

University of Hawaii

Accounts included in this review

Account	Name	Type
JX XX443	• University of Hawaii	• Portfolio Management Program
Risk profile:	Moderate	
Return Objective:	Current Income and Capital Appreciation	

What's inside

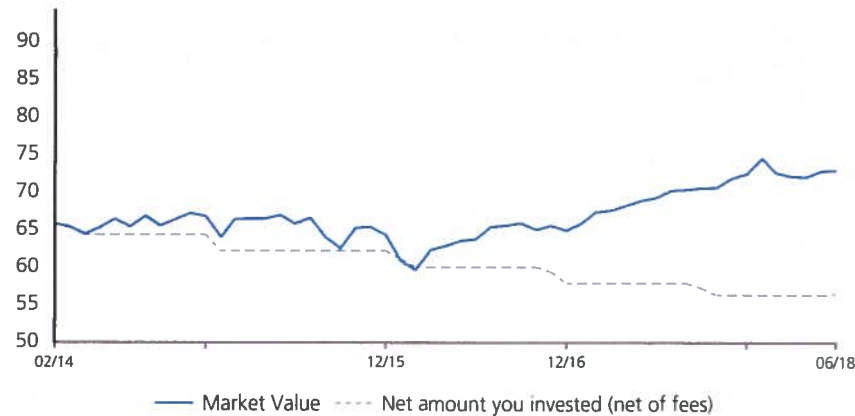
Performance review.	2
Asset class performance.	3
Security performance.	4
Additional information about your portfolio.	5
Important information about this report.	6

Performance review

as of June 30, 2018

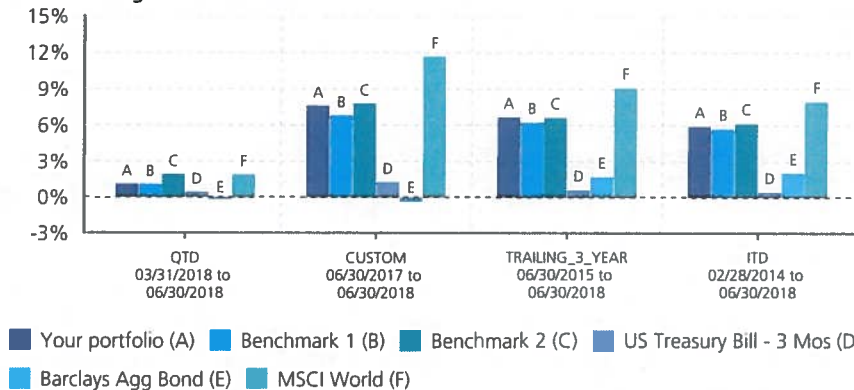
Sources of portfolio value

\$ Millions



Portfolio and selected benchmark returns

Net Time-weighted returns annualized



Benchmark 1:03/03/2014 - Current: 60% MSCI World; 40% Barclays Agg Bond+ **Benchmark 2:Start - Current:** 10% US Treasury Bill - 3 Mos; 24% S&P 500; 12% Russell 2000; 12% Russell Mid Cap; 12% MSCI EAFE-NR; +

+Additional benchmark information can be found on the benchmark composition page.

Past performance does not guarantee future results and current performance may be lower/higher than past data presented.

Report created on: July 17, 2018

Portfolio value and investment returns

Performance returns (annualized > 1 year)

	QTD For the period of		3 Years	ITD
	03/31/2018 to	06/30/2017 to	06/30/2015 to	02/28/2014 to
	06/30/2018	06/30/2018	06/30/2018	06/30/2018
Opening value	71,890,193.76	69,053,495.94	65,556,976.74	65,577,366.93
Net deposits/withdrawals	-35,819.90	-1,685,920.03	-6,216,266.60	-10,009,094.83
Div./interest income	419,116.05	1,684,410.73	5,458,283.50	7,848,831.41
Change in accr. interest	0.00	0.00	0.00	0.00
Change in value	418,692.37	3,640,195.65	7,893,188.65	9,275,078.78
Closing value	72,692,182.29	72,692,182.29	72,692,182.29	72,692,182.29
Net Time-weighted ROR	1.12	7.60	6.64	5.90

Net deposits and withdrawals include program and account fees.

Time weighted rates of return (net of fees)

Performance returns (annualized > 1 year)

	QTD For the period of		3 Years	ITD
	03/31/2018 to	06/30/2017 to	06/30/2015 to	02/28/2014 to
	06/30/2018	06/30/2018	06/30/2018	06/30/2018
Your portfolio(%)	1.12	7.60	6.64	5.90
Benchmark 1	1.09	6.80	6.23	5.69
Benchmark 2	1.93	7.79	6.61	6.14
US Treasury Bill - 3 Mos	0.44	1.29	0.62	0.44
Barclays Agg Bond	-0.16	-0.40	1.72	2.05
MSCI World	1.93	11.70	9.09	7.96

Asset class performance

as of June 30, 2018

	Value on 06/30/2018	% of Total portfolio	Net time-weighted returns (annualized > 1 year)				Start date to 06/30/2018	Start date
			QTD	For the period of	For the period of	ITD		
			03/31/2018 to 06/30/2018	06/30/2017 to 06/30/2018	06/30/2015 to 06/30/2018			
Cash	267,155.34	0.37	N/A	N/A	N/A	N/A	Feb 28, 2014	
<i>US Treasury Bill - 3 Mos</i>			<i>0.44</i>	<i>1.29</i>	<i>0.62</i>	<i>0.44</i>	<i>Feb 28, 2014</i>	
Cash	267,155.34	0.37	N/A	N/A	N/A	N/A	Feb 28, 2014	
Fixed Income	28,375,722.31	39.04	-0.91	0.91	2.91	2.01	Mar 10, 2014	
<i>Barclays Agg Bond</i>			<i>-0.16</i>	<i>-0.40</i>	<i>1.72</i>	<i>2.19</i>	<i>Mar 10, 2014</i>	
US	10,512,441.37	14.46	0.06	-0.22	2.17	1.70	Mar 10, 2014	
Global	17,863,280.93	24.57	-1.48	2.27	3.67	2.42	Mar 11, 2014	
Equity	44,049,304.64	60.60	2.53	12.54	10.06	9.26	Mar 11, 2014	
<i>MSCI AC World - NR</i>			<i>0.53</i>	<i>10.73</i>	<i>8.18</i>	<i>7.19</i>	<i>Mar 11, 2014</i>	
US	35,246,560.54	48.49	3.29	13.80	11.15	10.50	Mar 11, 2014	
International	8,802,744.10	12.11	0.96	7.21	6.05	4.45	Mar 11, 2014	
Total portfolio	\$72,692,182.29	100%	1.12%	7.60%	6.64%	5.90%	Feb 28, 2014	

Benchmarks - Time weighted returns	QTD	For the period of	For the period of	ITD
	03/31/2018 to 06/30/2018	06/30/2017 to 06/30/2018	06/30/2015 to 06/30/2018	Start date to 06/30/2018
Benchmark 1	1.09	6.80	6.23	5.69
Benchmark 2	1.93	7.79	6.61	6.14
US Treasury Bill - 3 Mos	0.44	1.29	0.62	0.44
Barclays Agg Bond	-0.16	-0.40	1.72	2.05
MSCI World	1.93	11.70	9.09	7.96

Benchmark 1:03/03/2014 - Current: 60% MSCI World; 40% Barclays Agg Bond+ **Benchmark 2:Start - Current:** 10% US Treasury Bill - 3 Mos; 24% S&P 500; 12% Russell 2000; 12% Russell Mid Cap; 12% MSCI EAFE-NR; 30% Barclays Agg Bond

+Additional benchmark information can be found on the benchmark composition page.

Gross time weighted returns are displayed at the asset class level for advisory accounts not displayed by their manager's strategy

Past performance does not guarantee future results and current performance may be lower/higher than past data presented.



Security performance

as of June 30, 2018

Gross time-weighted returns (annualized > 1 year)

	Value on 06/30/2018	% of Total Portfolio	QTD 03/31/2018 to 06/30/2018	For period of 06/30/2017 to 06/30/2018	For period of 06/30/2015 to 06/30/2018	ITD Start date to 06/30/2018	Start date
BLACKROCK STRATEGIC INCOME**	8,309,282.62	11.43	-0.85	1.92	2.29	2.35	Mar 11, 2014
INVESCO TAXABLE MUNICIPAL BOND ETF**	904,876.83	1.24	-0.71	-0.43*	-0.43*	-0.43	Sep 05, 2017
ISHARES CORE U.S. AGGREGATE BOND ETF	4,325,629.20	5.95	-0.18	-0.54	0.19*	0.19	Jun 21, 2016
PIMCO INCOME FUND	5,860,124.65	8.06	-0.59	2.25	6.32*	6.32	Dec 29, 2015
PRUDENTIAL GLOBAL TOTAL RETURN FUND INC	3,693,873.67	5.08	-4.02	2.38	4.80	2.21	Sep 11, 2014
SCHWAB INTERMEDIATE-TERM US TREAS ETF	1,535,728.51	2.11	-0.06	-2.76*	-2.76*	-2.76	Sep 05, 2017
SPDR S&P 500 FOSSIL FUEL FREE ETF	9,183,074.76	12.63	2.65	14.08	16.39*	16.39	Mar 24, 2016
TOUCHSTONE ULTRA SHORT DURATION FIXED INCOME FUND**	2,650,556.92	3.65	0.57	1.61	1.40	1.18	Mar 10, 2014
UBS BANK USA BUSINESS ACCOUNT	250,000.00	0.34	0.00*	0.00*	0.00*	0.00	Apr 27, 2018
UBS SELECT GOVERNMENT CAPITAL FUND	17,149.12	0.02	0.00*	0.00*	0.00*	0.00	Jun 22, 2018
VANGUARD FTSE DEVELOPED MKT ETF	4,310,377.50	5.93	-1.55	7.28	6.18	4.27	Mar 11, 2014
VANGUARD MID-CAP ETF	7,521,634.96	10.35	2.53	12.15	9.16	9.45	Mar 11, 2014
VANGUARD MORTGAGE BACKED SECURITIES ETF	1,095,649.92	1.51	0.33	-1.34*	-1.34*	-1.34	Sep 05, 2017
VANGUARD S&P 500 ETF	13,069,583.31	17.98	3.02	13.66	11.86	11.31	Mar 11, 2014
VANGUARD SMALL-CAP ETF	5,472,267.51	7.53	6.21	16.53	10.43	9.22	Mar 11, 2014
XTRACKERS MSCI EAFE HEDGED EQUITY ETF	4,492,366.60	6.18	3.50	7.14	5.92	7.10	Dec 23, 2014
Total Portfolio	\$72,692,182.29	100%	1.17%	7.81%	6.85%	6.11%	Feb 28, 2014

Benchmarks - Annualized time-weighted returns	QTD 03/31/2018 to 06/30/2018	For period of 06/30/2017 to 06/30/2018	For period of 06/30/2015 to 06/30/2018	ITD Start date to 06/30/2018
Benchmark 1	1.09	6.80	6.23	5.69
Benchmark 2	1.93	7.79	6.61	6.14
US Treasury Bill - 3 Mos	0.44	1.29	0.62	0.44
Barclays Agg Bond	-0.16	-0.40	1.72	2.05
MSCI World	1.93	11.70	9.09	7.96

Benchmark 1:03/03/2014 - Current: 60% MSCI World; 40% Barclays Agg Bond+ **Benchmark 2:Start - Current:** 10% US Treasury Bill - 3 Mos; 24% S&P 500; 12% Russell 2000; 12% Russell Mid Cap; 12% MSCI EAFE-NR; 30% Barclays Agg Bond

+Additional benchmark information can be found on the benchmark composition page.

Past performance does not guarantee future results and current performance may be lower/higher than past data presented.

*Performance is partially available for the selected time period and is based on the performance start date.

** Please note, performance is inclusive of multiple securities.



Additional information about your portfolio

as of June 30, 2018

Net Time Weighted Returns (annualized > 1 year)

	Performance	QTD 03/31/2018 to 06/30/2018	3 Years 06/30/2015 to 06/30/2018	For the period 06/30/2017 to 06/30/2018	ITD 02/28/2014 to 06/30/2018
Account JX XX443	02/28/2014	1.12%	6.64%	7.60%	5.90%

Benchmark composition

Account JX XX443

Benchmark 1

Start - 03/03/2014: 60% MSCI World; 40% Barclays Agg Bond

03/03/2014 - Current: 60% MSCI World; 40% Barclays Agg Bond

Benchmark 2

Start - Current: 10% US Treasury Bill - 3 Mos; 24% S&P 500; 12% Russell 2000; 12% Russell Mid Cap; 12% MSCI EAFE-NR; 30% Barclays Agg Bond



Disclosures applicable to accounts at UBS Financial Services Inc.

This section contains important disclosures regarding the information and valuations presented here. All information presented is subject to change at any time and is provided only as of the date indicated. The information in this report is for informational purposes only and should not be relied upon as the basis of an investment or liquidation decision. UBS FS accounts statements and official tax documents are the only official record of your accounts and are not replaced, amended or superseded by any of the information presented in these reports. You should not rely on this information in making purchase or sell decisions, for tax purposes or otherwise.

UBS FS offers a number of investment advisory programs to clients, acting in our capacity as an investment adviser, including fee-based financial planning, discretionary account management, non-discretionary investment advisory programs, and advice on the selection of investment managers and mutual funds offered through our investment advisory programs. When we act as your investment adviser, we will have a written agreement with you expressly acknowledging our investment advisory relationship with you and describing our obligations to you. At the beginning of our advisory relationship, we will give you our Form ADV brochure(s) for the program(s) you selected that provides detailed information about, among other things, the advisory services we provide, our fees, our personnel, our other business activities and financial industry affiliations and conflicts between our interests and your interests.

In our attempt to provide you with the highest quality information available, we have compiled this report using data obtained from recognized statistical sources and authorities in the financial industry. While we believe this information to be reliable, we cannot make any representations regarding its accuracy or completeness. Please keep this guide as your Wealth Review.

Please keep in mind that most investment objectives are long term. Although it is important to evaluate your portfolio's performance over multiple time periods, we believe the greatest emphasis should be placed on the longer period returns.

Please review the report content carefully and contact your Financial Advisor with any questions.

Client Accounts: This report may include all assets in the accounts listed and may include eligible and ineligible assets in a fee-based program. Since ineligible assets are not considered fee-based program assets, the inclusion of such securities will distort the actual performance of your accounts and does not reflect the performance of your accounts in the fee-based program. As a result, the performance reflected in this report can vary substantially from the individual account

performance reflected in the performance reports provided to you as part of those programs. For fee-based programs, fees are charged on the market value of eligible assets in the accounts and assessed quarterly in advance, prorated according to the number of calendar days in the billing period. When shown on a report, the risk profile and return objectives describe your overall goals for these accounts. For each account you maintain, you choose one return objective and a primary risk profile. If you have questions regarding these objectives or wish to change them, please contact your Financial Advisor to update your accounts records.

Performance: This report presents accounts activity and performance starting 12/31/02. For accounts opened prior to 12/31/02, this report does not include the complete account activity or performance of your accounts prior to that date. For consolidated reports, the Performance Start Date will be the earliest performance start date of any of the individual accounts selected for the consolidation time period. If an individual account's performance information is not available for a full reporting time period (month to date, quarter to date, year to date or performance to date), the individual's net of fee time weighted return will not be displayed. For consolidated accounts that include different account Performance Start Dates, the consolidated Additions/Withdrawals, Income Earned and Investment Appreciation/ Depreciation will include all activity that occurred during the consolidated reporting time period. Accounts that hold or held insurance products will be reported on from the month end date of when insurance and annuity activity could be obtained from the carrier. Past performance does not guarantee future results and current performance may be lower/higher than past data presented.

Time-weighted Returns (prior to 10/31/2010): The report displays a time weighted rate of return (TWR) that is calculated using the Modified Dietz Method. This calculation uses the beginning and ending portfolio values for the month and weighs each contribution/withdrawal based upon the day the cashflow occurred. Periods greater than one month are calculated by linking the monthly returns. The TWR gives equal weighting to every return regardless of amount of money invested, so it is an effective measure for returns on a fee based account. All periods shown which are greater than 12 months are annualized.

Time-weighted Returns (after 10/31/2010): For reports generated on or after 1/26/2018, the report displays a time weighted rate of return (TWR) that is calculated by dividing the portfolio's daily gain/loss by the previous day's closing market value plus the net value of cash flows that occurred during the day, if it was positive. The TWR gives equal weighting to every return regardless of amount of money invested, so it is an effective measure for returns on a fee based account. Periods greater than one day are calculated by linking

the daily returns. All periods shown which are greater than 12 months are annualized. For reports generated prior to 01/26/2018, the performance calculations used the account's end of day value on the performance inception (listed in the report under the column "ITD") and all cash flows were posted at end of day. As a result of the change, the overall rate of return (TWR) and beginning market value displayed can vary from prior generated reports.

Money-weighted returns: Money-weighted return (MWR) is a measure of the rate of return for an asset or portfolio of assets. It is calculated by finding the daily Internal Rate of Return (IRR) for the period and then compounding this return by the number of days in the period being measured. The MWR incorporates the size and timing of cash flows, so it is an effective measure returns on a portfolio.

Annualized Performance: All performance periods greater than one year are calculated (unless otherwise stated) on an annualized basis, which represents the return on an investment multiplied or divided to give a comparable one year return.

Cumulative Performance: A cumulative return is the aggregate amount that an investment has gained or lost over time, independent of the period of time involved.

Net of Fees and Gross of Fees Performance: Performance is presented on a "net of fees" and "gross of fees" basis, where indicated. Net returns do not reflect Program and wrap fees prior to 10/31/10 for accounts that are billed separately via invoice through a separate account billing arrangement. Gross returns do not reflect the deduction of fees, commissions or other charges. The payment of actual fees and expenses will reduce a client's return. The compound effect of such fees and expenses should be considered when reviewing returns. For example, the net effect of the deduction of fees on annualized performance, including the compounded effect over time, is determined by the relative size of the fee and the account's investment performance. It should also be noted that where gross returns are compared to an index, the index performance also does not reflect any transaction costs, which would lower the performance results. Market index data maybe subject to review and revision.

Asset Class Performance: If you selected the Manager Roll-up option, even though the asset manager may invest in more than one asset class, the asset manager will be included in an asset class based upon the asset manager's investment style/category. Therefore, the values/percentages of asset classes presented within this report may not match if you selected the Manager Roll-up option.

Benchmark/Major Indices: The past performance of an index is not a guarantee of future results. Any

benchmark is shown for informational purposes only and relates to historical performance of market indices and not the performance of actual investments. Although most portfolios use indices as benchmarks, portfolios are actively managed and generally are not restricted to investing only in securities in the index. As a result, your portfolio holdings and performance may vary substantially from the index. Each index reflects an unmanaged universe of securities without any deduction for advisory fees or other expenses that would reduce actual returns, as well as the reinvestment of all income and dividends. An actual investment in the securities included in the index would require an investor to incur transaction costs, which would lower the performance results. Indices are not actively managed and investors cannot invest directly in the indices. Market index data maybe subject to review and revision. Further, there is no guarantee that an investor's account will meet or exceed the stated benchmark. Index performance information has been obtained from third parties deemed to be reliable. We have not independently verified this information, nor do we make any representations or warranties to the accuracy or completeness of this information.

Benchmark 1 for Advisory accounts- The Benchmark 1 for your account is designed to reflect the asset categories in which your account is invested.

Benchmark 2 - 8 for Advisory accounts - are optional indices selected by you which may consist of a blend of indexes.

Consumer Price Index - The Consumer Price Index for Urban Wage Earners and Clerical Workers-U.S. City Average, All Items. Based on monthly data published by the U.S. Department of Labor. The CPI for the most recent month is estimated due to the delayed release of CPI data by the U.S. government. Therefore, CPI for the most recent month is assumed to be equal to the CPI for the previous month.

CPI + % - is an optional index that, if selected, will replace the standard CPI measure on your Review. This index consists of the CPI return plus an absolute annualized return selected by you.

Client Return Objective - is an optional annualized return objective selected by you. In establishing this objective, you should make sure that it is consistent with your tolerance for risk.

Custom Time Periods: If represented on this report, the performance start date and the performance end date have been selected by your Financial Advisor in order to provide performance and account activity information for your account for the specified period of time only. As a result only a portion of your account's activity and performance information is presented in the performance report, and, therefore, presents a distorted



Disclosures applicable to accounts at UBS Financial Services Inc. (continued)

representation of your account's activity and performance.

Net Deposits/Withdrawals: When shown on a report, this information represents the net value of all cash and securities contributions and withdrawals, program fees (including wrap fees) and other fees added to or subtracted from your accounts from the first day to the last day of the period. When fees are shown separately, net deposits / withdrawals does not include program fees (including wrap fees). When investment return is displayed net deposits / withdrawals does not include program fees (including wrap fees). For security contributions and withdrawals, securities are calculated using the end of day UBS FS price on the day securities are delivered in or out of the accounts. Wrap fees will be included in this calculation except when paid via an invoice or through a separate accounts billing arrangement. When shown on Client summary and/or Portfolio review report, program fees (including wrap fees) may not be included in net deposits/withdrawals.

Dividends/Interest: Dividend and interest earned, when shown on a report, does not reflect your account's tax status or reporting requirements. Use only official tax reporting documents (i.e. 1099) for tax reporting purposes. The classification of private investment distributions can only be determined by referring to the official year-end tax-reporting document provided by the issuer.

Change in Accrued Interest: When shown on a report, this information represents the difference between the accrued interest at the beginning of the period from the accrued interest at the end of the period.

Change in Value: Represents the change in value of the portfolio during the reporting period, excluding additions/withdrawals, dividend and interest income earned and accrued interest. Change in Value may include programs fees (including wrap fees) and other fees.

Fees: Fees represented in this report include program and wrap fees. Program and wrap fees prior to October 1, 2010 for accounts that are billed separately via invoice through a separate account billing arrangement are not included in this report.

Performance Start Date Changes: The Performance Start Date for accounts marked with a '^' have changed. Performance figures of an account with a changed Performance Start Date may not include the entire history of the account. The new Performance Start Date will generate performance returns and activity information for a shorter period than is available at UBS FS. As a result, the overall performance of these accounts may generate better performance than the period of time that would be included if the report used the inception date of the account. UBS FS recommends

reviewing performance reports that use the inception date of the account because reports with longer time frames are usually more helpful when evaluating investment programs and strategies. Performance reports may include accounts with inception dates that precede the new Performance Start Date and will show performance and activity information from the earliest available inception date.

The change in Performance Start Date may be the result of a performance gap due to a zero-balance that prevents the calculation of continuous returns from the inception of the account. The Performance Start Date may also change if an account has failed one of our performance data integrity tests. In such instances, the account will be labeled as 'Review Required' and performance prior to that failure will be restricted. Finally, the Performance Start Date will change if you have explicitly requested a performance restart. Please contact your Financial Advisor for additional details regarding your new Performance Start Date.

Closed Account Performance: Accounts that have been closed may be included in the consolidated performance report. When closed accounts are included in the consolidated report, the performance report will only include information for the time period the account was active during the consolidated performance reporting time period.

Portfolio: For purposes of this report "portfolio" is defined as all of the accounts presented on the cover page or the header of this report and does not necessarily include all of the client's accounts held at UBS FS or elsewhere.

Pricing: All securities are priced using the closing price reported on the last business day preceding the date of this report. Every reasonable attempt has been made to accurately price securities; however, we make no warranty with respect to any security's price. Please refer to the back of the first page of your UBS FS. accounts statement for important information regarding the pricing used for certain types of securities, the sources of pricing data and other qualifications concerning the pricing of securities. To determine the value of securities in your account, we generally rely on third party quotation services. If a price is unavailable or believed to be unreliable, we may determine the price in good faith and may use other sources such as the last recorded transaction. When securities are held at another custodian or if you hold illiquid or restricted securities for which there is no published price, we will generally rely on the value provided by the custodian or issuer of that security.

Cash: Cash on deposit at UBS Bank USA is protected by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000 in principal and accrued interest per depositor for each ownership type. Deposits made in an individual's own name, joint name, or individual

retirement account are each held in a separate type of ownership. Such deposits are not guaranteed by UBS FS. More information is available upon request.

Ineligible Assets: We require that you hold and purchase only eligible managed assets in your advisory accounts. Please contact your Financial Advisor for a list of the eligible assets in your program. These reports may provide performance information for eligible and ineligible assets in a fee-based program. Since ineligible assets are not considered fee-based program assets, the inclusion of such securities will distort the actual performance of your advisory assets. As a result, the performance reflected in this report can vary substantially from the individual account performance reflected in the performance reports provided to you as part of those programs. For fee-based programs, fees are charged on the market value of eligible assets in the accounts and assessed quarterly in advance, prorated according to the number of calendar days in the billing period. Neither UBS nor your Financial Advisor will act as your investment adviser with respect to Ineligible Assets.

Variable Annuity Asset Allocation: If the option to unbundle a variable annuity is selected and if a variable annuity's holdings data is available, variable annuities will be classified by the asset class, subclass, and style breakdown for their underlying holdings. Where a variable annuity contains equity holdings from multiple equity sectors, this report will proportionately allocate the underlying holdings of the variable annuity to those sectors measured as a percentage of the total variable annuity's asset value as of the date shown.

This information is supplied by Morningstar, Inc. on a weekly basis to UBS FS based on data supplied by the variable annuity which may not be current. Portfolio holdings of variable annuities change on a regular (often daily) basis. Accordingly, any analysis that includes variable annuities may not accurately reflect the current composition of these variable annuities. If a variable annuity's underlying holding data is not available, it will remain classified as an annuity. All data is as of the date indicated in the report.

Equity Style: The Growth, Value and Core labels are determined by Morningstar. If an Equity Style is unclassified, it is due to non-availability of data required by Morningstar to assign it a particular style.

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Account changes: At UBS, we are committed to helping you work toward your financial goals. So that we may continue providing you with financial advice that is consistent with your investment objectives, please consider the following two questions:

- 1) Have there been any changes to your financial situation or investment objectives?
- 2) Would you like to implement or modify any restrictions regarding the management of your account? If the answer to either question is "yes," it is important that you contact your Financial Advisor as soon as possible to discuss these changes. For MAC advisory accounts, please contact your investment manager directly if you would like to impose or change any investment restrictions on your account.

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University of Hawaii Endowment - Fund Performance

Review of Holdings Compared to Three-Year Benchmark Returns

As of June 30, 2018

Equity

Type	Fund Name	Morningstar Benchmark	Benchmark 3 Year Return ²	Fund 3 Year Return ³	Difference From Benchmark
ETF	Deutsche X-Trackers MSCI Hedged Equity	MSCI ACWI Ex US	4.86%	5.78%	0.92%
ETF	SPDR S&P500 Fossil Fuel Free	Russell 1000	N/A ¹	N/A ¹	N/A ¹
ETF	Vanguard FTSE Developed Market	MSCI ACWI Ex US	5.07%	5.68%	0.61%
ETF	Vanguard S&P500	Russell 1000	11.72%	11.96%	0.24%
ETF	Vanguard Mid-Cap	Russell Mid-Cap	9.54%	9.18%	-0.36%
ETF	Vanguard Small-Cap	Russell 2000	10.95%	10.45%	-0.50%

Fixed Income

Type	Fund Name	Morningstar Benchmark	Benchmark 3 Year Return ²	Fund 3 Year Return ³	Difference From Benchmark
Mutual Fund	Blackrock Strategic Income	Three Month USD LIBOR	0.93%	2.31%	1.38%
ETF	iShares Core US Aggregate Bond	Bloomberg Barclays US Aggregate Bond	1.76%	1.69%	-0.07%
Mutual Fund	Pimco Income	Bloomberg Barclays US Universal	2.11%	5.22%	3.11%
Mutual Fund	Prudential Global Total Return	Citi World Government Bond Index	3.73%	4.80%	1.07%
Mutual Fund	Touchstone Ultra Short Duration	Bloomberg Barclays Govt/Corp 1 Year	0.72%	1.43%	0.71%
ETF	Powershares Taxable Muni Bond Portfolio	Bloomberg Barclays US Aggregate Bond	4.51%	5.26%	0.75%
ETF	Schwab Intermediate-Term US Treas	Bloomberg Barclays US Government	1.05%	0.76%	-0.29%
ETF	Vanguard Mortgage Backed Securities	Bloomberg Barclays US Government	1.04%	1.33%	0.29%

Source: Morningstar

1) The SPDR S&P500 Fossil Fuel Free fund does not have a three year track record as of June 30, 2018

2) The Benchmark 3 Year Return values are sourced directly from the internal UBS Portfolio Managing Reporting (PMR) System.

3) The Fund 3 Year Return values are sourced directly from the individual Fact Cards for each Fund listed below.

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University of Hawaii Endowment Fund
Report of Energy Allocation, Net Expense Ratio and Historical Quarterly Fees
As of June 30, 2018

Class/Sector	Description	Symbol	Market Value \$ a/o 06/30/2018	Current Allocation %	% in Energy	Weighted Energy Position	Net Expense Ratio	Weighted Net Expense Ratio
CASH	Cash		\$267,149	0.4%	0.00%	0.00%	0.00%	0.00%
FIXED INCOME								
Short Term Bond	Touchstone Ultra Short Duration	TSYYX	\$2,645,184	3.6%	N/A ¹	N/A ¹	0.44%	0.02%
Intermediate Term Bond	iShares Core US Aggregate	AGG	\$4,325,629	6.0%	0.00%	0.00%	0.05%	0.00%
Flexible Fixed	BlackRock Strategic Income Opps	BSIX	\$8,287,364	11.4%	N/A ¹	N/A ¹	0.90%	0.10%
Flexible Fixed	Prudential Global Total Return	PZTRX	\$3,681,553	5.1%	N/A ¹	N/A ¹	0.63%	0.03%
Flexible Fixed	PIMCO Income Fund	PONPX	\$5,833,608	8.0%	N/A ¹	N/A ¹	0.60%	0.05%
Long Term Bond	Powershares Taxable Municipal	BAB	\$904,877	1.2%	0.00%	0.00%	0.28%	0.00%
Intermediate Government	Schwab Intermediate	SCHR	\$1,535,729	2.1%	0.00%	0.00%	0.06%	0.00%
Intermediate Government	Vanguard Mortgage Backed Sec	VMBS	\$1,095,650	1.5%	0.00%	0.00%	0.07%	0.00%
EQUITIES								
Large Cap Blend	Vanguard S&P 500 ETF	VOO	\$13,069,583	18.0%	6.30%	1.13%	0.04%	0.01%
Large Cap Blend	SPDR S&P 500 Fossil Fuel Free ETF	SPYX	\$9,183,075	12.6%	1.78%	0.23%	0.20%	0.03%
Mid Cap Blend	Vanguard Mid Cap ETF	VO	\$7,521,635	10.4%	0.00%	0.00%	0.05%	0.01%
Small Cap Blend	Vanguard Small Cap ETF	VB	\$5,472,268	7.5%	0.00%	0.00%	0.05%	0.00%
Developed Markets	Vanguard FTSE Developed Markets ETF	VEA	\$4,310,378	5.9%	0.00%	0.00%	0.07%	0.00%
Developed Markets	Deutsche X-Trackers MSCI EAFE Hedged	DBEF	\$4,492,367	6.2%	5.82%	0.36%	0.35%	0.02%
			\$72,626,048	100%		1.72%		0.28%
					Minimum	Maximum		
				Cash	0.4%	0%	40%	
				Fixed Income	39.0%	30%	70%	
				Equities	60.7%	30%	70%	
					100%			

Historical Quarterly Fees: (calculation based on prior quarter end balance times fee rate of 20 bps. Divided by # of days in year times # of days in current quarter)

1Q 2015	\$32,795	1Q 2016	\$31,813	1Q 2017	\$31,577
2Q 2015	\$32,998	2Q 2016	\$30,828	2Q 2017	\$33,537
3Q 2015	\$33,015	3Q 2016	\$31,874	3Q 2017	\$34,773
4Q 2015	\$31,360	4Q 2016	\$32,954	4Q 2017	\$35,422
1Q 2018	\$35,258				
2Q 2018	\$35,820				

Approximately 2% of the entire portfolio is invested in Energy stocks.
Weighted Net Expense Ratio is 28 bps.

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Footnotes:

1) The Energy Exposure for these funds is not available.

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Morningstar Fund Fact Sheets

University of Hawaii

Presented by:

Foundational Wealth Management

UBS Financial Services Inc.

July 26, 2018





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BlackRock Strategic Income Opps Instl (USD)

Performance 06-30-2018					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	-0.55	1.36	1.63	1.13	3.61
2017	1.45	1.00	1.50	0.85	4.88
2018	0.42	-0.80	—	—	-0.39
Trailing Returns					
1 Yr	3 Yr	5 Yr	10 Yr	Incept	
Load-adj Mthly	1.97	2.31	2.88	4.33	4.13
Std 06-30-2018	1.97	—	2.88	4.33	4.13
Total Return	1.97	2.31	2.88	4.33	4.13
+/- Std Index	2.36	0.59	0.61	0.61	—
+/- Cat Index	0.43	1.38	2.23	3.60	—
% Rank Cat					
	39	54	22	48	
No. in Cat					
	323	271	167	49	

	Subsidized	Unsubsidized
7-day Yield 07-25-2018	3.34 ¹	—
30-day SEC Yield 06-30-2018	3.13 ¹	3.13

¹ Contractual waiver; Expires 04-30-2019

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 Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-441-7762 or visit www.blackrock.com

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses

Management Fees %	0.46
12b1 Expense %	NA
Gross Expense Ratio %	0.91

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3★	4★	3★
Morningstar Risk	-Avg	-Avg	Avg
Morningstar Return	Avg	+Avg	Avg

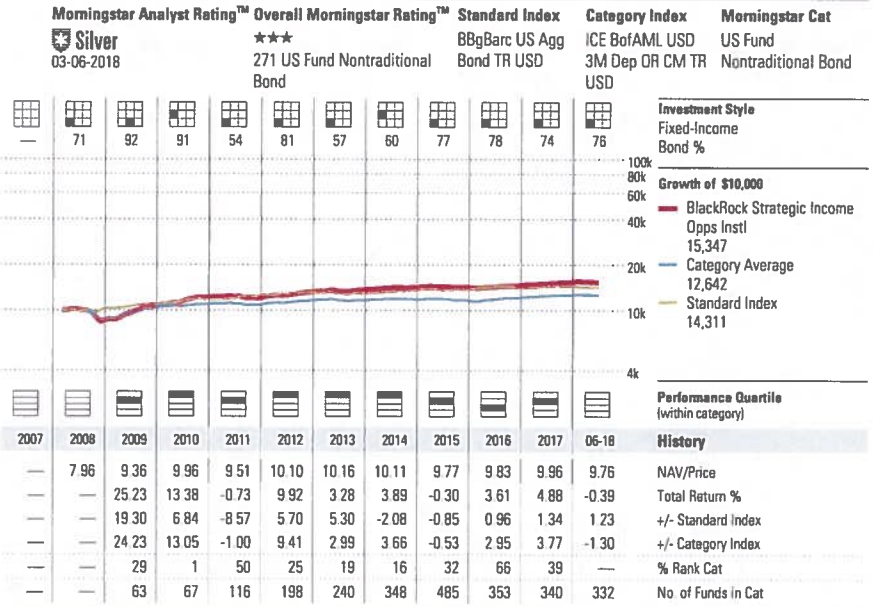
	3 Yr	5 Yr	10 Yr
Standard Deviation	1.75	1.66	4.71
Mean	2.31	2.88	4.33
Sharpe Ratio	0.88	1.42	0.85

MPT Statistics

	Standard Index	Best Fit Index
Alpha	1.52	1.18
Beta	0.03	0.11
R-Squared	0.27	60.83
12-Month Yield		3.54%
Potential Cap Gains Exp		-2.50%

Operations

Family:	BlackRock	Base Currency:	USD	Incept:	02-05-2008
Manager:	Multiple	Ticker:	BSIIX	Type:	MF
Tenure:	7.9 Years	Minimum Initial Purchase:	\$2 mil	Total Assets:	\$35,748.09 mil
Objective:	Income	Purchase Constraints:	A		



Portfolio Analysis 06-30-2018

Asset Allocation % 05-31-2018	Net %	Long %	Short %
Cash	10.58	51.64	41.07
US Stocks	1.26	1.37	0.11
Non-US Stocks	0.56	0.60	0.03
Bonds	82.76	117.65	34.89
Other/Not Clsfd	4.85	5.37	0.52
Total	100.00	176.63	76.63

Equity Style

Value	Blend	Growth
Value	Blend	Growth

Portfolio Statistics

P/E Ratio TTM	12.5	0.88
P/C Ratio TTM	8.2	—
P/B Ratio TTM	1.6	1.30
Geo Avg Mkt Cap \$mil	29816	5.28

Fixed-Income Style

Avg Eff Maturity	7.43
Avg Eff Duration	1.30
Avg Wtd Coupon	3.64
Avg Wtd Price	99.96

Credit Quality Breakdown 03-31-2018

	Bond %
AAA	39.69
AA	4.70
A	6.75
BBB	13.88
BB	13.14
B	10.02
Below B	4.55
NR	7.27

Regional Exposure

	Stocks %	Rel Std Index
Americas	77.3	—
Greater Europe	14.3	—
Greater Asia	8.4	—

Top Holdings 05-31-2018

Share Chg since 05-2018	Share Amount	Holdings	998 Total Stocks, 4,397 Total Fixed-Income, 1576% Turnover Ratio	Net Assets %
⊖	6,301 mil	Rip Treasury Note		-18.13
⊕	2,621 mil	Bb Treasury Note		7.54
★	1,840 mil	United States Treasury Notes 2.38%		5.30
⊖	1,829 mil	United States Treasury Notes 2.25%		5.28
★	1,437 mil	United States Treasury Notes 2.5%		4.14
⊕	1,433 mil	Rip Treasury Bond		-4.12
⊖	1,438 mil	United States Treasury Notes 0.12%		4.10
★	1,345 mil	United States Treasury Notes 2.75%		3.88
⊖	1,149 mil	United States Treasury Notes 2.5%		-3.29
★	855 mil	United States Treasury Notes 2.88%		-2.47
⊕	820 mil	United States Treasury Notes 0.12%		2.33
⊖	752 mil	United States Treasury Bonds 3%		2.19
⊖	670 mil	United States Treasury Notes 2.25%		-1.93
★	640 mil	United States Treasury Bonds 3.12%		1.89
⊕	585 mil	Rip Fgold 15yr Giant		-1.68

Sector Weightings

	Stocks %	Rel Std Index
Cyclical	64.5	—
Basic Materials	1.9	—
Consumer Cyclical	20.0	—
Financial Services	41.5	—
Real Estate	1.2	—
Sensitive	30.9	—
Communication Services	5.1	—
Energy	9.9	—
Industrials	8.4	—
Technology	7.5	—
Defensive	4.5	—
Consumer Defensive	2.0	—
Healthcare	1.9	—
Utilities	0.6	—

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Invesco Taxable Municipal Bond ETF (USD)

Overall Morningstar Rating™
 ★★ ★★
 20 US Fund Long-Term Bond

Standard Index
 BBgBarc US Agg
 Bond TR USD

Category Index
 BBgBarc US
 Govt/Credit Long
 TR USD

Morningstar Cat
 US Fund Long-Term
 Bond

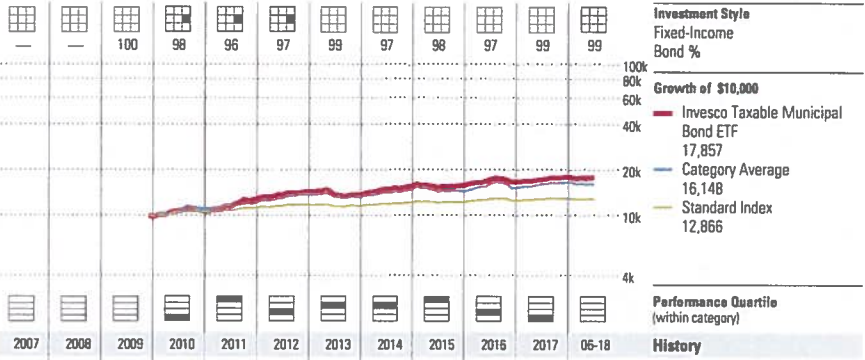
Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	4.56	5.14	0.77	-4.97	5.28
2017	1.13	2.73	2.17	1.93	8.20
2018	-0.85	0.08	—	—	-0.77

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	2.88	—	5.58	—	6.96
Std NAV 06-30-18	3.34	—	5.58	—	7.06

	2016	2017	2018
Mkt Total Ret	2.88	5.26	5.58
NAV Total Ret	3.34	5.09	5.58
+/- Std Index	3.74	3.37	3.30
+/- Cat Index	4.13	0.75	0.47

% Rank Cat	1	27	22
No. in Cat	22	20	18



	Subsidized	Unsubsidized
30-day SEC Yield 04-30-2018	3.71	4.10

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Fees and Expenses

Fund Expenses	
Management Fees %	0.28
Expense Ratio %	0.28
12b1 Expense %	NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	4★	4★	—
Morningstar Risk	-Avg	-Avg	—
Morningstar Return	+Avg	+Avg	—

	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	4.12	4.54	—
Standard Deviation MKT	5.22	5.53	—
Mean NAV	5.09	5.58	—
Mean MKT	5.26	5.58	—
Sharpe Ratio	1.04	1.12	—

MFT Statistics	Standard Index	Best Fit Index
NAV	BBgBarc US Government Long TR	USD Government Long TR
Alpha	2.91	2.98
Beta	1.41	0.45
R-Squared	83.54	89.21
12-Month Yield	—	4.07%
Potential Cap Gains Exp	—	—
Leveraged	No	—
Leverage Type	—	—
Leverage %	—	100.00
Primary Prospectus Benchmark	—	ICE BofAML US Taxable Muni + TR USD

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	06-18
Mkt Total Ret %	—	—	—	9.42	21.02	10.72	-5.19	17.00	-0.25	4.52	9.87	-1.50
NAV Total Ret %	—	—	—	9.26	20.94	11.36	-5.09	15.69	0.92	5.28	8.20	-0.77
+/- Standard Index	—	—	—	2.72	13.10	7.14	-3.07	9.73	0.37	2.63	4.66	0.85
+/- Category Index	—	—	—	-0.90	-1.55	2.57	3.73	-3.61	4.22	-1.40	-2.51	4.21
% Rank Cat	—	—	—	84	12	58	38	27	3	53	84	—
No. of Funds in Cat	—	—	—	52	61	70	35	35	37	31	23	23
Avg Prem/Discount %	—	—	0.16	0.09	-0.08	0.10	-0.45	0.20	-0.24	-0.02	-0.12	—

Portfolio Analysis 07-23-2018

Asset Allocation % 07-19-2018	Net %	Long %	Short %
Cash	0.69	0.69	0.00
US Stocks	0.00	0.00	0.00
Non-US Stocks	0.00	0.00	0.00
Bonds	99.31	99.31	0.00
Other/Not Clsfd	0.00	0.00	0.00
Total	100.00	100.00	0.00

Equity Style	Value	Blend	Growth
P/E Ratio TTM	—	—	—
P/C Ratio TTM	—	—	—
P/B Ratio TTM	—	—	—
Geo Avg Mkt Cap \$mil	—	—	—

Fixed-Income Style	Value	Mod	Est
Avg Eff Maturity	—	—	—
Avg Eff Duration	—	—	—
Avg Wtd Coupon	—	—	6.10
Avg Wtd Price	—	—	117.14

Credit Quality Breakdown	Bond %
AAA	14.78
AA	51.44
A	22.07
BBB	10.53
BB	0.22
B	0.91
Below B	0.00
NR	0.05

Regional Exposure	Stocks %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Top Holdings 07-19-2018

Share Chg since 07-2018	Share Amount	Holdings	0 Total Stocks, 344 Total Fixed-Income, 6% Turnover Ratio	Net Assets %
18 mil	CALIFORNIA ST 7.5%	2.67		
23 mil	CALIFORNIA ST 7.95%	2.62		
11 mil	CALIFORNIA ST 7.6%	1.78		
15 mil	CALIFORNIA ST 6.51%	1.75		
11 mil	CALIFORNIA ST 7.55%	1.74		
15 mil	ILLINOIS ST 5.56%	1.63		
11 mil	UNIVERSITY CALIF 5.95%	1.46		
12 mil	TEXAS TRANSN COMMN ST HWY FD 5.18%	1.42		
10 mil	MISSOURI JT MUN ELEC UTIL COMMN PW	1.37		
10 mil	NEW YORK N Y CITY MUN WTR FIN AUTH	1.35		
8 mil	AMERICAN MUN PWR OHIO INC 6.08%	1.34		
9 mil	CALIFORNIA ST 7.35%	1.31		
9 mil	SOUTH CAROLINA PUB SVC AUTH 6.45%	1.30		
10 mil	TEXAS ST 5.52%	1.29		
10 mil	GEORGIA MUN ELEC AUTH 7.06%	1.29		

Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

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Operations

Family:	Invesco	Ticker:	BAB	Mkt Price:	29.61
Manager:	Multiple	Incept:	11-17-2009	Base Currency:	USD
Tenure:	8.7 Years	Expiration Date:	—	Legal Structure:	Open Ended Investment Company
Total Assets:	\$934.0 mil	Exchange:	NYSE ARCA	Backing Bank:	Invesco Capital Management LLC
Shares Outstanding:	31.70 mil	NAV:	29.73		
Type:	ETF	Prem/Discount:	-0.42		

iShares Core US Aggregate Bond ETF (USD)

Morningstar Analyst Rating™
Silver
 10-27-2017

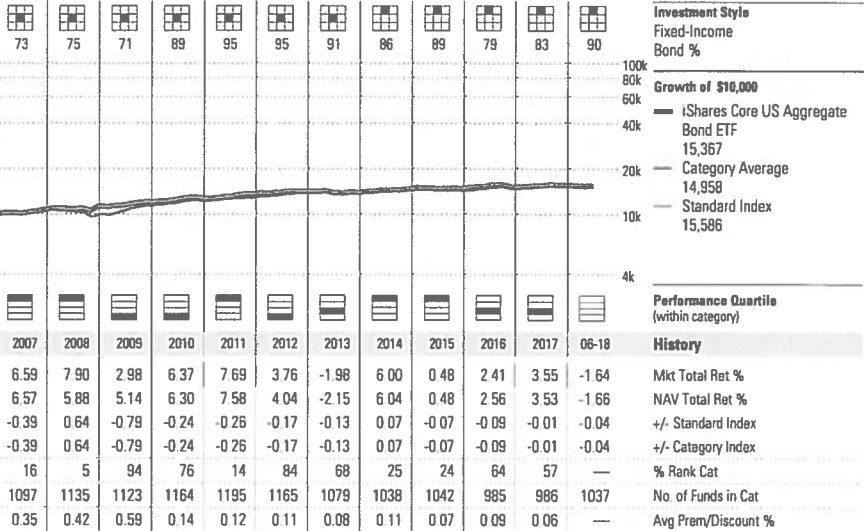
Overall Morningstar Rating™
 ★★★
 878 US Fund Intermediate-Term Bond

Standard Index
 BbgBarc US Agg Bond TR USD

Category Index
 BbgBarc US Agg Bond TR USD

Morningstar Cat
 US Fund Intermediate-Term Bond

Performance 06-30-2018					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	3.02	2.21	0.42	-3.00	2.56
2017	0.82	1.47	0.84	0.36	3.53
2018	-1.49	-0.16	—	—	-1.66
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	-0.54	—	2.24	3.58	3.77
Std NAV 06-30-18	-0.47	—	2.23	3.60	3.77
Mkt Total Ret	-0.54	1.69	2.24	3.58	3.77
NAV Total Ret	-0.47	1.65	2.23	3.60	3.77
+/- Std Index	-0.08	-0.07	-0.04	-0.12	—
+/- Cat Index	-0.08	-0.07	-0.04	-0.12	—
% Rank Cat	52	50	47	68	—
No. in Cat	999	878	778	563	—



30-day SEC Yield	Subsidized	Unsubsidized
	—	—

Performance Disclosure
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 Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-474-2737 or visit www.ishares.com.

Fees and Expenses

Fund Expenses	
Management Fees %	0.05
Expense Ratio %	0.06
12b1 Expense %	NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3★	3★	3★
Morningstar Risk	Avg	Avg	-Avg
Morningstar Return	Avg	Avg	Avg
Standard Deviation NAV	2.66	2.72	3.32
Standard Deviation MKT	2.80	2.82	3.88
Mean NAV	1.65	2.23	3.60
Mean MKT	1.69	2.24	3.58
Sharpe Ratio	0.35	0.65	0.98

MPT Statistics

	Standard Index	Best Fit Index
NAV	—	BbgBarc US Agg Bond TR USD
Alpha	-0.07	-0.07
Beta	1.00	1.00
R-Squared	99.98	99.98
12-Month Yield	—	—
Potential Cap Gains Exp	—	—
Leveraged	No	—
Leverage Type	—	—
Leverage %	100.00	—
Primary Prospectus Benchmark	BbgBarc US Agg Bond TR USD	—

Portfolio Analysis 07-23-2018

Asset Allocation % 07-18-2018	Net %	Long %	Short %
Cash	5.40	10.02	4.62
US Stocks	0.00	0.00	0.00
Non-US Stocks	0.00	0.00	0.00
Bonds	94.53	94.53	0.00
Other/Not Clsfd	0.07	0.07	0.00
Total	100.00	104.62	4.62

Equity Style

Value	Blend	Growth
—	—	—

Portfolio Statistics

	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	—	—	—
P/C Ratio TTM	—	—	—
P/B Ratio TTM	—	—	—
Geo Avg Mkt Cap \$mil	—	—	—

Fixed-Income Style

	Avg Eff Maturity	8.22
	Avg Eff Duration	5.91
	Avg Wtd Coupon	—
	Avg Wtd Price	100.50

Credit Quality Breakdown

	Bond %
AAA	72.79
AA	2.74
A	11.18
BBB	13.29
BB	0.00
B	0.00
Below B	0.00
NR	0.00

Regional Exposure

	Stocks %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Top Holdings 07-18-2018

Share Chg since 07-2018	Share Amount	Holdings	0 Total Stocks, 6,763 Total Fixed-Income, 252% Turnover Ratio	Net Assets %
878 mil		Fnma 30yr 2016 Production		1.53
691 mil		Gnma2 30yr 2016 Production		1.22
610 mil		Gnma2 30yr 2017 Production		1.10
564 mil		Fgld 30yr 2016 Production		0.98
442 mil		Gnma2 30yr 2016 Production		0.80
386 mil		United States Treasury Notes 3.63%		0.72
378 mil		Fnma 30yr 4% Ltv > 90 2017		0.69
349 mil		United States Treasury Notes 2.13%		0.62
335 mil		Fnma 30yr 2015 Production		0.60
331 mil		United States Treasury Bonds 3%		0.60
313 mil		United States Treasury Notes 2.25%		0.54
300 mil		Fgld 30yr 2017 Production		0.53
281 mil		Gnma2 30yr 2017 Production		0.52
272 mil		Fnma 30yr 2017 Production		0.48
284 mil		United States Treasury Notes 1.38%		0.48

Sector Weightings

	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Operations

Family:	iShares	Ticker:	AGG	Mkt Price:	106.32
Manager:	Multiple	Incept:	09-22-2003	Base Currency:	USD
Tenure:	8.0 Years	Expiration Date:	—	Legal Structure:	Open Ended Investment Company
Total Assets:	\$55,770.7 mil	Exchange:	NYSE ARCA	Backing Bank:	BlackRock Fund Advisors
Shares Outstanding:	526.40 mil	NAV:	106.24		
Type:	ETF	Prem/Discount:	0.08		

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PGIM Global Total Return Z (USD)

Morningstar Analyst Rating™ **Silver**
05-16-2018

Overall Morningstar Rating™ **★★★★★**
258 US Fund World Bond

Standard Index **BBgBarc US Agg Bond TR USD**

Category Index **FTSE WGBI NonUSD USD**

Morningstar Cat **US Fund World Bond**

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	5.61	3.66	1.80	-7.73	2.83
2017	3.92	4.36	2.66	1.89	13.44
2018	1.97	-4.02	—	—	-2.13

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	2.38	4.80	3.79	5.26	5.09
Std 06-30-2018	2.38	—	3.79	5.26	5.09
Total Return	2.38	4.80	3.79	5.26	5.09
+/- Std Index	2.78	3.08	1.51	1.54	—
+/- Cat Index	-0.84	1.07	2.78	3.48	—
% Rank Cat	16	1	10	8	—
No. in Cat	300	258	240	132	—

7-day Yield	Subsidized	Unsubsidized
30-day SEC Yield 06-30-2018	2.50 ¹	2.49

¹ Contractual waiver, Expires 02-29-2020

Performance Disclosure
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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-1852 or visit www.prudentialfunds.com.

Fees and Expenses

Sales Charges	NA
Front-End Load %	NA
Deferred Load %	NA

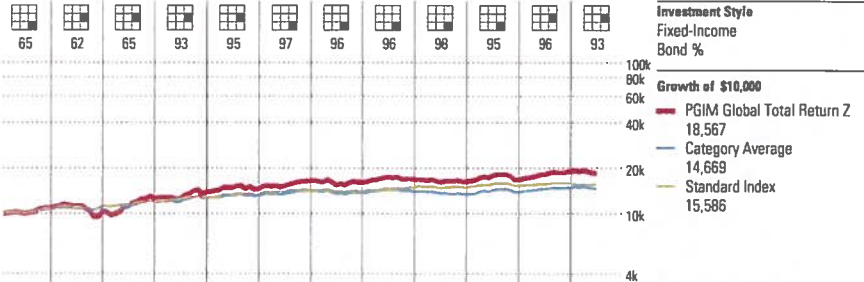
Fund Expenses	
Management Fees %	0.50
12b1 Expense %	NA
Gross Expense Ratio %	0.68

Risk and Return Profile	3 Yr	5 Yr	10 Yr
Morningstar Rating™	5★	4★	5★
Morningstar Risk	Avg	+Avg	+Avg
Morningstar Return	High	High	High

	3 Yr	5 Yr	10 Yr
Standard Deviation	6.03	5.88	8.77
Mean	4.80	3.79	5.26
Sharpe Ratio	0.68	0.58	0.59

MPT Statistics	Standard Index	Best Fit Index
Alpha	2.48	1.84
Beta	1.66	0.71
R-Squared	54.50	83.83
12-Month Yield		3.51%
Potential Cap Gains Exp		-0.24%

Operations			
Family:	PGIM Funds (Prudential)	Base Currency:	USD
Manager:	Multiple	Ticker:	PZTRX
Tenure:	15 8 Years	Minimum Initial Purchase:	\$5 mil
Objective:	Worldwide Bond	Min Auto Investment Plan:	\$50



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	06-18	History
NAV/Price	6.85	6.23	6.73	6.66	6.66	7.25	6.79	6.78	6.34	6.28	6.88	6.62	NAV/Price
Total Return %	8.28	-3.89	21.03	10.07	4.58	13.22	-2.06	4.29	-2.99	2.83	13.44	-2.13	Total Return %
+/- Standard Index	1.31	-9.13	15.10	3.53	-3.27	9.01	-0.04	-1.67	-3.54	0.18	9.90	-0.51	+/- Standard Index
+/- Category Index	-3.18	-14.00	16.64	4.86	-0.60	11.72	2.50	6.97	2.55	1.02	3.11	-1.21	+/- Category Index
% Rank Cat	48	70	10	14	28	10	38	22	32	57	2	—	% Rank Cat
No. of Funds in Cat	218	234	269	270	297	315	365	385	367	339	303	320	No. of Funds in Cat

Portfolio Analysis 06-30-2018

Asset Allocation %	Net %	Long %	Short %	Share Chg since 05-2018	Share Amount	Holdings	Net Assets %
Cash	1.71	8.53	6.81			2 Total Stocks, 1,349 Total Fixed-Income, 75% Turnover Ratio	
US Stocks	0.23	0.23	0.00	⊕	5,086	US 5 Year Note (CBT) Sept18	26.71
Non-US Stocks	0.00	0.00	0.00	⊕	2,097	US 10 Year Note (CBT) Sept18	11.65
Bonds	96.63	142.28	45.65	⊕	1,045	2 Year US Treasury Note Future Sep	-10.23
Other/Not Clsfd	1.42	2.46	1.04	⊕	1,512	Euro Schatz Sept18	-9.15
Total	100.00	153.50	53.50	⊖	1,023	Us Ultra Bond Cbt Sep18	7.54

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	Value	Blend	Growth	Value	Blend	Growth
P/E Ratio TTM	—	—	—	—	323	90day Euro\$ Futr Dec21	—	323	90day Euro\$ Futr Dec20	-3.62
P/C Ratio TTM	—	—	—	—	323	90day Euro\$ Futr Dec20	—	323	Euro BUND Future Sept18	-3.33
P/B Ratio TTM	—	—	—	—	379	Euro BUND Future Sept18	—	379	Euro BOBL Future Sept18	-2.80
Geo Avg Mkt Cap \$mil	—	—	—	—	393	Euro BOBL Future Sept18	—	393	Recv Irs 2 175 Krw 11/19/	1.87
Avg Eff Maturity	—	—	—	—	45,000 mil	Recv Irs 2 175 Krw 11/19/	—	45,000 mil	Payb Irs 2 175 Krw 11/19/	-1.87
Avg Eff Duration	—	—	—	—	23 mil	Portugal (Republic Of) 3.88%	—	23 mil	Portugal (Republic Of) 3.88%	1.49
Avg Wtd Coupon	—	—	—	—	98 mil	Recv Irs 915 11/20/2021	—	98 mil	Recv Irs 915 11/20/2021	1.24
Avg Wtd Price	—	—	—	—	98 mil	Payb Irs 915 11/20/2021	—	98 mil	Payb Irs 915 11/20/2021	-1.23
					18 mil	France (Republic Of) 2.75%	—	18 mil	France (Republic Of) 2.75%	1.17

Credit Quality Breakdown 06-30-2018	Bond %
AAA	29.35
AA	9.87
A	18.72
BBB	22.22
BB	8.93
B	6.03
Below B	0.22
NR	4.67

Regional Exposure	Stocks %	Rel Std Index
Americas	100.0	—
Greater Europe	0.0	—
Greater Asia	0.0	—

Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

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PIMCO Income I2 (USD)

Morningstar Analyst Rating™
Silver
 05-23-2018

Overall Morningstar Rating™
 ★★★★★
 267 US Fund Multisector Bond

Standard Index
 BBgBarc US Agg Bond TR USD

Category Index
 BBgBarc US Universal TR USD

Morningstar Cat
 US Fund Multisector Bond

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	1.75	2.42	2.82	1.36	8.61
2017	2.86	2.24	2.06	1.08	8.49
2018	-0.29	-0.46	—	—	-0.75

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	2.38	5.22	5.81	—	8.71
Std 06-30-2018	2.38	—	5.81	—	8.71
Total Return	2.38	5.22	5.81	9.16	8.71
+/- Std Index	2.78	3.50	3.53	5.44	—
+/- Cat Index	2.66	3.11	3.18	5.10	—
% Rank Cat	20	7	1	1	—
No. in Cat	327	267	208	125	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield	—	—

Performance Disclosure

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Fees and Expenses

Sales Charges

Front-End Load %	NA
Deferred Load %	NA

Fund Expenses

Management Fees %	0.60
12b1 Expense %	NA
Gross Expense Ratio %	0.63

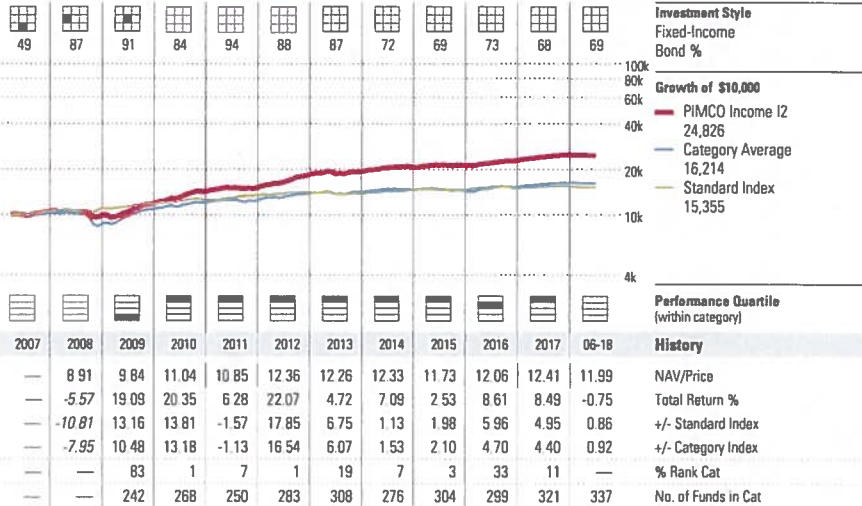
Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	267 funds	208 funds	125 funds
Morningstar Risk	5★	5★	5★
Morningstar Return	-Avg	-Avg	-Avg
	High	High	High

	3 Yr	5 Yr	10 Yr
Standard Deviation	2.24	2.44	4.58
Mean	5.22	5.81	9.16
Sharpe Ratio	1.92	2.11	1.86

MPT Statistics	Standard Index	Best Fit Index
Alpha	4.04	2.84
Beta	0.34	0.32
R-Squared	16.26	60.09

12-Month Yield	—
Potential Cap Gains Exp	-0.08%



Portfolio Analysis 03-31-2018

Asset Allocation %	Net %	Long %	Short %	Share Chg since 12-2017	Share Amount	Holdings	Net Assets %
Cash	-69.27	108.45	177.72	—	—	19 Total Stocks, 5,957 Total Fixed-Income, 266% Turnover Ratio	—
US Stocks	0.32	0.32	0.00	⊕	34,826 mil	IRS USD 2.00000 06/20/18-5Y CME_Pay	-29.89
Non-US Stocks	0.04	0.04	0.00	⊕	1,699,773 mil	IRS JPY 0.45000 03/20/19-10Y LCH_P	-14.33
Bonds	166.95	243.34	76.40	⊗	11,000 mil	IRS USD 2.20000 09/18/17-5Y* CME_R	9.55
Other/Not Clsfd	1.96	1.96	0.00	⊗	10,000 mil	CIRS USD 5.5Y MAT 3.00% 7/2018 GLM	8.89
Total	100.00	354.12	254.12	⊗	10,000 mil	CIRS USD 5.33Y MAT 2.80% 5/2018 GL	8.89

Equity Style	Value	Blend	Growth	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	59.7	—	3.33	—	—	—
P/C Ratio TTM	10.0	—	0.96	—	—	—
P/B Ratio TTM	1.9	—	0.81	—	—	—
Geo Avg Mkt Cap \$mil	5668	—	0.17	—	—	—

Fixed-Income Style	Lid	Mod	Ext	Avg Eff Maturity	Avg Eff Duration	Avg Wtd Coupon	Avg Wtd Price
	—	—	—	6.45	3.38	—	97.73

Credit Quality Breakdown	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR	—

Regional Exposure	Stocks %	Rel Std Index
Americas	100.0	—
Greater Europe	0.0	—
Greater Asia	0.0	—

Sector Weightings

	Stocks %	Rel Std Index
Cyclical	87.8	—
Basic Materials	0.0	—
Consumer Cyclical	34.0	—
Financial Services	0.0	—
Real Estate	53.7	—
Sensitive	12.1	—
Communication Services	0.0	—
Energy	12.1	—
Industrials	0.0	—
Technology	0.0	—
Defensive	0.1	—
Consumer Defensive	0.0	—
Healthcare	0.0	—
Utilities	0.1	—

Operations

Family:	PIMCO	Base Currency:	USD	Incept:	04-30-2008
Manager:	Multiple	Ticker:	PONPX	Type:	MF
Tenure:	11.3 Years	Minimum Initial Purchase:	\$1 mil	Total Assets:	\$113,257.97 mil
Objective:	Multisector Bond	Purchase Constraints:	A		

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Schwab Intermediate-Term US Trs ETF™ (USD)

Overall Morningstar Rating™ ★★★
Standard Index BBgBarc US Agg Bond TR USD
Category Index BBgBarc US Government TR USD
Morningstar Cat US Fund Intermediate Government

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	3.29	1.75	-0.40	-3.36	1.16
2017	0.70	0.95	0.40	-0.51	1.54
2018	-1.16	-0.06	—	—	-1.22

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	-1.36	—	1.37	—	2.00
Std NAV 06-30-18	-1.34	—	1.36	—	2.02

Mkt Total Ret	1 Yr	3 Yr	5 Yr	10 Yr	Incept
NAV Total Ret	-1.34	0.73	1.36	—	2.02

+/- Std Index	+/- Cat Index
-0.94	-0.99
-0.71	-0.29

% Rank Cat	No. in Cat
82	245
57	217
62	209

30-day SEC Yield 06-30-2018	Subsidized	Unsubsidized
	2.72	2.72

Performance Disclosure
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Fees and Expenses

Fund Expenses	
Management Fees %	0.06
Expense Ratio %	0.06
12b1 Expense %	NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3★	3★	—
Morningstar Risk	+Avg	+Avg	—
Morningstar Return	Avg	Avg	—

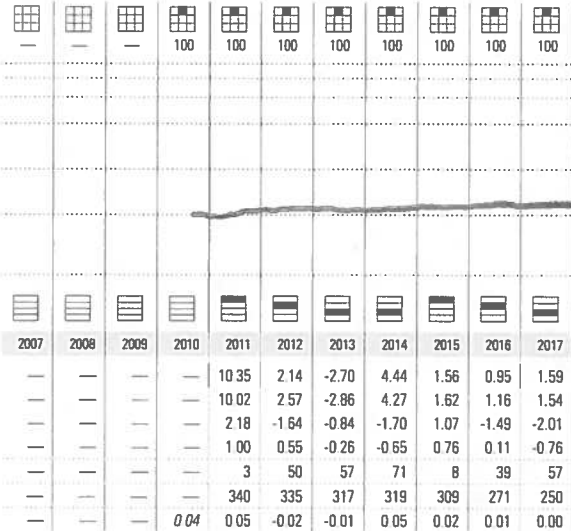
	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	3.05	3.14	—
Standard Deviation MKT	3.11	3.18	—
Mean NAV	0.73	1.36	—
Mean MKT	0.76	1.37	—
Sharpe Ratio	0.01	0.30	—

MPT Statistics

	Standard Index	Best Fit Index
NAV		BBgBarc Intermediate Treasury TR USD
Alpha	-1.04	0.17
Beta	1.07	1.42
R-Squared	86.55	99.75
12-Month Yield		1.75%

Regional Exposure

	Americas	Greater Europe	Greater Asia
Leveraged	No	—	—
Leverage Type	—	—	—
Leverage %	—	100.00	—



Portfolio Analysis 07-23-2018

Asset Allocation % 07-18-2018	Net %	Long %	Short %
Cash	0.00	0.00	0.00
US Stocks	0.00	0.00	0.00
Non-US Stocks	0.00	0.00	0.00
Bonds	100.00	100.00	0.00
Other/Not Clsfd	0.00	0.00	0.00
Total	100.00	100.00	0.00

Equity Style

Value	Blend	Growth
—	—	—

Portfolio Statistics

Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	—	—
P/C Ratio TTM	—	—
P/B Ratio TTM	—	—
Geo Avg Mkt Cap \$mil	—	—

Fixed-Income Style

1st	Mod	Ext
—	—	—

Credit Quality Breakdown

	Bond %
AAA	100.00
AA	0.00
A	0.00
BBB	0.00
BB	0.00
B	0.00
Below B	0.00
NR	0.00

Top Holdings 07-18-2018

Share Chg since 07-2018	Share Amount	Holdings	0 Total Stocks, 113 Total Fixed-Income, 30% Turnover Ratio	Net Assets %
—	54 mil	United States Treasury Notes 2.62%	1.92	
—	52 mil	United States Treasury Notes 2.75%	1.85	
—	51 mil	United States Treasury Notes 2%	1.73	
+	50 mil	United States Treasury Notes 2.12%	1.72	
—	49 mil	United States Treasury Notes 2%	1.65	
+	48 mil	United States Treasury Notes 2.25%	1.65	
+	48 mil	United States Treasury Notes 2.25%	1.63	
—	47 mil	United States Treasury Notes 2.38%	1.63	
—	47 mil	United States Treasury Notes 2.25%	1.62	
—	48 mil	United States Treasury Notes 2.25%	1.62	
—	46 mil	United States Treasury Notes 2.5%	1.61	
—	47 mil	United States Treasury Notes 2%	1.61	
—	49 mil	United States Treasury Notes 1.62%	1.60	
—	46 mil	United States Treasury Notes 2%	1.59	
—	46 mil	United States Treasury Notes 2.25%	1.56	

Sector Weightings

	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

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Operations

Family:	Schwab ETFs	Ticker:	SCHR	Mkt Price:	52.33
Manager:	Multiple	Incept:	08-05-2010	Base Currency:	USD
Tenure:	7.9 Years	Expiration Date:	—	Legal Structure:	Open Ended Investment Company
Total Assets:	\$2,769.8 mil	Exchange:	NYSE ARCA	Backing Bank:	Charles Schwab Investment Management Inc
Shares Outstanding:	53.20 mil	NAV:	52.31		
Type:	ETF	Prem/Discount:	0.04		

SPDR® S&P 500 Fossil Fuel Rsrv Free ETF (USD)

Standard Index S&P 500 TR USD
 Category Index Russell 1000 TR USD
 Morningstar Cat US Fund Large Blend USD

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	0.99	1.80	4.07	3.66	10.91
2017	6.76	3.51	4.32	6.59	22.88
2018	-0.50	2.73	—	—	2.21
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	13.90	—	—	—	13.17
Std NAV 06-30-18	13.65	—	—	—	13.12
Mkt Total Ret	13.90	—	—	—	13.17
NAV Total Ret	13.65	—	—	—	13.12
+/- Std Index	-0.72	—	—	—	—
+/- Cat Index	-0.89	—	—	—	—
% Rank Cat	44	—	—	—	—
No. in Cat	1,353	—	—	—	—

30-day SEC Yield	Subsidized	Unsubsidized
	—	—

Performance Disclosure

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Fees and Expenses

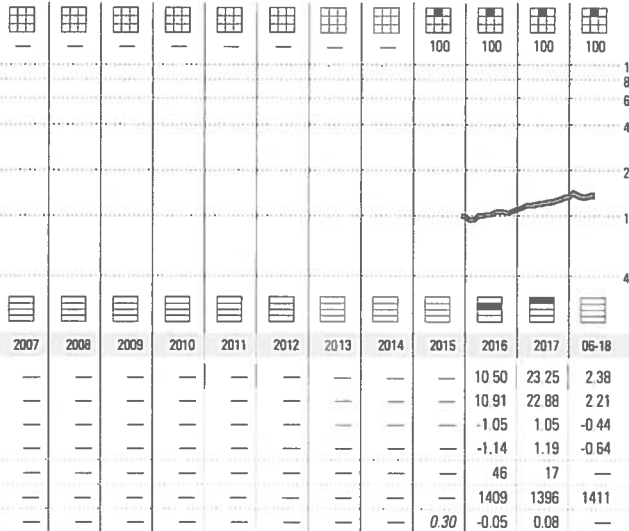
Fund Expenses	
Management Fees %	0.25
Expense Ratio %	0.25
12b1 Expense %	NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	—	—	—
Standard Deviation MKT	—	—	—
Mean NAV	—	—	—
Mean MKT	—	—	—
Sharpe Ratio	—	—	—

MPT Statistics	Standard Index	Best Fit Index
NAV	—	—
Alpha	—	—
Beta	—	—
R-Squared	—	—
12-Month Yield	—	—
Potential Cap Gains Exp	—	—
Leveraged	No	—
Leverage Type	—	—
Leverage %	—	100.00
Primary Prospectus Benchmark	S&P 500 Fossil Fuel Free NR USD	—



Portfolio Analysis 07-23-2018

Asset Allocation % 07-19-2018	Net %	Long %	Short %
Cash	0.15	0.15	0.00
US Stocks	99.00	99.00	0.00
Non-US Stocks	0.85	0.85	0.00
Bonds	0.00	0.00	0.00
Other/Not Clsfd	0.00	0.00	0.00
Total	100.00	100.00	0.00

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
Value Blend Growth	P/E Ratio TTM	20.6	1.01	1.00
	P/C Ratio TTM	14.3	1.04	1.04
	P/B Ratio TTM	3.3	1.05	10.60
	Geo Avg Mkt Cap	104420	1.05	0.68
	\$mil	—	—	—

Fixed-Income Style

Fixed-Income Style	Avg Eff Maturity	Avg Eff Duration	Avg Wtd Coupon	Avg Wtd Price
	—	—	—	—
	—	—	—	—
	—	—	—	—
	—	—	—	—

Credit Quality Breakdown

Credit Quality Breakdown	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR	—

Regional Exposure

Regional Exposure	Stocks %	Rel Std Index
Americas	99.1	1.00
Greater Europe	0.4	1.07
Greater Asia	0.5	0.94

Top Holdings 07-19-2018

Share Chg since 07-2018	Share Amount	Holdings	460 Total Stocks, 0 Total Fixed-Income, 4% Turnover Ratio	Net Assets %
—	65,606	Apple Inc	—	4.27
—	102,548	Microsoft Corp	—	3.63
—	5,374	Amazon.com Inc	—	3.30
—	32,014	Facebook Inc A	—	2.26
—	25,728	Berkshire Hathaway Inc B	—	1.72
—	45,458	JPMorgan Chase & Co	—	1.69
—	4,043	Alphabet Inc C	—	1.63
—	3,992	Alphabet Inc A	—	1.62
—	35,679	Johnson & Johnson	—	1.52
—	125,979	Bank of America Corporation	—	1.27
—	23,826	Visa Inc Class A	—	1.13
—	58,421	Wells Fargo & Co	—	1.12
—	12,867	UnitedHealth Group Inc	—	1.10
—	62,223	Intel Corp	—	1.10
—	15,444	The Home Depot Inc	—	1.06

Sector Weightings

Sector Weightings	Stocks %	Rel Std Index
Cyclical	35.5	1.08
Basic Materials	2.5	1.03
Consumer Cyclical	12.8	1.07
Financial Services	17.8	1.10
Real Estate	2.4	1.03
Sensitive	40.8	0.96
Communication Services	3.4	1.04
Energy	1.7	0.27
Industrials	10.8	1.06
Technology	25.0	1.09
Defensive	23.6	0.97
Consumer Defensive	7.7	1.05
Healthcare	15.1	1.08
Utilities	0.8	0.28

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Operations

Family:	SPDR State Street Global	Ticker:	SPYX	Mkt Price:	65.82
Manager:	Advisors	Incept:	11-30-2015	Base Currency:	USD
Tenure:	Multiple	Expiration Date:	—	Legal Structure:	Open Ended Investment Company
Total Assets:	2.7 Years	Exchange:	NYSE ARCA	Backing Bank:	SSGA Funds Management Inc
Shares Outstanding:	\$296.9 mil	NAV:	65.56		
Type:	4.35 mil	Prem/Discount:	0.40		
	ETF				

Touchstone Ultra Short Dur F/I Y (USD)

Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index Category Index Morningstar Cat
Neutral ★★★ BbgBarc US Agg BbgBarc Govt/Corp US Fund Ultrashort
 06-01-2018 139 US Fund Ultrashort Bond Bond TR USD 1 Yr Duration TR Bond

Performance 06-30-2018					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	0.50	0.61	0.37	0.18	1.67
2017	0.50	0.34	0.52	0.32	1.69
2018	0.21	0.57	—	—	0.78
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	1.63	1.43	1.23	—	1.24
Std 06-30-2018	1.63	—	1.23	—	1.24
Total Return	1.63	1.43	1.23	1.48	1.24
+/- Std Index	2.02	-0.29	-1.04	-2.24	—
+/- Cat Index	0.71	0.71	0.62	0.55	—
% Rank Cat	35	26	19	34	—
No. in Cat	179	139	109	58	—

	Subsidized	Unsubsidized
7-day Yield 07-25-2018	2.66 ¹	—
30-day SEC Yield 06-30-2018	2.38 ¹	2.31

¹ Contractual waiver; Expires 10-26-2019

Performance Disclosure
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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-543-0407 or visit www.touchstoneinvestments.com.

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

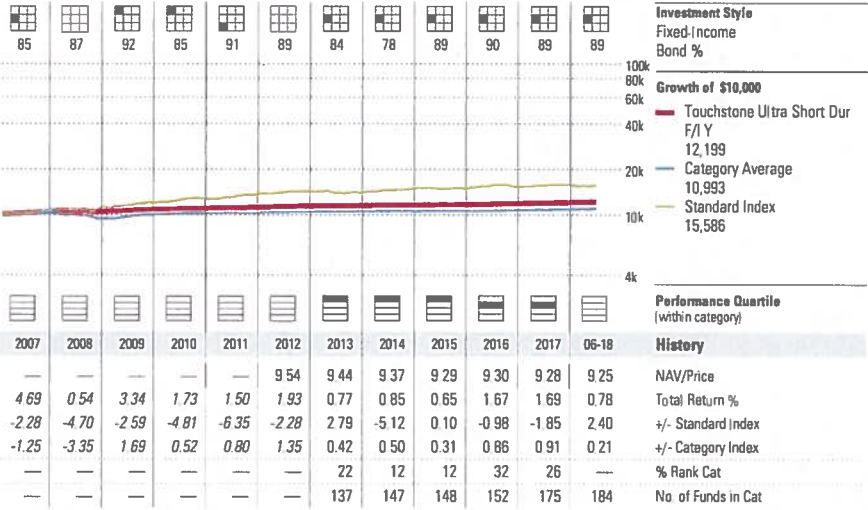
Fund Expenses	
Management Fees %	0.25
12b1 Expense %	NA
Gross Expense Ratio %	0.51

Risk and Return Profile			
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	4★	4★	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	+Avg	+Avg	Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	0.33	0.30	0.86
Mean	1.43	1.23	1.48
Sharpe Ratio	1.93	2.51	1.31

MPT Statistics	Standard Index	Best Fit Index
Alpha	0.60	0.70
Beta	0.08	0.78
R-Squared	34.60	54.82
12-Month Yield	—	2.16%
Potential Cap Gains Exp	—	-3.96%

Operations	
Family:	Touchstone
Manager:	Multiple
Tenure:	9.8 Years
Objective:	Multisector Bond
Base Currency:	USD



Portfolio Analysis 06-30-2018

Asset Allocation %	Net %	Long %	Short %	Share Chg since 03-2018	Share Amount	Holdings	Net Assets %	
Cash	10.51	10.51	0.00			0 Total Stocks, 351 Total Fixed-Income, 136% Turnover Ratio		
US Stocks	0.00	0.00	0.00		15 mil	Rockwall Cdo Ltd / Corp 2.77%	1.71	
Non-US Stocks	0.00	0.00	0.00	✖	15 mil	JPMorgan Chase & Co. 1.85%	1.67	
Bonds	89.29	89.29	0.00		13 mil	TCI-FLATIRON 16-1 3.28%	1.51	
Other/Not Clsfd	0.20	0.20	0.00		13 mil	SECURITIZED EQUIP RECEIVABLES TR 2	1.42	
Total	100.00	100.00	0.00		12 mil	Santander Drive Auto Receivables T	1.38	
Equity Style						11 mil	Opteum Mortgage Acceptance Corp 2.	1.21
Portfolio Statistics						11 mil	Areit 2018-Cre1 Trust 2.92%	1.19
P/E Ratio TTM	—	—	—	✖		10 mil	J.P. MORGAN CHASE COMMERCIAL MORTG	1.17
P/C Ratio TTM	—	—	—			10 mil	Hertz Vehicle Financing Llc 2.02%	1.14
P/B Ratio TTM	—	—	—			10 mil	Ocp Clo 2016-12a A 3.93%	1.13
Geo Avg Mkt Cap \$mil	—	—	—			10 mil	Ares Capital Corporation 4.88%	1.13
Fixed-Income Style						10 mil	Eaton Electric Holdings, LLC 3.88%	1.10
Avg Eff Maturity	—	—	—	✖		10 mil	Grayson CLO Ltd / Grayson CLO Corp	1.08
Avg Eff Duration	—	0.59	—			9 mil	Hewlett Packard Enterprise Company	1.03
Avg Wtd Coupon	—	3.14	—			9 mil	OZLM XIII Limited 3.18%	1.01
Avg Wtd Price	—	99.09	—					

Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Regional Exposure	Stocks %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Operations				
Ticker:	TSYYX	Incept:	04-16-2012	
Minimum Initial Purchase:	\$2,500	Type:	MF	
Min Auto Investment Plan:	\$100	Total Assets:	\$894.32 mil	
Minimum IRA Purchase:	\$1,000			
Purchase Constraints:	—			

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Vanguard FTSE Developed Markets ETF (USD)

Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index Category Index Morningstar Cat
 Silver★★★★ MSCI ACWI Ex MSCI ACWI Ex US Fund Foreign Large
 07-17-2018 623 US Fund Foreign Large USA NR USD USA NR USD Blend

Performance 06-30-2018					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	-1.99	-0.24	6.38	-1.44	2.51
2017	7.81	6.39	5.55	4.44	26.44
2018	-1.13	-1.60	—	—	-2.71
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	6.97	—	6.90	3.21	1.65
Std NAV 06-30-18	7.25	—	6.95	3.23	1.71
Mkt Total Ret	6.97	5.68	6.90	3.21	1.65
NAV Total Ret	7.25	5.67	6.95	3.23	1.71
+/- Std Index	-0.03	0.61	0.96	0.69	—
+/- Cat Index	-0.03	0.61	0.96	0.69	—
% Rank Cat	30	21	20	29	—
No. in Cat	774	623	533	371	—

30-day SEC Yield	Subsidized	Unsubsidized
	—	—

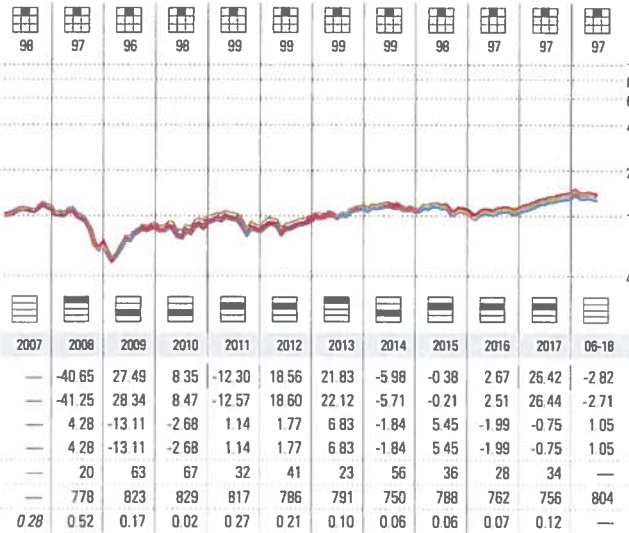
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Fees and Expenses	
Fund Expenses	
Management Fees %	0.04
Expense Ratio %	0.07
12b1 Expense %	NA

Risk and Return Profile			
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	4★	4★	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	+Avg	+Avg	+Avg
Standard Deviation NAV	11.30	11.22	18.48
Standard Deviation MKT	11.19	11.30	18.70
Mean NAV	5.67	6.95	3.23
Mean MKT	5.68	6.90	3.21
Sharpe Ratio	0.48	0.62	0.25

MPT Statistics	Standard Index	Best Fit Index
NAV	MSCI EAFE NR USD	MSCI EAFE NR USD
Alpha	0.93	1.04
Beta	0.91	0.92
R-Squared	95.97	96.59
12-Month Yield	—	—
Potential Cap Gains Exp	—	—
Leveraged	No	—
Leverage Type	—	—
Leverage %	—	100.00
Primary Prospectus Benchmark	FTSE Dvlp ex US All Cap(US RIC)NR USD	—

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	5.4 Years
Total Assets:	\$70,965.0 mil
Shares Outstanding:	1,629.13 mil
Type:	ETF
Ticker:	VEA
Incept:	07-20-2007
Expiration Date:	—
Exchange:	NYSE ARCA
NAV:	42.92
Prem/Discout:	-0.05



Portfolio Analysis 06-30-2018											
Asset Allocation %	Net %	Long %	Short %	Share Chg since 05-2018	Share Amount	Holdings 3,837 Total Stocks, 6 Total Fixed Income, 3% Turnover Ratio	Net Assets %				
Cash	1.33	1.33	0.00								
US Stocks	1.07	1.07	0.00		17 mil	Nestle SA	1.23				
Non-US Stocks	96.22	96.22	0.00	⊖	113 mil	HSBC Holdings PLC	0.97				
Bonds	0.19	0.19	0.00	⊕	24 mil	Samsung Electronics Co Ltd	0.90				
Other/Not Clsfd	1.19	1.19	0.00	⊖	14 mil	Toyota Motor Corp	0.86				
Total	100.00	100.00	0.00	⊕	12 mil	Novartis AG	0.85				

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	14.4	1.00	1.07	⊕
P/C Ratio TTM	9.5	1.01	0.96	⊕
P/B Ratio TTM	1.5	0.96	2.60	⊕
Geo Avg Mkt Cap \$mil	22689	0.67	0.57	⊕
Fixed-Income Style	Avg Eff Maturity	—	—	⊕
	Avg Eff Duration	—	—	⊖
	Avg Wtd Coupon	—	—	⊖
	Avg Wtd Price	—	—	⊕

Credit Quality Breakdown —			Bond %
AAA	—	—	—
AA	—	—	—
A	—	—	—
BBB	—	—	—
BB	—	—	—
B	—	—	—
Below B	—	—	—
NR	—	—	—

Regional Exposure			Stocks %	Rel Std Index
Americas	9.5	0.95	—	—
Greater Europe	53.1	1.15	—	—
Greater Asia	37.4	0.86	—	—

Sector Weightings			Stocks %	Rel Std Index
Cyclical	44.5	1.00	—	—
Basic Materials	9.2	1.10	—	—
Consumer Cyclical	11.8	1.06	—	—
Financial Services	19.8	0.91	—	—
Real Estate	3.7	1.12	—	—
Sensitive	33.4	0.97	—	—
Communication Services	3.3	0.84	—	—
Energy	7.0	0.94	—	—
Industrials	13.6	1.26	—	—
Technology	9.5	0.77	—	—
Defensive	22.1	1.06	—	—
Consumer Defensive	10.3	1.05	—	—
Healthcare	8.8	1.10	—	—
Utilities	3.0	1.00	—	—

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Vanguard Mid-Cap ETF (USD)

Morningstar Analyst Rating™ **Gold** Overall Morningstar Rating™ **★★★** Standard Index S&P 500 TR USD Category Index Russell Mid Cap TR USD Morningstar Cat US Fund Mid-Cap Blend

Performance 06-30-2018					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	1.17	2.34	5.18	2.14	11.23
2017	6.18	2.78	3.44	5.64	19.25
2018	0.02	2.56	—	—	2.59

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	12.22	—	12.30	10.10	9.74
Std NAV 06-30-18	12.09	—	12.30	10.09	9.73

Mkt Total Ret	12.22	9.18	12.30	10.10	9.74
NAV Total Ret	12.09	9.21	12.30	10.09	9.73
+/- Std Index	-2.28	-2.72	-1.12	-0.08	—
+/- Cat Index	-0.23	-0.36	0.08	-0.14	—

% Rank Cat	48	42	20	38
No. in Cat	456	369	329	232

30-day SEC Yield 07-24-2018	Subsidized	Unsubsidized
	1.51	1.51

Performance Disclosure
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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 866-499-8473 or visit www.vanguard.com

Fees and Expenses

Fund Expenses	
Management Fees %	0.03
Expense Ratio %	0.05
12b1 Expense %	NA

Risk and Return Profile

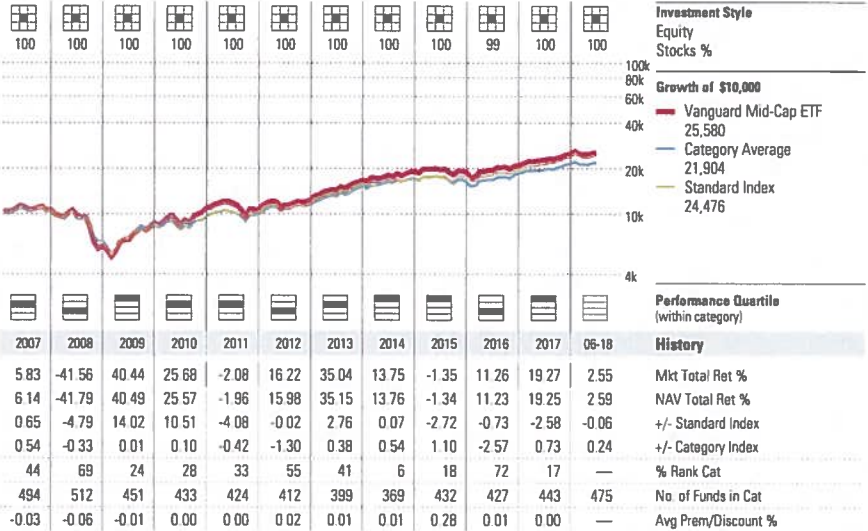
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3★	4★	3★
Morningstar Risk	-Avg	-Avg	Avg
Morningstar Return	Avg	+Avg	Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	10.50	10.34	17.26
Standard Deviation MKT	10.55	10.60	17.35
Mean NAV	9.21	12.30	10.09
Mean MKT	9.18	12.30	10.10
Sharpe Ratio	0.82	1.13	0.63

MPT Statistics	Standard Index	Best Fit Index
NAV		Morningstar US Mid Cap TR USD
Alpha	-2.15	-0.90
Beta	0.97	0.99
R-Squared	88.81	98.94
12-Month Yield		1.42%
Potential Cap Gains Exp		—
Leveraged		No
Leverage Type		—
Leverage %		100.00
Primary Prospectus Benchmark		CRSP US Mid Cap TR USD

Operations

Family:	Vanguard	Ticker:	VO
Manager:	Multiple	Incept:	01-26-2004
Tenure:	20.2 Years	Expiration Date:	—
Total Assets:	\$23,992.0 mil	Exchange:	NYSE ARCA
Shares Outstanding:	148.85 mil	NAV:	157.57
Type:	ETF	Prem/Discount:	0.04



Portfolio Analysis 06-30-2018

Asset Allocation %	Nat %	Long %	Short %	Share Chg since 06-2018	Share Amount	Holdings 362 Total Stocks, 3 Total Fixed-Income, 14% Turnover Ratio	Net Assets %
Cash	0.44	0.44	0.00				
US Stocks	98.27	98.27	0.00	⊖	5 mil	Edwards Lifesciences Corp	0.74
Non-US Stocks	1.28	1.28	0.00	⊕	4 mil	ServiceNow Inc	0.73
Bonds	0.01	0.01	0.00	⊕	10 mil	Fiserv Inc	0.73
Other/Not Clsfd	0.00	0.00	0.00	⊕	16 mil	Twitter Inc	0.71
Total	100.00	100.00	0.00	⊖	5 mil	Autodesk Inc	0.69
Equity Style							
Value Blend Growth							
P/E Ratio TTM	20.9	1.02	1.20	⊖	10 mil	ONEOK Inc	0.69
P/C Ratio TTM	13.4	0.98	1.15	⊖	2 mil	Roper Technologies Inc	0.68
P/B Ratio TTM	2.7	0.84	6.39	⊖	4 mil	Moody's Corporation	0.67
Geo Avg Mkt Cap \$mil	14656	0.15	1.72	⊖	7 mil	Amphenol Corp Class A	0.63
					2 mil	Align Technology Inc	0.63
					7 mil	Worldpay Inc Class A	0.59
					5 mil	Centene Corp	0.58
					4 mil	Red Hat Inc	0.57
					32 mil	Freeport-McMoRan Inc	0.57
					5 mil	Digital Realty Trust Inc	0.55

Credit Quality Breakdown

Credit Quality	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR	—

Regional Exposure	Stocks %	Rel Std Index
Americas	99.2	1.00
Greater Europe	0.2	0.64
Greater Asia	0.6	1.14

Sector Weightings	Stocks %	Rel Std Index
Cyclical	41.5	1.26
Basic Materials	4.9	1.99
Consumer Cyclical	15.5	1.29
Financial Services	14.2	0.87
Real Estate	6.9	2.97
Sensitive	40.1	0.94
Communication Services	1.3	0.39
Energy	6.8	1.07
Industrials	14.0	1.38
Technology	18.0	0.79
Defensive	18.4	0.76
Consumer Defensive	4.2	0.57
Healthcare	9.2	0.66
Utilities	5.0	1.71

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Vanguard Mortgage-Backed Secs ETF (USD)

Morningstar Analyst Rating™
Silver
05-17-2018

Overall Morningstar Rating™
★★★★★
217 US Fund Intermediate Government

Standard Index
BBgBarc US Agg Bond TR USD

Category Index
BBgBarc US Government TR USD

Morningstar Cat
US Fund Intermediate Government

Performance 06-30-2018					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	1.77	1.11	0.59	-2.00	1.43
2017	0.50	0.84	0.93	0.08	2.37
2018	-1.20	0.21	—	—	-0.99
Trailing Returns					
	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	-0.03	—	2.15	—	2.47
Std NAV 06-30-18	0.01	—	2.11	—	2.50
Mkt Total Ret	-0.03	1.33	2.15	—	2.47
NAV Total Ret	0.01	1.30	2.11	—	2.50
+/- Std Index	0.41	-0.42	-0.16	—	—
+/- Cat Index	0.64	0.29	0.63	—	—
% Rank Cat	6	4	9	—	—
No. in Cat	245	217	209	—	—

30-day SEC Yield 07-24-2018	Subsidized	Unsubsidized
	2.79	2.73

Performance Disclosure
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Fees and Expenses	
Fund Expenses	
Management Fees %	0.05
Expense Ratio %	0.07
12b1 Expense %	NA

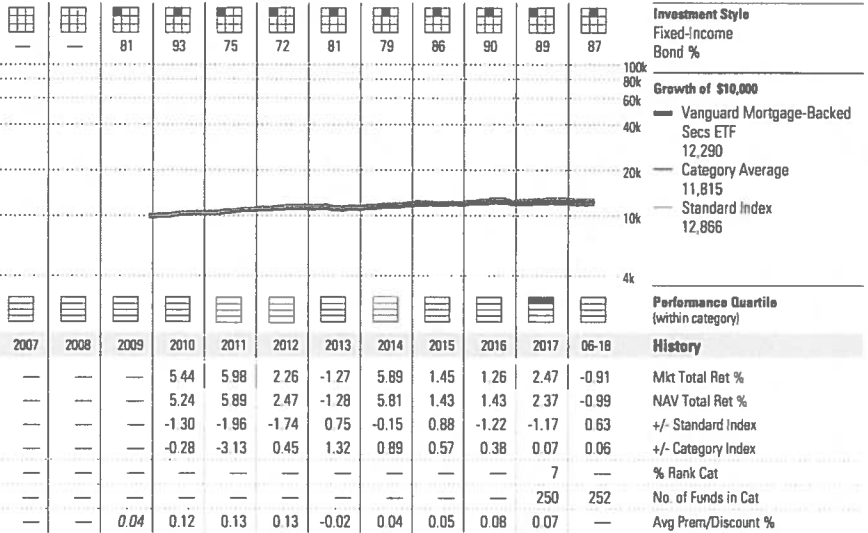
Risk and Return Profile			
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	5★	5★	5★
Morningstar Risk	Avg	-Avg	—
Morningstar Return	High	High	—

	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	1.93	2.06	—
Standard Deviation MKT	1.97	2.10	—
Mean NAV	1.30	2.11	—
Mean MKT	1.33	2.15	—
Sharpe Ratio	0.29	0.79	—

MPT Statistics	Standard Index	Best Fit Index
NAV	BBgBarc US MBS TR USD	—
Alpha	-0.12	-0.14
Beta	0.69	0.99
R-Squared	88.64	99.13
12-Month Yield	—	2.41%

Potential Cap Gains Exp	Leveraged	Leverage Type	Leverage %	Primary Prospectus Benchmark
—	No	—	100.00	BBgBarc US MBS Float Adjusted TR USD

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	8.7 Years
Total Assets:	\$6,909.8 mil
Shares Outstanding:	134.93 mil
Type:	ETF



Portfolio Analysis 06-30-2018		Net %	Long %	Short %	Share Chg since 05-2018	Share Amount	Holdings	0 Total Stocks, 2,776 Total Fixed-Income, 339% Turnover Ratio	Net Assets %
Cash	12.89	12.89	0.00	—	—	—	—	—	—
US Stocks	0.00	0.00	0.00	+	92 mil	Federal Home Loan Mortgage Corpora	—	1.04	
Non-US Stocks	0.00	0.00	0.00	+	84 mil	Federal Home Loan Mortgage Corpora	—	1.00	
Bonds	87.11	87.11	0.00	+	81 mil	Government National Mortgage Assoc	—	0.95	
Other/Not Clsfd	0.00	0.00	0.00	+	76 mil	Government National Mortgage Assoc	—	0.91	
Total	100.00	100.00	0.00	-	70 mil	Federal National Mortgage Associat	—	0.79	

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	★
P/E Ratio TTM	—	—	—	—	+
P/C Ratio TTM	—	—	—	—	+
P/B Ratio TTM	—	—	—	—	+
Geo Avg Mkt Cap \$mil	—	—	—	—	+
Avg Eff Maturity	7.30	—	—	—	+
Avg Eff Duration	4.94	—	—	—	+
Avg Wtd Coupon	3.62	—	—	—	+
Avg Wtd Price	100.83	—	—	—	+

Credit Quality Breakdown		Band %
AAA	—	100.00
AA	—	0.00
A	—	0.00
BBB	—	0.00
BB	—	0.00
B	—	0.00
Below B	—	0.00
NR	—	0.00

Regional Exposure		Stocks %	Rel Std Index
Americas	—	—	—
Greater Europe	—	—	—
Greater Asia	—	—	—

Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

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Vanguard S&P 500 ETF (USD)

Morningstar Analyst Rating™ **Gold** Overall Morningstar Rating™ **★★★★★** Standard Index **S&P 500 TR USD** Category Index **Russell 1000 TR USD** Morningstar Cat **US Fund Large Blend**
 03-06-2018 1,166 US Fund Large Blend

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	1.34	2.44	3.85	3.82	11.93
2017	6.05	3.07	4.47	6.64	21.78
2018	-0.78	3.42	—	—	2.61

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	14.52	—	13.45	—	14.59
Std NAV 06-30-18	14.32	—	13.38	10.13	14.73
Mkt Total Ret	14.52	11.96	13.45	—	14.59
NAV Total Ret	14.32	11.88	13.38	10.13	14.73

	Std Index	+/- Std Index	+/- Cat Index	% Rank Cat	No. in Cat
	-0.05	-0.05	-0.04	-0.04	—
	-0.22	0.24	0.01	-0.07	—
	29	12	11	20	—
	1,353	1,166	1,042	776	—

30-day SEC Yield 07-24-2018	Subsidized	Unsubsidized
	1.94	1.94

Performance Disclosure

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Fees and Expenses

Fund Expenses	
Management Fees %	0.03
Expense Ratio %	0.04
12b1 Expense %	NA

Risk and Return Profile

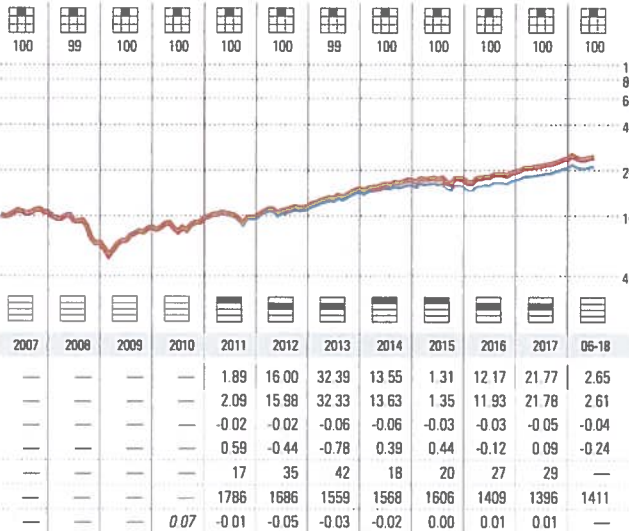
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	4★	5★	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	+Avg	+Avg	+Avg
Standard Deviation NAV	10.16	9.81	14.71
Standard Deviation MKT	10.18	9.83	—
Mean NAV	11.88	13.38	10.13
Mean MKT	11.96	13.45	—
Sharpe Ratio	1.09	1.29	0.71

MPT Statistics	Standard Index	Best Fit Index
NAV	S&P 500 TR USD	S&P 500 TR USD
Alpha	-0.05	-0.05
Beta	1.00	1.00
R-Squared	100.00	100.00

12-Month Yield	1.85%
Potential Cap Gains Exp	—
Leveraged	No
Leverage Type	—
Leverage %	100.00
Primary Prospectus Benchmark	S&P 500 TR USD

Operations

Family:	Vanguard	Ticker:	VOO
Manager:	Multiple	Incept:	09-07-2010
Tenure:	2.3 Years	Expiration Date:	—
Total Assets:	\$94,324.2 mil	Exchange:	NYSE ARCA
Shares Outstanding:	366.46 mil	NAV:	249.07
Type:	ETF	Prem/Discount:	0.18



Investment Style	Equity	Stocks %
	24,358	
	21,070	
	24,476	

Performance Quartile (within category)	History
Mkt Total Ret %	2.65
NAV Total Ret %	2.61
+/- Standard Index	-0.05
+/- Category Index	-0.24
% Rank Cat	—
No. of Funds in Cat	1411
Avg Prem/Discount %	—

Portfolio Analysis 06-30-2018

Asset Allocation %	Net %	Long %	Short %	Share Chg since 05-2018	Share Amount	Holdings	507 Total Stocks, 4 Total Fixed-Income, 3% Turnover Ratio	Net Assets %
Cash	0.46	0.46	0.00	—	—	—	—	—
US Stocks	98.67	98.67	0.00	⊖	89 mil	Apple Inc	3.93	
Non-US Stocks	0.85	0.85	0.00	⊕	139 mil	Microsoft Corp	3.27	
Bonds	0.01	0.01	0.00	⊕	7 mil	Amazon com Inc	2.96	
Other/Not Clsfd	0.00	0.00	0.00	⊕	43 mil	Facebook Inc A	2.01	
Total	100.00	100.00	0.00	⊕	62 mil	JPMorgan Chase & Co	1.53	

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
Value Blend Growth	P/E Ratio TTM	20.4	1.00	0.99
	P/C Ratio TTM	13.7	1.00	0.99
	P/B Ratio TTM	3.2	1.00	10.14
	Geo Avg Mkt Cap \$mil	99907	1.00	0.65

Fixed-Income Style	Avg Eff Maturity	Avg Eff Duration	Avg Wtd Coupon	Avg Wtd Price
	—	—	1.95	—

Sector Weightings	Stocks %	Rel Std Index
Cyclical	33.1	1.00
Basic Materials	2.4	1.00
Consumer Cyclical	12.1	1.00
Financial Services	16.2	1.00
Real Estate	2.3	1.00
Sensitive	42.7	1.00
Communication Services	3.3	1.00
Energy	6.3	1.00
Industrials	10.2	1.00
Technology	22.9	1.00
Defensive	24.2	1.00
Consumer Defensive	7.3	0.99
Healthcare	14.0	1.00
Utilities	2.9	1.00

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Vanguard Small-Cap ETF (USD)

Morningstar Analyst Rating™ Gold **Overall Morningstar Rating™** ★★★★★
 07-18-2018 639 US Fund Small Blend

Standard Index S&P 500 TR USD **Category Index** Russell 2000 TR USD **Morningstar Cat** US Fund Small Blend

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	1.01	3.98	6.16	6.11	18.31
2017	3.74	1.94	4.59	5.09	16.24
2018	-0.20	6.21	—	—	6.00

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	16.54	—	12.42	11.26	9.63
Std NAV 06-30-18	16.51	—	12.40	11.27	9.64
Mkt Total Ret	16.54	10.45	12.42	11.26	9.63
NAV Total Ret	16.51	10.46	12.40	11.27	9.64

+/- Std Index	2.13	-1.47	-1.02	1.10	—
+/- Cat Index	-1.06	-0.50	-0.06	0.67	—
% Rank Cat	36	37	26	19	—
No. in Cat	775	639	539	393	—

30-day SEC Yield 07-24-2018	Subsidized	Unsubsidized
	1.42	1.42

Performance Disclosure

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Fees and Expenses

Fund Expenses	
Management Fees %	0.02
Expense Ratio %	0.05
12b1 Expense %	NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	4★	4★	4★
Morningstar Risk	-Avg	-Avg	Avg
Morningstar Return	Avg	+Avg	+Avg

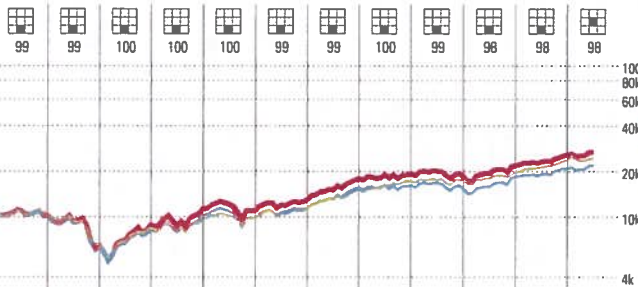
	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	12.25	12.13	19.18
Standard Deviation MKT	12.19	12.15	19.28
Mean NAV	10.46	12.40	11.27
Mean MKT	10.45	12.42	11.26
Sharpe Ratio	0.82	0.99	0.64

MPT Statistics	Standard Index	Best Fit Index
NAV	—	Morningstar US Small Cap TR USD
Alpha	-1.37	0.89
Beta	1.02	0.92
R-Squared	72.39	98.99

12-Month Yield	1.38%
Potential Cap Gains Exp	—
Leveraged	No
Leverage Type	—
Leverage %	100.00
Primary Prospectus Benchmark	CRSP US Small Cap TR USD

Operations

Family:	Vanguard	Ticker:	VB
Manager:	Multiple	Incept:	01-26-2004
Tenure:	2.3 Years	Expiration Date:	—
Total Assets:	\$24,305.4 mil	Exchange:	NYSE ARCA
Shares Outstanding:	152.91 mil	NAV:	155.71
Type:	ETF	Prem/Discount:	-0.03



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	06-18
Vanguard Small-Cap ETF	1.35	-35.88	35.92	28.11	-2.78	18.29	37.70	7.63	-3.76	18.44	16.26	5.90
Category Average	1.27	-35.99	36.31	27.89	-2.68	18.22	37.80	7.51	-3.65	18.31	16.24	6.00
Standard Index	-4.22	1.00	9.85	12.83	-4.79	2.22	5.42	-6.18	-5.04	6.35	-5.59	3.35

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	06-18
Mkt Total Ret %	2.84	-2.21	9.14	1.03	1.50	1.87	-1.02	2.62	0.76	-3.00	1.59	-1.67
NAV Total Ret %	29	52	25	23	42	21	46	13	35	70	14	—
+/- Standard Index	645	670	649	649	650	662	681	737	780	750	802	800
+/- Category Index	-0.07	0.05	0.06	-0.05	-0.02	-0.02	-0.03	-0.02	0.02	0.00	0.00	—

Portfolio Analysis 06-30-2018

Asset Allocation %	Net %	Long %	Short %	Share Chg since 05-2018	Share Amount	Holdings 1,408 Total Stocks, 3 Total Fixed-Income, 15% Turnover Ratio	Net Assets %
Cash	1.72	1.72	0.00	—	—	—	—
US Stocks	97.83	97.83	0.00	⊕	1 mil	Vail Resorts Inc	0.30
Non-US Stocks	0.44	0.44	0.00	⊕	5 mil	Keysight Technologies Inc	0.30
Bonds	0.01	0.01	0.00	⊕	1 mil	WellCare Health Plans Inc	0.30
Other/Not Clsfd	0.00	0.00	0.00	⊕	3 mil	PTC Inc	0.29
Total	100.00	100.00	0.00	⊕	2 mil	IDEX Corp	0.28

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
Value	P/E Ratio TTM	19.1	0.93	0.95
Blend	P/C Ratio TTM	12.1	0.89	0.94
Growth	P/B Ratio TTM	2.4	0.74	5.38
Value	Geo Avg Mkt Cap \$mil	3932	0.04	1.32

Fixed-Income Style	Avg Eff Maturity	Avg Eff Duration	Avg Wtd Coupon	Avg Wtd Price
Intl	—	—	—	—
Mod	—	—	2.04	—
Ext	—	—	—	—

Credit Quality Breakdown

Credit Quality	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR	—

Regional Exposure

Region	Stocks %	Rel Std Index
Americas	99.8	1.01
Greater Europe	0.1	0.26
Greater Asia	0.1	0.23

Sector Weightings

Sector	Stocks %	Rel Std Index
Cyclical	44.4	1.35
Basic Materials	5.9	2.39
Consumer Cyclical	13.3	1.11
Financial Services	13.6	0.84
Real Estate	11.6	4.97
Sensitive	37.5	0.88
Communication Services	0.8	0.24
Energy	5.1	0.80
Industrials	15.2	1.50
Technology	16.4	0.72
Defensive	18.1	0.74
Consumer Defensive	3.7	0.50
Healthcare	10.9	0.78
Utilities	3.5	1.18

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Xtrackers MSCI EAFE Hedged Equity ETF (USD)

Morningstar Analyst Rating™ Overall Morningstar Rating™ **Standard Index** **Category Index** **Morningstar Cat**
Bronze ★★★★★ MSCI ACWI Ex MSCI ACWI Ex US Fund Foreign Large
 04-18-2018 623 US Fund Foreign Large USA NR USD USA NR USD Blend

Performance 06-30-2018

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2016	-6.32	-0.71	6.21	7.04	5.75
2017	4.97	3.11	3.64	3.94	16.60
2018	-3.99	4.08	—	—	-0.07

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 06-30-18	6.85	—	8.83	—	8.23
Std NAV 06-30-18	7.65	—	9.08	—	8.48
Mkt Total Ret	6.85	5.78	8.83	—	8.23
NAV Total Ret	7.65	5.98	9.08	—	8.48
+/- Std Index	0.37	0.92	3.08	—	—
+/- Cat Index	0.37	0.92	3.08	—	—
% Rank Cat	22	15	2	—	—
No. in Cat	774	623	533	—	—

30-day SEC Yield	Subsidized	Unsubsidized
—	—	—

Performance Disclosure
 The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.
 The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.
 Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 855-329-3837 or visit www.deutsche-etfs.com.

Fees and Expenses

Fund Expenses	
Management Fees %	0.35
Expense Ratio %	0.35
12b1 Expense %	NA

Risk and Return Profile

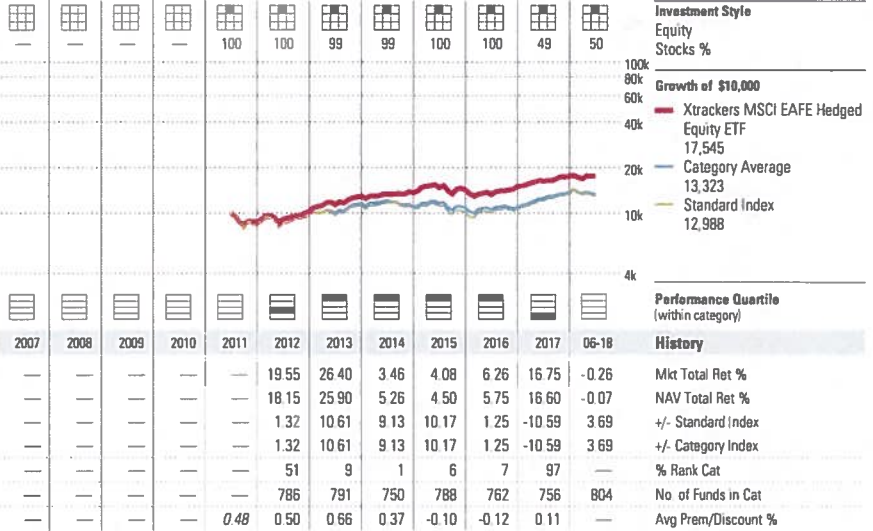
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	4★	5★	—
Morningstar Risk	Avg	Low	—
Morningstar Return	+Avg	High	—
Standard Deviation NAV	11.02	10.12	—
Standard Deviation MKT	10.48	10.03	—
Mean NAV	5.98	9.08	—
Mean MKT	5.78	8.83	—
Sharpe Ratio	0.52	0.87	—

MPT Statistics

	Standard Index	Best Fit Index
NAV	—	MSCI EAFE Value NR USD
Alpha	2.15	3.25
Beta	0.72	0.73
R-Squared	62.63	74.92
12-Month Yield	—	—
Potential Cap Gains Exp	—	—
Leveraged	No	—
Leverage Type	—	—
Leverage %	—	100.00
Primary Prospectus Benchmark	—	MSCI EAFE 100% Hedged NR USD

Operations

Family:	Deutsche Asset Management	Ticker:	DBEF	Mkt Price:	31.40
Manager:	Multiple	Incept:	06-09-2011	Base Currency:	USD
Tenure:	1.6 Years	Expiration Date:	—	Legal Structure:	Open Ended Investment Company
Total Assets:	\$6,063.9 mil	Exchange:	NYSE ARCA	Backing Bank:	DBX Advisors LLC
Shares Outstanding:	188.75 mil	NAV:	31.52		
Type:	ETF	Prem/Discount:	-0.38		



Portfolio Analysis 07-23-2018

Asset Allocation % 07-19-2018	Net %	Long %	Short %
Cash	3.08	98.44	95.36
US Stocks	3.42	3.42	0.00
Non-US Stocks	93.20	93.20	0.00
Bonds	0.00	0.00	0.00
Other/Not Clsfd	0.30	0.44	0.14
Total	100.00	195.50	95.50

Equity Style

Value	Blend	Growth
—	—	—
—	—	—
—	—	—
—	—	—

Fixed-Income Style

Std	Med	Ext
—	—	—
—	—	—
—	—	—
—	—	—

Credit Quality Breakdown

	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR	—

Regional Exposure

	Stocks %	Rel Std Index
Americas	1.0	0.10
Greater Europe	62.9	1.36
Greater Asia	36.1	0.83

Top Holdings 07-19-2018

Share Chg since 07-2018	Share Amount	Holdings	928 Total Stocks, 0 Total Fixed-Income, 14% Turnover Ratio	Net Assets %
—	1 mil	Nestle SA	—	1.63
—	8 mil	HSBC Holdings PLC	—	1.22
—	902,052	Novartis AG	—	1.18
—	284,148	Roche Holding AG Dividend Right Ce	—	1.07
—	2 mil	Royal Dutch Shell PLC Class A	—	1.05
—	925,864	Toyota Motor Corp	—	0.99
—	975,878	Total SA	—	0.97
—	8 mil	BP PLC	—	0.97
—	2 mil	Royal Dutch Shell PLC B	—	0.87
—	399,206	SAP SE	—	0.76
—	929,478	British American Tobacco PLC	—	0.75
—	310,511	Siemens AG	—	0.69
—	5 mil	AIA Group Ltd	—	0.68
—	2 mil	GlaxoSmithKline PLC	—	0.66
—	711,192	Commonwealth Bank of Australia	—	0.64

Sector Weightings

	Stocks %	Rel Std Index
Cyclical	43.2	0.97
Basic Materials	8.2	0.97
Consumer Cyclical	11.8	1.05
Financial Services	19.8	0.90
Real Estate	3.5	1.08
Sensitive	31.1	0.90
Communication Services	4.0	1.01
Energy	6.1	0.82
Industrials	13.1	1.22
Technology	7.9	0.64
Defensive	25.7	1.23
Consumer Defensive	11.5	1.17
Healthcare	10.9	1.36
Utilities	3.3	1.10

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Standardized Returns assume reinvestment of dividends and capital gains. They depict performance without adjusting for the effects of taxation, but are adjusted to reflect sales charges and ongoing fund expenses.

If adjusted for taxation, the performance quoted would be significantly reduced. For variable annuities, additional expenses will be taken into account, including M&E risk charges, fund-level expenses such as management fees and operating fees, contract-level administration fees, and charges such as surrender, contract, and sales charges.

After-tax returns are calculated using the highest individual federal marginal income tax rates, and do not reflect the impact of state and local taxes. Actual after-tax returns depend on the investor's tax situation and may differ from those shown. The after-tax returns shown are not relevant to investors who hold their fund shares through tax-deferred arrangements such as 401(k) plans or an IRA. After-tax returns exclude the effects of either the alternative minimum tax or phase-out of certain tax credits. Any taxes due are as of the time the distributions are made, and the taxable amount and tax character of each distribution are as specified by the fund on the dividend declaration date. Due to foreign tax credits or realized capital losses, after-tax returns may be greater than before-tax returns. After-tax returns for exchange-traded funds are based on net asset value.

Money Market Fund Disclosures

If money market fund(s) are included in the Standardized Returns table below, each money market fund's name will be followed by a superscripted letter that links it to the applicable disclosure below:

Institutional Money Market Funds (designated by an "S"):

You could lose money by investing in the fund. Because the share price of the fund will fluctuate, when you sell your shares they may be worth more or less than what you originally paid for them. The fund may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

Government Money Market Funds that have chosen to rely on the ability to impose liquidity fees and suspend redemptions (designated by an "L") and

Retail Money Market Funds (designated by an "L"):

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Government Money Market Funds that have chosen not to rely on the ability to impose liquidity fees and suspend redemptions (designated by an "N"):

You could lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

Annualized returns 06-30-2018

Standardized Returns (%)	7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Max Redemption %
BlackRock Strategic Income Opps Instl	—	—	1.97	2.88	4.33	4.13	02-05-2008	NA	NA	0.62 ¹	0.91	NA
Invesco Taxable Municipal Bond ETF-NAV	—	—	3.34	5.58	—	7.06	11-17-2009	NA	NA	0.28	0.28	NA
Invesco Taxable Municipal Bond ETF-Market	—	—	2.88	5.58	—	6.96	11-17-2009	NA	NA	0.28	0.28	NA
iShares Core US Aggregate Bond ETF-NAV	—	—	-0.47	2.23	3.60	3.77	09-22-2003	NA	NA	0.05 ²	0.06	NA
iShares Core US Aggregate Bond ETF-Market	—	—	-0.54	2.24	3.58	3.77	09-22-2003	NA	NA	0.05 ²	0.06	NA

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Annualized returns 06-30-2018													
Standardized Returns (%)	7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Redemption %	Max
PGIM Global Total Return Z	—	—	2.38	3.79	5.26	5.09	03-17-1997	NA	NA	0.63 ³	0.68	NA	NA
PIMCO Income I2	—	—	2.38	5.81	9.16	8.71	04-30-2008	NA	NA	0.60	0.63	NA	NA
Schwab Intermediate-Term US Trs ETF TM -NAV	—	—	-1.34	1.36	—	2.02	08-05-2010	NA	NA	0.06	0.06	NA	NA
Schwab Intermediate-Term US Trs ETF TM -Market	—	—	-1.36	1.37	—	2.00	08-05-2010	NA	NA	0.06	0.06	NA	NA
SPDR [®] S&P 500 Fossil Fuel Rsrv Free ETF-NAV	—	—	13.65	—	—	13.12	11-30-2015	NA	NA	0.20 ⁴	0.25	NA	NA
SPDR [®] S&P 500 Fossil Fuel Rsrv Free ETF-Market	—	—	13.90	—	—	13.17	11-30-2015	NA	NA	0.20 ⁴	0.25	NA	NA
Touchstone Ultra Short Dur F/I Y	—	—	1.63	1.23	—	1.24	04-16-2012	NA	NA	0.44 ⁵	0.51	NA	NA
Vanguard FTSE Developed Markets ETF-NAV	—	—	7.25	6.95	3.23	1.71	07-20-2007	NA	NA	0.07	0.07	NA	NA
Vanguard FTSE Developed Markets ETF-Market	—	—	6.97	6.90	3.21	1.65	07-20-2007	NA	NA	0.07	0.07	NA	NA
Vanguard Mid-Cap ETF-NAV	—	—	12.09	12.30	10.09	9.73	01-26-2004	NA	NA	0.05	0.05	NA	NA
Vanguard Mid-Cap ETF-Market	—	—	12.22	12.30	10.10	9.74	01-26-2004	NA	NA	0.05	0.05	NA	NA
Vanguard Mortgage-Backed Secs ETF-NAV	—	—	0.01	2.11	—	2.50	11-19-2009	NA	NA	0.07	0.07	NA	NA
Vanguard Mortgage-Backed Secs ETF-Market	—	—	-0.03	2.15	—	2.47	11-19-2009	NA	NA	0.07	0.07	NA	NA
Vanguard S&P 500 ETF-NAV	—	—	14.32	13.38	10.13	14.73	09-07-2010	NA	NA	0.04	0.04	NA	NA
Vanguard S&P 500 ETF-Market	—	—	14.52	13.45	—	14.59	09-07-2010	NA	NA	0.04	0.04	NA	NA
Vanguard Small-Cap ETF-NAV	—	—	16.51	12.40	11.27	9.64	01-26-2004	NA	NA	0.05	0.05	NA	NA
Vanguard Small-Cap ETF-Market	—	—	16.54	12.42	11.26	9.63	01-26-2004	NA	NA	0.05	0.05	NA	NA
Xtrackers MSCI EAFE Hedged Equity ETF-NAV	—	—	7.65	9.08	—	8.48	06-09-2011	NA	NA	0.35	0.35	NA	NA
Xtrackers MSCI EAFE Hedged Equity ETF-Market	—	—	6.85	8.83	—	8.23	06-09-2011	NA	NA	0.35	0.35	NA	NA
BBgBarc Govt/Corp 1 Yr Duration TR USD			0.92	0.62	0.93	—	—						
BBgBarc Intermediate Treasury TR USD			-0.76	1.03	2.43	—	—						
BBgBarc US Agg Bond TR USD			-0.40	2.27	3.72	—	—						
BBgBarc US Government Long TR USD			-0.13	4.56	6.02	—	—						
BBgBarc US Government TR USD			-0.63	1.48	2.91	—	—						
BBgBarc US Govt/Credit Long TR USD			-0.78	5.10	6.79	—	—						
BBgBarc US MBS TR USD			0.15	2.25	3.54	—	—						
BBgBarc US Universal TR USD			-0.28	2.63	4.07	—	—						
FTSE WGBI NonUSD USD			3.22	1.01	1.78	—	—						
ICE BofAML US High Yield TR USD			2.53	5.51	8.03	—	—						
ICE BofAML USD 3M Dep OR CM TR USD			1.53	0.66	0.73	—	—						
Morningstar US Mid Cap TR USD			13.83	12.92	10.67	—	—						
Morningstar US Small Cap TR USD			15.52	12.11	11.26	—	—						
MSCI ACWI Ex USA NR USD			7.28	5.99	2.54	—	—						
MSCI ACWI Ex USA Value NR USD			4.64	4.75	2.03	—	—						
MSCI EAFE NR USD			6.84	6.44	2.84	—	—						
MSCI EAFE Value NR USD			4.25	5.37	2.17	—	—						
Russell 1000 TR USD			14.54	13.37	10.20	—	—						
Russell 2000 TR USD			17.57	12.46	10.60	—	—						
Russell Mid Cap TR USD			12.33	12.22	10.23	—	—						
S&P 500 TR USD			14.37	13.42	10.17	—	09-11-1989						
USTREAS T-Bill Auction Ave 3 Mon			1.47	0.46	0.33	—	—						

1. Contractual waiver; Expires 04-30-2019; Interest expense 0.28%
2. Contractual waiver; Expires 06-30-2026
3. Contractual waiver; Expires 02-29-2020
4. Contractual waiver; Expires 10-31-2018
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Annualized returns 06-30-2018

Return after Tax (%)	On Distribution					On Distribution and Sales of Shares			
	1Yr	5Yr	10Yr	Since Inception	Inception Date	1Yr	5Yr	10Yr	Since Inception
BlackRock Strategic Income Opps Instl	0.49	1.44	2.67	2.45	02-05-2008	1.12	1.55	2.66	2.49
Invesco Taxable Municipal Bond ETF-NAV	1.61	3.58	—	5.05	11-17-2009	1.92	3.36	—	4.65
iShares Core US Aggregate Bond ETF-NAV	-1.48	1.19	2.43	2.49	09-22-2003	-0.31	1.24	2.32	2.42
PGIM Global Total Return Z	0.93	2.07	3.11	2.74	03-17-1997	1.38	2.11	3.18	2.91
PIMCO Income I2	0.12	3.12	6.42	5.99	04-30-2008	1.34	3.21	6.04	5.67
Schwab Intermediate-Term US Trs ETF™-NAV	-2.05	0.70	—	1.44	08-05-2010	-0.82	0.74	—	1.31
SPDR® S&P 500 Fossil Fuel Rsvr Free ETF-NAV	12.83	—	—	12.25	11-30-2015	8.05	—	—	9.78
Touchstone Ultra Short Dur F/I Y	0.71	0.50	—	0.49	04-16-2012	0.93	0.61	—	0.61
Vanguard FTSE Developed Markets ETF-NAV	6.36	5.93	2.34	0.88	07-20-2007	4.71	5.10	2.26	1.09
Vanguard Mid-Cap ETF-NAV	11.67	11.77	9.60	9.28	01-26-2004	7.38	9.64	8.11	8.02
Vanguard Mortgage-Backed Secs ETF-NAV	-0.99	1.24	—	1.64	11-19-2009	-0.03	1.22	—	1.57
Vanguard S&P 500 ETF-NAV	13.80	12.71	—	14.15	09-07-2010	8.82	10.50	—	12.05
Vanguard Small-Cap ETF-NAV	16.01	11.80	10.73	9.15	01-26-2004	9.93	9.65	9.10	7.89
Xtrackers MSCI EAFE Hedged Equity ETF-NAV	6.69	7.85	—	6.78	06-09-2011	4.50	6.62	—	6.03

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Mutual Fund Detail Report

Disclosure Statement

The Mutual Fund Detail Report is supplemental sales literature, and therefore must be preceded or accompanied by the mutual fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the Mutual Fund Detail Report. Morningstar is not itself a FINRA-member firm.

All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publically-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are

subject to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net

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asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the investment income tax and Medicare surcharge. As of 2018, this rate is 37% plus 3.8% investment income plus 0.9% Medicare surcharge, or 41.7%. This rate changes periodically in accordance with changes in federal law.

Pre-Inception Returns

The analysis in this report may be based, in part, on adjusted historical returns for periods prior to the inception of the share class of the fund shown in this report ("Report Share Class"). If pre-inception returns are shown, a performance stream consisting of the Report Share Class and older share class(es) is created. Morningstar adjusts pre-inception returns downward to reflect higher expenses in the Report Share Class, we do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns please see the Morningstar Extended Performance Methodology.

When pre-inception data is presented in the report, the header at the top of the report will indicate this. In addition, the pre-inception data included in the report will appear in italics.

While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

12b1 Expense %

A 12b-1 fee is a fee used to pay for a mutual fund's distribution costs. It is often used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The "Other" category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund's managers are buying and how they are positioning the fund's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the fund only.

Average Effective Duration

Duration is a time measure of a bond's interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

Average Effective Maturity

Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

Average Weighted Coupon

A coupon is the fixed annual percentage paid out on a bond. The average weighted coupon is the asset-weighted coupon of each bond in the portfolio.

Average Weighted Price

Average Weighted Price is the asset-weighted price of bonds held in a portfolio, expressed as a percentage of par (face) value. This number reveals if

the portfolio favors bonds selling at prices above or below par value (premium or discount securities respectively.)

Best Fit Index

Alpha, beta, and R-squared statistics are presented for a broad market index and a "best fit" index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund's benchmark, nor does it necessarily contain the types of securities that may be held by the fund or portfolio.

Beta

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

Credit Quality Breakdown

Credit Quality breakdowns are shown for corporate-bond holdings in the fund's portfolio and depict the quality of bonds in the underlying portfolio. It shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). Bonds not rated by an NRSRO are included in the Other/Not-Classified category.

Deferred Load %

The back-end sales charge or deferred load is imposed when an investor redeems shares of a fund. The percentage of the load charged generally declines the longer the fund's shares are held by the investor. This charge, coupled with 12b-1 fees, commonly serves as an alternative to a traditional front-end load.

Expense Ratio %

The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, includes interest and dividends on borrowed securities but does not reflect any fee waivers in effect during the time period.

Front-end Load %

The initial sales charge or front-end load is a deduction made from each investment in the fund and is generally based on the amount of the investment.

Geometric Average Market Capitalization

Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

Growth of 10,000

For funds, this graph compares the growth of an investment of 10,000 (in the base currency of the fund) with that of an index and/or with that of the average for all funds in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

Management Fees %

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

Maximum Redemption Fee %

The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

Mean

Mean is the annualized geometric return for the period shown.

Morningstar Analyst Rating™

The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates funds based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five pillar evaluation to determine how they believe funds are likely to perform relative to a benchmark, or in the case of exchange-traded funds and index mutual funds, a relevant peer group, over the long term on a risk-adjusted basis. They consider quantitative and qualitative factors in their research, and the weight of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's conviction in a fund's prospects for outperformance. Analyst Ratings ultimately reflect the Manager Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months. For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to global.morningstar.com/managerdisclosures/.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating a fund, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the fund.

Morningstar Quantitative Rating™

Morningstar's quantitative fund ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent pillar, (iii) Quantitative People pillar, (iv) Quantitative Performance pillar, (v) Quantitative Price pillar, and (vi) Quantitative Process pillar (collectively the "Quantitative Fund Ratings").

The Quantitative Fund Ratings are calculated monthly and derived from the analyst-driven ratings of a fund's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative Fund Ratings for funds when an analyst rating does not exist as part of its qualitative coverage.

- **Morningstar Quantitative Rating:** Intended to be comparable to Morningstar's Analyst Ratings for open-end funds and ETFs, which is the summary expression of Morningstar's forward-looking analysis of a fund. The Morningstar Analyst Rating is based on the analyst's conviction in the fund's

ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating using a statistical model derived from the Morningstar Analyst Rating our fund analysts assign to open-end funds. Please go to <https://corporate.morningstar.com/us/documents/MethodologyDocuments/AnalystRatingforFundsMethodology.pdf> for information about Morningstar Analyst Rating Morningstar's fund analysts assign to funds.

- **Quantitative Parent pillar:** Intended to be comparable to Morningstar's Parent pillar scores, which provides Morningstar's analyst opinion on the stewardship quality of a firm. Morningstar calculates the Quantitative Parent pillar using an algorithm designed to predict the Parent Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative People pillar:** Intended to be comparable to Morningstar's People pillar scores, which provides Morningstar's analyst opinion on the fund manager's talent, tenure, and resources. Morningstar calculates the Quantitative People pillar using an algorithm designed to predict the People pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative Performance pillar:** Intended to be comparable to Morningstar's Performance pillar scores, which provides Morningstar's analyst opinion on the fund's performance pattern of risk-adjusted returns. Morningstar calculates the Quantitative Performance pillar using an algorithm designed to predict the Performance pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative Price Pillar:** Intended to be comparable to Morningstar's Price pillar scores, which provides Morningstar's analyst opinion on the fund's value proposition compared to similar funds sold through similar channels. Morningstar calculates the Quantitative Price pillar using an algorithm designed to predict the Price Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative Process Pillar:** Intended to be comparable to Morningstar's Process pillar scores, which provides Morningstar's analyst opinion on the fund's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process pillar using an algorithm designed to predict the Process pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

Morningstar Quantitative Ratings **have not been made available** to the issuer of the security prior to publication.

Risk Warning

The quantitative fund ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the quantitative fund ratings. In addition, there is the risk that the return target will not be met due to such things as unforeseen changes in changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. A change in the fundamental factors underlying the quantitative fund ratings can mean that the recommendation is subsequently no longer accurate.

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For more information about Morningstar's quantitative methodology, please visit corporate1.morningstar.com/ResearchLibrary.

Morningstar Category

Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

Morningstar Rank

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for funds and separate accounts with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. For more information about the Morningstar Rating for funds, including its methodology, please go to global.morningstar.com/managerdisclosures/.

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Ave), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.



Morningstar Style Box™

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened square in the style box indicates the weighted average style of the portfolio.

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest-rate sensitivity as measured by a bond's effective duration. Morningstar seeks credit rating information from fund companies on a periodic basis (for example, quarterly). In compiling credit rating information, Morningstar accepts credit ratings reported by fund companies that have been issued by all Nationally Recognized Statistical Rating Organizations. For a list of all NRSROs, please visit <http://www.sec.gov/divisions/marketreg/ratingagency.htm>. Additionally, Morningstar accepts foreign credit ratings from widely recognized or registered rating agencies. If two rating organizations/agencies have rated a security, fund companies are to report the lower rating; if three or more organizations/agencies have rated a security, fund companies are to report the median rating; and in cases where there are more than two organization/agency ratings and a median rating does not exist, fund companies are to use the lower of the two middle ratings.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. NRSRO or rating agency ratings can change from time to time.

For credit quality, Morningstar combines the credit rating information provided by the fund companies with an average default rate calculation to come up with a weighted-average credit quality. The weighted-average credit quality is currently a letter that roughly corresponds to the scale used by a leading NRSRO. Bond funds are assigned a style box placement of "low," "medium," or "high" based on their average credit quality. Funds with a "low" credit quality are those whose weighted-average credit quality is determined to be less than "BBB-"; "medium" are those less than "AA-", but greater or equal to "BBB-"; and "high" are those with a weighted-average credit quality of "AA-" or higher. When classifying a bond portfolio, Morningstar first maps the NRSRO credit ratings of the underlying holdings to their respective default rates (as determined by Morningstar's analysis of actual historical default rates). Morningstar then averages these default rates to determine the average default rate for the entire bond fund. Finally, Morningstar maps this average default rate to its corresponding credit rating along a convex curve.

For interest-rate sensitivity, Morningstar obtains from fund companies the average effective duration. Generally, Morningstar classifies a fixed-income fund's interest-rate sensitivity based on the effective duration of the Morningstar Core Bond Index, which is currently three years. The classification of Limited will be assigned to those funds whose average effective duration is between 25% to 75% of MCBI's average effective duration; funds whose average effective duration is between 75% to 125% of the MCBI will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCBI will be classified as Extensive.

For municipal-bond funds, Morningstar also obtains from fund companies the average effective duration. In these cases, static breakpoints are used. These breakpoints are as follows: (i) Limited: 4.5 years or less; (ii) Moderate: more than 4.5 years but less than 7 years; and (iii) Extensive: more than 7 years. In addition, for non-U.S. taxable and non-U.S. domiciled fixed-income funds, static duration breakpoints are used: (i) Limited: less than or equal to 3.5 years; (ii) Moderate: more than 3.5 years but less than or equal to 6 years; (iii) Extensive: more than 6 years.

Interest-rate sensitivity for non-U.S. domiciled funds (excluding funds in convertible categories) may be measured with modified duration when effective duration is not available.

P/B Ratio TTM

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

P/C Ratio TTM

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

P/E Ratio TTM

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an overlooked or undervalued potential for appreciation.

Percentile Rank in Category

Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

Performance Quartile

Performance Quartile reflects a fund's Morningstar Rank.

Potential Capital Gains Exposure

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

Quarterly Returns

Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the

correlation.

Regional Exposure

The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

Sector Weightings

Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

Share Change

Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experience if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

ETF Detail Report Disclosure Statement

The Exchange-Traded Fund (ETF) Detail Report is supplemental sales literature, and therefore must be preceded or accompanied by the mutual fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the ETF Detail Report. Morningstar is not itself a FINRA-member firm. All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publically-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public

offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the

unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

The market price noted on the ETF Detail Report is the price of the fund as of the close of trading on the last business day at month-end. This date is listed at the top of the ETF Detail Report.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the investment income tax and Medicare surcharge. As of 2018, this rate is 37% plus 3.8% investment income plus 0.9% Medicare surcharge, or 41.7%. This rate changes periodically in accordance with changes in federal law.

12 Month Yield

12 Month Yield is derived by summing the trailing 12-months' income distributions and dividing the sum by the last month's ending NAV, plus any capital gains distributed over the same period. Income refers only to interest payments from fixed-income securities and dividend payoffs from common stocks.

12b1 Expense %

A 12b-1 fee is a fee used to pay for a mutual fund's distribution costs. It is often used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

30-Day SEC Yield

The 30-day SEC Yield is a calculation based on a 30-day period ending on the last day of the previous month. It is computed by dividing the net investment income per share earned during the period by the maximum offering price per share on the last day of the period. The figure listed lags by one month. When a dash appears, the yield available is more than 30 days old. This information is taken from fund surveys.

Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

Asset Allocation

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Asset Allocation reflects asset class weightings of the portfolio. The "Other" category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund's managers are buying and how they are positioning the fund's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the fund only.

Average Effective Duration

Duration is a time measure of a bond's interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

Average Effective Maturity

Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

Average Weighted Coupon

A coupon is the fixed annual percentage paid out on a bond. The average weighted coupon is the asset-weighted coupon of each bond in the portfolio.

Average Weighted Price

Average Weighted Price is the asset-weighted price of bonds held in a portfolio, expressed as a percentage of par (face) value. This number reveals if the portfolio favors bonds selling at prices above or below par value (premium

or discount securities respectively.)

Best Fit Index

Alpha, beta, and R-squared statistics are presented for a broad market index and a "best fit" index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund's benchmark, nor does it necessarily contain the types of securities that may be held by the fund or portfolio.

Beta

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

Credit Quality Breakdown

Credit Quality breakdowns are shown for corporate-bond holdings in the fund's portfolio and depict the quality of bonds in the underlying portfolio. It shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). Bonds not rated by an NRSRO are included in the Other/Not-Classified category.

Expense Ratio %

The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, includes interest and dividends on borrowed securities but does not reflect any fee waivers in effect during the time period.

Geometric Average Market Capitalization

Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

Growth of 10,000

For funds, this graph compares the growth of an investment of 10,000 (in the base currency of the fund) with that of an index and/or with that of the average for all funds in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

Management Fees %

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

Maximum Redemption Fee %

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The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

Mean

Mean is the annualized geometric return for the period shown.

Morningstar Analyst Rating™

The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates funds based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five pillar evaluation to determine how they believe funds are likely to perform relative to a benchmark, or in the case of exchange-traded funds and index mutual funds, a relevant peer group, over the long term on a risk-adjusted basis. They consider quantitative and qualitative factors in their research, and the weight of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's conviction in a fund's prospects for outperformance. Analyst Ratings ultimately reflect the Manager Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months. For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to global.morningstar.com/managerdisclosures/.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating a fund, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the fund.

Morningstar Quantitative Rating™

Morningstar's quantitative fund ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent pillar, (iii) Quantitative People pillar, (iv) Quantitative Performance pillar, (v) Quantitative Price pillar, and (vi) Quantitative Process pillar (collectively the "Quantitative Fund Ratings").

The Quantitative Fund Ratings are calculated monthly and derived from the analyst-driven ratings of a fund's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative Fund Ratings for funds when an analyst rating does not exist as part of its qualitative coverage.

- **Morningstar Quantitative Rating:** Intended to be comparable to Morningstar's Analyst Ratings for open-end funds and ETFs, which is the summary expression of Morningstar's forward-looking analysis of a fund. The Morningstar Analyst Rating is based on the analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating using a statistical model derived from the Morningstar Analyst Rating our fund analysts assign to open-end funds. Please go to <https://corporate.morningstar.com/us/documents/MethodologyDocuments/AnalystRatingforFundsMethodology.pdf> for information about Morningstar Analyst Rating Morningstar's fund analysts assign to funds.

- **Quantitative Parent pillar:** Intended to be comparable to Morningstar's Parent pillar scores, which provides Morningstar's analyst

opinion on the stewardship quality of a firm. Morningstar calculates the Quantitative Parent pillar using an algorithm designed to predict the Parent Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative People pillar:** Intended to be comparable to Morningstar's People pillar scores, which provides Morningstar's analyst opinion on the fund manager's talent, tenure, and resources. Morningstar calculates the Quantitative People pillar using an algorithm designed to predict the People pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative Performance pillar:** Intended to be comparable to Morningstar's Performance pillar scores, which provides Morningstar's analyst opinion on the fund's performance pattern of risk-adjusted returns. Morningstar calculates the Quantitative Performance pillar using an algorithm designed to predict the Performance pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative Price Pillar:** Intended to be comparable to Morningstar's Price pillar scores, which provides Morningstar's analyst opinion on the fund's value proposition compared to similar funds sold through similar channels. Morningstar calculates the Quantitative Price pillar using an algorithm designed to predict the Price Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

- **Quantitative Process Pillar:** Intended to be comparable to Morningstar's Process pillar scores, which provides Morningstar's analyst opinion on the fund's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process pillar using an algorithm designed to predict the Process pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.

Morningstar Quantitative Ratings **have not been made available** to the issuer of the security prior to publication.

Risk Warning

The quantitative fund ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the quantitative fund ratings. In addition, there is the risk that the return target will not be met due to such things as unforeseen changes in changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. A change in the fundamental factors underlying the quantitative fund ratings can mean that the recommendation is subsequently no longer accurate.

For more information about Morningstar's quantitative methodology, please visit corporate1.morningstar.com/ResearchLibrary.

Morningstar Category

Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new

and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

Morningstar Rank

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for funds and separate accounts with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. For more information about the Morningstar Rating for funds, including its methodology, please go to global.morningstar.com/managerdisclosures/.

Morningstar Return

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Ave), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Style Box™

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened square in the style box indicates the weighted average style of the portfolio.

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest-rate sensitivity as measured by a bond's effective duration. Morningstar seeks credit rating information from fund companies on a periodic basis (for example, quarterly). In compiling credit rating information, Morningstar accepts credit ratings reported by fund companies that have been issued by all Nationally Recognized Statistical Rating Organizations. For a list of all NRSROs, please visit <http://www.sec.gov/divisions/marketreg/ratingagency.htm>. Additionally, Morningstar accepts foreign credit ratings from widely recognized or registered rating agencies. If two rating organizations/agencies have rated a security, fund companies are to report the lower rating; if three or more organizations/agencies have rated a security, fund companies are to report the median rating; and in cases where there are more than two organization/agency ratings and a median rating does not exist, fund companies are to use the lower of the two middle ratings.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. NRSRO or rating agency ratings can change from time to time.

For credit quality, Morningstar combines the credit rating information provided by the fund companies with an average default rate calculation to come up with a weighted-average credit quality. The weighted-average credit quality is currently a letter that roughly corresponds to the scale used by a leading NRSRO. Bond funds are assigned a style box placement of "low," "medium," or "high" based on their average credit quality. Funds with a "low" credit quality are those whose weighted-average credit quality is determined to be less than "BBB-"; "medium" are those less than "AA-", but greater or equal to "BBB-"; and "high" are those with a weighted-average credit quality of "AA-" or higher. When classifying a bond portfolio, Morningstar first maps the NRSRO credit ratings of the underlying holdings to their respective default rates (as determined by Morningstar's analysis of actual historical default rates). Morningstar then averages these default rates to determine the average default rate for the entire bond fund. Finally, Morningstar maps this average default rate to its corresponding credit rating along a convex curve.

For interest-rate sensitivity, Morningstar obtains from fund companies the average effective duration. Generally, Morningstar classifies a fixed-income fund's interest-rate sensitivity based on the effective duration of the Morningstar Core Bond Index, which is currently three years. The classification of Limited will be assigned to those funds whose average effective duration is between 25% to 75% of MCBI's average effective duration; funds whose average effective duration is between 75% to 125% of the MCBI will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCBI will be classified as Extensive.

For municipal-bond funds, Morningstar also obtains from fund companies the average effective duration. In these cases, static breakpoints are used. These breakpoints are as follows: (i) Limited: 4.5 years or less; (ii) Moderate: more than 4.5 years but less than 7 years; and (iii) Extensive: more than 7 years. In addition, for non-U.S. taxable and non-U.S. domiciled fixed-income funds, static duration breakpoints are used: (i) Limited: less than or equal to 3.5 years; (ii) Moderate: more than 3.5 years but less than or equal to 6 years; (iii) Extensive: more than 6 years.

Interest-rate sensitivity for non-U.S. domiciled funds (excluding funds in convertible categories) may be measured with modified duration when effective duration is not available.

P/B Ratio TTM

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by

dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

P/C Ratio TTM

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

P/E Ratio TTM

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an overlooked or undervalued potential for appreciation.

Percentile Rank in Category

Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

Performance Quartile

Performance Quartile reflects a fund's Morningstar Rank.

Potential Capital Gains Exposure

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

Quarterly Returns

Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

Regional Exposure

The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

Sector Weightings

Super Sectors represent Morningstar's broadest classification of equity sectors

by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

Share Change

Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experience if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the

time periods shown.

Investment Risks

International/Emerging Market Equities: Investing in international securities involves special additional risks. These risks include, but are not limited to, currency risk, political risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

Sector Strategies: Portfolios that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

Non-Diversified Strategies: Portfolios that invest a significant percentage of assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

Small Cap Equities: Portfolios that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the overall market average.

Mid Cap Equities: Portfolios that invest in companies with market capitalization below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

High-Yield Bonds: Portfolios that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

Tax-Free Municipal Bonds: The investor should note that the income from tax-free municipal bond funds may be subject to state and local taxation and the Alternative Minimum Tax.

Bonds: Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines. Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

HOLDRs: The investor should note that these are narrow industry-focused products that, if the industry is hit by hard times, will lack diversification and possible loss of investment would be likely. These securities can trade at a discount to market price, ownership is of a fractional share interest, the underlying investments may not be representative of the particular industry, the HOLDR might be delisted from the AMEX if the number of underlying companies drops below nine, and the investor may experience trading halts.

Hedge Funds: The investor should note that hedge fund investing involves specialized risks that are dependent upon the type of strategies undertaken by the manager. This can include distressed or event-driven strategies, long/short strategies, using arbitrage (exploiting price inefficiencies), international investing, and use of leverage, options and/or derivatives. Although the goal of hedge fund managers may be to reduce volatility and produce positive absolute return under a variety of market conditions, hedge funds may involve a high degree of risk and are suitable only for investors of substantial financial means who could bear the entire loss of their investment.

Bank Loan/Senior Debt: Bank loans and senior loans are impacted by the risks

associated with fixed income in general, including interest rate risk and default risk. They are often non-investment grade; therefore, the risk of default is high. These securities are also relatively illiquid. Managed products that invest in bank loans/senior debt are often highly leveraged, producing a high risk of return volatility.

Exchange Traded Notes (ETNs): ETNs are unsecured debt obligations. Any repayment of notes is subject to the issuer's ability to repay its obligations. ETNs do not typically pay interest.

Leveraged ETFs: Leveraged investments are designed to meet multiples of the return performance of the index they track and seek to meet their fund objectives on a daily basis (or other time period stated within the prospectus objective). The leverage/gearing ratio is the amount of excess return that a leveraged investment is designed to achieve in comparison to its index performance (i.e. 200%, 300%, -200%, or -300% or 2X, 3X, -2X, -3X). Compounding has the ability to affect the performance of the fund to be either greater or less than the index performance multiplied by the multiple stated within the funds objective over a stated time period.

Short Positions: When a short position moves in an unfavorable way, the losses are theoretically unlimited. The broker may demand more collateral and a manager might have to close out a short position at an inopportune time to limit further losses.

Long-Short: Due to the strategies used by long-short funds, which may include but are not limited to leverage, short selling, short-term trading, and investing in derivatives, these funds may have greater risk, volatility, and expenses than those focusing on traditional investment strategies.

Liquidity Risk: Closed-end fund, ETF, and HOLDR trading may be halted due to market conditions, impacting an investor's ability to sell a fund.

Market Price Risk: The market price of ETFs, HOLDRs, and closed-end funds traded on the secondary market is subject to the forces of supply and demand and thus independent of the NAV. This can result in the market price trading at a premium or discount to the NAV, which will affect an investor's value.

Market Risk: The market prices of ETFs and HOLDRs can fluctuate as a result of several factors, such as security-specific factors or general investor sentiment. Therefore, investors should be aware of the prospect of market fluctuations and the impact it may have on the market price.

Target-Date Funds: Target-date funds typically invest in other mutual funds and are designed for investors who are planning to retire during the target date year. The fund's target date is the approximate date when investors expect to begin withdrawing their money. A target-date fund's investment objective/strategy typically becomes more conservative over time, primarily by reducing its allocation to equity mutual funds and increasing its allocations in fixed-income mutual funds. An investor's principal value in a target-date fund is not guaranteed at any time, including at the fund's target date.

High double- and triple-digit returns: High double- and triple-digit returns were the result of extremely favorable market conditions, which may not continue to be the case. High returns for short time periods must not be a major factor when making investment decisions.

Benchmark Disclosure

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BBgBarc Govt/Corp 1 Yr Duration TR USD

Description unavailable.

BBgBarc Intermediate Treasury TR USD

This index includes treasury bonds with maturates of at least one year and up to 10 years with an outstanding par value of at least 100 million. They include fixed-rate debt issues, rated investment grade or higher by Moody's Investor Services, Standard & Poor's Corporation, or Fitch Investor's Service (in that order). Treasuries include all public obligations of the U.S. Treasury, excluding flower bonds and foreign-targeted issues. The returns we publish for the index are total returns, which include reinvestment of dividends. For more information, visit the BarCap indexes web site. The constituents displayed for this index are from the following proxy: SPDR® Blmgb Barclays Intern Term Trs ETF.

BBgBarc US Agg Bond TR USD

This index is composed of the BarCap Government/Credit Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index. The returns we publish for the index are total returns, which includes the daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core US Aggregate Bond ETF.

BBgBarc US Government Long TR USD

Includes those indexes found in the BarCap Government index which have a maturity of 10 years or more. The constituents displayed for this index are from the following proxy: iShares 20+ Year Treasury Bond ETF.

BBgBarc US Government TR USD

Tracks the returns of U.S. Treasuries, agency bonds, and one- to three-year U.S. government obligations.

BBgBarc US Govt/Credit Long TR USD

Includes the BarCap Government and BarCap Corporate Bond indices that have maturities of 10 years or longer. The returns we publish for the index are total returns, which include reinvestment of dividends. The constituents displayed for this index are from the following proxy: Vanguard Long-Term Bond Index Fund.

BBgBarc US MBS TR USD

Includes 15- and 30-year fixed-rate securities backed by mortgage pools of the Government National Mortgage Association (GNMA). The constituents displayed for this index are from the following proxy: iShares MBS ETF.

BBgBarc US Universal TR USD

BarCap U.S. Universal Bond Index: The U.S. Universal Index mirrors the increasingly popular "Core Plus" choice set used by many U.S.-dollar investors. It is the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, the non-ERISA portion of the CMBS Index, and the CMBS High Yield Index. Municipal debt, private placements, and non-dollar-denominated issues are excluded from the Universal Index. The constituents displayed for this index are from the following proxy: iShares Core Total USD Bond Market ETF.

FTSE WGBI NonUSD USD

A market-capitalization weighted index consisting of the government bond markets of the following countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, Switzerland, and United Kingdom. Country eligibility is determined based upon market capitalization and investability criteria. The index includes all fixed-rate bonds with a remaining maturity of one year or longer and with amounts outstanding of at least the equivalent of US\$25 million. Government securities typically exclude floating or variable rate bonds.

ICE BofAML US High Yield TR USD

The US High Yield Master II Index tracks the performance of below investment grade US dollar-denominated corporate bonds publicly issued in the US domestic market. "Yankee" bonds are included in the Index provided the issuer is domiciled in a country having an investment grade foreign currency long-term debt rating. 144a issues are not included in the index until they are exchanged for registered securities. Qualifying bonds must have at least one year remaining term to maturity, a fixed coupon schedule and a minimum amount outstanding of USD 100 million.

ICE BofAML USD 3M Dep OR CM TR USD

The BofA Merrill Lynch USD LIBOR 3 Month Constant Maturity Index represents the London intrabank offered rate (LIBOR) with a constant 3-month average maturity. LIBOR is a composite of the rates of interest at which banks borrow from one another in the London market.

Morningstar US Mid Cap TR USD

The Morningstar Mid Cap Index tracks the performance of U.S. mid-cap stocks. These stocks fall between the 70th and 90th percentile in market capitalization of the investable universe. In aggregate, the Mid-Cap Index represents 20 percent of the investable universe.

Morningstar US Small Cap TR USD

The Morningstar Small Cap Index tracks the performance of U.S. small-cap stocks. These stocks fall between the 90th and 97th percentile in market capitalization of the investable universe. In aggregate, the Small Cap Index represents 7 percent of the investable universe.

MSCI ACWI Ex USA NR USD

The MSCI AC World ex USA is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets. The index consists of 48 developed and emerging market country indices. The returns we publish for the index are total returns, which include reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ETF.

MSCI ACWI Ex USA Value NR USD

Description unavailable.

MSCI EAFE NR USD

This Europe, Australasia, and Far East index is a market-capitalization-weighted index of 21 non-U.S., industrialized country indexes.

This disclosure applies to all MSCI indices: Certain information included herein is derived by Morningstar in part from MSCI's Index Constituents (the "Index Data"). However, MSCI has not reviewed any information contained herein and does not endorse or express any opinion such information or analysis. MSCI does not make any express or implied warranties, representations or guarantees concerning the Index Data or any information or data derived therefrom, and in no event will MSCI have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of this information.

MSCI EAFE Value NR USD

The MSCI EAFE Value Index is an unmanaged index of value stocks of companies located in Europe, Australasia and the Far East. The constituents displayed for this index are from the following proxy: iShares MSCI EAFE Value ETF.

Russell 1000 TR USD

Consists of the 1000 largest companies within the Russell 3000 index, which

represents approximately 98% of the investable US equity market. Also known as the Market-Oriented Index, because it represents the group of stocks from which most active money managers choose. The constituents displayed for this index are from the following proxy: iShares Russell 1000 ETF.

Russell 2000 TR USD

Consists of the 2000 smallest companies in the Russell 3000 Index. The constituents displayed for this index are from the following proxy: iShares Russell 2000 ETF.

Russell Mid Cap TR USD

Measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 25% of the total market capitalization of the Russell 1000 Index. The constituents displayed for this index are from the following proxy: iShares Russell Mid-Cap ETF.

S&P 500 TR USD

A market capitalization-weighted index composed of the 500 most widely held stocks whose assets and/or revenues are based in the US; it's often used as a proxy for the U.S. stock market. TR (Total Return) indexes include daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core S&P 500 ETF.

USTREAS T-Bill Auction Ave 3 Mon

Three-month T-bills are government-backed, short-term investments considered to be risk-free and as good as cash because the maturity is only three months. Morningstar collects yields on the T-bill on a weekly basis from the Wall Street Journal.



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TO: Lee Putnam
Chair, Board of Regents

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PRESIDENT'S OFFICE

Randy Moore
Chair, Committee on Budget and Finance, Board of Regents

VIA: David Lassner
President

FROM: Kalbert K. Young
Vice President for Budget and Finance/Chief Financial Officer

SUBJECT: LEGACY ENDOWMENT PORTFOLIO STRATEGY, UBS

UBS has provided the attached presentation for discussion at the next upcoming Committee on Budget and Finance scheduled for September 6, 2018. The material is provided to forward an informational discussion on the agenda item related to the portfolio strategy that UBS will employ for investments in the Legacy Endowment.

The Administration has been working with UBS to restructure the investment platform and the portfolio strategy to improve return performance and to better comply with requirements in the Regents Policy on investments. Ms. Lori Hamano and Mr. Kyle Yoneshige from UBS will deliver the presentation and lead the discussion at the committee meeting. They will also handle any questions members may have regarding the portfolio.

Attachment

c: University Controller (w/o Attachment)

19062B

MARKET INSIGHTS

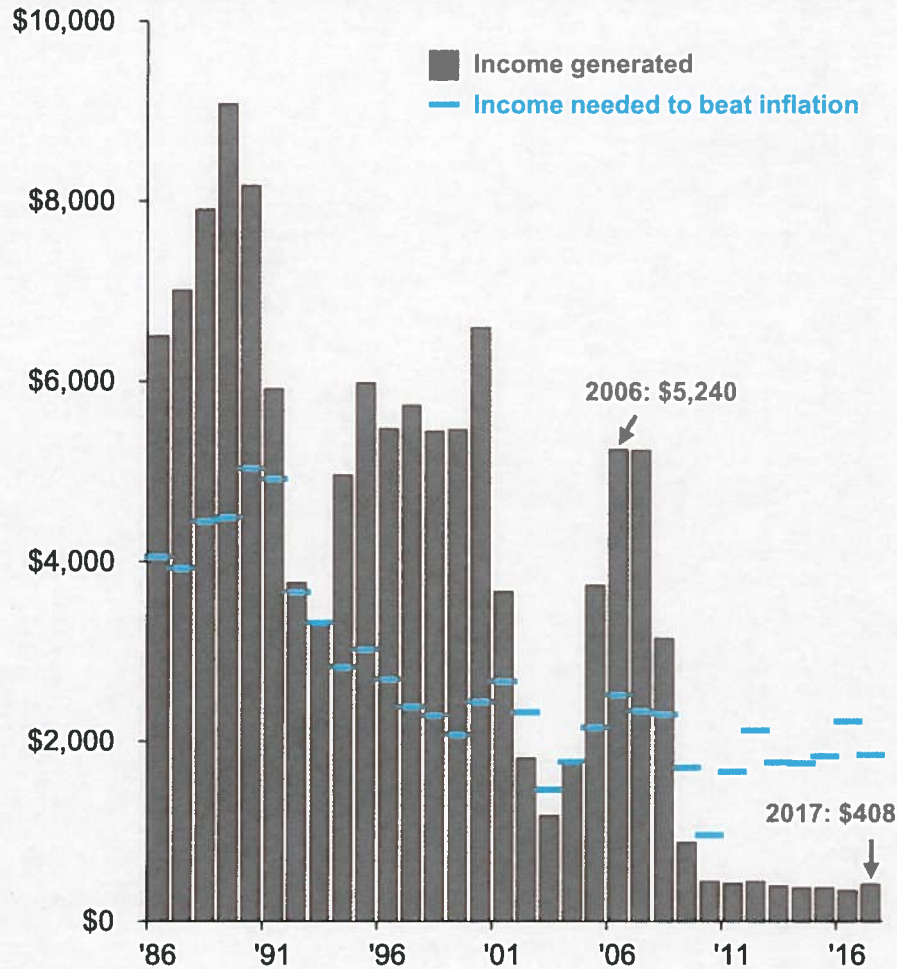
Guide to the Markets[®]

U.S. | 3Q 2018 | As of July 31, 2018

J.P. Morgan

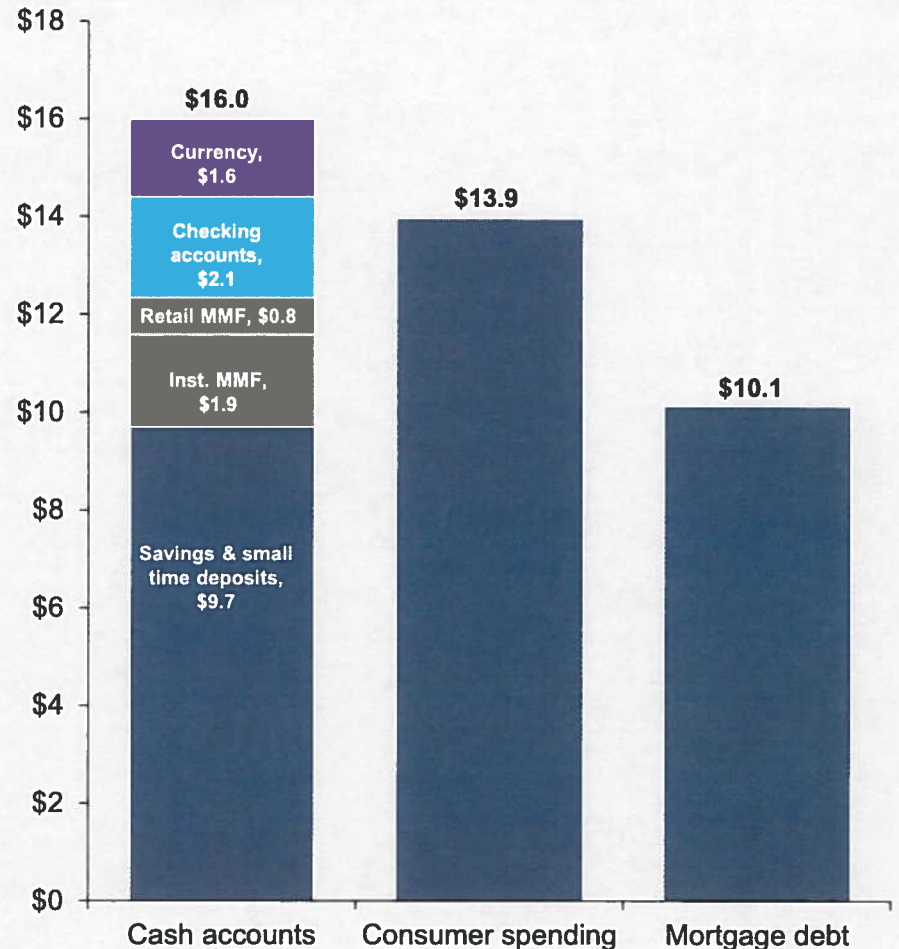
J.P.Morgan
Asset Management

Income earned by \$100,000 investment in a 6-mo. CD



Cash accounts in perspective

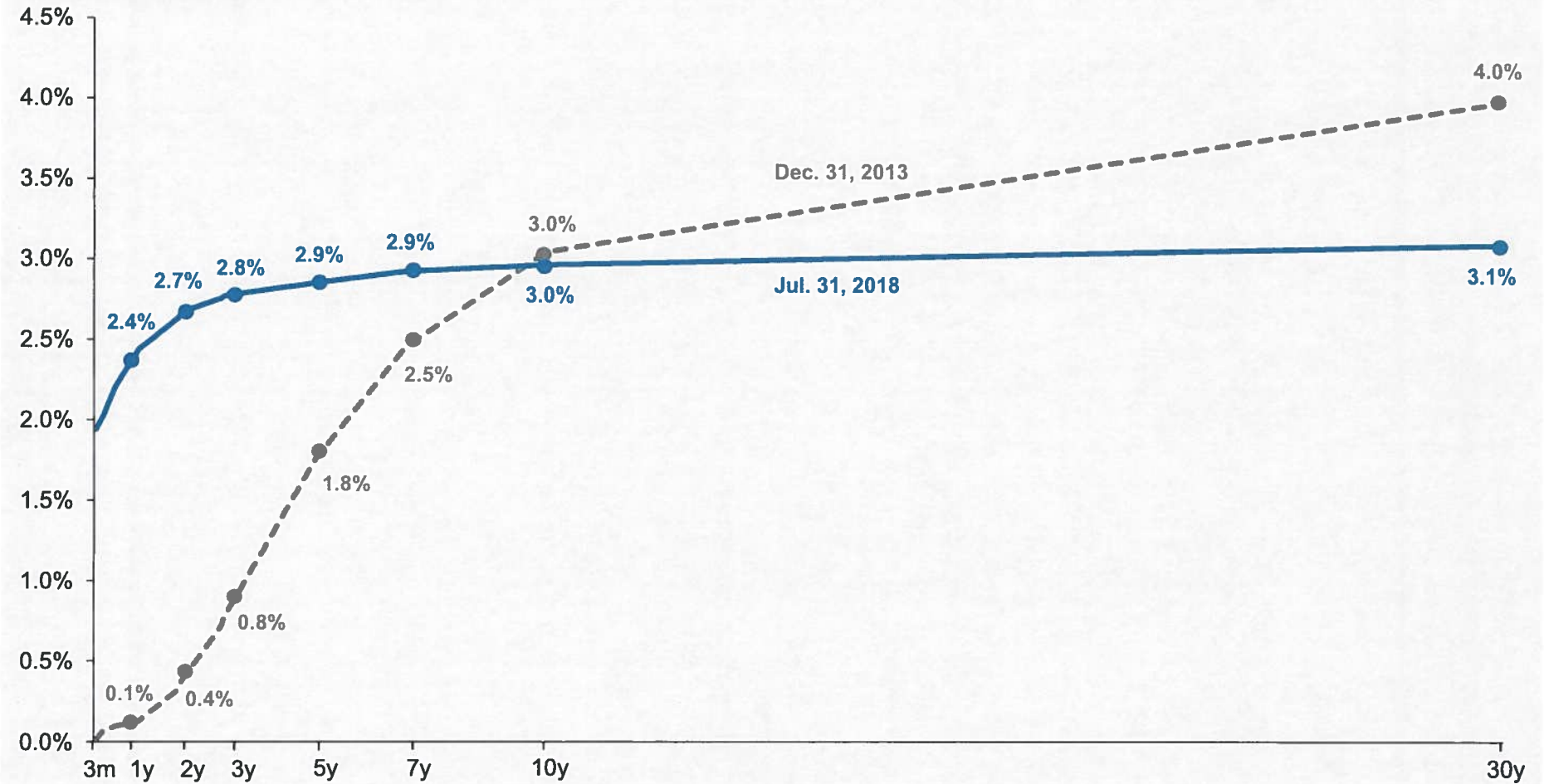
Trillions of U.S. dollars



Source: FactSet, J.P. Morgan Asset Management; (Left) Bankrate.com; (Right) BEA, Federal Reserve System. Cash accounts and consumer spending are as of 6/30/18 and mortgage debt is as of 3/31/18. M2 includes M1 (currency in circulation and checking accounts) plus savings deposits, small-denomination time deposits and retail money market mutual funds. Institutional money market funds are considered a memorandum item, not included in M2. Annual income is for illustrative purposes and is calculated based on the 6-month CD yield on average during each year and \$100,000 invested. Past performance is not indicative of comparable future results. *Guide to the Markets – U.S.* Data are as of July 31, 2018.

Yield curve

U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.
 Guide to the Markets – U.S. Data are as of July 31, 2018.

S&P 500 Index: Forward P/E ratio



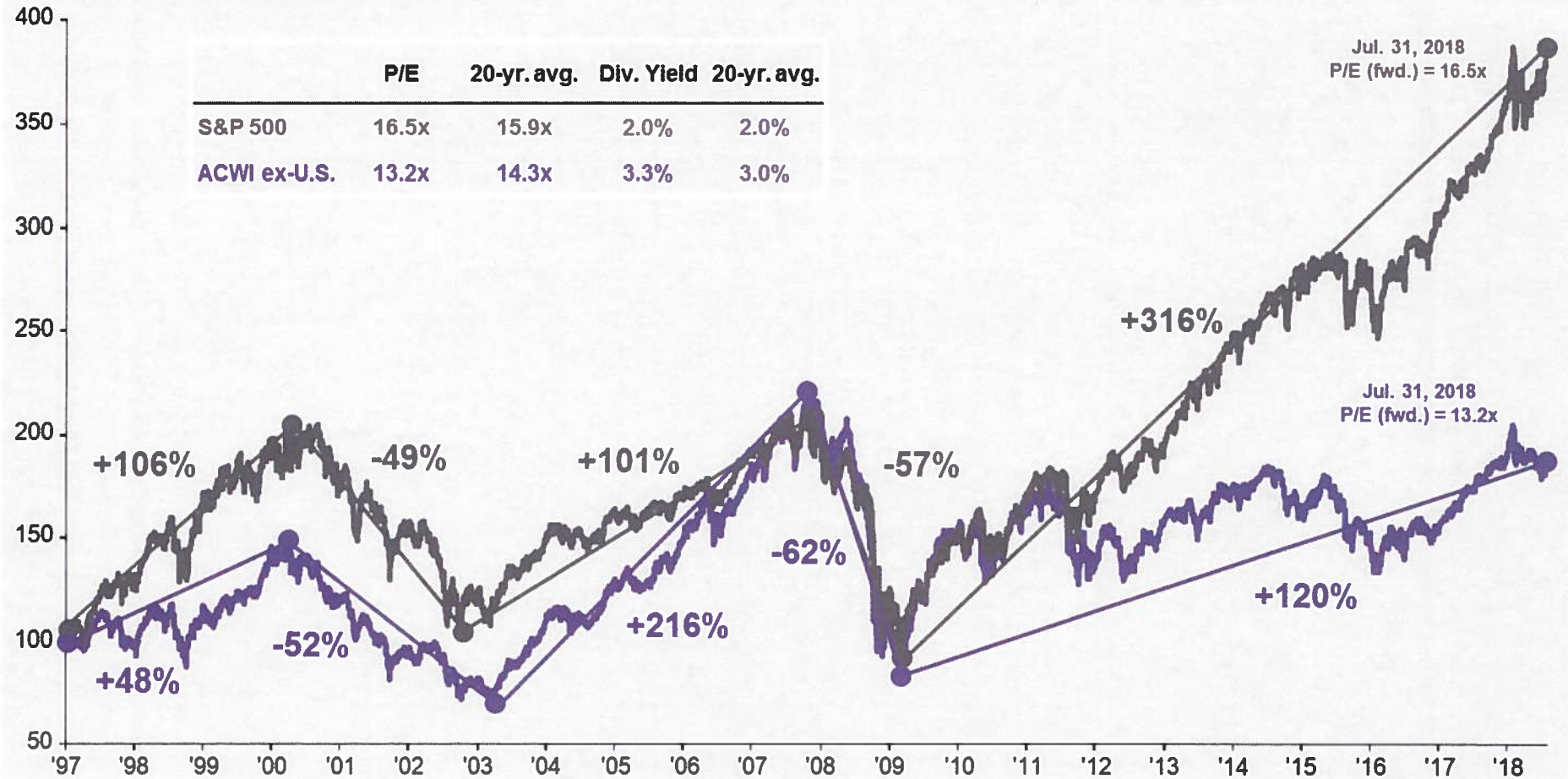
Source: FactSet, FRB, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.

Price to earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1989, and FactSet for July 31, 2018. Average P/E and standard deviations are calculated using 25 years of FactSet history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. Price to book ratio is the price divided by book value per share. Price to cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow data availability.

Guide to the Markets – U.S. Data are as of July 31, 2018.

MSCI All Country World ex-U.S. and S&P 500 Indices

Dec. 1996 = 100, U.S. dollar, price return



International

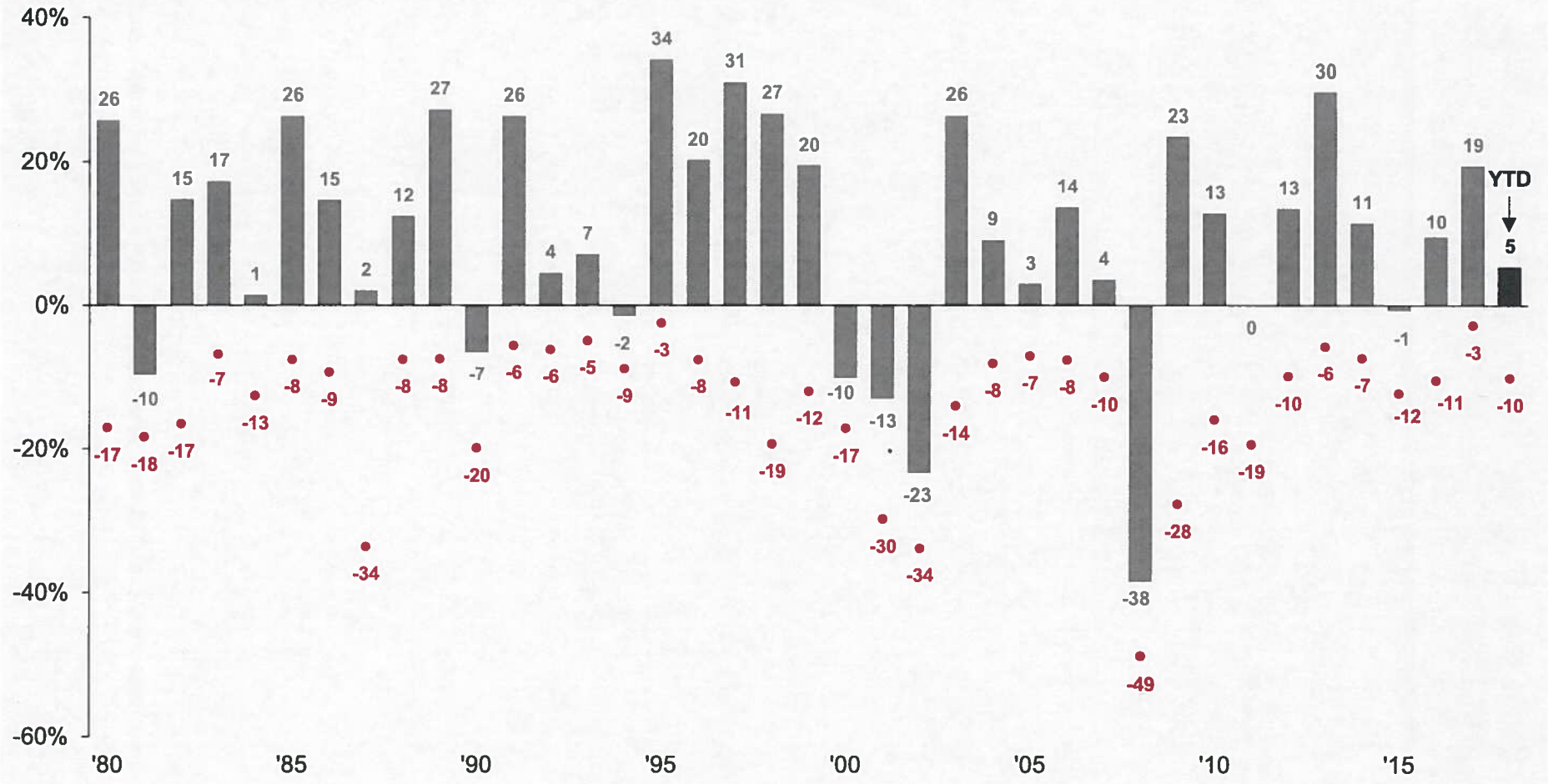
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management

Forward price to earnings ratio is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on price movement only, and do not include the reinvestment of dividends. Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by FactSet Market Aggregates. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – U.S. Data are as of July 31, 2018.

S&P 500 intra-year declines vs. calendar year returns

Despite average intra-year drops of 13.8%, annual returns positive in 29 of 38 years

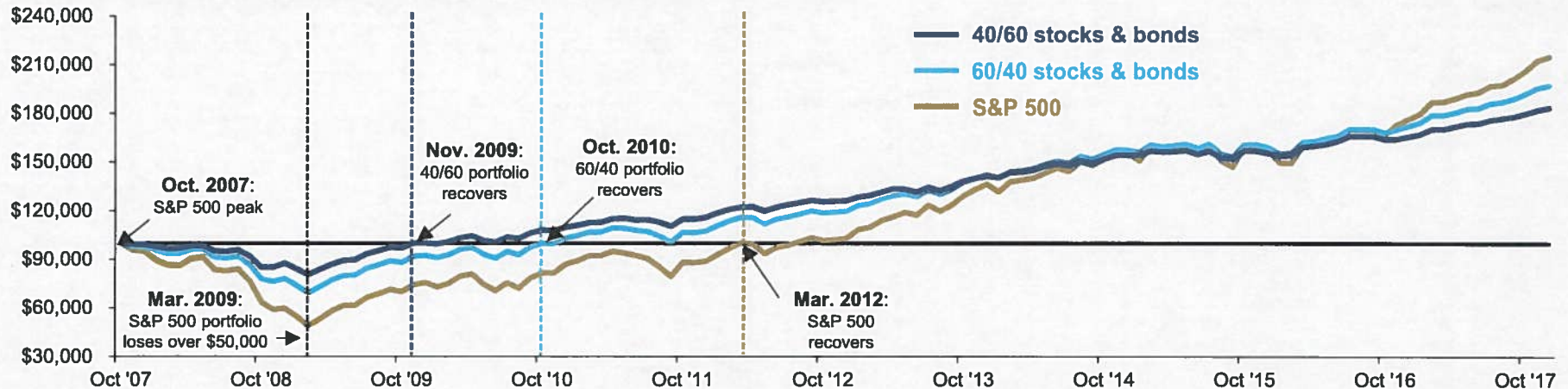


Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

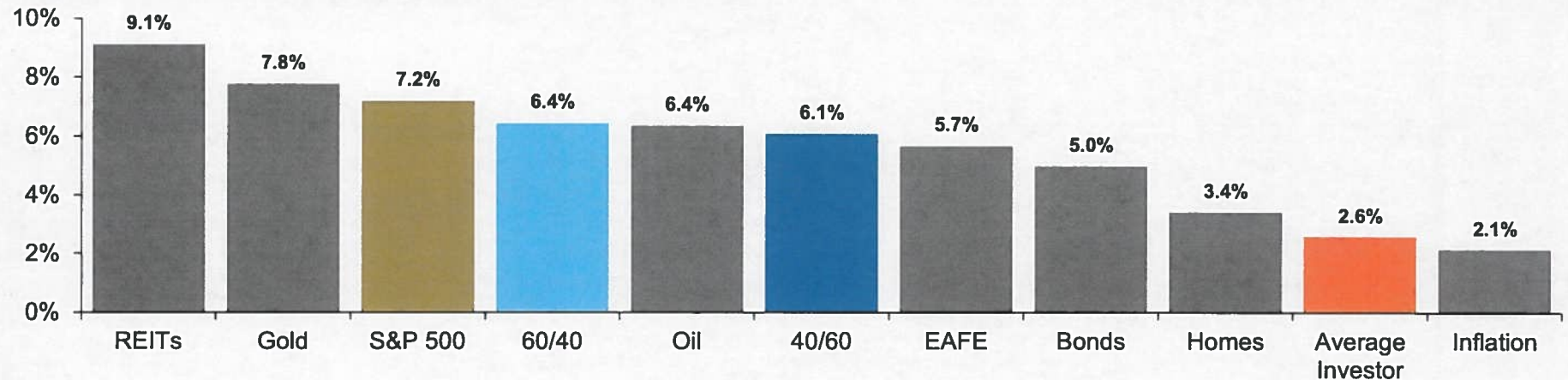
Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2017, over which time period the average annual return was 8.8%.

Guide to the Markets – U.S. Data are as of July 31, 2018.

Portfolio returns: Equities vs. equity and fixed income blend



20-year annualized returns by asset class (1998 – 2017)



Source: J.P. Morgan Asset Management; (Top) Barclays, Bloomberg, FactSet, Standard & Poor's; (Bottom) Dalbar Inc. Indices used are as follows: REITs: NAREIT Equity REIT Index, EAFE: MSCI EAFE, Oil: WTI Index, Bonds: Bloomberg Barclays U.S. Aggregate Index, Homes: median sale price of existing single-family homes, Gold: USD/troy oz., Inflation: CPI. 60/40: A balanced portfolio with 60% invested in S&P 500 Index and 40% invested in high-quality U.S. fixed income, represented by the Bloomberg Barclays U.S. Aggregate Index. The portfolio is rebalanced annually. Average asset allocation investor return is based on an analysis by Dalbar Inc., which utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior. Returns are annualized (and total return where applicable) and represent the 20-year period ending 12/31/17 to match Dalbar's most recent analysis. Guide to the Markets – U.S. Data are as of July 31, 2018.

All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

Equities:

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The **Russell 1000 Index®** measures the performance of the 1,000 largest companies in the Russell 3000.

The **Russell 1000 Growth Index®** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 1000 Value Index®** measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 2000 Index®** measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The **Russell 2000 Growth Index®** measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 2000 Value Index®** measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 3000 Index®** measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The **Russell Midcap Index®** measures the performance of the 800 smallest companies in the Russell 1000 Index.

The **Russell Midcap Growth Index®** measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

The **Russell Midcap Value Index®** measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

Fixed income:

The **Bloomberg Barclays 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Barclays Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Barclays Municipal Index**: consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The **Bloomberg Barclays US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.

The **Bloomberg Barclays US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg Barclays US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg Barclays US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The **Bloomberg Barclays US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The **U.S. Treasury Index** is a component of the U.S. Government index.

Other asset classes:

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex – U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/Tremont Hedge Fund Index** is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The **HFRI Monthly Indices (HFRI)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

The **NAREIT EQUITY REIT Index** is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The **NFI-ODCE**, short for NCREIF Fund Index - Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

Definitions:

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in **emerging markets** can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of **equity securities** may rise, or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Global macro strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

Merger arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Mid-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Small-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.

The Market Insights program provides comprehensive data and commentary on global markets without reference to products. Designed as a tool to help clients understand the markets and support investment decision-making, the program explores the implications of current economic data and changing market conditions.

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Unless otherwise stated, all data are as of July 31, 2018 or most recently available.

Guide to the Markets – U.S.

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UBS Wealth Management

New proposal on portfolio structure

University of Hawaii Endowment

Martha Spano, CRPS®
Institutional Consultant
Senior Retirement Plan Consultant

Kyle Yoneshige, CFP®, CPWA®
Vice President
Wealth Advisor
Portfolio Manager

Lori Hamano, CPWA®
Vice President
Wealth Advisor
Portfolio Manager



Asset Allocation Analysis

Investment Policy

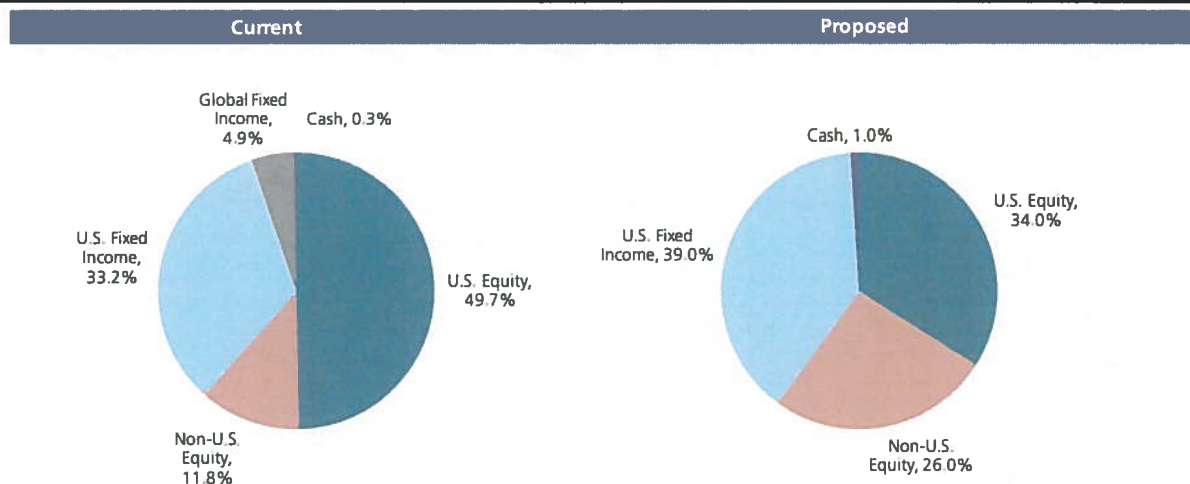
Total Fund Compliance

- Asset allocation
- Total fund Performance-
 - Satisfy current income
 - Satisfy cash payouts (5%)
 - Top 50% or higher over 3 year period versus Endowment Peer universe
 - Foundations & Endowments : \$25M to \$100M
- **Fossil Fuel Producers Divestiture**
 - Portfolio divested of fossil fuels (0-1%)
 - Insure that every manager/strategy will report on their FF exposure
 - Completion by June 30, 2019

• **Manager compliance**

- Equity managers
 - Annualized return no lower than 30% below Policy index (gross of fees)
 - No lower than 65% versus peers
 - Compliance with qualitative criteria
 - Permitted vs. prohibited investments
 - Change in ownership
 - Change in management team
 - Pending litigation
- Fixed income managers
 - Annualized return no lower than 10% below Policy index (gross of fees)
 - No lower than 65% versus peers
 - Compliance with qualitative criteria
 - Permitted vs. prohibited investments
 - Change in ownership
 - Change in management team
 - Pending litigation

Asset Allocation: Forward-looking & Historical Risk/Return Statistics

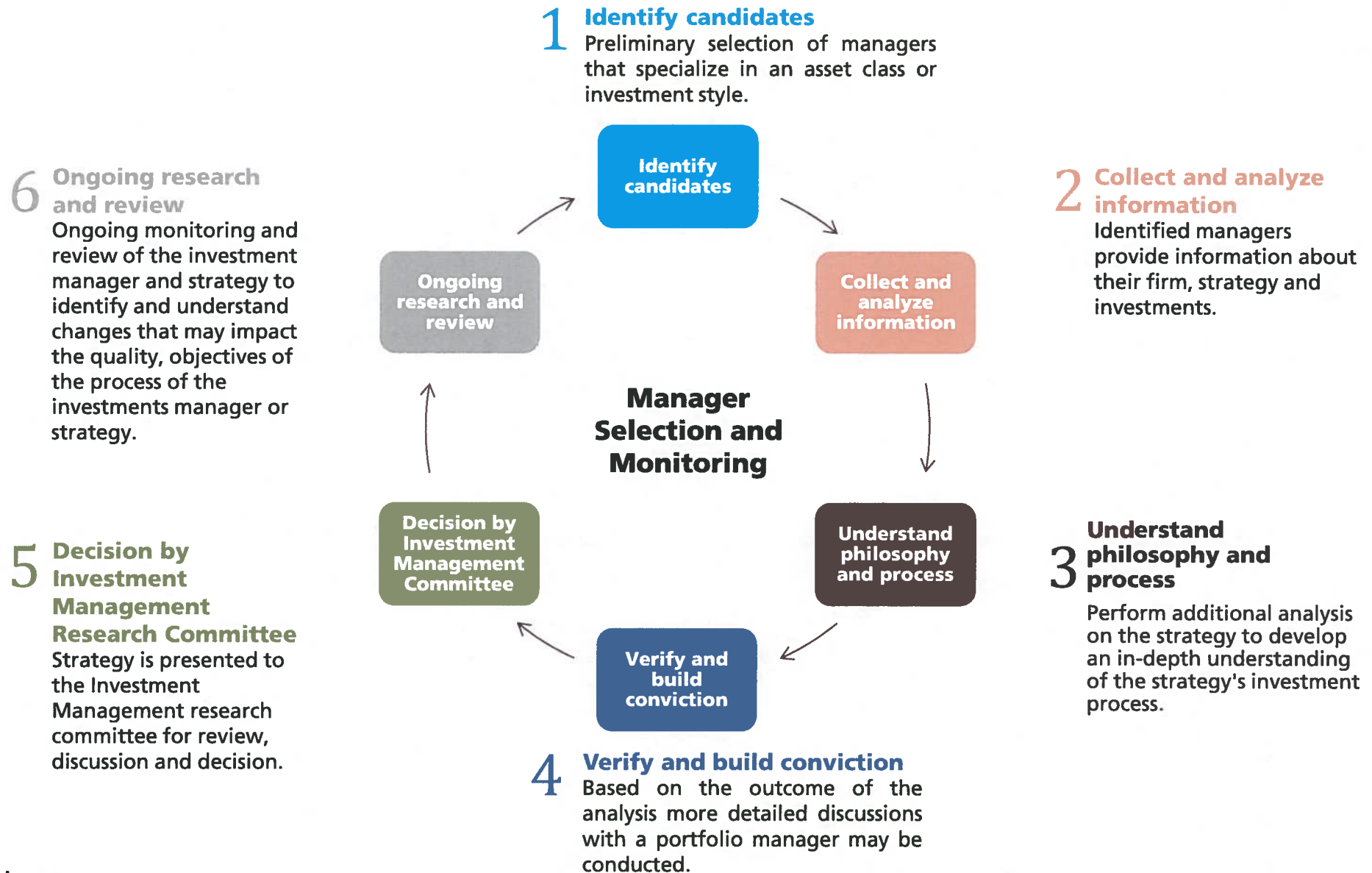


	Current	Proposed
Forward-Looking Data		
Estimated Return	5.59%	5.82%
Estimated Standard Deviation	10.02%	9.53%
Estimated Sharpe Ratio	0.35	0.39
Historical Data (5 Years Ending 6/30/2018)		
Annualized Return	8.14%	7.03%
Annualized Standard Deviation	6.21%	6.15%
Sharpe Ratio	1.25	1.08
Best Rolling Year	17.94% (01/2013 - 12/2013)	16.24% (11/2012 - 10/2013)
Worst Rolling Year	-5.75% (03/2015 - 02/2016)	-6.53% (03/2015 - 02/2016)
Historical Data (10 Years Ending 6/30/2018)		
Annualized Return	7.19%	6.03%
Annualized Standard Deviation	9.99%	10.03%
Sharpe Ratio	0.68	0.57
Best Rolling Year	37.88% (03/2009 - 02/2010)	36.68% (03/2009 - 02/2010)
Worst Rolling Year	-15.34% (07/2008 - 06/2009)	-15.6% (07/2008 - 06/2009)

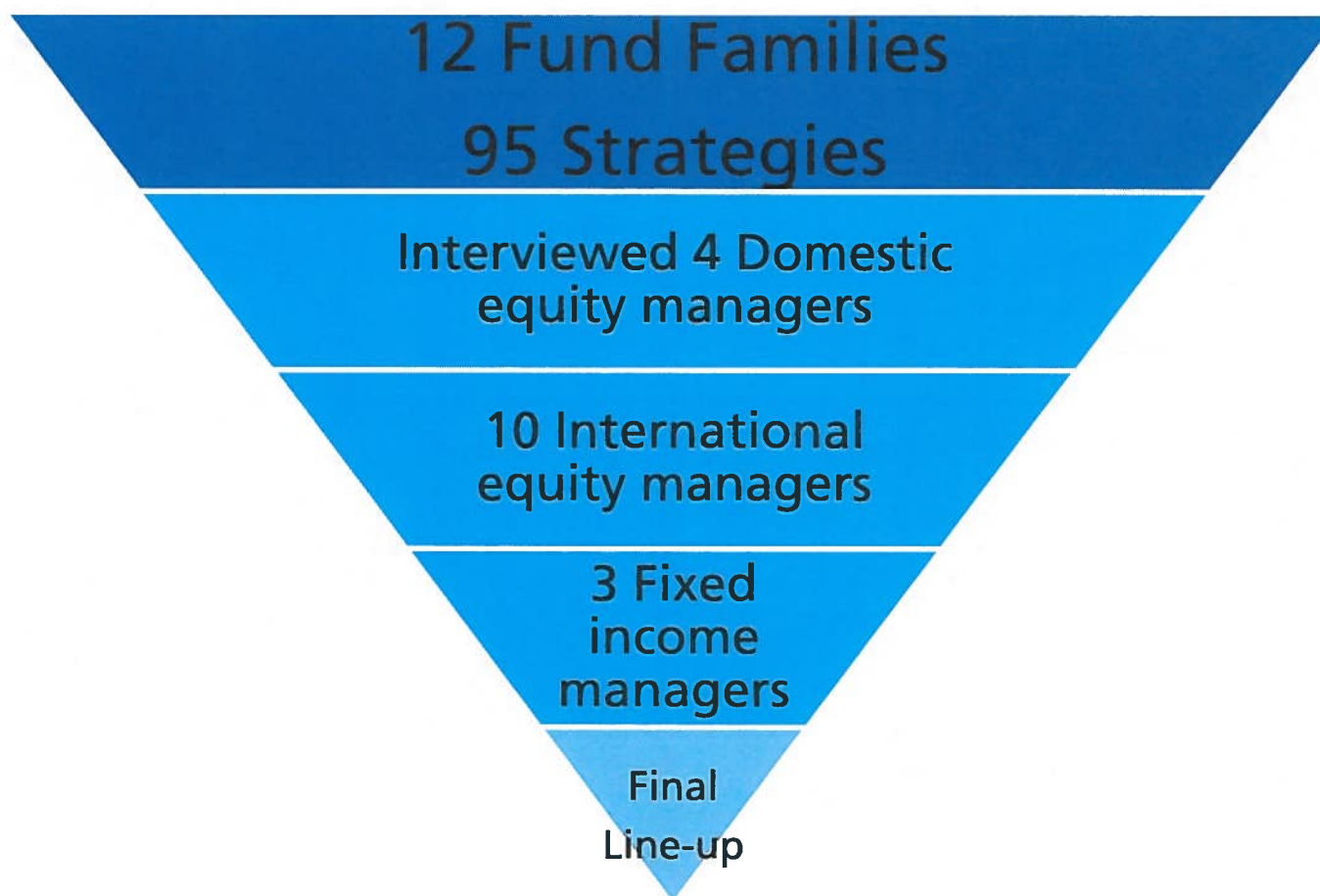
The information provided to you is for informational purposes only and it should not be regarded as an offer to sell or as a solicitation of an offer to buy any securities. Results shown are hypothetical, are provided for illustrative purposes only and do not include the impact of transaction costs, taxes and inflation. If included, the results shown would be lower. The results are based on UBS simulation over the specified time horizon. Actual results may vary depending on the specific composition of the investor's portfolio. Actual results may also vary depending on when the portfolio is implemented and may be affected by changing market conditions. Past performance or historic results provide no guarantee of future returns. Forward-looking estimated results and probabilistic analysis should not be construed as a guarantee and are provided for illustrative purposes only. See Appendix A: Important Information You Should Know for details.

Manager Selection

Investment Management Selection Process



Manager screening



Managers we are considering

Cash- 1%

Fixed Income – 39%

Domestic Equity- 34%

International Equity- 26%

Cash fund

Blackrock

Parametric- Index

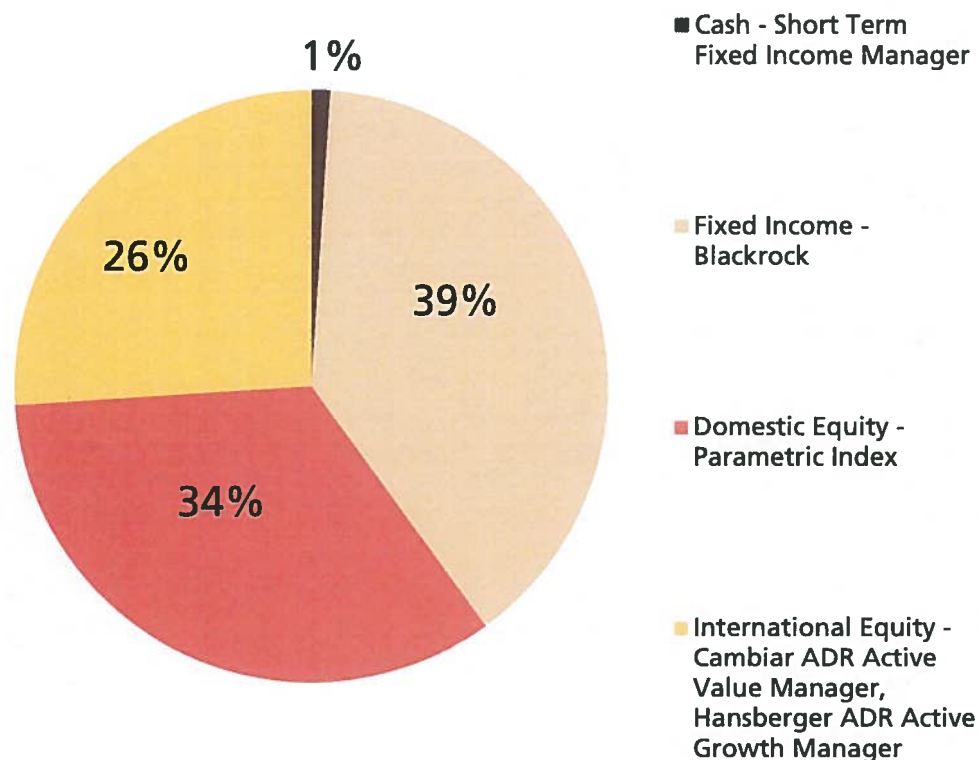
Cambiar- ADR/active/value manager

Hansberger- ADR/Active/growth manager

- Managers will run their portfolios with a Fossil Fuel free mandate
- All managers will certify less than 1% fossil fuel exposure in their portfolio
- Consultant will review and reaffirm certifications

New structure and fees

Allocation



Assets of \$74 million

Fees

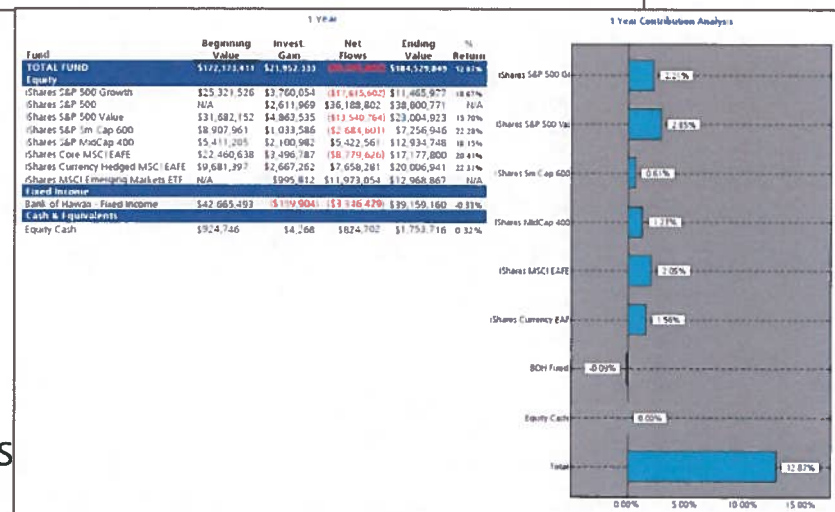
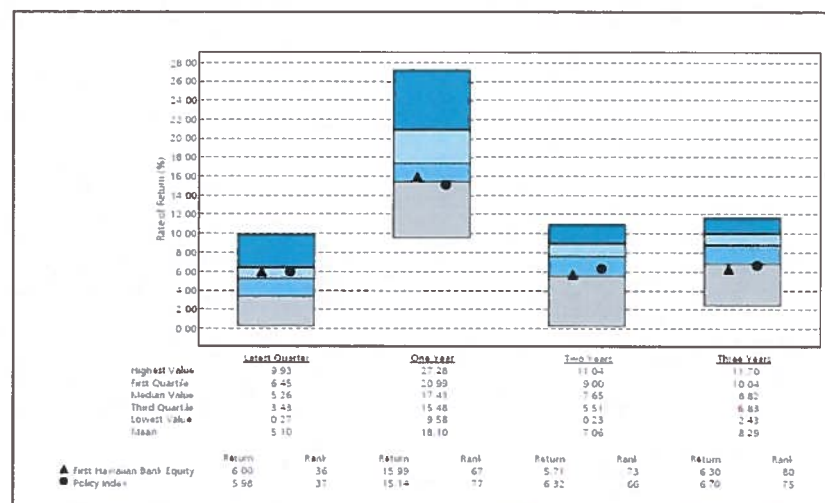
- Cash-
 - \$740,000 @ 0 bps = 0
- Fixed Income
 - \$28,860,000 @ 25bps = \$72,150
- Domestic Equity
 - \$25,160,000 @ 28bps = \$70,448
- International equity
 - \$19,240,000 divided equally
 - 50% to Cambiar @ 37bps = \$35,594
 - 50% to Hansberger @ 38bps = \$36,556
 - Investment management fees = \$214,748
 - or 29.02bp
 - Consultant fee \$74,000,000 @ 20bps = \$148,000
 - Total portfolio fees = \$362,748 or 49.02bps

Appendices

Ongoing investment reviews

Investment reviews

- Scorecard showing investments not meeting IPS criteria
 - Market snapshot
 - Fund allocation summary
 - Performance comparisons against peers and benchmarks
 - Performance comparisons with other foundations of a similar size
 - Risk and return analysis
 - Style analysis
 - Expense analysis
- ## Due diligence
- Monitor each manager and the total fund composite versus Benchmarks, objectives, indexes and peer groups
 - Offer objective recommendations for adjusting the focus and types of investments held in your portfolio



Cost comparisons

Figure VP.3 Average Expected and Reported Components of Investment-Related Costs (Excluding Incentive Fees)

<i>numbers in basis points</i>	Over \$1 Billion			\$501 Million-\$1 Billion			\$101-\$500 Million			\$51-\$100 Million			\$25-\$50 Million			Under \$25 Million		
	E*	R†	D‡	E*	R†	D‡	E*	R†	D‡	E*	R†	D‡	E*	R†	D‡	E*	R†	D‡
<i>Fees and expenses</i>																		
<i>Asset management fees and expenses</i>	98	80	18	92	93	-1	79	63	16	65	53	12	61	48	13	52	38	14
<i>Fund and operating expenses</i>	19	6	13	17	8	9	18	12	6	21	24	-3	32	43	-11	35	47	-12
Subtotal	117	86	31	109	101	8	97	75	22	86	77	9	93	91	2	87	85	2
<i>Fund-of-funds fees**</i>	15	17	-2	21	7	14	29	34	-5	30	32	-2	29	34	-5	32	18	14
Total fees and expenses (excluding incentive and advisory or OCIO fees)	132	103	29	130	108	22	126	109	17	116	109	7	122	125	-3	119	103	16
Additional portfolio costs																		
<i>Advisory fees (e.g., RIA)</i>		17			N/A			14			19			38			31	
<i>Outsourced chief investment officer (OCIO)</i>		10			31			31			30			33			38	

*expected

†reported

‡difference

**Represents fee paid to managers of managers or to marketable alternative and private capital strategies fund-of-funds managers. The actual fee will vary based on the proportion of the portfolio managed and will be added to the subtotal.

Source: Expected numbers represent Commonfund's good-faith estimates of each cost factor, based upon proprietary investment industry research and experience.

Asset Allocation: Portfolio In Detail

Asset Class	Asset Class Benchmark	Current Asset Allocation		Proposed Allocation Shifts	Proposed Asset Allocation	
		%	\$		%	\$
Cash	Barclays 1-3 Month Treasury Bill	0.3%	\$244,675	\$500,333	1.0%	\$745,007
Fixed Income		38.2%	\$28,425,974		39.0%	\$29,055,281
U.S. Fixed Income		33.2%	\$24,754,949		39.0%	\$29,055,281
U.S. Taxable Core		29.7%	\$22,120,825		39.0%	\$29,055,281
Taxable Core	Barclays U.S. Aggregate	28.5%	\$21,216,101	\$7,839,180	39.0%	\$29,055,281
Taxable Core (Long)	Barclays U.S. Agg. (20+ Y)	1.2%	\$904,724	-\$904,724	0.0%	-
U.S. Government Securities		3.5%	\$2,634,125		0.0%	-
U.S. Government Securities (Intermediate)	Barclays U.S. Agg. Gov't (Intermediate)	3.5%	\$2,634,125	-\$2,634,125	0.0%	-
Global Fixed Income		4.9%	\$3,671,024		0.0%	-
Global Fixed Income	Barclays Global Aggregate	4.9%	\$3,671,024	-\$3,671,024	0.0%	-
Equity		61.5%	\$45,830,072		60.0%	\$44,700,432
U.S. Equity		49.7%	\$37,009,985		34.0%	\$25,330,245
Large-Cap Core	S&P 500	31.6%	\$23,511,625	-\$23,511,625	0.0%	-
Large-Cap Growth	Russell 1000 Growth	0.0%	-	\$7,450,072	10.0%	\$7,450,072
Large-Cap Value	Russell 1000 Value	0.0%	-	\$8,940,086	12.0%	\$8,940,086
Mid-Cap Core	Russell Mid-Cap	10.5%	\$7,800,762	-\$2,585,711	7.0%	\$5,215,050
Small-Cap Core	Russell 2000	7.6%	\$5,697,598	-\$1,972,562	5.0%	\$3,725,036
Non-U.S. Equity		11.8%	\$8,820,087		26.0%	\$19,370,187
Developed Equity	MSCI EAFE	11.8%	\$8,820,087	\$10,550,100	26.0%	\$19,370,187
Total		100.0%	\$74,500,721	\$0	100.0%	\$74,500,721

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Asset Allocation: Estimated Cash Flows

Asset Class	Asset Class Benchmark	Current Allocation			Proposed Allocation Shifts	Proposed Allocation		
		Asset Allocation %	Est. Yield %	Est. Cash Flow \$		Asset Allocation %	Est. Yield %	Est. Cash Flow \$
Cash	Barclays 1-3 Month Treasury Bill	0.3%	1.87%	\$4,575	\$500,333	1.0%	1.87%	\$13,932
Fixed Income		38.2%	3.23%	\$918,661		39.0%	3.29%	\$955,919
U.S. Fixed Income		33.2%	3.21%	\$794,948		39.0%	3.29%	\$955,919
U.S. Taxable Core		29.7%	3.28%	\$724,880		39.0%	3.29%	\$955,919
Taxable Core	Barclays U.S. Aggregate	28.5%	3.29%	\$698,010	\$7,839,180	39.0%	3.29%	\$955,919
Taxable Core (Long)	Barclays U.S. Agg. (20+ Y)	1.2%	2.97%	\$26,870	-\$904,724	0.0%	2.97%	-
U.S. Government Securities		3.5%	2.66%	\$70,068		0.0%		-
U.S. Government Securities (Intermediate)	Barclays U.S. Agg. Gov't (Intermediate)	3.5%	2.66%	\$70,068	-\$2,634,125	0.0%	2.66%	-
Global Fixed Income		4.9%	3.37%	\$123,714		0.0%		-
Global Fixed Income	Barclays Global Aggregate	4.9%	3.37%	\$123,714	-\$3,671,024	0.0%	3.37%	-
Equity		61.5%	1.88%	\$861,706		60.0%	2.20%	\$982,411
U.S. Equity		49.7%	1.60%	\$592,493		34.0%	1.54%	\$391,179
Large-Cap Core	S&P 500	31.6%	1.74%	\$408,927	-\$23,511,625	0.0%	1.74%	-
Large-Cap Growth	Russell 1000 Growth	0.0%	1.03%	-	\$7,450,072	10.0%	1.03%	\$76,815
Large-Cap Value	Russell 1000 Value	0.0%	2.15%	-	\$8,940,086	12.0%	2.15%	\$192,584
Mid-Cap Core	Russell Mid-Cap	10.5%	1.54%	\$119,789	-\$2,585,711	7.0%	1.54%	\$80,083
Small-Cap Core	Russell 2000	7.6%	1.12%	\$63,777	-\$1,972,562	5.0%	1.12%	\$41,697
Non-U.S. Equity		11.8%	3.05%	\$269,214		26.0%	3.05%	\$591,232
Developed Equity	MSCI EAFE	11.8%	3.05%	\$269,214	\$10,550,100	26.0%	3.05%	\$591,232
Total		100.0%	2.40%	\$1,784,943	\$0	100.0%	2.62%	\$1,952,261



Estimated Yield and Cash flow are based on index data. The information provided to you is for informational purposes only and it should not be regarded as an offer to sell or as a solicitation of an offer to buy any securities. Results shown are hypothetical, are provided for illustrative purposes only and do not include the impact of transaction costs, taxes and inflation. If included, the results shown would be lower. Actual results may vary depending on the specific composition of the investor's portfolio. Actual results may also vary depending on when the portfolio is implemented and may be affected by changing market conditions. 24

Asset Allocation: Risk Contribution

Forward-looking Risk Contribution

This exhibit illustrates the projected risk attribution for each of the sub-asset classes by portfolio weight and the total asset allocation. The items with the largest risk contribution values represent the sub-asset classes which are the primary sources of volatility within the portfolio.

UBS WMA's Capital Market Assumption (CMAs)			Current		Proposed	
	Returns	Risk	Weight	Risk Contribution	Weight	Risk Contribution
Cash	2.1%	0.5%	0.3%	0.0%	1.0%	0.0%
Fixed Income			38.2%	2.6%	39.0%	2.7%
US Fixed Income			33.2%	2.0%	39.0%	2.7%
US Fixed Core	2.2%	3.3%	29.7%	2.0%	39.0%	2.7%
US Government	1.9%	4.0%	3.5%	0.0%	0.0%	0.0%
Global Fixed Income			4.9%	0.6%	0.0%	0.0%
Global Fixed Income	2.0%	6.5%	4.9%	0.6%	0.0%	0.0%
Equity			61.5%	97.4%	60.0%	97.3%
US Equity			49.7%	81.2%	34.0%	56.5%
Large-Cap Core	7.1%	15.7%	31.6%	48.3%	0.0%	0.0%
Large-Cap Growth	6.7%	15.9%	0.0%	0.0%	10.0%	15.4%
Large-Cap Value	7.2%	16.5%	0.0%	0.0%	12.0%	19.3%
Mid-Cap Core	7.6%	18.3%	10.5%	18.5%	7.0%	12.4%
Small-Cap Core	7.8%	20.1%	7.6%	14.4%	5.0%	9.5%
Non-US Equity			11.8%	16.2%	26.0%	40.8%
Ex-US Developed	9.4%	16.5%	11.8%	16.2%	26.0%	40.8%
Total Portfolio Risk:				10.0%		9.5%

Data as of 6/30/2018

The information provided to you is for informational purposes only and it should not be regarded as an offer to sell or as a solicitation of an offer to buy any securities. Results shown are hypothetical, are provided for illustrative purposes only and do not include the impact of transaction costs, taxes and inflation. If included, the results shown would be lower. The results are based on UBS simulation over the specified time horizon. Actual results may vary depending on the specific composition of the investor's portfolio. Actual results may also vary depending on when the portfolio is implemented and may be affected by changing market conditions. Past performance or historic results provide no guarantee of future returns. Forward-looking estimated results and probabilistic analysis should not be construed as a guarantee and are provided for illustrative purposes only. See Appendix A: Important Information You Should Know for details.

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UNIVERSITY of HAWAI'I SYSTEM

1906 2 C

UNIVERSITY OF HAWAII BOARD OF REGENTS

KALBERT K. YOUNG VICE PRESIDENT FOR BUDGET & FINANCE CHIEF FINANCIAL OFFICER

18 AUG 30 P5:02 August 28, 2018

RECEIVED

'18 AUG 30 P2:15

TO: Lee Putnam Chair, Board of Regents

Randy Moore Chair, Committee on Budget and Finance, Board of Regents

UNIVERSITY OF HAWAII PRESIDENT'S OFFICE

VIA: David Lassner President

David Lassner (handwritten signature)

FROM: Kalbert K. Young Vice President for B&F/CFO

Kalbert K. Young (handwritten signature)

SUBJECT: FISCAL BIENNIUM 2019-2021 BUDGET POLICY PAPER

SPECIFIC ACTION REQUESTED:

The Administration hereby submits to the Board of Regents and its Committee on Budget and Finance the attached document entitled "Fiscal Year Biennium 2019-2021 Budget Policy Paper" (hence forth referred to as "Budget Policy Paper" or "Paper"). In conformance with Regent Policy (RP) 8.204, this Budget Policy Paper is submitted for the review and approval of the Board of Regents. Administration requests the Committee on Budget and Finance recommend the Board of Regents approve the Budget Policy Paper and that the Board of Regents to subsequently approve the Paper.

RECOMMENDED EFFECTIVE DATE:

Upon approval of the Board of Regents.

BACKGROUND:

RP 8.204 directs that the Administration draft an annual budget policy paper for the review and approval by the Board of Regents. The purpose of the Paper is to outline the University's policy and governing principles that will be incorporated into the process to gather budget requests from University campuses and units. The Budget Policy Paper provides the environmental context for building budget proposals and articulates the University's general program, policy, and management objectives and institutional priorities that campuses and the Administration will use in the course of preparing budget requests.

The Paper is to be approved by the Regents ahead of the issuance of budget instructions and directions to campuses. Budget instructions are given to outline the format and parameters for campuses to construct budget requests for funding that would ultimately be proposed to the Legislature. Budget instructions will also typically mirror instructions provided by the State Department of Budget and Finance to conform to the requirements of the Executive Branch's budget proposal.

APPLICABLE REGENTS POLICY:

RP 8.204, outlines the "Policy and Governing Principles for the Biennial and Supplemental Budget Proposals to the Legislature." In particular, the policy directs the preparation of a budget policy paper as part of the major activities that the University should do as part of the budget preparation process. As identified in RP 8.204, the budget construction process of the University will include the development of:

- a. Budget Policy Paper
- b. Budget Instructions
- c. Administration's proposal of operational and capital improvement budget requests

This For-Action item is submitted to the Board of Regents in conformance with RP 8.204 for approval of the Administration's proposed Budget Policy Paper.

DISCUSSION:

This Budget Policy Paper is intended to be used by the Administration of the University of Hawai'i (UH) in the construction of its fiscal biennium (FB) 2019-2021 budget request. The budget request will eventually be submitted to the Governor for consideration to be included in the Executive branch's proposed budget to the Legislature. The budget request is also simultaneously submitted to the Legislature, pursuant to statute. In crafting this Budget Policy Paper, the UH Chief Financial Officer gathered input from key stakeholders at the State and from stakeholders in the area of financial management within the University.

The Paper describes the environmental context from which the budget requests are expected to be constructed. The emphasis will be on budget proposals that can be framed to support the four strategic directions of the University of Hawai'i.

- Hawai'i Graduation Initiative (HGI)
- 21st Century Facilities (21CF)
- Hawai'i Innovation Initiative (HI2)
- High Performance Mission-Driven System (HPMS)

Board Chair Putnam
Committee Chair Moore
August 28, 2018
Page 3 of 3

The Administration has also identified issues that should be considered in the context of budget requests. Considering the University's major revenue sources and the forecasted trajectory for these various revenue components, the University needs to be mindful of balancing its revenues and expenditures with an eye on sustainability of programs. The two major revenue sources for the University are general fund appropriations via the annual legislative-appropriated budget and University-generated revenues via tuition and fees. Each of those sources have their own constraints – general fund appropriations have increased primarily for collective bargaining agreements and any new revenue generated from tuition rate increases are to be used for deferred maintenance and not general operations.

The goal of the Budget Policy Paper is to establish a collective vision from which budget proposals can develop. The Administration has identified two key areas that are fundamental to nearly all of the strategic directions: enrollment management and capital renewal.

This Budget Policy Paper will be used to guide the process and evaluation of budget proposals for operating requests. The Board of Regents has already approved the biennium capital improvement budget request at its August meeting which follows the principles outlined in this Budget Policy Paper, the University's Strategic Directions, and the Integrated Academic and Facilities Plan.

Upon approval of this Budget Policy Paper by the UH Board of Regents, and in accordance with RP 8.204, the Administration will be issuing budget preparation instructions to all campuses in the UH system to guide their development of budget requests that will be used to construct the University's FB2019-2021 biennium budget requests.

ACTION RECOMMENDED:

The Administration recommends that the Committee on Budget and Finance review and recommend to the full Board of Regents approval of the attached Budget Policy Paper in accordance with RP 8.204.

The Administration further recommends that upon the recommendation of the Committee on Budget and Finance, the Board of Regents then approve the Budget Policy Paper as soon as procedurally possible so as to not delay the issuance of budget instructions.

Attachment (Fiscal Year Biennium 2019 -2021 Budget Policy Paper)

c: University Budget Office (w/o Attachments)



Budget Policy Paper

Fiscal Biennium 2019-2021

September 2018

SECTION 1: BACKGROUND

Regent Policy (RP) 8.204¹ directs that an annual Budget Policy Paper outline the University of Hawai'i's policy and governing principles for its (biennium or supplemental) budget proposals to the Legislature. This document hereby provides the environmental context for building budget proposals and articulates the University of Hawai'i's general program, policy, and management objectives and institutional priorities that guide the preparation of the upcoming biennium budget request.

This Budget Policy Paper (Paper) is intended to be used by the Administration of the University of Hawai'i (UH) in the construction of its fiscal biennium (FB) 2019-2021 budget request that, upon approval by the Board of Regents (Board), will be submitted to the Governor for construction of the Executive branch's proposed budget to the Legislature. In accord with Chapter 37-68, Hawai'i Revised Statutes, the Board's biennium budget request is also provided directly to the Legislature.

In crafting this Paper, the UH Chief Financial Officer considered general input from UH Officers, including those representing major UH units (Mānoa, Hilo, West O'ahu, Community Colleges, Systemwide Administration), and key stakeholders at the State. This input in conjunction with the direction of this Paper is expected to lay the foundation for System instructions for budget construction and requests when formulating the UH budget proposal considered by the Boards' Regents, the Governor, and the Legislature. Upon approval of this Paper by the Board, and in accordance with RP 8.204, the Administration will be issuing budget preparation instructions to all units to guide development of budget requests used to construct UH's FB2019-2021 biennium budget request.

SECTION II: ENVIRONMENTAL CONTEXT

General Fund Revenues

At its meeting on May 24, 2018, the Council on Revenues (Council) raised its forecast for State General Fund revenue growth from 5.3% to 7.3% for fiscal year (FY) 2018, and from 4.5% to 5.0% for FY 2019. This revision followed the Council's previous meeting of March 15, 2018, where the Council also raised the FY18 forecast from 4.5% to 5.3% and the FY19 forecast was elevated from 4.3% to 4.5%. In both instances, the Council left its FY 2020 to FY 2024 forecasts unchanged at 4.0% annual growth. The department of taxation preliminary report of general fund tax revenues through

¹ UH Regents Policy 8.204 at RP8.204, III.D.3.A.1.a(1)

"a. Preparation of budget policy paper.

- (1) Using input from key stakeholders at the state and the university, as well as a review of university and campus planning goals and plans, the president shall direct the preparation of a budget policy paper and approve its submittal for review and approval by the board. The paper shall set forth the environmental context for budget building, as well as general program, policy and management objectives, and institutional priorities to guide the preparation of the budget request."

June 2018, reports that general fund tax revenues from all sources was approximately 7.6% greater than the previous fiscal year. These performance numbers would suggest that State tax revenue has been strong and that strength should (hopefully) continue into the next fiscal year with continued year-over-year growth.

Approval of New Tuition Schedule

In July 2016, the Board approved a tuition schedule for three years (Academic Year 2017-2018 through 2019-2020). Anticipated tuition rate increases in the second year of the tuition schedule (Academic Year 2018-2019 /FY19) will be 1% or 2%, depending upon the campus. The sole purpose of the tuition rate adjustment is to provide dedicated revenues to address facilities conditions including deferred maintenance and modernization needs at each campus. Any new revenue resulting from tuition rate increases associated with this schedule may not fund general operational activities. The level of tuition revenues are anticipated to be challenging even in light of rate increases due to headwinds in enrollment levels across the system.

A recent major challenge to UH has been the explosive increase in fringe benefit costs. While the State covers fringe benefit costs for permanent appropriated positions supported by general funds or tuition, the rapid increase in rates from 42.49% to 60.08% over the past four years² has had a devastating impact on fully or partially self-funded programs such as campus auxiliaries and athletics.

Strategic Directions and Integrated Academic and Facilities Plan

UH has identified its guiding principles in establishing formal Strategic Directions for 2015-2021. The Strategic Directions, which were approved by the Board in January 2015, has since provided the framework, objectives, and priority targets for UH in the biennium budget request of the Board. The strategic directions are currently being updated for relevance and targets, but the objectives themselves continue unchanged.

STRATEGIC DIRECTIONS 2015 - 2021	
<p><i>1. Hawai'i Graduation Initiative (HGI)</i> Goal: Increase the educational capital of the State by increasing the participation and completion of students, particularly Native Hawaiians, low-income students, and those from underserved regions and populations and preparing them for success in the workforce and their communities.</p>	<p><i>2. 21st Century Facilities (21CF)</i> Goal: Eliminate UH's deferred maintenance backlog and modernize facilities and campus environments to be safe, sustainable, and supportive of modern practices in teaching, learning, and research.</p>

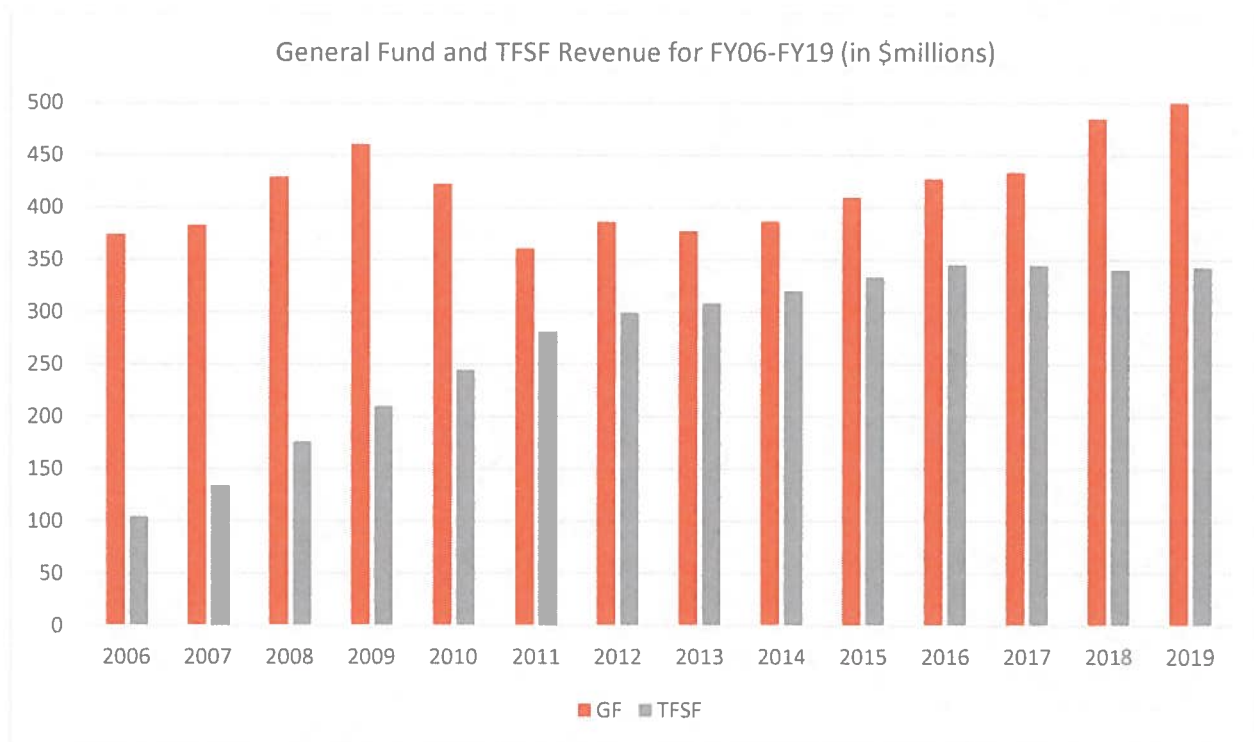
² Executive Memorandum Nos. 14-13 and 18-12 from State of Hawai'i Department of Budget and Finance

<p>3. <i>Hawai'i Innovation Initiative (HI2)</i> Goal: Create more high-quality jobs and diversify Hawai'i's economy by leading the development of a \$1 billion innovation, research, education, and training enterprise that addresses the challenges and opportunities faced by Hawai'i and the world.</p>	<p>4. <i>High Performance Mission-Driven System (HPMS)</i> Goal: Through cost-effective, transparent, and accountable practices, ensure financial viability and sustainability to ensure UH's ability to provide a diverse student body throughout Hawai'i with affordable access to a superb higher education experience in support of the institutional mission of UH, which includes commitments to being a foremost indigenous-serving university and advancing sustainability.</p>
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In addition, the Board approved an Integrated Academic and Facilities Plan (IAFP) in April 2017. The comprehensive plan provides direction for campuses to develop a more coordinated approach towards how individual campuses and programs work together (and fit together) within UH System to ensure that the entire mission of UH System is addressed without undue duplication or inter-campus competition. While the plan is not intended to be prescriptive as to specific programming on every campus, the IAFP does provide the framework for UH decision-making in regard to placing programs and prioritization of (new) facilities within UH System.

Balancing UH Revenues

General operating revenues of UH are largely derived from two primary sources: Legislative appropriations of general funds and tuition and fees revenue from UH activity. After their rapid decline in the Great Recession, State support in the form of general fund appropriations to UH has been trending upward. The amount budgeted for FY19 is \$501.9 million. However, most of the new appropriations have been to fund negotiated statewide collective bargaining increases. The growth in operating funds has only modestly supported (new) program initiatives or department (Board and/or Governor) requests.



Source: Presentation, Board of Regents. University of Hawai'i Operating Budget for Fiscal Year 2018–2019, August 16, 2017.

During the years following the recession (FY11-16), UH-generated revenues via tuition and fees had seen slight increases as the result of the previous five-year tuition rate schedule, which had annual tuition rate increases ranging between 2% to 5% per year depending on individual campuses. These rate increases partially obscured the financial impact of declining enrollment during the same period. Moving forward, small increases in tuition rates will not make up for declines in enrollment, as any additional revenue generated from increased rates for FY19 and FY20 may only be used to address campus maintenance and modernization. While general fund appropriations have recently exceeded pre-recession levels, as previously noted, a majority of that increase has gone to support negotiated collective bargaining increases.

SECTION III: LEGISLATIVE STRATEGY AND PRIORITIES FOR THE BIENNIUM REQUEST

The FY2018-2019 Supplemental Budget bill passed by the 2018 Legislature, with some exceptions, did not include funding for most of the items or initiatives submitted as UH's expressed operating budget priorities.

As UH evaluates and refines its four Strategic Directions, the FB2019-2021 biennium request should focus on emphasizing those initiatives that are most critical and signature to advancing strategic priorities. There are two areas that are fundamental to nearly all of the strategic directions: building enrollment and capital renewal. In addition, the State continues to look to UH, its sole public university, to strengthen and diversify the economy with a focus on creating more high-value jobs.

Administration has initiated a proactive and enhanced enrollment management initiative that sets aggressive forward targets and multiple areas of emphasis for campuses to focus on to drive total enrollment. All aspects of enrollment, such as recruitment, retention, securing new audiences and financial aid strategies are being considered.

Major units may suggest other items from the biennium budget request consistent with the approach provided in this Paper and the Strategic Directions and the Integrated Academic and Facilities Plan. These will be reviewed by the Administration for consideration of inclusion in UH's budget request.

Legislative Strategy for Operating Budget

The recommendation for the FB2019-2021 biennium budget request is to emphasize operational funding that will support initiative(s) that are intended to directly drive enrollment management and growth. To this end, budget requests will be focused around improving student services to include assistance and accessibility. Areas of emphasis should include:

- Hawai'i Promise

Expansion of current program to four-year programs and campuses. By providing the "last dollar" for students' educational costs, the Hawai'i Promise Program has benefited over 1,000 students since it began this past year. Beyond the direct benefit to the student, the program also enhances enrollment at the Community Colleges. To further develop the Hawai'i Promise Program, Administration will seek funding that will expand the program to all four-year students who attend any UH campus at a preliminary estimate of approximately \$17 million. While this is a large amount, the program has received positive feedback from students, their families, and the Legislature.

- Enrollment Management

UH remains focused on graduating students that are educated and prepared for our State's workforce needs. This objective requires achievement in a number of areas to attain student success, to include: graduation in a timely manner, providing modern and contemporary learning opportunities, and providing services that assist students to be better prepared to succeed in college and in the workforce. As one of the main drivers of the local economy, it is imperative for UH to drive economic development and diversification. In addition, partnering with local industries to recognize their needs will

assist with workforce development for the State and provide jobs for our graduates. The Administration seeks to enroll more students, improve their experience while attending, and provide opportunities upon graduation.

Nonetheless, enrollment has declined at nearly every campus in the UH System. Although reasons may vary, decline in enrollment rates are a combination of factors to include: Hawai'i's economic climate and low unemployment rate, lack of growth in high school graduation classes, and an increase in on-time graduation rates from UH. Despite these factors, it is imperative that UH strive to increase enrollment. To this end, the Administration will deploy the following enrollment management strategies at all UH campuses:

- Initiatives and approaches to bolster transfer rates;
- Support for efforts to attract more students throughout the UH System;
- Improvements to services that assist Returning Adults within UH; and
- Retention of students through to completion.

Initiatives for both Graduate and Undergraduate students can bolster opportunities and compensation for on-campus employment. This assists both the students currently employed (employment on campus increases student success) and also those who are positively impacted by Teaching and Learning Assistants on campuses.

- Funding support for graduate assistants (salary increase)
 - Undergraduate Learning Assistants for students (new employment opportunities)
- Additional adjustments of continuing appropriations

During the 2018 Legislative Session, while the Legislature did provide \$700,000 in additional funds toward the Hawai'i Promise program, that appropriation was not recurring and is therefore not part of UH's continuing base budget. Providing a single appropriation in the base budget that includes both years' appropriations (\$1,800,000 plus the new \$700,000) will ensure stability of the program and improve efficiency.

In addition, the 2019 Legislature eliminated funding that was previously included as recurring funding in UH's base budget for Athletics programs at Mānoa and Hilo. Administration will include restoration of funding on a recurring basis for these items as part of its request.

- Hawai'i Promise (\$700,000) – Incorporating FY19 appropriations into the base budget.
- Athletics (\$3,000,000) – Reinstatement of base budget appropriations for athletics funding systemwide.

- Maintaining and modernizing facilities; Addressing increasing fringe benefit costs

While UH has stepped up to address the challenges of its aging facilities with funding from the current tuition schedule, this work will also require additional personnel. Accordingly, UH will request additional positions (without dollars) to dedicate to improving the quality of our campus facilities.

In addition, in programs most impacted by the increase in fringe benefit costs, which are not under the control of UH, we will be requesting position counts (without dollars) to maximize the impact of our scarce general funds and tuition dollars.

As UH is one of the main drivers of the local economy, it is imperative for us to continue to drive economic development and diversification. Critical areas of high-tech employment, such as astronomy, may be the focus of UH's legislative agenda.

Legislative Strategy for CIP Budget

The Board has approved the UH biennium budget capital request for FB2019-2021 at its August full Board meeting. Our request for CIP funding for FY 2019-2020 is \$295 million and for FY2020-21 it is \$319.5 million. This budget anticipates to address a total of \$217 million in capital renewal and deferred maintenance projects. The following is a breakout by campus:

Campus	FY20	FY21
Mānoa	\$ 181.5 M	\$ 200.5 M
Hilo	\$ 24.0 M	\$ 20.5 M
West O'ahu	\$ 9.0 M	\$ 10.5 M
CCs	\$ 80.5 M	\$ 88.0 M
Total	\$ 295.0 M	\$ 319.5 M

Below is the full list of specific projects provided in the budget and approved at the August 2018 full Board meeting.

Campus	Project Description	MOF	FY20 Budget Request	FY21 Budget Request
Mānoa	RIM Projects	C	\$ 135.5 M	\$ 110.5 M
Mānoa	Sinclair Library Renovation	C	\$ 41.0 M	
Mānoa	Snyder Hall	C		\$ 55.0 M
Mānoa	Holmes Hall	C	\$ 2.0 M	\$ 35.0 M
Mānoa	Kuykendall Hall	C	\$ 2.0 M	
Mānoa	Keller Hall / Physical Science	C	\$ 1.0 M	
Hilo	RIM Projects	C	\$ 21.0 M	\$ 20.5 M
Hilo	Pharmacy Laboratory Improvements	C	\$ 3.0 M	
West O'ahu	RIM Projects	C	\$ 0.5 M	\$ 2.0 M
West O'ahu	General Education Bldg I	C	\$ 1.0 M	
West O'ahu	Development & Infrastructure	C	\$ 7.0 M	\$ 8.0 M

(cont.) Campus	Project Description	MOF	FY20 Budget Request	FY21 Budget Request
West O'ahu	Planning Projects	C	\$ 0.5 M	\$ 0.5 M
Comm. Colleges	Capital Renewal & Deferred Maintenance	C	\$ 25.0 M	\$ 25.0 M
Comm. Colleges	Minor Capital Improvement Projects	C	\$ 10.0 M	\$ 10.0 M
Comm. Colleges	Hawaii CC – Campus Development Phase I	C	\$ 2.0 M	\$ 50.0 M
Comm. Colleges	Honolulu CC Science Bldg.	C	\$ 43.5 M	
Comm. Colleges	Windward CC Agripharmatech Bioprocessing Facility	C		\$ 3.0 M
Comm. Colleges	TOTAL		\$ 295.0 M	\$ 319.5 M

SECTION IV. NEXT STEPS

In accordance with Board policy, upon approval of this Paper, the President shall issue formal instructions to major units on preparation of the biennium budget. These instructions will be based on priorities, assumptions, and guidelines contained in this Paper.

Submittals from the major units will then be used to prepare an integrated biennium budget proposal for UH, which will be reviewed and approved by the Board and then utilized for the preparation of formal documents to be submitted to the Governor and the Legislature in accordance with applicable statutes and instructions.



Budget Policy Paper

Fiscal Biennium 2019-2021

September 6, 2018

Committee on Budget and Finance



Background

1. Regent Policy (RP) 8.204 directs that an annual budget policy paper outline the University's policy and governing principles for its budget proposals to the Legislature.
2. This paper provides environmental context for building budget proposals and articulates UH's objectives and priorities that will guide the upcoming biennium budget request that will be submitted to the Governor and Legislature upon Board approval.



Environmental Context

1. State General Fund collections for FY18 grew 7.6% from FY17
 - Council on Revenues had predicted 7.3% growth for FY18
 - Council is forecasting 4.5% growth for FY19 and 4.0% annual growth beyond
2. Tuition Rate increase of 1% or 2% for Academic Year 2018-2019
 - New revenue from rate increases is to be used to address deferred maintenance and may not be used to fund general operations
3. Fringe benefit rates for non-general funded positions has increased from 42% to 60% over the past four years. This creates pressure on self-funded programs such as auxiliaries and athletics.



Legislative Strategy and Priorities

1. Enrollment Management

- Recruitment, retention, transfer rates, financial aid, employment, etc.

2. Capital Renewal

- Improving learning and research environment
- Target highest utility and poorest conditions

3. Major units may request items that are consistent with this approach and the University's Strategic Directions and the Integrated Academic and Facilities Plan (IAFP).



Operating Budget

1. Expansion of Hawai‘i’s Promise Program to all four-year students
 - Estimated \$17,000,000
2. Enrollment Management
 - Transfers, student support, student services, returning adults
 - Employment opportunities for Graduate and Undergraduate students
3. Continuing Appropriations
 - Hawai‘i’s Promise - \$700,000 in Act 14/2018 is non-recurring
 - Athletics - \$3,000,000 was made non-recurring by Legislature
4. Modernizing Facilities; Addressing Fringe Benefit Costs
 - Additional FTEs (without dollars) for facilities and athletics



CIP Budget

1. Board approved capital budget at August meeting
 - FY2019-20: \$295 million
 - FY2020-21: \$319.5 million
2. Follows principles and priorities set forth in IAFP and seeks to transform the learning and research landscape
3. Additional details in materials approved at August 2018 Board meeting



Next Steps

1. Upon approval, the President shall issue formal instructions to major units in preparation of the supplemental budget, following these priorities, assumptions, and guidelines.
2. In November, an operating budget proposal will be presented to the Board of Regents for approval and subsequent submission to Governor and Legislature.



UNIVERSITY
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UNIVERSITY OF HAWAII
BOARD OF REGENTS

18 AUG 30 P5:03

19062D

Kalbert K. Young
Vice President for Budget and Finance
Chief Financial Officer

RECEIVED

August 29, 2018

'18 AUG 30 P2:15

UNIVERSITY OF HAWAII
PRESIDENT'S OFFICE

TO: Lee Putnam
Chair, Board of Regents

Randy Moore
Chair, Committee on Budget and Finance, Board of Regents

VIA: David Lassner
President

FROM: Kalbert K. Young
Vice President for B&F/CFO

SUBJECT: FY18 FOURTH QUARTER FINANCIAL REPORT AS OF JUNE 30, 2018

Attached is the Quarterly Financial Report as of June 30, 2018 for the University of Hawai'i System. Since this reporting period encompasses the fourth quarter, the fiscal performance will also highlight the fiscal year results (FY18). This report is an information item for discussion at the Budget and Finance Committee meeting on September 6, 2018.

A Quarterly Financial Report presentation is included to summarize a high-level analysis of the report.

Attachments

- c: University Budget Office (w/o Attachments)
- University Controller (w/o Attachments)



FY18 Q4 Financial Report

September 6, 2018

Committee on Budget and Finance



Overview

1. At the end of FY18, revenues for all funds are slightly (0.8%) higher than projections and expenditures are 3.2% lower than projections.
2. Although the total is higher than projections, revenues for individual fund categories are mixed relative to projections:
 - General Fund \$15.9 million (3.4%) higher
 - TFSF \$5.9 million (1.7%) lower
 - Other Revolving Funds \$2.9 million (7.8%) lower
3. Expenditures for all funds are \$33.3 million (3.2%) lower than projections. General Fund Expenditures were up \$15.9 million but all other fund categories showed a decrease in expenditures.



FY18 Budget vs. Actual Comparison

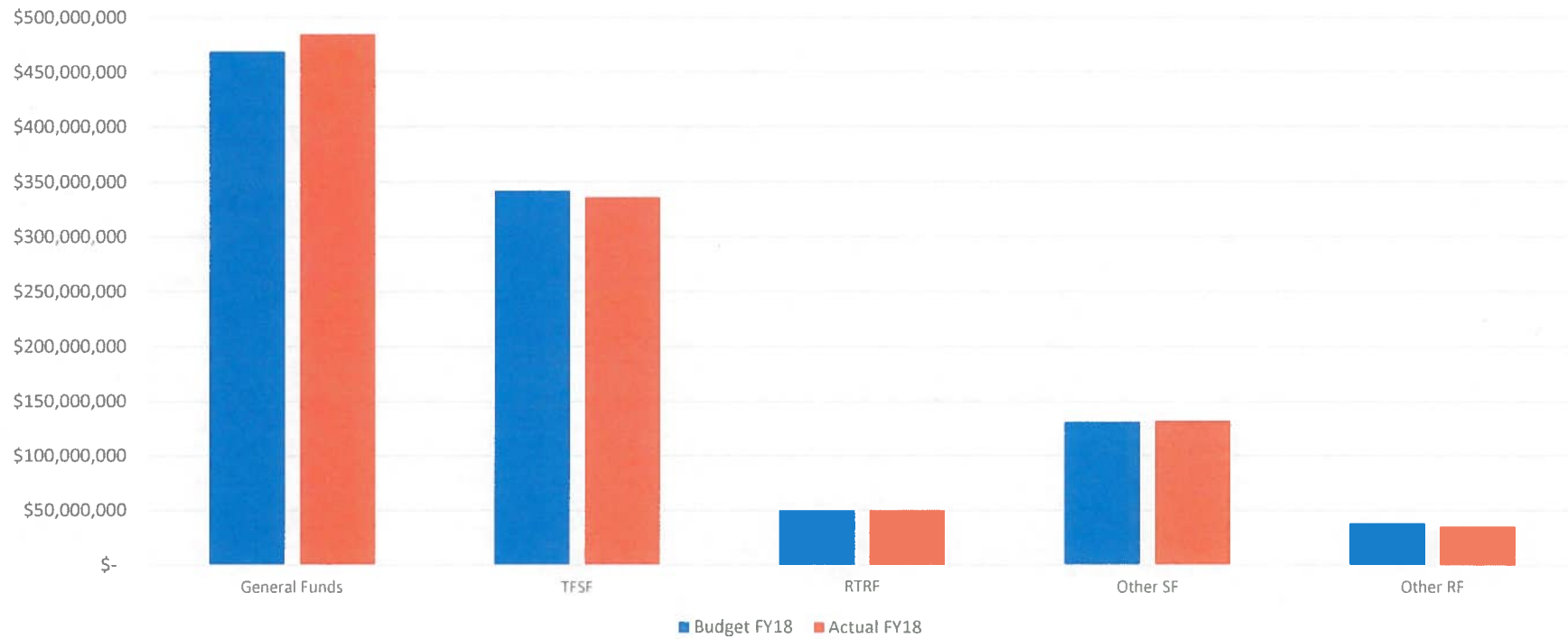
	Revenues*			Expenditures & Net Transfers*			Rev - Exp/Trf*	
	Budget	Actual	Diff	Budget	Actual	Diff	Budget	Actual
General Funds	469.2	485.2	16.0	469.2	485.2	16.0	0.0	0.0
TFSF	342.4	336.5	(5.9)	345.6	320.9	(24.7)	(3.2)	15.6
RTRF	49.9	50.2	0.3	57.0	50.4	(6.6)	(7.1)	(0.2)
Other SF	131.0	131.9	0.9	139.8	122.3	(17.5)	(8.8)	9.6
Other RF	37.8	34.8	(2.9)	34.4	33.9	(0.5)	3.3	0.9
Total	1,030.3	1,038.6	8.3	1,046.1	1,012.7	(33.3)	(15.8)	25.9

1. Revenues were higher in aggregate, driven by General Fund increase (release of restrictions, UHPA CB)
2. Expenditures for all funds, except General Fund were lower than projections
3. Net result: Initially projected \$15.8 million loss became \$25.9 million gain

*in \$ millions

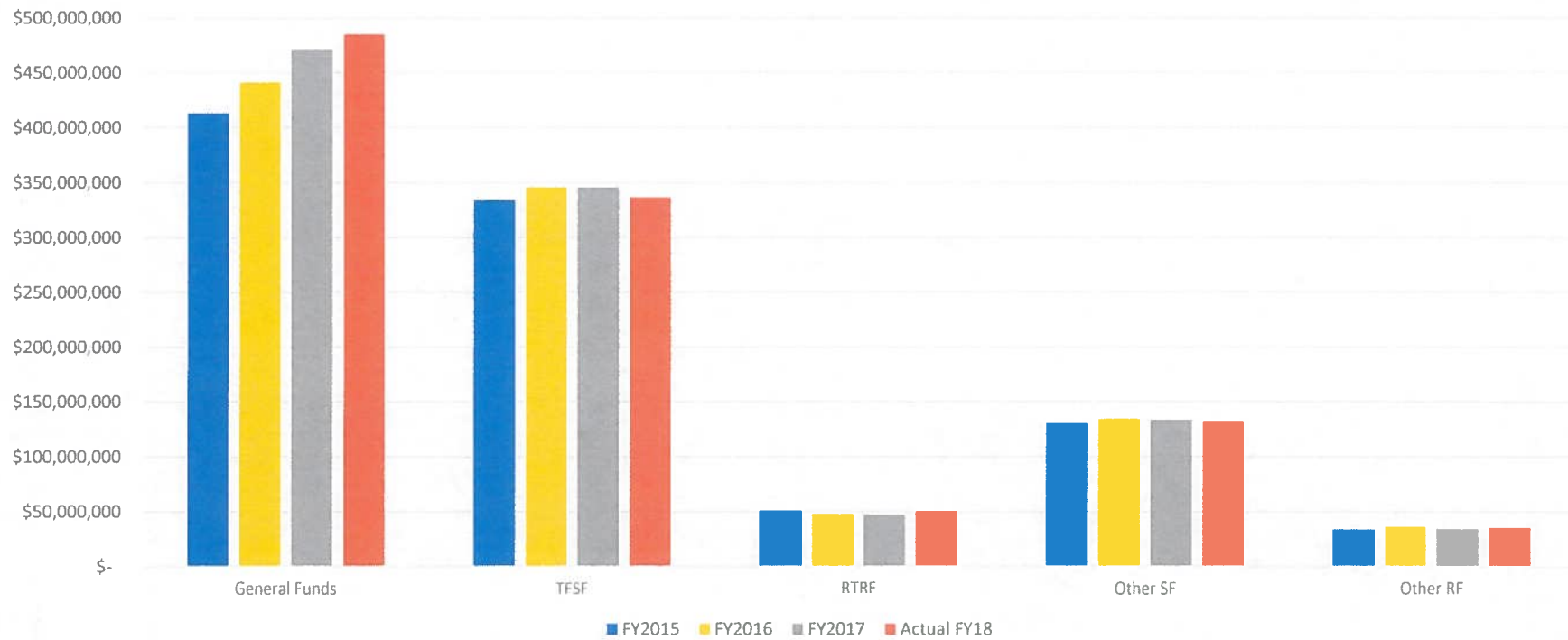


Revenues (Budget vs. Actual)



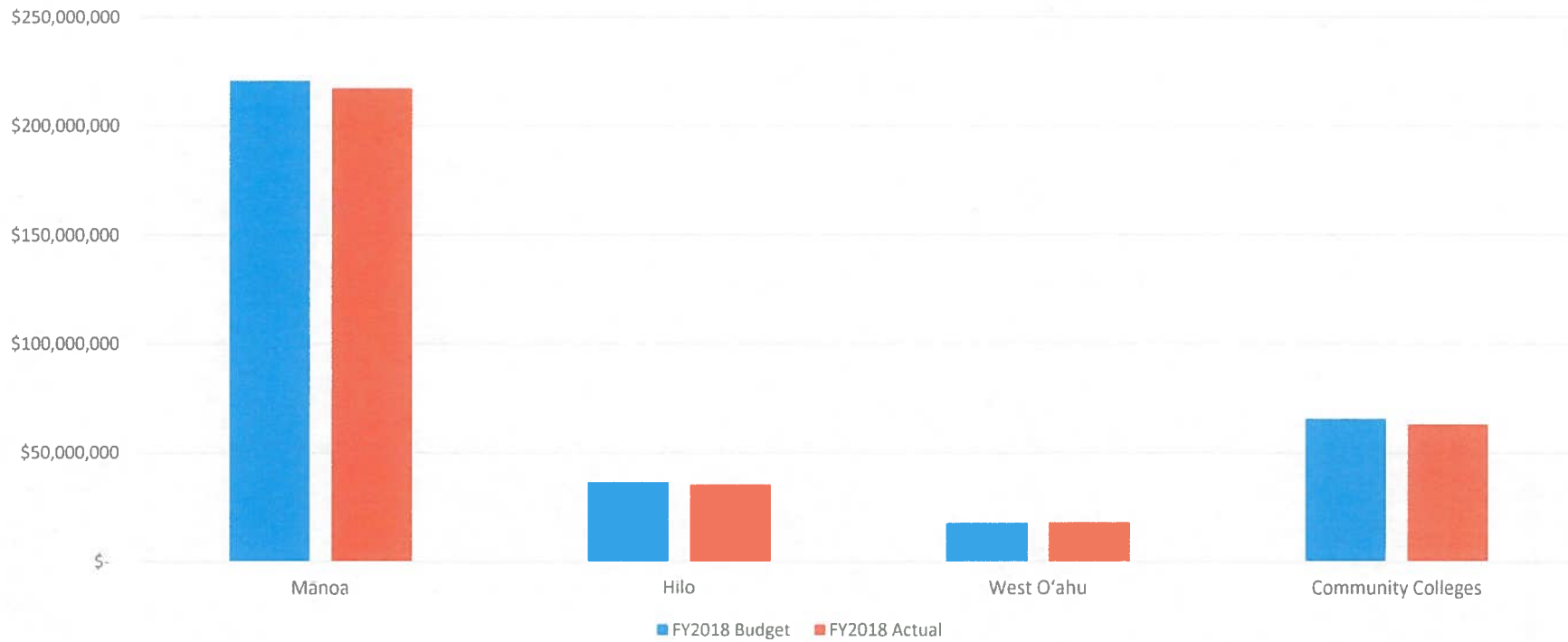


Revenues Comparison (FY15-18)



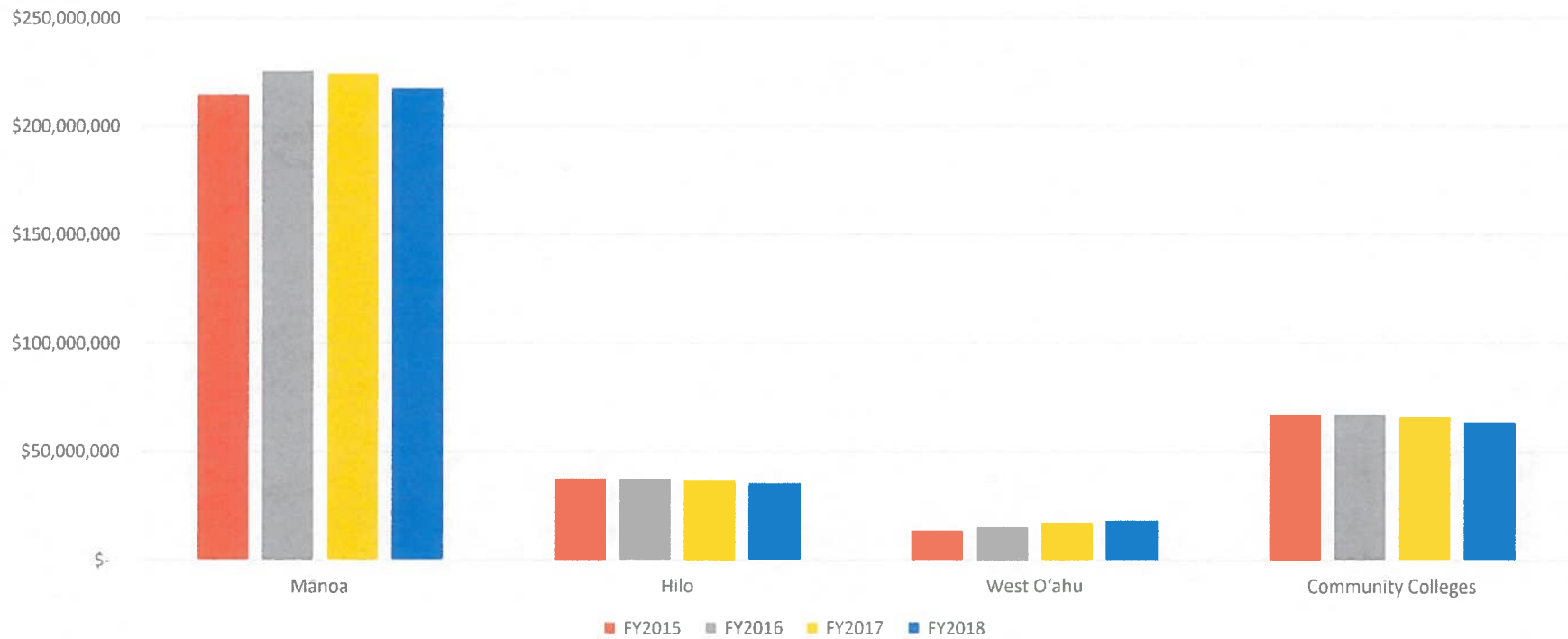


TFSF Revenue by Campus (Budget vs. Actual)





TFSF Revenue by Campus (FY15-18)



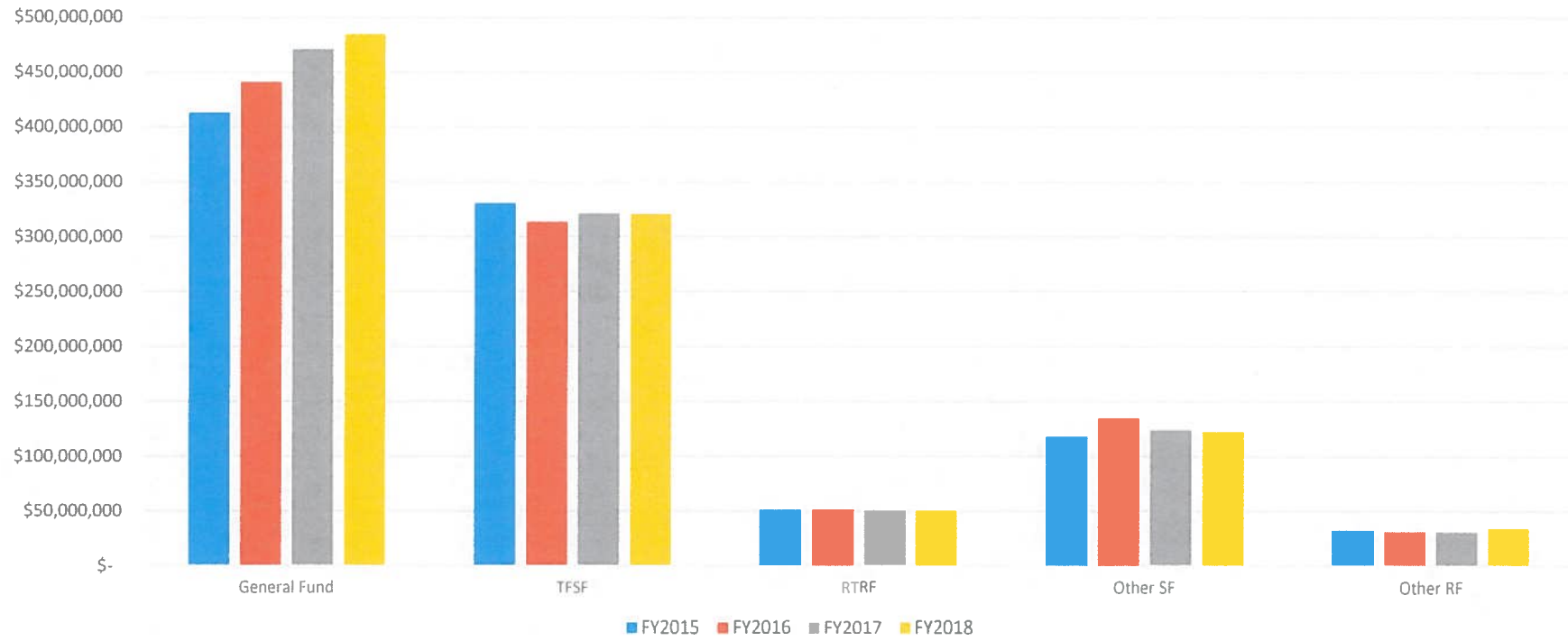


Expenditures (Budget vs. Actual)





Expenditures (FY15-18)





Mānoa – General Fund and TFSF

1. General Fund Utilities expenditures were projected to be \$0. The variance (\$3 million) resulted from Cancer Center incurring Utilities expenses to maximize the use of General Funds after the release of restriction by Governor.
2. TFSF Personnel Expenditures are \$10.4 million (11%) lower than projected due to conservative projections in anticipation of decreased revenues. These lower expenditures allowed for the increase in Non-Personnel Expenditures. In aggregate, TFSF Expenditures were \$8.9 million (4%) lower than projections.



Mānoa – Research & Training Revolving Fund (RTRF)

1. Non-personnel expenditures are lower than projections due to conservative budgeting as units typically budget the entire multi-year allocation for a single year to track progress over time.
2. Transfers variance is a result of a cleanup effort done by Office of Vice Chancellor of Research to correct prior year cash transfers that were delayed.
3. Overall expenditures were \$6.6 million (19%) lower than projections.



Mānoa – Other Special Funds and Other Revolving Funds

1. Due to the release of the General Fund restriction, Cancer Center was able to use less of their Special Fund monies and used General Funds instead, creating the Non-Personnel variance.
2. Additionally, some projects originally planned for FY18 were delayed and will be expended in FY19.
3. Personnel expenditures for Other Revolving Funds were \$1.2 million (12%) lower than projections as a result of conservative projections and delays in execution.



Hilo

1. TFSF Personnel Expenditures were \$2.4 million (18%) lower from a combination of delays in filling vacant positions, reduction in lecturer costs, and increased availability of general funds.
2. TFSF Non-Personnel Expenditures were \$1.9 million (16%) lower than projections as a result of cautious spending as enrollment continued to decline. Utilities were \$1.7 million (34%) lower due to rates increasing at a slower than projected rate.
3. RTRF variance is a result of recording some planned revenue as a transfer rather than income.



West O‘ahu

1. TFSF Non-Personnel Expenditures were \$613,648 (21%) lower than projected as a result of conservative budgeting and general efficiencies. There are still \$383,552 in encumbrances that will be carried over to FY19.
2. Non-Personnel Expenditure from Other Special Funds were \$546,182 (22%) lower than projected as a result of not all scholarship funding being expended as well as certain programs changing their operational expenditures.



Community Colleges

1. As General Funds became available throughout the year, Personnel and Utilities expenditures were shifted there from TFSF, creating those variances.
2. Non-Personnel Expenditures were lower as some costs were shifted from General Fund to TFSF or delayed into FY19.
3. Closure of a Commercial Enterprise culinary venture has resulted in Other RF Revenues and Expenditures being lower than projections.



Systemwide Administration

1. General Fund Personnel variance due to timing issue with retirements, unanticipated resignations, and vacant positions. Non-personnel costs were also shifted from TFSF to General Fund when those resources were made available.
2. TFSF Transfer variance due to timing issue with document imaging assessment which will occur in FY19.
3. RTRF Non-personnel expenditures are \$1.1 million (10%) lower than projected due to increased fiscal prudence. The transfer variance is a result of a new allocation methodology applied this year after projections were initially made.
4. Other SF Non-personnel expenditure variance due to reimbursement of legal expenses and unrealized expenses for POST building recovery.



Conclusion

1. Governor had initially imposed a 10% General Fund restriction. Throughout the Fiscal Year, 7.5% of that 10% was released, resulting in an additional \$6.5 million that campuses used to offset TFSF expenditures.
2. Across all funds, Net Operating Income showed a \$25.9 million gain compared to a projected \$15.8 million loss.



FY18 Fourth Quarter Financial Report

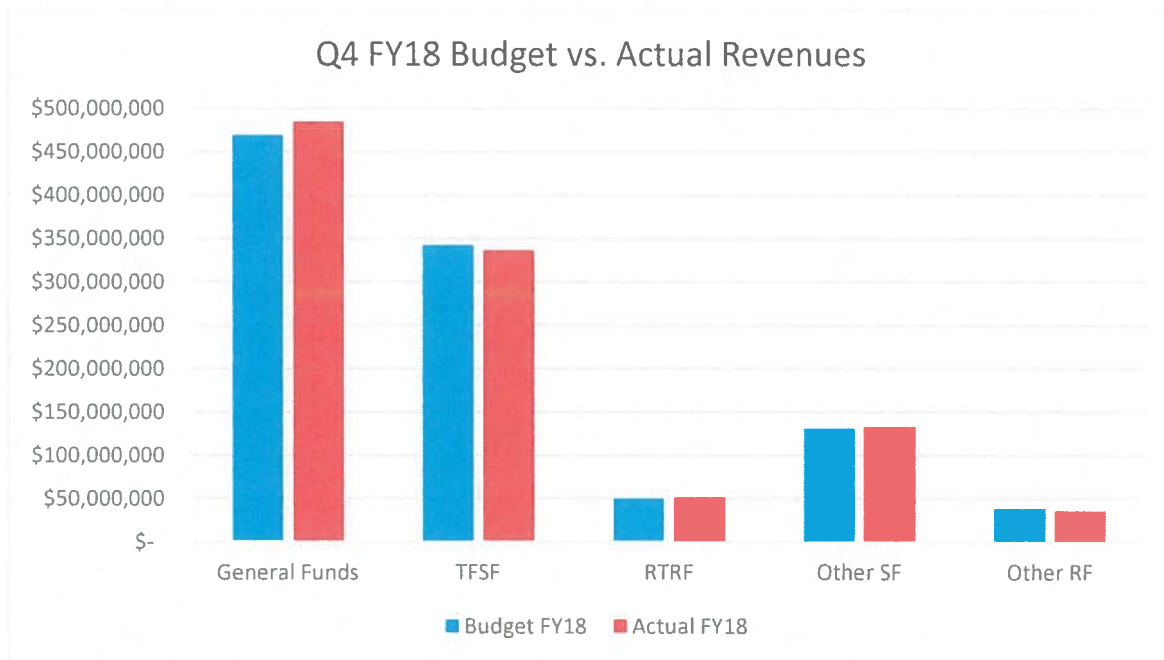
UNIVERSITY SYSTEM SUMMARY

Introduction

Through the fourth quarter (Q4) of Fiscal Year 2017-2018 (FY18), revenues were \$8.3 million (0.8%) higher than projections. General Fund revenues were \$15.9 million (3.4%) higher than projections. All expenditures are \$33.3 million (3.2%) lower than projections, resulting from a combination of conservative budgeting, responding to declining revenues in non-general funds, and some costs delayed into FY19.

Revenues

The revenue picture through FY18 is mixed, with some fund categories outperforming projections and others not:



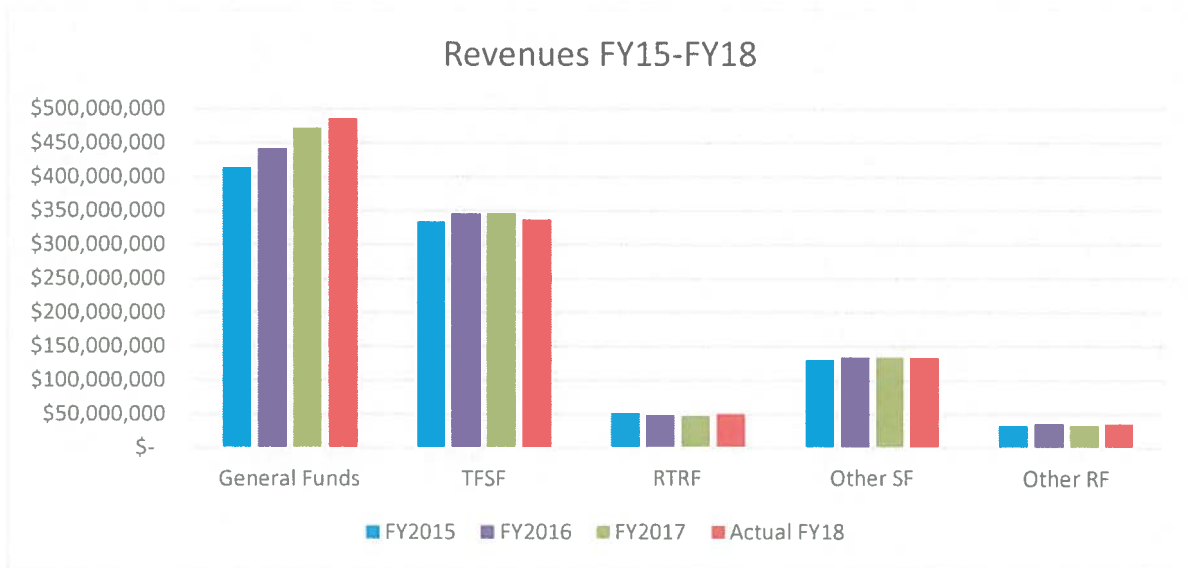
	FY18 Budget	FY18 Actual	Difference	%
General Fund	\$ 469,213,125	\$ 485,167,253	\$ 15,954,128	3.4%
TFSF	\$ 342,399,419	\$ 336,541,364	\$ (5,858,055)	-1.7%
RTRF	\$ 49,924,845	\$ 50,182,349	\$ 257,504	0.5%
Other SF	\$ 131,025,681	\$ 131,940,283	\$ 914,602	0.7%
Other RF	\$ 37,750,462	\$ 34,808,891	\$ (2,941,571)	-7.8%
All Funds	\$ 1,030,313,532	\$ 1,038,640,140	\$ 8,326,608	0.8%

Across all funds, revenues exceed projections by \$8.3 million (0.8%). However, while General Funds, RTRF, and Other Special Funds are above projections, Tuition and Fees Special Fund (TFSF) and Other Revolving Funds are lower.

General Fund revenues are higher than anticipated due to the lifting of restrictions. The FY18 budget was created under the expectation of a 10% restriction on general funded discretionary costs, pursuant to Executive Memorandum No. 17-04, dated August 29, 2017. However, on January 22, 2018, the Governor issued Executive Memorandum No. 18-01, which released half of the 10% restriction. Additionally, on March 28, 2018, the Governor issued Executive Memorandum No. 18-02, which released half of the remaining 5% restriction.

Other Revolving Funds are lower than projected due to variances in two units at Mānoa and a Commercial Enterprise Revolving Fund culinary venture for the Community Colleges that was closed down ahead of schedule.

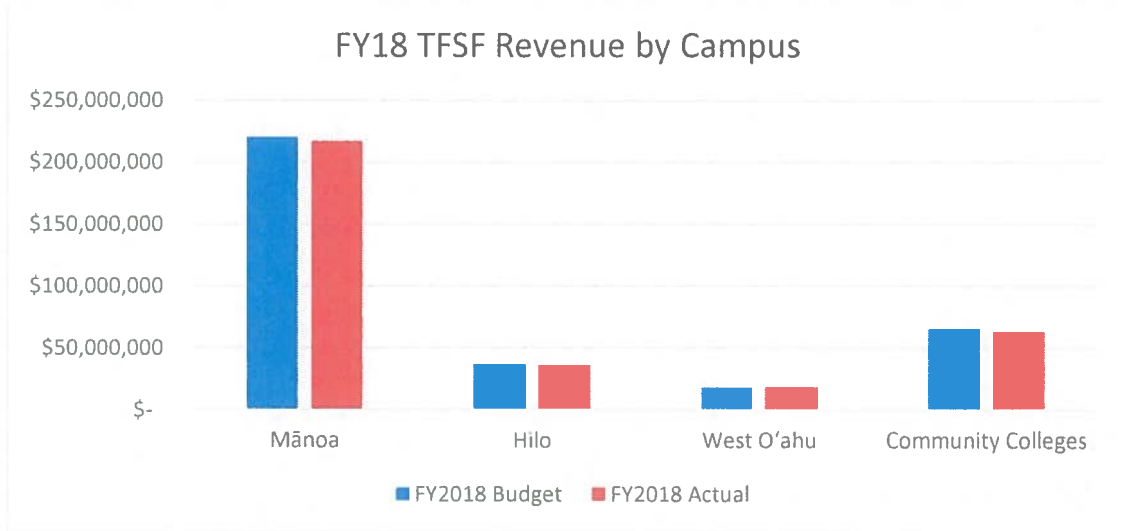
A comparison of revenues for the current and three prior fiscal years shows the increase in general fund revenues and the recent declines in both the TFSF and Other Special Fund categories.



	FY2015	FY2016	FY2017	FY2018
General Fund	\$ 413,162,544	\$ 441,375,399	\$ 471,455,820	\$ 485,167,253
TFSF	\$ 333,480,917	\$ 345,912,680	\$ 345,645,620	\$ 336,541,364
RTRF	\$ 50,823,462	\$ 47,935,027	\$ 47,283,464	\$ 50,182,349
Other SF	\$ 129,805,067	\$ 134,041,591	\$ 133,790,916	\$ 131,940,283
Other RF	\$ 33,421,812	\$ 35,895,773	\$ 33,825,203	\$ 34,808,891
All Funds	\$ 960,693,802	\$ 1,005,160,470	\$ 1,032,001,023	\$ 1,038,640,140

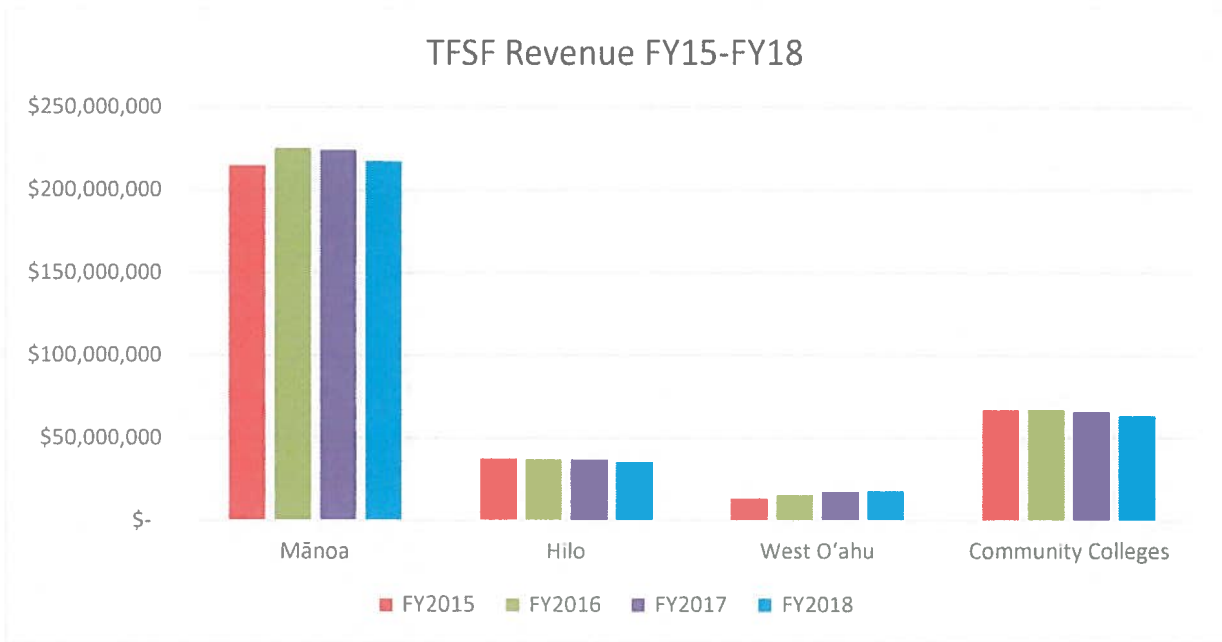
Tuition and Fees Revenue

Across all campuses, TFSF revenue is \$5.9 million, or 1.7%, below projections. Revenues are lower across all campuses with the exception of West O’ahu.



Campus	FY2018 Budget	FY2018 Actual	Difference	%age
Mānoa	\$ 220,800,567	\$ 217,507,413	\$ (3,293,154)	-1.5%
Hilo	\$ 36,632,748	\$ 35,354,887	\$ (1,277,861)	-3.5%
West O’ahu	\$ 17,835,564	\$ 18,049,034	\$ 213,470	1.2%
Community Colleges	\$ 65,612,600	\$ 63,220,408	\$ (2,392,192)	-3.6%
Systemwide Support	\$ 1,517,940	\$ 2,409,622	\$ 891,682	58.7%
Total	\$ 342,399,419	\$ 336,541,364	\$ (5,858,055)	-1.7%

The trend for TFSF revenue by campus for the past four fiscal years is presented below:

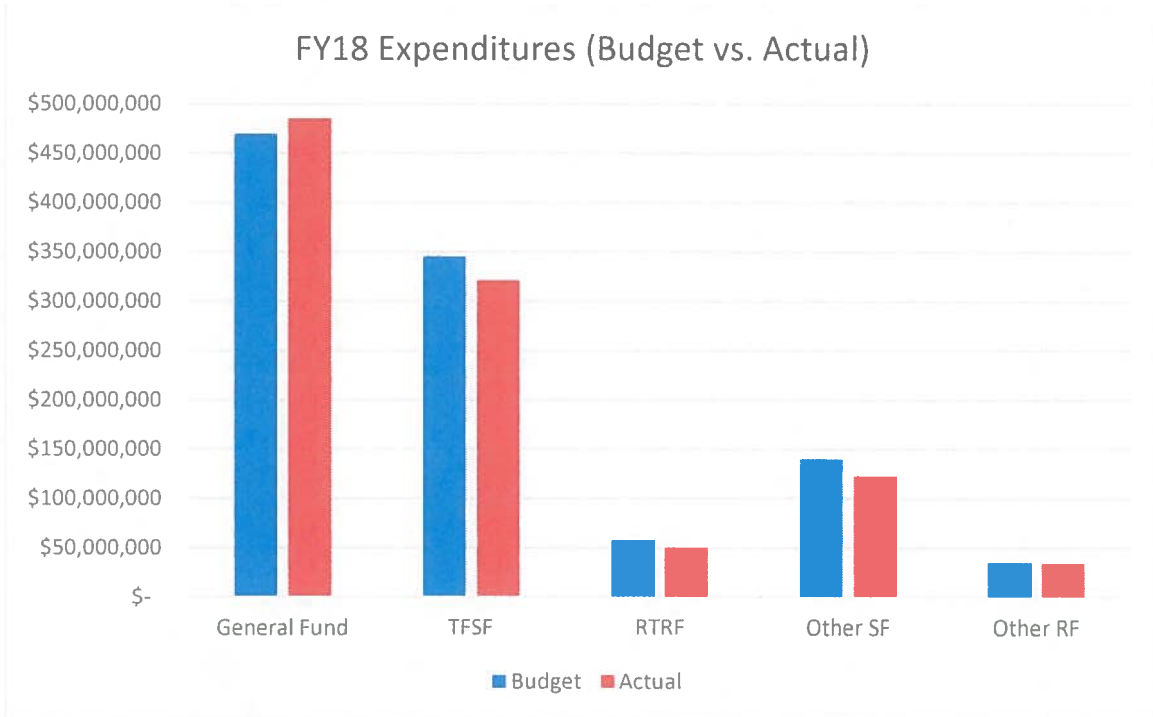


Campus	FY2015	FY2016	FY2017	FY2018
Mānoa	\$ 214,837,431	\$ 225,456,509	\$ 224,323,882	\$ 217,507,413
Hilo	\$ 37,443,534	\$ 37,224,613	\$ 36,887,139	\$ 35,354,887
West O'ahu	\$ 13,576,921	\$ 15,238,449	\$ 17,330,885	\$ 18,049,034
Community Colleges	\$ 66,798,904	\$ 67,033,462	\$ 65,520,953	\$ 63,220,408
Systemwide Support	\$ 824,127	\$ 959,647	\$ 1,582,761	\$ 2,409,622
Total	\$ 333,480,917	\$ 345,912,680	\$ 345,645,620	\$ 336,541,364

The decline in TFSF revenue is to be expected given declining enrollment at every campus except West O'ahu. Campuses are looking to address this decline through managing expenditures as well as enrollment management initiatives.

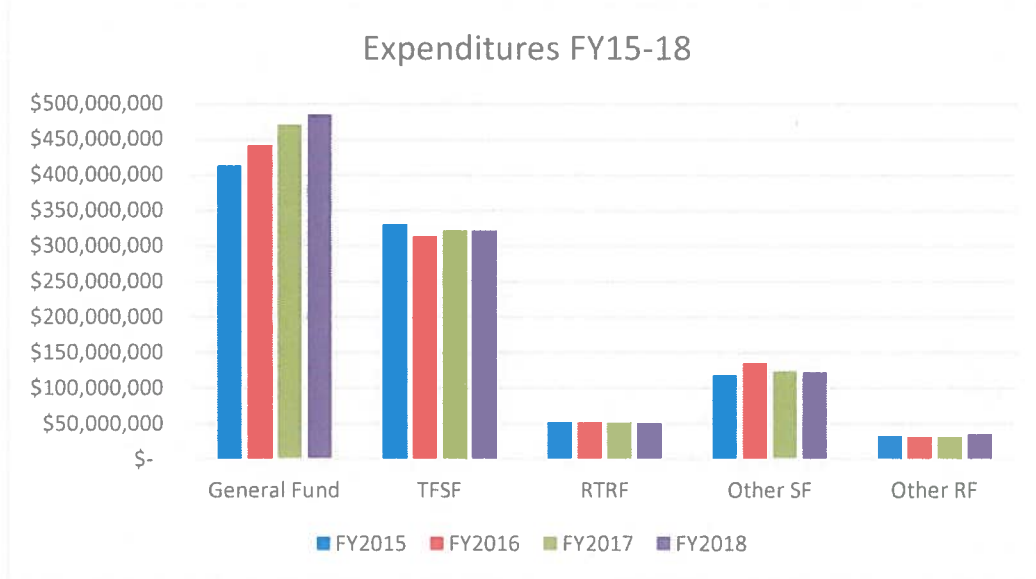
Expenditures

With the exception of the State General Fund, actual expenditures for all fund categories are lower than projected expenditures for FY18. This can be attributable to generally conservative budgeting during construction of the FY18 spending plan as well as responding to the revenue situation during budget execution.



Fund	Budget	Actual	Difference	%age
General Fund	\$ 469,213,125	\$ 485,167,248	\$ 15,954,123	3.4%
TFSF	\$ 345,598,683	\$ 320,938,699	\$ (24,659,984)	-7.1%
RTRF	\$ 57,032,660	\$ 50,408,475	\$ (6,624,185)	-11.6%
Other SF	\$ 139,808,943	\$ 122,291,739	\$ (17,517,204)	-12.5%
Other RF	\$ 34,437,081	\$ 33,935,974	\$ (501,107)	-1.5%
Total	\$ 1,046,090,492	\$ 1,012,742,135	\$ (33,348,357)	-3.2%

When comparing actual expenditures to prior years' experience, expenditures for FY18 are higher than FY17 in aggregate. However, this is largely due to the increase in General Fund expenditures. TFSF, RTRF, and other Special Funds expenditures are all lower in FY18 than FY17.



Fund	FY2015	FY2016	FY2017	FY2018
General Fund	\$ 413,148,657	\$ 441,372,790	\$ 471,452,761	\$ 485,167,248
TFSF	\$ 330,565,196	\$ 313,648,021	\$ 321,311,342	\$ 320,938,699
RTRF	\$ 51,236,101	\$ 51,505,159	\$ 50,423,511	\$ 50,408,475
Other SF	\$ 117,984,235	\$ 134,246,598	\$ 124,000,114	\$ 122,291,739
Other RF	\$ 31,979,260	\$ 30,694,116	\$ 30,774,004	\$ 33,935,974
Total	\$ 944,913,449	\$ 971,466,684	\$ 997,961,732	\$ 1,012,742,135

Net Operating Income

Across all Means of Financing, revenues outpaced expenditures by \$25.9 million. This was \$41.7 million more than the projected loss of \$15.8 million.

	Budget	Actual	Difference
General Fund	\$ -	\$ 5	\$ 5
TFSF	\$ (3,199,264)	\$ 15,602,665	\$ 18,801,929
RTRF	\$ (7,107,815)	\$ (226,126)	\$ 6,881,689
Other SF	\$ (8,783,262)	\$ 9,648,544	\$ 18,431,806
Other RF	\$ 3,313,381	\$ 872,917	\$ (2,440,464)
All Funds	\$ (15,776,960)	\$ 25,898,005	\$ 41,674,965

MĀNOA

General Fund

Utility expenditures were not projected to occur on General Funds; however, Cancer Center incurred expenditures for utilities due to release of the Governor's restriction. Campus utilities were also charged in Q4 to maximize the use of general funds. Non-personnel expenditures were primarily due to equipment purchase for Facilities for energy data systems collection and for performance funding expenditures related to student success and student recruitment.

Tuition and Fees Special Fund

Personnel expenditures were lower due to units' conservative projections. Due to personnel expenditures being lower, several units including CTAHR, JABSOM and Facilities expended funds on non-personnel expenditures resulting in a variance in that category. This allowed these units to make one time investments to further their mission.

Research & Training Revolving Fund

RTRF expenditures are budgeted based on the total amount of allocation given to the units for their facilitating money. Since this money is used to support start up packages and longer term projects, units typically budget the entire amount of allocation even though it might not be spent in the current year. This is a means to track the progress of the project over a period of time and to be able to calculate a balance for the Principal Investigators.

Transfers were higher than budgeted because of a cleanup effort done by the Office of the Vice Chancellor of Research (OVCR) to correct prior year cash transfers that were delayed. Since these transfers included adjustments from prior years, this would cause the actual transfers to be higher than what was budgeted.

Other Special Funds

Non-personnel expenditures on other special funds were lower due to several reasons. Cancer Center expenditures were lower than projected due to receiving funds tied to the release of the Governor's restriction of general funds. This allowed Cancer Center to utilize less of their Cancer Center special fund monies. Cancer Center also did not transfer funds for repair and replacement reserve in FY18 and delayed a projected expenditure due to that non-transfer. Student Housing had estimated to complete several repair and maintenance expenditures in FY18, but the projects were delayed and are now budgeted to happen in FY19 totaling about \$6.7 million. Commuter Services also had lower than projected expenditures due to operational cost savings and

not replacing as many Pay-To-Park machines as anticipated. Telecomm had projects that were budgeted to occur in FY18 that were delayed until FY19.

Transfers for other special funds had a variance mostly due to over-estimating the amount of transfers from the state for the Tobacco Settlement money. Original estimate based on the prior fiscal year was about \$11.8 million, the actual transfer came in closer to \$9.4 million.

Other Revolving Funds

Personnel expenditures were lower than expected due to conservative projections of the units and due to delays in execution of some of the HI-DESIGN projects. University Health Services also had lower personnel expenditures due to changes in funding for their permanent personnel.

Non-personnel expenditures were higher than expected for some units and lower for others. Division Food Services under Student Affairs had prior year payments for invoices and replacement of a boiler in Hale Aloha Cafeteria, resulting in higher than projected expenditures. This was in part offset by lower than expected expenditures primarily in three units: University Health Services had projected to incur renovation costs that did not occur; Facilities had budgeted for replacement of equipment which did not occur; and Campus Services had lower non-personnel expenditures due to using fewer contracted services and hiring more student employees.

Transfers were higher than expected due to Facilities transferring funds from their Facilities Use fund to cover AIM costs which was not included on their BOR budget. Student Life had an unbudgeted one time transfer to correctly record One Card transactions as part of Campus Center instead of part of Co-Curricular Activities.

HILO

Tuition and Fees Special Fund

Personnel expenditures are about \$2.4 million, or 18% lower than planned due to delays in filling vacant positions, reduction in lecturer costs and more than planned general funds available for personnel costs. The delay in filling vacant positions and reduction in lecturer cost is in response to a decline in enrollment.

Non-personnel expenditures are \$1.9 million, or 16% lower than planned due to cautious spending as enrollment continued to decline. Also contributing to the lower expenditure is the timing of when encumbrances are liquidated and recorded as expenditures, as it is difficult to accurately project when payments are made for construction and CRDM related projects.

Utilities are about \$1.7 million, or 34%, lower than planned due to rates increasing at a slower pace than projected. Also, the budgeted amount is gross of any energy savings realized during the fiscal year.

Research and Training Revolving Fund

Revenue is \$555,000, or 16% lower than planned due to the recording of planned revenue as a transfer-in rather than income.

Net Transfer is \$985,000 less than planned due to the receipt of funds being recorded as a transfer-in rather than revenue and also transfers-out were lower than anticipated.

WEST O'AHU

Tuition and Fees Special Fund

Although the campus is \$613,648 below the projected "Non-Personnel" expenses, there was \$383,552 in encumbrances and pre-encumbrances not yet paid by the end of the fiscal year. TFSF savings resulted from lower than projected expenses for recruitment, relocation, travel, technology, and equipment. Other cost savings incurred as efficiencies in general campus services are being utilized over contracting for services.

Other Special Funds

Non-personnel expenditures were lower than projected because of a variance in scholarship awards and from certain other programs. \$2,320,000 was awarded for scholarships for the 2017-2018 academic year. However, some students were deemed ineligible based on the fund criteria (GPA, decrease in credits, FAFSA requirements, etc.) and not all funds were expended. Additionally, several programs such as Ulu Ulu, Project Lead the Way and International Programs did not meet its projected expenditure plan due to changes in operational expenditures such as digitization services and a decrease in program offerings.

COMMUNITY COLLEGES

General Fund

Non-personnel expenditures were lower than projected because replacement equipment originally budgeted in General Funds were spent in Tuition and Fees Special Funds (TFSF). Utilities expenditures were higher than planned because electricity costs budgeted in TFSF were charged to the General Fund. Total utilities expenses for all means of financing was up 7% due to increases in kilowatt hour costs for electricity.

Tuition and Fees Special Fund

The personnel expenditure variance was also the product of efforts to balance GF and TFSF revenues and expenditures. The total variance for the GF and TFSF personnel expenditures combined was only 1%. Non-personnel costs were lower than projected because funds set aside for R&M were not expended by the end of the year. These expenditures are anticipated to occur in FY19 instead and have been included in the approved BOR budget for FY19. Utilities expenditures were lower than planned because electricity costs budgeted in TFSF were charged to the General Fund (see above).

Other Special Funds

The Other SF revenue projection was overly conservative reflecting an anticipated reduction in summer session and non-credit revenue over the preceding year. The actual revenue, however, turned out to be virtually flat when compared to the previous year.

Other Revolving Funds

Revenue and non-personnel expenditure variances are primarily due to a Commercial Enterprise Revolving Fund culinary venture that was closed down ahead of schedule.

SYSTEMWIDE ADMINISTRATION

General Funds

The variance in Personnel expenditures was largely the result of retirements, unanticipated resignations, and slow-to-fill vacant positions. Non-Personnel expenditures originally budgeted in TFSF were charged to General Funds due to salary savings.

Tuition and Fees Special Funds (TFSF)

Actual Revenue surpassed its projection due to interest income growth from higher interest rates, notably on new CD investments, and investments in government obligations that yield higher interest rates.

Non-Personnel expenditures were lower than anticipated, as expenditures originally budgeted in TFSF were charged to General Funds. The Transfer variance was primarily the result of a timing issue with the document imaging assessment to the campuses. The assessment did not occur in FY18 as budgeted, but is projected to take place in FY19.

Research and Training Revolving Fund (RTRF)

The variance in Non-Personnel expenditures was largely the result of increased fiscal prudence and a concerted effort to reduce expenditures in areas such as travel, supplies, and membership dues.

Campus RTRF allocations were determined late in Quarter 1 and a new allocation methodology was applied this fiscal year. As a result, variances exist between actual versus budgeted allocation transfers.

Other Special Funds

The variance in Non-personnel expenditures was mainly due to a reimbursement of legal expenses advanced on the Risk Management Special Fund and unrealized expenses for the POST Building recovery. Additionally, patent expenditures originally budgeted in special fund accounts are instead being recorded in revolving fund accounts.

The Transfer variance was largely due to a transfer from the System debt service reserve account to cover operating expense deficits for the UH Revenue Undertakings program.

UNIVERSITY OF HAWAI‘I SYSTEM REPORT



**Report to the University of Hawai'i Board of Regents
Committee on Budget and Finance**

**FY 2018 Fourth Quarter Financial Report
For the Period Ending June 30, 2018**

UNIVERSITY OF HAWAII
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

GENERAL FUNDS	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Allocation	469,213,125	485,167,253	15,954,128	3%	471,455,820	441,375,399	413,162,544
Expenditures							
Personnel	449,781,888	459,542,278	9,760,390	2%	449,394,322	422,256,713	398,426,464
Non-Personnel (incl. trfs for B+)	14,854,973	16,215,020	1,360,047	9%	13,865,167	9,807,546	9,468,958
Utilities	4,576,264	9,409,950	4,833,686	106%	8,193,272	9,308,531	5,253,235
Total Expenditures	469,213,125	485,167,248	15,954,123	3%	471,452,761	441,372,790	413,148,657
Revenue - Expenditures	-	5			3,059	2,609	13,887

TUITION & FEES SF (TFSF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	342,399,419	336,541,364	(5,858,055)	-2%	345,645,620	345,912,680	333,480,917
Expenditures/Transfers							
Personnel	141,883,808	125,216,844	(16,666,964)	-12%	127,061,382	128,675,706	143,629,182
Non-Personnel	103,676,883	99,376,749	(4,300,134)	-4%	97,180,921	95,473,429	92,681,235
Utilities	42,318,919	38,080,672	(4,238,247)	-10%	37,342,873	35,017,248	40,849,474
Transfers	57,719,073	58,264,434	545,361	1%	59,726,166	54,481,638	53,405,305
Total Expenditures/Transfers	345,598,683	320,938,699	(24,659,984)	-7%	321,311,342	313,648,021	330,565,196
Revenue - Expenditures/Transfers	(3,199,264)	15,602,665			24,334,278	32,264,659	2,915,721

RESEARCH & TRAINING RF (RTRF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	49,924,845	50,182,349	257,504	1%	47,283,464	47,935,027	50,823,462
Expenditures/Transfers							
Personnel	15,457,613	15,459,731	2,118	0%	18,360,491	16,492,458	19,440,298
Non-Personnel	36,900,689	26,521,589	(10,379,100)	-28%	23,100,259	27,237,196	23,509,062
Utilities	6,243,002	6,315,140	72,138	1%	6,885,712	5,783,081	6,211,420
Transfers	(1,568,644)	2,112,015	3,680,659	-235%	2,077,049	1,992,424	2,075,321
Total Expenditures/Transfers	57,032,660	50,408,475	(6,624,185)	-12%	50,423,511	51,505,159	51,236,101
Revenue - Expenditures/Transfers	(7,107,815)	(226,126)			(3,140,047)	(3,570,132)	(412,639)

UNIVERSITY OF HAWAII
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

OTHER SPECIAL FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	131,025,681	131,940,283	914,602	1%	133,790,916	134,041,591	129,805,067
Expenditures/Transfers							
Personnel	54,238,512	53,793,484	(445,028)	-1%	51,860,536	55,049,099	52,561,395
Non-Personnel	128,135,883	109,004,107	(19,131,776)	-15%	112,955,870	118,098,543	98,946,231
Utilities	9,091,465	9,796,282	704,817	8%	9,183,542	6,575,474	10,247,645
Transfers	(51,656,917)	(50,302,134)	1,354,783	-3%	(49,999,834)	(45,476,518)	(43,771,036)
Total Expenditures/Transfers	139,808,943	122,291,739	(17,517,204)	-13%	124,000,114	134,246,598	117,984,235
Revenue - Expenditures/Transfers	(8,783,262)	9,648,544			9,790,802	(205,007)	11,820,832

OTHER REVOLVING FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	37,750,462	34,808,891	(2,941,571)	-8%	33,825,203	35,895,773	33,421,812
Expenditures/Transfers							
Personnel	12,399,899	11,145,410	(1,254,489)	-10%	9,563,258	9,832,125	9,842,589
Non-Personnel	22,129,758	22,227,910	98,152	0%	21,672,402	20,275,947	22,254,331
Utilities	210,735	298,138	87,403	41%	296,388	54,493	52,758
Transfers	(303,311)	264,516	567,827	-187%	(758,044)	531,551	(170,418)
Total Expenditures/Transfers	34,437,081	33,935,974	(501,107)	-1%	30,774,004	30,694,116	31,979,260
Revenue - Expenditures/Transfers	3,313,381	872,917			3,051,199	5,201,657	1,442,552

TOTAL, UOH Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	1,030,313,532	1,038,640,140	8,326,608	1%	1,032,001,023	1,005,160,470	960,693,802
Expenditures/Transfers							
Personnel	673,761,720	665,157,747	(8,603,973)	-1%	656,239,989	632,306,101	623,899,928
Non-Personnel	305,698,186	273,345,375	(32,352,811)	-11%	268,774,619	270,892,661	246,859,817
Utilities	62,440,385	63,900,182	1,459,797	2%	61,901,787	56,738,827	62,614,532
Transfers	4,190,201	10,338,831	6,148,630	147%	11,045,337	11,529,095	11,539,172
Total Expenditures/Transfers	1,046,090,492	1,012,742,135	(33,348,357)	-3%	997,961,732	971,466,684	944,913,449
Revenue - Expenditures/Transfers	(15,776,960)	25,898,005			34,039,291	33,693,786	15,780,353

University of Hawai'i - Mānoa
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

GENERAL FUNDS	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Allocation (including net transfers)	234,337,820	243,536,635	9,198,815	4%	239,806,640	224,731,470	209,904,036
Expenditures							
Personnel	231,507,320	236,835,032	5,327,712	2%	233,450,118	219,171,572	206,261,830
Non-Personnel	2,830,500	3,612,172	781,672	28%	3,667,623	1,052,000	159,065
Utilities	-	3,089,430	3,089,430	budget = 0	2,688,894	4,505,299	3,483,139
Total Expenditures	234,337,820	243,536,634	9,198,814	4%	239,806,635	224,728,871	209,904,034
Revenue - Expenditures	-	1			5	2,599	2

TUITION & FEES SF (TFSF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	220,800,567	217,507,413	(3,293,154)	-1%	224,323,882	225,456,509	214,837,431
Expenditures/Transfers							
Personnel	97,378,291	86,975,123	(10,403,168)	-11%	87,067,882	89,362,927	101,468,229
Non-Personnel	43,509,090	47,375,686	3,866,596	9%	51,648,218	50,987,869	47,213,520
Utilities	30,363,662	29,288,979	(1,074,683)	-4%	29,049,593	25,925,749	26,932,194
Transfers (net)	48,094,979	46,776,755	(1,318,224)	-3%	47,093,538	42,113,099	42,058,776
Total Expenditures/Transfers	219,346,022	210,416,543	(8,929,479)	-4%	214,859,231	208,389,644	217,672,719
Revenue - Expenditures/Transfers	1,454,545	7,090,870			9,464,651	17,066,865	(2,835,288)

RESEARCH & TRAINING RF (RTRF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	29,454,427	29,899,433	445,006	2%	32,319,320	30,889,197	33,134,222
Expenditures/Transfers							
Personnel	9,230,707	8,942,000	(288,707)	-3%	9,905,131	9,278,270	12,574,503
Non-Personnel	21,688,620	12,719,202	(8,969,418)	-41%	11,283,234	14,034,431	14,391,898
Utilities	4,953,566	5,129,637	176,071	4%	4,988,938	5,089,256	5,199,894
Transfers (net)	(600,501)	1,837,335	2,437,836	-406%	1,924,775	2,546,328	2,363,526
Total Expenditures/Transfers	35,272,392	28,628,174	(6,644,218)	-19%	28,102,078	30,948,285	34,529,821
Revenue - Expenditures/Transfers	(5,817,965)	1,271,259			4,217,242	(59,088)	(1,395,599)

University of Hawai'i - Mānoa
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

OTHER SPECIAL FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	101,709,925	100,814,479	(895,446)	-1%	104,099,489	105,781,094	100,532,788
Expenditures/Transfers							
Personnel	40,617,878	40,439,793	(178,085)	0%	38,935,737	43,049,773	40,199,568
Non-Personnel	99,607,031	83,923,285	(15,683,746)	-16%	84,759,646	92,095,685	72,352,564
Utilities	8,130,382	8,876,509	746,127	9%	8,316,776	5,833,954	9,304,713
Transfers (net)	(38,967,076)	(36,760,568)	2,206,508	-6%	(37,377,943)	(31,439,830)	(32,468,001)
Total Expenditures/Transfers	109,388,215	96,479,019	(12,909,196)	-12%	94,634,216	109,539,582	89,388,844
Revenue - Expenditures/Transfers	(7,678,290)	4,335,460			9,465,273	(3,758,488)	11,143,944

OTHER REVOLVING FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	29,632,103	28,485,158	(1,146,945)	-4%	27,437,703	29,286,878	26,523,363
Expenditures/Transfers							
Personnel	9,347,510	8,180,683	(1,166,827)	-12%	7,397,241	7,603,809	7,746,214
Non-Personnel	17,762,348	18,999,624	1,237,276	7%	18,357,861	16,971,175	18,302,889
Utilities	193,644	287,166	93,522	48%	280,847	54,493	52,758
Transfers (net)	(349,000)	307,218	656,218	-188%	(134,255)	186,830	116,505
Total Expenditures/Transfers	26,954,502	27,774,691	820,189	3%	25,901,694	24,816,307	26,218,366
Revenue - Expenditures/Transfers	2,677,601	710,467			1,536,009	4,470,571	304,997

TOTAL, UH MANOA Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	615,934,842	620,243,118	4,308,276	1%	627,987,034	616,145,148	584,931,840
Expenditures/Transfers							
Personnel	388,081,706	381,372,631	(6,709,075)	-2%	376,756,109	368,466,351	368,250,344
Non-Personnel	185,397,589	166,629,969	(18,767,620)	-10%	169,716,582	175,141,160	152,419,936
Utilities	43,641,254	46,671,721	3,030,467	7%	45,325,048	41,408,751	44,972,698
Transfers	8,178,402	12,160,740	3,982,338	49%	11,506,115	13,406,427	12,070,806
Total Expenditures/Transfers	625,298,951	606,835,061	(18,463,890)	-3%	603,303,854	598,422,689	577,713,784
Revenue - Expenditures/Transfers	(9,364,109)	13,408,057			24,683,180	17,722,459	7,218,056

University of Hawai'i - Hilo
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

GENERAL FUNDS	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Allocation (including net transfers)	34,951,072	36,283,617	1,332,545	4%	35,233,055	33,172,501	31,888,980
Expenditures							
Personnel	34,651,072	35,979,576	1,328,504	4%	34,919,811	33,034,388	30,895,008
Non-Personnel	300,000	304,041	4,041	1%	310,194	138,112	979,041
Utilities	-	-	-	budget = 0	-	-	1,052
Total Expenditures	34,951,072	36,283,617	1,332,545	4%	35,230,005	33,172,500	31,875,101
Revenue - Expenditures	-	-	-	-	3,050	1	13,879

TUITION & FEES SF (TF SF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	36,632,748	35,354,887	(1,277,861)	-3%	36,887,139	37,224,613	37,443,534
Expenditures/Transfers							
Personnel	12,870,737	10,494,543	(2,376,194)	-18%	11,747,977	12,273,428	13,751,442
Non-Personnel	12,360,933	10,433,058	(1,927,875)	-16%	10,213,307	10,157,690	10,524,070
Utilities	5,082,283	3,338,980	(1,743,303)	-34%	3,341,079	3,382,605	4,316,514
Transfers (net)	8,454,275	8,343,086	(111,189)	-1%	8,712,886	8,542,245	8,753,357
Total Expenditures/Transfers	38,768,228	32,609,667	(6,158,561)	-16%	34,015,249	34,355,968	37,345,383
Revenue - Expenditures/Transfers	(2,135,480)	2,745,220	489,740	23%	2,871,890	2,868,645	98,151

RESEARCH & TRAINING RF (RTRF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	3,438,896	2,883,892	(555,004)	-16%	3,828,088	3,829,747	2,830,493
Expenditures/Transfers							
Personnel	130,348	236,163	105,815	81%	357,526	492,632	158,678
Non-Personnel	2,888,202	3,019,561	131,359	5%	3,148,921	3,234,397	2,869,013
Utilities	320,000	304,202	(15,798)	budget = 0	413,196	379,956	392,937
Transfers (net)	283,000	(702,294)	(985,294)	-348%	(199,105)	(487,557)	(359,649)
Total Expenditures/Transfers	3,621,550	2,857,632	(763,918)	-21%	3,720,538	3,619,428	3,060,979
Revenue - Expenditures/Transfers	(182,654)	26,260	448,914	25%	107,550	210,319	(230,486)

University of Hawai'i - Hilo
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

OTHER SPECIAL FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	7,688,554	8,390,470	701,916	9%	7,814,333	7,784,210	7,565,906
Expenditures/Transfers							
Personnel	1,715,480	1,603,693	(111,787)	-7%	1,620,615	1,742,895	1,807,231
Non-Personnel	10,901,779	11,099,198	197,419	2%	10,978,552	10,714,244	11,093,660
Utilities	679,719	631,847	(47,872)	-7%	603,105	617,368	630,025
Transfers (net)	(5,832,036)	(6,024,691)	(192,655)	3%	(6,062,861)	(5,985,711)	(6,007,867)
Total Expenditures/Transfers	7,464,942	7,310,047	(154,895)	-2%	7,139,411	7,088,796	7,523,049
Revenue - Expenditures/Transfers	223,612	1,080,423			674,922	695,414	42,857

OTHER REVOLVING FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	2,459,022	2,156,026	(302,996)	-12%	2,302,475	2,352,033	2,182,928
Expenditures/Transfers							
Personnel	1,283,155	1,123,058	(160,097)	-12%	1,036,304	1,059,675	1,034,128
Non-Personnel	1,169,182	1,062,919	(106,263)	-9%	1,093,257	1,058,713	1,416,435
Utilities	6,324	6,215	(109)	-2%	6,507	-	-
Transfers (net)	-	13,300	13,300	budget = 0	3	-	(1,828)
Total Expenditures/Transfers	2,458,661	2,205,492	(253,169)	-10%	2,136,071	2,118,388	2,448,735
Revenue - Expenditures/Transfers	361	(49,466)			166,404	233,645	(265,807)

TOTAL, UH HILO Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	85,170,292	85,068,892	(101,400)	0%	86,065,090	84,363,104	81,911,841
Expenditures/Transfers							
Personnel	50,650,792	49,437,033	(1,213,759)	-2%	49,682,233	48,603,018	47,646,487
Non-Personnel	27,620,096	25,918,777	(1,701,319)	-6%	25,744,231	25,303,156	26,882,219
Utilities	6,088,326	4,281,244	(1,807,082)	-30%	4,363,887	4,379,929	5,340,528
Transfers	2,905,239	1,629,401	(1,275,838)	-44%	2,450,923	2,068,977	2,384,013
Total Expenditures/Transfers	87,264,453	81,266,455	(5,997,998)	-7%	82,241,274	80,355,080	82,253,247
Revenue - Expenditures/Transfers	(2,094,161)	3,802,437			3,823,816	4,008,024	(341,406)

University of Hawai'i - West O'ahu
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

GENERAL FUNDS	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Allocation (including net transfers)	15,566,399	16,203,655	637,256	4%	15,790,482	14,522,594	13,528,479
Expenditures							
Personnel	15,565,241	16,130,274	565,033	4%	15,510,800	14,287,416	12,814,289
Non-Personnel	-	44,237	44,237	budget = 0	279,682	235,177	172,274
Utilities	1,158	29,144	27,986	2417%	-	-	541,915
Total Expenditures	15,566,399	16,203,655	637,256	4%	15,790,482	14,522,593	13,528,478
Revenue - Expenditures	-	-	-	-	-	1	1

TUITION & FEES SF (TFSF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	17,835,564	18,049,034	213,470	1%	17,330,885	15,238,449	13,576,921
Expenditures/Transfers							
Personnel	6,460,120	5,905,951	(554,169)	-9%	4,832,912	4,127,734	2,310,662
Non-Personnel	2,936,800	2,323,152	(613,648)	-21%	1,972,935	2,724,108	1,708,331
Utilities	1,127,200	699,017	(428,183)	-38%	714,638	911,026	537,734
Transfers (net)	7,298,527	6,661,680	(636,847)	-9%	7,223,943	6,923,999	4,455,287
Total Expenditures/Transfers	17,822,647	15,589,800	(2,232,847)	-13%	14,744,428	14,686,867	9,012,014
Revenue - Expenditures/Transfers	12,917	2,459,234	2,459,234	19%	2,586,457	551,582	4,564,907

RESEARCH & TRAINING RF (RTRF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	165,500	292,561	127,061	77%	190,521	140,203	148,595
Expenditures/Transfers							
Personnel	-	10,284	10,284	budget = 0	161	274	90
Non-Personnel	195,516	127,464	(68,052)	-35%	77,418	155,618	34,191
Utilities	-	89,441	89,441	budget = 0	90,521	65,243	27,361
Transfers (net)	-	-	-	budget = 0	-	(40)	5,903
Total Expenditures/Transfers	195,516	227,189	31,673	16%	168,100	221,095	67,545
Revenue - Expenditures/Transfers	(30,016)	65,372	95,388	318%	22,421	(80,892)	81,050

University of Hawai'i - West O'ahu
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

OTHER SPECIAL FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	300,000	284,740	(15,260)	-5%	320,919	463,735	609,797
Expenditures/Transfers							
Personnel	85,000	160,206	75,206	88%	83,720	19,699	1,636
Non-Personnel	2,535,000	1,988,818	(546,182)	-22%	2,490,038	2,688,869	1,284,236
Utilities	-	-	-	budget = 0	-	-	-
Transfers (net)	(2,320,000)	(2,142,465)	177,535	-8%	(2,568,566)	(2,269,253)	(892,988)
Total Expenditures/Transfers	300,000	6,559	(293,441)	-98%	5,192	439,315	392,884
Revenue - Expenditures/Transfers	-	278,181			315,727	24,420	216,913

OTHER REVOLVING FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	1,168,000	932,270	(235,730)	-20%	960,012	920,224	801,988
Expenditures/Transfers							
Personnel	272,000	300,139	28,139	10%	193,378	204,914	183,281
Non-Personnel	430,000	356,440	(73,560)	-17%	344,681	268,202	278,866
Utilities	8,500	1,144	(7,356)	-87%	7,194	-	-
Transfers (net)	-	-	-	budget = 0	-	-	29,911
Total Expenditures/Transfers	710,500	657,723	(52,777)	-7%	545,253	473,116	492,058
Revenue - Expenditures/Transfers	457,500	274,547			414,759	447,108	309,930

TOTAL, UH WEST OAHU Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	35,035,463	35,762,260	726,797	2%	34,592,819	31,285,205	28,665,780
Expenditures/Transfers							
Personnel	22,382,361	22,506,854	124,493	1%	20,620,971	18,640,037	15,309,958
Non-Personnel	6,097,316	4,840,111	(1,257,205)	-21%	5,164,754	6,071,974	3,477,898
Utilities	1,136,858	818,746	(318,112)	-28%	812,353	976,269	1,107,010
Transfers	4,978,527	4,519,215	(459,312)	-9%	4,655,377	4,654,706	3,598,113
Total Expenditures/Transfers	34,595,062	32,684,926	(1,910,136)	-6%	31,253,455	30,342,986	23,492,979
Revenue - Expenditures/Transfers	440,401	3,077,334			3,339,364	942,219	5,172,801

University of Hawai'i - Community Colleges
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

GENERAL FUNDS	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Allocation (including net transfers)	136,255,000	140,901,947	4,646,947	3%	135,402,050	126,405,510	118,732,720
Expenditures							
Personnel	129,970,531	134,653,129	4,682,598	4%	129,029,192	121,499,856	117,392,902
Non-Personnel	1,828,183	86,100	(1,742,083)	-95%	1,006,552	115,021	112,705
Utilities	4,456,286	6,162,714	1,706,428	38%	5,366,302	4,790,627	1,227,108
Total Expenditures	136,255,000	140,901,943	4,646,943	3%	135,402,046	126,405,504	118,732,715
Revenue - Expenditures	-	4			4	6	5

TUITION & FEES SF (TFSF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	65,612,600	63,220,408	(2,392,192)	-4%	65,520,953	67,033,462	66,798,904
Expenditures/Transfers							
Personnel	22,820,874	19,584,239	(3,236,635)	-14%	22,292,865	22,256,908	24,651,267
Non-Personnel	35,242,340	31,260,815	(3,981,525)	-11%	26,828,581	25,412,091	25,444,001
Utilities	5,594,614	4,641,623	(952,991)	-17%	4,119,111	4,797,868	9,045,686
Transfers (net)	5,719,772	6,038,465	318,693	6%	5,618,101	5,949,034	6,725,365
Total Expenditures/Transfers	69,377,600	61,525,142	(7,852,458)	-11%	58,858,658	58,415,901	65,866,319
Revenue - Expenditures/Transfers	(3,765,000)	1,695,266			6,662,295	8,617,561	932,585

RESEARCH & TRAINING RF (RTRF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	1,778,102	1,333,831	(444,271)	-25%	2,251,493	2,699,622	2,855,548
Expenditures/Transfers							
Personnel	600,693	978,912	378,219	63%	1,255,501	1,350,907	749,191
Non-Personnel	966,709	606,754	(359,955)	-37%	714,578	644,649	413,131
Utilities	210,700	177,622	(33,078)	-16%	691,535	248,626	591,228
Transfers (net)	-	48,729	48,729	budget = 0	(30,000)	(33,940)	(76,296)
Total Expenditures/Transfers	1,778,102	1,812,017	33,915	2%	2,631,614	2,210,242	1,677,254
Revenue - Expenditures/Transfers	-	(478,186)			(380,121)	489,380	1,178,294

University of Hawai'i - Community Colleges
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

OTHER SPECIAL FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	17,496,941	18,625,321	1,128,380	6%	18,691,265	17,157,711	18,556,767
Expenditures/Transfers							
Personnel	10,898,514	10,578,767	(319,747)	-3%	10,008,317	9,686,608	10,023,689
Non-Personnel	5,869,800	6,330,330	460,530	8%	5,912,646	5,809,929	6,771,048
Utilities	149,500	207,156	57,656	39%	146,141	124,152	312,907
Transfers (net)	579,127	614,418	35,291	6%	1,008,319	(258,951)	(973,999)
Total Expenditures/Transfers	17,496,941	17,730,671	233,730	1%	17,075,423	15,361,738	16,133,645
Revenue - Expenditures/Transfers	-	894,650			1,615,842	1,795,973	2,423,122

OTHER REVOLVING FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	3,764,600	2,198,835	(1,565,765)	-42%	1,925,469	2,313,449	2,356,836
Expenditures/Transfers							
Personnel	1,112,900	1,180,923	68,023	6%	642,211	686,235	612,814
Non-Personnel	2,650,297	1,488,348	(1,161,949)	-44%	1,537,344	1,454,782	1,642,148
Utilities	1,403	2,199	796	57%	1,267	-	-
Transfers (net)	-	539	539	budget = 0	(615,132)	204,611	(31)
Total Expenditures/Transfers	3,764,600	2,672,009	(1,092,591)	-29%	1,565,690	2,345,628	2,254,931
Revenue - Expenditures/Transfers	-	(473,174)			359,779	(32,179)	101,905

TOTAL, UH COMMUNITY COLLEGES Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	224,907,243	226,280,342	1,373,099	1%	223,791,230	215,609,754	209,300,775
Expenditures/Transfers							
Personnel	165,403,512	166,975,970	1,572,458	1%	163,228,086	155,480,514	153,429,863
Non-Personnel	46,557,329	39,772,347	(6,784,982)	-15%	35,999,701	33,436,472	34,383,033
Utilities	10,412,503	11,191,314	778,811	7%	10,324,356	9,961,273	11,176,929
Transfers	6,298,899	6,702,151	403,252	6%	5,981,288	5,860,754	5,675,039
Total Expenditures/Transfers	228,672,243	224,641,782	(4,030,461)	-2%	215,533,431	204,739,013	204,664,864
Revenue - Expenditures/Transfers	(3,765,000)	1,638,560			8,257,799	10,870,741	4,635,911

University of Hawai'i - Systemwide Programs
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

GENERAL FUNDS	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Allocation (including net transfers)	48,102,834	48,241,399	138,565	0%	45,223,593	42,543,324	39,108,329
Expenditures							
Personnel	38,087,724	35,944,267	(2,143,457)	-6%	36,484,401	34,263,481	31,062,435
Non-Personnel	6,896,290	9,168,470	2,272,180	33%	5,601,116	5,267,236	5,045,873
Utilities	118,820	128,662	9,842	8%	138,076	12,605	21
Transfers (B+ Scholarships)	3,000,000	3,000,000	-	0%	3,000,000	3,000,000	3,000,000
Total Expenditures	48,102,834	48,241,399	138,565	0%	45,223,593	42,543,322	39,108,329
Revenue - Expenditures	-	-			-	2	-

TUITION & FEES SF (TF SF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	1,517,940	2,409,622	891,682	59%	1,582,761	959,647	824,127
Expenditures/Transfers							
Personnel	2,353,786	2,256,988	(96,798)	-4%	1,119,746	654,709	1,447,582
Non-Personnel	9,627,720	7,984,038	(1,643,682)	-17%	6,517,880	6,191,671	7,791,313
Utilities	151,160	112,073	(39,087)	-26%	118,452	-	17,346
Transfers (net)	(11,848,480)	(9,555,552)	2,292,928	-19%	(8,922,302)	(9,046,739)	(8,587,480)
Total Expenditures/Transfers	284,186	797,547	513,361	181%	(1,166,224)	(2,200,359)	668,761
Revenue - Expenditures/Transfers	1,233,754	1,612,075			2,748,985	3,160,006	155,366

RESEARCH & TRAINING RF (RTRF)	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Revenue							
Total Revenue	15,087,920	15,772,632	684,712	5%	8,694,042	10,376,258	11,854,604
Expenditures/Transfers							
Personnel	5,495,865	5,292,372	(203,493)	-4%	6,842,172	5,370,375	5,957,836
Non-Personnel	11,161,642	10,048,608	(1,113,034)	-10%	7,876,108	9,168,101	5,800,829
Utilities	758,736	614,238	(144,498)	-19%	701,522	-	-
Transfers (net)	(1,251,143)	928,245	2,179,388	-174%	381,379	(32,367)	141,837
Total Expenditures/Transfers	16,165,100	16,883,463	718,363	4%	15,801,181	14,506,109	11,900,502
Revenue - Expenditures/Transfers	(1,077,180)	(1,110,831)			(7,107,139)	(4,129,851)	(45,898)

University of Hawai'i - Systemwide Programs
FY 2018 Fourth Quarter Financial Report for the Period Ending June 30, 2018

OTHER SPECIAL FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	3,830,261	3,825,273	(4,988)	0%	2,864,910	2,854,841	2,539,809
Expenditures/Transfers							
Personnel	921,640	1,011,025	89,385	10%	1,212,147	550,124	529,271
Non-Personnel	9,222,273	5,662,476	(3,559,797)	-39%	8,814,988	6,789,816	7,444,723
Utilities	131,864	80,770	(51,094)	-39%	117,520	-	-
Transfers (net)	(5,116,932)	(5,988,828)	(871,896)	17%	(4,998,783)	(5,522,773)	(3,428,181)
Total Expenditures/Transfers	5,158,845	765,443	(4,393,402)	-85%	5,145,872	1,817,167	4,545,813
Revenue - Expenditures/Transfers	(1,328,584)	3,059,830			(2,280,962)	1,037,674	(2,006,004)

OTHER REVOLVING FUNDS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	726,737	1,036,602	309,865	43%	1,199,544	1,023,189	1,556,697
Expenditures/Transfers							
Personnel	384,334	360,607	(23,727)	-6%	294,124	277,492	266,152
Non-Personnel	117,931	320,579	202,648	172%	339,259	523,075	613,993
Utilities	864	1,414	550	64%	573	-	-
Transfers (net)	45,689	(56,541)	(102,230)	-224%	(8,660)	140,110	(314,975)
Total Expenditures/Transfers	548,818	626,059	77,241	14%	625,296	940,877	565,170
Revenue - Expenditures/Transfers	177,919	410,543			574,248	82,512	991,527

TOTAL, UH SYSTEMWIDE PROGRAMS Revenue	FY 2018 Budget-to-Actual				Prior Fiscal Years		
	FY 2018 Budget	FY 2018 Actual	Difference	%	FY 2017 Actual	FY 2016 Actual	FY 2015 Actual
Total Revenue	69,265,692	71,285,528	2,019,836	3%	59,564,850	57,757,259	55,883,566
Expenditures/Transfers							
Personnel	47,243,349	44,865,259	(2,378,090)	-5%	45,952,590	41,116,181	39,263,276
Non-Personnel	40,025,856	36,184,171	(3,841,685)	-10%	32,149,351	30,939,899	29,696,731
Utilities	1,161,444	937,157	(224,287)	-19%	1,076,143	12,605	17,367
Transfers	(18,170,866)	(14,672,676)	3,498,190	-19%	(13,548,366)	(14,461,769)	(12,188,799)
Total Expenditures/Transfers	70,259,783	67,313,911	(2,945,872)	-4%	65,629,718	57,606,916	56,788,575
Revenue - Expenditures/Transfers	(994,091)	3,971,617			(6,064,868)	150,343	(905,009)



UNIVERSITY
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UNIVERSITY OF HAWAII
BOARD OF REGENTS

18 AUG 30 P5:03

19062 E

Kalbert K. Young
Vice President for Budget and Finance
Chief Financial Officer

RECEIVED

August 29, 2018

'18 AUG 30 P2:15

UNIVERSITY OF HAWAII
PRESIDENT'S OFFICE

TO: Lee Putnam
Chair, Board of Regents

Randy Moore
Chair, Committee on Budget and Finance, Board of Regents

VIA: David Lassner
President

FROM: Kalbert K. Young
Vice President for Budget and Finance/Chief Financial Officer

SUBJECT: FY17 Bond Post-Issuance Compliance Update

The Administration hereby submits for the information of the Board of Regents and its Committee on Budget and Finance a report and presentation entitled "University of Hawai'i Post-Issuance Compliance Update." Since FY2013, a review has been undertaken annually to monitor a number of post-issuance compliance issues related to outstanding University of Hawai'i revenue bonds – including, the amount of private activity occurring on or within facilities financed with UH revenue bonds. The attached report covers compliance review through FY17.

This report is to be discussed as an information item at the Committee on Budget and Finance meeting on September 6, 2018.

Attachment

Presentation: "University of Hawai'i Post-Issuance Compliance Update"

c: University Controller (w/o Attachment)



UNIVERSITY
of HAWAII'
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Financial Management Office

University of Hawai'i Post-Issuance Compliance Update

UH Board of Regents

Committee on Budget & Finance

September 6, 2018

POST-ISSUANCE COMPLIANCE UPDATE

- I. Compliance Requirements
- II. Private Use Analysis Results

COMPLIANCE REQUIREMENTS

Governmental Bond Requirements

- At least 90% of the proceeds of the bond issue must be used for governmental purposes
- No more than 10% of the proceeds of the bond issue can be used for a “private business use”
- Private business use is determined over the life of the bond issue

PRIVATE USE ANALYSIS RESULTS

Series 2006A Refunding (compliant)

- Financed Biomedical Sciences Building Renovations 1 and 2, Cancer Center design and planning, and various JABSOM buildings including a central plant, cooling system, and emergency generators
 - ✓ 2013 Fiscal Year private use percentage: 2.24%
 - ✓ 2014 Fiscal Year private use percentage: 3.46%
 - ✓ 2015 Fiscal Year private use percentage: 2.89%
 - ✓ 2016 Fiscal Year private use percentage: 2.39%
 - ✓ 2017 Fiscal Year private use percentage: 2.48%

PRIVATE USE ANALYSIS RESULTS

Series 2006A (compliant)

- Financed student housing (Frear Hall and Hilo and Mānoa R&R) and the Gateway Cafeteria
 - ✓ 2013 Fiscal Year private use percentage: 0.00%
 - ✓ 2014 Fiscal Year private use percentage: 0.18%
 - ✓ 2015 Fiscal Year private use percentage: 2.02%
 - ✓ 2016 Fiscal Year private use percentage: 2.11%
 - ✓ 2017 Fiscal Year private use percentage: 0.60%

PRIVATE USE ANALYSIS RESULTS

Series 2009A (compliant)

- Financed the following projects: Ching Field, Hawai'i CC Palamanui Campus, Hilo Bookstore Campus Center addition, UH Hilo College of Pharmacy, UH Hilo Student Housing, UH Mānoa Student Housing, UHM Biomedical Sciences Building addition (C-MORE), Waianae Education Center, and UH West O'ahu campus development
 - ✓ 2013 Fiscal Year private use percentage: 0.45%
 - ✓ 2014 Fiscal Year private use percentage: 6.09%
 - ✓ 2015 Fiscal Year private use percentage: 11.44%
 - ✓ 2016 Fiscal Year private use percentage: 2.60%
 - ✓ 2017 Fiscal Year private use percentage: 3.02%

(Private use compliance is determined over the life of the bond issue. Exceeding the allowable percentage in one year does not put us out of compliance.)

PRIVATE USE ANALYSIS RESULTS

Series 2010A-1 and 2010A-2 (compliant)

- Financed construction of Cancer Center
 - ✓ *Series 2010A-1 & 2010A-2 2013 Fiscal Year private use percentage: 7.89%*
 - ✓ *Series 2010A-1 & 2010A-2 2014 Fiscal Year private use percentage: 9.73%*
 - ✓ *Series 2010A-1 & 2010A-2 2015 Fiscal Year private use percentage: 5.04%*
 - ✓ *Series 2010 A-1 & 2010 A-2 2016 Fiscal Year private use percentage: 3.80%*
 - ✓ *Series 2010 A-1 & 2010 A-2 2016 Fiscal Year private use percentage: 5.89%*

PRIVATE USE ANALYSIS RESULTS

Series 2010 B-1 and 2010 B-2 (compliant)

- Financed UH Mānoa Campus Center – Warrior Recreation Center, CC Energy Conservation Project, Culinary Institute of the Pacific, ITC building, Pan-STARRS facility, Sinclair Library Basement Renovation, Waianae Education Center, and UH West O'ahu campus development
 - ✓ *Series 2010B-1 & 2010B-2 2013 private use percentage: 0.66%*
 - ✓ *Series 2010B-1 & 2010B-2 2014 private use percentage: 0.17% and .13%, respectively*
 - ✓ *Series 2010B-1 & 2010B-2 2015 private use percentage: 2.62% and 1.95%, respectively*
 - ✓ *Series 2010 B-1 & 2010 B-2 2016 Fiscal Year private use percentage: 2.83% and 2.10%, respectively*
 - ✓ *Series 2010 B-1 & 2010 B-2 2017 Fiscal Year private use percentage: 2.74% and 2.00%, respectively*

PRIVATE USE ANALYSIS RESULTS

Series 2012A (compliant)

- Financed the UH Mānoa telecommunications system, elevator upgrades (Gateway, Hale Aloha Towers, Hale Wainani, and Hale Noleani), bathroom renovations (Laulima, Kahawai, Hale Aloha Ilima, and Mokihana Towers), and lounge conversions (Gateway, Laulima, and Kahawai)
 - ✓ 2013 Fiscal Year private use percentage: 2.19%
 - ✓ 2014 Fiscal Year private use percentage: 2.05%
 - ✓ 2015 Fiscal Year private use percentage: 2.01%
 - ✓ 2016 Fiscal Year private use percentage: 2.09%
 - ✓ 2017 Fiscal Year private use percentage: 2.14%

PRIVATE USE ANALYSIS RESULTS

Series 2015B (R) (compliant)

- Partial refund Series 2006 A (no new money)
- Series 2006 A financed student housing (Frear Hall, Hilo and Mānoa R&R) and the Gateway Cafeteria
 - ✓ 2016 Fiscal Year private use percentage: 0.48%
 - ✓ 2017 Fiscal Year private use percentage: 0.00%

(The private use percentage would be 2.48% if the refunding didn't include 25% of taxable bonds. In other words, the refunding with taxable bonds allow us to generate up to 25% of private use for this series)

PRIVATE USE ANALYSIS RESULTS

Series 2015E(R) (compliant)

- Partial refund of Series 2006A Refunding Bonds (no new money)
- Series 2006A Refunding Bonds refunded Series 2002A (no new money)
- Series 2002A financed Biomedical Sciences Building Renovations 1 and 2, Cancer Center design and planning, and various JABSOM buildings including a central plant, cooling system, and emergency generators
- ✓ 2016 Fiscal Year private use percentage: 1.92%
- ✓ 2017 Fiscal Year private use percentage: 0.00%

(The private use percentage would be 0.60% if the refunding didn't include 25% of taxable bonds. In other words, the refunding with taxable bonds allow us to generate up to 25% of private use for this series)

Thank You

Committee on Budget & Finance

August 2, 2018

Review & approval of committee goals & objectives.

The committee's functions per BOR bylaws are:

- (1) Work in concert with the University administration relating to operating and capital improvement budgets. [Note: CIP has historically been reviewed by the P&F committee before being included in the budget reviewed by the B&F committee.]
- (2) Examine the budgetary process, budget proposals, expenditure plans, and development plans. [Note: development plans have historically been the purview of the P&F committee.]
- (3) Discuss the implementation of the budgetary decisions with the University administration, especially amendments thereto or when circumstances require deviations from expenditure plans.
- (4) Review matters related to business affairs, endowment funds, and other financial assets of the University.
- (5) Exercise general oversight and policy direction over the University's financial systems and programs.

Proposed goals and workplan for FY 19:

- (1) Exercise general oversight and policy direction over the University's budget (revenues and expenditures)
 - Review the administration's operating budgets, with emphasis on budget alignment with university priorities.
 - Review and recommend approval of the FY 19 budget projections (August)
 - Review and recommend approval of the BY 20-22 policy paper (Sept)
 - Review and recommend approval of the BY 20-22 budget submission to the governor and legislature (Nov)
 - Review and recommend approval of the rolling 6-year operating budget
 - Review any FY 19 supplemental budget request (as needed)
 - Review quarterly budget-to-actual operating reports
 - 4th quarter FY 18 (Sept)
 - 1st quarter FY 19 (Nov)
 - 2nd quarter FY 19 (Feb)
 - 3rd quarter FY 19 (May)
- (2) Exercise general oversight and policy direction over the investment and spending policies of the University's "legacy" endowment.
 - Review a revised contract with UBS for management of the endowment (Nov)
 - Review the fiduciary responsibilities of the board for the investment of the legacy endowment and the ASUH-Manoa endowment created by the sale of Honolulu Stadium stock and change practices if appropriate (Nov)
 - Study and determine whether it would be possible, feasible and beneficial to UH to transfer responsibility for the investment of its legacy endowment to UHF (Nov)
 - Review quarterly reports of the legacy endowment's performance
 - 4th quarter FY 18 (Sept)
 - 1st quarter FY 19 (Nov)
 - 2nd quarter FY 19 (Feb)
 - 3rd quarter FY 19 (May)
 - Review and recommend revisions, if appropriate, to the regents policy on investments (Nov)

- (3) Exercise general oversight and policy direction over other matters related to business affairs and financial assets of the University.
- Review and accept bond compliance reports for FY 17 (~~Feb~~ Sept)
 - Review impacts of tax law changes on UH and UHF (Feb)
 - Review and recommend revisions, if appropriate, to the reporting relationships of the office of internal audit