



University of Wisconsin System Trust Funds



Quarterly Investment Review March 31, 2019

UW System Trust Funds: Overview and Investment Summary

Quarter Ended March 31, 2019

Investment Objective

To achieve, net of administrative and investment expenses, reasonable, attainable and sustainable returns over and above the rate of inflation. SWIB seeks to achieve this objective through the use of passive, externally-managed, public markets funds.

Market Values 3/31/2019

Total Public Market Assets ¹	\$380,682,108
Total Legacy Private Market Assets ¹	\$68,415,864
Other Cash and Accruals ²	\$65,837
Total UW System Long Term Fund ³	\$449,163,809

Income Cash Fund (State Investment Fund 'SIF') ⁴ \$132,882,000

¹ Market values are net of accrued external investment management fees, and internal UW fees.

² Other Cash and Accruals include custody & middle office fees, SWIB internal management fees, fund-level STIF cash, STIF interest and other pass through fees that either accrue until paid or are pre-paid. Balances vary intra-month and can cross into new quarters.

³ Market values are net of SWIB internal and external investment management fees, custody & middle office fees, other pass through fees accrued and paid, and internal UW fees.

⁴ Data is sourced from the Quarter End Pool Sheets provided by the DOA and represents the monies available in UW Funds 161 and 162 (STAR account(s) 51100 and 51200).

Performance for Quarter ended 3/31/2019

	Jan-19	Feb-19	Mar-19	3 Months
UW System Long Term Fund (Gross of Fees)	4.38%	1.33%	1.29%	7.13%
UW System Long Term Fund (Net of All Fees) ⁵	4.37%	1.32%	1.29%	7.11%
UW Fund Custom Benchmark	4.36%	1.31%	1.29%	7.09%

⁵ Returns are net of SWIB internal and external investment management fees, custody & middle office fees, and other pass through fees accrued and paid. Returns are gross of internal UW fees.

Contributions/(Withdrawals) for the Quarter ended 3/31/2019

UW System Long Term Fund - Public Markets ⁶	\$ (851,517)
UW System Long Term Fund - Private Markets ⁷	\$ 1,477,272
UW System Long Term Fund Contributions for Fees ⁸	\$ 34,684
UW System Long Term Fund Fees Paid ⁹	\$ (99,428)

⁶ Amount represents the net of new contributions and withdrawals by UWS, including endowment spending distributions, assessment of UWS internal fees, as well as reallocations among the public and private market portfolios.

⁷ Distributions from StepStone and other private market underlying funds are net of external investment management fees paid.

⁸ The Fund has pre-paid fees that can cause Contributions for Fees to not equal Fees Paid.

⁹ Fees paid can include external and internal management fees, custody & middle office fees, and other pass through fees accrued from both the public and private market accounts.

UW System Trust Funds: Market Discussion & Commentary

Quarter Ended March 31, 2019

UW Q1 2019 Performance and Market Discussion

In the first quarter, the UW's investment portfolio returned 7.13% compared to the fund's benchmark return of 7.09%.

Both the stock and bond markets rebounded significantly during the quarter after less than stellar returns in 2018. The Federal Reserve's shift to a more accommodative tone gets much of the credit for the first quarter market bounce, along with a continuation of mostly solid company fundamentals. In their January announcement, the Fed indicated it would refrain from interest rate hikes for the foreseeable future and provided a dovish assessment of U.S. economic conditions. This reduced market-based expectations of interest rates, serving as a boon for both equities and bonds.

However, the possible end of the current rate hiking cycle has been precipitated by decelerating economic data. Non-farm payroll expansions have been significantly below expectations, partly due to the unusually cold February. During the first quarter, there was a significant downward revision to fourth-quarter GDP, which was amended to 2.2%, down from the previous estimate of 2.6% and compared to 3.4% in the quarter before. The revision reflected downgrades to consumer and business spending, and to government outlays and homebuilding investment. Manufacturing PMI has also edged lower. Even with these signs of weakness, the U.S. economy continued to exhibit a tight labor market, low inflation, and slowing but stable economic growth. Unemployment remained at 3.8% in February, the lowest level since 1969.

Despite accelerating wage growth and broad-based tax cuts in 2018, consumer caution and higher short-term interest rates have led to declining housing starts and weaker auto sales. Retail sales also fell unexpectedly as households cut back on purchases of furniture, clothing, food and electronics and appliances. As a result, consumer price inflation has slowed.

Equity Performance

Global equities as measured by the MSCI ACWI Index experienced an increase of 12.33% in the first quarter of 2019.

After their December announcement drove a rotation out of equities, the Federal Reserve's shift to a gentler tone contributed to a meaningful rebound in equity prices. Stock market strength was also supported by relatively strong corporate earnings growth.

US Equities rose 14.04% as measured by the broad market Russell 3000 index. Positive sector returns in the U.S. came from information technology (+20.75%), real estate (+17.30%), and industrials (+16.74%). All other sectors' returns were also positive, with health care (8.18%), financials (+8.85%), and utilities (+11.40%) as the lowest sector returns.

The MSCI World ex-U.S. Index returned 10.45% during the first quarter of 2019. Eurozone equity markets all advanced but to varying degrees as there was slowing economic activity across the region. Partially contributing to the bullish sentiment was the ECB's reaffirmation of accommodative monetary policy. Within the eurozone, Germany's return of 6.7% lagged the index amid continued weakness in the

manufacturing and export sectors. Elsewhere in the eurozone, Italy gained 16% despite two consecutive quarters of real GDP contraction and political uncertainty as macro trends were relatively constructive. The U.K. equity component gained 12.5% and contributed the most to EAFE's total return despite ongoing Brexit uncertainty. In Asia/Pacific, Japan returned 6.7%, underperforming as uncertainty around U.S. trade protectionism, an upcoming sales-tax hike, and low levels of growth weighed on sentiment. Still, continued monetary support by the Bank of Japan and a weaker yen provided some support to the country's equity market.

Emerging markets, as represented by the MSCI EM Index, increased 9.92% in Q1. From a country standpoint, the China component rose 19% in the first quarter, a welcome reprieve from the bear market the country sustained in 2018. China contributed 51% of the MSCI EM Index's total return. An extended pause in tariff hikes between the U.S. and China helped mitigate headline risk and supported investor sentiment. In addition, the country's pivot toward stimulus after 2018's aggressive deleveraging campaign to clamp down on the country's excessive credit expansion also helped increase investor sentiment.

Elsewhere in Asia, Taiwan (+8.3%) and South Korea (+4%) underperformed EM equities as exports in both countries declined year over year.

Russian equities outperformed with a 12% increase as energy names rallied on the back of OPEC production cuts that led to a 27% increase in crude oil prices.

In Latin America, Colombian equities outperformed and gained 25% in the quarter. Though the country led EM country performance in Q1, the MSCI Colombia Index remains 40% below 2012 highs. Elsewhere in Latin America, Brazilian equities gained 8.4% in the quarter as President Jair Bolsonaro assumed office at the start of the year.

UW System's combined equity portfolio returned 12.12% during the quarter, vs the combined equity benchmark return of 12.06%.

Fixed Income Performance

US System's Government/Credit index fund returned 3.32% in the first quarter. The benchmark Bloomberg Barclays Government/Credit Index posted a return of 3.26% in the quarter.

Government bonds returned 2.1% for the quarter, as 10-year yields fell sharply across major sovereign markets over the quarter, including in the U.S. The Federal Reserve turned dovish late last year but in March went further than expected in realigning policy to tackle global risks weighing on the domestic economy. Policymakers reiterated that the Fed would continue to be patient with respect to monetary policy, as they downgraded their estimate of growth this year to 2.1%, from 2.3% projected in December. Fed Chair Jerome Powell guided that interest rates could be on hold for "some time" as the committee slashed its projections of rate hikes this year from two to zero. The pause in interest rate hiking by the Fed coupled with lowered forecasts for growth drove investors into longer-duration government bonds. The yield on the 10-year U.S. Treasury dropped from a quarterly high of 2.78% in mid-January to 2.40% at quarter end. The increased demand for long-term debt coupled with high short-term rates (Fed funds target rate remained at 2.50% at the quarter's end) created an inversion of the three-month/ten-year Treasury spread. This spread is the Fed's preferred measure for calculating recession probabilities, and its inversion has preceded every U.S. recession since the 1950s.

Corporate bonds returned 4.87% in the first quarter, as the Fed's more stimulative tone, along with the rebound in global equities, healthy corporate earnings, and a de-escalation of U.S.-China trade tensions all contributed to the strong credit results during the quarter.

Inflation Sensitive Performance

The Bloomberg Barclays US TIPS Index returned 3.19% in the first quarter of 2019. The UW System's TIPS portfolio outperformed slightly, returning 3.26%.

Inflation is trending around the Fed's 2% target while market expectations remain lower. The year-to-date pickup in inflation expectations was driven mostly by a rebound in energy prices; however higher wages are not yet showing up in inflation data and technology efficiencies have also kept goods inflation contained. Both the soft inflation prints and low inflation expectations support the Fed's patient stance. Following the March Federal Open Market Committee (FOMC) meeting, the Fed signaled zero hikes for 2019 and one hike for 2020 as their economic projections reflected lowered growth and inflation forecasts. Additionally, inflation volatility has remained incredibly low.

The BlackRock Developed Real Estate Index Fund returned 14.92% in Q1 as REITs experienced a very good quarter. A more tempered Fed was a positive contributor to the strong performance of REITs. With the expectation that interest rates are on pause for now, strong demand for income producing assets is likely to persist. This expectation of a continued "low for longer" environment and stable economic growth has created a goldilocks environment for the U.S. REITs market. More broadly, after six months of Brexit headlines, U.K. REITs recovered nicely in January and February. Despite being late into an economic cycle, the global economy has been able to support job growth and demand for real estate.

Legacy Private Markets Performance

The legacy private markets funds, consisting of Adams Street Partners, JP Morgan, and TRG funds, were essentially flat during the quarter, returning .14% in Q1.

Asset Allocation

Public Markets allocations ended the quarter with 56.7% in Equities, versus a target of 57%; 20.2% in Fixed Income, versus a target of 20%; and 23.1% in Inflation Sensitive assets, versus a target of 23%. The UW System allocated an additional \$625,755.04 into the investment funds in January, which was invested into the BlackRock funds. In March, \$1,477,272 was withdrawn from the BlackRock funds and sent to StepStone to bring their cash balance back to the \$2 million target. StepStone's cash balance had declined during the quarter as the capital calls from the legacy private markets funds exceeded the distributions from those funds.

UW System Trust Funds: Market Overview

Quarter Ended March 31, 2019

Economic Indicators

	Quarter Ending	YTD	1 Year	3 Year	5 Year	10 Year
GDP Growth Rate (current dollars) ¹	0.95%	0.95%	5.10%	4.59%	4.25%	3.88%
CPI Growth Rate	0.74%	0.74%	1.42%	2.05%	1.38%	1.75%

* All returns and growth rates greater than 1 year are annualized.

¹ The GDP growth rate is not adjusted for inflation.

Market Indicators

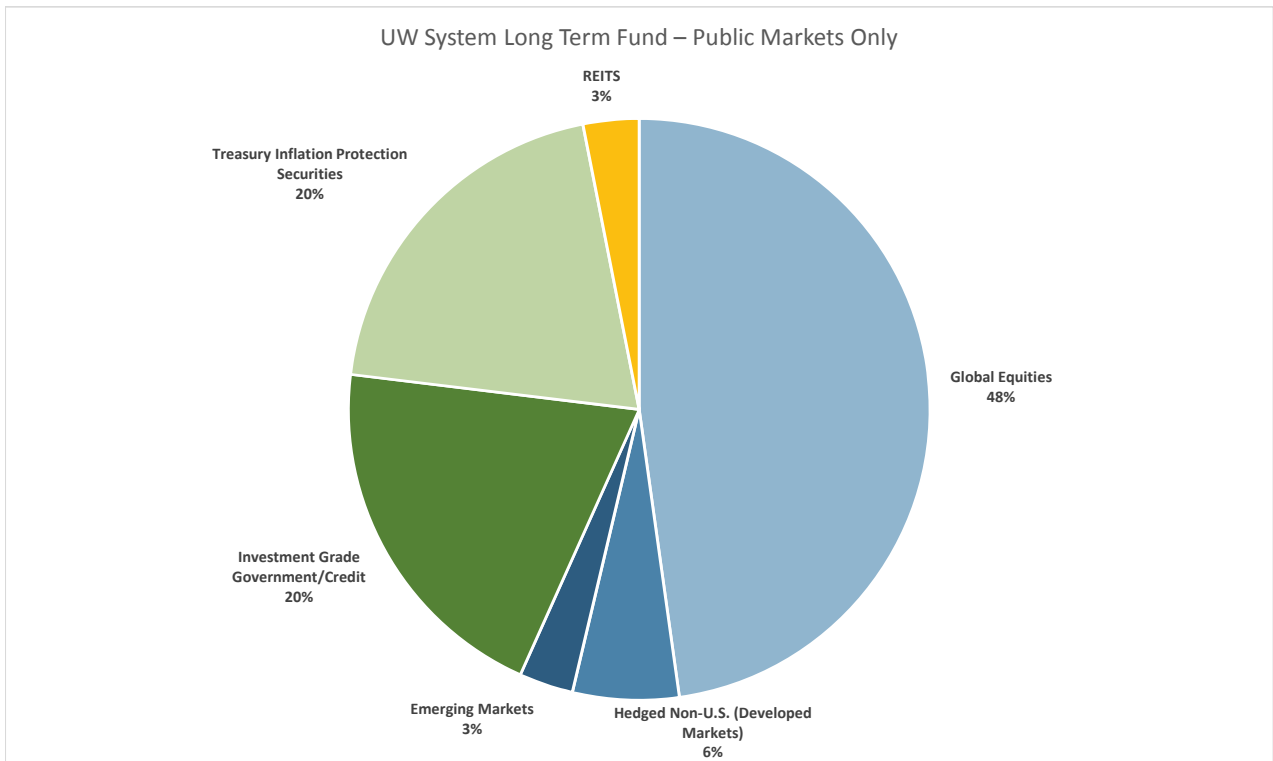
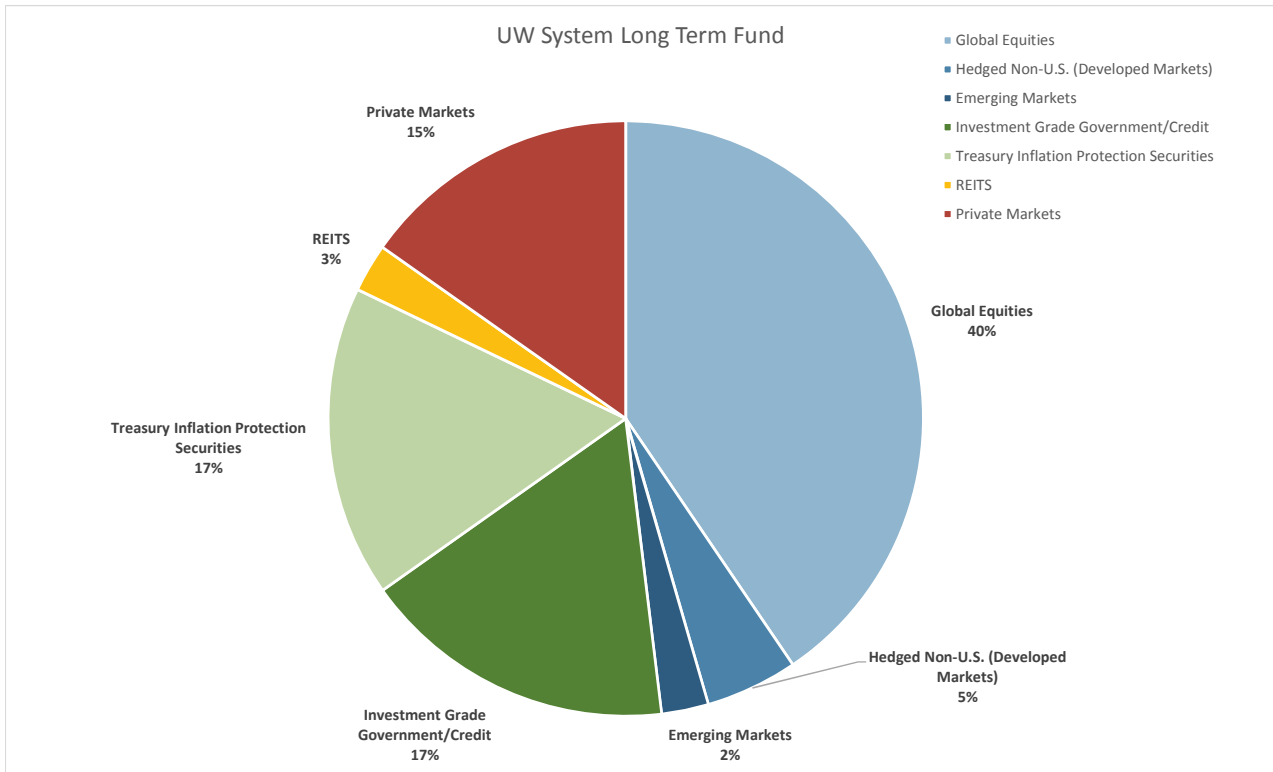
Investment Performance - Periods Ended March 31, 2019

	Quarter Ending	YTD	1 Year	3 Year	5 Year	10 Year
U.S. Large Cap Stocks (S&P 500 Index)	13.65%	13.65%	9.50%	13.51%	10.91%	15.92%
U.S. Small Cap Stocks (Russell 2000 Index)	14.58%	14.58%	2.05%	12.92%	7.05%	15.36%
U.S. Broad Market Stocks (Russell 3000 Index)	14.04%	14.04%	8.77%	13.49%	10.36%	16.00%
International Stocks (MSCI World ex US Index)	10.45%	10.45%	-3.14%	7.29%	2.20%	8.82%
International Stocks - Local Currency (MSCI World ex US Index)	10.79%	10.79%	3.19%	8.54%	5.86%	9.59%
Emerging Markets Stocks (MSCI EM Net Index)	9.92%	9.92%	-7.41%	10.68%	3.68%	8.94%
Global Stocks (MSCI ACWI Gross Index)	12.33%	12.33%	3.16%	11.27%	7.03%	12.58%
Government/Credit (Bloomberg Barclays Capital Gov/Credit)	3.26%	3.26%	4.48%	2.12%	2.78%	3.92%
U.S. TIPS (Bloomberg Barclays U.S TIPS Index)	3.19%	3.19%	2.70%	1.70%	1.94%	3.41%
Real Estate (FTSE EPRA/NAREIT Developed Net Index)	14.59%	14.59%	13.27%	5.68%	6.42%	14.00%

* All returns and growth rates greater than 1 year are annualized.

UW System Trust Funds: Asset Allocations

Quarter Ended March 31, 2019



* Asset Class Allocation percentages are derived using the Net of Fee market value. Sum of asset class market values may not equal total level Net of Fee market value due to the exclusion of fund level Other Cash. Excluded amount is immaterial.

UW System Trust Funds: Actual Versus Target Asset Allocations

Quarter Ended March 31, 2019

Asset Class/Strategy	Current Allocation (\$MM)	Current Allocation (%)	Target Allocation (%)	Min./Max. Guidelines
Public Equities¹				
Global Equities	\$181,899,682	47.8%	48.0%	44-52%
Hedged Non-U.S. Equities (Developed Markets)	\$22,510,832	5.9%	6.0%	5-7%
Emerging Markets Equities	<u>\$11,470,559</u>	<u>3.0%</u>	<u>3.0%</u>	<u>2-4%</u>
	\$215,881,073	56.7%	57.0%	51-63%
Fixed Income				
Investment Grade Government/Credit	<u>\$76,941,358</u>	<u>20.2%</u>	<u>20.0%</u>	<u>18-22%</u>
	\$76,941,358	20.2%	20.0%	18-22%
Inflation Sensitive				
TIPS (Treasury Inflation Protection Securities)	\$76,042,683	20.0%	20.0%	18-22%
REITS (Real Estate Investment Trusts)	<u>\$11,816,995</u>	<u>3.1%</u>	<u>3.0%</u>	<u>2-4%</u>
	\$87,859,677	23.1%	23.0%	20-26%
Total Public Markets	\$380,682,108	100%	100%	-
Private Markets²	<u>\$68,415,864</u>	-	N/A	N/A
Terrace Holdings II	\$68,415,864	-		
Other Cash and Accruals³	\$65,837			
Long Term Fund Total Assets⁴	\$449,163,809			

¹ There is a statutory limitation of 85% maximum exposure to public equities. (§36.29)

² Private Markets is not included in the target allocation. The Terrace Holdings II Fund comprises private equity funds of J.P. Morgan, Adams Street Partners, and a TRG Forestry Fund.

³ Other Cash and Accruals include custody & middle office fees, SWIB internal management fees, fund-level STIF cash, STIF interest and other pass through fees that either accrue until paid or are pre-paid. Balances vary intra-month and can cross into new quarters.

⁴ Market values are net of SWIB internal and external investment management fees, custody & middle office fees, other pass through fees accrued and paid, and internal UW fees.

Rebalancing Policy:

The asset allocation of fund investments shall be reviewed at the end of each quarter. Quarterly net capital flows to/from the UW System shall be utilized to rebalance toward the target allocations. If the allocation by asset class falls outside the rebalance range following quarterly cash flows, assets will be systematically rebalanced back to the target allocation as soon as practicable and in any event prior to the next quarterly net capital flows. Only the Public Markets allocations will be included in any rebalancing. The legacy Private Markets investments will receive additional inflows based only upon past commitments. No new commitments will be made to private markets. Eventually the legacy Private Markets investments will self-liquidate as distributions are made from existing funds without any new commitments.

Guidelines:

Current SWIB Guidelines for UW can be found at <https://www.swib.state.wi.us/statutes-guidelines> under Board of Trustees State Investment Fund & Separately Managed Funds Investment Guidelines.

UW System Trust Funds: Investment Performance Analysis

Quarter Ended March 31, 2019

Performance results for the UW System Long Term Fund are shown below, both graphically and in table format.

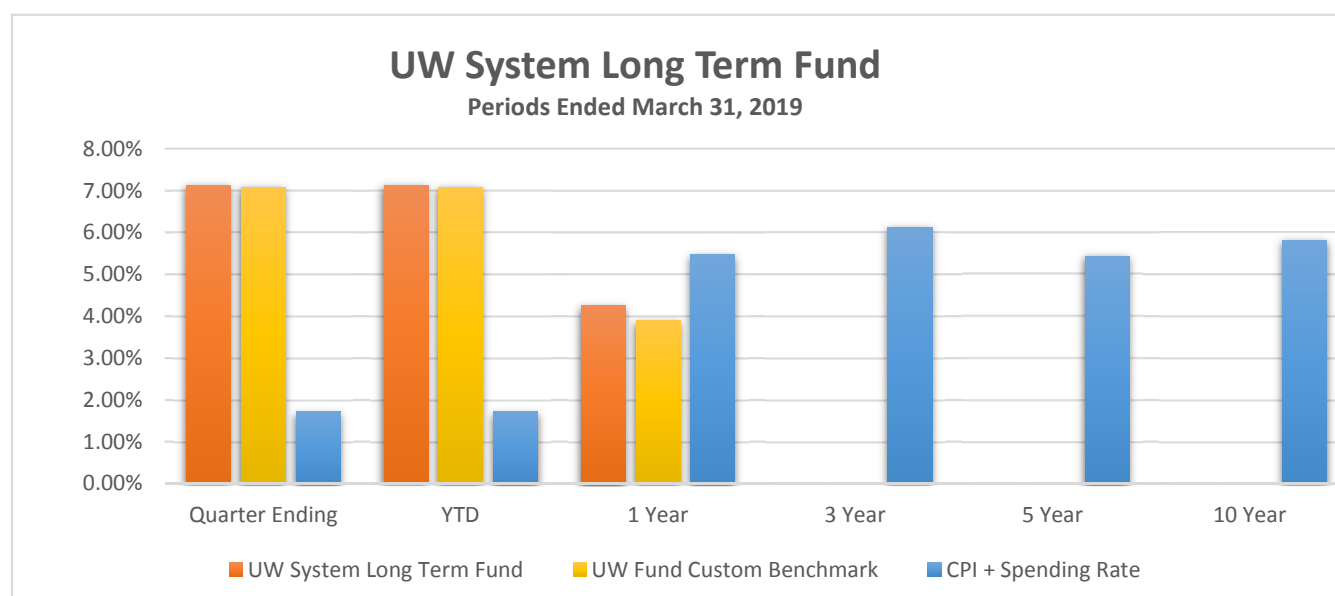
Fund and Benchmark Performance Data						
<i>Investment Performance: Periods Ended March 31, 2019</i>						
	Quarter Ending	YTD	1 Year	3 Year	5 Year	10 Year
UW System Long Term Fund¹	7.13%	7.13%	4.25%	-	-	-
UW Fund Custom Benchmark ²	7.09%	7.09%	3.90%	-	-	-
Consumer Price Index (CPI)	0.74%	0.74%	1.42%	2.05%	1.38%	1.75%
CPI + Spending Rate ³	1.73%	1.73%	5.47%	6.13%	5.43%	5.82%
Income Cash Fund (SIF)⁴	0.61%	0.61%	2.16%	1.23%	0.80%	0.49%

¹ The UW System Long Term Fund's return is a gross of fees return.

² The "UW Fund Custom Benchmark" is asset weighted using the UW Public Equity Benchmark, the Bloomberg U.S. Gov't/Credit Index, the Inflation Sensitive Benchmark, and the net Terrace Holdings II returns. The Bloomberg U.S. Gov't/Credit Index, and the Bloomberg Barclays U.S. TIPS Index are gross returns. All other benchmark components are net returns (net of fees or tax withholdings on dividends). The Private Markets Benchmark change has been approved by both the Investment and Benchmark Committees.

³ The annual spending rate is 4.0% and the change in CPI is used as the inflation indicator.

⁴ Relevant to the extent recipients have allocated a portion of their funds to the Income Cash Fund (SIF). The Income Cash Fund (SIF) is used for receiving spending distributions from the Long Term Fund. UW investment account holders may also allocate a portion of their expendable principal to this fund.



UW System Trust Funds: Fund and Benchmark Performance Data by Asset Class

Quarter Ended March 31, 2019

Asset Class/Strategy	Quarter Ending	YTD	1 Year	Since Inception
UW System Long Term Fund				
Gross of Fees	7.13%	7.13%	4.25%	4.25%
<i>Net of Fees</i>	<i>7.12%</i>	<i>7.12%</i>	<i>4.20%</i>	<i>4.20%</i>
<i>Net of All Fees</i>	<u>7.11%</u>	<u>7.11%</u>	<u>4.13%</u>	<u>4.13%</u>
UW Fund Custom Benchmark ¹	7.09%	7.09%	3.90%	3.90%
Public Equities				
Gross of Fees	12.12%	12.12%	2.22%	2.22%
<i>Net of All Fees</i>	<u>12.11%</u>	<u>12.11%</u>	<u>2.19%</u>	<u>2.19%</u>
UW Public Equity Benchmark ²	12.06%	12.06%	1.80%	1.80%
BlackRock MSCI ACWI Index Fund B				
Gross of Fees	12.37%	12.37%	2.36%	2.36%
<i>Net of All Fees</i>	<u>12.37%</u>	<u>12.37%</u>	<u>2.34%</u>	<u>2.34%</u>
MSCI ACW IM Net Index	12.29%	12.29%	1.89%	1.89%
BlackRock EAFE Currency Hedged Equity Index Fund B				
Gross of Fees	11.29%	11.29%	5.55%	5.55%
<i>Net of All Fees</i>	<u>11.28%</u>	<u>11.28%</u>	<u>5.51%</u>	<u>5.51%</u>
MSCI EAFE Net 100% USD Hedged Index	11.26%	11.26%	5.25%	5.25%
BlackRock Emerging Markets Free Fund B				
Gross of Fees	9.81%	9.81%	-7.44%	-7.44%
<i>Net of All Fees</i>	<u>9.80%</u>	<u>9.80%</u>	<u>-7.49%</u>	<u>-7.49%</u>
MSCI Emerging Markets Net Dividend Index	9.92%	9.92%	-7.41%	-7.41%
Fixed Income				
BlackRock Government/Credit Bond Index Fund B				
Gross of Fees	3.32%	3.32%	4.64%	4.64%
<i>Net of All Fees</i>	<u>3.32%</u>	<u>3.32%</u>	<u>4.62%</u>	<u>4.62%</u>
Bloomberg U.S. Gov't/Credit Index	3.26%	3.26%	4.48%	4.48%
Inflation Sensitive				
Gross of Fees	4.72%	4.72%	4.41%	4.41%
<i>Net of All Fees</i>	<u>4.72%</u>	<u>4.72%</u>	<u>4.39%</u>	<u>4.39%</u>
Inflation Sensitive Benchmark ³	4.66%	4.66%	4.11%	4.11%
BlackRock U.S Treasury Inflation Protected Securities Fund B				
Gross of Fees	3.26%	3.26%	2.94%	2.94%
<i>Net of All Fees</i>	<u>3.26%</u>	<u>3.26%</u>	<u>2.93%</u>	<u>2.93%</u>
Bloomberg Barclays U.S. TIPS Index, Series L	3.19%	3.19%	2.70%	2.70%
BlackRock Developed Real Estate Index Fund B				
Gross of Fees	14.92%	14.92%	14.51%	14.51%
<i>Net of All Fees</i>	<u>14.90%</u>	<u>14.90%</u>	<u>14.42%</u>	<u>14.42%</u>
FTSE EPRA/NAREIT Developed Net Index	14.59%	14.59%	13.27%	13.27%
Private Markets				
Terrace Holdings II ⁴				
Gross of Fees	0.14%	0.14%	10.13%	10.13%
<i>Net of All Fees</i>	<u>0.11%</u>	<u>0.11%</u>	<u>9.89%</u>	<u>9.89%</u>
UW Private Equity Benchmark ⁵	0.11%	0.11%	9.89%	9.89%

* Net of Fee Returns are net of accrued external manager fees (e.g. BlackRock fees.)

* Net of All Returns are net of SWIB internal and external investment management fees, custody & middle office fees, and other pass through fees accrued and paid. Returns are gross of internal UW fees.

* All Funds have an inception date of 04/01/2018.

¹ The "UW Fund Custom Benchmark" is asset weighted using the UW Public Equity Benchmark, the Bloomberg U.S. Gov't/Credit Index, the Inflation Sensitive Benchmark, and the net Terrace Holdings II returns. The Bloomberg U.S. Gov't/Credit Index, and the Bloomberg Barclays U.S. TIPS Index are gross returns. All other benchmark components are net returns (net of fees or tax withholdings on dividends).

² The "UW Public Equity Benchmark" is comprised of 84% MSCI ACW IM Net Index, 11% MSCI EAFE Net 100% USD Hedged Index, and 5% MSCI Emerging Markets Net Index.

³ The "Inflation Sensitive Benchmark" is comprised of 87% Bloomberg Barclays U.S. TIPS Index, Series L and 13% FTSE EPRA/NAREIT Developed Net Index.

⁴ Returns reflect 9/30/2018 values due to valuation timing lag. The net of fees and net of all returns are net of StepStone manager fees.

⁵ The "Private Equity Benchmark" is comprised of the net of fees return of Terrace Holdings II, a Private Equity fund of funds being administered by StepStone. This is a legacy portfolio that is not being actively managed. No new investments will be made, and the funds will eventually self-liquidate. Due to the timing lag in valuations for the underlying funds, the Terrace Holdings II returns will be used as the benchmark. The Private Markets Benchmark change has been approved by both the Investment and Benchmark Committees.

APPENDIX

MSCI ACWI IMI Index Fund B

A common trust fund maintained by BlackRock Institutional Trust Company, N.A. ("BTC") for investment of fiduciary client assets held by BTC in its capacity as trustee

Investment objective and strategy

The MSCI ACWI IMI Index Fund B (the "Fund") is an index fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of a particular index. The Fund invests primarily in U.S. and non-U.S. equity securities with the objective of approximating as closely as practicable the capitalization weighted rates of return of the markets in certain countries for publicly traded equity securities. The primary criterion for selection of investments in the Fund shall be the Benchmark listed herein.

Performance

Total return % as of 03/31/2019 (return percentages are annualized as of period end)

	Q1*	YTD*	1 Year*	3 Year	5 Year	Since Inception
Fund return %	12.37	12.37	2.30	10.96	6.70	8.47
Benchmark return %	12.29	12.29	1.89	10.58	6.33	8.09
Difference	0.08	0.08	0.41	0.38	0.37	0.38

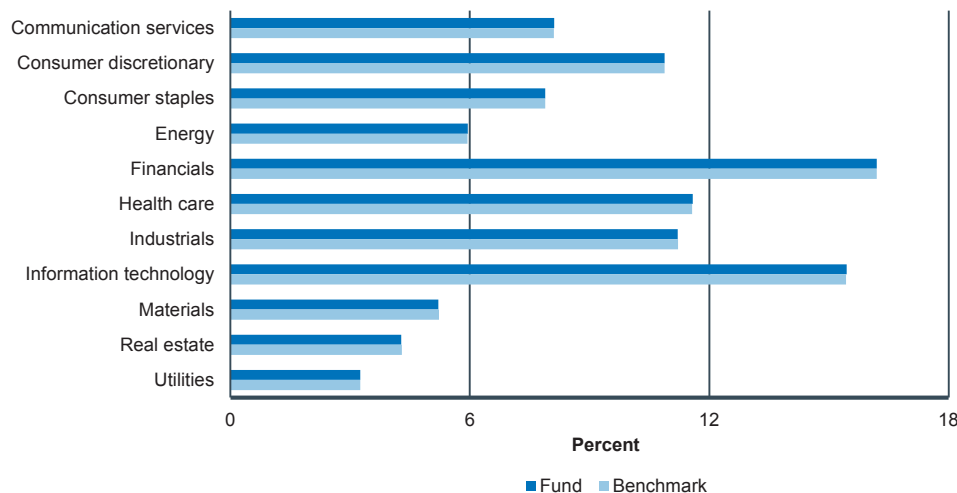
Performance disclosure:

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.**

* Period returns for less than one year are cumulative

Sector allocation

% of Fund or Benchmark as of 03/31/2019



Sources: BlackRock, MSCI Inc.

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100% due to rounding, exclusion of cash, STIF and other statistically immaterial factors.

Investment details (as of 03/31/2019)

Benchmark	MSCI ACWI IMI Net Dividend Return Index
Total fund assets	\$2.94 billion
Fund inception date	03/23/2010

Characteristics (as of 03/31/2019)

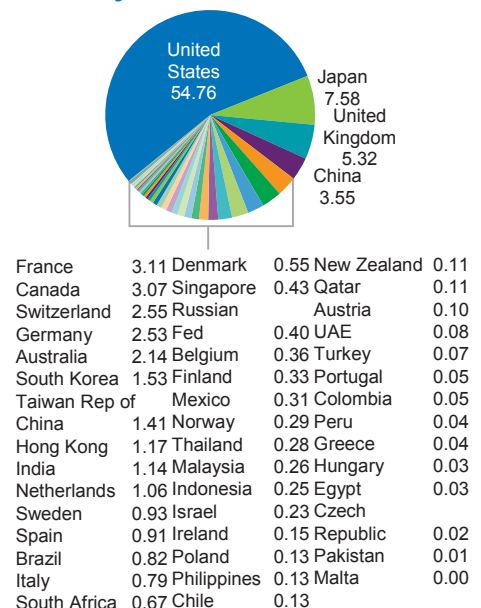
	Fund	Benchmark
Number of securities	8,658	8,670
Dividend yield	2.40	2.40

Top 10 holdings (as of 03/31/2019)

	Country	Fund (% assets)
Apple Inc	United States	1.74
Microsoft Corp	United States	1.66
Amazon Com Inc	United States	1.43
Facebook Class A Inc	United States	0.78
Johnson & Johnson	United States	0.73
Alphabet Inc Class C	United States	0.71
Alphabet Inc Class A	United States	0.68
Exxon Mobil Corp	United States	0.66
JPMorgan Chase & Co	United States	0.65
Nestle Sa	Switzerland	0.57

Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Country allocation (% as of 03/31/2019)



MSCI EAFE Currency Hedged Equity Index Fund B

A common trust fund maintained by BlackRock Institutional Trust Company, N.A. ("BTC") for investment of fiduciary client assets held by BTC in its capacity as trustee

Investment objective and strategy

The MSCI EAFE Currency Hedged Equity Index Fund B (the "Fund") is an index fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of a particular index. The Fund invests primarily in international equity securities whose total return will approximate as closely as practicable the cap weighted total return of the markets in certain countries for equity securities outside the US, while seeking to eliminate variations based solely on the value of the currencies in the Fund as compared to the US dollar. The primary criterion for selection of investments in the Fund is the Benchmark listed herein.

Performance

Total return % as of 03/31/2019 (return percentages are annualized as of period end)

	Q1*	YTD*	1 Year*	Since Inception
Fund return %	11.29	11.29	5.54	10.14
Benchmark return %	11.26	11.26	5.25	10.07
Difference	0.03	0.03	0.29	0.07

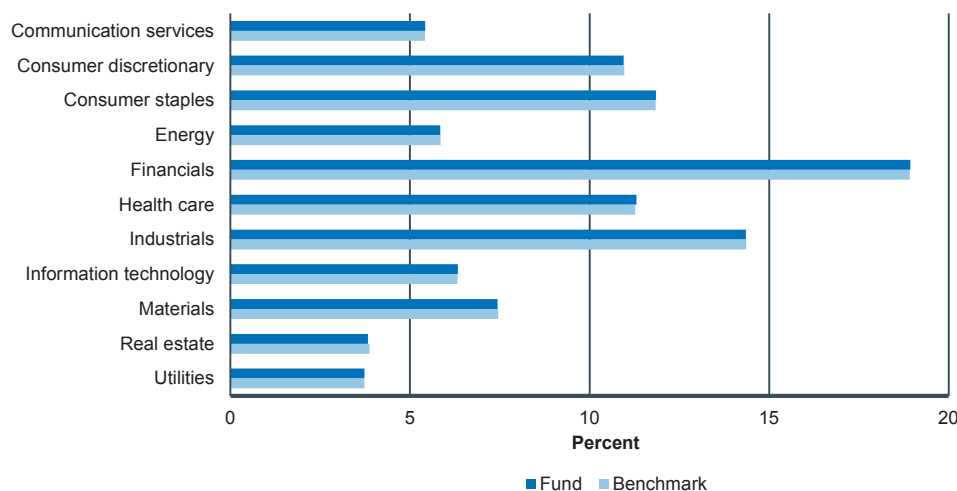
Performance disclosure:

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.**

* Period returns for less than one year are cumulative

Sector allocation

% of Fund or Benchmark as of 03/31/2019



Sources: BlackRock, MSCI Inc.

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100% due to rounding, exclusion of cash, STIF and other statistically immaterial factors.

Investment details (as of 03/31/2019)

Benchmark	MSCI EAFE 100% Hedged to USD Net Dividend Return Index
Total fund assets	\$0.31 billion
Fund inception date	04/29/2016

Characteristics (as of 03/31/2019)

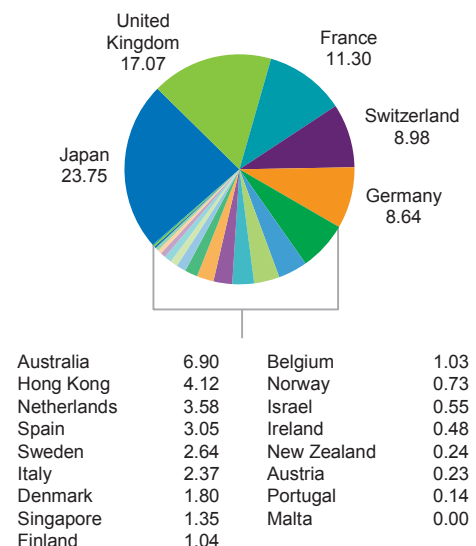
	Fund	Benchmark
Number of securities	925	920
Dividend yield	3.41	3.40

Top 10 holdings (as of 03/31/2019)

	Country	Fund (% assets)
Nestle Sa	Switzerland	2.16
Novartis Ag	Switzerland	1.54
Roche Holding Par Ag	Switzerland	1.43
HSBC Holdings Plc	United Kingdom	1.19
BP Plc	United Kingdom	1.07
Royal Dutch Shell Plc	United Kingdom	1.04
Total Sa	France	0.99
Toyota Motor Corp	Japan	0.97
AIA Group Ltd	Hong Kong	0.88
Royal Dutch Shell Plc Class B	United Kingdom	0.87

Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Country allocation (% as of 03/31/2019)



MSCI Emerging Markets Free Fund B

A common trust fund maintained by BlackRock Institutional Trust Company, N.A. ("BTC") for investment of fiduciary client assets held by BTC in its capacity as trustee

Investment objective and strategy

The MSCI Emerging Markets Free Fund B (the "Fund") is an index fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of a particular index. The Fund invests primarily in international equity securities of issuers in emerging markets, with the objective of providing returns which approximate as closely as practicable the capitalization weighted total rates of return of the markets in certain countries for equity securities traded outside of the United States. The primary criterion for selection of investments in the Fund shall be the Benchmark listed herein.

Performance

Total return % as of 03/31/2019 (return percentages are annualized as of period end)

	Q1*	YTD*	1 Year*	3 Year	5 Year	10 Year	Since Inception
Fund return %	9.87	9.87	-7.34	10.59	3.61	8.81	7.60
Benchmark return %	9.92	9.92	-7.41	10.68	3.68	8.94	7.68
Difference	-0.05	-0.05	0.07	-0.09	-0.07	-0.13	-0.08

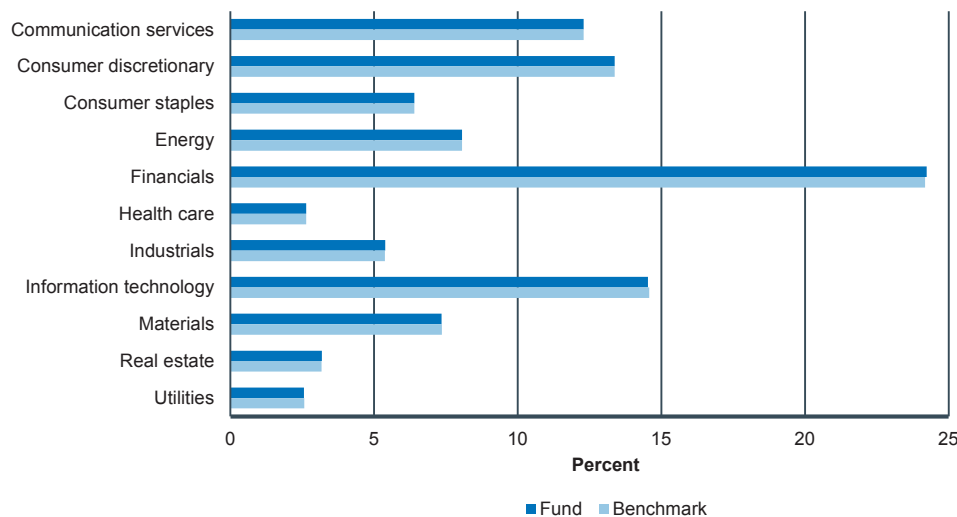
Performance disclosure:

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.**

* Period returns for less than one year are cumulative

Sector allocation

% of Fund or Benchmark as of 03/31/2019



Sources: BlackRock, MSCI Inc.

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100% due to rounding, exclusion of cash, STIF and other statistically immaterial factors.

Investment details (as of 03/31/2019)

Benchmark	MSCI Emerging Markets Net Dividend Return Index
Total fund assets	\$8.90 billion
Fund inception date	07/31/2000

Characteristics (as of 03/31/2019)

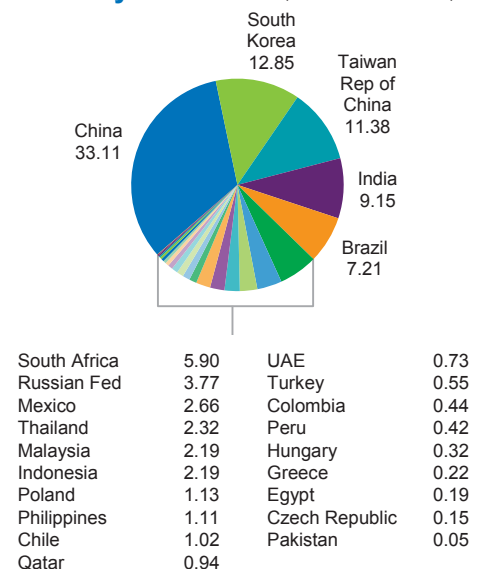
	Fund	Benchmark
Number of securities	1,083	1,137
Dividend yield	2.58	2.57

Top 10 holdings (as of 03/31/2019)

	Country	Fund (% assets)
Tencent Holdings Ltd	China	4.97
Alibaba Group Holding Adr Represen	China	4.47
Taiwan Semiconductor Manufacturing	Taiwan Rep of China	3.71
Samsung Electronics Ltd	South Korea	3.50
Naspers Ltd	South Africa	1.92
China Construction Bank Corp H	China	1.56
China Mobile Ltd	China	1.18
Ping An Insurance (Group) Co of Ch	China	1.10
Reliance Industries Ltd	India	1.06
Industrial and Commercial Bank of	China	0.96

Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Country allocation (% as of 03/31/2019)



Government/Credit Bond Index Fund B

A common trust fund maintained by BlackRock Institutional Trust Company, N.A. ("BTC") for investment of fiduciary client assets held by BTC in its capacity as trustee

Investment objective and strategy

The Government/Credit Bond Index Fund B (the "Fund") is an index fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of a particular index. The Fund shall be invested and reinvested primarily in a portfolio of debt securities with the objective of closely approximating the total rate of return of the Benchmark listed herein.

Performance

Total return % as of 03/31/2019 (Return percentages are annualized as of period end. Returns for periods less than one year are cumulative.)

	Month*	Q1*	YTD*	1 Year*	3 Year	5 Year	10 Year	Since Inception
Fund return %	2.14	3.31	3.31	4.59	2.24	2.89	4.03	5.82
Benchmark return %	2.12	3.26	3.26	4.48	2.12	2.78	3.92	5.78
Difference	0.02	0.05	0.05	0.11	0.12	0.11	0.11	0.04

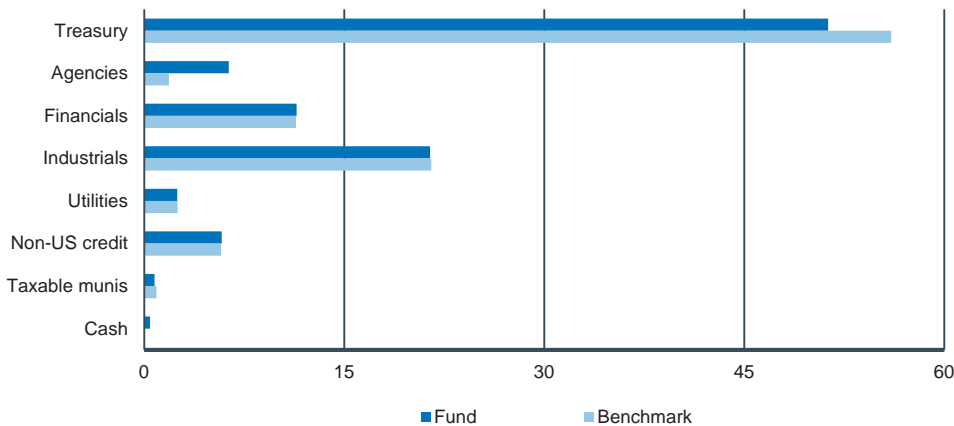
Performance disclosure:

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.**

* Period returns for less than one year are cumulative

Sector allocation

% of Fund or Benchmark as of 03/31/2019



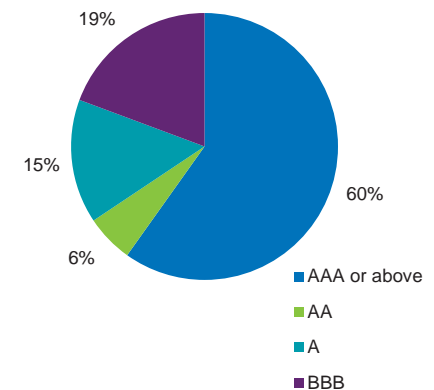
Investment details (as of 03/31/2019)

Benchmark	Bloomberg Barclays U.S. Government/Credit Bond Index
Total fund assets	\$0.25 billion
Fund inception date	03/31/1991

Characteristics (as of 03/31/2019)

	Fund	Benchmark
Number of securities	5,643	7,123
Market value (B)	\$0.25	\$15,082.03
Coupon (%)	3.17	3.06
Yield to maturity (YTM) (%)	2.88	2.88
Weighted avg life (yrs)	8.85	8.90
Effective duration (yrs)	6.43	6.46
Spread duration (yrs)	3.21	3.12
Option adjusted spread (bps)	47	46
Convexity (yrs)	0.88	0.88

Quality breakdown (as of 03/31/2019)



The credit quality of a particular security or group of securities may be based upon a rating from a nationally recognized statistical rating organization or, if unrated by a ratings organization, assigned an internal rating by BlackRock, neither of which ensures the stability or safety of an overall portfolio.

Sources: BlackRock, Bloomberg Finance L.P.

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100% due to rounding, exclusion of cash, STIF and other statistically immaterial factors.

U.S. Treasury Inflation Protected Securities Fund B

A common trust fund maintained by BlackRock Institutional Trust Company, N.A. ("BTC") for investment of fiduciary client assets held by BTC in its capacity as trustee

Investment objective and strategy

The U.S. Treasury Inflation Protected Securities Fund B (the "Fund") is an index fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of a particular index. The Fund shall be invested and reinvested primarily in a portfolio of debt securities with the objective of closely approximating the total rate of return for all outstanding U.S. Treasury Inflation Protected Securities with a maturity of one year or greater, as defined by the Benchmark listed herein.

Performance

Total return % as of 03/31/2019 (Return percentages are annualized as of period end. Returns for periods less than one year are cumulative.)

	Month*	Q1*	YTD*	1 Year*	3 Year	5 Year	10 Year	Since Inception
Fund return %	1.85	3.24	3.24	2.85	1.88	2.09	3.52	4.92
Benchmark return %	1.84	3.19	3.19	2.70	1.70	1.94	3.41	4.84
Difference	0.01	0.05	0.05	0.15	0.18	0.15	0.11	0.08

Performance disclosure:

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.**

* Period returns for less than one year are cumulative

Investment details (as of 03/31/2019)

Benchmark	Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)
Total fund assets	\$5.99 billion
Fund inception date	03/05/2002

Characteristics (as of 03/31/2019)

	Fund	Benchmark
Number of securities	40	40
Market value (B)	\$5.99	\$1,224.13
Coupon (%)	0.73	0.76
Yield to maturity (YTM) (%)	2.36	2.36
Weighted avg life (yrs)	8.06	8.08
Effective duration (yrs)	7.41	7.41
Convexity (yrs)	1.05	1.05

Sources: BlackRock, Bloomberg Finance L.P.

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100% due to rounding, exclusion of cash, STIF and other statistically immaterial factors.

Developed Real Estate Index Fund B

A common trust fund maintained by BlackRock Institutional Trust Company, N.A. ("BTC") for investment of fiduciary client assets held by BTC in its capacity as trustee

Investment objective and strategy

The Developed Real Estate Index Fund B (the "Fund") is an index fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of a particular index. The Fund invests in US and non-US equity securities whose total return will approximate as closely as practicable the capitalization weighted total return net of dividend withholding taxes of the Benchmark listed herein. The investment universe consists of publicly traded real estate equity securities of issuers whose principal business is the ownership and operation of real estate as defined by the Benchmark listed herein.

Performance

Total return % as of 03/31/2019 (return percentages are annualized as of period end)

	Q1*	YTD*	1 Year*	3 Year	Since Inception
Fund return %	14.92	14.92	14.51	6.57	6.04
Benchmark return %	14.59	14.59	13.27	5.68	5.23
Difference	0.33	0.33	1.24	0.89	0.81

Performance disclosure:

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.**

* Period returns for less than one year are cumulative

Sources: BlackRock, FTSE International Ltd

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100% due to rounding, exclusion of cash, STIF and other statistically immaterial factors.

Investment details (as of 03/31/2019)

Benchmark	FTSE EPRA/NAREIT Developed Index
Total fund assets	\$0.37 billion
Fund inception date	11/18/2014

Characteristics (as of 03/31/2019)

	Fund	Benchmark
Number of securities	317	333
Dividend yield	3.78	3.78

Top 10 holdings (as of 03/31/2019)

	Country	Fund (% assets)
Simon Property Group REIT Inc	United States	3.57
Prologis REIT Inc	United States	2.88
Public Storage REIT	United States	2.06
Welltower Inc	United States	1.84
Avalonbay Communities REIT Inc	United States	1.76
Vonovia Se	Germany	1.73
Equity Residential REIT	United States	1.72
Link Real Estate Investment Trust	Hong Kong	1.59
Digital Realty Trust REIT Inc	United States	1.56
Sun Hung Kai Properties Ltd	Hong Kong	1.55

Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Country allocation (% as of 03/31/2019)

