



University of Wisconsin System Trust Funds



Quarterly Investment Review

June 30, 2019

UW System Trust Funds: Overview and Investment Summary

Quarter Ended June 30, 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 6/30/2019

Total Public Market Assets ¹	\$386,985,686
Total Legacy Private Market Assets ¹	\$72,368,222
Other Cash and Accruals ²	\$1,128
Total UW System Long Term Fund ³	\$459,355,036

Income Cash Fund (State Investment Fund 'SIF') ⁴ \$137,412,000

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 6/30/2019

	Apr-19	May-19	Jun-19	3 Months
UW System Long Term Fund (Gross of Fees)	1.61%	-2.22%	4.37%	3.70%
UW System Long Term Fund (Net of All Fees) ⁵	1.60%	-2.23%	4.36%	3.67%
UW Fund Custom Benchmark	1.60%	-2.24%	4.35%	3.65%

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 6/30/2019

UW System Long Term Fund - Public Markets ⁶	\$ (5,747,076)
UW System Long Term Fund - Private Markets ⁷	\$ (415,902)
UW System Long Term Fund Contributions for Fees	\$ 43,939
UW System Long Term Fund Fees Expensed ⁸	\$ (132,897)

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

UW System Trust Funds: Market Discussion & Commentary

Quarter Ended June 30, 2019

Performance and Market Discussion

For the quarter ended June 30, the UW's investment portfolio returned 3.70% compared to the fund's benchmark return of 3.65%.

With U.S. economic data remaining lackluster, the Fed Open Market Committee (FOMC) held their benchmark interest rate steady in the second calendar quarter as widely anticipated but set the stage for future near-term cuts to interest rates. The Committee members were divided on the timing and extent of any potential cuts, but the majority expected at least one rate cut later in 2019 or in 2020. The median expectation for 2020 rates stood at 2.125%, compared to the 2.4% (indicated range of 2.25%-2.50%) in effect at quarter end. Fed Chair Powell reiterated the Fed's overarching goal to sustain the economic expansion and noted that any policy adjustments to provide more accommodation would consider other developments, including trade tensions weighing on the committee's economic outlook or a shortfall of inflation from the target rate.

The outcome of the April/May FOMC meeting was interpreted as very dovish and markets have been increasingly pricing in rate cuts for 2019 and 2020. As of the end of June, the Fed Funds futures market was projecting a 100% probability of a rate cut at the July FOMC meeting. Indeed, a quarter point cut, the first rate cut in over 10 years, did occur at the end of July.

While the economic expansion in the U.S. may become the longest on record, there are signs of deceleration. Manufacturing data has continued to deteriorate, and activity indicators have slowed significantly as trade tensions piled on top of an inventory correction. Although still in expansionary territory, the ISM Manufacturing index decelerated throughout the quarter. While goods-producing sectors slowed as expected, service sectors also experienced an unexpected slowdown. Non-farm payroll employment weakened in May as the unemployment rate held steady at 3.6% at quarter's end and average hourly earnings showed softness.

Equity Performance

Overall, UW System's combined equity portfolio returned 3.32% during the quarter, vs the combined equity benchmark return of 3.25%.

Global equities as measured by the MSCI ACWI Index experienced an increase of 3.37% during the quarter.

The U.S. broad-market Russell 3000 Index increased 4.10% in the second quarter of 2019.

Trade tensions were a source of intra-quarter volatility. In May, the U.S. equity markets were down approximately 6% as President Trump threatened to increase tariffs and protectionism against both China and Mexico. However, these announcements did not materialize, and sentiment eased heading into the G-20 meeting at the month's end, leading to a 7% market recovery in June.

The strongest sector returns in the Russell 3000 Index came from financials (+7.7%), information technology (+5.7%), and materials (+4.7%). The weakest sectors were real estate (+1.7%), health care

(+1.5%), and energy (-3.9%), which was the only negative returning sector in the quarter.

The MSCI World ex-U.S. Index returned 3.79% during the quarter.

Most major European equity markets were solid. Although low on an absolute basis, eurozone GDP growth increased slightly and sentiment in the region was also supported by accommodative monetary policy, increased expectations of further stimulus, and higher than normal capacity utilization rates. Notable outperformers within the eurozone were Germany (+8.1%) and France (+7.4%). In interest rates, the 10yr German bund yield declined to -0.3% in the quarter, the lowest rate on record.

In the Asia Pacific region, Australia (+7.5%) outperformed as a decline in economic growth was offset by a June rate cut. Japan (+1%) underperformed the benchmark but nonetheless had a positive return as investors balanced a strengthening yen, trade tensions, and declining export volumes.

Emerging markets, as represented by the MSCI EM Index, increased 0.61% for the quarter. Though a weaker U.S. dollar was broadly supportive, there was some volatility in the second calendar quarter of 2019 as an unanticipated escalation in global trade tensions contributed to uncertainty.

Within EM, weakness was particularly evident in the Asia Pacific component of the index, which experienced a 1.3% decline. In China, the market fell 3.7% as the U.S. proposal of an increase in the tariff rate from 10% to 25% on \$200 billion in Chinese goods, among other threats, came as a downside surprise. The China component did recover from a 14% decline in May after the trade tensions were alleviated ahead of the G-20 meeting in June. Chinese fiscal and monetary policy stimulus was also supportive. Elsewhere in Asia, South Korea also underperformed (-1.2%) amid declines in export activity. In North America, the U.S. administration targeted Mexico by threatening to impose a 5% tariff on all Mexican imports, increasing to 25% over a four-month period. This pushed the Mexican shares down 7% in May. However, the U.S. later withdrew this threat after finding that Mexico had begun to make progress on stopping the flow of migrants into the U.S., and the Mexican component of the MSCI EM Index rallied, ending the quarter up 1%. Eastern Europe gained 11.6% in the quarter, making it the best performing EM region. Specifically, Russia (+17%) showed strong outperformance. This was attributed to relatively stable economic conditions, stable crude prices ahead of the early July OPEC+ meeting and growing investor confidence that the U.S. government would not take further actions that would impact Russia's economy.

Fixed Income Performance

UW System's Government/Credit index fund returned 3.56% for the quarter. The benchmark Bloomberg Barclays Government/Credit Index posted a return of 3.53%, its strongest quarterly return in almost eight years.

Government bonds returned 2.99% for the quarter, as 10-year yields continued to fall, reflecting concerns over trade tensions and slowing economic growth, as well as anticipated Fed rate cuts. The yield on the 10-year U.S. Treasury dropped from 2.4% at the end of the first quarter to 2.01% at the end of the second quarter. With 3-month Treasury bills yielding 2.09% at the end of June, the yield curve is now inverted.

Corporate bonds returned 4.27% in the quarter. Despite concerns about slowing global growth, credit markets have been supported by generally healthy corporate earnings, accommodative monetary policies, and investors' reach for yield.

Inflation Sensitive Performance

The Bloomberg Barclays US TIPS Index returned 2.86% the quarter ended June 30. The UW System's TIPS portfolio outperformed slightly, returning 2.90%.

Treasuries rallied across the curve as the 10-year yield ended the quarter 40 bps lower at 2.01%, its lowest level since November 2016. In inflation markets, the 10-year breakeven rate declined by 17 bps to 1.70%. Although headline CPI inflation initially rose in the quarter, reaching a five-month high, CPI reversed trend and fell to 1.8% year-on-year in May. Core CPI was range-bound over the quarter. The March inflation print was soft as clothing prices fell sharply, down 1.9%, the worst month-on-month apparel prices print since 1949. The decline reflected a payback following recent strength, and effects of the methodology change introduced by the Bureau of Labor Statistics. Core CPI fell to 2% year-on-year in May. Used vehicles prices led the large decline and shelter prices moderated after three months of continued strength.

The FTSE EPRA/NAREIT Developed Index returned -0.07% in the quarter, while the UW System's REIT portfolio gained 0.08%, outperforming the benchmark by 15 basis points.

In the U.S., REITs gained 1.82% during the quarter, with more growth orientated exposures (i.e. technology) outperforming, as net risk appetite increased. In May, the market was weak as China-U.S. tensions flared up, but that eased in June. Fed commentary also supported a dovish tilt and helped reinforce lower interest rate expectations, which increased the demand for higher yielding sectors such as REITs. Additionally, real estate specific macro indicators remained relatively stable. The Case-Shiller 20 City Housing Price index decelerated, but remained in positive territory, and existing home sales and housing starts remained around 5-year averages. In Europe, headwinds from politics and retail distress, underscored by a sluggish economic narrative, are unlikely to jolt the performance of real estate companies out of the current rut. Good news may trigger a bounce and bad news is largely discounted, otherwise, growth relies on individual company value-creation initiatives.

Legacy Private Markets Performance

The legacy private markets funds, consisting of Adams Street Partners, JP Morgan, and TRG funds, had a strong quarter, returning 6.49%.

Asset Allocation

Public Markets allocations ended the quarter with 56.3% in Equities, versus a target of 57%; 20.4% in Fixed Income, versus a target of 20%; and 23.3% in Inflation Sensitive assets, versus a target of 23%. The UW System withdrew \$6,206,917.44 from the investment funds in April, which was sourced from both the BlackRock funds (\$5,791,015.44), and from StepStone (\$415,902), where cash had accumulated due to distributions from the legacy private market funds being in excess of capital calls.

UW System Trust Funds: Market Overview

Quarter Ended June 30, 2019

Economic Indicators

	Quarter Ending	YTD	1 Year	3 Year	5 Year	10 Year
GDP Growth Rate (current dollars) ¹	1.13%	2.11%	4.04%	4.41%	4.02%	3.99%
CPI Growth Rate	0.84%	2.03%	1.73%	2.08%	1.47%	1.74%

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

¹ The GDP growth rate is not adjusted for inflation.

Market Indicators

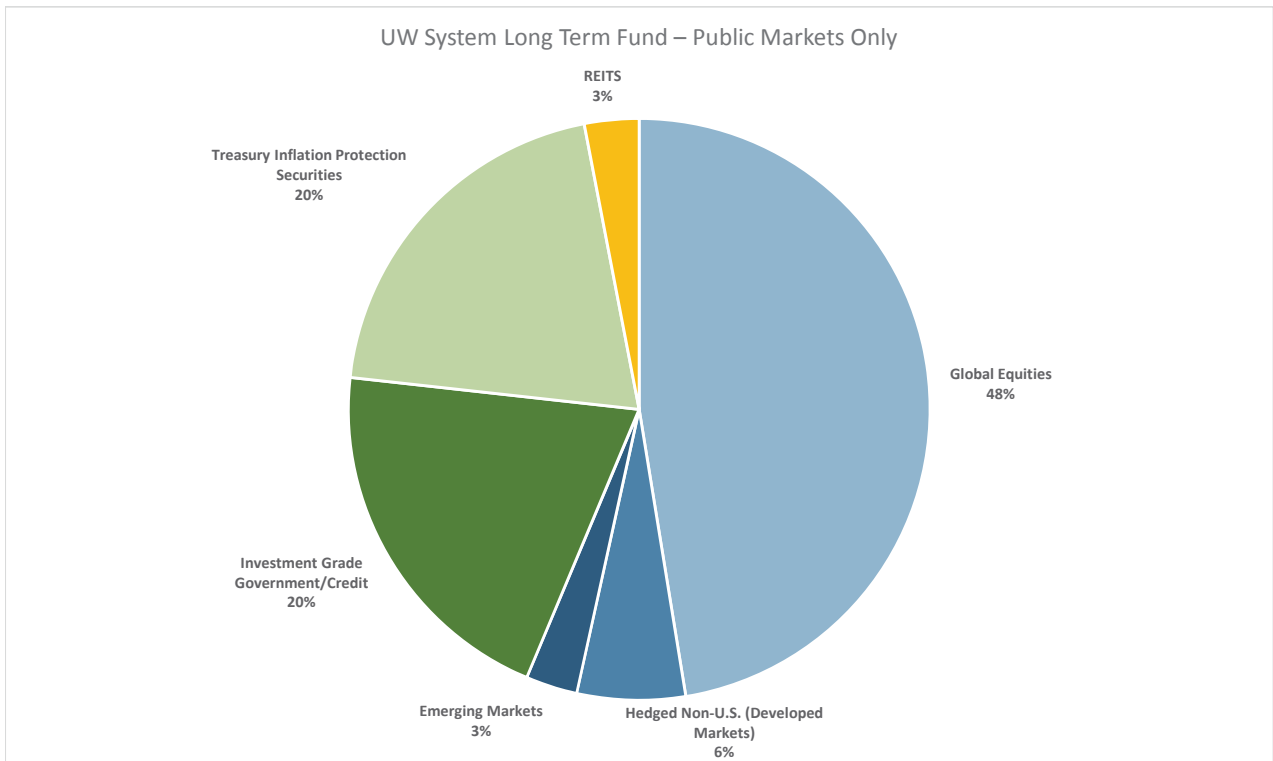
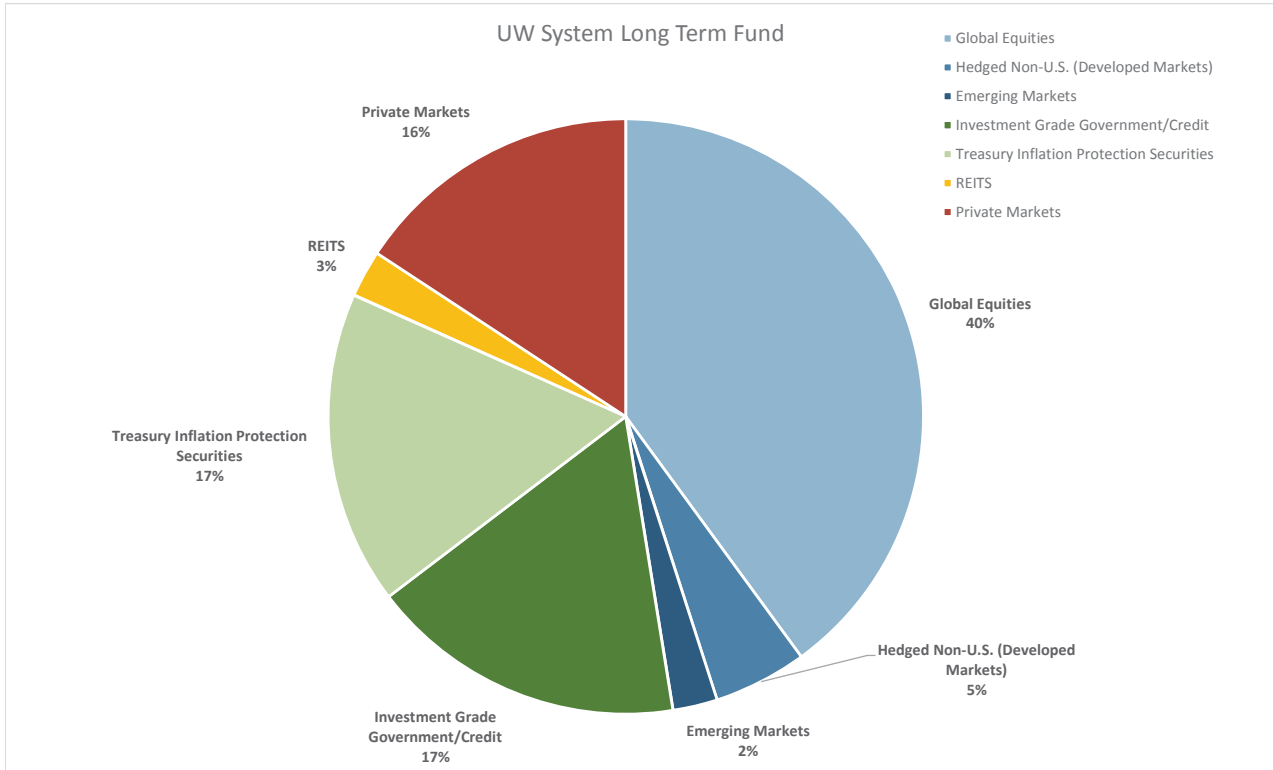
Investment Performance - Periods Ended June 30, 2019

	Quarter Ending	YTD	1 Year	3 Year	5 Year	10 Year
U.S. Large Cap Stocks (S&P 500 Index)	4.30%	18.54%	10.42%	14.19%	10.71%	14.70%
U.S. Small Cap Stocks (Russell 2000 Index)	2.10%	16.98%	-3.31%	12.30%	7.06%	13.45%
U.S. Broad Market Stocks (Russell 3000 Index)	4.10%	18.71%	8.98%	14.02%	10.19%	14.67%
International Stocks (MSCI World ex US Index)	3.79%	14.64%	1.29%	9.01%	2.04%	6.75%
International Stocks - Local Currency (MSCI World ex US Index)	2.78%	13.86%	2.21%	9.67%	5.68%	8.16%
Emerging Markets Stocks (MSCI EM Net Index)	0.61%	10.58%	1.21%	10.66%	2.49%	5.81%
Global Stocks (MSCI ACWI Net Index)	3.37%	16.07%	4.56%	11.42%	6.03%	10.32%
Government/Credit (Bloomberg Barclays Capital Gov/Credit)	3.53%	6.90%	8.52%	2.41%	3.11%	4.09%
U.S. TIPS (Bloomberg Barclays U.S TIPS Index)	2.86%	6.15%	4.84%	2.08%	1.76%	3.64%
Real Estate (FTSE EPRA/NAREIT Developed Net Index)	-0.07%	14.51%	7.68%	4.46%	4.85%	10.57%

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

UW System Trust Funds: Asset Allocations

Quarter Ended June 30, 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 June 30, 2019

Asset Class/Strategy	Current Allocation (\$MM)	Current Allocation (%)	Target Allocation (%)	Min./Max. Guidelines
Public Equities¹				
Global Equities	\$183,549,420	47.4%	48.0%	44-52%
Hedged Non-U.S. Equities (Developed Markets)	\$23,309,329	6.0%	6.0%	5-7%
Emerging Markets Equities	<u>\$11,101,501</u>	<u>2.9%</u>	<u>3.0%</u>	<u>2-4%</u>
	\$217,960,250	56.3%	57.0%	51-63%
Fixed Income				
Investment Grade Government/Credit	<u>\$79,050,953</u>	<u>20.4%</u>	<u>20.0%</u>	<u>18-22%</u>
	\$79,050,953	20.4%	20.0%	18-22%
Inflation Sensitive				
TIPS (Treasury Inflation Protection Securities)	\$78,252,686	20.2%	20.0%	18-22%
REITS (Real Estate Investment Trusts)	<u>\$11,721,797</u>	<u>3.0%</u>	<u>3.0%</u>	<u>2-4%</u>
	\$89,974,483	23.3%	23.0%	20-26%
Total Public Markets	\$386,985,686	100%	100%	-
Private Markets²	<u>\$72,368,222</u>	-	N/A	N/A
Terrace Holdings II	\$72,368,222	-		
Other Cash and Accruals³	\$1,128			
Long Term Fund Total Assets⁴	\$459,355,036			

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 June 30, 2019

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

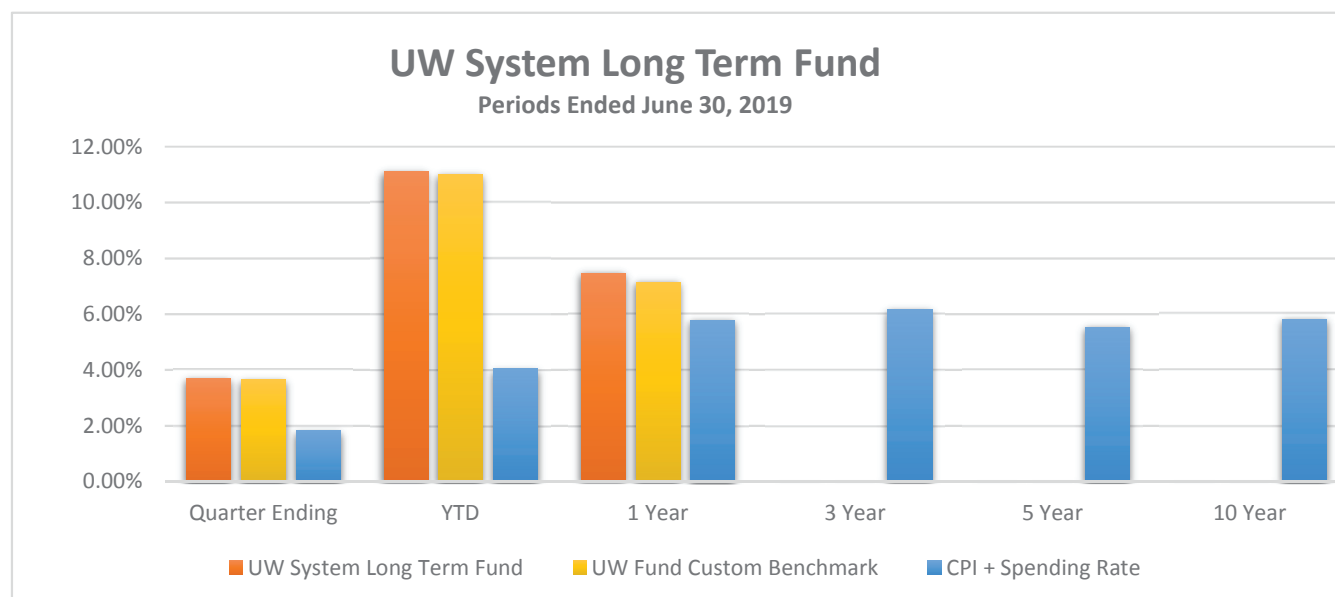
Fund and Benchmark Performance Data						
<i>Investment Performance: Periods Ended June 30, 2019</i>						
	Quarter Ending	YTD	1 Year	3 Year	5 Year	10 Year
UW System Long Term Fund¹	3.70%	11.09%	7.47%	-	-	-
UW Fund Custom Benchmark ²	3.65%	10.99%	7.15%	-	-	-
Consumer Price Index (CPI)	0.84%	2.03%	1.73%	2.08%	1.47%	1.74%
CPI + Spending Rate ³	1.83%	4.05%	5.79%	6.15%	5.52%	5.81%
Income Cash Fund (SIF)⁴	0.61%	1.23%	2.33%	1.40%	0.91%	0.54%

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 June 30, 2019

Asset Class/Strategy	Quarter Ending	YTD	1 Year	Since Inception
UW System Long Term Fund				
Gross of Fees	3.70%	11.09%	7.47%	6.44%
<i>Net of Fees</i>	3.69%	11.07%	7.41%	6.38%
<i>Net of All Fees</i>	<u>3.67%</u>	<u>11.04%</u>	<u>7.34%</u>	<u>6.31%</u>
UW Fund Custom Benchmark ¹	3.65%	10.99%	7.15%	6.10%
Public Equities				
Gross of Fees	3.32%	15.84%	4.80%	4.46%
<i>Net of All Fees</i>	<u>3.31%</u>	<u>15.83%</u>	<u>4.77%</u>	<u>4.44%</u>
UW Public Equity Benchmark ²	3.25%	15.70%	4.45%	4.06%
BlackRock MSCI ACWI Index Fund B				
Gross of Fees	3.53%	16.35%	5.04%	4.75%
<i>Net of All Fees</i>	<u>3.53%</u>	<u>16.33%</u>	<u>5.02%</u>	<u>4.73%</u>
MSCI ACW IM Net Index	3.37%	16.07%	4.56%	4.23%
BlackRock EAFE Currency Hedged Equity Index Fund B				
Gross of Fees	3.54%	15.23%	4.93%	7.36%
<i>Net of All Fees</i>	<u>3.53%</u>	<u>15.21%</u>	<u>4.89%</u>	<u>7.32%</u>
MSCI EAFE Net 100% USD Hedged Index	3.50%	15.16%	4.81%	7.09%
BlackRock Emerging Markets Free Fund B				
Gross of Fees	0.66%	10.53%	1.09%	-5.50%
<i>Net of All Fees</i>	<u>0.64%</u>	<u>10.50%</u>	<u>1.03%</u>	<u>-5.55%</u>
MSCI Emerging Markets Net Dividend Index	0.61%	10.58%	1.21%	-5.52%
Fixed Income				
BlackRock Government/Credit Bond Index Fund B				
Gross of Fees	3.56%	7.00%	8.68%	6.64%
<i>Net of All Fees</i>	<u>3.56%</u>	<u>6.99%</u>	<u>8.66%</u>	<u>6.62%</u>
Bloomberg U.S. Gov't/Credit Index	3.53%	6.90%	8.52%	6.48%
Inflation Sensitive				
Gross of Fees	2.52%	7.36%	5.54%	5.60%
<i>Net of All Fees</i>	<u>2.52%</u>	<u>7.35%</u>	<u>5.51%</u>	<u>5.58%</u>
Inflation Sensitive Benchmark ³	2.48%	7.26%	5.29%	5.32%
BlackRock U.S Treasury Inflation Protected Securities Fund B				
Gross of Fees	2.90%	6.26%	5.04%	4.71%
<i>Net of All Fees</i>	<u>2.90%</u>	<u>6.26%</u>	<u>5.03%</u>	<u>4.70%</u>
Bloomberg Barclays U.S. TIPS Index, Series L	2.86%	6.15%	4.84%	4.49%
BlackRock Developed Real Estate Index Fund B				
Gross of Fees	0.08%	15.00%	8.76%	11.52%
<i>Net of All Fees</i>	<u>0.06%</u>	<u>14.96%</u>	<u>8.68%</u>	<u>11.43%</u>
FTSE EPRA/NAREIT Developed Net Index	-0.07%	14.51%	7.68%	10.42%
Private Markets				
Terrace Holdings II ⁴				
Gross of Fees	6.49%	6.64%	17.28%	13.60%
<i>Net of All Fees</i>	<u>6.42%</u>	<u>6.54%</u>	<u>16.99%</u>	<u>13.34%</u>
UW Private Equity Benchmark ⁵	6.42%	6.54%	16.99%	13.34%

* 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 06/30/2019 (return percentages are annualized as of period end)

	Q2*	YTD*	1 Year*	3 Year	5 Year	Since Inception
Fund return %	3.46	16.26	4.91	11.79	6.40	8.63
Benchmark return %	3.37	16.07	4.56	11.42	6.03	8.25
Difference	0.09	0.19	0.35	0.37	0.37	0.38

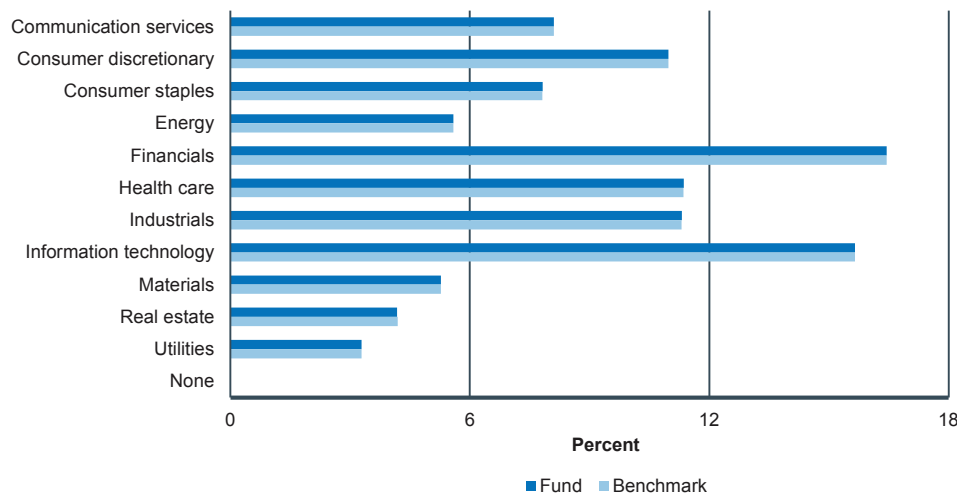
Performance disclosure:

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 06/30/2019



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 06/30/2019)

Benchmark	MSCI ACWI IMI Net Dividend Return Index
Total fund assets	\$3.21 billion
Fund inception date	03/23/2010

Characteristics (as of 06/30/2019)

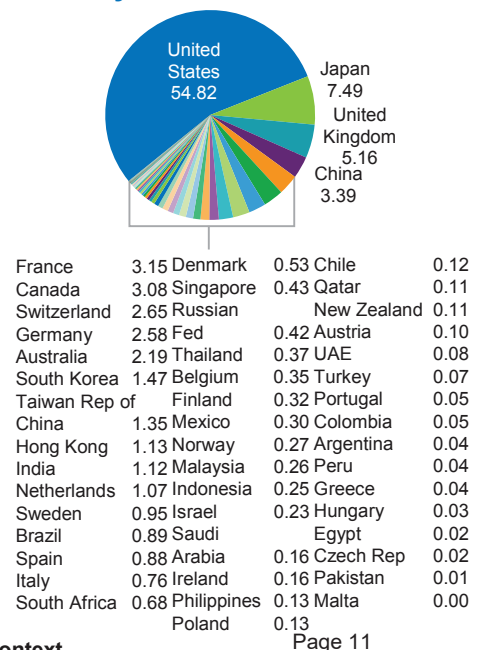
	Fund	Benchmark
Number of securities	8,879	8,861
Dividend yield	2.37	2.37

Top 10 holdings (as of 06/30/2019)

	Country	Fund (% assets)
Microsoft Corp	United States	1.82
Apple Inc	United States	1.74
Amazon Com Inc	United States	1.48
Facebook Class A Inc	United States	0.86
Johnson & Johnson	United States	0.69
JPMorgan Chase & Co	United States	0.68
Alphabet Inc Class C	United States	0.63
Exxon Mobil Corp	United States	0.61
Alphabet Inc Class A	United States	0.61
Nestle Sa	Switzerland	0.60

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

Country allocation (% as of 06/30/2019)



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 06/30/2019 (return percentages are annualized as of period end)

	Q2*	YTD*	1 Year*	3 Year	Since Inception
Fund return %	3.53	15.22	4.91	11.87	10.51
Benchmark return %	3.50	15.16	4.81	11.79	10.44
Difference	0.03	0.06	0.10	0.08	0.07

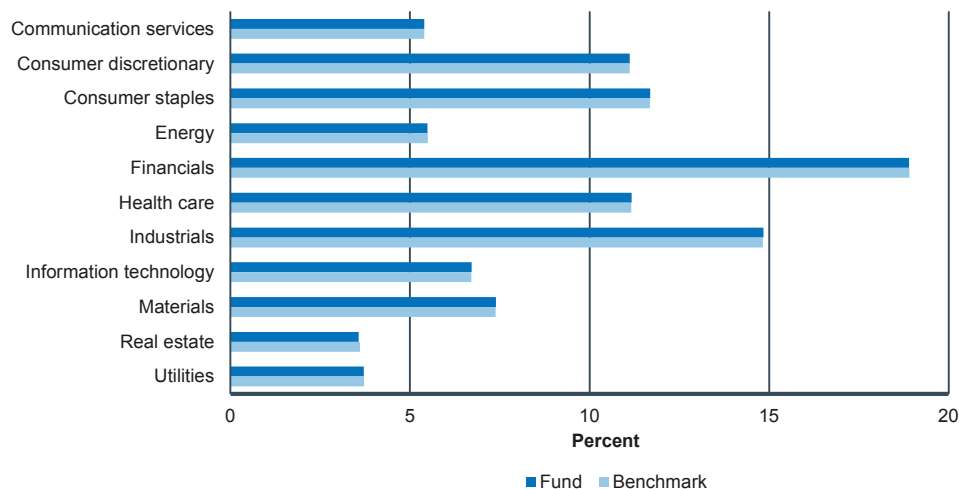
Performance disclosure:

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 06/30/2019



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 06/30/2019)

Benchmark	MSCI EAFE 100% Hedged to USD Net Dividend Return Index
Total fund assets	\$0.28 billion
Fund inception date	04/29/2016

Characteristics (as of 06/30/2019)

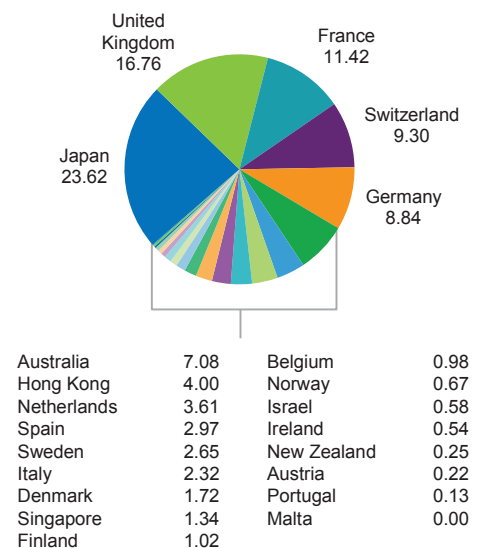
	Fund	Benchmark
Number of securities	927	923
Dividend yield	3.36	3.36

Top 10 holdings (as of 06/30/2019)

	Country	Fund (% assets)
Nestle Sa	Switzerland	2.65
Novartis Ag	Switzerland	1.66
Roche Holding Par Ag	Switzerland	1.65
HSBC Holdings Plc	United Kingdom	1.40
Royal Dutch Shell Plc	United Kingdom	1.21
Toyota Motor Corp	Japan	1.18
BP Plc	United Kingdom	1.18
SAP	Germany	1.13
Total Sa	France	1.11
Alia Group Ltd	Hong Kong	1.09

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

Country allocation (% as of 06/30/2019)



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 06/30/2019 (return percentages are annualized as of period end)

	Q2*	YTD*	1 Year*	3 Year	5 Year	10 Year	Since Inception
Fund return %	0.58	10.50	1.12	10.56	2.40	5.68	7.53
Benchmark return %	0.61	10.58	1.21	10.66	2.49	5.81	7.61
Difference	-0.03	-0.08	-0.09	-0.10	-0.09	-0.13	-0.08

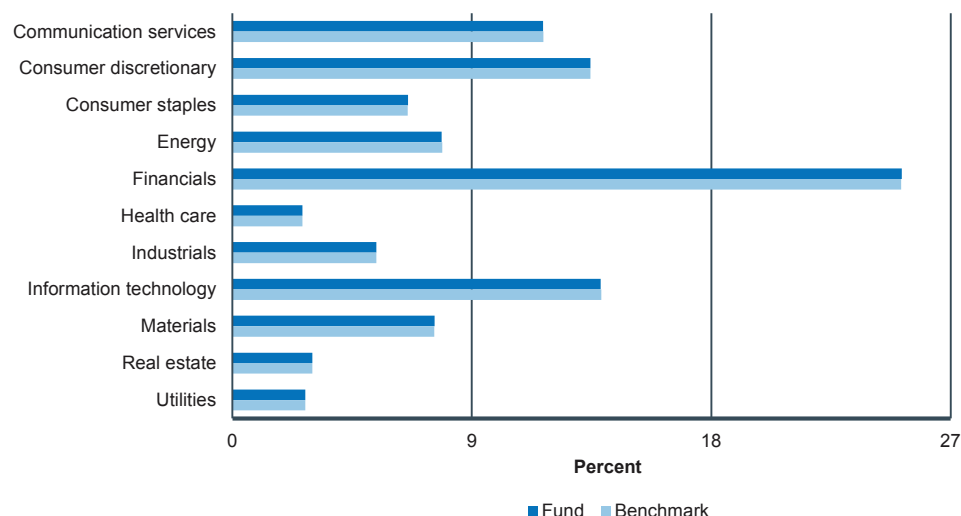
Performance disclosure:

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 06/30/2019



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 06/30/2019)

Benchmark	MSCI Emerging Markets Net Dividend Return Index
Total fund assets	\$8.59 billion
Fund inception date	07/31/2000

Characteristics (as of 06/30/2019)

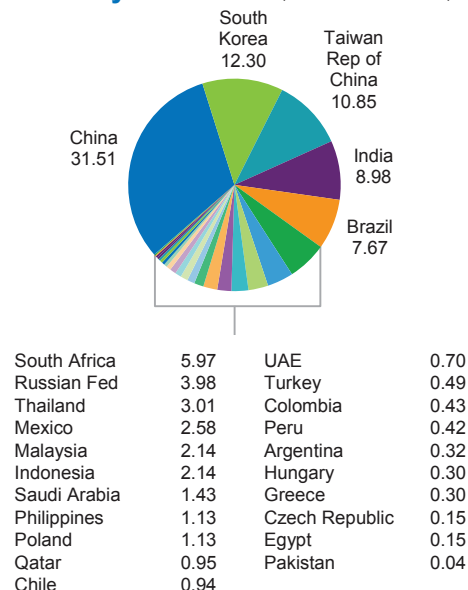
	Fund	Benchmark
Number of securities	1,183	1,194
Dividend yield	2.73	2.73

Top 10 holdings (as of 06/30/2019)

	Country	Fund (% assets)
Tencent Holdings Ltd	China	4.62
Alibaba Group Holding Adr Represen	China	4.33
Samsung Electronics Ltd	South Korea	3.47
Taiwan Semiconductor Manufacturing	Taiwan Rep of China	3.41
Naspers Ltd	South Africa	1.92
China Construction Bank Corp H	China	1.48
Ping An Insurance (Group) Co Of Ch	China	1.20
China Mobile Ltd	China	1.00
Housing Development Finance Corpor	India	0.93
Reliance Industries Ltd	India	0.93

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

Country allocation (% as of 06/30/2019)



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 06/30/2019 (Return percentages are annualized as of period end. Returns for periods less than one year are cumulative.)

	Month*	Q2*	YTD*	1 Year*	3 Year	5 Year	10 Year	Since Inception
Fund return %	1.50	3.55	6.98	8.63	2.52	3.21	4.19	5.89
Benchmark return %	1.48	3.53	6.90	8.52	2.41	3.11	4.09	5.86
Difference	0.02	0.02	0.08	0.11	0.11	0.10	0.10	0.03

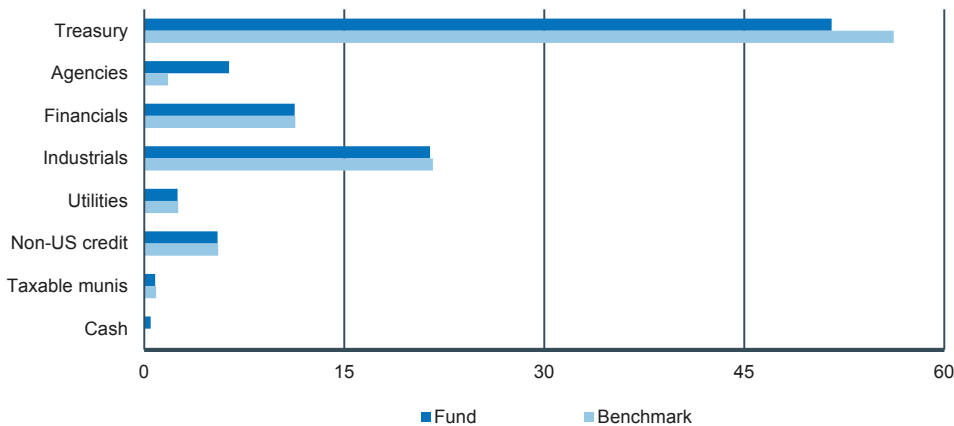
Performance disclosure:

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 06/30/2019



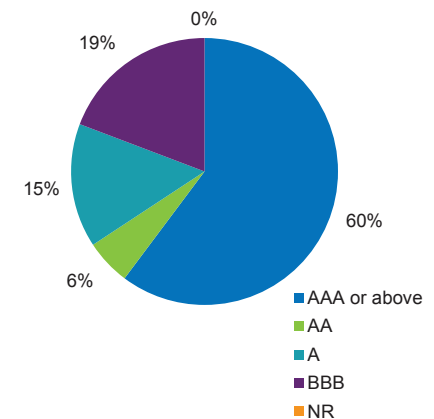
Investment details (as of 06/30/2019)

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

Characteristics (as of 06/30/2019)

	Fund	Benchmark
Number of securities	5,693	7,200
Market value (B)	\$0.25	\$15,773.30
Coupon (%)	3.33	3.07
Yield to maturity (YTM) (%)	2.44	2.42
Weighted avg life (yrs)	9.00	9.02
Effective duration (yrs)	6.59	6.61
Spread duration (yrs)	3.26	3.18
Option adjusted spread (bps)	46	45
Convexity (yrs)	0.92	0.92

Quality breakdown (as of 06/30/2019)



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 06/30/2019 (Return percentages are annualized as of period end. Returns for periods less than one year are cumulative.)

	Month*	Q2*	YTD*	1 Year*	3 Year	5 Year	10 Year	Since Inception
Fund return %	0.86	2.88	6.21	4.95	2.27	1.90	3.75	5.02
Benchmark return %	0.86	2.86	6.15	4.84	2.08	1.76	3.64	4.94
Difference	0.00	0.02	0.06	0.11	0.19	0.14	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 06/30/2019)

Benchmark	Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)
Total fund assets	\$6.09 billion
Fund inception date	03/05/2002

Characteristics (as of 06/30/2019)

	Fund	Benchmark
Number of securities	40	40
Market value (B)	\$6.09	\$1,247.40
Coupon (%)	0.75	0.78
Yield to maturity (YTM) (%)	1.91	1.91
Weighted avg life (yrs)	8.12	8.15
Effective duration (yrs)	7.48	7.48
Convexity (yrs)	1.05	1.06

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 06/30/2019 (return percentages are annualized as of period end)

	Q2*	YTD*	1 Year*	3 Year	Since Inception
Fund return %	0.07	15.00	8.76	5.33	5.72
Benchmark return %	-0.07	14.51	7.68	4.46	4.92
Difference	0.14	0.49	1.08	0.87	0.80

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 06/30/2019)

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

Characteristics (as of 06/30/2019)

	Fund	Benchmark
Number of securities	315	331
Dividend yield	3.84	3.84

Top 10 holdings (as of 06/30/2019)

	Country	Fund (% assets)
Prologis REIT Inc	United States	3.16
Simon Property Group REIT Inc	United States	3.08
Public Storage REIT	United States	2.22
Welltower Inc	United States	2.07
Avalonbay Communities REIT Inc	United States	1.76
Equity Residential REIT	United States	1.72
Link Real Estate Investment Trust	Hong Kong	1.65
Vonovia Se	Germany	1.56
Digital Realty Trust REIT Inc	United States	1.54
Ventas REIT Inc	United States	1.54

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

Country allocation (% as of 06/30/2019)

