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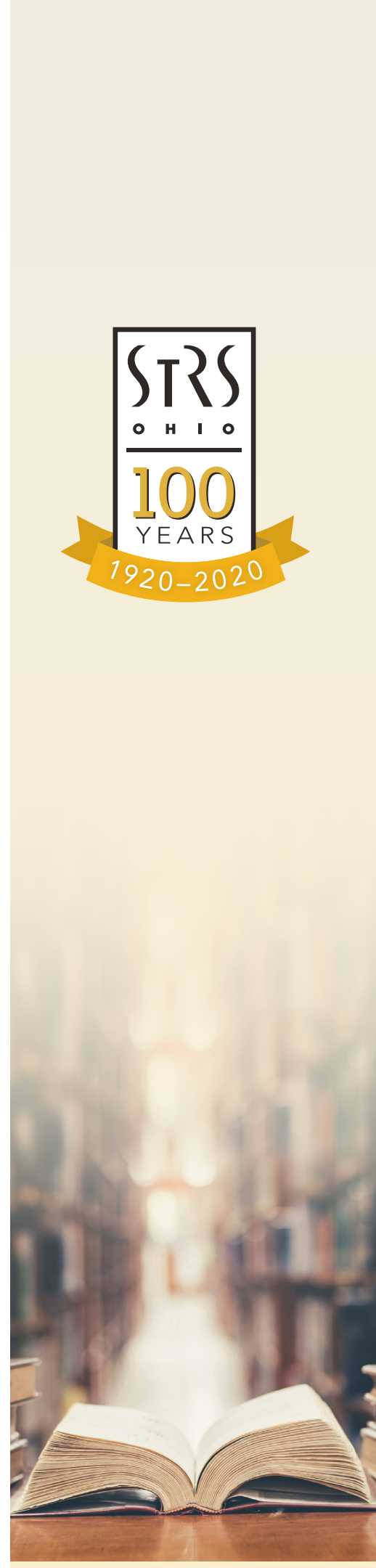


Defined Contribution Investments  
Annual Financial Report **2019**

Fiscal Year Ending June 30, 2019

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## December 2019

The State Teachers Retirement Board and the associates of STRS Ohio are pleased to present our *Defined Contribution Investments Annual Financial Report* for fiscal year 2019. This report contains investment information and results from July 1, 2018–June 30, 2019, for STRS Ohio’s defined contribution account allocation choices.

Strong returns in the real estate investment trusts (REITs) and large-cap U.S. equity markets led fiscal 2019 returns. The STRS REIT Index Choice was the top performer, with a return of 11.09%, followed by the Russell 1000 Index Choice at 9.97%. A summary of the performance of all of the investment choices is included in the Performance Section that begins on Page 7.

At fiscal year-end, total assets for the Defined Contribution Plan and the defined contribution portion of the Combined Plan totaled slightly above \$1.6 billion. Under these plans, STRS Ohio provides allocation choices that members can select to determine the accumulation of their account based on their individual time horizon and risk tolerance.

The *Defined Contribution Investments Annual Financial Report* is divided into four sections: (1) the Introductory Section includes this letter and annualized rates of return; (2) the Economic and Financial Markets Overview Section describes economic changes that potentially affected the investment market; (3) the Performance Section details each allocation choice and covers its annual performance; and (4) the Disclosure Section includes key rules, concepts and definitions.

As you plan your financial future, we hope you take full advantage of the resources that STRS Ohio and Nationwide Retirement Solutions provide. We at STRS Ohio look forward to working with you throughout your career and partnering with you in helping to build retirement security.



**Carol Correthers**  
Chair, State Teachers Retirement Board



**Michael J. Nehf**  
Executive Director



275 East Broad Street  
Columbus, OH 43215-3771  
614-227-4090  
[www.strsoh.org](http://www.strsoh.org)

# Investment Performance Report as of June 30, 2019

## Annualized Rates of Return



### VARIABLE ALLOCATION CHOICES

Cash	1 Year	3 Years	5 Years	10 Years		
<b>STRS Money Market Choice<sup>B</sup></b>	2.16%	1.34%	0.85%	0.47%		
Index: 90-day U.S. Treasury bill	2.31%	1.38%	0.87%	0.48%		
Bonds	1 Year	3 Years	5 Years	10 Years		
<b>STRS Bloomberg Barclays U.S. Universal Bond Index Choice<sup>AB</sup></b>	8.02%	2.71%	3.04%	4.20%		
Large-Cap	1 Year	3 Years	5 Years	10 Years		
<b>STRS Large-Cap Core Choice<sup>B</sup></b>	7.95%	12.20%	7.85%	12.46%		
Index: Russell 1000 <sup>®</sup> Index	10.02%	14.15%	10.45%	14.77%		
<b>STRS Russell 1000<sup>®</sup> Index Choice<sup>B</sup></b>	9.97%	14.05%	10.35%	14.62%		
Mid-Cap	1 Year	3 Years	5 Years	10 Years	Since Inception <sup>E</sup>	Inception Date
<b>STRS Russell Midcap<sup>®</sup> Index Choice<sup>B</sup></b>	7.76%	12.06%	8.53%	N/A	11.37%	7/1/2013
Small-Cap	1 Year	3 Years	5 Years	10 Years		
<b>STRS Russell 2000<sup>®</sup> Index Choice<sup>B</sup></b>	-3.37%	12.20%	6.96%	13.29%		
Specialty/Real Estate	1 Year	3 Years	5 Years	10 Years		
<b>STRS REIT Index Choice<sup>BC</sup></b>	11.09%	4.06%	7.77%	15.45%		
International	1 Year	3 Years	5 Years	10 Years		
<b>STRS MSCI World ex USA Index Choice<sup>B</sup></b>	1.19%	8.83%	1.86%	6.46%		
<b>STRS MSCI ACWI ex USA Index Choice<sup>B</sup></b>	1.15%	N/A	N/A	N/A	1.15%	7/1/2018

### TARGET CHOICE OPTIONS

Blends	1 Year	3 Years	5 Years	10 Years	Since Inception <sup>E</sup>	Inception Date
<b>STRS Target Choice 2020<sup>B</sup></b>	7.34%	7.58%	5.23%	N/A	7.08%	7/1/2013
<b>STRS Target Choice 2025<sup>B</sup></b>	7.13%	8.33%	5.54%	N/A	7.56%	7/1/2013
<b>STRS Target Choice 2030<sup>B</sup></b>	6.93%	9.01%	5.82%	N/A	8.01%	7/1/2013
<b>STRS Target Choice 2035<sup>B</sup></b>	6.73%	9.69%	6.08%	N/A	8.45%	7/1/2013
<b>STRS Target Choice 2040<sup>B</sup></b>	6.46%	10.35%	6.33%	N/A	8.79%	7/1/2013
<b>STRS Target Choice 2045<sup>B</sup></b>	6.30%	10.51%	6.42%	N/A	8.87%	7/1/2013
<b>STRS Target Choice 2050<sup>B</sup></b>	6.30%	10.51%	6.42%	N/A	8.87%	7/1/2013
<b>STRS Target Choice 2055<sup>B</sup></b>	6.30%	N/A	N/A	N/A	6.30%	7/1/2018
<b>STRS Target Choice 2060<sup>B</sup></b>	6.30%	N/A	N/A	N/A	6.30%	7/1/2018

### TOTAL GUARANTEED RETURN CHOICE

Balanced	Current Rate	
<b>STRS Total Guaranteed Return Choice 2019<sup>D</sup></b>	4.25%	(For contributions made between July 1, 2014 – June 30, 2015 — closed to new investments)
<b>STRS Total Guaranteed Return Choice 2020<sup>D</sup></b>	4.25%	(For contributions made between July 1, 2015 – June 30, 2016 — closed to new investments)
<b>STRS Total Guaranteed Return Choice 2021<sup>D</sup></b>	4.25%	(For contributions made between July 1, 2016 – June 30, 2017 — closed to new investments)
<b>STRS Total Guaranteed Return Choice 2022<sup>D</sup></b>	4.25%	(For contributions made between July 1, 2017 – June 30, 2018 — closed to new investments)

Historical performance is not necessarily indicative of actual future investment performance, which could differ substantially. A member's units, when redeemed, may be worth more or less than their original cost. All performance figures after June 30, 2001, are provided net of annual fees. All returns are calculated in U.S. dollars. Current performance may be lower or higher than the performance data indicated above. For current performance data, call Nationwide Retirement Solutions toll-free at 866-332-3342 or visit [www.strsoh.org](http://www.strsoh.org).

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<sup>B</sup> Performance figures for the STRS Index choices reflect the deduction of management fees. The corresponding indexes are unmanaged, do not incur fees and cannot be invested in directly.

<sup>C</sup> The performance is based on the actively managed STRS REIT Choice until June 30, 2014, and the performance of the STRS REIT Index Choice after that date.

<sup>D</sup> There is no annual asset management fee for this choice. See the *Investment Options Guide*.

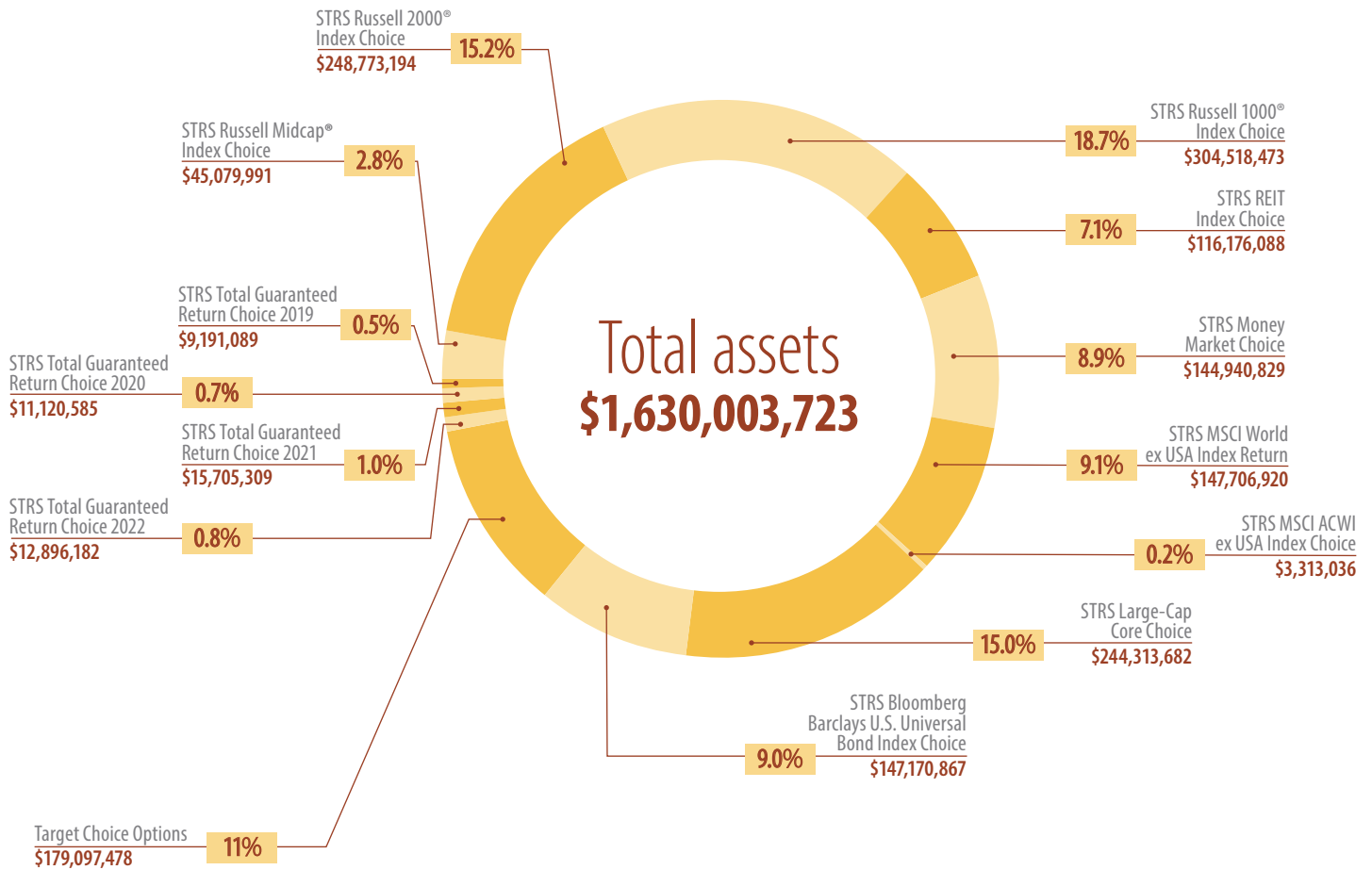
<sup>E</sup> Reflects annualized performance since inception if less than 10 years.

<sup>\*</sup> The Russell Indices are a trademark of FTSE International Limited (FTSE) and Frank Russell Company (Russell) and their respective subsidiary undertakings, which are members of the London Stock Exchange Group plc group. STRS Ohio Investment Choices are not sponsored, endorsed, sold, or promoted by Russell and Russell makes no representation, warranty or guarantee regarding the use of the Russell Indices or the advisability of investing in the investment choices.

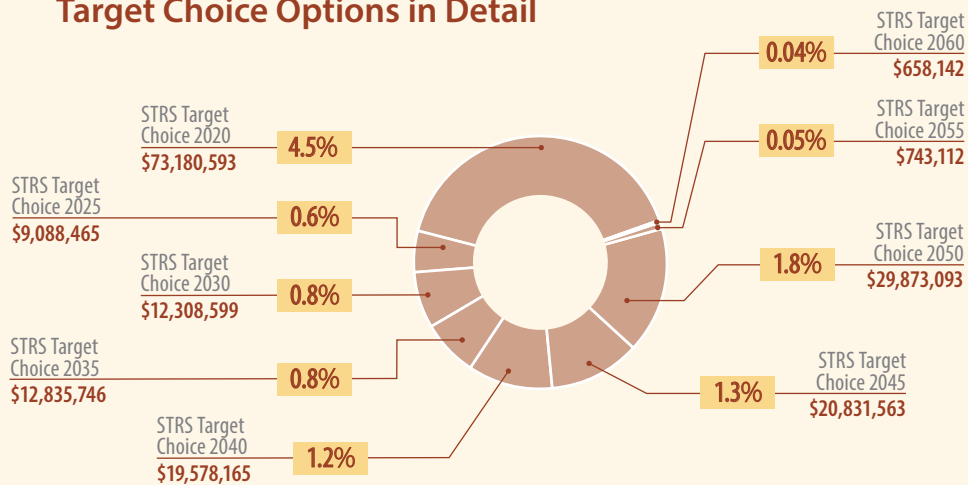


# Defined Contribution Asset Value by Allocation Choice

## As of June 30, 2019



### Target Choice Options in Detail



The chart above displays STRS Ohio's defined contribution holdings and percentage of total assets for the fiscal year ending June 30, 2019. More information on these options can be found in the Performance Section beginning on Page 7.

The U.S. economy set an expansion duration record immediately after the end to fiscal 2019 amid continuing concerns that a recession — whether related to trade wars or not — could be on the horizon. The current economic expansion wears the crown for being the longest U.S. expansion since reliable records began in the mid-1800s — outshining the 10-year growth cycle from 1991–2001. After two years of solid economic activity averaging an annualized 2.7%, investor confidence has been shaken positively and negatively since the fall of 2018.

Real gross domestic product growth hit 2.3% during fiscal 2019. Core domestic economic activity represented by private domestic final sales (that excludes volatile foreign trade, inventory change and government spending from real GDP) grew at an above-trend 2.4%. Real GDP growth through fiscal 2019 has averaged an annualized 2.3% over the entire expansion while the growth in real private domestic final sales has been at a strong 2.9% pace.

That rate of real GDP growth remains marginally more than half of the average growth rates recorded from all post-World War II economic expansions. Much of the softer economic growth can be attributed to a significant slowing in productivity growth. It has advanced by just an annualized 1.2% during the past 10 years compared to a postwar expansion average of 2.4% and an entire postwar business cycle (including recessions) average of 2.1%. Unfortunately, the disappointing productivity growth of the current expansion matches the average productivity gains that have occurred in all postwar recessions when economic activity generally contracts. At the same time, the demographic challenges for the United States

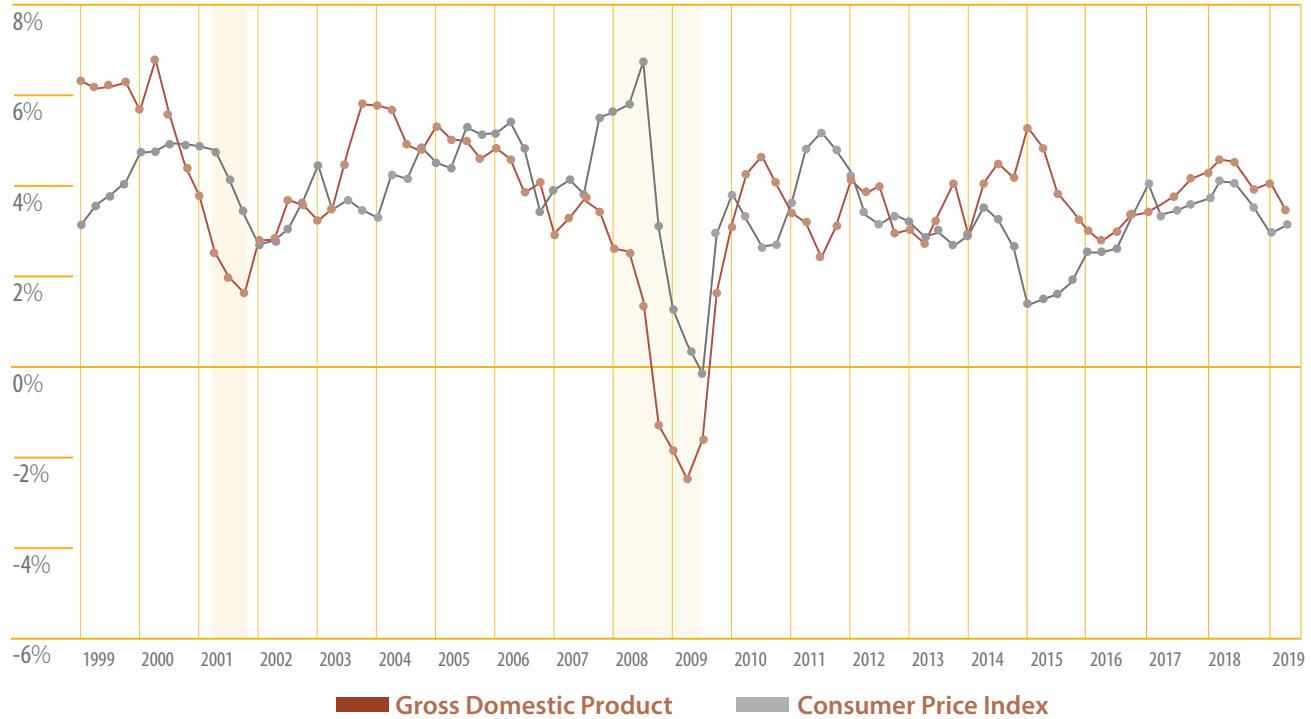
from retiring baby boomers and slower labor force growth will continue for decades to come. Taken together, the two primary components — worker productivity and labor inputs — to potential economic growth abruptly slowed during the current economic expansion.

Solid consumer spending from a nearly fully employed workforce that increasingly has seen stronger wage growth has led the way for the U.S. economy since midfiscal 2018. And until recently, as the Trump administration's trade tariff battles with Canada, Mexico, Europe and, most prominently, China intensified, business fixed investment on equipment and structures had significantly accelerated in response to a stronger economy and greater tax incentives. However, those trade battles played an important part in slower business fixed investment growth in fiscal 2019 because policy uncertainty weighed on business planning.

The yield curve spread between the 10-year and three-month Treasuries narrowed rapidly since mid-November when the fixed income market correctly priced in another Federal Reserve short-term interest rate hike a month later. The Federal Reserve Bank of New York's year-ahead recession probability model jumped to nearly 35% from 15% as this yield curve spread inverted in late May. When this spread falls further and further below zero, the chance for a recession within a year or so grows into a strongly predicted outcome. Historically, a sustained spread of -45 to -50 basis points aligns with a recession probability of 40% or more while providing ample warning of an impending recession. However, other leading indicators for the business cycle were not as troubling.

## Gross Domestic Product/Consumer Price Index

1999–2019 Year-Over-Year Growth Rates



Note: Shaded areas denote a recession.

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics/Haver Analytics

Fiscal 2019 showed a slight uptick in consumer prices late in the fiscal year, while the GDP slowed over the course of the year.

Broad and core inflation growth rates peaked modestly above 2% in early fiscal 2019 and decelerated to roughly 1.5% by the end of the fiscal year. The Federal Reserve targets a 2% inflation rate as one of its long-term monetary policy objectives but has fallen short of that goal for much of the current economic expansion. Through fiscal 2019, most of the impact on inflation from slower global economic growth in recent quarters has shown up at the energy costs level as opposed to spreading broadly to

all consumer categories. In fact, the growth in the Federal Reserve Bank of Cleveland’s median CPI index that calculates the change in prices by measuring the sorted median category remained at its expansion peak of 2.8% at fiscal year-end.

The Federal Reserve has maintained a stimulative-to-currently-accommodative monetary policy since the beginning of the Great Recession. Policymakers at the Federal Reserve understood that they had to do everything in their power to

prevent a deflationary spiral developing out of the recession — an issue stagnant Japan dealt with for more than two decades. Initially, the Federal Reserve drove short-term interest rates significantly lower to roughly 0% by using its main policy tool — the federal funds targeted rate — but it did not stop there. Quantitative easing led to an expansion of assets on the Federal Reserve’s balance sheet to as high as \$4.5 trillion from roughly \$900 billion prior to the recession. The Federal Reserve made sure the banking system was flooded with cash for future loans that could eventually spark a credit cycle leading to ever-stronger economic growth.

At its December 2013 monetary policy meeting, the Federal Reserve began to taper the purchases of securities from quantitative easing (QE) because the labor market was showing signs of better growth and the overall economy was finally gaining traction. At each subsequent meeting, it reduced the size of further quantitative easing purchases until monetary policymakers finished QE in the fall of 2014. In December 2015, the Federal Reserve’s main policy tool of controlling short-term interest rates was eased back, too, when the Federal Reserve raised the federal funds rate 0.25%, making it the first increase in short-term interest rates since mid-2006. Since then, the Federal Reserve gradually raised interest rates to the targeted range of 2.25–2.50% for the federal funds rate in mid-fiscal 2019 where it remained through the end of the fiscal year.

## **Interest rate increases buoy money market returns**

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The U.S. Federal Reserve raised the federal funds target rate three times during the fiscal year,

ending the year at 2.25%–2.5%. This led to higher returns for the asset class.

## **Fixed income returns bolstered by strong second half of fiscal 2019**

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Fiscal 2019 was a strong year for fixed-income market returns. In response to ongoing trade tensions between the United States and China, the Federal Reserve stopped increasing short-term interest rates during the second half of the fiscal year. Bond yields fell during fiscal year, leading to price appreciation.

## **Domestic equities see tenth straight year of growth**

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The U.S. equity market rose for the 10<sup>th</sup> consecutive year in fiscal 2019 and reached an all-time high. Growth stocks outperformed both value stocks and the Russell 1000® Index over the period. The defensive sectors performed the best, with the utilities and consumer staples sectors gaining the most during the year. The energy and materials sectors performed the worst, primarily due to global macroeconomic uncertainties and ongoing trade tensions between the United States and China.

## **International returns higher overall in developed markets**

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Both the developed markets and emerging markets had subdued positive returns in fiscal 2019 due to decelerating global economic growth and tension in trade negotiations. The overall emerging market returns lagged those





in the developed markets due to the greater negative impact from the unresolved trade and technology conflicts between the United States and China. Some larger developed markets such as Japan and United Kingdom and larger emerging markets such as China and South Korea had negative returns for the fiscal year.

## **Real Estate Investment Trusts rally in fiscal 2019**

Long-term interest rates came down over the course of fiscal 2019, providing a positive backdrop for REIT market. Returns varied among REIT sectors, as Industrial, Residential and Health Care REITs posted returns above 22%. Lodging/Resort REITs were on the other end of the spectrum, with a -10% return. REITs followed the U.S. equity market with a sharp decline in December but completed the fiscal year with performance slightly better than the overall equity market.



## Structure

The STRS Money Market Choice is intended to obtain a high level of current income consistent with the preservation of principal and liquidity. The performance objective is to exceed the 90-day U.S. Treasury bill return, before fees. Investments will generally consist of U.S. dollar-denominated commercial paper and other short-term corporate obligations that are rated in the highest category (A1/P1 rating) by the rating organizations, as well as securities that are guaranteed by the U.S. government or one of its related agencies. Credit quality is emphasized for preservation of principal and liquidity.

Securities selected for investment offer competitive yields and meet the policy objectives pertaining to credit quality, maturity and diversification. Interest rates and the maturity of the individual securities relative to the maturity of the portfolio as a whole are also considered.

## Annual Asset Management Fee

The total annual fee for the STRS Money Market Choice is 0.10%.

## Performance

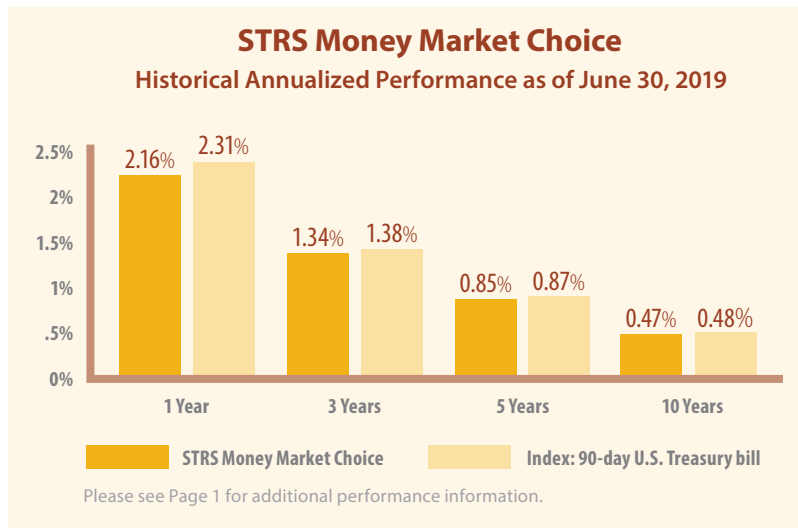
The STRS Money Market Choice returned 2.16%, after fees, for fiscal year 2019 compared to the benchmark 90-day U.S. Treasury bill that returned 2.31%. The choice invested mainly in U.S. government-backed Treasury bills and Agency Notes, but supplemented yields with investments in Floating Rate Corporate Bonds with maturities within 12 months. Also, holding investments with maturities longer than the 90-day benchmark contributed to higher yields.

## Market Drivers

STRS Money Market Choice performance was 2.16%, after fees, for the year. Yields follow the current short-term interest rates maintained by the U.S. Federal Reserve, which had an effective target rate between 1% and 2% during the fiscal year. The Federal Reserve raised the federal funds target rate two times during the fiscal year from a range of 1.75%–2% at the beginning to 2.25%–2.5% by the end of the year. U.S. Government and Agency Notes made up the bulk of the investable universe with Commercial Paper and Floating Rate Corporate Bonds to a lesser extent. The table below shows the STRS Money Market Choice investment allocation:

## Sector Weightings as of June 30, 2019

Sector	Weight
U.S. Government and Agency Notes .....	89.5%
Commercial Paper .....	8.9%
Money Market .....	1.6%
<b>Total STRS Money Market Choice</b>	<b>100%</b>





# STRS Bloomberg Barclays U.S. Universal Bond Index Choice Bonds

## Structure

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The STRS Bloomberg Barclays U.S. Universal Bond Choice is intended to closely track the return of the Bloomberg Barclays U.S. Universal Bond Index (Index), before fees. Total returns are comprised of changes in principal values plus interest income earned. The index consists entirely of U.S. dollar-denominated securities. A significant portion of the index includes debt issued by the U.S. government and government-related entities, mortgage securities that include agency mortgage-backed, commercial mortgage-backed and asset-backed securities and investment grade corporate bonds. A small portion of the index is high-yield debt with ratings below the Baa category. Also included is debt from emerging market countries and other foreign issuers. The STRS Bloomberg Barclays U.S. Universal Bond Choice provides members an opportunity to earn the return of a diversified portfolio of fixed-income securities. Summary statistics for the Bloomberg Barclays U.S. Universal Bond Index are shown below.

## Annual Asset Management Fee

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The total annual fee for the STRS Bloomberg Barclays U.S. Universal Bond Index Choice is 0.07%.

## Performance

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For the fiscal year ending June 30, 2019, the STRS Bloomberg Barclays U.S. Universal Bond Index Choice returned 8.02%, after fees. This section details the performance of the Bloomberg Barclays U.S. Universal Bond Index. While the STRS Bloomberg Barclays U.S. Universal Bond Index Choice seeks to closely track the performance of its corresponding index, actual performance will differ because the index does not incur management fees.

Fiscal 2019 was a strong year for fixed-income market returns. The first six months of the fiscal year had a return of +1.4% and the second half of the fiscal year returned +6.5%. Fixed-income returns were driven by the decrease in interest rates and interest income earned. The highest returning sector was emerging market debt (+10.9%), followed by investment-grade corporate bonds (+10.7%), commercial mortgage-backed securities (+8.9%), government related (+7.9%), high yield (+7.5%), U.S. Treasuries (+7.2%), mortgage-backed securities (+6.2%) and asset-backed securities (+4.9%).

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### Market Drivers

Fiscal 2019 was a strong year for fixed-income market returns as interest rates declined. In response to ongoing United States and China trade tensions and slower global growth, the U.S. Federal Reserve stopped raising short-term interest rates during the second half of the fiscal year. The 10-year U.S. Treasury bond yield fell from 2.85% at the beginning of the fiscal year to 2.00% at fiscal year-end, resulting in price appreciation.

### Sector Weightings as of June 30, 2019

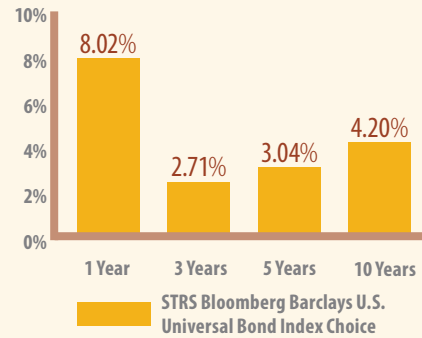
Sector	Weight
Treasury	33%
Mortgage	25%
Corporate	24%
Emerging Market	8%
Government-Related	5%
High Yield	5%
<b>Total STRS Bloomberg Barclays U.S. Universal Bond Index</b>	<b>100%</b>

### Index Statistics as of June 30, 2019

Number of Issues	16,760
Average Yield	2.85%
Average Maturity	7.76 Years
Market Value	\$26.74 Trillion

### STRS Bloomberg Barclays U.S. Universal Bond Index Choice

Historical Annualized Performance as of June 30, 2019



Please see Page 1 for additional performance information.

Effective Aug. 24, 2016, the Barclays indexes were rebranded to the Bloomberg Barclays Indices.



# STRS Large-Cap Core Choice Large-Cap

## Structure

The STRS Large-Cap Core Choice seeks long-term capital appreciation by investing in a diversified portfolio of large-capitalization U.S. equities. The goal of the portfolio is to generate returns in excess of the Russell 1000® Index, before fees. The Russell 1000® Index represents the 1,000 largest companies traded in the U.S. markets. This choice is broad-based and well-diversified, making it suitable as a core equity holding within a portfolio. Keeping in mind that each investor’s risk tolerance is different, the amount of large-cap holdings in an investor’s portfolio should be based on risk tolerance and investment goals. The excess return for this choice is expected to come largely from stock selection and, to a lesser extent, industry or sector allocation.

## Annual Asset Management Fee

The total annual fee for STRS Large-Cap Core Choice is 0.30%.

## Performance

The STRS Large-Cap Core Choice gained 7.95%, after fees, in the fiscal year 2019. This return trailed the return of 10.02% posted by the benchmark Russell 1000® Index. Underperformance was attributed primarily to stock selection, with much of the weakness attributed to a tilt toward value stocks which resulted in performance that did not keep up with very strong returns of growth stocks, especially those held in the information technology and consumer discretionary sectors.

## Market Drivers

The U.S. equity market, as measured by the Russell 1000® Index, rose 10.02% during the period, above the long-term average market returns. This marked the 10<sup>th</sup> consecutive year of market gains as the stock market reached another new all-time high. Returns for the year were primarily the result of solid corporate earnings growth.

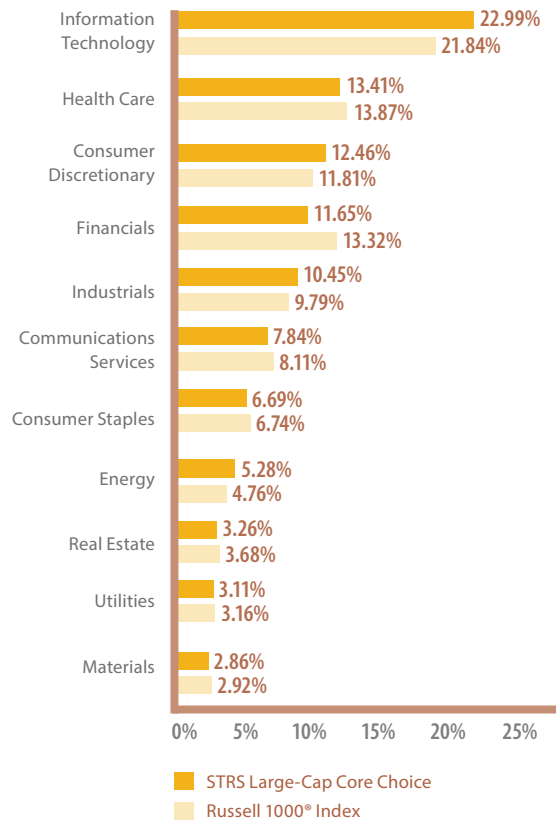
The market was volatile due to uncertainties regarding potentially slowing global macroeconomic growth and the ongoing trade tensions between the United States and China. Due to recession fears, the best performing sectors were defensive in nature. The utilities and consumer staples sectors were the best performers, while the highly cyclical energy and materials sectors performed the worst. Once again, growth stocks were the best performers, while mid-cap value stocks generally lagged the broader market.

## Top 10 Holdings as of June 30, 2019

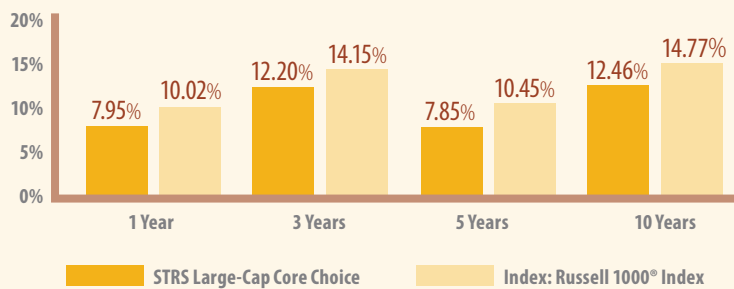
Top 10 Holdings	% of Total Investment Choice
Apple Inc. (AAPL) .....	3.98%
Amazon.com Inc (AMZN).....	2.85%
Microsoft Corp. (MSFT).....	2.75%
Worldpay Inc. (WP) .....	2.34%
Alphabet Inc. Class A (GOOGL).....	1.93%
Broadcom Inc. (AVGO) .....	1.88%
Marvell Technology Group Ltd. (MRVL).....	1.87%
Micron Technology Inc. (MU) .....	1.86%
Exxon Mobil Corp. (XOM).....	1.82%
Facebook Inc. Class A (FB) .....	1.82%

**Top 10 holdings represent 23.10% of the total investment choice.**

### Sector Weightings as of June 30, 2019



### STRS Large-Cap Core Choice Historical Annualized Performance as of June 30, 2019



Please see Page 1 for additional performance information.



# STRS Russell 1000® Index Choice Large-Cap

## Structure

The STRS Russell 1000® Index Choice is an allocation choice that is intended to closely match the performance of the Russell 1000® Index, before fees.

As the name implies, the Russell 1000® Index is comprised of approximately 1,000 U.S. companies selected for their large market capitalization, liquidity and industry classifications. These stocks represent 92% of the characteristics of the U.S. market.

The STRS Russell 1000® Index Choice is a large-cap choice designed to diversify portfolio holdings and is intended to be a long-term investment option.

Wilshire Associates suggests holding a large-cap equity choice as part of a well-diversified investment portfolio. Keeping in mind that each investor's risk tolerance is different, the amount of large-cap holdings in an investor's portfolio should be based on risk tolerance and investment goals.

## Top 10 Holdings as of June 30, 2019

Top 10 Holdings	% of Total Investment Choice
Microsoft Corp. (MSFT).....	3.71%
Apple Inc. (AAPL).....	3.44%
Amazon.com Inc. (AMZN).....	2.85%
Facebook Inc. (FB) .....	1.68%
Berkshire Hathaway Inc. CL-B (BRK.B) .....	1.51%
Johnson & Johnson (JNJ).....	1.37%
JP Morgan Chase and Co. (JPM).....	1.35%
Alphabet Inc. Class C (GOOG) .....	1.20%
Exxon Mobil Corp. (XOM).....	1.19%
Alphabet Inc. Class A (GOOGL).....	1.18%

**Top 10 holdings represent 19.48% of the total investment choice.**

## Annual Asset Management Fee

The total annual fee for STRS Russell 1000® Index Choice is 0.05%.

## Sector Weightings as of June 30, 2019

Sector	Weight
Information Technology .....	21.84%
Health Care .....	13.87%
Financials.....	13.32%
Consumer Discretionary.....	11.81%
Industrials.....	9.79%
Communications Services.....	8.11%
Consumer Staples .....	6.74%
Energy.....	4.76%
Real Estate.....	3.68%
Utilities .....	3.16%
Materials .....	2.92%
<b>Total Russell 1000® Index</b>	<b>100.00%</b>

## Performance

The STRS Russell 1000® Index Choice gained 9.97%, after fees, for the fiscal year ending June 30, 2019. While the STRS Russell 1000® Index Choice seeks to closely track the performance of its corresponding index, actual performance will differ because the index does not incur management fees.

The returns in 2019 were above the long-term average returns of the equity market and marked the 10<sup>th</sup> consecutive year of positive returns for the index.

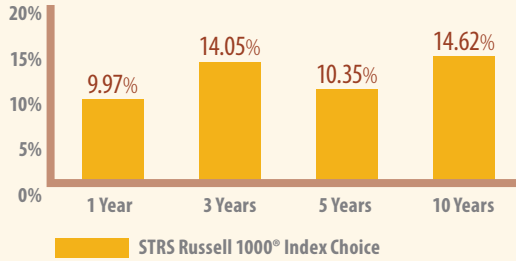
## Market Drivers

The U.S. equity market, as measured by the Russell 1000® Index, rose 10.02% during the period, above the long-term average market returns. This marked the 10<sup>th</sup> consecutive year of market gains as the stock market reached another new all-time high. Returns for the year were primarily the result of solid corporate earnings growth.

The market was volatile due to uncertainties regarding potentially slowing global macroeconomic growth and the ongoing trade tensions between the United States and China. Due to recession fears, the best performing sectors were defensive in nature. The utilities and consumer staples sectors were the best performers, while the highly cyclical energy and materials sectors performed the worst. Once again, growth stocks were the best performers, while mid-cap value stocks generally lagged the broader market.



**STRS Russell 1000® Index Choice**  
Historical Annualized Performance as of June 30, 2019



Please see Page 1 for additional performance information.

**Index Statistics as of June 30, 2019**

Total Market Value.....	\$27.30 Trillion
Largest Company	
Market Value .....	\$1.03 Trillion
Weighted Average	
Market Value .....	\$222.52 Billion
Mean Market Value .....	\$30.35 Billion
Smallest Company	
Market Value .....	\$642.51 Million
Median Share Price .....	\$65.00
P/E Ratio.....	19.97
Dividend Yield .....	1.87%

**Russell 1000® Index Values**  
For Fiscal Year 2019



Note: Figures in the chart above are based on Russell® non-intraday values utilized for reporting in Russell® Index products and services. The Russell® U.S. equity index values shown on most financial sites and in the media began at a later date and at a different beginning value than the original set of values shown above. While the STRS Russell 1000® Index Choice seeks to closely match the performance of the Russell 1000® Index, its actual performance will differ because the Index does not incur management fees.

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# STRS Russell Midcap® Index Choice

## Mid-Cap

### Structure

The STRS Russell Midcap® Index Choice is an allocation choice that is intended to closely match the return of the Russell Midcap® Index, before fees. The Index is composed of approximately 800 stocks chosen for market size, liquidity and industry group representation. The return consists of capital appreciation plus dividend yield. This choice's share price and total return should be expected to fluctuate within a wide range, like the performance of the overall stock market.

### Annual Asset Management Fee

The total annual fee for STRS Russell Midcap® Index Choice is 0.07%.

### Performance

The STRS Russell Midcap® Index Choice gained 7.76%, after fees, for the fiscal year ending June 30, 2019. While the STRS Russell Midcap® Index Choice seeks to closely track the performance of its corresponding index, actual performance will differ because the index does not incur management fees.

### Sector Weightings as of June 30, 2019

Sector	Weight
Information Technology	19.23%
Industrials	14.07%
Consumer Discretionary	13.46%
Financials	13.09%
Health Care	10.20%
Real Estate	9.01%
Utilities	6.53%
Materials	4.96%
Consumer Staples	3.96%
Energy	3.64%
Communication Services	1.85%
<b>Total Russell Midcap® Index</b>	<b>100.00%</b>

### Market Drivers

Mid-cap stocks gained in 2019, although the returns lagged those of the larger capitalization stocks during the year. Investors moved from the smaller capitalization stocks to the perceived safety of larger capitalization stocks as they became more risk averse due to global macroeconomic uncertainties and ongoing trade tensions between the United States and China.

Market gains were the results of improved corporate profitability. Mid-cap growth stocks saw the best performance; however, it was somewhat offset by weak-performing mid-cap value stocks.

### Top 10 Holdings as of June 30, 2019

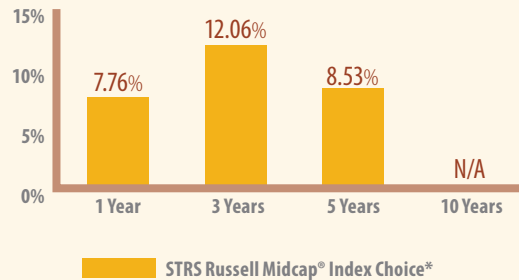
Top 10 Holdings	% of Total Investment Choice
ServiceNow Inc. (NOW)	0.64%
Analog Devices Inc. (ADI)	0.55%
Fidelity National Information Services Inc. (FIS)	0.53%
Edwards Lifesciences Corp. (EW)	0.51%
Sempra Energy (SRE)	0.49%
Roper Technologies Inc. (ROP)	0.49%
Ross Stores Inc. (ROST)	0.48%
Fiserv Inc. (FISV)	0.48%
Worldpay Inc. (WP)	0.48%
Dollar General Corp. (DG)	0.47%

Top 10 holdings represent 5.12% of the total index.

### Index Statistics as of June 30, 2019

Total Market Value	\$7.59 Trillion
Largest Company Market Value	\$49.23 Billion
Weighted Average Market Value	\$16.98 Billion
Mean Market Value	\$10.75 Billion
Smallest Company Market Value	\$642.51 Million
Median Share Price	\$57.48
P/E Ratio	20.39
Dividend Yield	1.69%

**STRS Russell Midcap® Index Choice**  
Historical Annualized Performance  
as of June 30, 2019



\*Reflects annualized performance of 11.37% since the July 1, 2013, inception date.  
See Page 1 for additional performance information.

**Russell Midcap® Index Values**  
For Fiscal Year 2019



Note: Figures in the chart above are based on Russell® non-intraday values utilized for reporting in Russell® index products and services. The Russell® U.S. equity index values shown on most financial sites and in the media began at a later date and at a different beginning value than the original set of values shown above. While the STRS Russell Midcap® Index Choice seeks to closely match the performance of the Russell Midcap® Index, its actual performance will differ because the Index does not incur management fees.

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# STRS Russell 2000® Index Choice Small-Cap

## Structure

The STRS Russell 2000® Index Choice is intended to closely match the performance of the Russell 2000® Index.

As the name implies, the Russell 2000® Index is comprised of approximately 2,000 U.S. companies selected for their small market capitalization and industry classifications. The index is reevaluated annually to remove larger companies that may distort the performance characteristics of a small-cap fund.

The STRS Russell 2000® Index Choice is a small-cap choice designed to diversify investment holdings and is intended to be a long-term investment option.

Wilshire Associates suggests holding a small-cap equity choice as part of a well-diversified investment portfolio. Keeping in mind that each investor's risk tolerance is different, the amount of small-cap holdings in an investor's portfolio should be based on risk tolerance and investment goals.

## Annual Asset Management Fee

The total annual fee for STRS Russell 2000® Index Choice is 0.07%.

## Top 10 Holdings as of June 30, 2019

Top 10 Holdings	% of Total Investment Choice
Array BioPharma (ARRY) .....	0.48%
The Trade Desk Inc. (TTD) .....	0.37%
Etsy Inc. (ETSY) .....	0.36%
Coupa Software Inc. (COUP) .....	0.35%
Five Below Inc. (FIVE) .....	0.32%
Planet Fitness Inc. (PLNT) .....	0.31%
HubSpot Inc. (HUBS) .....	0.31%
Haemonetics (HAE) .....	0.30%
Woodward Inc. (WWD) .....	0.30%
Ciena Corp. (CIEN) .....	0.29%

**Top 10 holdings represent 3.39% of the total index.**

## Performance

The STRS Russell 2000® Index fell -3.37%, after fees, for the fiscal year ending June 30, 2019. While the STRS Russell 2000® Index Choice seeks to closely track the performance of its corresponding index, actual performance will differ because the index does not incur management fees.

## Market Drivers

Investors saw small-cap stocks underperform the broader market in 2019, trailing large-cap equity market returns by a large margin. Investors moved from the smaller capitalization stocks to the perceived safety of larger capitalization defensive stocks as they became more risk averse due to global macroeconomic uncertainties and ongoing trade tensions between the United States and China.

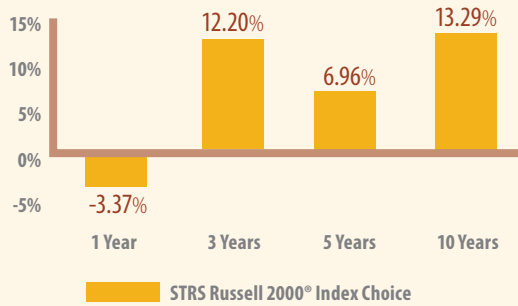
## Sector Weightings as of June 30, 2019

Sector	Weight
Financials.....	17.63%
Health Care .....	15.85%
Industrials.....	15.34%
Information Technology .....	15.31%
Consumer Discretionary .....	13.26%
Real Estate.....	7.50%
Utilities .....	3.89%
Materials .....	3.76%
Energy.....	3.29%
Consumer Staples .....	2.66%
Communications Services.....	1.51%
<b>Total Russell 2000® Index</b>	<b>100.00%</b>

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**STRS Russell 2000® Index Choice**  
Historical Annualized Performance as of June 30, 2019



See Page 1 for additional performance information.

**Index Statistics as of June 30, 2019**

Total Market Value.....	\$2.03 Trillion
Largest Company Market Value .....	\$10.11 Billion
Weighted Average Market Value .....	\$2.59 Billion
Mean Market Value .....	\$1.24 Billion
Smallest Company Market Value .....	\$1.53 Million
Median Share Price .....	\$20.82
P/E Ratio.....	19.30
Dividend Yield .....	1.39%

**Russell 2000® Index Values**

For Fiscal Year 2019



Note: Figures in the chart above are based on Russell non-intraday values utilized for reporting in Russell index products and services. The Russell U.S. equity index values shown on most financial sites and in the media began at a later date and at a different beginning value than the original set of values shown above. While the STRS Russell 2000® Index Choice seeks to closely match the performance of the Russell 2000® Index, its actual performance will differ because the Index does not incur management fees.



### Structure

The STRS REIT Index Choice invests in the public securities of real estate companies, primarily real estate investment trusts (REITs). The objective is to closely match the performance of the FTSE NAREIT Equity REITs Index, before fees.

### Annual Asset Management Fee

The total annual fee for STRS REIT Index Choice is 0.10%.

### Performance

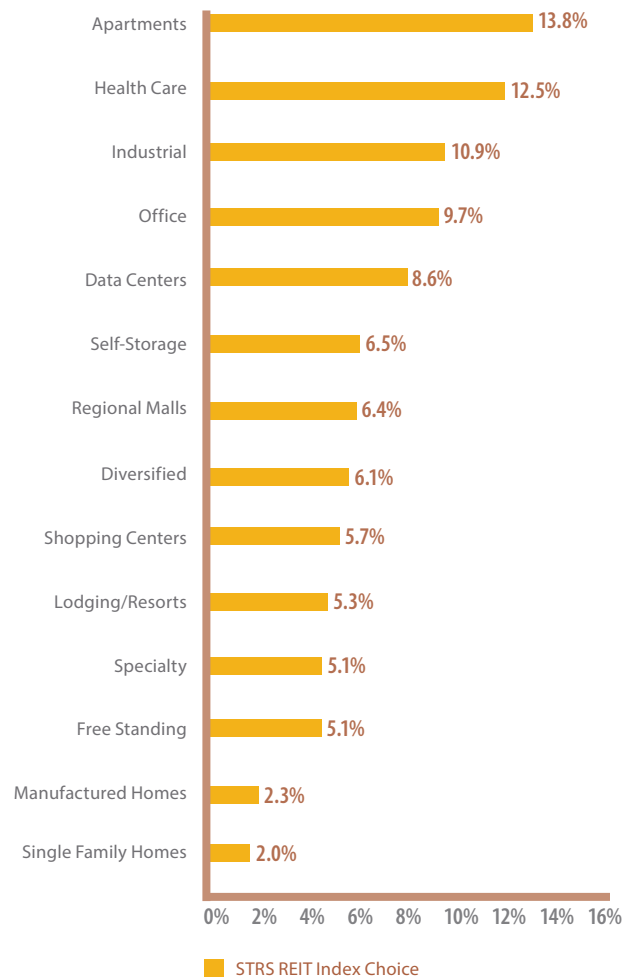
The STRS REIT Index Choice provided after-fee returns of +11.09 %, closely tracking the FTSE NAREIT Equity REITs Index return. While the STRS REIT Index Choice seeks to closely track the performance of its corresponding index, actual performance will differ because the index does not incur management fees. The FTSE NAREIT Equity REITs Index had relatively flat performance from July 2018 through November 2018, and then followed the overall equity market sharply down in December. The REIT market declined over 7% in the month of December and ended the 6-month period of July 2018 thru December 2018 with a performance of -5.6%. However, REITs and the market in general rallied in the first quarter of 2019. The REITs finished the fiscal year with a positive 11.09% return, slightly better than the overall equity market. The five-year REIT return is 8.0%, about equally split between price appreciation and dividend return.

### Market Drivers

Long-term interest rates have come down over fiscal 2019 providing a positive backdrop for REIT market by lowering interest expense for many REITs. Industrial REITs continued to benefit from e-commerce initiatives, allowing them the ability to raise rents faster than any other property sector. Low vacancy rates were enjoyed by all property types. Health Care, Residential and Industrial REITs led with returns over 22% each. Lodging/Resorts, Office and Retail REITs were the worst performers for fiscal 2019.

The REIT dividend yield just above 4% becomes an attractive alternative in a low interest rate environment. The dividends plus solid price appreciation gave REITs an above average return for fiscal 2019.

### Sector Weightings as of June 30, 2019





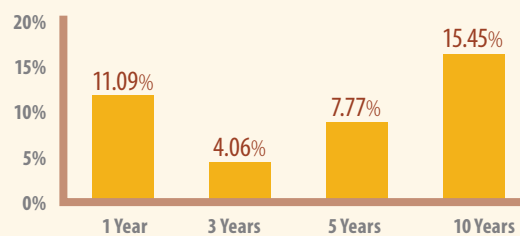
### Top 10 Holdings as of June 30, 2019

Top 10 Holdings	% of Total Index
Prologis Inc. (PLD)	5.41%
Simon Property Group Inc. (SPG)	5.29%
Equinix Inc. (EQIX)	4.55%
Public Storage (PSA)	3.80%
Welltower Inc. (WELL)	3.56%
AvalonBay Communities Inc. (AVB)	3.04%
Equity Residential (EQR)	2.99%
Digital Realty Trust Inc. (DLR)	2.63%
Ventas Inc. (VTR)	2.63%
Realty Income Corp (O)	2.34%

Top 10 holdings represent 36.24% of the total investment choice.

### STRS REIT Index Choice

#### Historical Annualized Performance as of June 30, 2019



STRS REIT Index Choice

Prior to July 1, 2014, the STRS REIT Index Choice was known as the STRS REIT Choice and employed an actively managed investment strategy. The performance shown above reflects the actively managed strategy until June 30, 2014, and the current passively managed index strategy thereafter.

Please see Page 1 for additional performance information.



# STRS MSCI World ex USA Index Choice International

## Structure

This allocation choice is intended to closely match the return of the Morgan Stanley Capital International (MSCI) World ex USA Index, before fees. The MSCI World ex USA Index is composed of approximately 1,000 constituent stocks in the index. The total investment return of the index is comprised of capital appreciation and dividend income.

The STRS MSCI World ex USA Index Choice is intended as a long-term investment choice due to higher volatility of returns of international stocks over short-term periods. Risks of international investment include, but are not limited to, currency risk, country risk and different security exchange regulations.

## Annual Asset Management Fee

The total annual fee for STRS MSCI World ex USA Index Choice is 0.10.

## Performance

The STRS MSCI World ex USA Index Choice increased 1.19%, after fees, for the fiscal year ending June 30, 2019. This choice has provided a five-year return of 1.86%. While the STRS MSCI World ex USA Index Choice seeks to closely match the performance of its corresponding index, its actual performance will differ because the index does not incur management fees.

## Market Drivers

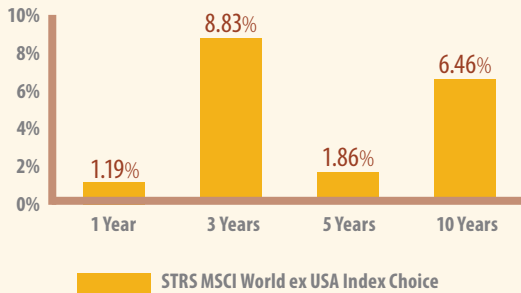
This section details the market drivers of the MSCI World ex USA Index, which is the benchmark for the STRS MSCI World ex USA Index Choice. The international developed markets were able to post an overall positive return for fiscal 2019 after recovering from a downturn that occurred in the first half of the fiscal year. The recovery in the second half of the fiscal year started after the U.S. Federal Reserve first signaled that there would be a pause in the interest rate hike cycle. The best performing countries/regions were Switzerland (+20.9%), New Zealand (+16.6%) and Hong Kong (+10.4%). The three weakest markets were Austria (-12.5%), Ireland (-8.8%) and Belgium (-8.1%). The U.S. dollar strengthened modestly overall against developed market currencies, so the returns of dollar-based investors such as STRS Ohio were negatively impacted this fiscal year.

## Country/Region Weightings as of June 30, 2019

Country/Region	% of Index
Japan.....	21.47%
United Kingdom .....	15.21%
France .....	10.34%
Canada .....	9.27%
Switzerland .....	8.43%
Germany .....	8.00%
Australia .....	6.45%
Hong Kong.....	3.61%
Netherlands.....	3.27%
Spain .....	2.69%
Sweden .....	2.40%
Italy.....	2.10%
Denmark.....	1.56%
Singapore.....	1.22%
Finland.....	0.91%
Belgium.....	0.88%
Norway.....	0.61%
Israel.....	0.53%
Ireland.....	0.49%
New Zealand.....	0.22%
Austria .....	0.20%
Portugal.....	0.14%
<b>Total MSCI World ex USA Index</b>	<b>100.00%</b>

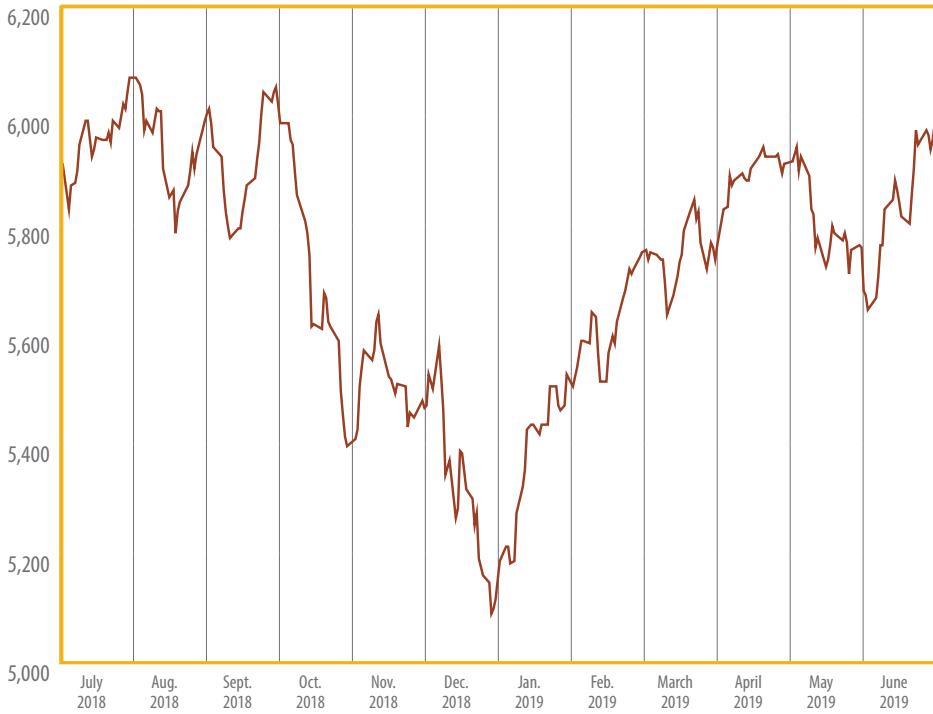


**STRS MSCI World ex USA Index Choice**  
Historical Annualized Performance as of June 30, 2019



See Page 1 for additional performance information.

**MSCI World ex USA Index Values**  
For Fiscal Year 2019







# STRS MSCI ACWI ex USA Index Choice International

## Structure

This allocation choice is intended to closely match the return of the Morgan Stanley Capital International (MSCI) ACWI ex USA Index, before fees. The MSCI ACWI ex USA Index is based on the share price of approximately 1,900 companies listed on stock exchanges in 22 developed and 26 emerging countries/regions. The total investment return of the index is comprised of capital appreciation and dividend yield.

The STRS MSCI ACWI ex USA Index Choice is intended as a long-term investment choice due to higher volatility of returns of international stocks over short-term periods. Risks of international investment include, but are not limited to, stock market risk, country risk and currency risk.

## Annual Asset Management Fee

The annual total annual fee for STRS MSCI ACWI ex USA Index Choice is 0.14%.

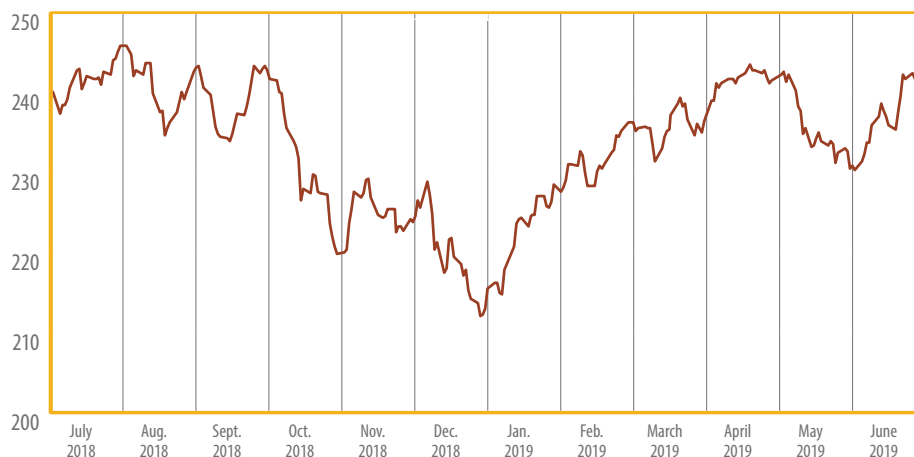
## Performance

The STRS MSCI ACWI ex USA Index Choice increased 1.15%, after fees, for the fiscal year ending June 30, 2019. While the STRS MSCI ACWI ex USA Index Choice seeks to closely match the performance of its corresponding index, its actual performance will differ because the index does not incur management fees.

## Market Drivers

This section details the market drivers of the MSCI ACWI ex USA Index, which is the benchmark for the STRS MSCI ACWI ex USA Index Choice. The international markets were able to post an overall positive return for fiscal 2019 after recovering from a downturn that occurred in the first half of the fiscal year. The recovery in the second half of the fiscal year started after the U.S. Federal Reserve first signaled that there would be a pause in the interest rate hike cycle. Both the highest return and the lowest return by country came from the emerging markets in fiscal 2019; however, the developed markets overall had a higher return than the emerging markets. The best performing countries were Brazil (+39.9%), Russia (+28.4%) and Indonesia (+21.0%). The three weakest markets were Pakistan (-36.1%), Turkey (-16.7%) and Austria (-12.5%). The U.S. dollar strengthened modestly overall against international currencies, so the returns of dollar-based investors such as STRS Ohio were negatively impacted this fiscal year.

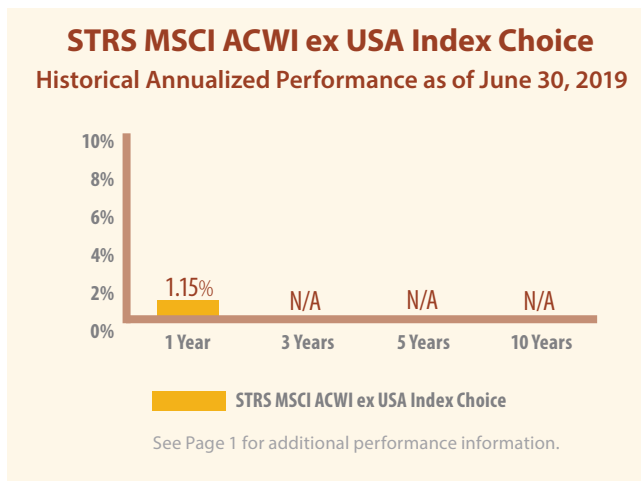
**MSCI ACWI ex USA Index Values**  
For Fiscal Year 2019



### Country/Region Weightings as of June 30, 2019

Country/Region	% of Index	Country/Region	% of Index
Japan.....	15.81%	Belgium .....	0.65%
United Kingdom .....	11.19%	Malaysia .....	0.56%
China.....	8.32%	Indonesia.....	0.56%
France .....	7.62%	Norway.....	0.45%
Canada .....	6.82%	Israel .....	0.39%
Switzerland.....	6.20%	Saudi Arabia .....	0.38%
Germany .....	5.89%	Ireland.....	0.36%
Australia.....	4.75%	Philippines .....	0.29%
Korea.....	3.26%	Poland.....	0.29%
Taiwan .....	2.86%	Qatar .....	0.26%
Hong Kong.....	2.66%	Chile .....	0.24%
Netherlands.....	2.41%	United Arab Emirates .....	0.18%
India .....	2.37%	New Zealand .....	0.17%
Brazil.....	2.02%	Austria .....	0.15%
Spain .....	1.98%	Turkey .....	0.13%
Sweden .....	1.77%	Colombia .....	0.11%
South Africa.....	1.57%	Peru .....	0.11%
Italy.....	1.55%	Portugal .....	0.10%
Denmark.....	1.15%	Argentina.....	0.09%
Russia.....	1.06%	Greece .....	0.08%
Singapore.....	0.90%	Hungary .....	0.08%
Thailand .....	0.79%	Czech Republic.....	0.04%
Finland.....	0.67%	Egypt.....	0.04%
Mexico .....	0.67%	Pakistan.....	0.01%

Total MSCI ACWI ex USA Index 100.00%





# STRS Total Guaranteed Return Choice Balanced

## Structure

---

Unlike the other allocation options offered by STRS Ohio, this option provides a guaranteed interest rate on contributions and transfers made in a given year. In exchange for this protection against any possible negative returns, participants must “lock in” their contributions and transfers made during the year until the end of a five-year term. The interest rate is paid on the contributions and transfers until the end of the five-year term and is credited to the account on a daily basis. The five-year term begins with the initial allocation choice and concludes on the last day of the fifth fiscal year, ending June 30. (The STRS Ohio fiscal year runs from July 1–June 30.)

For example, contributions made between July 1, 2018, and June 30, 2019, are locked in at a 4.25% annual interest rate until June 30, 2023.

At the end of the five-year term, the participant must transfer the accumulated value to other STRS Ohio allocation choices.

If the participant doesn't indicate allocation options, the accumulated value of the choice will be automatically rolled into the Target Choice option that falls immediately before the participant's 60th birthday.

## Annual Asset Management Fee

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None

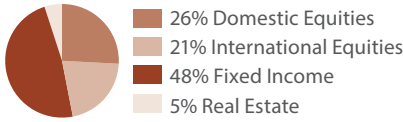
## Annual Interest Rate for Allocations Made Between July 1, 2018–June 30, 2019: **4.25%**

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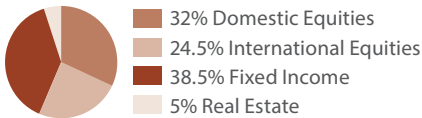
Effective July 1, 2019, this allocation choice no longer accepts new contributions.

### Compositions as of July 1, 2019

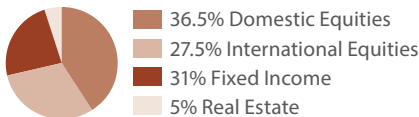
#### STRS Target Choice 2020



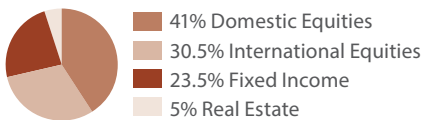
#### STRS Target Choice 2025



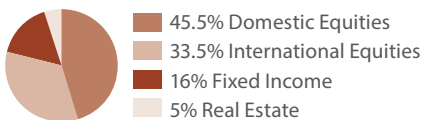
#### STRS Target Choice 2030



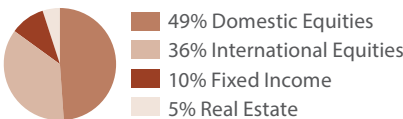
#### STRS Target Choice 2035



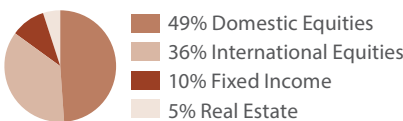
#### STRS Target Choice 2040



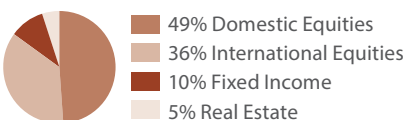
#### STRS Target Choice 2045



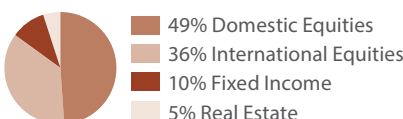
#### STRS Target Choice 2050



#### STRS Target Choice 2055



#### STRS Target Choice 2060



### Structure

These allocation options target a year in the future that would roughly match a participant's retirement date. As the target date approaches, the more conservative the investment mix becomes — moving from a substantial allocation to stocks in the early years (seeking greater growth opportunities) toward a more balanced mix of stocks and bonds (in an effort to reduce volatility) as the target date nears. When the Target Choice reaches its target date, participants who are not going to annuitize the account for retirement must transfer the accumulated value to other STRS Ohio investment options. If no other option is chosen, the accumulated value of the choice automatically rolls into the Target Choice option that falls immediately before the participant's 60th birthday.

### Annual Asset Management Fee

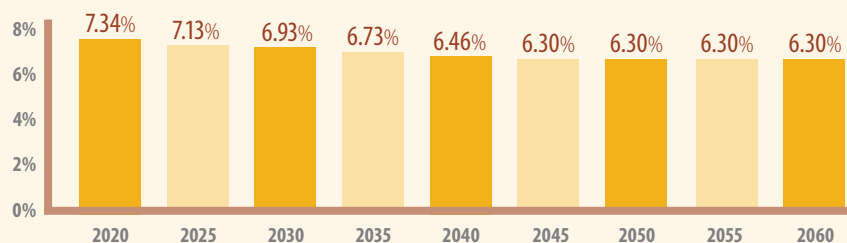
The total annual fee for STRS Target Choice options is 0.10%.

### Performance

Target Choice options consist of blends of other STRS Ohio allocation choices representing domestic and international equities, fixed income and real estate investments. Performance and market drivers for these other choices can be found on the following pages:

- Bonds — see the STRS Bloomberg Barclays U.S. Universal Bond Index Choice on Pages 8–9.
- Domestic equities — The domestic equities component is the Russell 3000® Index Return. The Russell 3000® Index Return is comprised of approximately 90% of the Russell 1000® Index Return and approximately 10% of the Russell 2000® Index Return. The Russell 1000® Index characteristics are shown on Pages 12–13 and the Russell 2000® Index characteristics are shown on Pages 16–17.
- Real estate — see the STRS REIT Index Choice on Pages 18–19.
- International equities — see the STRS MSCI World ex USA Index Choice on Pages 20–21.

### Performance for Fiscal Year 2018



#### STRS Target Choices\*

\*The following reflects annualized performance since July 1, 2013, inception date for the Target Choice options.

- STRS Target Choice 2020: 7.08%
- STRS Target Choice 2025: 7.56%
- STRS Target Choice 2030: 8.01%
- STRS Target Choice 2035: 8.45%
- STRS Target Choice 2040: 8.79%
- STRS Target Choice 2045: 8.87%
- STRS Target Choice 2050: 9.87%
- STRS Target Choice 2055: 6.30%\*\*
- STRS Target Choice 2060: 6.30%\*\*

See Page 1 for additional performance information.

\*\*Reflects annualized performance since July 1, 2018, inception date.



STRS Ohio allocation choices are not publicly traded mutual funds. They are available only through participation in the STRS Ohio Defined Contribution and Combined Plans.

### Asset Management Fee Example:

Members who participate in the STRS Ohio Defined Contribution or Combined Plan are charged asset management fees annually. The following table provides an example of the annual fees you would incur on a hypothetical investment of \$1,000 in each STRS Ohio allocation choice. The fees are taken from the net asset value of each choice each valuation day. For the purpose of this example, to calculate annual fees, the total fee is multiplied by the year-end account balance in that option.

The table assumes (a) continuation into future years of the applicable STRS Ohio fee; (b) a 5% annual return; and (c) disbursement at each time period shown. This example should not be considered a representation of past or future expenses. Actual expenses may be greater or lesser than shown, depending upon factors such as actual performance.

	1 Year	2 Years	5 Years	10 Years
STRS Money Market Choice	\$1	\$3	\$6	\$13
STRS Bloomberg Barclays U.S. Universal Bond Index Choice	\$1	\$2	\$4	\$9
STRS Large-Cap Core Choice	\$3	\$10	\$17	\$40
STRS Russell 1000® Index Choice	\$1	\$2	\$3	\$7
STRS Russell Midcap® Index Choice	\$1	\$2	\$4	\$9
STRS Russell 2000® Index Choice	\$1	\$2	\$4	\$9
STRS MSCI World ex USA Index Choice	\$1	\$3	\$6	\$13
STRS MSCI ACWI ex USA Index Choice	\$1	\$5	\$8	\$18
STRS REIT Index Choice	\$1	\$3	\$6	\$13
Target Choice Options	\$1	\$3	\$6	\$13

### Account Fee:

In addition to the fees listed above, a quarterly account fee of \$10 is charged to each participant in a Defined Contribution or Combined Plan. The fee is taken proportionately from the member’s account balance on the first business day of the quarter.

### Maintenance Fee for Inactive Accounts Less Than \$5,000:

Members who have not contributed to the Defined Contribution Plan or the defined contribution portion of the Combined Plan for a period of 120 consecutive days are deemed inactive. Inactive members with account balances of less than \$5,000 are assessed a \$10 monthly fee taken proportionately from the balance of their account. If this fee is charged, the \$10 quarterly account fee is waived.

### Contributions:

The State Teachers Retirement System of Ohio (STRS Ohio) is a statewide pension plan for Ohio educators that operates by the authority of the Ohio General Assembly, and benefits are provided under Chapter 3307 of the Ohio Revised Code. Employers submit member and employer contributions to STRS Ohio after each payroll. For members enrolled in the STRS Ohio Defined Contribution or Combined Plan, member and employer contributions are deposited in each member’s account according to plan design and invested according to the member’s current contribution allocation within five days of receipt.

### Allocation Option Composition:

The top 10 holdings, asset allocation, major market sectors and geographical diversification included for some allocation options are presented to illustrate examples of the diversity of the available choices. The illustrations may not be representative of the choices’ current or future investments. The figures presented are as of date shown and may change at any time.

### Value of Assets/Account Value:

The performance of the allocation choices made by members is used upon distribution to determine funds accumulated. Each allocation option is valued each valuation day. Each option is determined by unit values. The unit value reflects performance and expenses. The account value is based on the unit value, at the end of each valuation day and the number of accumulated units of each allocation option. STRS Ohio will use market quotations, amortized cost or “fair value” to determine the unit value of each allocation option. Investment return and principal value will fluctuate so that a member’s units, when redeemed, may be worth more or less than their original cost.

### Internet Capabilities:

Nationwide Retirement Solutions (NRS) will maintain an Internet website accessible through [www.strsoh.org](http://www.strsoh.org) for the benefit of STRS Ohio members participating in the STRS Ohio Defined Contribution Plan or the defined contribution portion of the Combined Plan. Services and information available to participants include access to account balance, current contribution allocation, allocation option information and education materials. Members will also be able to change future contribution allocations and perform exchanges among available allocation choices. Written confirmations will normally be mailed to members within two business days of conducting transactions. Members should verify the accuracy of Internet transactions immediately upon receipt of the confirmation. While the website is typically available 24

hours a day, seven days a week for these services, NRS cannot guarantee availability. NRS is not responsible for any gain or loss attributable to these website services being unavailable. Members must accept the NRS Electronic Service Agreement in order to use the site.

### **Transfers and Allocation Changes Among Investment Options:**

Members may conduct exchanges daily by phone or via the Internet unless exchange restrictions apply. Verbal instructions will be accepted upon verification of member identity and will be recorded to verify accuracy.

Exchange instructions completed by 4 p.m. Eastern Standard Time on a business day are posted to a member's account at the closing price that day or, if the day of the exchange is not a business day, at the closing price on the next business day.

Members may change their future contribution allocation and make exchanges among available allocation options without charge.

Members are permitted 20 trade events each calendar year. A trade event is defined as any trade or combination of trades occurring on a given valuation day. NRS also provides these additional safeguards to protect STRS Ohio from illegal late-day trading and improper market-timing trading.

- If six or more trade events occur in one calendar quarter, NRS will notify the participant by U.S. mail that he or she has been identified as engaging in potentially harmful trading practices.
- Following this notification, if more than 11 trade events occur in two consecutive calendar quarters, NRS will require the participant to submit all future trade requests in paper form only via regular U.S. mail for the remainder of the calendar year.
- If 20 trade events occur in a calendar year, NRS will require the participant to submit all future trade requests in paper form via U.S. mail for the remainder of the calendar year.

### **Member Reporting:**

Members in the Defined Contribution Plan and the Combined Plan will receive a quarterly statement of their account. Statements are mailed to members by the 20th business day of the month following the end of a quarter. Statements include beginning and ending balances, deposits, gains and losses, transactions, fees, contribution election and asset allocation information. Contributions posted to your account after the close of a quarter will not appear on that quarter's statement. Each fall, members in the Combined Plan will also receive an *Annual Statement of Account* from STRS Ohio that includes their projected retirement, survivor benefit and

disability benefit assuming the member meets or will meet the eligibility requirements for the defined benefit portion of the account. A record of service credit is also provided. Please review all quarterly statements carefully and inform NRS of any discrepancies within 120 days of the close of the calendar quarter in which the discrepancy occurs. Failure to do so may result in the inability to adjust your account.

### **Disbursements:**

In accordance with state law, disbursements to members may be made only if the member has terminated STRS Ohio contributing service. Additionally, disbursements may be made only at the times and under the circumstances allowable by the Internal Revenue Code. The Defined Contribution and the Combined Plans do not allow loans or hardship withdrawals.

Members may take payment from the Defined Contribution Plan or the defined contribution portion of the Combined Plan through a rollover, a lump-sum withdrawal or a variety of annuities. Units will be redeemed from allocation choices on the business day after processing of the payment request is complete. Disbursements can be sent to the member or to the member's financial institution. Members may request additional information or forms for disbursement by calling an STRS Ohio member service representative toll-free at 888-227-7877 or going to [www.strsoh.org](http://www.strsoh.org).

Members who request disbursement should be aware that the unit values of their account will remain subject to changing market conditions pending the receipt and processing of the disbursement.

Members who receive distributions will receive applicable tax statements. Members should file this tax statement with their income tax return. Members should always consult their accountant, lawyer or tax adviser for individual guidance.

### **Inability to Conduct Business:**

NRS is available to execute transactions 24 hours a day, seven days a week through its Internet website during normal working conditions. Although NRS has a comprehensive contingency plan for both power failures and phone service interruption, abnormal circumstances could occur due to events such as severe weather conditions, natural disasters or inevitable accidents such that NRS may not be able to execute investment transactions. During this time of emergency, NRS will strive to restore normal business functions in a timely manner.



# Glossary of Terms

## **benchmark**

A standard, usually an unmanaged index, used for comparative purposes in assessing a fund's performance.

## **Bloomberg Barclays U.S. Universal Bond Index**

The Bloomberg Barclays U.S. Universal Bond Index measures publicly issued U.S. dollar-denominated, fixed-rate taxable bonds on a total return basis. It consists of approximately 14,000 different issues and includes fixed-income securities that are rated either investment grade or below investment grade. Municipal debt, private placements and nondollar issues are excluded from the index.

## **bond**

A debt instrument issued by a company, city or state, or the U.S. government or its agencies, with a promise to pay regular interest and return the principal on a specified date.

## **bond credit rating**

Independent evaluation of a bond's credit-worthiness. This measurement is usually calculated through an index compiled by companies such as Standard & Poor's (S&P) or Moody's. Bonds with a credit rating of BBB or higher by S&P or Baa or higher by Moody's are generally considered investment grade.

## **book/price ratio**

The current book value of a stock divided by its current market price.

## **book value**

The net worth or liquidating value of a business. This is calculated by subtracting all liabilities, including debt and preferred stocks, from total assets.

## **bottom-up approach**

The search for outstanding performance of individual stocks before considering the impact of economic trends. Such companies may be identified from research reports, stock screens or personal knowledge of the products and services.

## **business day/valuation day**

A day when market exchanges are open for business.

## **capital appreciation**

The increase in the share price and value of an investment.

## **diversification**

The strategy of investing in a wide range of companies, industries or investment products to reduce the risk if an individual company or sector suffers losses.

## **dividend yield**

The current or estimated annual dividend divided by the market price per share of a security.

## **Economic sectors**

### **Communication Services**

Contains companies involved in communication services, including wireless, cellular and high-bandwidth networks.

### **Consumer Discretionary**

Includes industries likely to be most sensitive to economic cycles, including automotive, apparel, household durable goods, hotels, restaurants and consumer retailing.

### **Consumer Staples**

This sector includes industries that are less sensitive to economic cycles, including food, beverage and tobacco manufacturers, producers of nondurable household goods, and food and drug retailing companies.

### **Energy**

Contains companies involved in producing, marketing or refining gas and oil products.

### **Financials**

Includes companies engaged in finance, banking, investment banking and brokerage, insurance, corporate lending and real estate.

### **Health Care**

Includes manufacturers of health care equipment and supplies, providers of health care services and producers of pharmaceuticals.

### **Industrials**

This sector includes companies involved in construction, engineering and building, aerospace and defense, industrial equipment and machinery, and transportation services and infrastructure.

### **Information Technology**

Contains companies primarily involved in technology software and services, hardware and equipment, and manufacturers of semiconductors.

### **Materials**

Includes companies that manufacture chemicals; construction materials; glass; paper products; and metals, minerals and mining companies.

### **Utilities**

Includes gas, water and electric utilities, as well as companies that operate as independent producers or distributors of power.

**float**

The number of shares of a corporation that are outstanding and available for trading by the public. A small float means the stock will be volatile, since a large order to buy or sell shares can influence the stock's price dramatically. A larger float means the stock will be less volatile.

**index choice**

An investment choice designed to closely match performance and composition of a particular market benchmark, such as the Russell 1000® Index.

**interest rate**

The rate of interest charged for the use of money, usually expressed as an annual rate.

**liquidity**

The ability to easily turn assets into cash. An investor should be able to sell a liquid asset quickly with little effect on the price. Liquidity is a central objective of money market fund.

**market capitalization (large-cap, mid-cap, small-cap)**

The market price of a company's shares multiplied by the number of shares outstanding. Large capitalization (large-cap) companies generally have more than \$5 billion in market capitalization; mid-cap companies between \$1.5 billion and \$5 billion; and small-cap companies less than \$1.5 billion. These capitalization figures may vary depending upon the index being used and/or the guidelines used by the portfolio manager.

**market value**

The price at which a security is trading and could presumably be purchased or sold. This also refers to what investors believe a firm is worth, calculated by multiplying the number of shares outstanding by the current market price of a firm's shares.

**market value-mean**

The market value of a group of securities computed by calculating the arithmetic average of a sample.

**market value-weighted**

The market value of a group of securities computed by calculating a weighted average of the returns on each security in the group, where the weights are proportional to outstanding market value.

**maturity**

The final date on which the payment of a debt instrument (e.g., bonds, notes, repurchase agreements) becomes due and payable. Short-term bonds generally have maturities of up to five years, intermediate-term bonds between five and 15 years, and long-term bonds more than 15 years

**MSCI ACWI ex USA Index**

The MSCI (Morgan Stanley Capital International) ACWI (All Country World Index) ex USA Index captures large- and mid-cap representation across 22 developed markets and 26 emerging market countries/regions with approximately 1,900 foreign companies. The index covers about 85% of the global opportunity set outside of the United States.

**MSCI World ex USA Index**

The MSCI (Morgan Stanley Capital International) World ex USA Index is a free float-adjusted market capitalization index of approximately 1,000 foreign companies that is designed to measure developed market equity performance, excluding the United States.

**net asset value (NAV)**

The market value of one unit of an investment option on any given day. It is determined by dividing an investment option's total net assets by the number of units outstanding.

**price/book ratio**

The current market price of a stock divided by its book value or net asset value.

**price/earnings ratio (P/E)**

The current market price of a stock divided by its earnings per share. Also known as the "multiple," the price-to-earnings ratio gives investors an idea of how much they are paying for a company's earning power and is a useful tool for evaluating the costs of different securities.

**price/sales ratio**

The current market price of a stock divided by total sales.

**Risk****country risk**

The possibility that world events, such as political instability, financial troubles or natural disasters, will adversely affect the value of securities issued by companies in foreign countries.

**credit risk**

A loss in value due to a bond issuer's failure to make timely interest and principal payments or adverse perception of the issuer's ability to make such payment.

**currency risk**

The possibility an investment's value will change due to changes in currency exchange rates.

**income risk**

The possibility income will decline because of falling interest rates.





## Glossary of Terms

### **industry concentration risk**

Investments concentrated heavily in specific industries could trail the overall market.

### **interest rate risk**

The risk that values will fall with changes in interest rates.

### **investment style risk**

The chance that returns from a designated investment style will trail returns from the overall stock market.

### **manager risk**

The possibility that poor security selection will cause underperformance relative to the benchmark.

### **purchasing power risk**

The possibility principal and interest won't be worth as much in the future because of erosion in value due to inflation.

### **stock market risk**

The possibility that stocks will experience losses due to factors that affect the overall performance of the financial markets.

### **risk tolerance**

How sensitive you are to market losses.

### **Russell Indices**

These indices are used as standards for measuring U.S. stock market performance. An example would be the Russell 3000<sup>®</sup>, which is the most widely used broad market index for U.S. institutional investors. It is comprised of the largest 3,000 U.S. stocks, representing 98% of investable U.S. equity.

### **stock**

An ownership share in a corporation. Each share of stock is a proportional stake in the corporation's assets and profits, and purchasing a stock should be thought of as owning a proportional share of the successes and failures of that business.

### **top-down approach**

The method in which an investor first looks at trends in the general economy, selects attractive industries and then companies in those industries that should benefit from those trends.

### **tracking error**

A portfolio volatility measurement that compares the variation (measured by the standard deviation) of the difference between the performance of the benchmark and a particular fund.

### **Treasury securities**

Negotiable debt obligations of the U.S. government, secured by its full faith and credit. The income from Treasury securities is exempt from state and local income taxes, but not from federal income taxes. There are three types of Treasuries: bills (maturity of three–12 months), notes (maturity of one–10 years) and bonds (maturity of 10–30 years).

### **volatility**

The general variability of a portfolio's value resulting from price fluctuations of its investments. In most cases, the more diversified a portfolio is, the less volatile it will be.

### **yield**

The annual rate of return on an investment, as paid in dividends or interest. It is expressed as a percentage obtained by dividing the market price for a stock or bond into the dividend or interest paid in the preceding 12 months.



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