

## Oregon Retirement Savings Board Meeting

[OST-Tigard Office](#)  
[Mt. Hood Board Room](#)

Tuesday, 3/13/2018  
9:00 AM - 12:00 PM PT

- 1. Notice of Executive Session Presented By: Treasurer Read (9:00am)**  
*0 - Executive Session Agenda - Page 2*
- 2. Oregon Retirement Savings Plan Board Meeting Agenda (9:20am)**  
*00 - March Agenda - Page 3*
- 3. Review and Approval of December 19, 2017 Board Minutes Presented By: Treasurer Tobias Read (9:00am)**  
ACTION ITEM  
*01 - ORSB DRAFT Minutes 2017.12.19 - Page 5*
- 4. Executive Director's Report Presented By: Lisa Massena, Executive Director (9:05am)**  
INFORMATION ITEM  
*02 - OregonSaves - ED's Report - 2018.3 - Page 8*
- 5. Program Implementation and Administration**  
INFORMATION ITEM  
*03 - OregonSaves - Program Implementation Administration March 13 2018F - Page 9*  
*03a - OregonSaves Chatbot Overview - Page 18*
  - a. Implementation & Outreach Presented By: Joel Metlen, Public Engagement Manager (9:20am)**
  - b. Program Administration Presented By: Matt Golden, VP Relationship Management, Ascensus (9:40am)**
- 6. Program & Investment Review**  
INFORMATION ITEM
  - a. Retirement Environment / Program Commentary Presented By: Wendy Carter, VP & DC Director, Public Sector, Segal (10:00am)**  
*04a - Retirement Environment - Page 19*
  - b. 2017 Investment & Performance Review Presented By: Glenn Ezard, Senior Consultant, Segal Marco Advisors (10:20am)**  
*04b - REPORT\_ OregonSaves Retirement Savings Program ended 12-31-17 - Page 26*
- 7. Oregon - Refreshed Statistics and Analysis Presented By: Geoff Sanzenbacher, Associate Research Director, Center for Retirement Research, Boston College (10:40am)**  
INFORMATION ITEM  
*05 - Boston College presentation Oregon March 13 2018F - Page 98*
- 8. Strategic Planning - OregonSaves Presented By: Michael Parker, Lisa Massena, Joel Metlen, Ryan Auclair, Strategic Analyst (11:15am)**  
INFORMATION ITEM  
*06 - OregonSaves Strategic Plan - Board Presentation - 2018.3 - Page 127*
- 9. PUBLIC COMMENT (11:30am)**  
INFORMATION ITEM



**STATE OF OREGON**  
**OREGON STATE TREASURY**

900 COURT STREET NE, ROOM 159  
SALEM, OREGON 97301

**Oregon Retirement Savings Board**  
**Notice of Executive Session**

**Tuesday, March 13, 2018**  
**9:00am – 9:20am**

**OST – Tigard Office**  
**Mt. Hood Board Room**  
**16290 SW Upper Boones Ferry Road**  
**Tigard, Oregon**

Executive Session to consult with counsel concerning the legal rights and duties of a public body with regard to current litigation or litigation likely to be filed. ORS 192.660(2)(h).



**STATE OF OREGON**  
**OREGON STATE TREASURY**

900 COURT STREET NE, ROOM 159  
SALEM, OREGON 97301

**Oregon Retirement Savings Board**

**Agenda**

Tuesday, March 13, 2018

9:20am – 12:00pm

OST – Tigard Office  
Mt. Hood Board Room  
16290 SW Upper Boones Ferry Road  
Tigard, Oregon

**Conference Line #: 877.336.1828**

**Access Code: 1691288**

**CALL TO ORDER**

There will be an opportunity for public comment before the end of the meeting.

**ACTION ITEMS**

- |  |                              |             |
|--|------------------------------|-------------|
| <b>1. Review and Approval of December 19, 2017 Minutes</b> | <b>Treasurer Tobias Read</b> | <b>9:20</b> |
|  | ORSB Chair                   |             |

**INFORMATION ITEMS:**

- |                                       |                     |             |
|---------------------------------------|---------------------|-------------|
| <b>2. Executive Director's Report</b> | <b>Lisa Massena</b> | <b>9:25</b> |
|                                       | Executive Director  |             |

- |   |                                      |              |
|---|--------------------------------------|--------------|
| <b>3. Program Implementation and Administration</b> |                                      |              |
| a. Implementation & Outreach                        | <b>Joel Metlen</b>                   | <b>9:45</b>  |
|   | Public Engagement Manager            |              |
| b. Program Administration                           | <b>Matt Golden</b>                   |              |
|   | VP Relationship Management, Ascensus | <b>10:05</b> |

Tobias Read	Kara Backus	Lee Beyer	Edward Brewington	Dan Clay	Pam Marsh	Cory Streisinger	Lisa Massena
Treasurer	Member	Senator	Member	Member	Representative	Member	Executive Director
Chair							

<b>4. Program &amp; Investment Review</b>		
a. Retirement Environment / Program Commentary	<b>Wendy Carter</b> VP & DC Director, Public Sector, Segal	10:25
b. 2017 Investment & Performance Review	<b>Glenn Ezard</b> Senior Consultant, Segal Marco Advisors	10:45
<b>5. Oregon – Refreshed Statistics and Analysis</b>		
	<b>Geoff Sanzenbacher</b> , Research Economics Associate Research Director, Center for Retirement Research, Boston College	11:05
<b>6. Strategic Planning - OregonSaves</b>		
	<b>Michael Parker, Lisa Massena, Joel Metlen</b> <b>Ryan Auclair</b> , Strategic Analyst	11:40
<b>PUBLIC COMMENT:</b>		11:55
Next Meeting of the Oregon Retirement Savings Board:		June 13, 2018
Adjournment		12:00

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Oregon Retirement Savings Plan  
Board Minutes  
December 19, 2017  
9:00am – 12:00pm

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Board members present:

Cory Streisinger  
Kara Backus  
Senator Lee Beyer  
Edward Brewington  
Dan Clay  
Representative Pam Marsh

Board member absent:

Treasurer Tobias Read

Oregon State Treasury staff present:

Ryan Auclair, Strategic Analyst  
David Bell, Managing Director, Oregon ABLE & Oregon College Savings Plan  
Kaellen Hessel, Communications Coordinator  
Mary Krehbiel, Organizational Risk & Resiliency Manager  
Ryan Mann, Legislative Director  
Lisa Massena, Executive Director, OregonSaves  
Joel Metlen, Manager, Public Engagement  
Alex Nelson, Sr. Project Manager  
Kim Olson, Policy Director  
Michael Parker, Executive Director, Oregon Savings Network  
Jen Peet, Director of Legal Affairs  
Missy Simpson, Executive Assistant  
James Sinks, Communications Stakeholder Relations  
Stephanie Swetland, 529 Plan Specialist

Cory Streisinger, acting chair, called the Oregon Retirement Savings Board meeting to order at 9:03 am.

**Agenda Item 1 – Review and approval of the minutes of the September 12, 2017 Oregon Retirement Savings Board meeting, and the minutes of the October 11, 2017 Oregon Retirement Savings Board Conference call (ACTION ITEM)**

**MOTION:** Edward Brewington moved approval of the minutes of the September 12, 2017 and October 11, 2017 meeting of the Oregon Retirement Savings Board. Kara Backus seconded the motion. The minutes were approved by a 3/0 vote.

**Agenda Item 2 – Annual Report to Legislature for Board Approval (ACTION ITEM)**

James Sinks, Communications Stakeholder Relations, presented the final draft of the annual report to the Legislature for Board approval.

**MOTION:** Edward Brewington moved approval of the annual report to the Legislature. Kara Backus seconded the motion. The annual report was approved by a 3/0 vote.

**Agenda Item 3 – OregonSaves – Treasury Structure, Staffing & 2017-19 Financial Outlook:**

Michael Parker, Executive Director of the newly formed Oregon Savings Network, presented the consolidation Treasurer Read and his staff developed to better support all of the savings programs under Treasury. The State's College Savings Plan, the ABLE plan and OregonSaves will be managed together, creating efficiencies and potentially reducing the need for additional resources. Mr. Parker will be in charge of the network, Lisa Massena, will continue as Executive Director of OregonSaves, and David Bell will run the College Savings and ABLE Savings programs.

Mr. Parker gave the Board an overview of the OregonSaves current legislatively approved budget and upcoming budget request. Staff will ask the Legislature for \$1.8 million to fully fund the program for the rest of the biennium, completing the \$4 million initially requested for the full period. Staff would also like to focus on removing OregonSaves from the general fund appropriation as soon as possible.

Senator Beyer asked to see what would be presented during legislative days regarding the budget and offered to help. Representative Marsh reminded the Board there are several new legislators and Staff should reiterate the program's goals and expectations where appropriate.

**Agenda Item 4 – Executive Director's Report:**

Lisa Massena, Executive Director of OregonSaves, gave a brief update of the major activities of the program, including program status, finance and budget, and investments. Ms. Massena let the Board know staff is updating its public messaging to inform employers they can join the program as soon as they are ready, in addition to continuing to communicate formal deadlines.

**Agenda Item 5 – Program Implementation & Administrative Review:**

**a. Implementation & Outreach:**

Joel Metlen, Public Engagement Manager, updated the Board on the program implementation and outreach. Staff have made sure both employers and employees are hearing about the program and are getting the help needed to begin the process. The focus is now on bringing employers in effectively and timely.

**b. Program Administration - Ascensus:**

Matt Golden, Relationship Manager, explained to the Board a number of process changes that have been made, such as adding "attention HR or Payroll" when sending out notices and enabling employers to start earlier than their scheduled date in the waves.

Scott Morrison, Product Manager, talked about how Ascensus has added "educational nudges" messaging for employees, such as savings lost by opting out. Ascensus has customized the nudges to age and tied in a retirement calculator, and will track the nudges going forward. Future enhancements will include more tools for payroll providers. Ascensus is preparing to capture more information for opting-in participation, auto-escalation and inclusion of Traditional IRA's and rollovers in.

**c. Project Status Report:**

Alex Nelson, Senior Project Manager, gave his final project status report. The project has met performance and quality measure goals for scope and schedule, but required expanded budget due to legal costs incurred during the 2015-17 Biennium.

**Agenda Item 6 – Investment & Environment Review:**

**a. State Street Global Advisors:**

Jim Nelson, Sr. Relationship Manager, and Vidur Mehra, Sr. Investment Strategist, presented the Board with an update on management and performance of the program's investment options. A copy of SSGA's report is

included in the OregonSaves records for this Board meeting. The team also provided an update on leadership changes at State Street, including the promotion of Ron O’Hanley to President and COO of State Street Corporation, and in his place, the appointment of Cyrus Taraporevala as President and CEO of State Street Global Advisors.

**b. Segal Marco Advisors:**

Glenn Ezard, Senior Consultant, gave a summary of the program’s investments and returns, stating the funds are performing positively. Wendy Carter, VP & DC Director, Public Sector, joined by phone. A copy of Segal’s report is included in the OregonSaves records for this Board meeting.

**PUBLIC COMMENT**

Diane Freaney of Rooted Investing gave public comment stating people are confused with the investment options of OregonSaves. Ms. Freaney suggested if the State could do a guaranteed investment contract in Oregon, go to the credit unions and put together a mortgage fund that would pay 3% to the participants and allow the credit unions to do 3-1/4 30-year mortgages, which would keep the money in Oregon, this would be an option people would want and understand. Ms. Freaney also stated the government should not be in the retirement business.

Carolyn Kohout, member of the Local SEIU 503/99, had several questions regarding the status of homecare workers who are not in the system, or have not been approached to sign up or register. Ms. Kohout’s questions were given to Ms. Massena, so that she may respond to her in person.

Ms. Streisinger closed the business portion of the Board meeting, allowing everyone a break before the Strategic planning portion with the Board.

**Agenda Item 7 – Strategic Planning:**

Mary Kreihbel, Organizational Risk & Resiliency Manager, Ryan Auclair, Strategic Analyst, and Kaellen Hessel, Communications Coordinator, led the Board in a Strategic Planning session for the OregonSaves program in alignment with current strategic activity of Treasury. The mission statement the Board developed was “Improving Oregon Governments’ and citizens’ financial capabilities through ***Ensuring Oregonians have easy access to professionally managed retirement savings.***”

Next meeting of the Oregon Retirement Savings Plan:

March 13, 2018

Meeting was adjourned at 12:03pm



# Executive Director's Report

- Program oversight & management
- Finance and budget
- Investment management
- Strategic planning
- Looking ahead – June+
  - Rulemaking
  - Board policies – review
  - Behavioral science and User experience





Program Implementation and Administration Update  
Oregon Retirement Savings Plan Board  
March 13, 2018



# Implementation & Outreach Update

## Implementation Progress

- Wave 1:
  - Almost all wave 1 employers have registered or claimed exemption
  - Most have added employees
  - About half have started payroll deductions
  - Assets growing quickly as employers start remitting contributions
- Early adoption campaign
  - 500 notices per day began going out 2/15, starting with wave 2
  - Better response rate already for wave 2 compared to wave 1
  - Steady increase in employers joining

## Saver and employer experience

- Feedback solicited from every employer and through call center contact
- Feedback is mostly positive, especially about customer service and responsiveness
- Issues are being logged and considered for future improvements
- Promoting education sessions to make the process easier

# Implementation & Outreach Update

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## Upcoming research

- Surveying to begin for baseline employee data to determine who is participating and who isn't
- Developing message and process testing with Duke University and Commonwealth

## Public engagement

- Statewide outreach began with a focus on the coast and will shift to Southern Oregon and Eastern Oregon in the spring
- Creating processes to work closer with payroll providers
- Planning on engaging stakeholders in regards to future program changes, including opt-in capabilities

# Client Service Experience

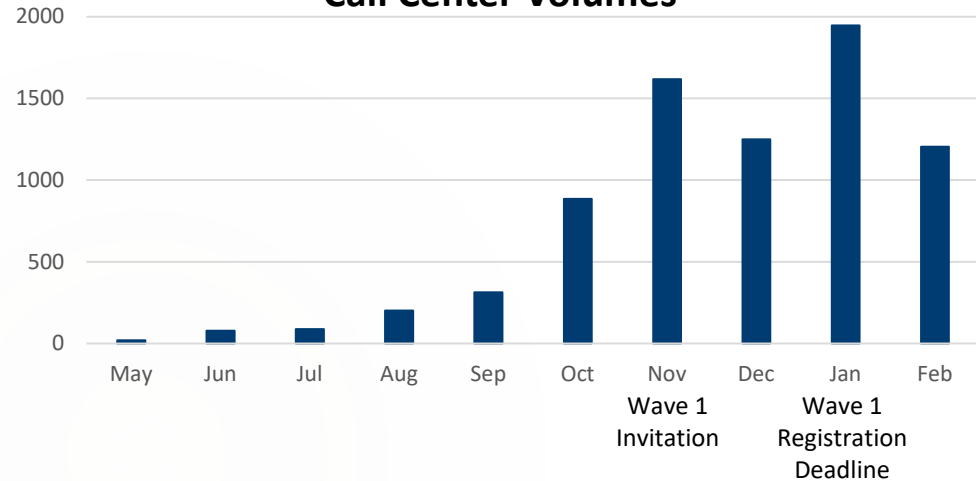
## Contact Volumes – Inception through February 2018

- Saver calls answered: **4082**
- Employer calls answered: **3522**
- Call abandoned rate: **.017%**
- Percent of calls answered within 30 seconds: **98%**
- Emails handled: **2255**
- Outbound call volume total: **6037**

## Employer Outreach

- OregonSaves identified common questions posed by employers:
  - How do I update contribution rates?
  - How do I add employees?
  - What is the process of submitting payroll contributions?
- In response to this, the OregonSaves Client Services has been actively reaching out to employers and payroll representatives
- Their focus is to educate and offer assistance employers with any questions regarding the onboarding process

Call Center Volumes



*The OregonSaves Call Center is available for assistance and questions 8 am to 8 pm PST, Monday – Friday*

**Employer Line: 844-661-1256**

**Saver Line: 844-661-6777**

**[ClientServices@OregonSaves.com](mailto:ClientServices@OregonSaves.com)**



# Marketing Update

## Campaign Support

- Early adoption campaign
  - Email and letter notifications, web content
- Payroll provider program logos



- Added Fee Page to employer and saver websites
  - Incorporated icons to fee breakout for readability and comprehension



## In the News



- CNBC opportunity with Treas. Read, Peg Creonte (Ascensus), Reach Break Brewing

# Marketing Update

## Marketing Deliverables

- Window clings for employer engagement



- Incorporated employer and saver testimonials on both websites



# Platform Update

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## Dec 2017-Q1 2018

- Year End Statement and Tax Forms
- Payroll Test Files
- Enhancements to Customer Service capabilities
- Dashboard Reporting

## Additional Enhancements

- Early Adoption Invitations
- Enhancements for Cannabis Industry
- Changes to “Know Your Customer” process

## Q2 2018

- Employer contribution processing enhancements
- Payroll Provider program
- Simplified payroll updates for employers and payroll providers
- Employer opt-in capabilities (in discussion)
- Cannabis employee monitoring (in discussion)
- Dollar based contributions

# Platform Update

## Enhancement Pipeline

Enhancement	Origin	Live Date	Estimated Dev Start	Comments
Payroll Change Summary	Payroll Provider Input	1/31/2018	9/1/2017	Simplifies payroll updates for Large ERs and Payroll Providers; first iteration is in place now
Dollar-based Contributions	Oregon Rulemaking	10/1/2018	7/1/2018	Wave 3 implementation
EE Opt-In Participation (self-employed/no plan)	Oregon SOW	12/1/2018	6/1/2018	Requires direct enrollment website, without having an ER relationship
Auto-Escalation	Oregon SOW	1/1/2019	10/1/2018	Includes ER and EE communications
Traditional IRAs	Oregon SOW	1/31/2019	6/30/2018	Requires support materials/tools
Rollovers In	Oregon SOW	6/1/2019	3/1/2019	



# Fee Updates

## Program Administration Fee Change

	Program Administration Fee - State	Program Administration Fee - Administrator	Total Program Administration Fee
Current	0.05%	0.85%	0.90%
<b>New</b>	0.15%	0.75%	0.90%

- Ascensus is offering this fee change in order to strengthen the OregonSaves program as it launches
- OregonSaves predicts that it will be able to operate independent of Legislative financial support sooner, and will be able to repay loans sooner
- Program fees to participating savers remain the same

# OregonSaves Chatbot on Facebook Messenger

OregonSaves is working with Accenture to deploy a 24-month Chatbot Pilot via Facebook Messenger. The Chatbot Pilot includes the development of a self-service conversational bot, based on pre-determined frequently asked questions (FAQs), to help Employers and Customers access key information about the OregonSaves program.

The Chatbot includes the following:

- 50+ FAQs converted into a conversational FAQs with customers
- Support both text and voice-to-text
- Support English and Spanish and can be expanded to other languages

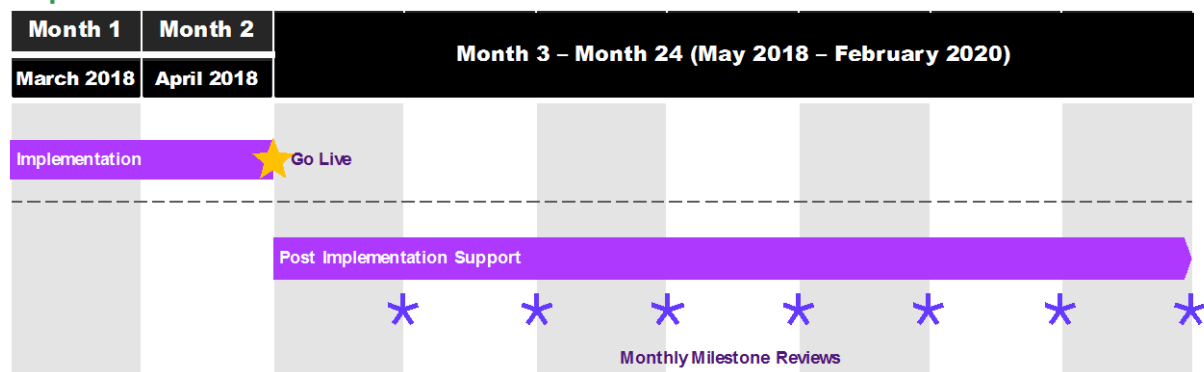


## Accenture Chatbot Solution

Accenture is one of the largest end-to-end providers of digital transformation capabilities in the world. We bring digital capabilities to clients that deliver transformation @speed and @scale. Accenture has helped businesses, organizations, and governments redefine how they serve their customers.

Chatbots provide real-time consistent and compliant information to customers. For OregonSaves, Accenture's chatbot solution will enhance customer experience by providing a **24/7 customer care** capability to support questions and answers through Facebook Messenger. As a **conversational interface** Accenture's chatbot solution enables increasingly seamless connections with people interested in getting more information on the OregonSaves program. The chatbot solution is **technology-agnostic** which means that OregonSaves will leverage Accenture's **alignment with market leaders and emerging players** to deliver the best outcomes for the program.

## Implementation Timeline



## About Accenture

Accenture has completed more than 30 pension projects in the U.S. and abroad since 1980, enabling the delivery of benefits to more than 100 million participants. Our experiences cover thought leadership, planning, development, and implementation of defined benefit pension systems. We believe our pension knowledge and experience coupled with the same in the digital space put Accenture at a unique advantage for providing new technologies, such as chatbots to your employer and your savers.



# OregonSaves PRIVATE SECTOR RETIREMENT SAVINGS

March 13, 2018

**Wendy Carter**  
Segal Marco Advisors

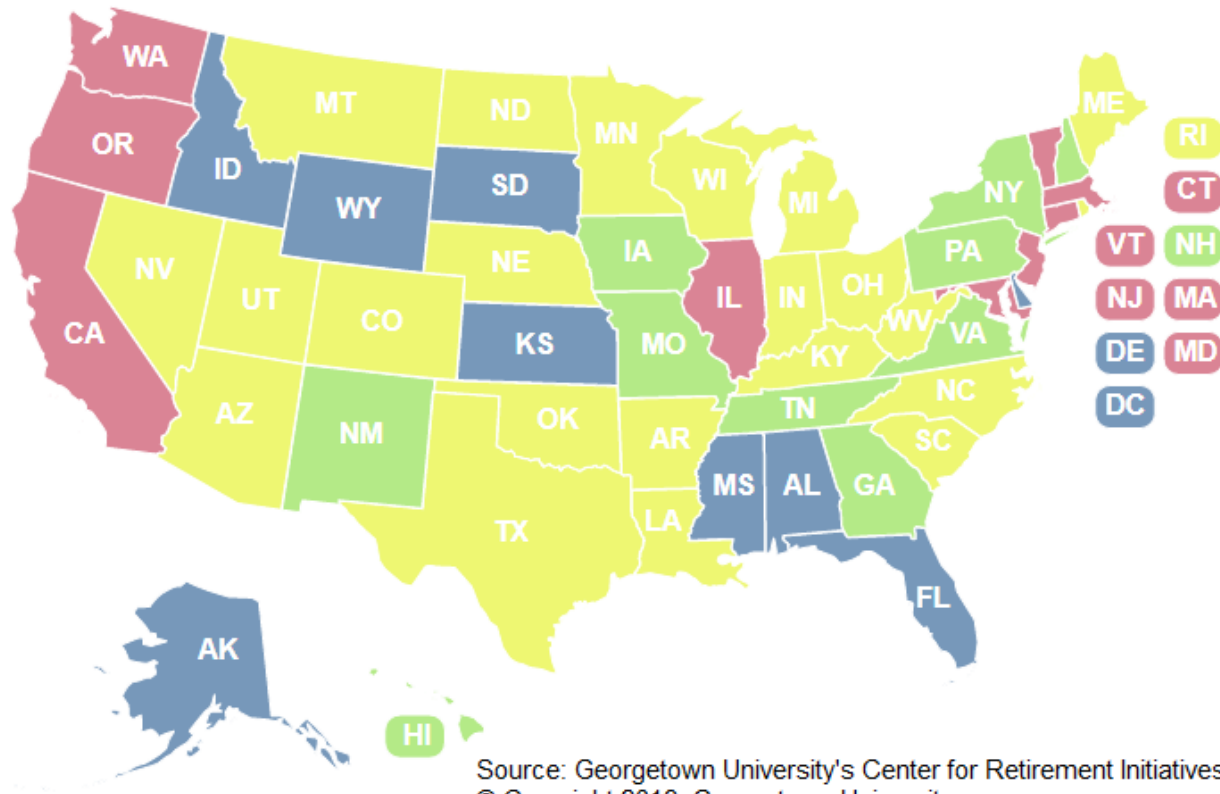
★ Segal Marco Advisors

# Results of Getting the Conversation Started

- PEW\* survey of employees re: auto-IRAs
  - About 75% would stay in the program if auto-enrolled
  - About 10% would increase contributions from the default rate
- Flexible features are a big hit
  - Keeping account even if change jobs (84%)
  - No tax penalty on withdrawal of contributions (81%)
- Feelings re:
  - Investments (73%)
  - State role (64%)
- Consistent with California focus group results



# “Secure Choice” Environmental Update



- = legislative proposal and/or study in 2018
- = laws enacted (2012-present)
- = recent state efforts (2012-2017)
- = no recent state efforts

# “Secure Choice” Environmental Update

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## ➤ Illinois Secure Choice Auto IRA

- Service provider (Ascensus) has been hired
- Investment lineup has been finalized and approved
  - TDFs serve as the default investment option
  - US Equity Index
  - US Fixed Income
- Preparing to start pilots

## ➤ CASC Auto IRA

- Service provider RFP issued March, 2018
- Investment policy and strategic planning in process
- Anticipates a soft launch in 2018
- Officially open for statewide enrollment in early 2019

# “Secure Choice” Environmental Update

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## ➤ Washington Vendor Market Place

- Expects to open soon
- Will offer five plans
  - 2 Roth IRAs
  - 2 Traditional IRAs
  - SEP IRA
- Will add new offerings
- May provide modest grants to local business and economic development organizations to help build awareness and marketplace brand

## ➤ Connecticut

- IRA with a marketplace of selected vendors and products
- RFI issued and responses received

## ➤ Maryland Payroll IRA

- The Board to select one or more payroll deposit IRA arrangements.
- Mandatory for all employers that pay employees through a payroll system or service.

# **“Secure Choice” Environmental Update**

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- City of Seattle is 1<sup>st</sup> city to pass legislation for payroll IRA
- Vermont will create a MEP
  - Consultant retained to assist with service provider search
  - Stakeholder meetings were held in January, 2018
  - RFI issued with responses due March 9
  - Timeline with a goal of a December 2018 soft launch
- Additional states and municipalities have activity at various stages
  - Pennsylvania
  - Bills introduced in Virginia and Missouri



# Oregon Blazing the Trail

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## ➤ Identity and messaging

- Branding the benefit
- Effective and efficient
- Maintaining the momentum
- Expecting the unexpected

## ➤ Key activities and statistics are not mature but consistent with expectations

- Onsite and call center support
- Opt out rates and reasons
  - Can't afford to save
  - Already have a plan
  - Not interested
- Average contribution percentage
- Withdrawals

## OregonSaves Retirement Savings Program

# ANALYSIS OF INVESTMENT PERFORMANCE

December 31, 2017

Glenn Ezard  
*Senior Consultant*

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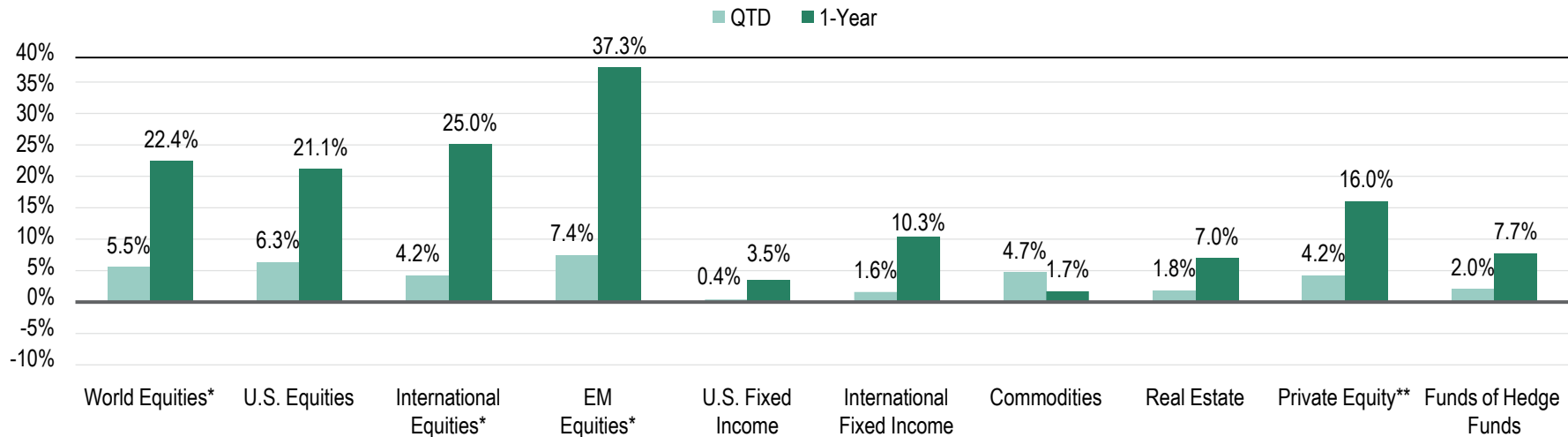
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## ANALYSIS OF INVESTMENT PERFORMANCE

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Underlying Investment Fund Analysis	3

# Q4 2017 In Review

## Summary of Investment Returns



## Quarterly Synopsis

- World equity markets rose again in Q4 with sustained positive global growth.
- U.S. equity gained in Q4 as investors cheered the tax reform legislation signed into law by President Trump.
- International equity rose with Japan investors encouraged after the results of October parliamentary elections.
- Emerging market equity posted a strong return again in Q4 with investors encouraged by political developments in South Africa, India and South Korea.
- U.S. fixed income was barely positive as the Federal Reserve raised interest rates again in December.
- Non-U.S. fixed income was positive for the quarter with the European Central Bank's announcement that it would continue asset purchases.
- Hedge funds gained in Q4, and notably recorded a positive return in every month of 2017.

\* Net of Dividends

\*\* Performance reported as of Q3 2017 because Q4 2017 performance data is not yet available.

Sources: Investment Metrics, Thomson One, FactSet

# Q4 2017 Index Returns

Asset Class	Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World Equity	MSCI World*	5.51	22.40	22.40	9.26	11.64	5.03
U.S. Equity	Russell 3000	6.34	21.13	21.13	11.12	15.58	8.60
Non-U.S. Equity	MSCI EAFE*	4.23	25.03	25.03	7.80	7.90	1.94
Emerging Market Equity	MSCI EM*	7.44	37.28	37.28	9.10	4.35	1.68
U.S. Fixed Income	Bloomberg Barclays U.S. Aggregate	0.39	3.54	3.54	2.24	2.10	4.01
Non-U.S. Fixed Income	Citigroup Non-U.S. WGBI (Unhedged)	1.57	10.33	10.33	1.99	-0.29	2.44
Commodities	Bloomberg Commodity Index	4.71	1.70	1.70	-5.04	-8.45	-6.83
Private Real Estate	NCREIF NPI	1.80	6.96	6.96	9.38	10.19	6.08
Private Equity	Thomson Reuters Private Equity**	4.21	13.57	16.02	11.57	13.84	9.08
Hedge Funds	HFRI Fund of Funds Composite	2.03	7.74	7.74	2.60	4.00	1.08

\* Net of Dividends

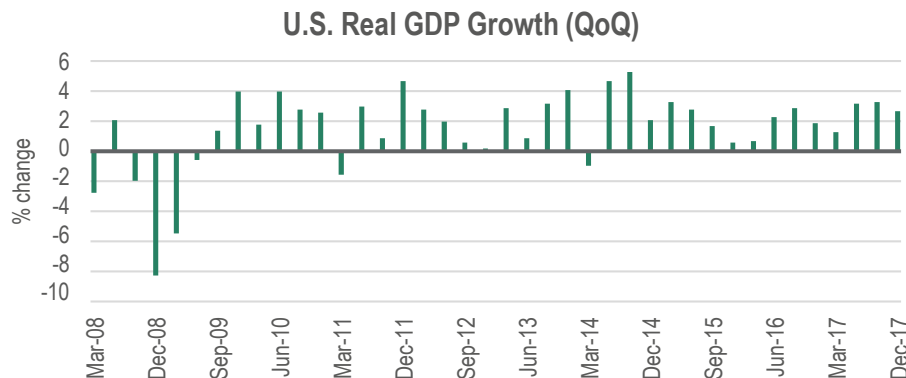
\*\* Performance reported as of Q3 2017 because Q4 2017 performance data is not yet available.

Sources: Investment Metrics, Thomson One, FactSet

# Q4 2017 In Review: U.S. Economy

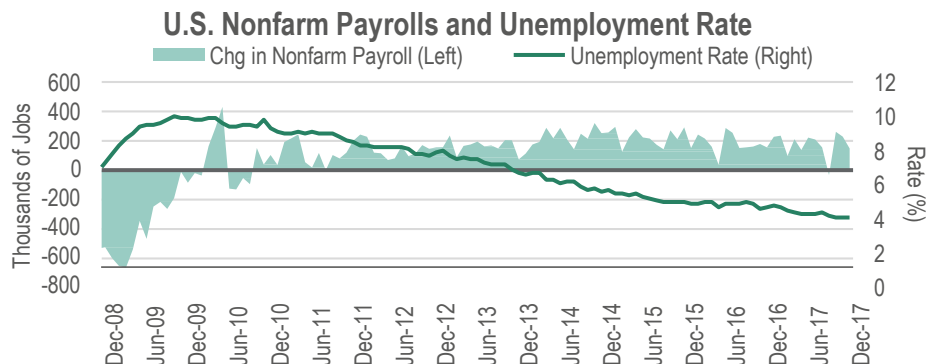
## GDP Growth

- Real GDP grew at a rate of 2.6% in Q4 2017. Revised real GDP growth for Q3 was 3.2%.
- GDP growth in Q4 came from personal consumption expenditures (PCE), nonresidential fixed investment, exports, state/local government spending and federal government spending.
- A downturn in private inventory investment and an increase in imports led to the relative deceleration in growth since Q3.



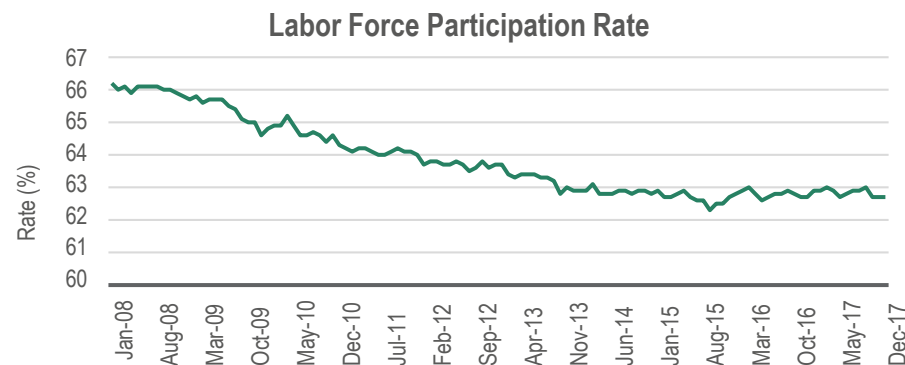
## Employment Picture

- The unemployment rate decreased from 4.2% in Q3 to 4.1% at the end of Q4.
- Nonfarm payrolls rose by 611,000 in Q4.
- Employment grew in health care, construction and manufacturing. Retail jobs were relatively flat. Professional and business services employment also changed little.



## Labor Force Participation

- The labor force participation rate refers to the proportion of people in the entire potential labor force who are either employed or are actively looking for work.
- The labor force participation rate was 62.7% at the end of December, down slightly from Q3.
- Labor force participation has bounced between 62% and 63% since 2014.

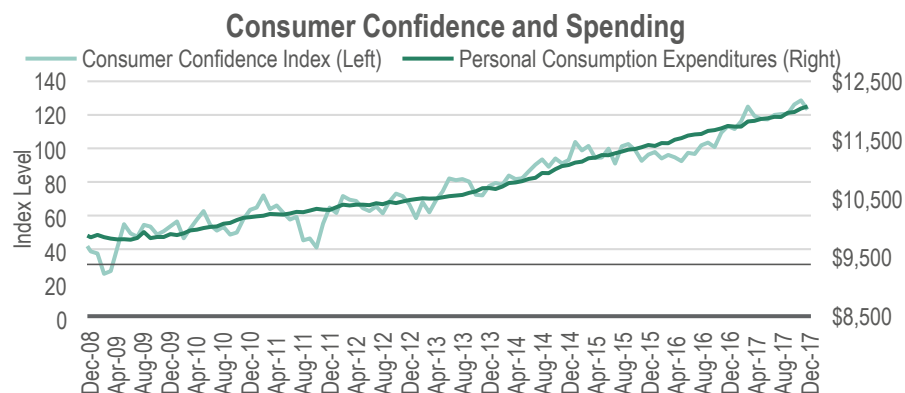


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# Q4 2017 In Review: U.S. Economy

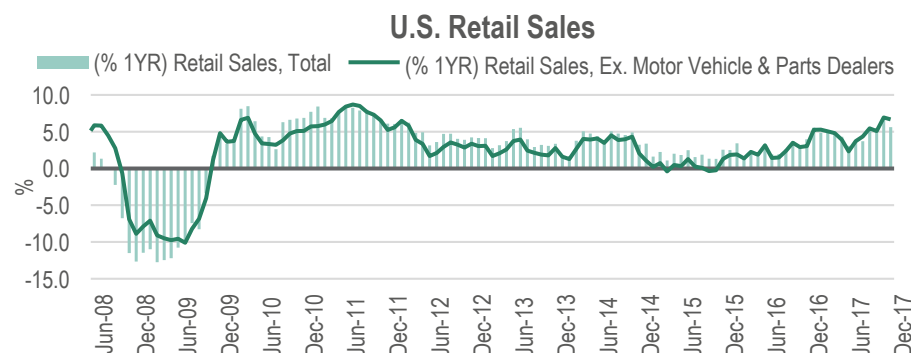
## Consumer Confidence and Spending

- Consumer confidence improved in Q4, as the Conference Board's Consumer Confidence Index rose from 121 in September to 123 at the end of December.
- Personal consumption expenditures were higher during the quarter.
- Optimism surrounding the recently passed tax reform bill and its potential to encourage continued economic growth in the U.S. spurred consumer confidence in Q4.



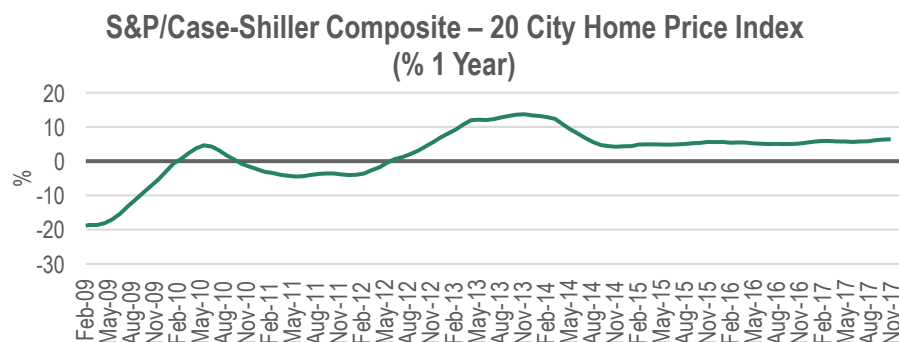
## Retail Sales

- Retail sales rose in Q4, with consumer confidence in the U.S. economy boosted by the passage of tax reform.
- The savings rate dropped to 2.6% from 3.3% in Q3. The savings rate among consumers in the U.S. continues to drop, suggesting that more people are using credit cards and other debt to finance purchases.



## Home Prices

- Home prices rose 5.9% in Q3 2017\*, as housing inventory remains historically low.
- An improving economy and still-dropping unemployment rate have boosted the demand for real estate.

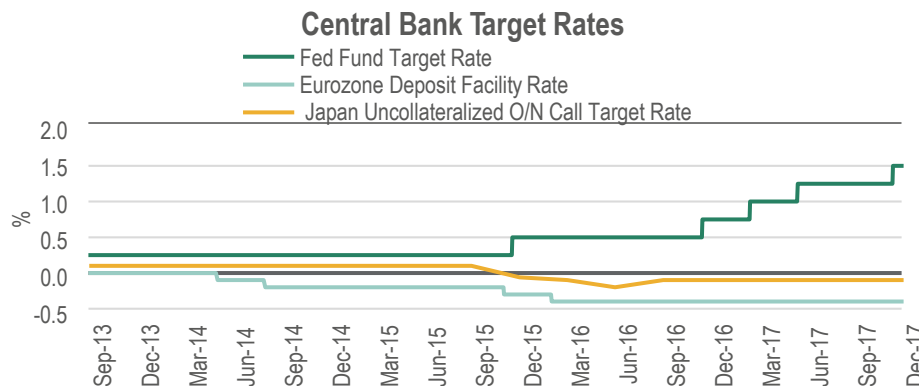


\*The most recent quarterly data available.  
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# Q4 2017 In Review: Global Economy

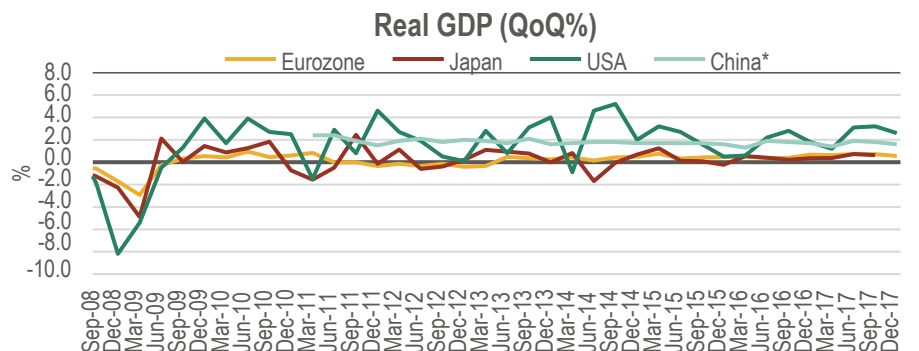
## Monetary Policies/Global Interest Rates

- Central bank deposit rates remain negative in many developed markets.
- The U.S. is the exception—the Federal Reserve (Fed) raised rates again in December, the third hike of 2017.
- It is unknown if and how new Fed chair Jerome Powell will make any changes from the policies and rate hike targets set forth under previous chair Janet Yellen.



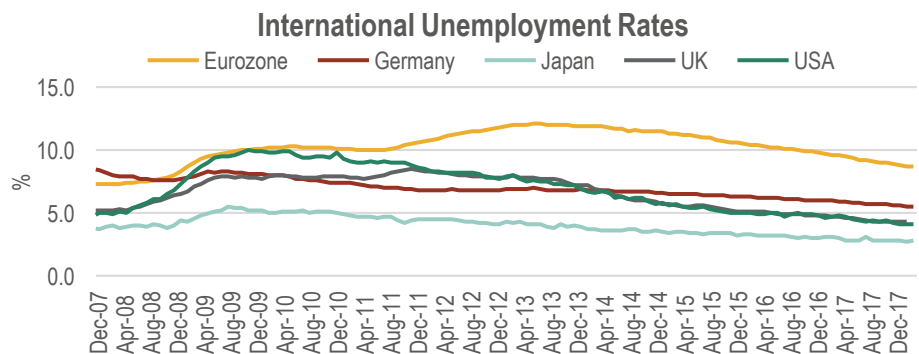
## World GDP Growth

- Eurozone GDP growth was 0.6% in Q4, similar to Q3.
- Economic growth seems to have picked up sustainably in the Eurozone, with projections of continued solid growth in 2018.
- China's GDP growth was stable in Q4 growing 1.6% QoQ and 6.9% for the year.
- Japan's GDP growth was 1.0% QoQ in Q4, and annual growth in 2017 was 1.6%.



## Global Employment Picture

- Eurozone unemployment fell to its lowest level in 9 years by the end of 2017, ending the year at 8.7%. The strength of the Eurozone's economy has led to this recent reduction in unemployment.
- Japan's unemployment rate held steady at 2.8% by the end of 2017, a 24-year low. A continued need for labor from companies and more consumer spending helped fuel the drop in unemployment in Q4.



\*Quarter over quarter data calculations began in 2011.

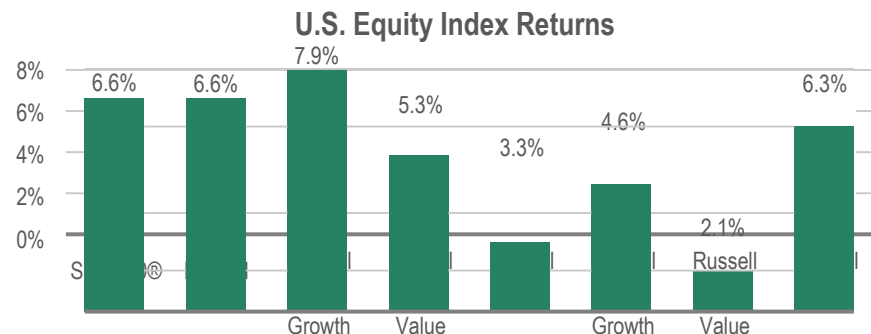
Source this page: FactSet



# Q4 2017 In Review: U.S. Equity

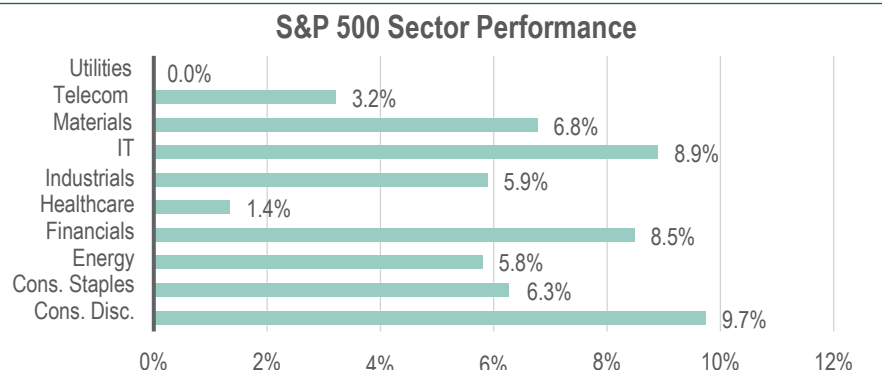
## Performance

- U.S. equity markets continued to rise during Q4, with the Dow Jones Industrial Average finishing the year close to 25,000. Broad-based market indices such as the S&P 500 and Russell 1000 delivered returns in excess of long-term averages.
- During Q4, large cap stocks outperformed small cap stocks, and growth beat value.



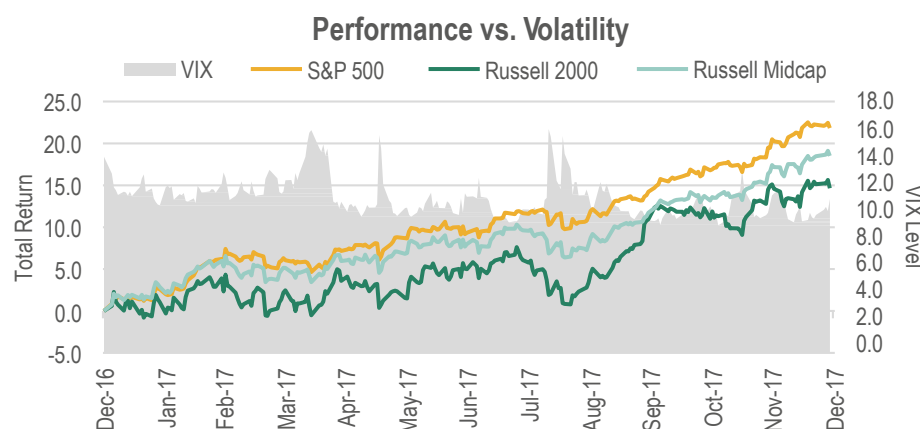
## Sector Returns

- Consumer Discretionary (9.7%) was Q4's best performing sector, while IT (8.9%), Financials (8.5%), Materials (6.8%), Consumer Staples (6.3%), Industrials (5.9%), and Energy (5.8%) all posted very strong returns, boosted by the passage of tax reform in early December.
- Telecom (3.2%) and Healthcare (1.4%) delivered positive but more muted returns, while Utilities (0.0%) remained flat for the quarter, as investors eschewed traditionally defensive sectors in favor of higher-growth areas.



## Performance vs. Volatility

- Above average correlations among large caps and an increased concentration among FAANG\* and other tech stocks in the S&P 500 have masked some of the potential near-term volatility that the VIX has indicated in the past.
- The VIX remains well below 20, the level considered to be the threshold for more stable markets. By contrast, a level above 30 is generally considered to be a measure of market instability.
- With the VIX index's shortcomings and U.S. stock valuations pushed well above long-term averages, risk in the U.S. stock market has become more challenging for many investors to quantify and manage.

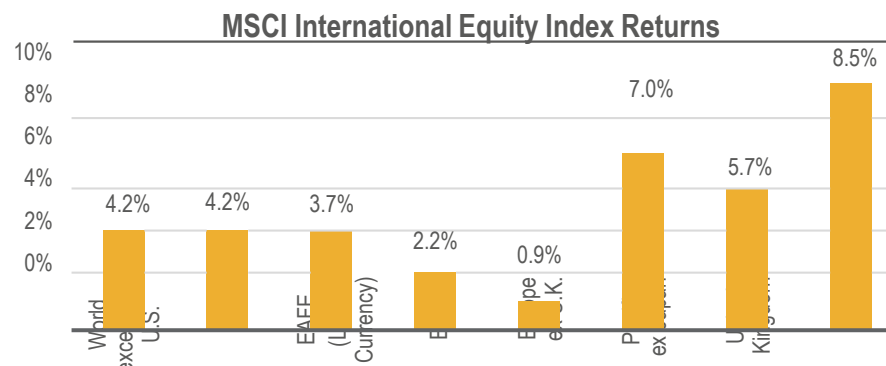


\*Facebook, Amazon, Apple, Netflix, Google  
Sources this page: Investment Metrics, FactSet

# Q4 2017 In Review: International Equity

## Performance

- International equity markets ended Q4 on a positive note, and the EAFE and World ex U.S. indices gained 25.0% and 24.2%, respectively, for the year. Notable macro events, such as U.S. tax reform, strengthening global economic growth, positive manufacturing data, increased corporate earnings, and rising oil prices positively affected market sentiment.
- Many major currencies, including the euro and the pound, strengthened against the U.S. dollar, which boosted returns in USD terms. However, the Japanese yen and the Canadian dollar weakened slightly.

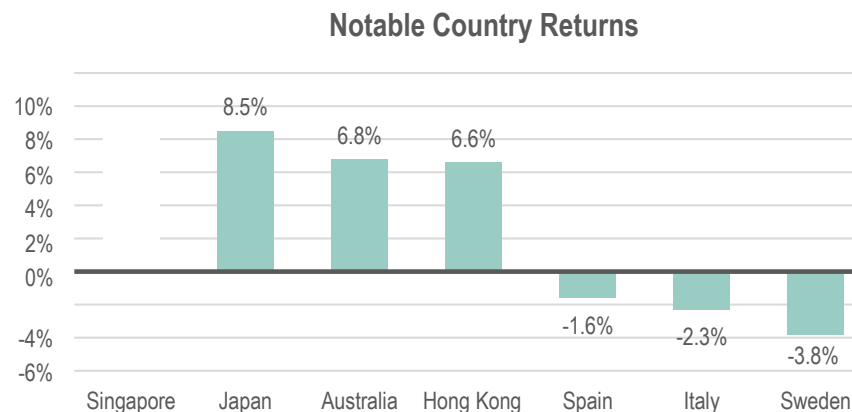


## Country Returns

Pacific ex Japan index rose 7.0% in Q4, with countries such as Singapore, Japan, Australia and Hong Kong contributing to the strength. In fact, Japan logged its sixth straight quarter of growth and marked its longest expansion in more than 15 years.

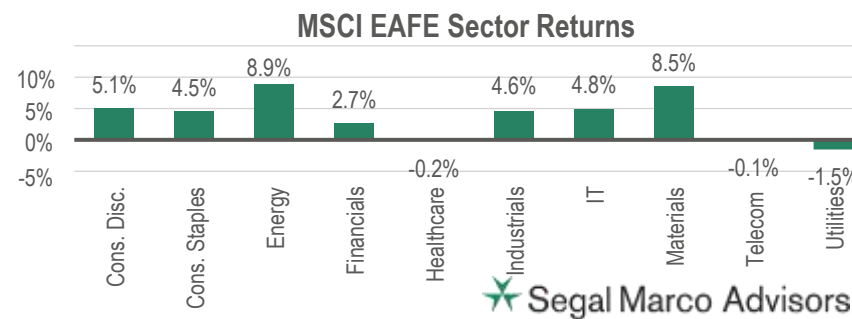
- European markets were challenged in Q4, as geopolitical events such as the Catalan vote for independence from Spain, Brexit-

Germany's political parties contributed to weaker returns (Europe ex U.K. posted 0.9% in Q4). Italy lagged as investors started to look ahead to the Italian elections. The Swedish housing market has also given investors' concerns amid pricing corrections.



## Sector Performance

- Sector returns were mixed in Q4. Energy and materials continued to outperform, as oil prices and demand for metal and mining remained stable.
- Conversely, the more defensive sectors such as healthcare and telecom were slightly negative and utilities struggled.



Source this page: Bloomberg

# Q4 2017 In Review: Emerging Market Equity

## Performance

The index's 37.3% annual return for 2017 was the best among the major geographical equity indices.

- Robust profits from technology companies, strengthening prices for key commodities such as oil and copper, as well as positive political developments supported gains in emerging markets.
- The local currency index return was 1.7% below that of the USD-based index in Q4, amid continued USD weakness.

## Country Returns

- South Africa posted a strong gain as pro-reform candidate

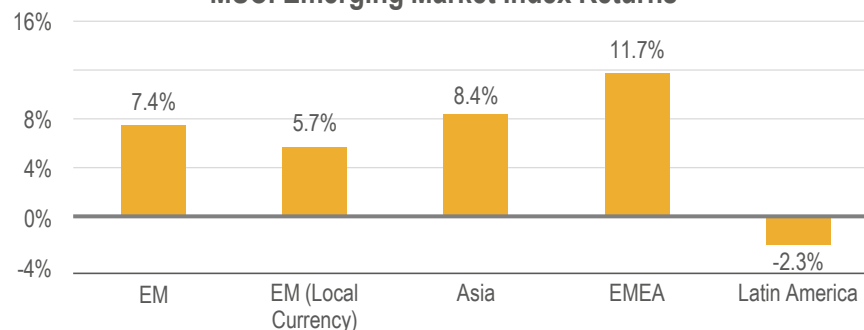
Congress, increasing the prospect of political reform after elections in 2019.

- Greece rallied as the country reached an agreement with international creditors over reforms, clearing the way for the further distribution of bailout funds. India advanced as the government announced plans for a major recapitalization for state-controlled banks.
- Mexico fell amid concern that negotiations to modernize NAFTA may collapse; the Mexican peso fell 7% against the USD. Brazil also posted a loss due to political woes and currency weakness.

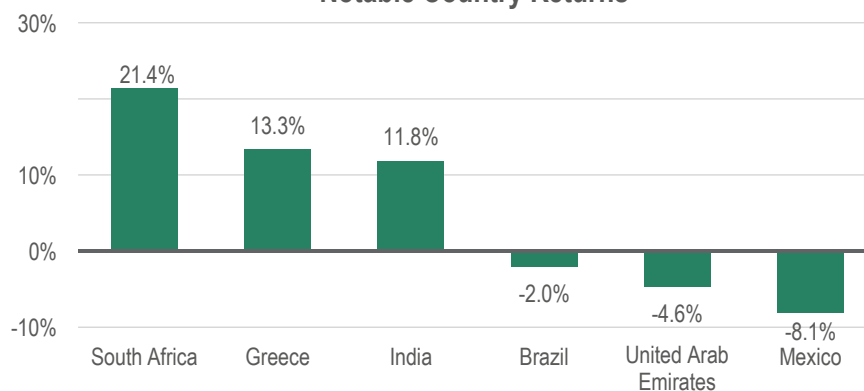
## Sector Performance

- All sectors were positive in Q4.
- Healthcare, Consumer Discretionary, and Materials posted the strongest returns, while Utilities and Telecom gained the least.

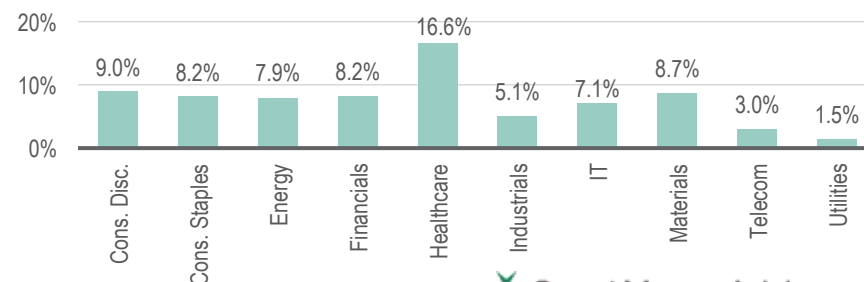
MSCI Emerging Market Index Returns



Notable Country Returns



MSCI EM Sector Returns



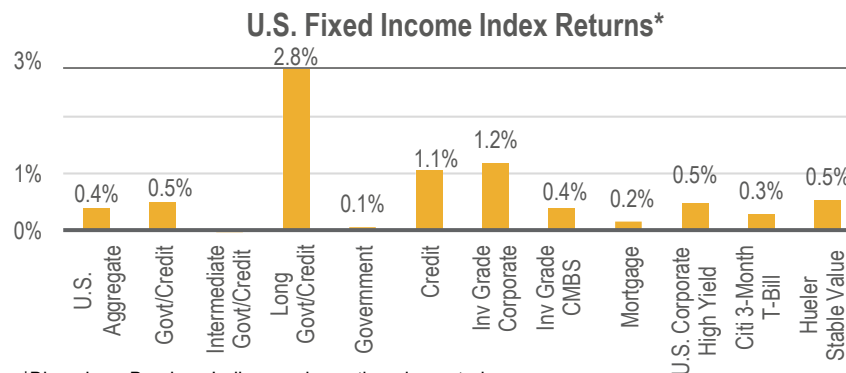
Source this page: Bloomberg

# Q4 2017 In Review: U.S. Fixed Income

## Performance

except for the ABS and Agency sectors (not shown), were positive in Q4.

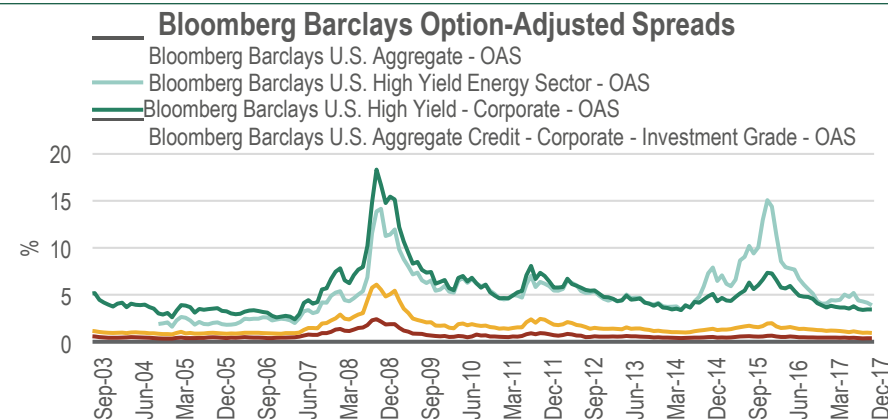
- Investment grade (IG) corporate bonds returned 1.2%, outperforming MBS at 0.2% and CMBS at 0.4%. High yield bonds also underperformed IG corporates with a return of 0.5%.
- The Treasury component of the Aggregate Index was only up 0.1% in Q4. The Federal Reserve hiked short-term interest rates again in December.



\*Bloomberg Barclays Indices, unless otherwise noted.

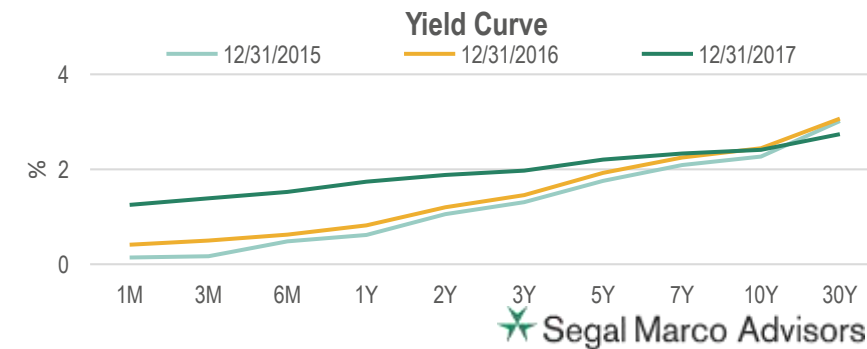
## Spreads

- All standard U.S. spread sectors were trading below historic medians at quarter end.
- High yield bond spreads ended Q4 at 358 bps over like-duration Treasuries versus 93 bps for IG corporates.
- “AAA” corporates were the best performer in IG, while the “CCC” sector posted the strongest returns in the below IG liquid corporate credit universe.



## Yield Curve

- The yield curve flattened in Q4. Short-term yields rose significantly while long rates modestly declined. The 30-year Treasury yield fell 12 bps to 2.74% in Q4. The 10-year yield rose 7 bps, ending Q4 at 2.41%. The 5-year yield rose 27 bps, ending the quarter at 2.21%.
- The 2-year nominal Treasury yield rose 40 bps to 1.89% by quarter end.

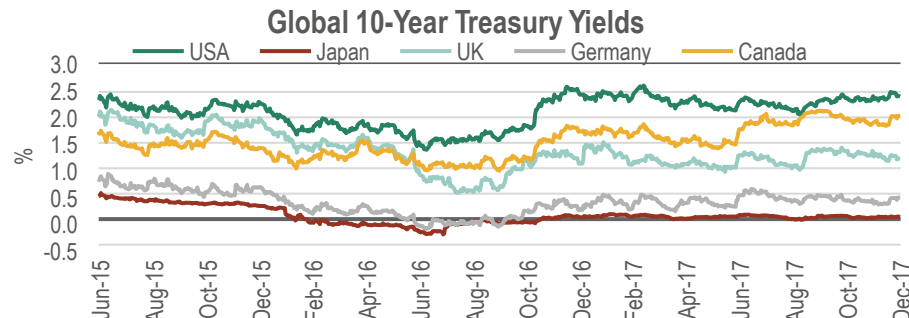


Sources this page: Investment Metrics, Hueler Analytics, FactSet

# Q4 2017 In Review: International Fixed Income

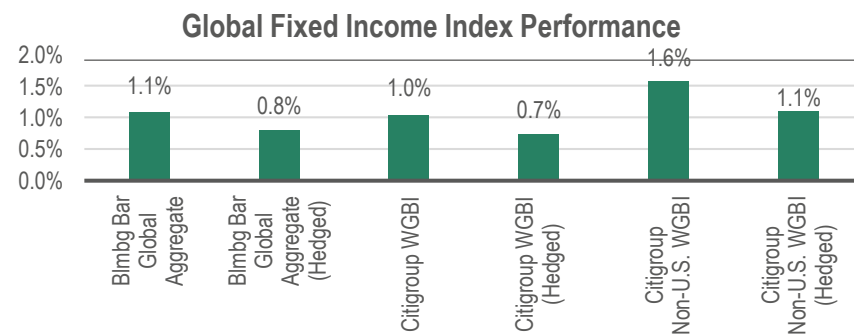
## Global Treasuries

- The USD depreciated in Q4, which benefitted most other developed currencies (e.g., the pound, euro and Canadian dollar) and some select emerging markets currencies (e.g., the Mexican peso and Indian rupee).



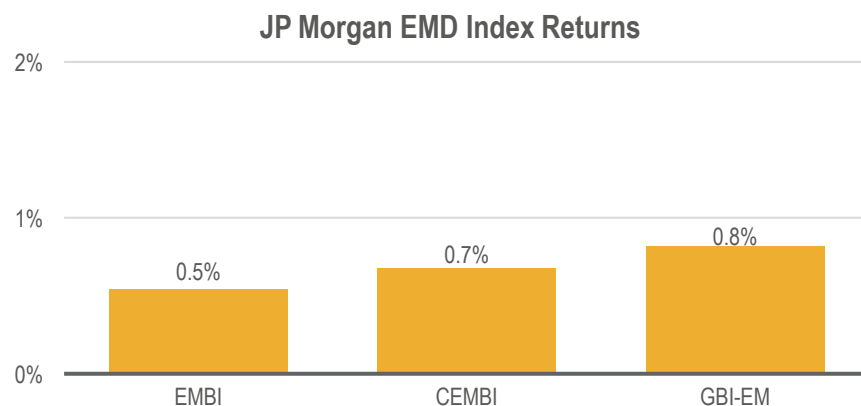
## Global Fixed Income Index Returns

- The Global Aggregate Index was up 1.1% in Q4, while the USD-hedged version of that index was up 0.8%.
- The Citigroup World Government Bond Index advanced by 1.0%, while the Non-U.S. World Government Bond returned 1.6%, both outpacing their respective hedged counterparts.



## Emerging Market Debt

- All major indices for emerging market bonds were positive in Q4. Local currency (JPM GBI-EM) advanced the most at 0.8%, while hard currency bonds (JPM EMBI) returned 0.5%.
- The USD-denominated corporate bond index (JPM CEMBI) also rose by 0.7%.

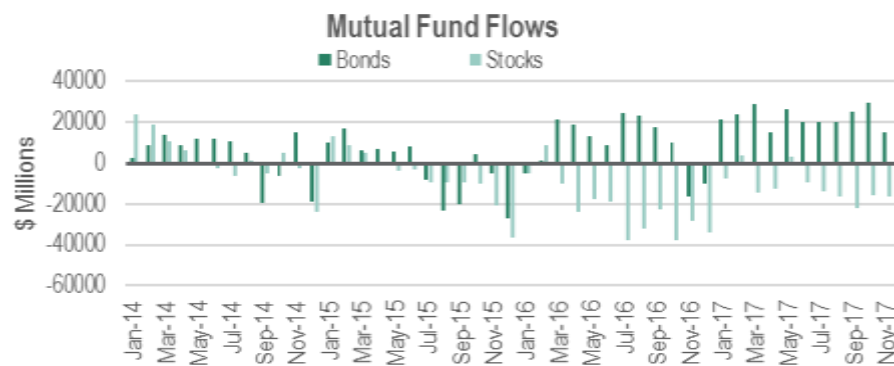


Sources this page: FactSet, Investment Metrics

# Q4 2017 In Review: Mutual Fund Flows

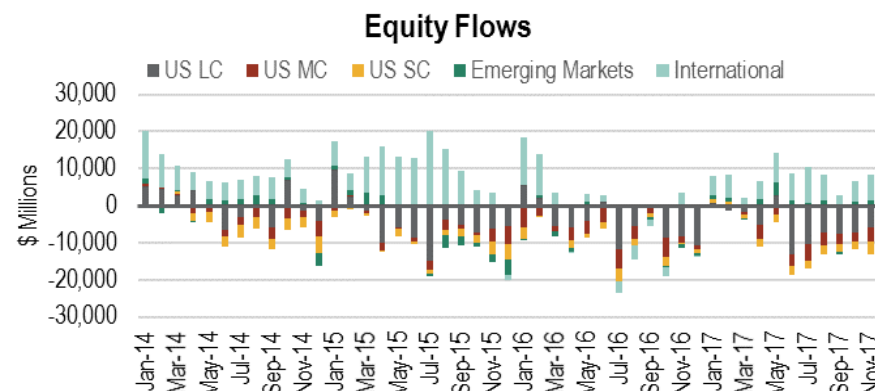
## Equity and Fixed Income Flows

- Fixed income received net new inflows of approximately \$44.8 billion in Q4 through November 30, 2017.\* December estimated net inflows are \$11.2 billion. Revised flows for Q3 were positive at \$65.9 billion.
- Equity experienced net outflows of approximately \$32.4 billion in Q4 through November 30. Estimated net flows for December are also negative, with \$35.2 billion in losses. Equity mutual funds had net outflows of \$52.3 billion in Q3.



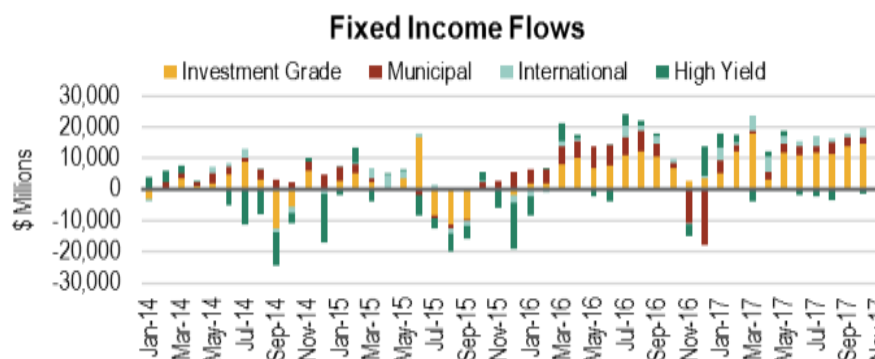
## Equity Flows

- U.S. equity net outflows exceeded net inflows from both international equity and emerging market equity QTD through November 30\*. Estimations for December show a similar story, except emerging markets experienced slight outflows for that month. This trend could be indicative of investors fearing a U.S. equity market correction.
- Net flows were negative QTD through November for mutual funds of every capitalization size within U.S. equity.



## Fixed Income Flows

- Investment grade bonds saw the greatest net inflows with approximately \$26.0 billion QTD through November 30\* and an estimated \$14.2 billion in December. These funds also attracted the most capital in Q3 with a revised \$36.8 billion.
- All other segments were net positive QTD through November except high yield, which experienced its second consecutive quarter of net outflows.



\*The most recent data available.  
Source this page: FactSet



# Q4 2017 In Review: Absolute Return Strategies

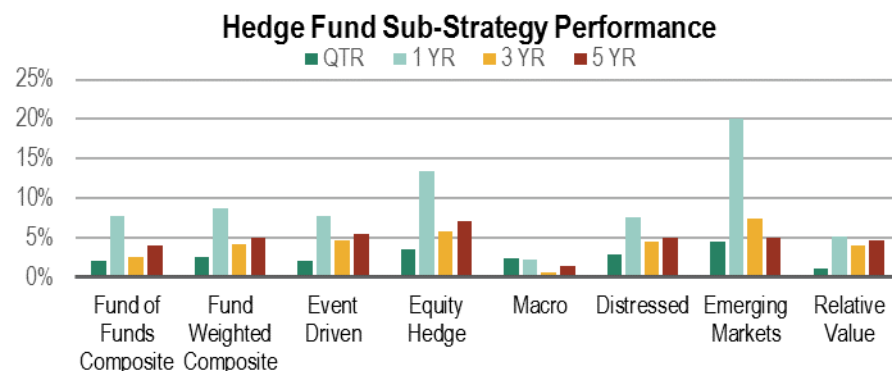
## Hedge Funds and Fund of Funds

- Q4 hedge fund performance, as represented by the HFRI Fund Weighted Composite, was positive at 2.7%. The index has gained for seven consecutive quarters and has trailing 1-, 3-, and 5-year returns of 8.7%, 4.3%, and 4.9%, respectively.
- The HFRI Fund of Funds Composite Index also gained for the seventh consecutive quarter and was up 2.0% in Q4. The index now has trailing 1-, 3-, and 5-year returns of 7.7%, 2.6%, and 4.0%, respectively.



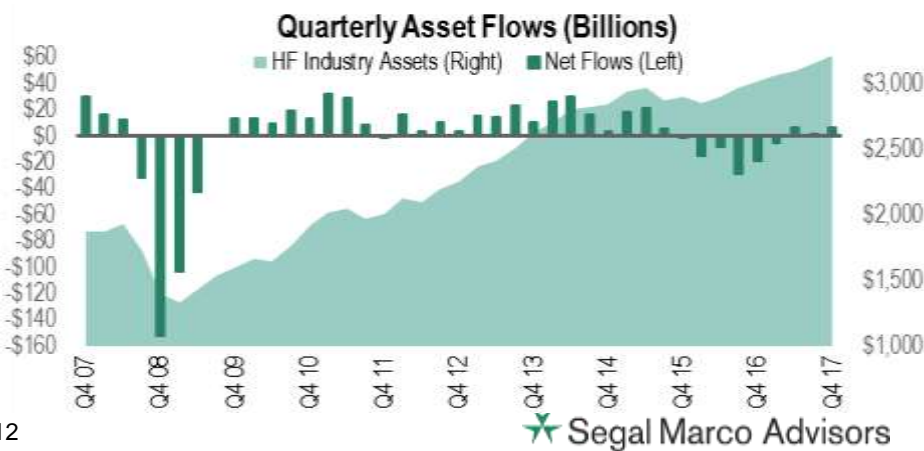
## Hedge Fund Sub-Strategies

- Emerging markets led sub-strategy performance in Q4, up 4.5%. This performance was driven largely by India and China, which returned 10.7% and 6.9%, respectively.
- Equity Hedge gained 3.5% and benefited from energy sector-specific strategies as well as both fundamental value and fundamental growth strategies.
- Macro finally saw a reversal from its weak 2017 performance and gained 2.4% in Q4, benefitting from currency, commodity and systematic strategies.



## Hedge Fund Industry Asset Flows

- Total hedge fund industry capital rose for the seventh consecutive quarter. Industry-wide assets totaled \$3.21 trillion at the end of Q4.
- Assets rose \$59 billion in Q4 as investors increased capital to event driven and fixed income relative value arbitrage strategies. Trailing 12-month hedge fund industry capital increased 6.4%.
- Q4 2017 net inflows of \$6.9 billion were the strongest since Q2 2015, bringing 2017 net inflows to \$9.8 billion.



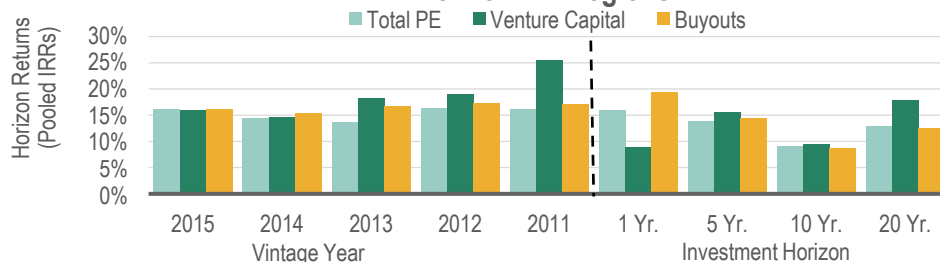
Sources this page: Hedge Fund Research, Inc., eVestment

# Q4 2017 In Review: Private Equity

## Performance

- The total return for private equity funds, comprising performance across all regions and strategies, was 4.2% in Q3 2017\* and 16.0% over the 1-year period ending Q3.
- The 5- and 20-year returns were strong, with double-digit returns of 13.8% and 12.9%, respectively. The 10-year return lagged due to the Global Financial Crisis but increased to 9.1% from last quarter's 9.0%.
- Performance for 2011 through 2015 vintage-year funds is strong, with all vintage years generating mid-teen returns.

## Private Equity Performance by Vintage Year and Investment Horizon: All Regions

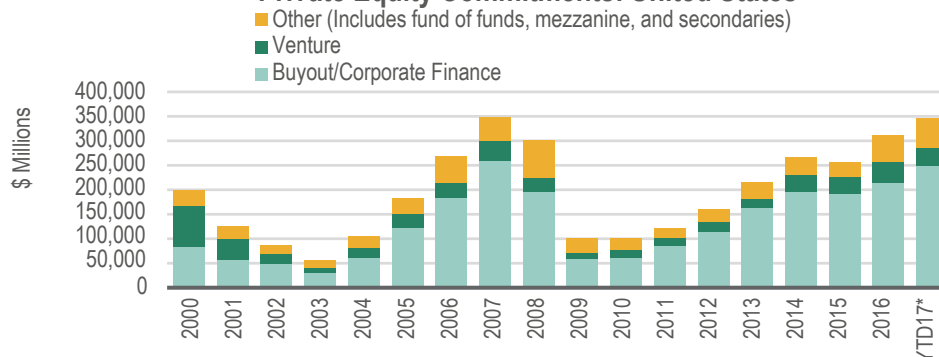


\*"Vintage year" refers to the first year that capital was committed in a particular fund. Vintage-year performance is calculated as the median percentile returns of all funds reporting as pooled IRRs.

## Fundraising

- U.S. private equity funds raised approximately \$346.2 billion across 1,108 funds through December 15, 2017\*.
- No fundraising pullback is expected in 2018 but LPs are adjusting strategies over fears of a possible downturn.
- Global private equity dry powder\*\* reached a record-high of \$991.3 billion in December 2017, more than \$100 billion higher than the amount recorded at the end of 2016. Even as the private equity industry sits on a record amount of unspent capital, more firms are adding to the pile.

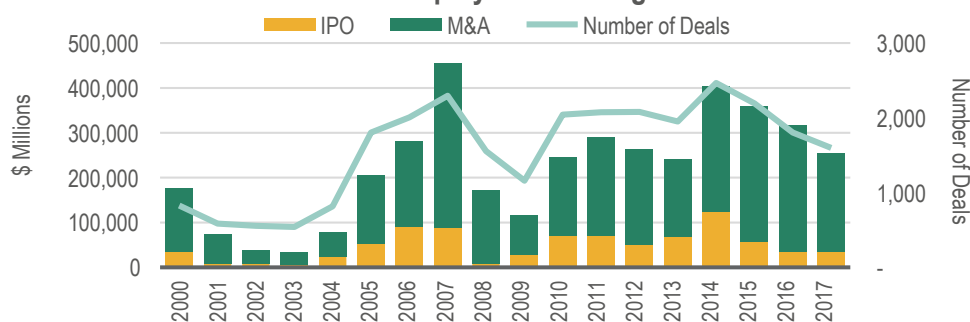
## Private Equity Commitments: United States



## Exit Activity

- Exit activity continued to decline, falling from 1,803 exits recorded in 2016 to 1,598 exits in 2017. Aggregate deal value also declined and hit its lowest level since 2013.
- Despite the consecutive declines in traditional IPO and M&A exit activity, secondary transaction volume picked up in 2017. A combination of strong equity markets, steady private-equity distributions and an abundance of dry powder seeking deals has contributed to strong pricing for assets and brought more sellers to the secondary market.

## Private Equity Exit: All Regions



\*The most recent data available. \*\*Dry powder is capital raised that hasn't yet been invested.  
Sources this page: Thomson Reuters, *Private Equity Analyst*, Preqin

Segal Marco Advisors



# Q4 2017 In Review: Real Estate

## U.S. Private Real Estate

- The NCREIF NPI and ODCE indices were nearly even in Q4 on a net basis, with the ODCE outperforming by 28 bps. ODCE returns were split between income and appreciation, whereas NPI returns were predominantly driven by income.
- Of the NPI property types, Industrial (3.3%) continues to outperform, up 160 bps over Office, the index's second-best performer. Hotels (1.0%) dropped from the second best to the worst performing property type QoQ.
- Of the NPI regions, the West (2.3%) continued to hold the top spot, outperforming the South (1.7%), the East (1.3%) and the Midwest (1.3%).

## Value-Add Real Estate

- The NFI-CEVA time-weighted gross total return was 3.7% in Q3 2017\*, up 51 bps QoQ, and consisted of a 1.2% income yield and 2.5% appreciation return. For the trailing year, the total return was 12.6%, composed of 5.2% income and 7.1% in appreciation\*\*.
- Apartments represent the majority of NFI-CEVA market value, at 39.8%, followed by Office at 31.0%.
- The Pacific sub-region's 29.7% market share drove the regional allocation heavily in favor of the West (39.0%). The next two largest sub-regions were South East (14.7%) and North East (14.6%), driving a near even split in the South (26.5%) and East (23.5%) shares of market value.

## Public Real Estate

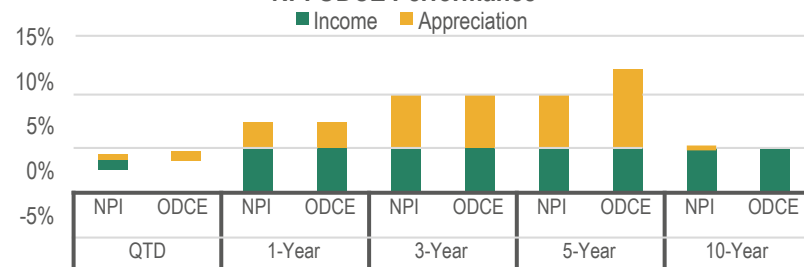
- Global property stocks posted modest gains, with favorable returns in each of the major regions.
- Stocks were largely influenced by transactional evidence in private markets of strong demand for core assets at valuations that indicate widespread acceptance of low expected returns.
- The most attractive discounted valuations were Hong Kong commercial, New York City office, U.S. Class-A malls, U.K. major metropolitan areas and smaller, niche London offices.

\*The most recent data available.

\*\*Numbers are rounded to the nearest whole number.

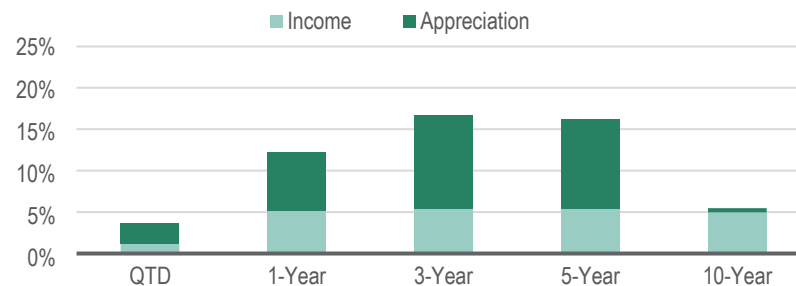
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### NPI ODCE Performance



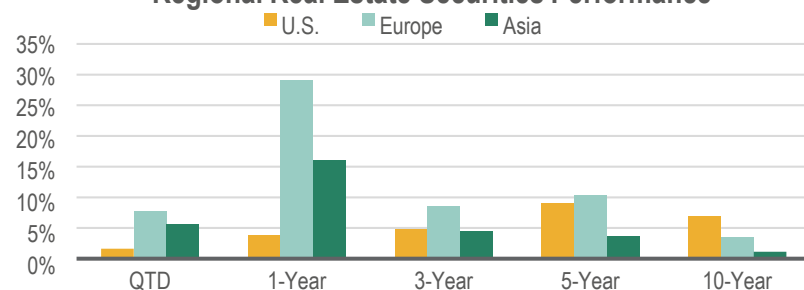
The NPI (NCREIF Property Index) is a U.S. direct investment real estate index based on gross, market value weighted returns of individual properties and the ODCE (Open-end Diversified Core Equity) is a fund-level cap-weighted, gross of fee, time-weighted return index.

### Closed-End Value-Add (CEVA) Performance



The NFI-CEVA Index is defined by NCREIF as a capitalization-weighted, gross of fees, time-weighted return index. Funds included in the index must be closed-end with a value-add strategy operated for U.S. institutional investors and must comply with NCREIF's data collection and reporting standards.

### Regional Real Estate Securities Performance



U.S.: FTSE EPRA/NAREIT U.S. Index  
Europe: FTSE EPRA/NAREIT Europe Developed Index  
Asia: FTSE EPRA/NAREIT Asia Developed Index

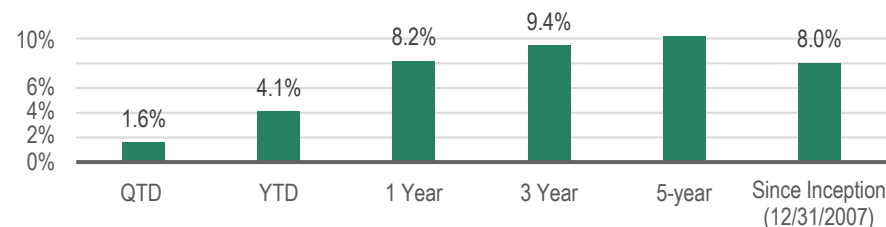
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# Q4 2017 In Review: Infrastructure

## Private Infrastructure Performance

- Private infrastructure posted a 1.6% return in Q2\* 2017. The Q1
- The 1-, 3-, and 5-year numbers exceeded since-inception performance as the asset class has recovered nicely from the great financial crisis. Returns continue to revert to historical averages in the short term.

Preqin Infrastructure Annualized Return as of 6/30/2017\*

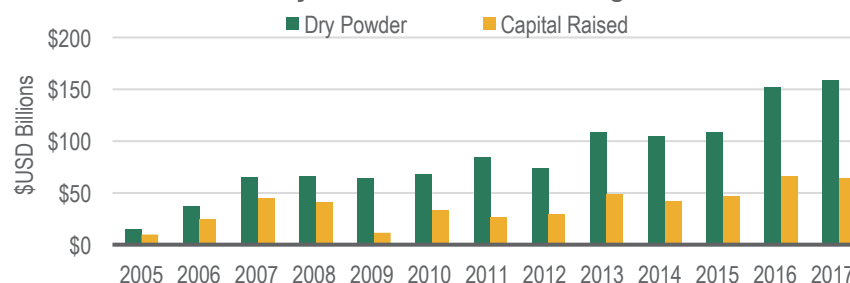


According to Preqin, the Preqin Infrastructure Index captures the average returns earned by investors in their infrastructure portfolios, based on the actual amount of money invested. The Preqin Infrastructure index is calculated on a quarterly basis using data from Preqin's Infrastructure Online services.

## Dry Powder and Fundraising

- Fundraising dropped considerably in Q4 2017 with the number of funds (12) and aggregate capital raised (\$9.2 billion) declining from previous quarters (for instance, Q1 2017 posted a record in dollar terms for funds raised in a quarter at \$31.1 billion)
- Dry powder\*\* decreased in Q4, which is a good sign that managers have been deploying capital to infrastructure opportunities.

Dry Powder and Fundraising

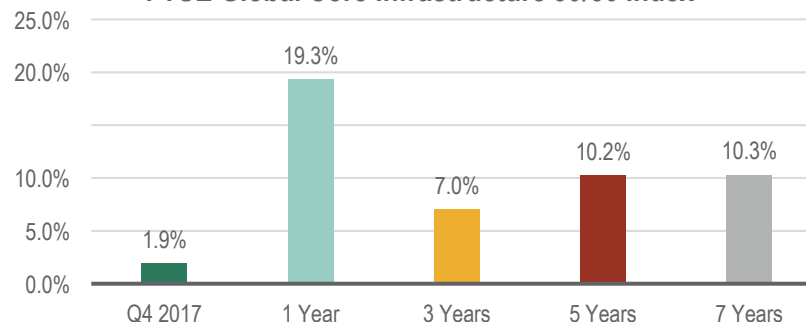


## Public Infrastructure Performance

As compared to the global public equity market on an annual basis, the FTSE Global Infrastructure 50/50 Index posted 19.3%

- Utilities and midstream energy stocks were detractors for listed returns. Utilities lagged due to their defensive and interest-rate sensitive characteristics. Midstream energy companies struggled amid strong competition and low margins.

FTSE Global Core Infrastructure 50/50 Index

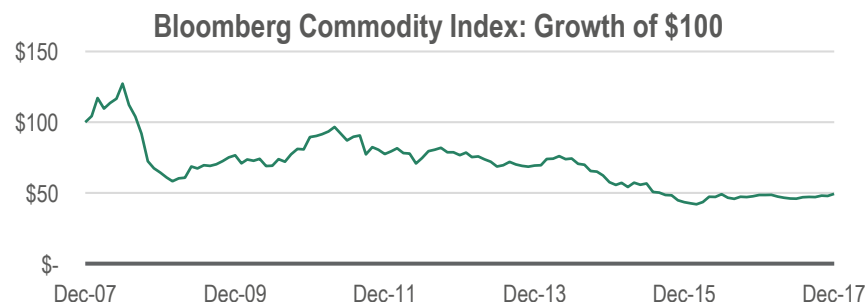


\*The most recent data available. \*\*Dry powder is capital raised that hasn't yet been invested.  
Sources this page: Preqin, Investment Metrics

# Q4 2017 In Review: Commodities and Currencies

## Quarterly Commodity Returns

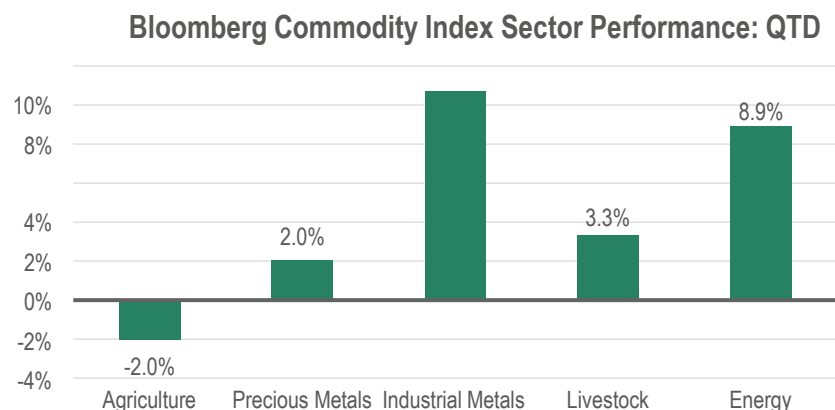
- The Bloomberg Commodity Index rose 4.7% in Q4. This strong end to the year helped generate a calendar year 2017 return of 1.7%, marking the second consecutive positive year for commodities.
- Annual returns varied widely by sector, as losses in energy (-4.3%) and agriculture (-11.1%) were offset by big gains in industrial metals (29.4%) and precious metals (10.9%).



## Sector Returns

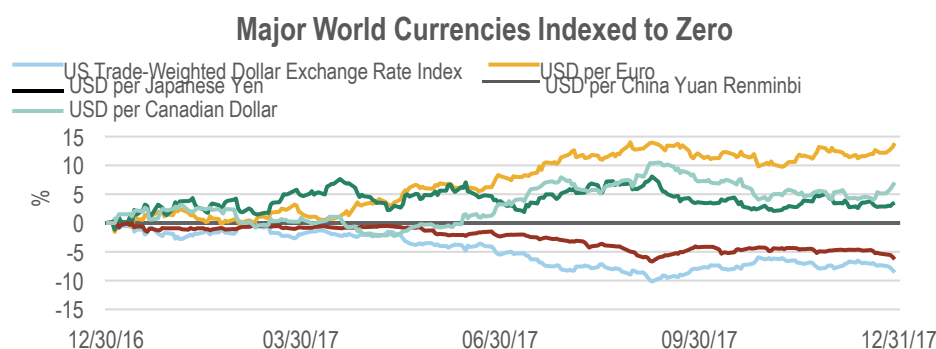
Outperformance was driven by nickel, copper, and iron ore, all of which benefited from stable Chinese demand and tightening supply.

- The energy sector performed well as oil prices increased. Brent crude finished the year at \$66/barrel, its highest year-end price since 2013. The uptick in oil prices was aided by OPEC and other non-member countries extending production cuts to the end of 2018.
- Agriculture was the sole detractor as overproduction and supply concerns weakened the market.



## Currencies

- The USD ended the year down almost 10%, the dollar's worst annual performance since 2003.
- The expectation that central banks (in addition to the Fed) are seeking to end their low/negative interest rate policies has contributed to the USD's decline.
- The Fed increased interest rates three times in 2017 and also began the process of reducing the size of its balance sheet.
- A weaker USD should help boost revenues and exports for U.S. companies with overseas operations.



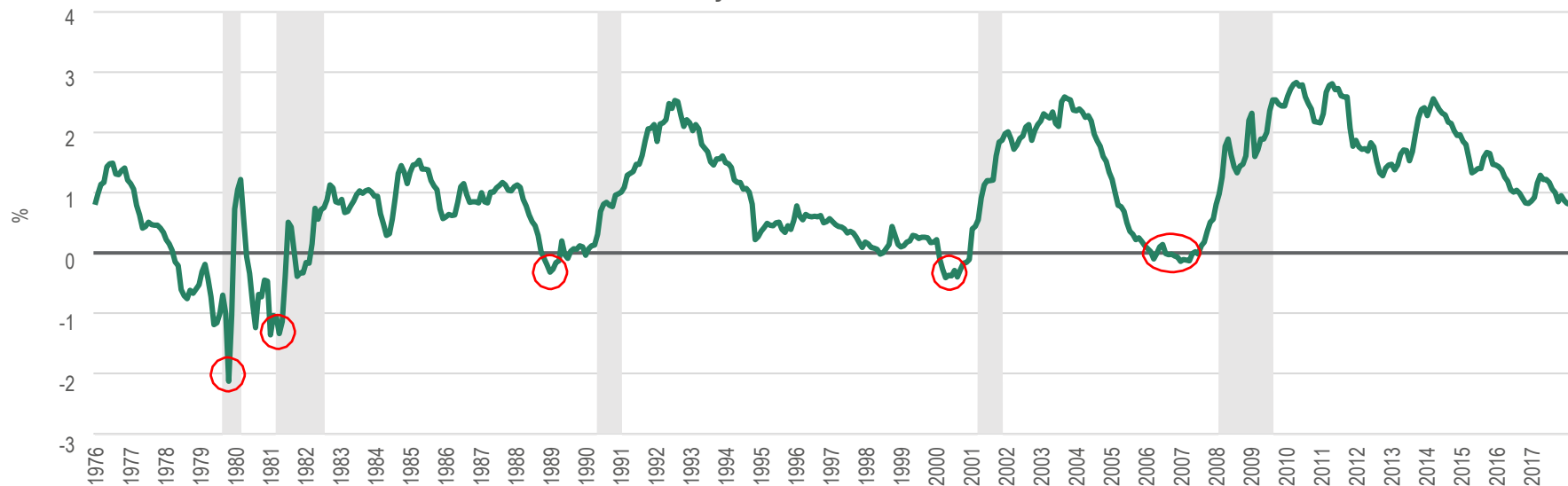
Sources this page: Bloomberg, FactSet

# Q4 2017 In Review: Noteworthy Developments

## Yield Curve as a Leading Indicator of Recession

- The yield curve is one of the most referenced leading indicators of possible recession. A significant flattening or an inversion of the yield curve has historically indicated a market downturn, as shown in the graph below.
- The current shape of the yield curve is not indicative of an impending recession in the near term; however, it has become flatter over the last year, which is a phenomenon investors should monitor.
- Other often-noted recessionary indicators are not suggesting a downturn at present:
  - Inflation: Accelerating wages tend to precede recession, and wages are currently low and stable.
  - The Labor Market: Recessions are characterized by contraction in labor market, but current hiring trends are healthy.
  - Credit Performance: Loan delinquencies and defaults are currently not a concern.
  - Manufacturing: Purchasing Manager Indices (PMIs) are useful forward-looking indicators that are currently positive globally.
  - Earnings Quality: The current pace of write-downs is consistent with the middle innings of an economic cycle.
  - The Housing Market: Single family housing starts are increasing vs. decreasing as they had prior to most economic recessions.

U. S. Treasury 10-Year Minus 2-Year Yield



Gray bars indicate recessionary periods.  
Source: Federal Reserve Bank of St. Louis

# Q4 2017 In Review: Noteworthy Developments

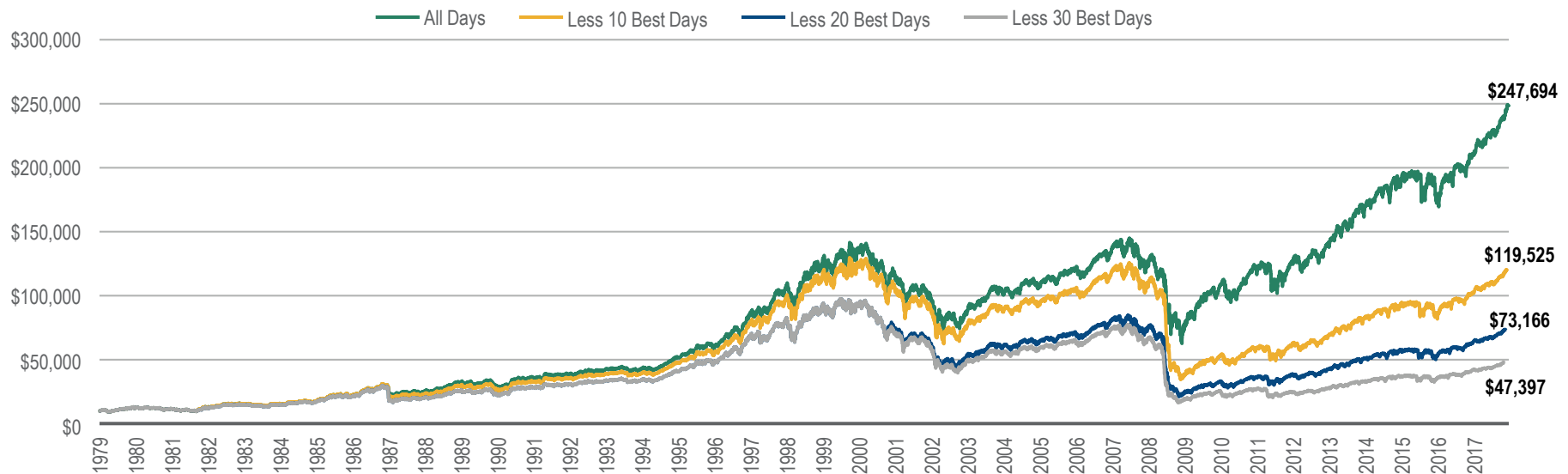
## Market Timing Can Be Difficult and Costly

- As the bull market continues to age and equities continue to set new record highs, investors may worry the next market crash is imminent. Fear can lead to thoughts of taking assets out of the market entirely. However, we do not advocate doing so for the following reasons:
  - Market timing is one of the most difficult things to do in investing.
  - Missing the best 10 trading days over the past 37 years (or 0.1% of trading days) would have resulted in significant underperformance relative to an investor who remained invested for the entire period.
- Rather than sell, we advocate active rebalancing as the prudent response to rising markets.

Annualized Returns  
1/1/1980 - 12/31/2017



Growth of \$10,000 (since 1980)

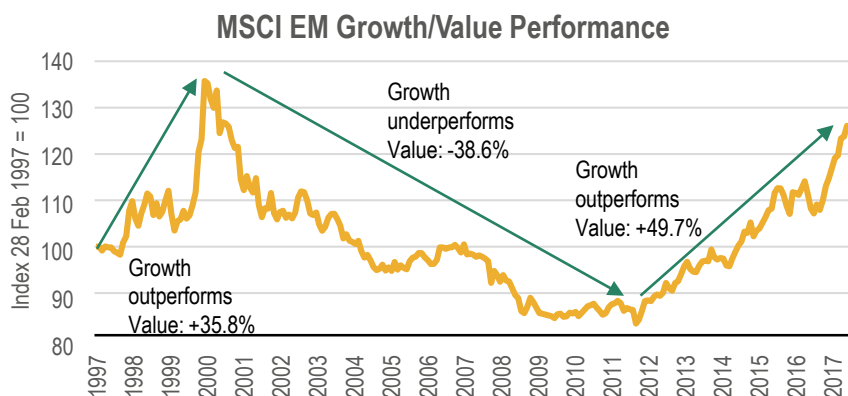


Source: FactSet

# Q4 2017 In Review: Noteworthy Developments

## Evaluating Growth vs. Value in Emerging Markets

- The difference in growth and value returns in emerging markets has been pronounced in recent years, and in 2017 that spread was particularly wide, with growth beating value by 18 percentage points.
- Looking at performance of the MSCI EM Growth and MSCI EM Value indices back to their inception in 1997, there are three distinctly identifiable phases when one style has dominated the other by a wide margin:
  - From 1997 to 2000 Growth outperformed Value by around 36%
  - Between 2000 and 2012 Growth underperformed Value by around 39%
  - Since 2012 Growth has again outperformed Value by 50%
- Over the last 20 years, the high level drivers of emerging market returns have been consistent, and investors typically point to demographic factors such as a younger population and the establishment of a growing middle class as underpinning growth. However, returns have been driven by varying sectors throughout the last few decades as emerging market economies have matured. For much of the 2000-2012 period, returns were driven by rapidly developing infrastructure and the consumption of raw materials, and these projects were driven by nation states more than private enterprise. This was good for value returns during that time. By contrast, the recent period since 2012 has been predominantly driven by technological development through private companies, focused on the Internet and semiconductors. This has been a boon to EM growth stocks.
- Plans should be conscious of the cyclical nature of emerging markets, both when evaluating existing EM managers and selecting new ones. Many value-oriented managers that have significantly underperformed their growth-focused peers in recent years – particularly as these extreme returns have been driven by a handful of companies (Tencent, Alibaba, Naspers, TSMC, and Samsung) – may still be worthy of long-term investments.



Sources: MSCI, FactSet

## Historical EM Style Returns

	2017	2016	2015	2014	2013	2012
MSCI EM Value Index	28.07	14.90	-18.57	-4.08	-5.11	15.87
MSCI EM Growth Index	46.80	7.59	-11.34	-0.35	-0.18	20.56
MSCI EM Index ("Core")	37.28	11.19	-14.92	-2.19	-2.60	18.22

## **Executive Summary**

## Overview

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### Economy & Capital Markets

- U.S. GDP grew 2.5% in the fourth quarter of 2017, below consensus estimates. Full year GDP growth was 2.3%. Estimates from the New York and Atlanta Federal Reserve Banks indicate first quarter GDP is growing at an annualized rate of 3.0% - 3.5%.
- The unemployment rate stands at 4.1%, a level generally accepted as at or below full employment. Consequently, wage growth has shifted from headwind to tailwind for inflation.
- U.S. Federal Reserve monetary policy remains on course for gradual increases in policy rates.
- Global equity markets again registered strong gains in the fourth quarter, with international stocks buoyed by economic fundamentals and a weaker U.S. dollar.
- U.S. fixed income generated positive return; however, rates have turned up since the end of the year, generating negative returns in bonds.

### Portfolio Summary

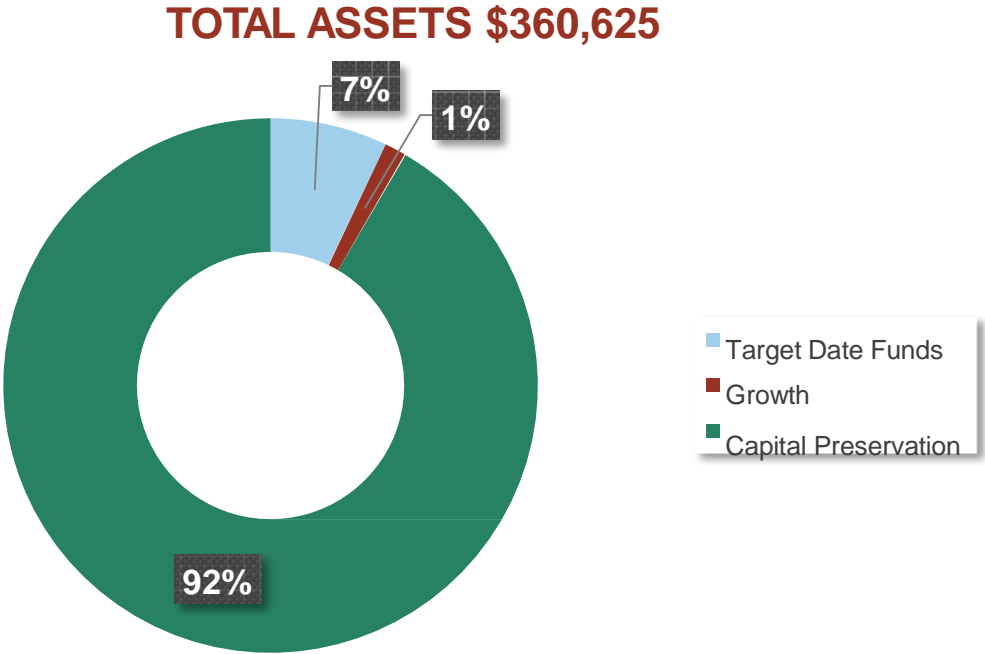
- The OregonSaves Retirement Savings Program initiated pilot phase investment July 1. As of December 31, program assets were approximately \$360,000. Retirement savings accumulation has continued in this year, and assets now exceed \$1 million.
- Early investments have been primarily placed in the Capital Preservation investment option.
- Short term interest rates rose during the fourth quarter, while longer term rates fell, causing a flattening in the yield curve. The one year forward probability of the Capital Preservation yield falling below 0.90% fell from 24.7% to 15.4%.
- All investment options generated positive returns in the fourth quarter.
- Strong equity market returns caused longer dated target date funds (TDFs) to lead performance of shorter dated funds.
- All investment options performed in line with expectations.



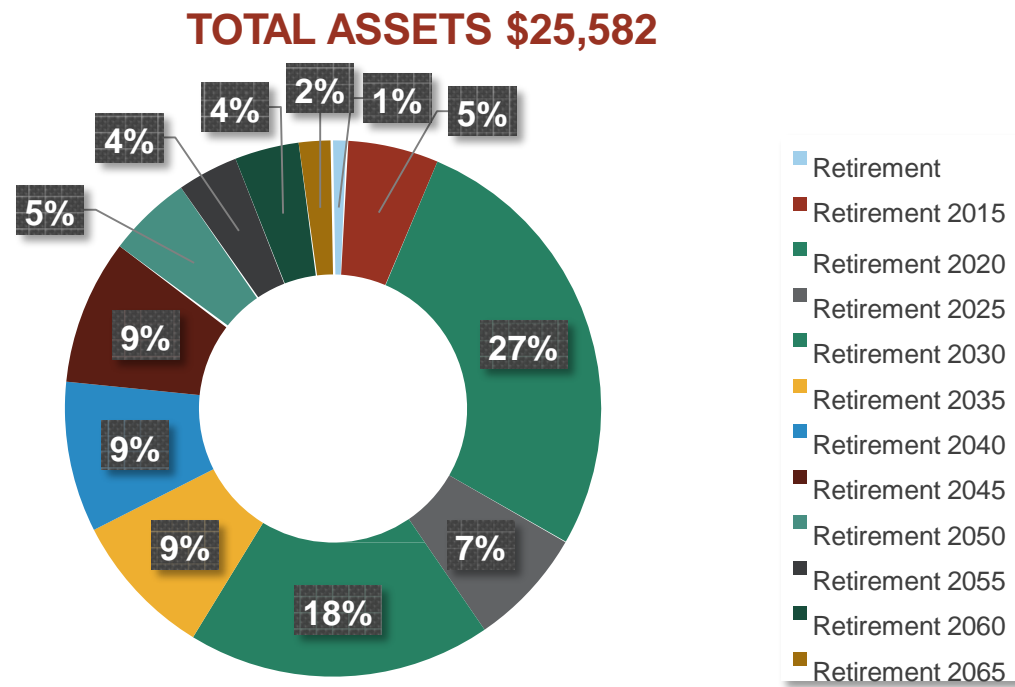
## Interest Rate Modeling as of December 31, 2017

	December 2017	December 2018	December 2019	December 2020	December 2021	December 2022
95th Percentile	1.75%	3.74%	4.54%	5.15%	5.67%	6.00%
75th percentile	1.75%	2.69%	3.22%	3.52%	3.82%	4.04%
Median	1.75%	2.01%	2.22%	2.40%	2.45%	2.52%
25th Percentile	1.75%	1.28%	1.19%	1.19%	1.14%	1.08%
5th percentile	1.75%	0.22%	-0.24%	-0.46%	-0.82%	-0.94%
<b>Probability below 0.90%</b>	<b>0.0%</b>	<b>15.4%</b>	<b>19.1%</b>	<b>19.8%</b>	<b>20.9%</b>	<b>22.4%</b>

As of December 31, 2017



As of December 31, 2017



# OregonSaves Retirement Savings Program

# Comparative Performance

As of December 31, 2017

	Market Value (\$000)	1 Quarter	Jul-2017 To Dec-2017	Expense Ratio
<b>Oregon Saves</b>	<b>431</b>			
<b>OregonSaves Capital Preservation Fund</b>	<b>335</b>	<b>0.12</b>	<b>0.27</b>	
State Street Institutional Liquid Reserves (SSIXX)	335	0.34	0.65	0.12
90 Day U.S. Treasury Bill		0.28	0.55	
<b>OregonSaves Growth Fund</b>	<b>10</b>	<b>6.35</b>	<b>11.04</b>	
State Street Equity 500 Index (SSSYX)	10	6.57	11.41	0.06
S&P 500		6.64	11.42	
<b>Oregon Saves Target Retirement Fund</b>	<b>5</b>	<b>1.79</b>	<b>3.78</b>	
State Street Target Retirement K	5	2.01	4.16	0.13
S&P Target Date Retirement Income Index		2.24	4.34	
<b>Oregon Saves Target Retirement Fund 2015</b>	<b>6</b>	<b>2.19</b>	<b>4.58</b>	
State Street Retirement 2015 K	6	2.41	4.95	0.13
S&P Target Date 2015 Index		2.85	5.48	
<b>Oregon Saves Target Retirement Fund 2020</b>	<b>12</b>	<b>3.05</b>	<b>6.04</b>	
State Street Target Retirement 2020 K	12	3.27	6.41	0.13
S&P Target Date 2020 Index		3.20	6.10	
<b>Oregon Saves Target Retirement Fund 2025</b>	<b>7</b>	<b>3.86</b>	<b>7.56</b>	
State Street Target Retirement 2025 K	7	4.08	7.93	0.13
S&P Target Date 2025 Index		3.73	7.07	
<b>Oregon Saves Target Retirement Fund 2030</b>	<b>10</b>	<b>4.28</b>	<b>8.42</b>	
State Street Target Retirement 2030 K	10	4.50	8.79	0.13
S&P Target Date 2030 Index		4.24	7.99	

# OregonSaves Retirement Savings Program

# Comparative Performance

As of December 31, 2017

	Market Value (\$000)	1 Quarter	Jul-2017 To Dec-2017	Expense Ratio
<b>Oregon Saves Target Retirement Fund 2035</b>	<b>7</b>	<b>4.68</b>	<b>9.16</b>	
State Street Target Retirement 2035 K	7	4.90	9.53	0.13
S&P Target Date 2035 Index		4.71	8.87	
<b>Oregon Saves Target Retirement Fund 2040</b>	<b>7</b>	<b>4.93</b>	<b>9.61</b>	
State Street Target Retirement 2040 K	7	5.15	9.98	0.13
S&P Target Date 2040 Index		5.03	9.45	
<b>Oregon Saves Target Retirement Fund 2045</b>	<b>7</b>	<b>5.11</b>	<b>10.08</b>	
State Street Target Retirement 2045 K	7	5.33	10.45	0.13
S&P Target Date 2045 Index		5.20	9.78	
<b>Oregon Saves Target Retirement Fund 2050</b>	<b>6</b>	<b>5.12</b>	<b>10.01</b>	
State Street Target Retirement 2050 K	6	5.34	10.38	0.13
S&P Target Date 2050+ Index		5.34	10.01	
<b>Oregon Saves Target Retirement Fund 2055</b>	<b>6</b>	<b>5.10</b>	<b>9.99</b>	
State Street Target Retirement 2055 K	6	5.32	10.36	0.13
S&P Target Date 2055 Index		5.38	10.10	
<b>Oregon Saves Target Retirement Fund 2060</b>	<b>6</b>	<b>5.09</b>	<b>9.99</b>	
State Street Target Retirement 2060 K	6	5.31	10.37	0.13
S&P Target Date 2055 Index**		5.38	10.10	
<b>Oregon Saves Target Retirement Fund 2065</b>	<b>6</b>	<b>5.09</b>	<b>9.99</b>	
State Street Target Retirement 2065 K	6	5.31	10.37	0.13
S&P Target Date 2055 Index**		5.38	10.10	

\*\* S&P Target Date 2055 is the highest Target Date benchmark.

## **Underlying Investment Fund Analysis**

# OregonSaves Retirement Savings Program

# Comparative Performance

As of December 31, 2017

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Expense Ratio
<b>Oregon Saves</b>							
State Street Liquid Reserves (SSIXX)	0.34	1.17	1.17	0.66	0.48	0.68	0.12
90 Day U.S. Treasury Bill	0.28	0.86	0.86	0.38	0.25	0.38	
Difference	0.06	0.31	0.31	0.28	0.23	0.30	
IM U.S. Taxable Money Market (MF) Median	0.19	0.55	0.55	0.20	0.12	0.28	
State Street Liquid Reserves (SSIXX) Rank	1	1	1	1	1	1	
State Street Equity 500 Index (SSSYX)	6.57	21.68	21.68	11.34	N/A	N/A	0.06
S&P 500	6.64	21.83	21.83	11.41	15.79	8.50	
Difference	-0.07	-0.15	-0.15	-0.07	N/A	N/A	
IM U.S. Large Cap Equity (MF) Median	6.40	21.60	21.60	10.12	14.59	7.64	
State Street Equity 500 Index (SSSYX) Rank	44	50	50	27	N/A	N/A	
State Street Target Retirement K (SSFOX)	2.01	8.97	8.97	4.60	N/A	N/A	0.13
S&P Target Date Retirement Income Index	2.24	8.54	8.54	4.39	4.86	4.12	
Difference	-0.23	0.43	0.43	0.21	N/A	N/A	
IM Mixed-Asset Target Alloc Consv (MF) Median	1.80	8.56	8.56	4.02	4.92	4.43	
State Street Target Retirement K (SSFOX) Rank	39	43	43	28	N/A	N/A	
State Street Retirement 2015 K (SSBHX)	2.41	10.54	10.54	5.31	N/A	N/A	0.13
S&P Target Date 2015 Index	2.85	11.39	11.39	5.82	6.99	4.97	
Difference	-0.44	-0.85	-0.85	-0.51	N/A	N/A	
IM Mixed-Asset Target 2015 (MF) Median	2.61	11.40	11.40	5.52	6.76	4.45	
State Street Retirement 2015 K (SSBHX) Rank	73	74	74	58	N/A	N/A	
State Street Target Retirement 2020 K (SSBOX)	3.27	13.52	13.52	6.38	N/A	N/A	0.13
S&P Target Date 2020 Index	3.20	12.80	12.80	6.48	7.92	5.28	
Difference	0.07	0.72	0.72	-0.10	N/A	N/A	
IM Mixed-Asset Target 2020 (MF) Median	3.00	12.63	12.63	5.77	6.74	4.45	
State Street Target Retirement 2020 K (SSBOX) Rank	21	30	30	17	N/A	N/A	

Returns for periods greater than one year are annualized.  
Returns are expressed as percentages.

# OregonSaves Retirement Savings Program

# Comparative Performance

As of December 31, 2017

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Expense Ratio
State Street Target Retirement 2025 K (SSBSX)	4.08	16.67	16.67	7.46	N/A	N/A	0.13
S&P Target Date 2025 Index	3.73	14.55	14.55	7.20	8.76	5.53	
Difference	0.35	2.12	2.12	0.26	N/A	N/A	
IM Mixed-Asset Target 2025 (MF) Median	3.47	14.95	14.95	6.54	7.93	4.96	
State Street Target Retirement 2025 K (SSBSX) Rank	2	7	7	7	N/A	N/A	
State Street Target Retirement 2030 K (SSBYX)	4.50	18.51	18.51	8.07	N/A	N/A	0.13
S&P Target Date 2030 Index	4.24	16.19	16.19	7.87	9.57	5.72	
Difference	0.26	2.32	2.32	0.20	N/A	N/A	
IM Mixed-Asset Target 2030 (MF) Median	4.02	16.91	16.91	7.19	8.78	4.95	
State Street Target Retirement 2030 K (SSBYX) Rank	9	10	10	15	N/A	N/A	
State Street Target Retirement 2035 K (SSCKX)	4.90	19.88	19.88	8.59	N/A	N/A	0.13
S&P Target Date 2035 Index	4.71	17.78	17.78	8.51	10.29	5.90	
Difference	0.19	2.10	2.10	0.08	N/A	N/A	
IM Mixed-Asset Target 2035 (MF) Median	4.44	18.72	18.72	7.96	9.66	5.45	
State Street Target Retirement 2035 K (SSCKX) Rank	10	21	21	24	N/A	N/A	
State Street Target Retirement 2040 K (SSCQX)	5.15	20.84	20.84	8.87	N/A	N/A	0.13
S&P Target Date 2040 Index	5.03	18.87	18.87	8.95	10.78	6.03	
Difference	0.12	1.97	1.97	-0.08	N/A	N/A	
IM Mixed-Asset Target 2040 (MF) Median	4.74	19.71	19.71	8.11	10.08	5.27	
State Street Target Retirement 2040 K (SSCQX) Rank	14	23	23	25	N/A	N/A	
State Street Target Retirement 2045 K (SSDEX)	5.33	21.61	21.61	9.16	N/A	N/A	0.13
S&P Target Date 2045 Index	5.20	19.56	19.56	9.24	11.15	6.06	
Difference	0.13	2.05	2.05	-0.08	N/A	N/A	
IM Mixed-Asset Target 2045 (MF) Median	4.85	20.65	20.65	8.65	10.52	5.73	
State Street Target Retirement 2045 K (SSDEX) Rank	10	20	20	26	N/A	N/A	
State Street Target Retirement 2050 K (SSDLX)	5.34	21.57	21.57	9.05	N/A	N/A	0.13
S&P Target Date 2050+ Index	5.34	20.18	20.18	9.49	11.48	6.22	
Difference	0.00	1.39	1.39	-0.44	N/A	N/A	
IM Mixed-Asset Target 2050 (MF) Median	4.99	20.76	20.76	8.53	10.61	5.52	
State Street Target Retirement 2050 K (SSDLX) Rank	19	25	25	30	N/A	N/A	

Returns for periods greater than one year are annualized.  
Returns are expressed as percentages.



# OregonSaves Retirement Savings Program

# Comparative Performance

As of December 31, 2017

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Expense Ratio
State Street Target Retirement 2055 K (SSDQX)	5.32	21.68	21.68	9.06	N/A	N/A	0.13
S&P Target Date 2055 Index	5.38	20.48	20.48	9.62	11.70	6.35	
Difference	-0.06	1.20	1.20	-0.56	N/A	N/A	
IM Mixed-Asset Target 2055+ (MF) Median	5.05	21.23	21.23	8.85	10.84	N/A	
State Street Target Retirement 2055 K (SSDQX) Rank	20	31	31	40	N/A	N/A	
State Street Target Retirement 2060 K (SSDYX)	5.31	21.73	21.73	9.04	N/A	N/A	0.13
S&P Target Date 2055 Index	5.38	20.48	20.48	9.62	11.70	6.35	
Difference	-0.07	1.25	1.25	-0.58	N/A	N/A	
IM Mixed-Asset Target 2055+ (MF) Median	5.05	21.23	21.23	8.85	10.84	N/A	
State Street Target Retirement 2060 K (SSDYX) Rank	22	29	29	40	N/A	N/A	
State Street Target Retirement 2065 K	5.31	21.73	21.73	9.04	N/A	N/A	0.13
S&P Target Date 2055 Index	5.38	20.48	20.48	9.62	11.70	6.35	
Difference	-0.07	1.25	1.25	-0.58	N/A	N/A	
IM Mixed-Asset Target 2055+ (MF) Median	5.05	21.23	21.23	8.85	10.84	N/A	
State Street Target Retirement 2065 K Rank	22	29	29	40	N/A	N/A	

Returns for periods greater than one year are annualized.  
Returns are expressed as percentages.

## State Street Liquid Reserves (SSIXX)

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Institutional Liquid Reserves Fund; Premier CI  
Fund Family : State Street Bank and Trust Company  
Ticker : SSIXX  
Inception Date : 08/12/2004  
Fund Assets : \$9,227 Million

Portfolio Assets : \$11,209 Million  
Portfolio Manager : Team Managed  
PM Tenure :  
Fund Style : IM U.S. Taxable Money Market (MF)  
Style Benchmark : 90 Day U.S. Treasury Bill

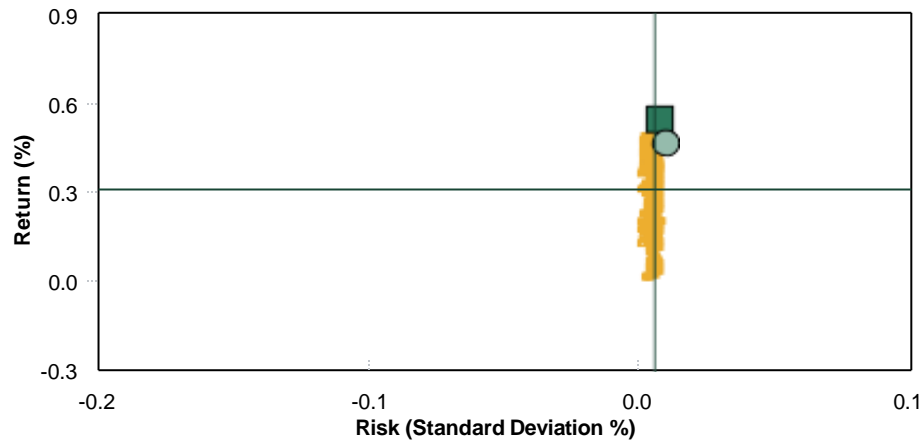
### Fund Investment Policy

The Fund seeks to maximize current income, to the extent consistent with the preservation of capital and liquidity, by investing in U.S. dollar-denominated money market securities. It invests substantially all of its investable assets in the Money Market Portfolio, which has similar investment policies to the Fund.

### Historical Statistics (08/01/17 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Liquid Reserves (SSIXX)	0.55	0.01	1.21	0.12	-0.13	0.03	0.01	1.21	0.01	08/01/2017
90 Day U.S. Treasury Bill	0.46	0.01	N/A	0.00	1.00	1.00	0.00	N/A	0.00	08/01/2017

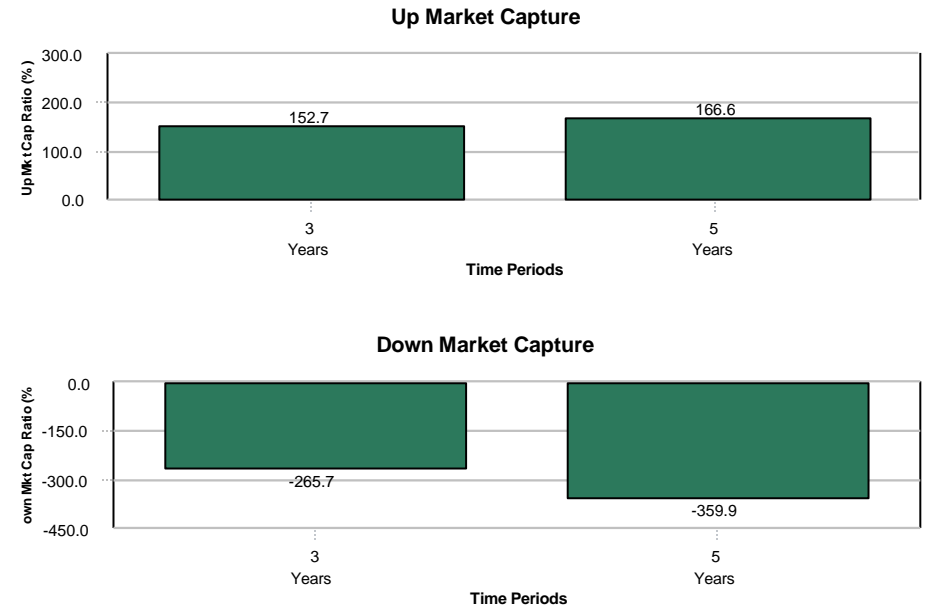
### Peer Group Scattergram (08/01/17 to 12/31/17)



State Street Liquid Reserves (SSIXX)	0.55	0.01
90 Day U.S. Treasury Bill	0.46	0.01
Median	0.31	0.01

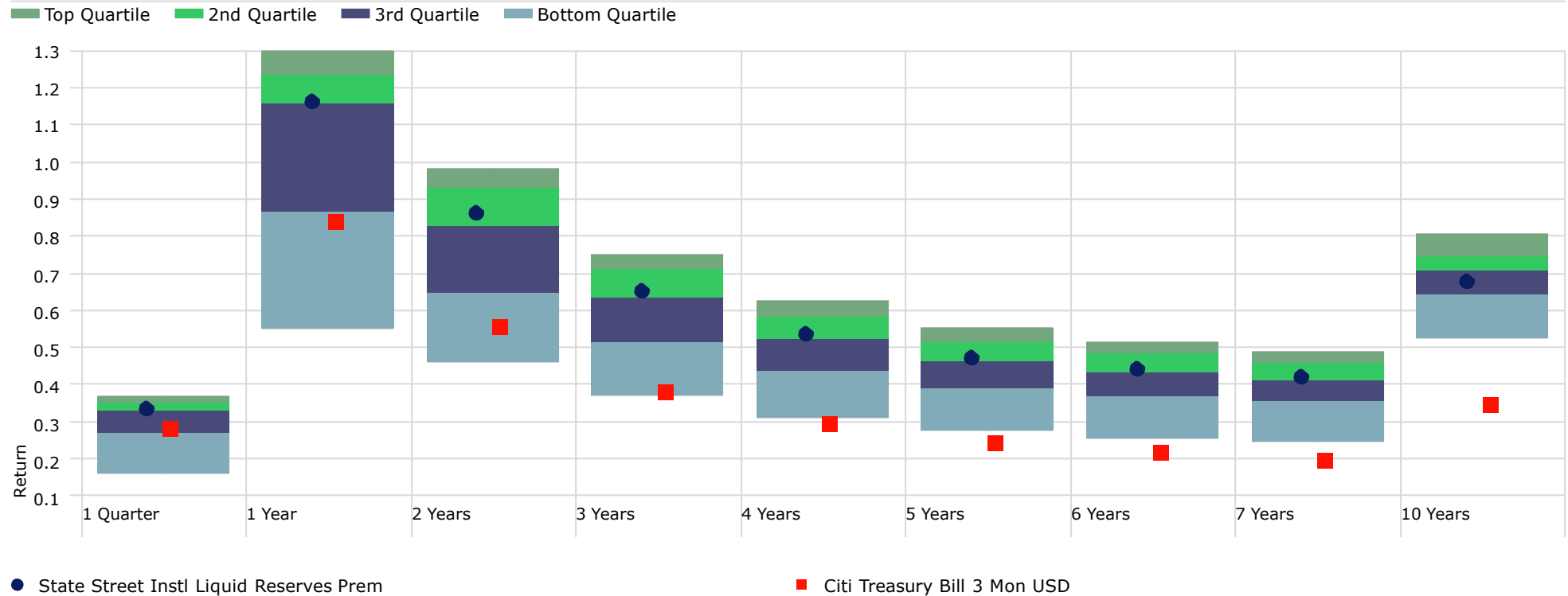
\* Monthly periodicity used.

### Up Down Market Capture



**Oregon Saves**  
**State Street Liquid Reserves Fund**  
**As of 12/31/2017**

As of Date: 12/31/2017 Peer Group (5-95%): Money Market Funds - U.S. - Prime Money Market



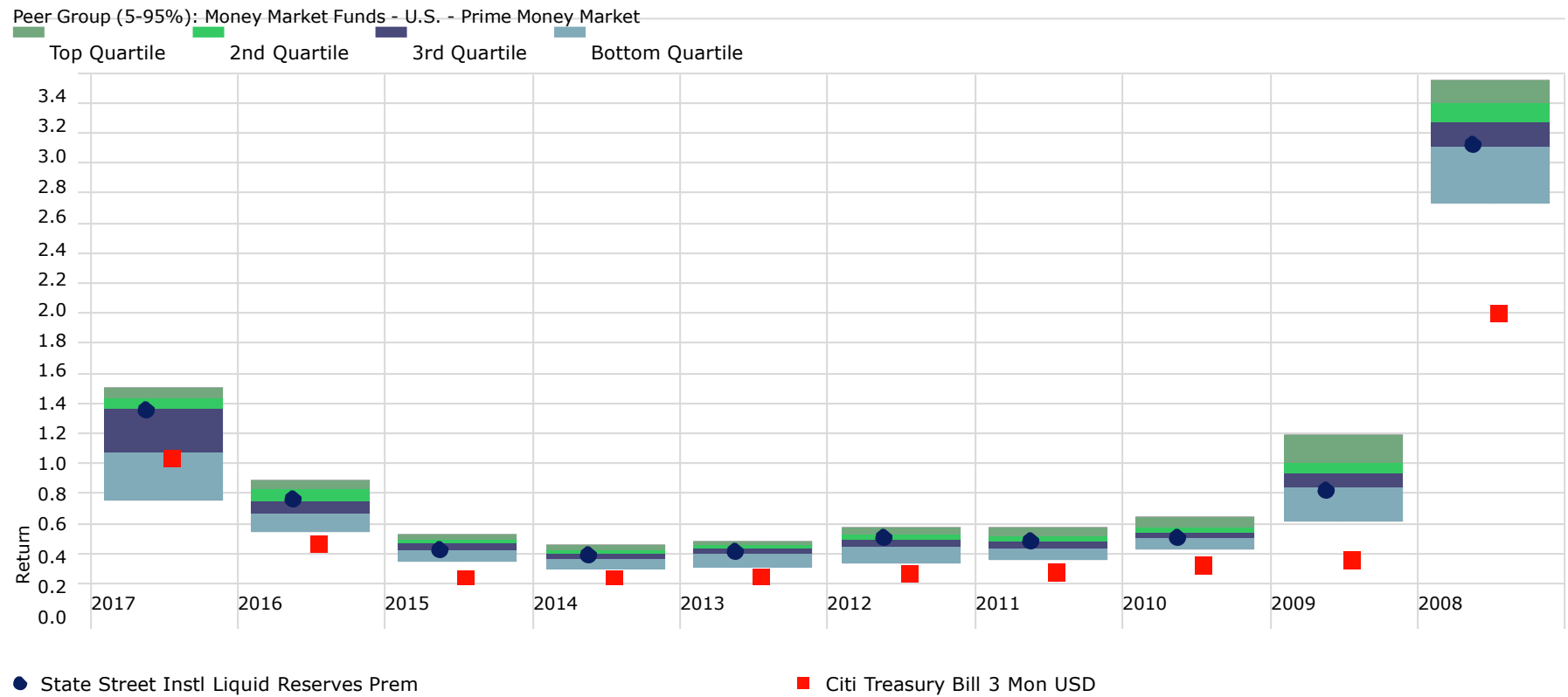
### Calendar Year Returns

Data Point: Return Calculation Benchmark: Citi Treasury Bill 3 Mon USD

	Qtr	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Instl Liquid Reserves Prem	0.34	43	1.16	49	0.87	40	0.65	45	0.54	45	0.47	45	0.42	43	0.68	64
Citi Treasury Bill 3 Mon USD	0.28	71	0.84	77	0.56	88	0.38	94	0.29	96	0.24	98	0.20	100	0.34	100
Count	312		311		275		266		264		261		257		238	
5th Percentile	0.37		1.30		0.98		0.75		0.62		0.55		0.49		0.80	
25th Percentile	0.35		1.23		0.93		0.71		0.58		0.51		0.46		0.74	
50th Percentile	0.33		1.16		0.83		0.63		0.52		0.46		0.41		0.71	
75th Percentile	0.27		0.87		0.65		0.51		0.43		0.39		0.35		0.64	
95th Percentile	0.16		0.55		0.46		0.37		0.31		0.28					

Source: Morningstar Direct

**Oregon Saves**  
**State Street Liquid Reserves Fund**  
**As of 12/31/2017**



### Trailing Returns

Data Point: Return

	Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer	
	2017	group percentile	2016	group percentile	2015	group percentile	2014	group percentile	2013	group percentile	2012	group percentile	2011	group percentile	2010	group percentile	2009	group percentile	2008	group percentile
State Street Instl Liquid Reserves Prem	1.16	49	0.57	44	0.23	72	0.19	60	0.22	59	0.31	32	0.29	47	0.31	68	0.63	75	2.93	71
Citi Treasury Bill 3 Mon USD	0.84	77	0.27	99	0.03	100	0.03	100	0.05	100	0.07	100	0.08	100	0.13	100	0.16	98	1.80	99
Count	311		278		270		268		266		262		262		252		247		243	
5th Percentile	1.30		0.69		0.33		0.25		0.28		0.37		0.37		0.44		0.99		3.35	
25th Percentile	1.23		0.63		0.29		0.23		0.26		0.32		0.31		0.37		0.81		3.20	
50th Percentile	1.16		0.55		0.26		0.20		0.23		0.29		0.28		0.34		0.73		3.07	
75th Percentile	0.87		0.46		0.22		0.16		0.19		0.24		0.23		0.30		0.63		2.90	
95th Percentile	0.55		0.35		0.15		0.10		0.11		0.13		0.16		0.23					

Source: Morningstar Direct

State Street Equity 500 Index (SSSYX)

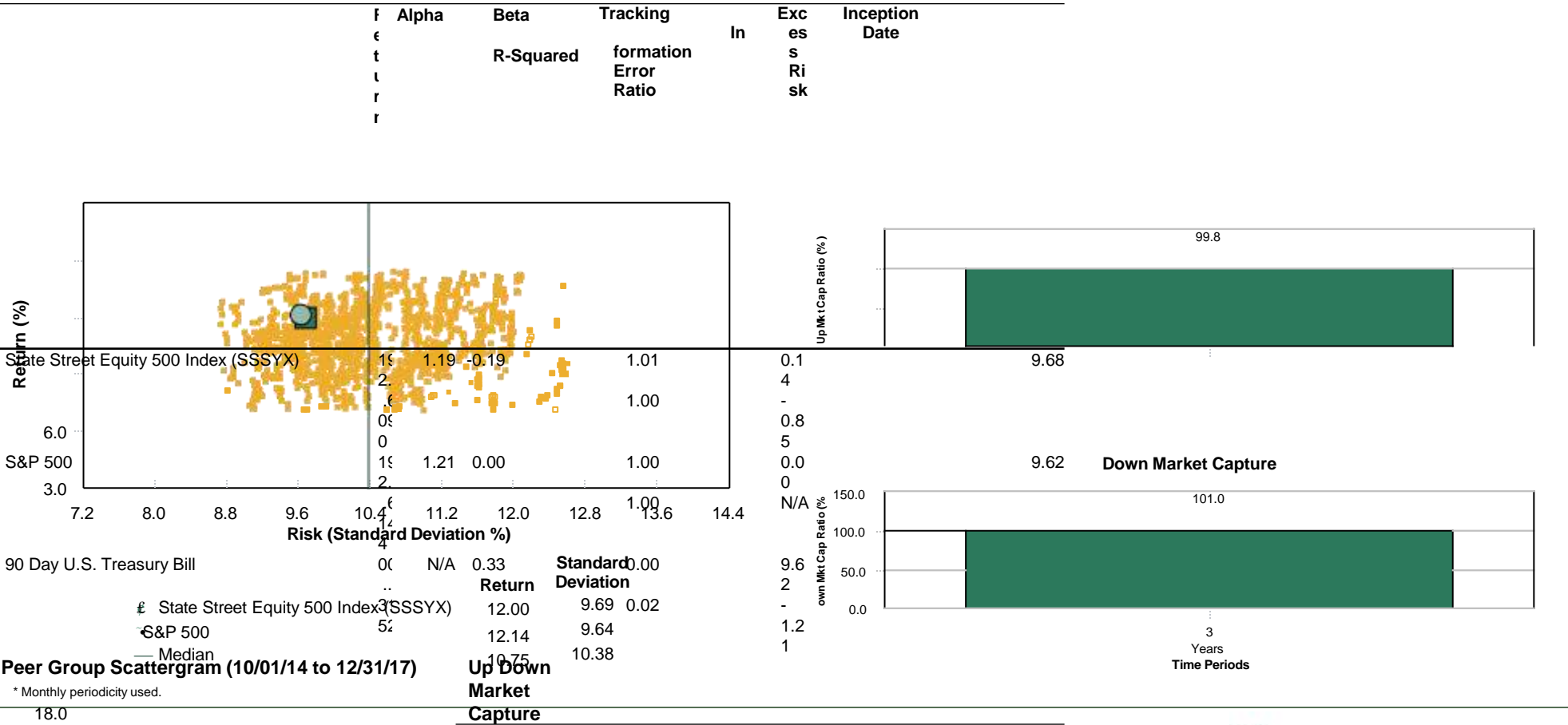
Fund Information

Fund Name :	State Street Institutional Investment Trust: State Street Equity 500 Index Fund; Class K Shares	Portfolio Assets :	\$2,462 Million
Fund Family :	State Street Bank and Trust Company	Portfolio Manager :	Schneider/Scofield/Feehily
Ticker :	SSSYX	PM Tenure :	2014--2017--2014
Inception Date :	09/17/2014	Fund Style :	IM U.S. Large Cap Equity (MF)
Fund Assets :	\$403 Million	Style Benchmark :	S&P 500

Fund Investment Policy

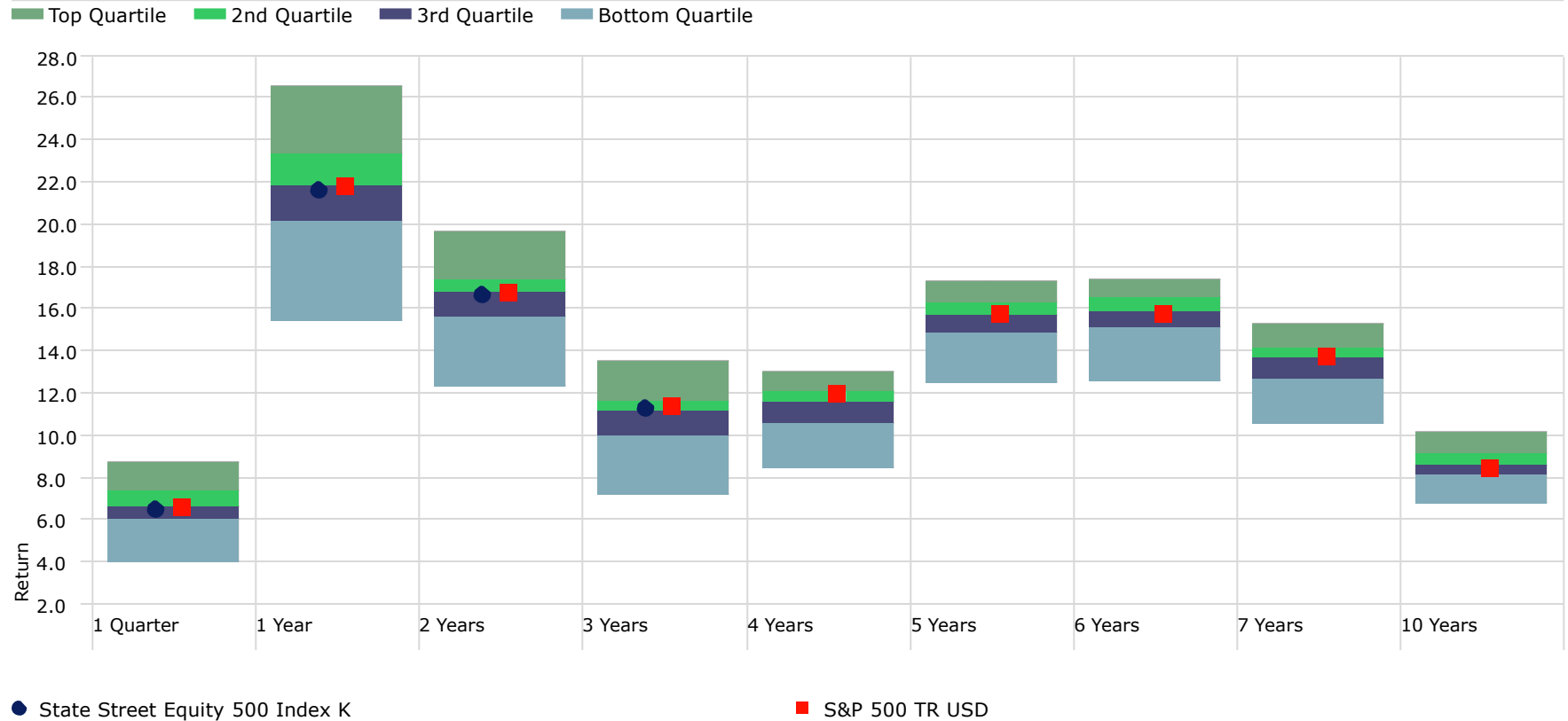
The Fund seeks to replicate as closely as possible the performance of the Standard & Poor's 500 Index. The Fund seeks to achieve its objective by investing substantially all of its investable assets in a corresponding portfolio that uses a passive management strategy designed to track the performance of the Index.

Historical Statistics (10/01/14 - 12/31/17) \*



**Oregon Saves**  
**U.S. Large Cap Equity**  
**As of 12/31/2017**

Peer Group (5-95%): Open End Funds - U.S. - Large Blend



### Trailing Returns

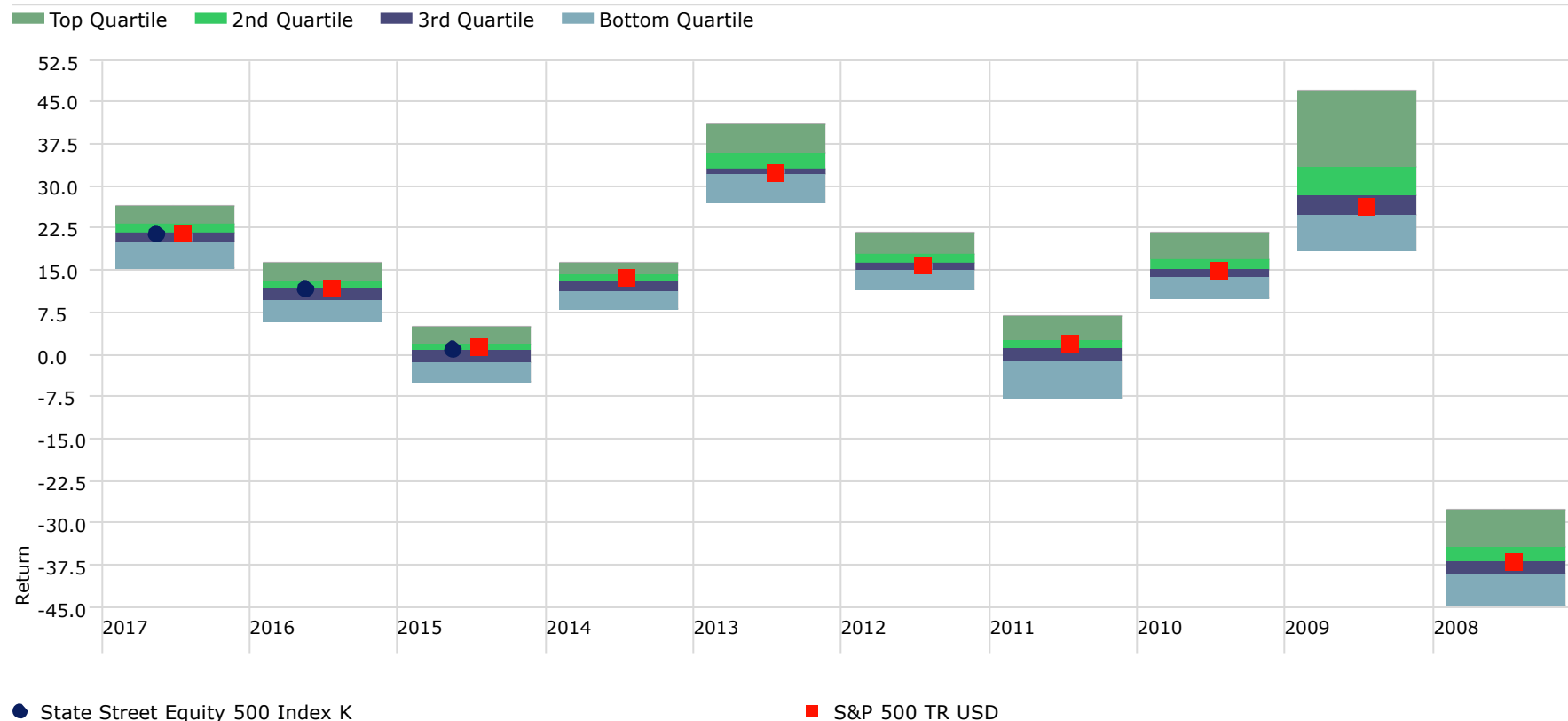
Data Point: Return

	Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer	
	1 Quarter	group percentile	1 Year	group percentile	2 Years	group percentile	3 Years	group percentile	4 Years	group percentile	5 Years	group percentile	6 Years	group percentile	7 Years	group percentile	10 Years	group percentile
State Street Equity 500 Index K	6.56	59	21.64	56	16.68	54	11.30	43										
S&P 500 TR USD	6.64	51	21.83	50	16.79	45	11.41	37	11.98	35	15.79	43	15.83	51	13.76	42	8.50	61
Count	1,332		1,295		1,224		1,158		1,095		1,031		979		929		774	
5th Percentile	8.73		26.53		19.68		13.48		13.04		17.28		17.40		15.24		10.17	
25th Percentile	7.35		23.34		17.39		11.58		12.11		16.28		16.50		14.06		9.14	
50th Percentile	6.65		21.83		16.76		11.19		11.60		15.70		15.83		13.65		8.58	
75th Percentile	6.02		20.14		15.59		10.02		10.54		14.88		15.13		12.72		8.11	
95th Percentile	4.00		15.44		12.33		7.25		8.50		12.48		12.55		10.60		6.79	

Source: Morningstar Direct

**Oregon Saves**  
**U.S. Large Cap Equity**  
**As of 12/31/2017**

Peer Group (5-95%): Open End Funds - U.S. - Large Blend



### Trailing Returns

Data Point: Return

	Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer	
	2017	group percentile	2016	group percentile	2015	group percentile	2014	group percentile	2013	group percentile	2012	group percentile	2011	group percentile	2010	group percentile	2009	group percentile	2008	group percentile
State Street Equity 500 Index K	21.64	56	11.93	47	1.28	43														
S&P 500 TR USD	21.83	50	11.96	44	1.38	39	13.69	35	32.39	66	16.00	65	2.11	35	15.06	56	26.46	68	-37.00	56
Count	1,295		1,224		1,158		1,097		1,033		981		931		885		837		775	
5th Percentile	26.53		16.45		4.82		16.33		40.90		21.58		6.77		21.79		47.16		-27.53	
25th Percentile	23.34		12.95		1.87		14.13		35.86		17.99		2.37		16.91		33.54		-34.28	
50th Percentile	21.83		11.79		0.78		12.99		33.21		16.43		1.11		15.14		28.23		-36.86	
75th Percentile	20.14		9.65		-1.54		11.34		32.09		14.97		-0.96		q3.79		24.93		-38.90	
95th Percentile	15.44		5.80		-5.02		7.98		27.06		11.71		-7.63		10.11		18.68		-44.65	

Source: Morningstar Direct

## State Street Target Retirement K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSFOX  
Inception Date : 09/30/2014  
Fund Assets : \$94 Million

Portfolio Assets : \$94 Million  
Portfolio Manager : Khatri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target Alloc Consv (MF)  
Style Benchmark : S&P Target Date Retirement Income Index

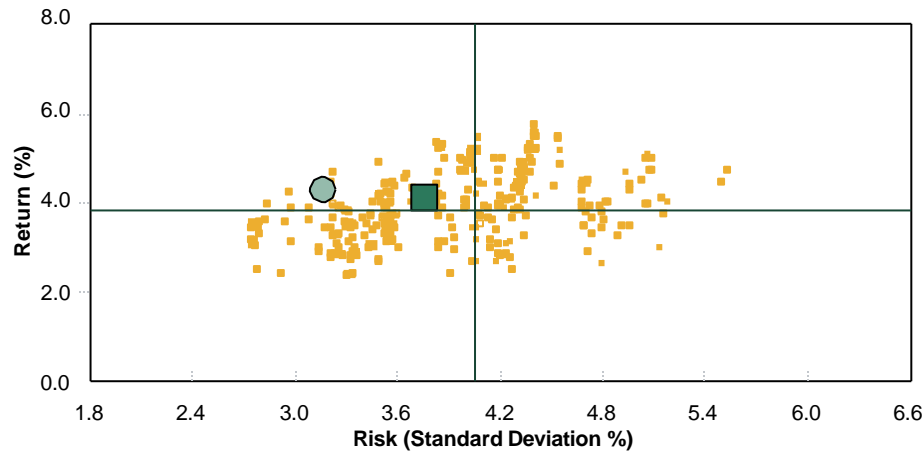
### Fund Investment Policy

The Fund seeks current income and, secondarily, capital growth. The Funds assets are allocated according to a target asset allocation strategy that emphasizes fixed income and smaller allocation to equity. It is intended for use as part of an overall investment strategy by an investor who is already in retirement.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement K	4.11	3.76	1.01	-0.86	1.17	0.97	0.86	-0.17	3.73	11/01/2014
S&P Target Date Retirement Income Index	4.28	3.16	1.24	0.00	1.00	1.00	0.00	N/A	3.13	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.31	0.01	0.08	3.13	-1.24	0.00	11/01/2014

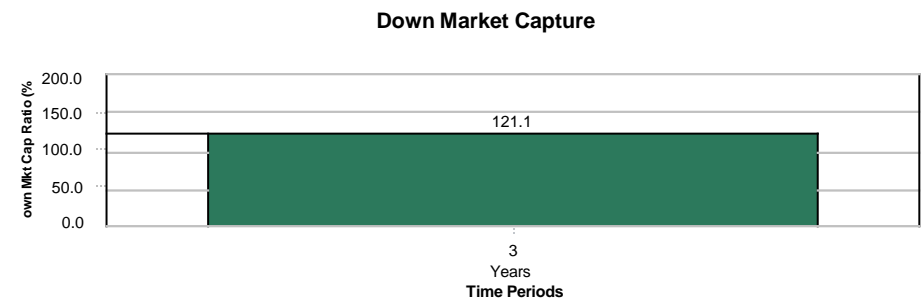
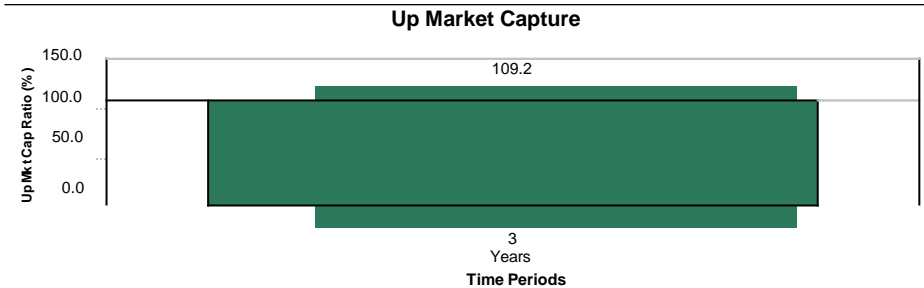
### Peer Group Scattergram (11/01/14 to 12/31/17)



	Return	Standard Deviation
State Street Target Retirement K	4.11	3.76
S&P Target Date Retirement Income Index	4.28	3.16
Median	3.83	4.06

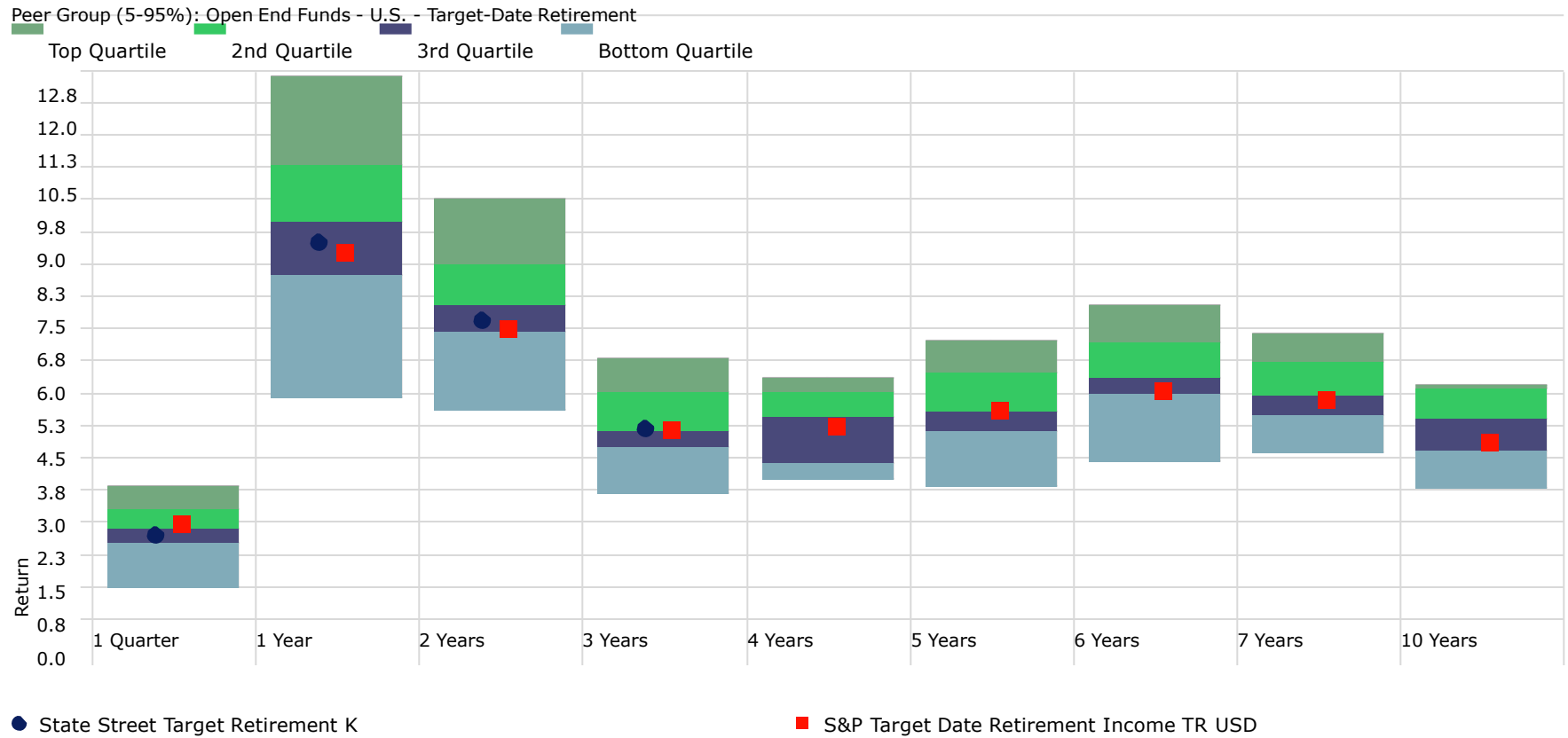
\* Monthly periodicity used.

### Up Down Market Capture





**Oregon Saves**  
**State Street Retirement Income**  
**As of 12/31/2017**



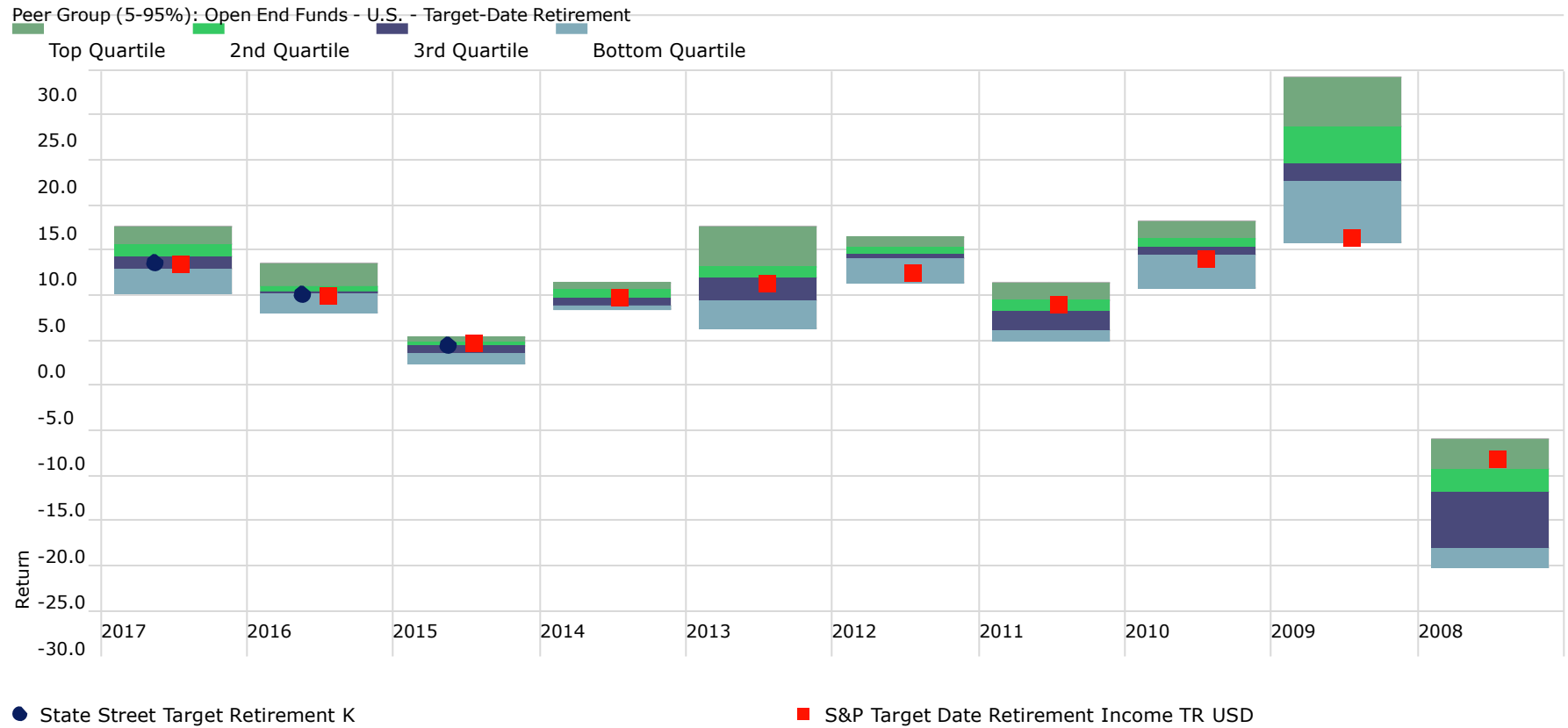
### Trailing Returns

Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement K	1.96	60	8.79	54	6.98	56	4.46	49										
S&P Target Date Retirement Income TR USD	2.24	46	8.54	60	6.76	67	4.39	50	4.51	51	4.86	47	5.30	67	5.11	56	4.12	67
Count	182		180		173		155		137		131		119		116		82	
5th Percentile	3.08		12.63		9.79		6.05		5.61		6.46		7.28		6.62		5.45	
25th Percentile	2.56		10.56		8.26		5.26		5.26		5.71		6.42		5.96		5.35	
50th Percentile	2.11		9.22		7.29		4.35		4.71		4.81		5.61		5.21		4.68	
75th Percentile	1.77		7.99		6.68		4.01		3.62		4.36		5.25		4.75		3.90	
95th Percentile	0.75		5.16		4.87		2.94		3.26		3.11		3.67		3.86		3.04	

Source: Morningstar Direct

**Oregon Saves**  
**State Street Retirement Income**  
**As of 12/31/2017**



### Trailing Returns

Data Point: Return

	Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer		Peer	
	2017	group percentile	2016	group percentile	2015	group percentile	2014	group percentile	2013	group percentile	2012	group percentile	2011	group percentile	2010	group percentile	2009	group percentile	2008	group percentile
State Street Target Retirement K	8.79	98	5.20	100	-0.41	1														
S&P Target Date Retirement Income TR USD	8.54	99	5.01	100	-0.18	1	4.86	14	6.28	88	7.51	94	3.98	2	9.09	100	11.37	100	-13.09	1
Count	183		178		174		169		157		147		140		137		125		122	
5th Percentile	19.32		32.56		-15.56		6.54		19.25		17.27		-3.07		28.86		72.45		-38.32	
25th Percentile	18.21		25.34		-18.57		4.02		15.02		13.78		-8.21		24.22		60.99		-43.33	
50th Percentile	16.76		22.70		-20.42		2.49		12.21		12.00		-10.92		23.39		58.62		-46.09	
75th Percentile	14.81		20.33		-22.79		1.23		9.55		9.60		-13.69		21.48		52.19		-47.49	
95th Percentile	12.53		15.64		-25.60		-2.21		5.85		7.47		-18.36		16.84		48.81		-49.76	

Source: Morningstar Direct

State Street Retirement 2015 K

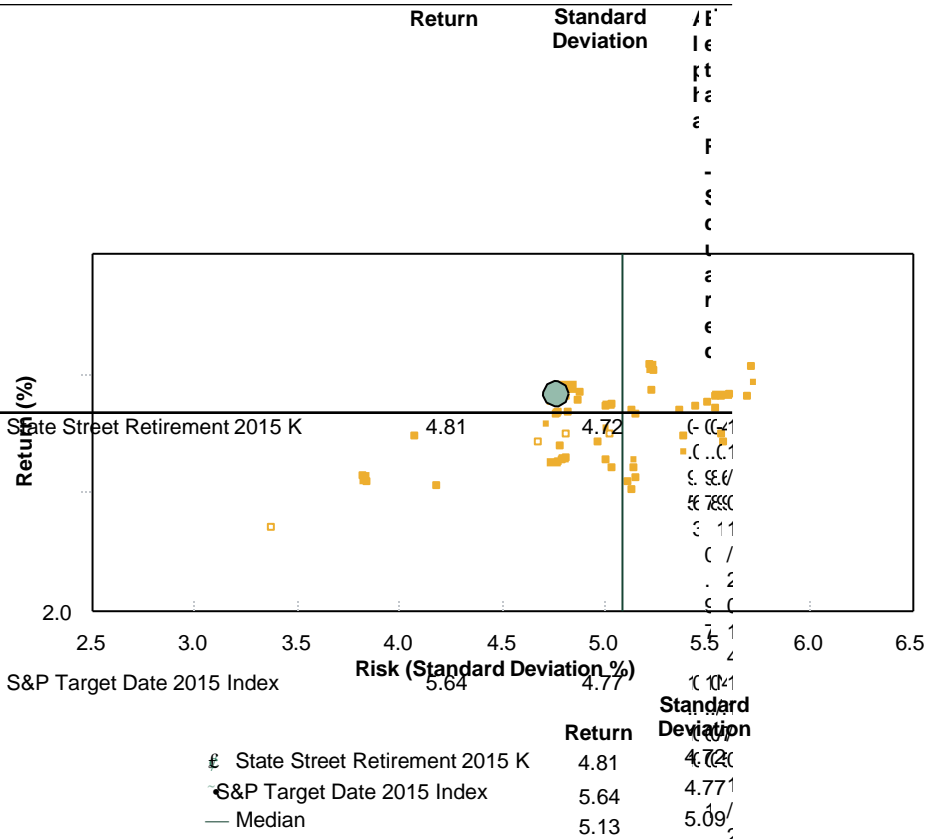
Fund Information

Fund Name :	State Street Institutional Investment Trust: State Street Target Retirement 2015 Fund; Class K Shares	Portfolio Assets :	\$150 Million
Fund Family :	State Street Bank and Trust Company	Portfolio Manager :	Khatri/McGinn
Ticker :	SSBHX	PM Tenure :	2014--2014
Inception Date :	09/30/2014	Fund Style :	IM Mixed-Asset Target 2015 (MF)
Fund Assets :	\$150 Million	Style Benchmark :	S&P Target Date 2015 Index

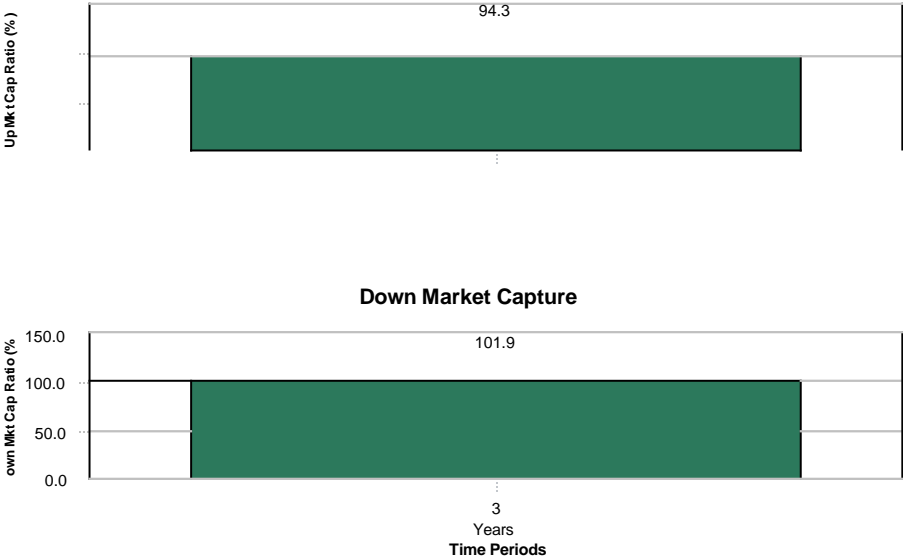
Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2015 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

Historical Statistics (11/01/14 - 12/31/17) \*



\* Monthly periodicity used.



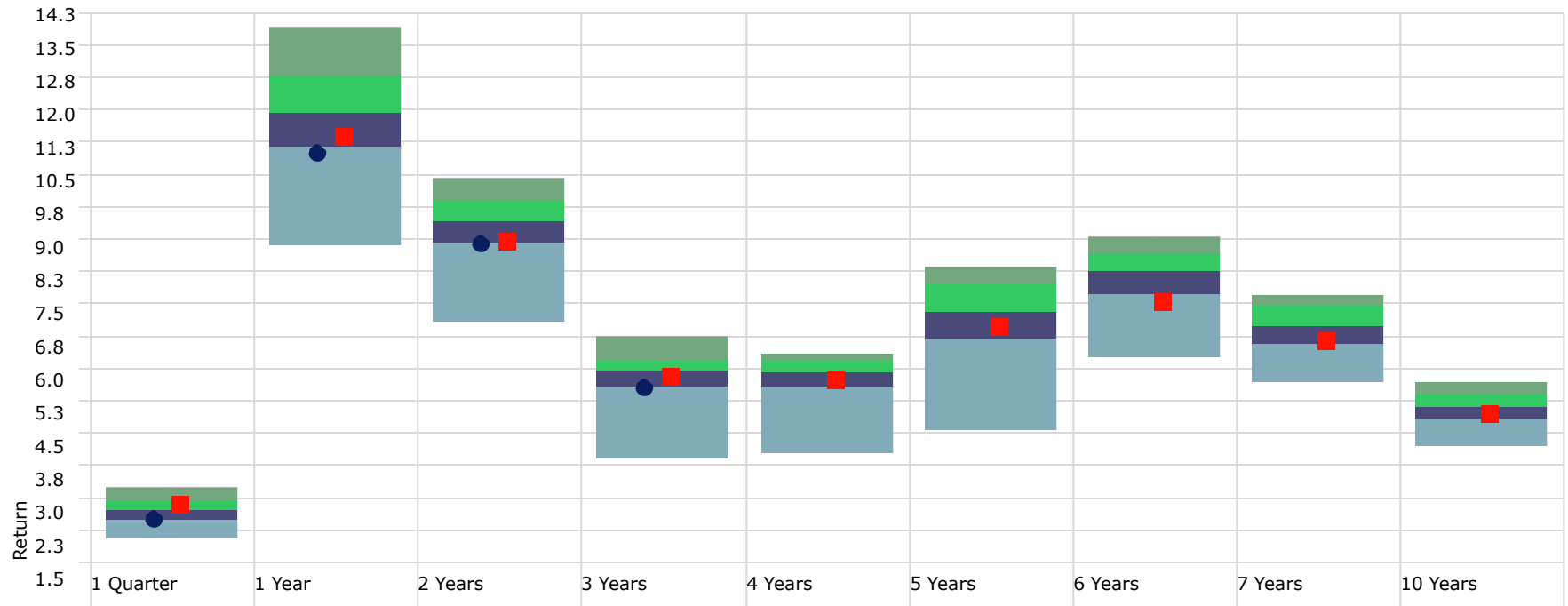
90 Day U.S. Treasury Bill

0.36

0.12

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2015

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2015 K

■ S&amp;P Target Date 2015 TR USD

### Trailing Returns

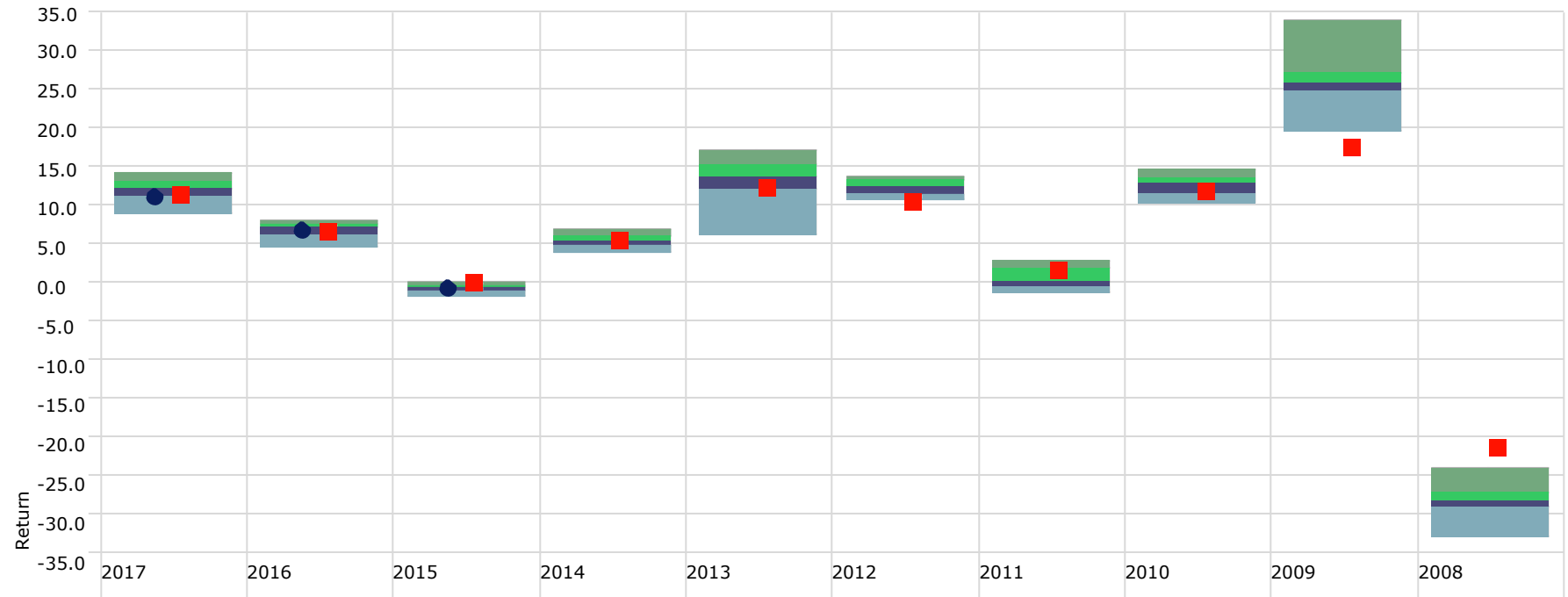
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2015 K	2.53	66	11.04	78	8.92	75	5.58	76										
S&P Target Date 2015 TR USD	2.85	33	11.39	64	8.95	74	5.82	63	5.74	62	6.99	69	7.54	81	6.66	68	4.97	67
Count	133		131		119		102		82		74		68		65		42	
5th Percentile	3.25		13.93		10.40		6.75		6.31		8.35		9.05		7.66		5.66	
25th Percentile	2.91		12.77		9.91		6.15		6.15		7.97		8.67		7.48		5.40	
50th Percentile	2.69		11.91		9.41		5.96		5.92		7.30		8.25		6.98		5.10	
75th Percentile	2.48		11.16		8.92		5.58		5.56		6.70		7.73		6.56		4.82	
95th Percentile	2.09		8.87		7.10		3.94		4.08		4.57		6.26		5.70		4.20	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2015

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2015 K

■ S&amp;P Target Date 2015 TR USD

### Trailing Returns

Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2015 K	11.04	78	6.84	56	-0.80	51														
S&P Target Date 2015 TR USD	11.39	64	6.56	60	-0.16	19	5.49	42	12.16	71	10.32	95	1.53	26	11.85	66	17.48	95	-21.32	5
Count	131		119		102		82		74		68		65		62		49		42	
5th Percentile	13.93		7.78		0.03		6.74		17.09		13.65		2.62		14.51		33.77		-24.06	
25th Percentile	12.77		7.44		-0.43		5.87		15.11		13.14		1.71		13.24		27.01		-27.28	
50th Percentile	11.91		7.04		-0.76		5.13		13.61		12.24		-0.16		12.63		25.62		-28.44	
75th Percentile	11.16		6.18		-1.16		4.69		11.88		11.32		-0.85		11.29		24.76		-29.10	
95th Percentile	8.87		4.49		-1.88		3.82		6.02		10.53		-1.45		10.18		19.55		-32.96	

Source: Morningstar Direct

## State Street Target Retirement 2020 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2020 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSBOX  
Inception Date : 09/30/2014  
Fund Assets : \$568 Million

Portfolio Assets : \$569 Million  
Portfolio Manager : Khatri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2020 (MF)  
Style Benchmark : S&P Target Date 2020 Index

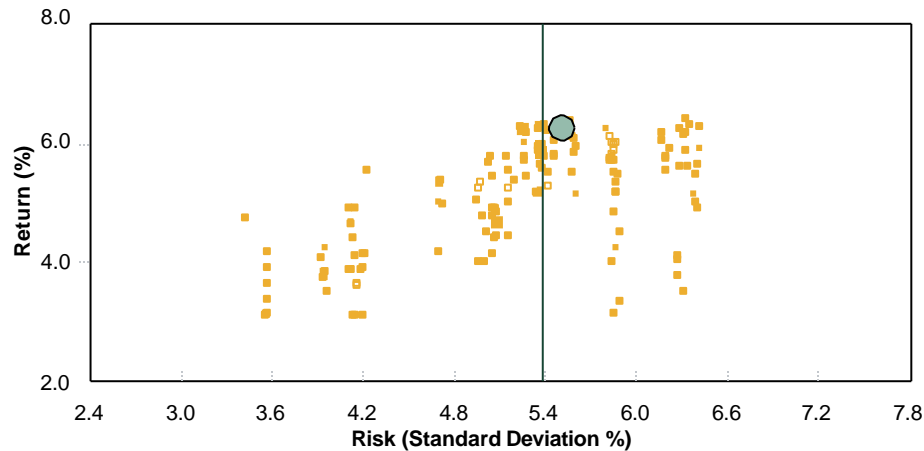
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2020 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2020 K	6.03	5.85	0.98	-0.50	1.05	0.98	0.91	-0.22	5.82	11/01/2014
S&P Target Date 2020 Index	6.26	5.52	1.07	0.00	1.00	1.00	0.00	N/A	5.49	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	5.49	-1.07	0.00	11/01/2014

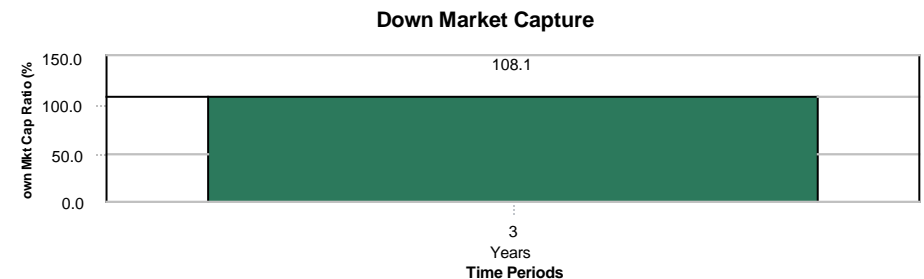
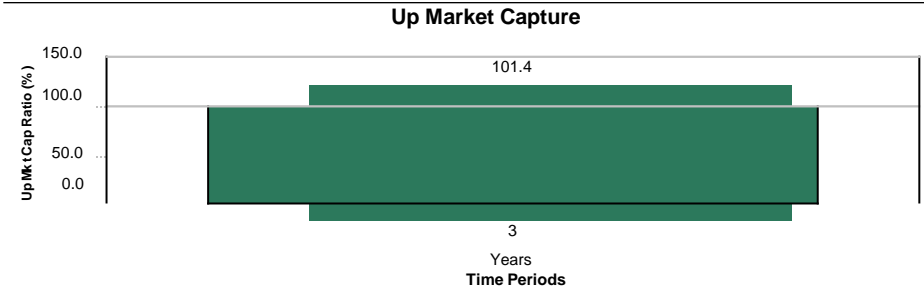
### Peer Group Scattergram (11/01/14 to 12/31/17)



	Return	Standard Deviation
State Street Target Retirement 2020 K	6.03	5.85
S&P Target Date 2020 Index	6.26	5.52
Median	5.29	5.38

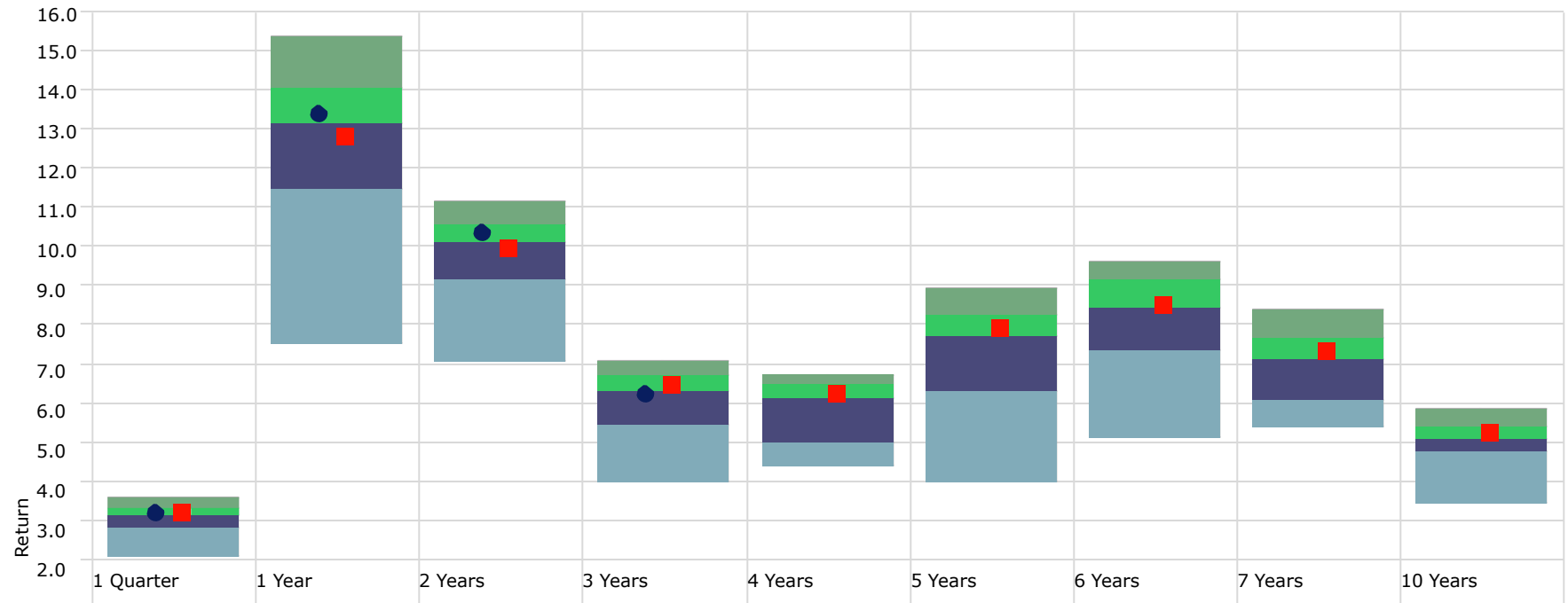
\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2020

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2020 K

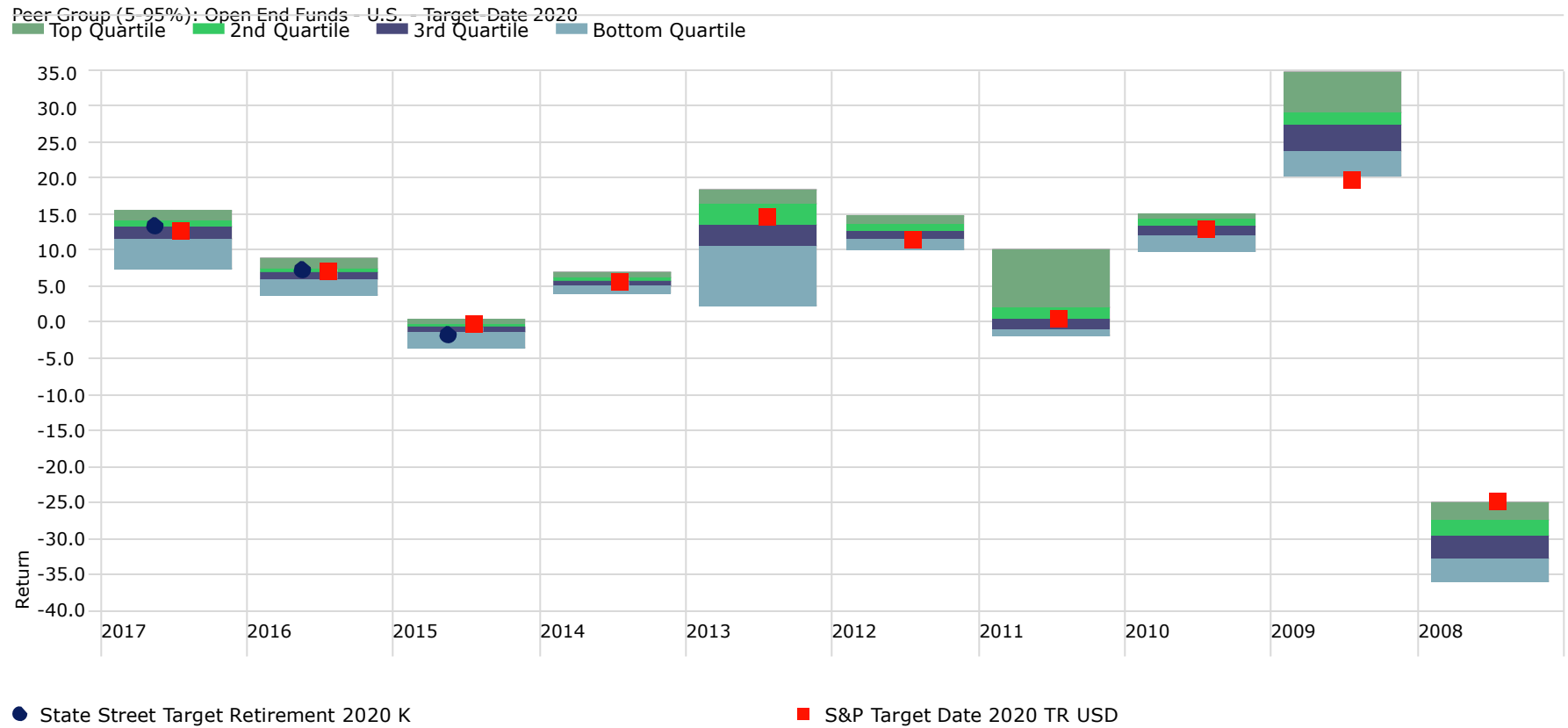
■ S&amp;P Target Date 2020 TR USD

## Trailing Returns

Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2020 K	3.24	33	13.39	45	10.36	34	6.24	61										
S&P Target Date 2020 TR USD	3.20	40	12.80	60	9.98	53	6.48	39	6.27	42	7.92	36	8.50	46	7.33	40	5.28	37
Count	244		239		215		197		173		159		146		130		93	
5th Percentile	3.60		15.37		11.15		7.07		6.72		8.93		9.62		8.37		5.83	
25th Percentile	3.30		14.05		10.54		6.70		6.48		8.25		9.15		7.64		5.39	
50th Percentile	3.12		13.14		10.12		6.32		6.13		7.70		8.43		7.12		5.10	
75th Percentile	2.79		11.48		9.13		5.42		5.00		6.28		7.33		6.06		4.78	
95th Percentile	2.10		7.53		7.07		4.01		4.39		3.99		5.11		5.37		3.45	

Source: Morningstar Direct



## Trailing Returns

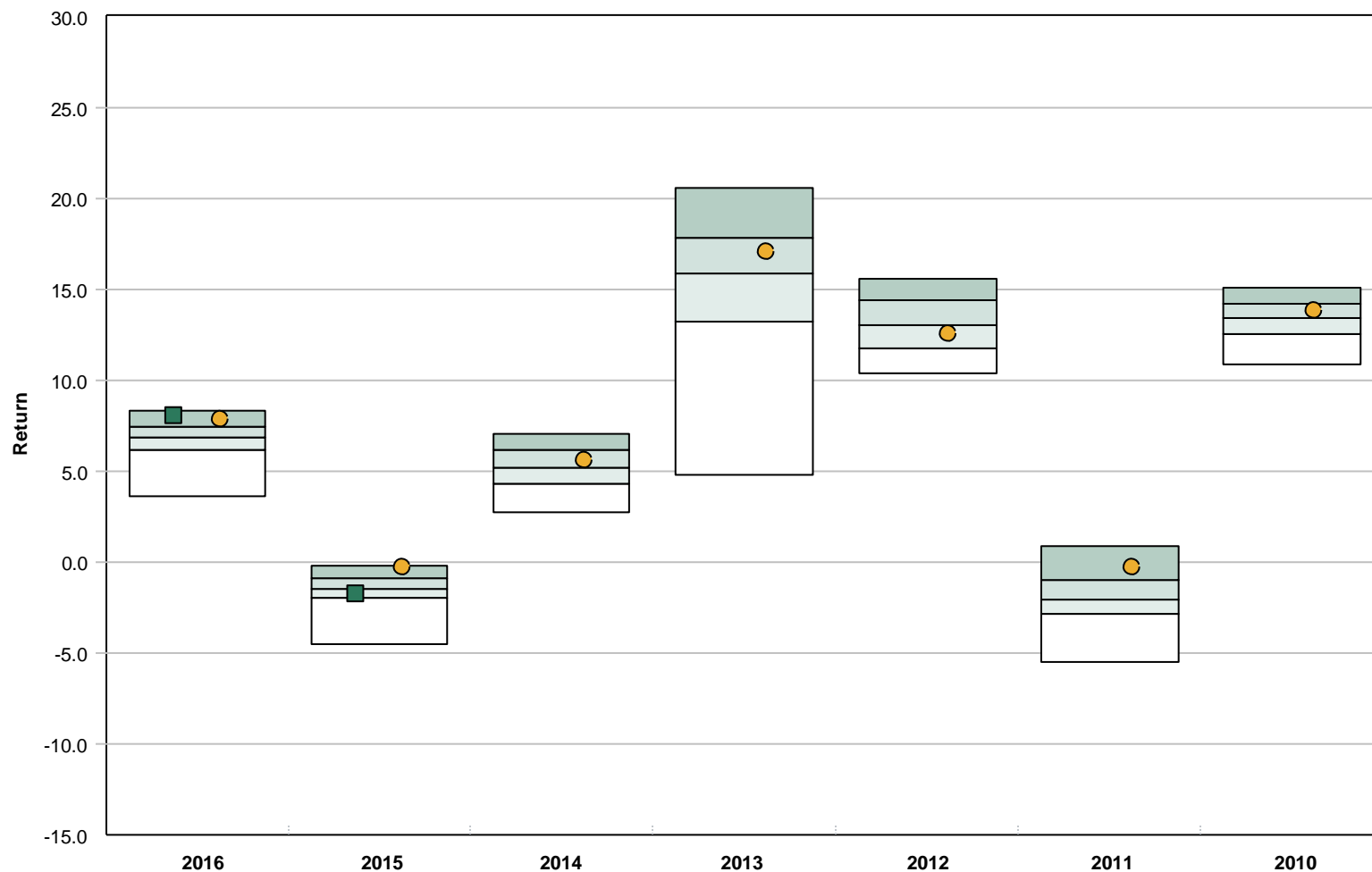
Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2020 K	13.39	45	7.42	24	-1.55	79														
S&P Target Date 2020 TR USD	12.80	60	7.22	31	-0.19	22	5.67	49	14.76	34	11.48	75	0.58	47	12.93	54	19.95	100	-24.78	5
Count	239		215		197		173		159		146		130		123		115		93	
5th Percentile	15.37		8.98		0.34		6.92		18.32		14.73		10.04		14.93		34.61		-24.84	
25th Percentile	14.05		7.39		-0.28		6.20		16.33		13.39		2.02		14.18		29.10		-27.31	
50th Percentile	13.14		6.85		-0.74		5.64		13.61		12.54		0.35		13.22		27.35		-29.48	
75th Percentile	11.48		5.98		-1.40		4.89		10.55		11.53		-1.09		11.96		23.64		-32.64	
95th Percentile	7.53		3.70		-3.50		4.04		2.30		10.00		-1.93		9.87		20.35		-35.87	

Source: Morningstar Direct



Peer Group Analysis - IM Mixed-Asset Target 2025 (MF)



	2016	2015	2014	2013	2012	2011	2010
State Street Target Retirement 2025 K	8.00 (13)	-1.77 (66)	N/A	N/A	N/A	N/A	N/A
S&P Target Date 2025 Index	7.82 (16)	-0.25 (9)	5.56 (39)	17.03 (35)	12.51 (57)	-0.28 (17)	13.82 (42)
5th Percentile	8.38	-0.16	7.07	20.59	15.54	0.84	15.14
1st Quartile	7.49	-0.91	6.18	17.82	14.45	-0.96	14.19
Median	6.87	-1.44	5.19	15.85	13.00	-2.03	13.42
3rd Quartile	6.15	-1.93	4.36	13.19	11.74	-2.86	12.57
95th Percentile	3.63	-4.47	2.72	4.78	10.37	-5.46	10.93

State Street Target Retirement 2025 K

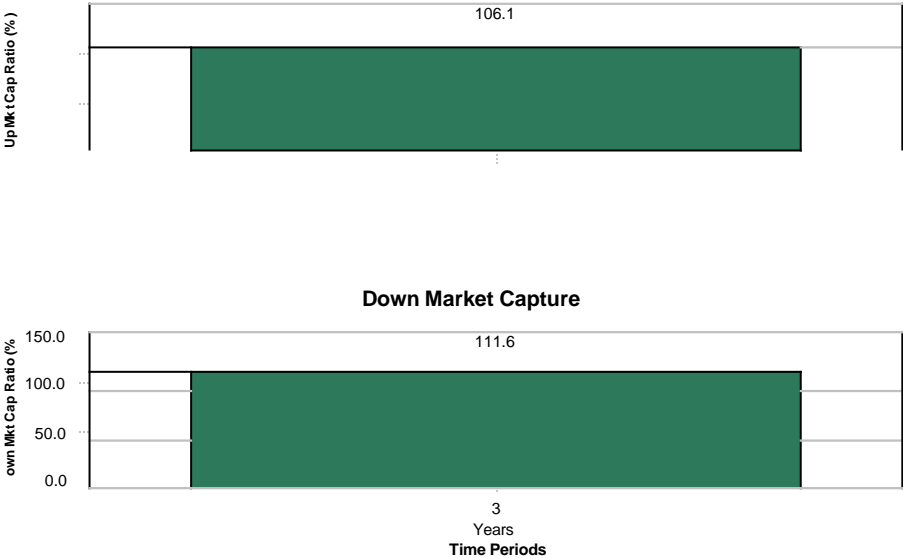
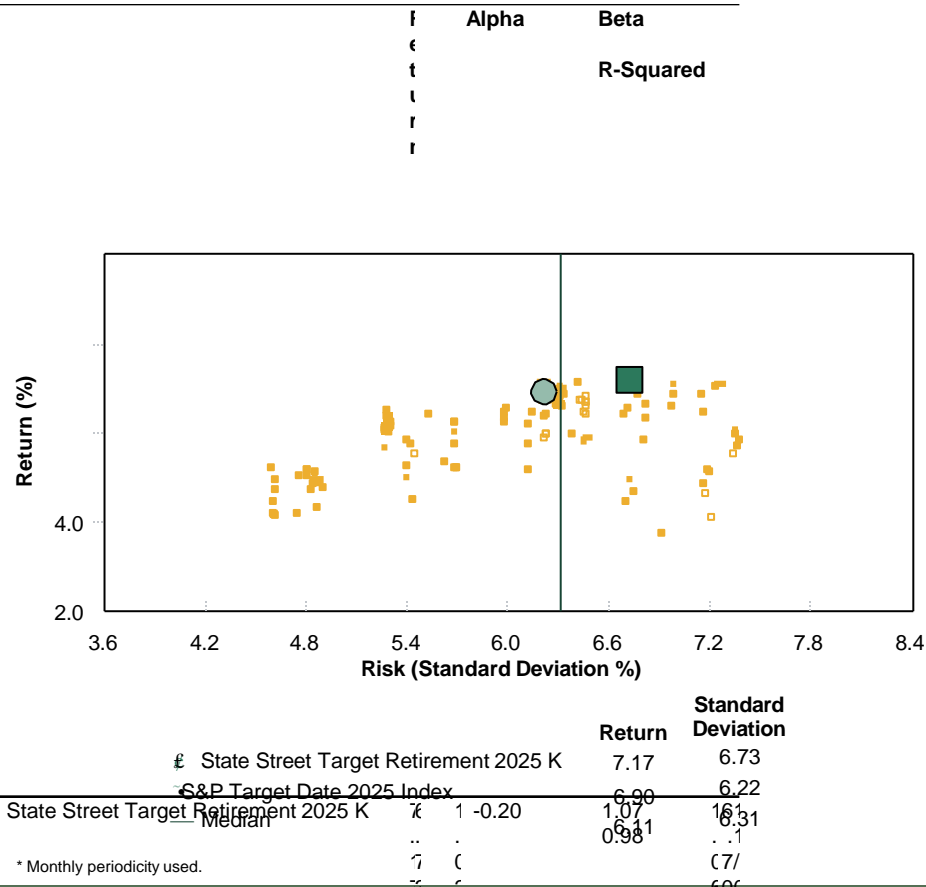
Fund Information

Fund Name :	State Street Institutional Investment Trust: State Street Target Retirement 2025 Fund; Class K Shares	Portfolio Assets :	\$618 Million
Fund Family :	State Street Bank and Trust Company	Portfolio Manager :	Khatri/McGinn
Ticker :	SSBSX	PM Tenure :	2014--2014
Inception Date :	09/30/2014	Fund Style :	IM Mixed-Asset Target 2025 (MF)
Fund Assets :	\$616 Million	Style Benchmark :	S&P Target Date 2025 Index

Fund Investment Policy

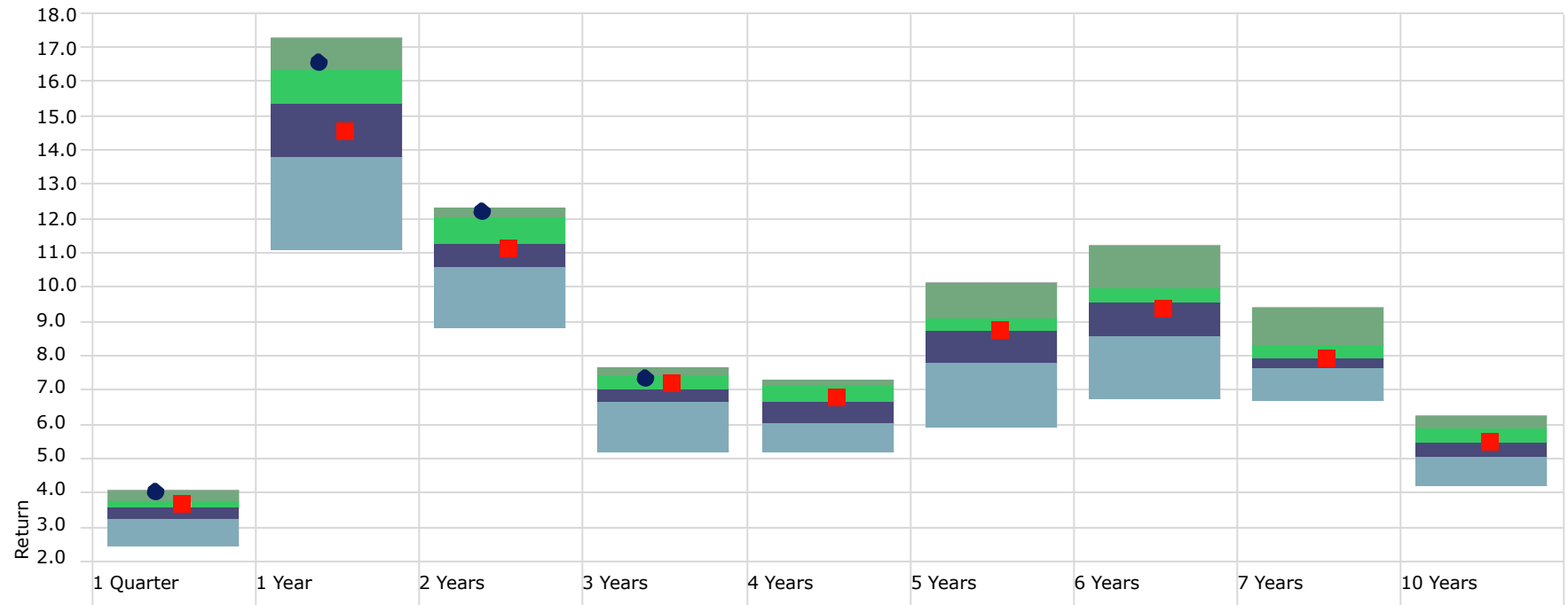
The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2025 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

Historical Statistics (11/01/14 - 12/31/17) \*



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2025

Top Quartile   2nd Quartile   3rd Quartile   Bottom Quartile



● State Street Target Retirement 2025 K

■ S&amp;P Target Date 2025 TR USD

### Trailing Returns

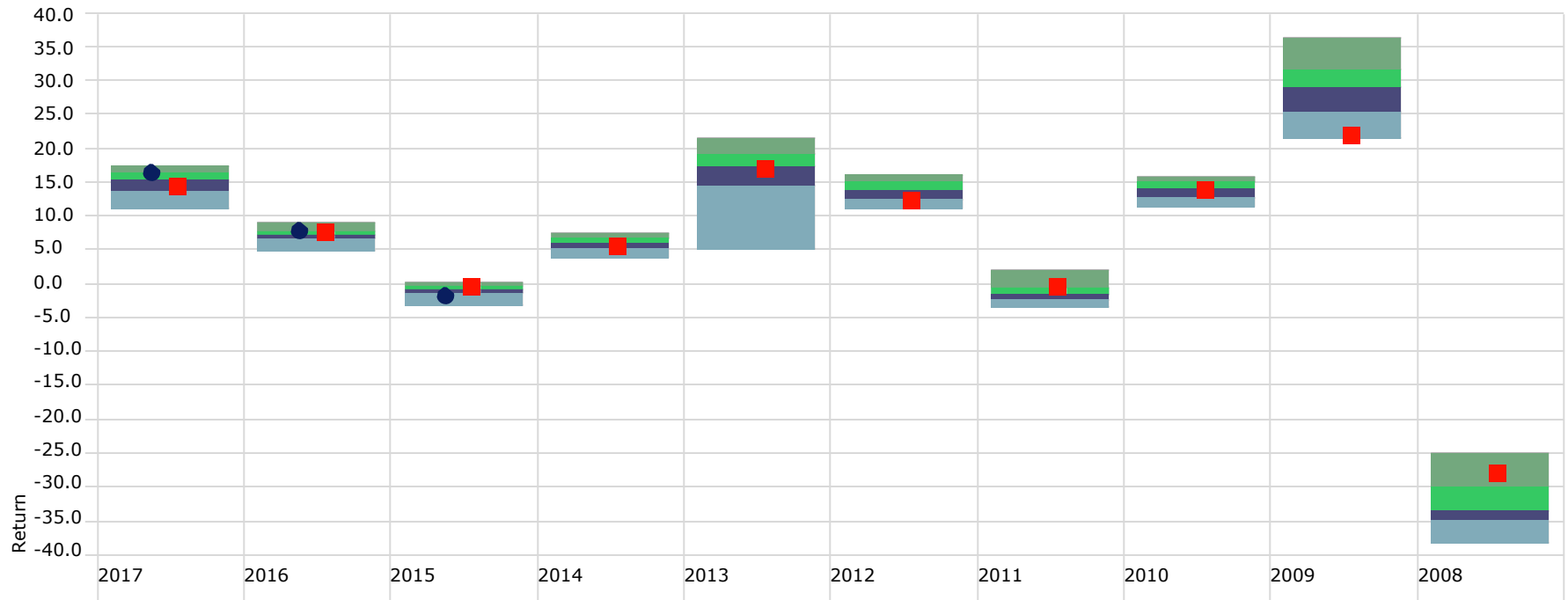
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2025 K	4.05	6	16.57	14	12.24	11	7.37	30										
S&P Target Date 2025 TR USD	3.73	33	14.55	67	11.13	61	7.20	42	6.79	41	8.76	44	9.38	60	7.94	46	5.53	39
Count	214		209		190		170		146		136		112		98		62	
5th Percentile	4.05		17.25		12.31		7.65		7.26		10.14		11.22		9.40		6.25	
25th Percentile	3.77		16.31		12.02		7.43		7.11		9.07		9.98		8.32		5.86	
50th Percentile	3.56		15.32		11.28		7.01		6.66		8.71		9.57		7.91		5.46	
75th Percentile	3.24		13.79		10.57		6.64		6.06		7.81		8.59		7.63		5.08	
95th Percentile	2.44		11.09		8.82		5.21		5.22		5.93		6.78		6.72		4.24	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2025

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● State Street Target Retirement 2025 K

■ S&amp;P Target Date 2025 TR USD

### Trailing Returns

Data Point: Return

	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008						
	group	group	group	group	group	group	group	group	group	group						
	percentile	percentile	percentile	percentile	percentile	percentile	percentile	percentile	percentile	percentile						
State Street Target Retirement 2025 K	16.57	8.08	-1.75	5.56	17.03	12.51	-0.28	13.82	22.03	-27.75						
S&P Target Date 2025 TR USD	14.55	7.82	-0.25	5.56	17.03	12.51	-0.28	13.82	22.03	-27.75						
Count	209	190	170	146	136	112	98	88	73	62						
5th Percentile	17.25	8.93	0.26	7.33	21.54	16.02	1.98	15.65	36.23	-24.94						
25th Percentile	16.31	7.84	-0.26	6.68	19.10	15.11	-0.71	15.05	31.70	-30.04						
50th Percentile	15.32	7.30	-0.93	5.86	17.30	13.76	-1.59	14.04	28.91	-33.63						
75th Percentile	13.79	6.73	-1.32	5.04	14.46	12.37	-2.37	12.69	25.45	-34.82						
95th Percentile	11.09	4.74	-3.10	3.84	5.23	11.20	-3.49	11.33	21.46	-38.22						

Source: Morningstar Direct

## State Street Target Retirement 2030 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2030 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSBYX  
Inception Date : 09/30/2014  
Fund Assets : \$607 Million

Portfolio Assets : \$608 Million  
Portfolio Manager : Khatri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2030 (MF)  
Style Benchmark : S&P Target Date 2030 Index

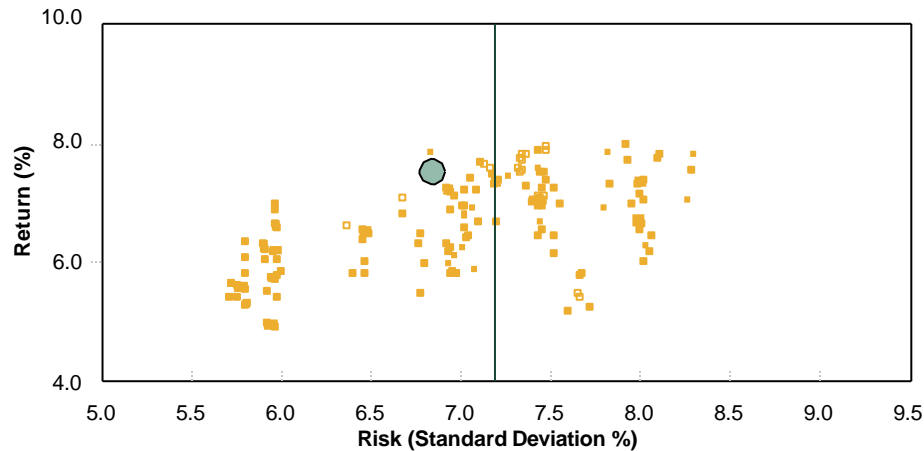
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2030 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2030 K	7.81	7.35	1.02	-0.17	1.06	0.98	1.10	0.28	7.32	11/01/2014
S&P Target Date 2030 Index	7.52	6.85	1.05	0.00	1.00	1.00	0.00	N/A	6.82	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	6.82	-1.05	0.00	11/01/2014

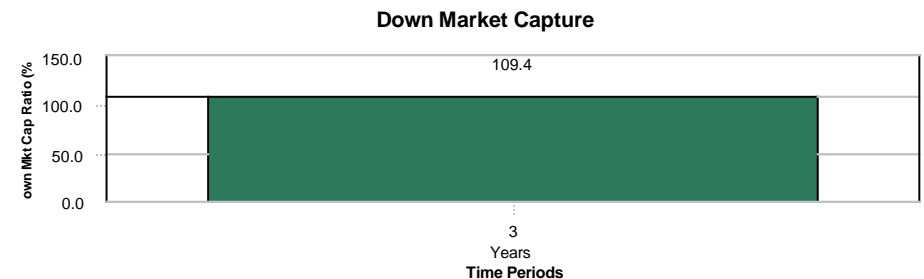
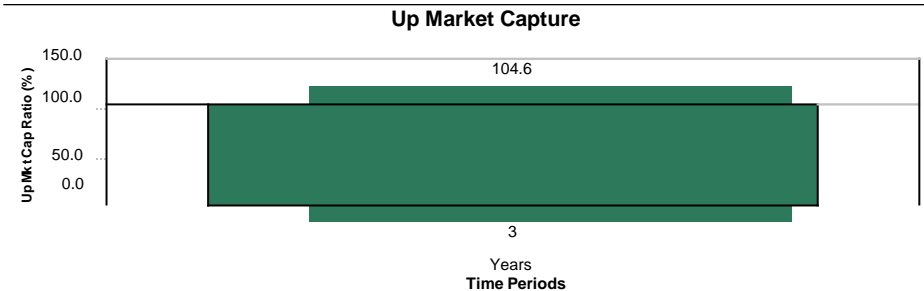
### Peer Group Scattergram (11/01/14 to 12/31/17)



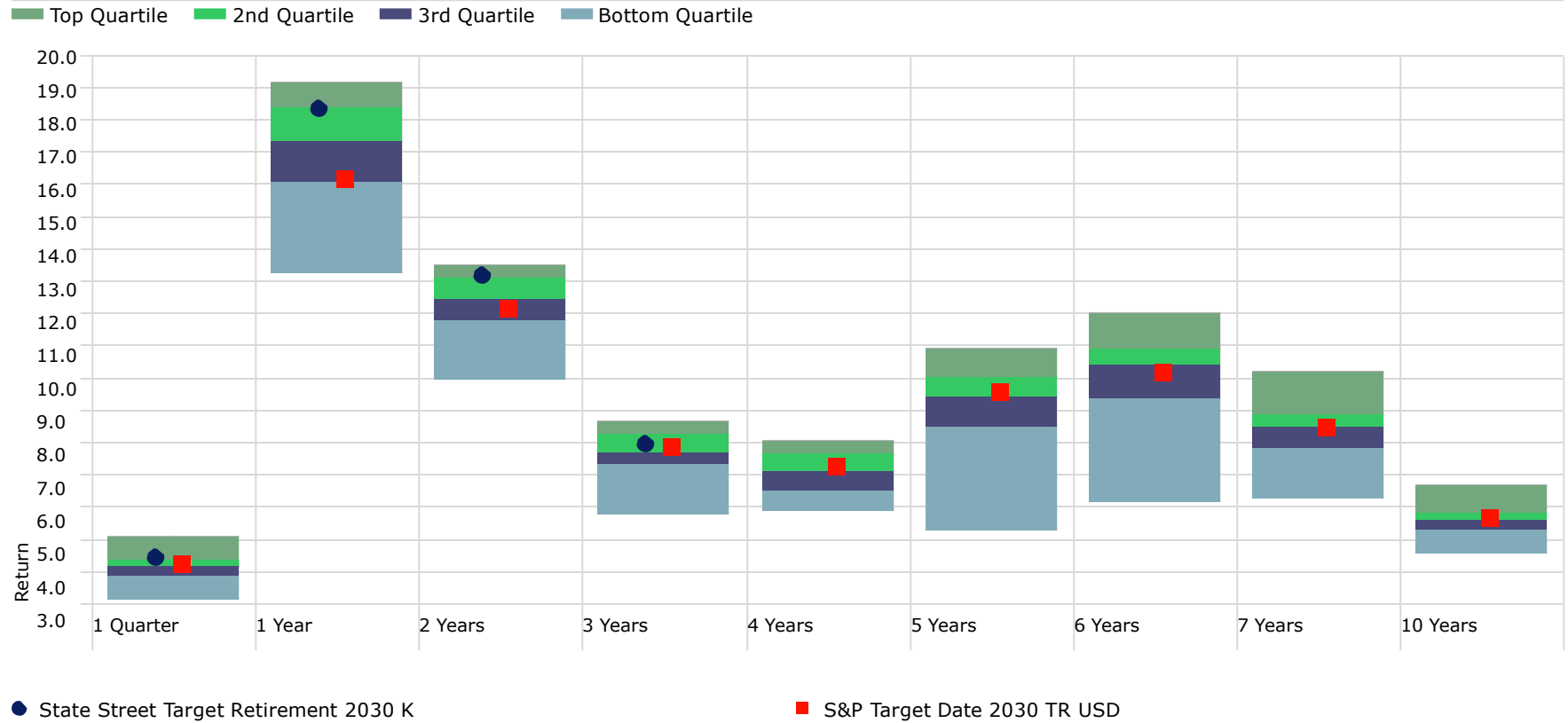
	Return	Standard Deviation
State Street Target Retirement 2030 K	7.81	7.35
S&P Target Date 2030 Index	7.52	6.85
Median	6.74	7.19

\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2030



### Trailing Returns

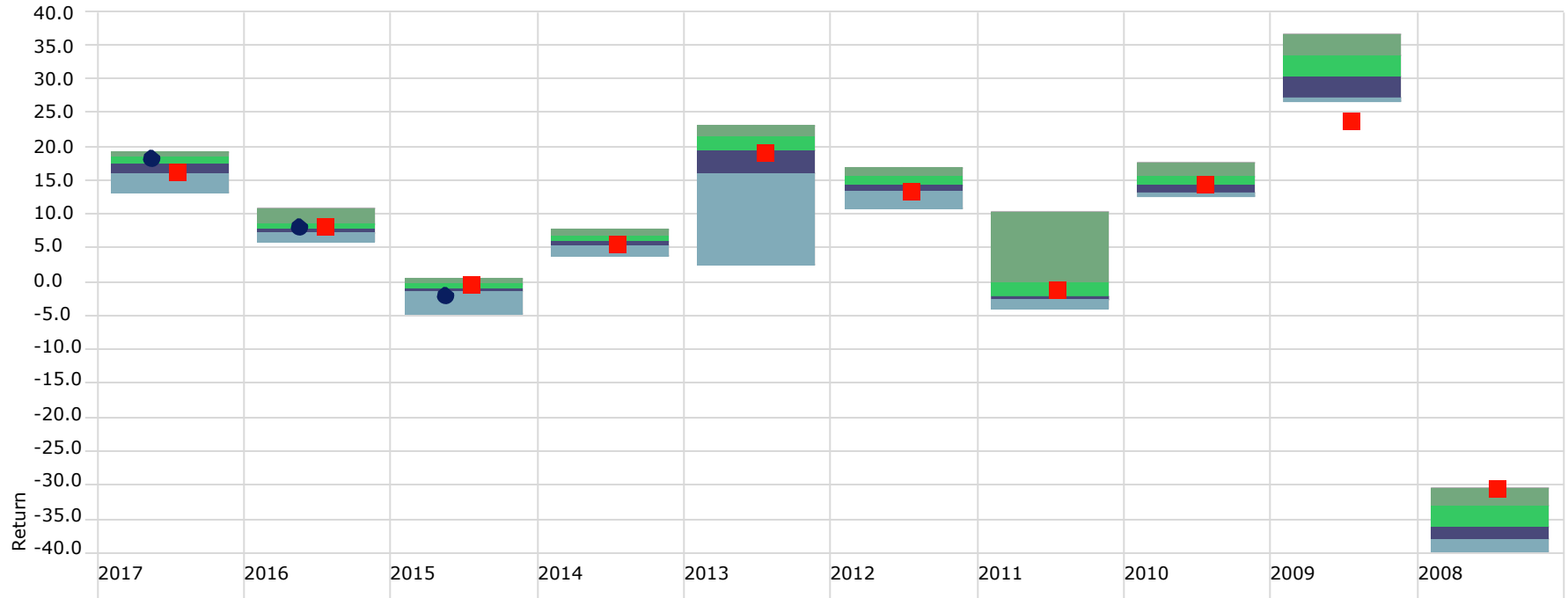
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2030 K	4.48	17	18.41	25	13.23	23	7.98	41										
S&P Target Date 2030 TR USD	4.24	31	16.19	73	12.20	61	7.87	42	7.31	39	9.57	46	10.21	54	8.50	47	5.72	39
Count	234		229		205		187		163		149		136		120		83	
5th Percentile	5.07		19.18		13.49		8.69		8.07		10.91		11.99		10.20		6.67	
25th Percentile	4.38		18.41		13.12		8.30		7.68		10.05		10.93		8.90		5.82	
50th Percentile	4.13		17.33		12.43		7.67		7.12		9.46		10.43		8.48		5.58	
75th Percentile	3.88		16.09		11.79		7.31		6.53		8.51		9.37		7.83		5.33	
95th Percentile	3.16		13.29		9.96		5.78		5.92		5.29		6.19		6.28		4.59	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2030

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● State Street Target Retirement 2030 K

■ S&amp;P Target Date 2030 TR USD

### Trailing Returns

Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2030 K	18.41	25	8.27	31	-1.80	84														
S&P Target Date 2030 TR USD	16.19	73	8.35	29	-0.30	25	5.64	67	19.14	52	13.43	75	-1.17	36	14.52	45	23.70	96	-30.48	2
Count	229		205		187		163		149		136		120		113		105		83	
5th Percentile	19.18		10.83		0.54		7.74		23.06		16.83		10.38		17.70		36.64		-30.53	
25th Percentile	18.41		8.46		-0.37		6.75		21.49		15.62		-0.15		15.57		33.33		-32.96	
50th Percentile	17.33		7.68		-1.01		6.02		19.28		14.22		-2.06		14.19		30.33		-36.16	
75th Percentile	16.09		7.24		-1.50		5.43		16.04		13.45		-2.71		13.18		27.30		-37.88	
95th Percentile	13.29		5.77		-4.71		3.75		2.59		10.88		-4.02		12.64		26.57		-39.85	

Source: Morningstar Direct

State Street Target Retirement 2035 K

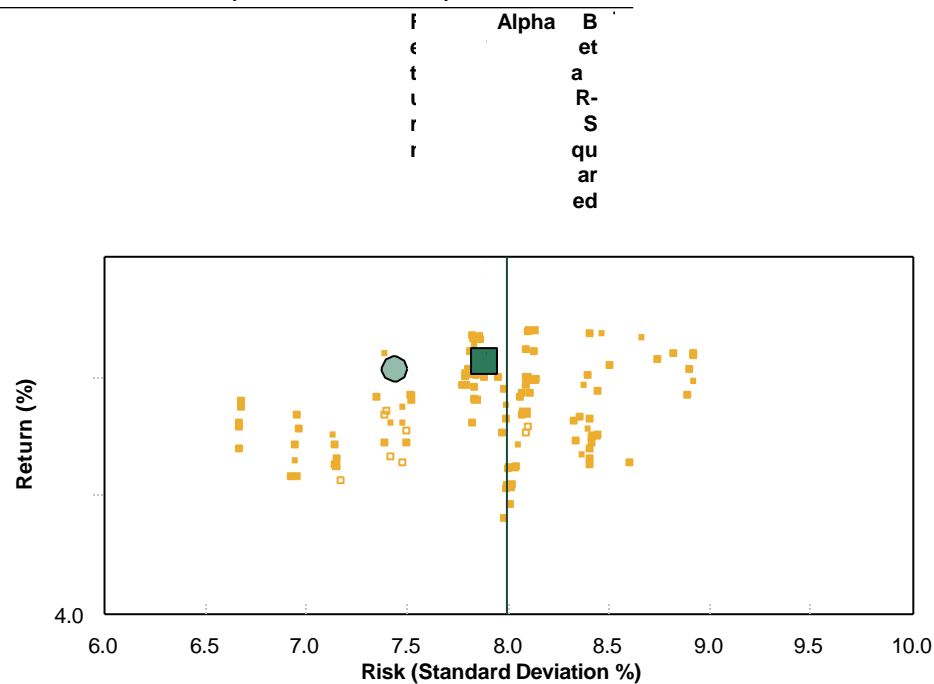
Fund Information

Fund Name :	State Street Institutional Investment Trust: State Street Target Retirement 2035 Fund; Class K Shares	Portfolio Assets :	\$447 Million
Fund Family :	State Street Bank and Trust Company	Portfolio Manager :	Khatri/McGinn
Ticker :	SSECKX	PM Tenure :	2014--2014
Inception Date :	09/30/2014	Fund Style :	IM Mixed-Asset Target 2035 (MF)
Fund Assets :	\$447 Million	Style Benchmark :	S&P Target Date 2035 Index

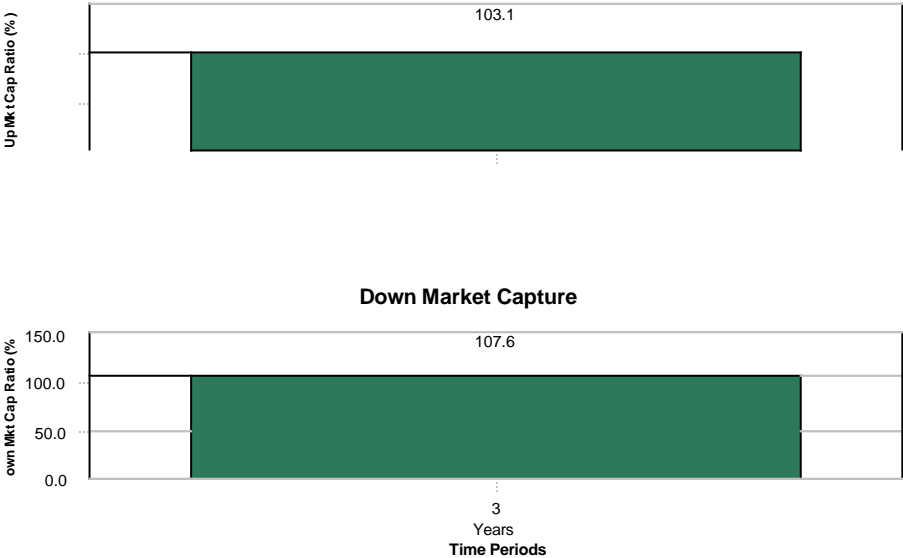
Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2035 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

Historical Statistics (11/01/14 - 12/31/17) \*



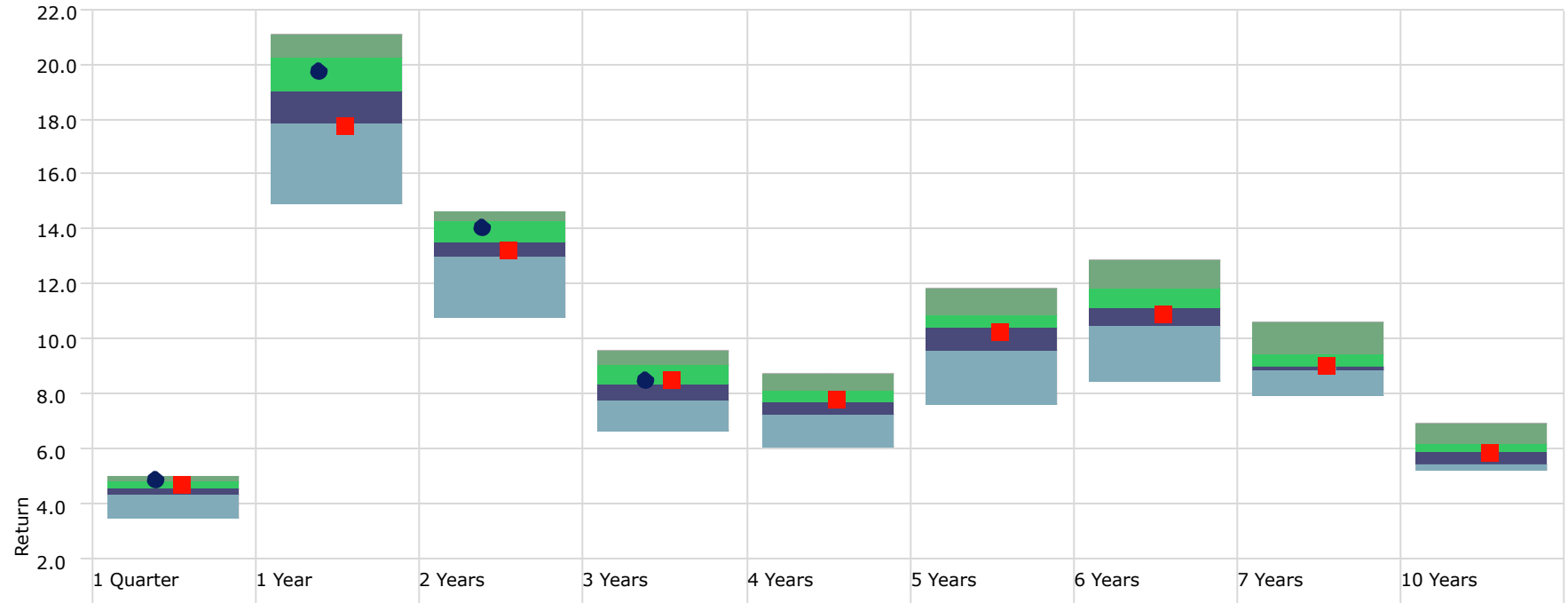
	Return	Standard Deviation
State Street Target Retirement 2035 K	8.27	7.88
S&P Target Date 2035 Index	8.12	7.44
State Street Target Retirement 2035 K	-0.23	1.17
Median	0.05	7.51
	0.18	8.00
	983.6	
	0.1	
	1	





Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2035

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2035 K

■ S&amp;P Target Date 2035 TR USD

### Trailing Returns

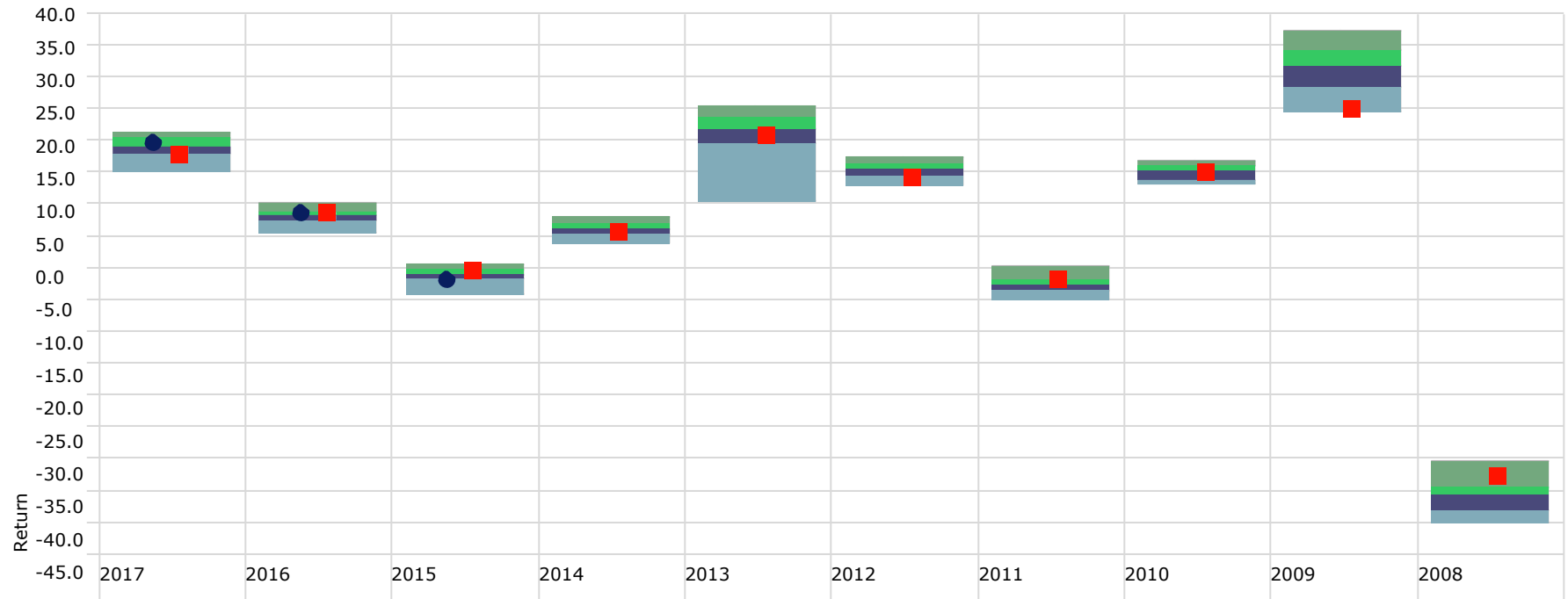
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2035 K	4.88	18	19.80	35	14.09	35	8.51	45										
S&P Target Date 2035 TR USD	4.71	35	17.78	76	13.23	65	8.51	45	7.80	45	10.29	53	10.92	63	9.02	47	5.90	44
Count	209		204		185		165		141		131		107		93		57	
5th Percentile	4.99		21.09		14.59		9.57		8.75		11.84		12.89		10.63		6.92	
25th Percentile	4.79		20.26		14.29		9.06		8.10		10.83		11.82		9.44		6.13	
50th Percentile	4.55		19.01		13.49		8.32		7.68		10.39		11.13		8.99		5.89	
75th Percentile	4.30		17.87		12.99		7.78		7.23		9.58		10.44		8.85		5.43	
95th Percentile	3.46		14.94		10.82		6.67		6.10		7.62		8.48		7.94		5.21	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2035

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● State Street Target Retirement 2035 K

■ S&amp;P Target Date 2035 TR USD

## Trailing Returns

Data Point: Return

	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008						
	group	group	group	group	group	group	group	group	group	group						
	percentile	percentile	percentile	percentile	percentile	percentile	percentile	percentile	percentile	percentile						
State Street Target Retirement 2035 K	19.80	8.66	-1.85	5.69	20.84	14.12	-1.71	15.02	24.99	-32.60	35	34	84	61	62	83
S&P Target Date 2035 TR USD	17.78	8.85	-0.35	5.69	20.84	14.12	-1.71	15.02	24.99	-32.60	76	24	29	61	62	83
Count	204	185	165	141	131	107	93	83	68	57						
5th Percentile	21.09	10.17	0.54	7.88	25.38	17.40	0.17	16.75	37.03	-30.45						
25th Percentile	20.26	8.73	-0.25	6.84	23.56	16.10	-2.10	16.00	34.10	-34.47						
50th Percentile	19.01	8.27	-1.10	6.10	21.64	15.46	-2.93	15.14	31.70	-35.66						
75th Percentile	17.87	7.37	-1.67	5.27	19.62	14.33	-3.67	13.73	28.32	-38.04						
95th Percentile	14.94	5.32	-4.33	3.74	10.45	12.92	-4.97	13.06	24.56	-40.01						

Source: Morningstar Direct

## State Street Target Retirement 2040 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2040 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSCQX  
Inception Date : 09/30/2014  
Fund Assets : \$365 Million

Portfolio Assets : \$366 Million  
Portfolio Manager : Khatri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2040 (MF)  
Style Benchmark : S&P Target Date 2040 Index

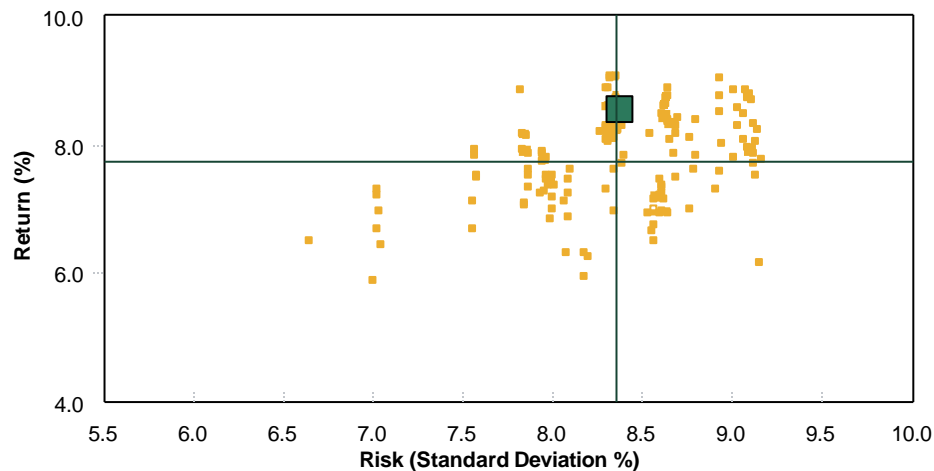
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2040 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

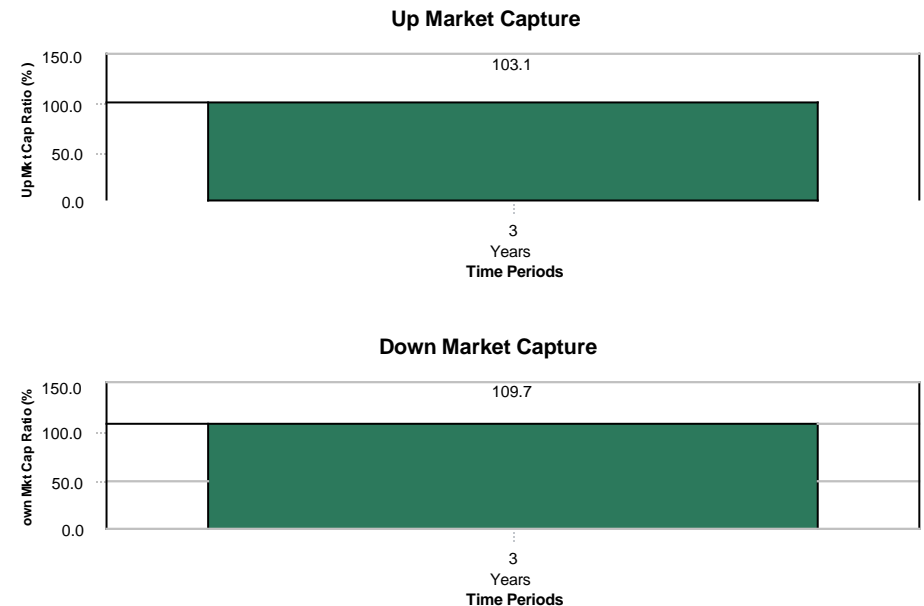
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2040 K	8.55	8.38	0.98	-0.42	1.06	0.98	1.13	0.06	8.35	11/01/2014
S&P Target Date 2040 Index	8.52	7.87	1.04	0.00	1.00	1.00	0.00	N/A	7.84	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	7.84	-1.04	0.00	11/01/2014

### Peer Group Scattergram (11/01/14 to 12/31/17)



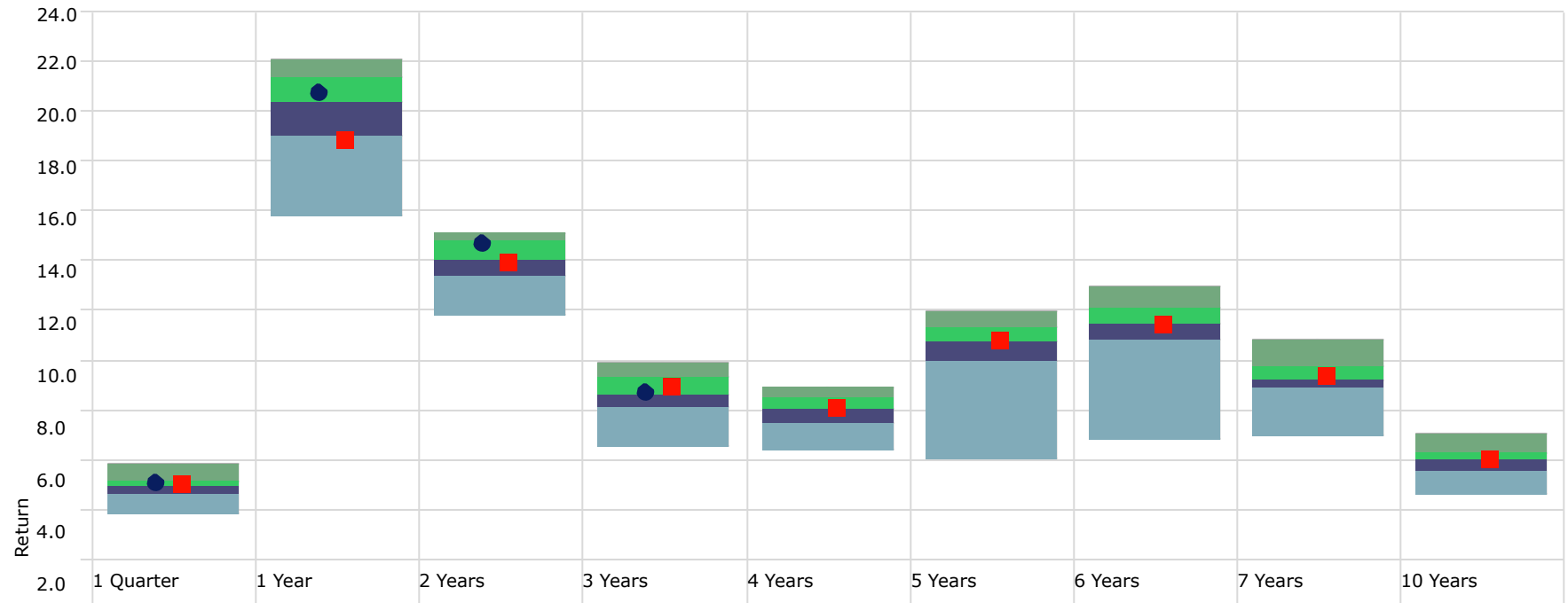
\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2040

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2040 K

■ S&amp;P Target Date 2040 TR USD

## Trailing Returns

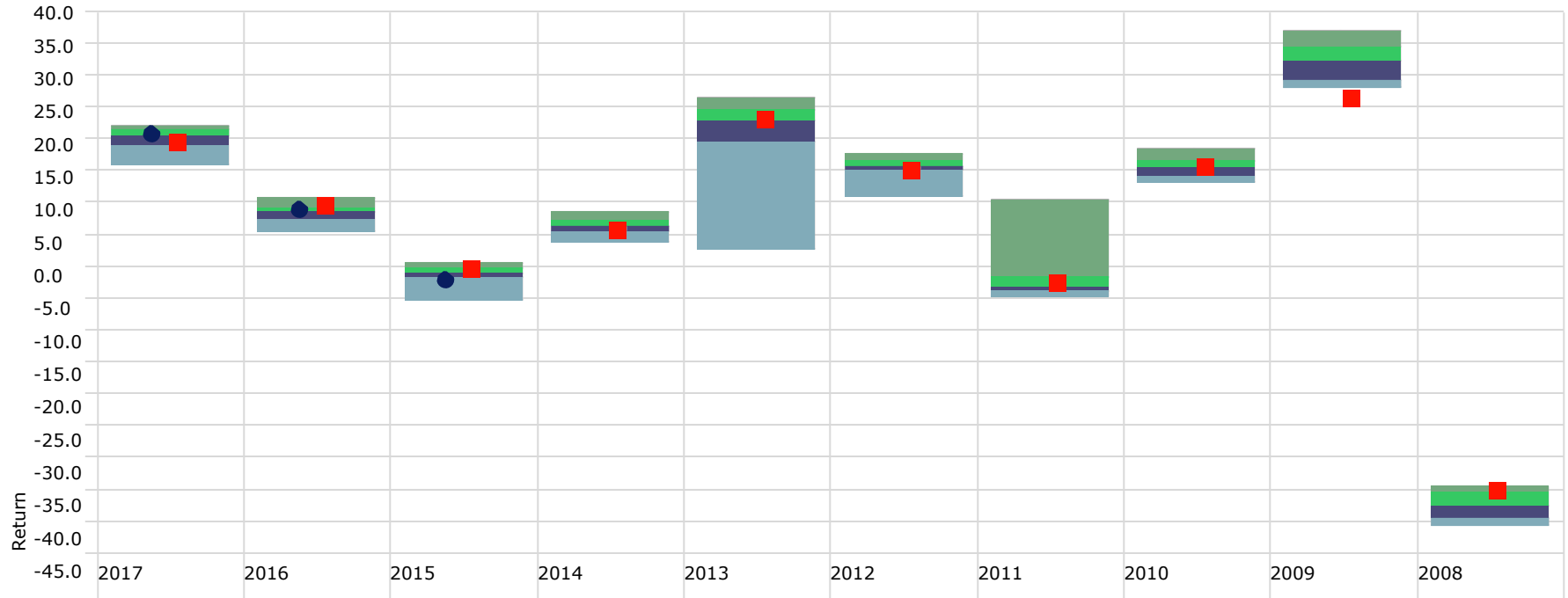
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2040 K	5.13	36	20.75	56	14.72	49	8.79	63										
S&P Target Date 2040 TR USD	5.03	47	18.87	88	13.94	80	8.95	57	8.12	64	10.78	67	11.43	75	9.37	77	6.03	68
Count	209		204		185		165		141		130		103		92		57	
5th Percentile	5.52		23.41		15.59		10.08		9.12		12.35		13.28		10.92		7.21	
25th Percentile	5.30		21.83		15.13		9.63		8.69		11.39		12.43		9.91		6.80	
50th Percentile	5.01		21.18		14.69		9.04		8.32		11.25		12.07		9.58		6.13	
75th Percentile	4.74		19.77		14.11		8.53		7.94		10.48		11.43		9.45		5.55	
95th Percentile	4.13		17.77		12.50		7.10		6.36		8.77		9.77		8.72		5.27	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2040

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2040 K

■ S&P Target Date 2045 TR USD

## Trailing Returns

Data Point: Return

	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer	Peer
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2017	2016	2015	2014	2013	2012	2011
	group	group	group	group	group	group	group	group	group	group	percentile	percentile	percentile	percentile	percentile	percentile	percentile
State Street Target Retirement 2040 K	20.75	8.99	-2.16	5.69	22.10	14.69	-2.17	15.38	25.97	-34.00	56	40	85	66	71	87	16
S&P Target Date 2040 TR USD	18.87	9.23	-0.40	5.69	22.10	14.69	-2.17	15.38	25.97	-34.00	88	26	26	66	71	87	16
Count	204	185	165	141	130	103	92	82	67	57							
5th Percentile	23.41	10.46	0.62	8.68	26.43	17.61	-0.57	16.70	37.43	-33.50							
25th Percentile	21.83	9.28	-0.39	7.10	25.21	16.79	-2.32	16.40	34.22	-35.37							
50th Percentile	21.18	8.48	-1.25	6.14	23.79	15.98	-3.63	15.64	31.54	-37.31							
75th Percentile	19.77	7.50	-1.79	5.01	21.24	15.63	-4.50	14.17	29.29	-39.63							
95th Percentile	17.77	5.54	-4.20	3.85	13.99	13.26	-4.99	13.02	26.64	-41.20							

Source: Morningstar Direct

## State Street Target Retirement 2045 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2045 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSDEX  
Inception Date : 09/30/2014  
Fund Assets : \$239 Million

Portfolio Assets : \$240 Million  
Portfolio Manager : Khatri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2045 (MF)  
Style Benchmark : S&P Target Date 2045 Index

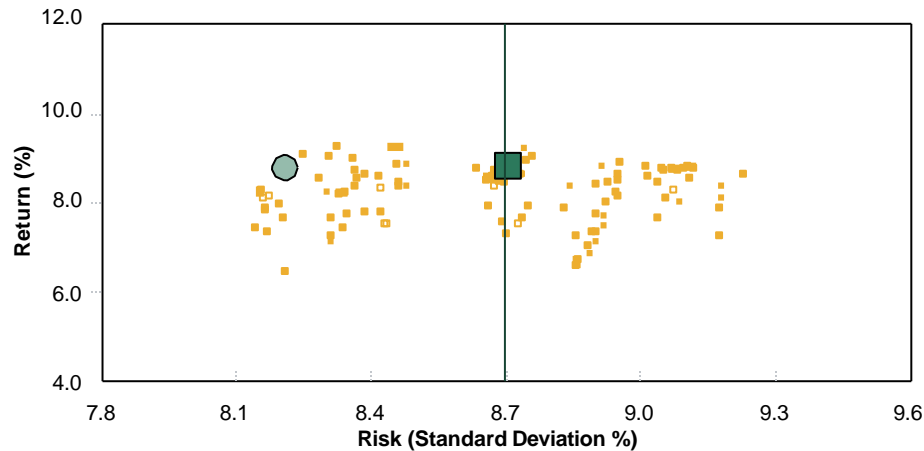
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2045 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2045 K	8.81	8.71	0.98	-0.40	1.05	0.98	1.16	0.05	8.68	11/01/2014
S&P Target Date 2045 Index	8.79	8.21	1.03	0.00	1.00	1.00	0.00	N/A	8.18	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	8.18	-1.03	0.00	11/01/2014

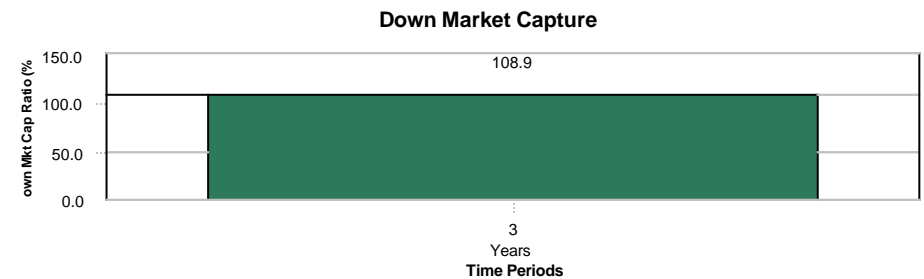
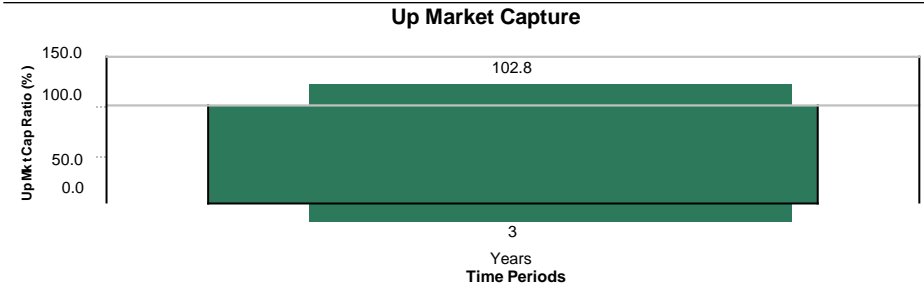
### Peer Group Scattergram (11/01/14 to 12/31/17)



	Return	Standard Deviation
State Street Target Retirement 2045 K	8.81	8.71
S&P Target Date 2045 Index	8.79	8.21
Median	8.21	8.70

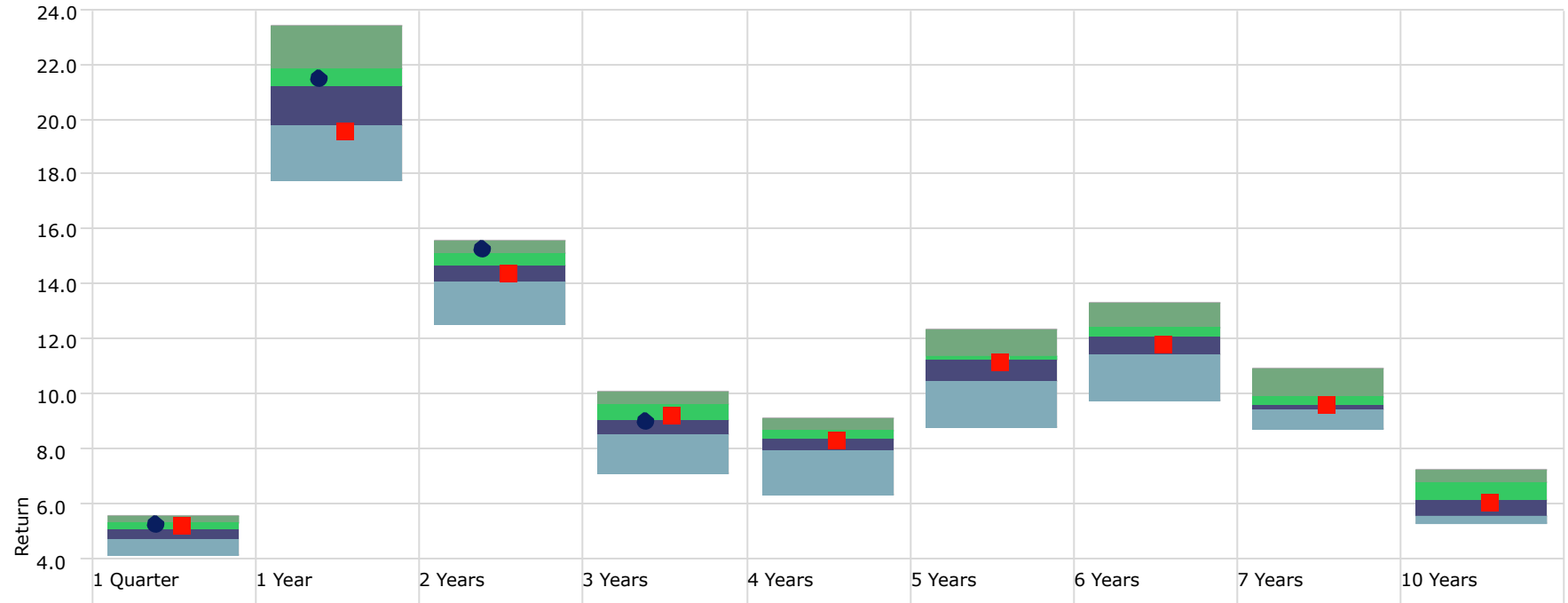
\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2045

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2045 K

■ S&P Target Date 2045 TR USD

## Trailing Returns

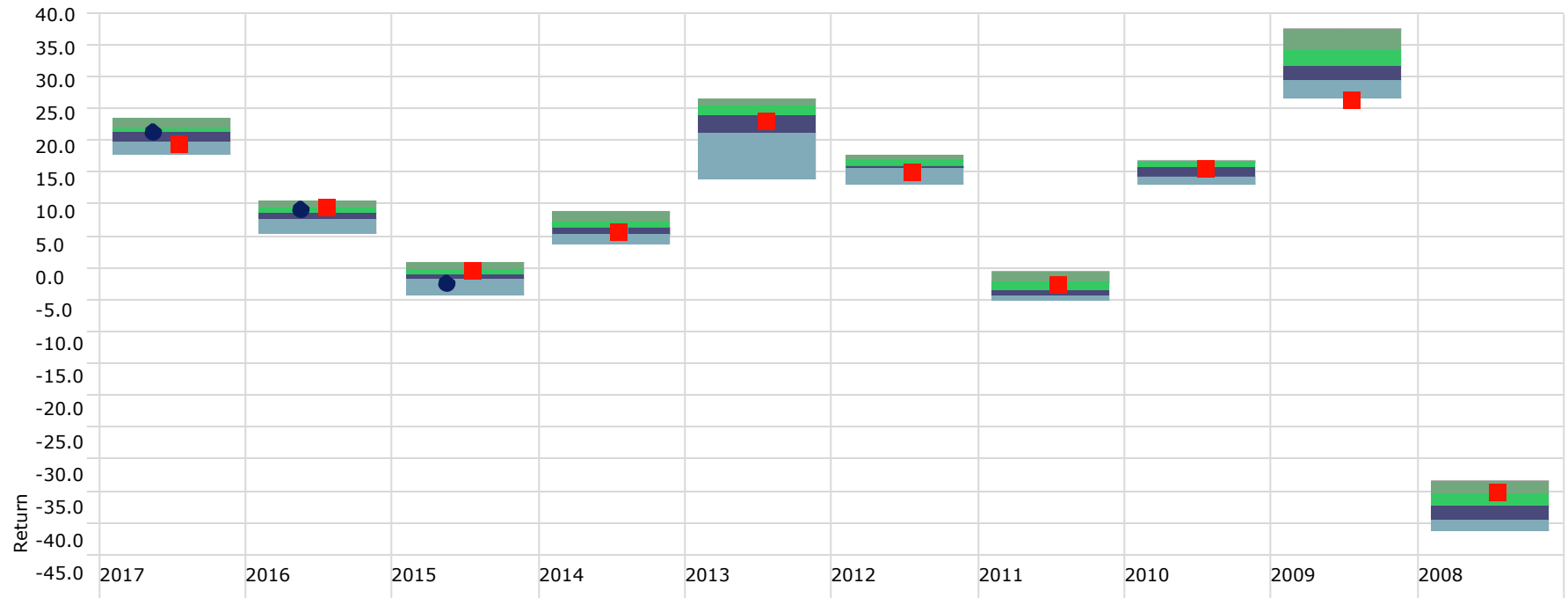
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2045 K	5.31	25	21.52	34	15.31	16	9.06	48										
S&P Target Date 2045 TR USD	5.20	32	19.56	83	14.44	59	9.24	42	8.34	48	11.15	52	11.80	65	9.63	48	6.06	58
Count	209		204		185		165		141		130		103		92		57	
5th Percentile	5.52		23.41		15.59		10.08		9.12		12.35		13.28		10.92		7.21	
25th Percentile	5.30		21.83		15.13		9.63		8.69		11.39		12.43		9.91		6.80	
50th Percentile	5.01		21.18		14.69		9.04		8.32		11.25		12.07		9.58		6.13	
75th Percentile	4.74		19.77		14.11		8.53		7.94		10.48		11.43		9.45		5.55	
95th Percentile	4.13		17.77		12.50		7.10		6.36		8.77		9.77		8.72		5.27	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2045

■ Top Quartile   ■ 2nd Quartile   ■ 3rd Quartile   ■ Bottom Quartile



● State Street Target Retirement 2045 K

■ S&amp;P Target Date 2045 TR USD

### Trailing Returns

Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2045 K	21.52	34	9.42	19	-2.44	93														
S&P Target Date 2045 TR USD	19.56	83	9.54	19	-0.46	28	5.67	66	23.14	58	15.15	84	-2.56	32	15.62	52	26.40	100	-35.24	25
Count	204		185		165		141		130		103		92		82		67		57	
5th Percentile	23.41		10.46		0.62		8.68		26.43		17.61		-0.57		16.70		37.43		-33.50	
25th Percentile	21.83		9.28		-0.39		7.10		25.21		16.79		-2.32		16.40		34.22		-35.37	
50th Percentile	21.18		8.48		-1.25		6.14		23.79		15.98		-3.63		15.64		31.54		-37.31	
75th Percentile	19.77		7.50		-1.79		5.01		21.24		15.63		-4.50		14.17		29.29		-39.63	
95th Percentile	17.77		5.54		-4.20		3.85		13.99		13.26		-4.99		13.02		26.64		-41.20	

Source: Morningstar Direct



## State Street Target Retirement 2050 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2050 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSDLX  
Inception Date : 09/30/2014  
Fund Assets : \$177 Million

Portfolio Assets : \$177 Million  
Portfolio Manager : Kahtri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2050 (MF)  
Style Benchmark : S&P Target Date 2050+ Index

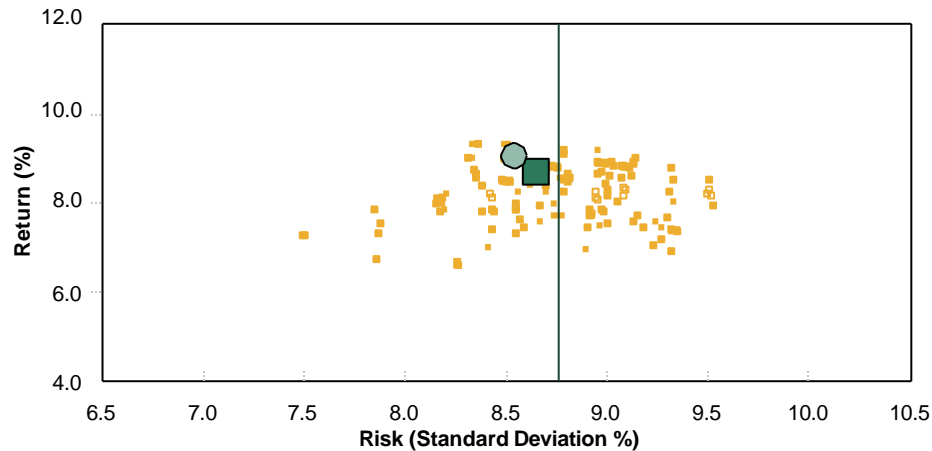
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2050 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2050 K	8.70	8.66	0.97	-0.33	1.00	0.98	1.16	-0.25	8.63	11/01/2014
S&P Target Date 2050+ Index	9.03	8.54	1.02	0.00	1.00	1.00	0.00	N/A	8.52	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	8.52	-1.02	0.00	11/01/2014

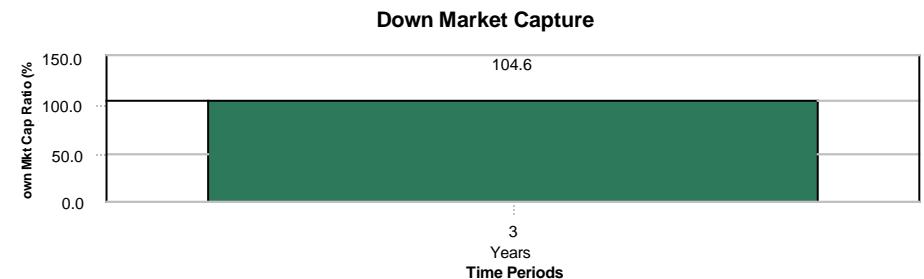
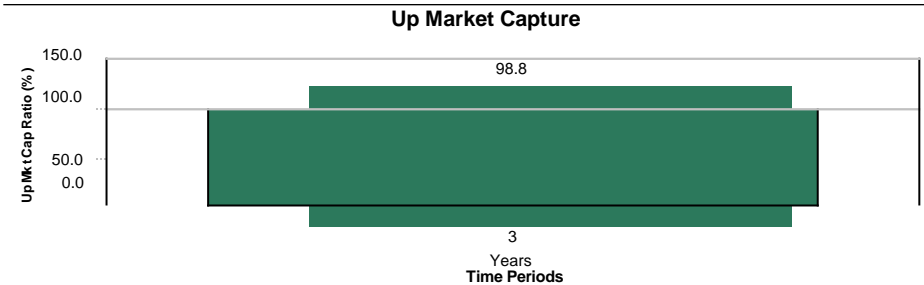
### Peer Group Scattergram (11/01/14 to 12/31/17)



	Return	Standard Deviation
State Street Target Retirement 2050 K	8.70	8.66
S&P Target Date 2050+ Index	9.03	8.54
Median	8.18	8.76

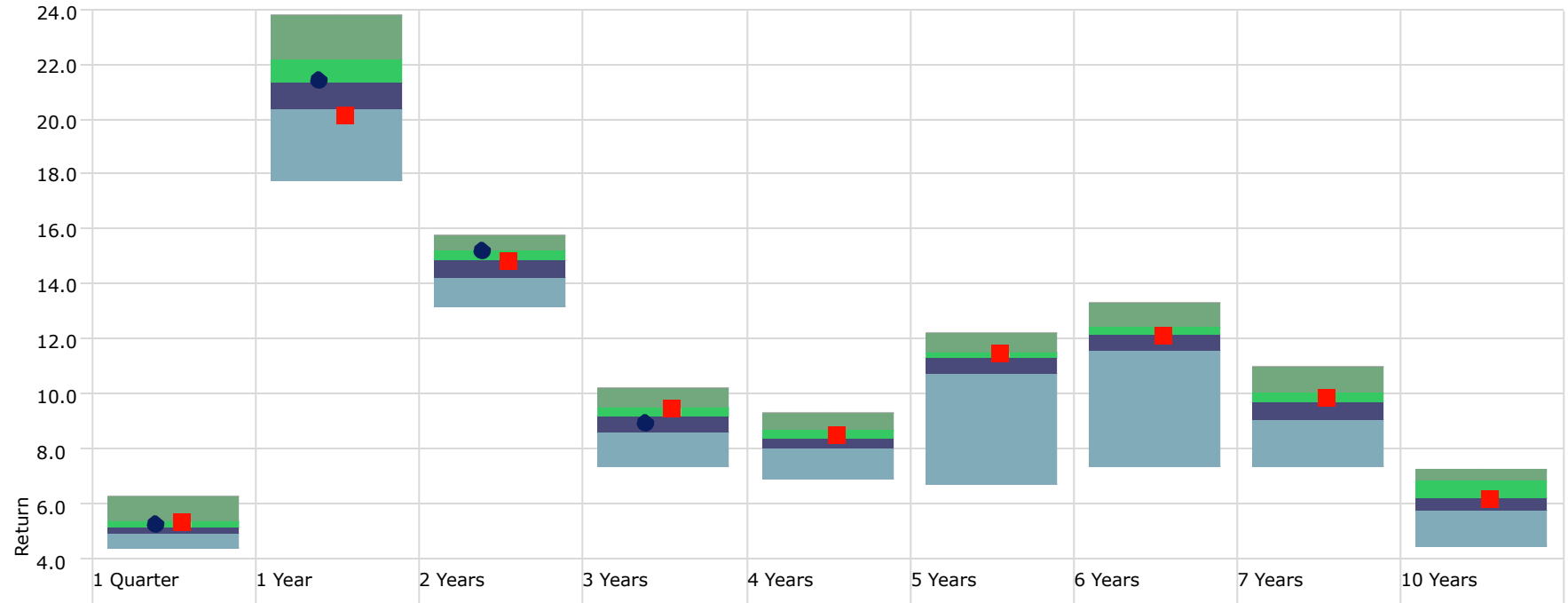
\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2050

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2050 K

■ S&P Target Date 2050 TR USD

## Trailing Returns

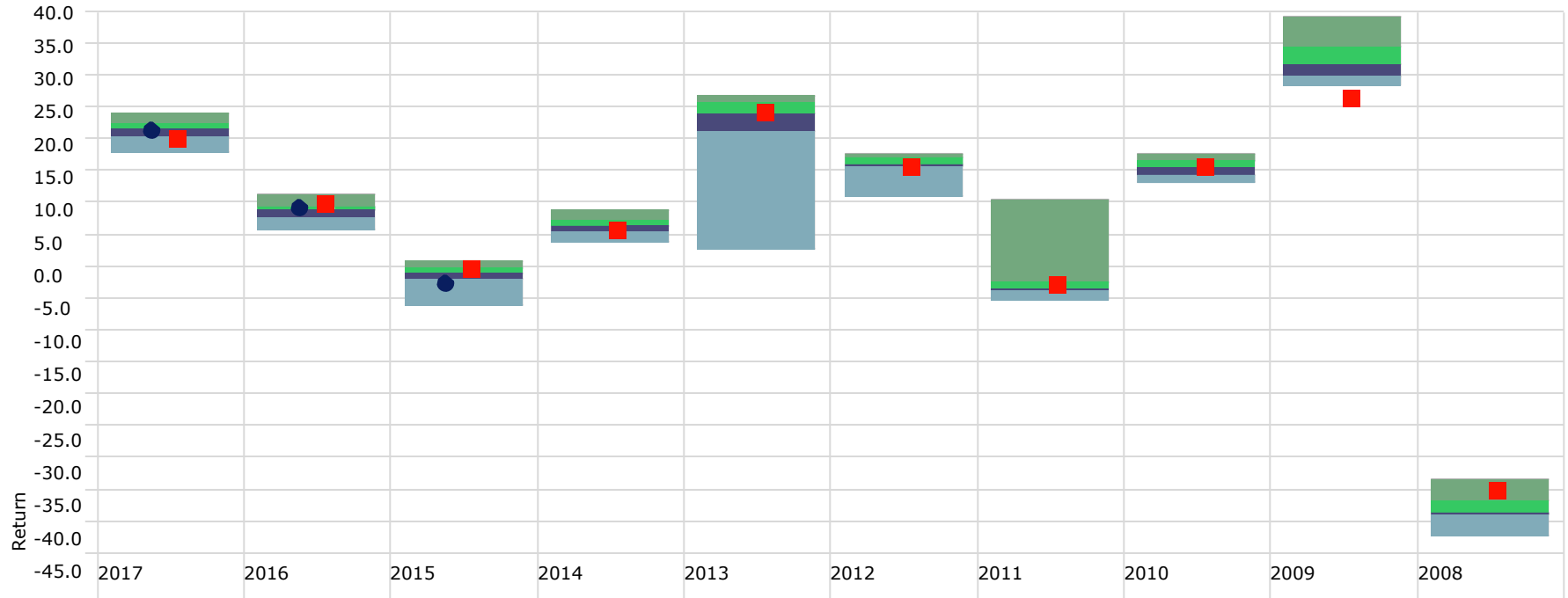
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2050 K	5.32	32	21.48	45	15.26	22	8.95	58										
S&P Target Date 2050 TR USD	5.34	31	20.18	78	14.84	50	9.49	27	8.53	31	11.48	25	12.14	50	9.86	39	6.22	44
Count	230		225		200		182		158		143		122		104		55	
5th Percentile	6.29		23.77		15.74		10.18		9.31		12.23		13.31		10.96		7.21	
25th Percentile	5.38		22.15		15.16		9.52		8.68		11.49		12.38		10.01		6.86	
50th Percentile	5.10		21.30		14.85		9.16		8.31		11.27		12.15		9.71		6.19	
75th Percentile	4.88		20.34		14.22		8.59		8.01		10.73		11.57		9.08		5.75	
95th Percentile	4.39		17.80		13.20		7.36		6.94		6.69		7.36		7.34		4.43	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2050

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● State Street Target Retirement 2050 K

■ S&amp;P Target Date 2050 TR USD

### Trailing Returns

Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2050 K	21.48	45	9.35	26	-2.64	90														
S&P Target Date 2050 TR USD	20.18	78	9.74	19	-0.47	26	5.69	73	24.13	41	15.49	75	-2.87	29	15.62	47	26.40	100	-35.24	10
Count	225		200		182		158		143		122		104		90		82		55	
5th Percentile	23.77		11.14		0.64		8.81		26.62		17.60		10.43		17.50		39.04		-33.53	
25th Percentile	22.15		9.36		-0.42		7.15		25.67		16.95		-2.59		16.50		34.32		-36.84	
50th Percentile	21.30		8.63		-1.30		6.27		23.89		16.01		-3.61		15.30		31.64		-38.72	
75th Percentile	20.34		7.54		-1.93		5.56		21.27		15.50		-4.09		14.19		29.81		-38.96	
95th Percentile	17.80		5.60		-6.07		3.67		2.68		10.85		-5.38		13.11		28.31		-42.26	

Source: Morningstar Direct

## State Street Target Retirement 2055 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2055 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSDQX  
Inception Date : 09/30/2014  
Fund Assets : \$66 Million

Portfolio Assets : \$66 Million  
Portfolio Manager : Kahtri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2055+ (MF)  
Style Benchmark : S&P Target Date 2055 Index

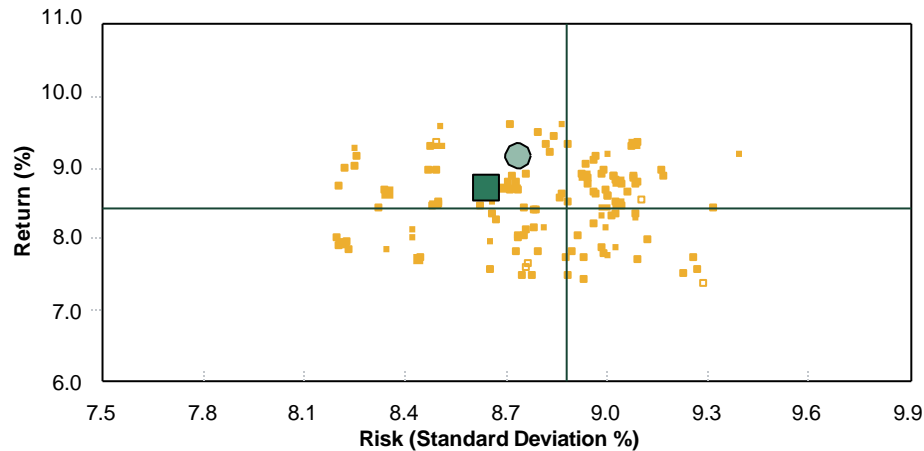
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2055 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2055 K	8.72	8.64	0.98	-0.22	0.98	0.98	1.20	-0.34	8.61	11/01/2014
S&P Target Date 2055 Index	9.15	8.74	1.01	0.00	1.00	1.00	0.00	N/A	8.71	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	8.71	-1.01	0.00	11/01/2014

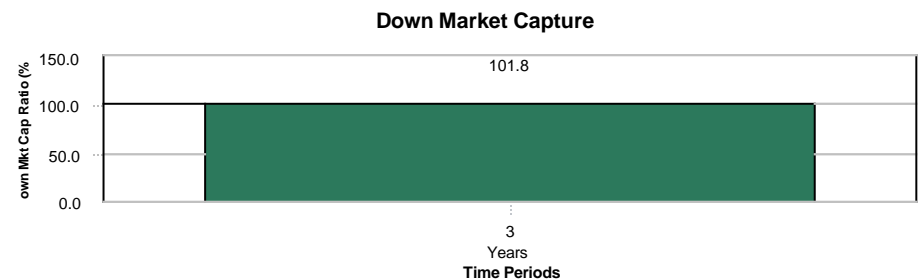
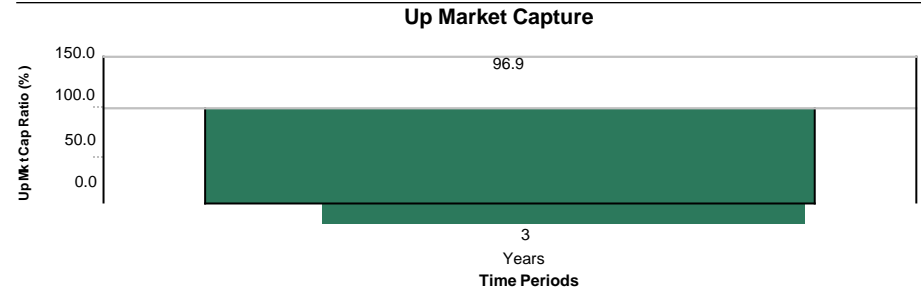
### Peer Group Scattergram (11/01/14 to 12/31/17)



	Return	Standard Deviation
State Street Target Retirement 2055 K	8.72	8.64
S&P Target Date 2055 Index	9.15	8.74
Median	8.42	8.88

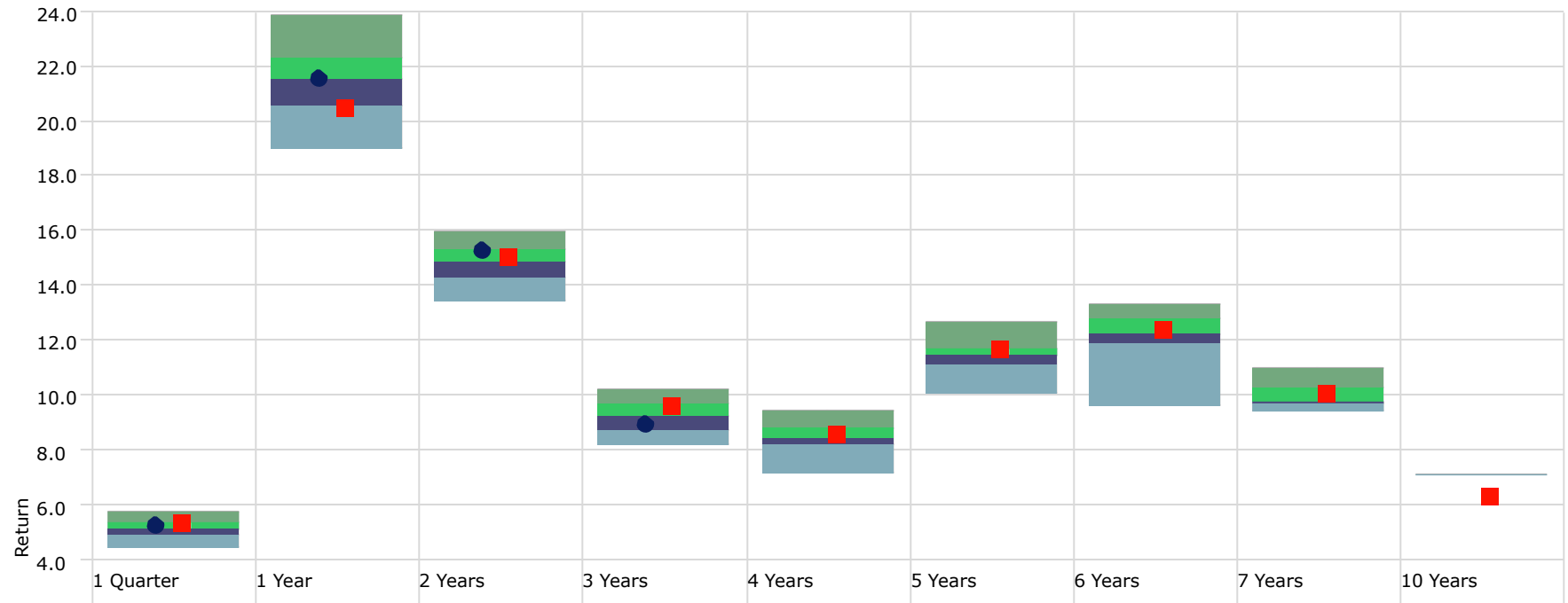
\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2055

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● State Street Target Retirement 2055 K

■ S&amp;P Target Date 2055 TR USD

### Trailing Returns

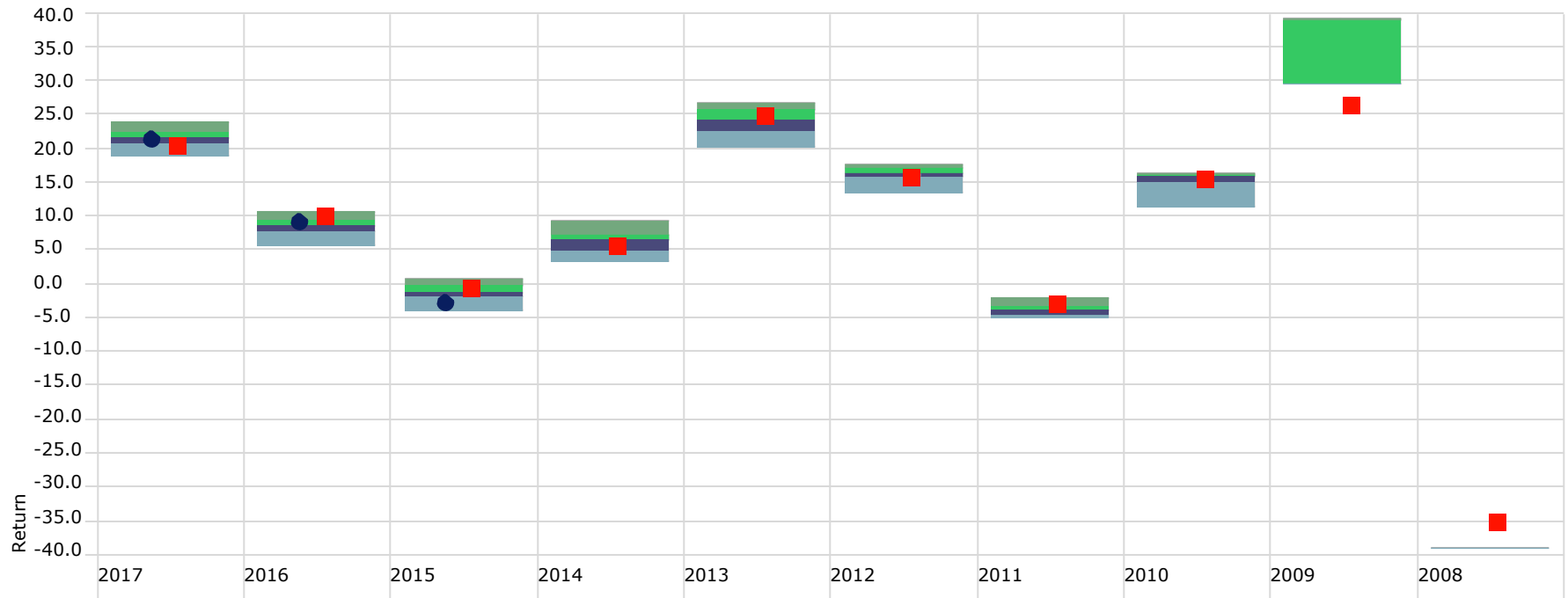
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2055 K	5.30	33	21.59	43	15.30	23	8.96	64										
S&P Target Date 2055 TR USD	5.38	22	20.48	77	15.09	33	9.62	27	8.61	34	11.70	25	12.38	39	10.06	44	6.35	100
Count	209		202		183		158		115		100		77		48		3	
5th Percentile	5.74		23.84		15.98		10.19		9.40		12.65		13.34		10.97		7.09	
25th Percentile	5.36		22.32		15.29		9.72		8.81		11.70		12.81		10.29		7.09	
50th Percentile	5.12		21.51		14.87		9.25		8.41		11.41		12.22		9.78		7.08	
75th Percentile	4.93		20.58		14.28		8.74		8.23		11.11		11.88		9.66		7.08	
95th Percentile	4.43		18.99		13.42		8.23		7.18		10.06		9.62		9.41		7.08	

Source: Morningstar Direct

Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2055

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● State Street Target Retirement 2055 K

■ S&amp;P Target Date 2055 TR USD

### Trailing Returns

Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2055 K	21.59	43	9.34	27	-2.68	93														
S&P Target Date 2055 TR USD	20.48	77	9.94	15	-0.54	29	5.64	63	24.96	30	15.81	71	-2.87	17	15.62	60	26.40	100	-35.24	1
Count	202		183		158		115		100		77		48		15		9		3	
5th Percentile	23.84		10.50		0.63		9.27		26.76		17.59		-2.24		16.38		39.12		-38.89	
25th Percentile	22.32		9.36		-0.45		7.17		25.63		17.05		-3.38		15.91		38.97		-38.90	
50th Percentile	21.51		8.55		-1.26		6.31		23.98		16.24		-4.03		15.82		29.63		-38.92	
75th Percentile	20.58		7.66		-1.83		4.95		22.47		15.75		-4.68		14.93		29.57		-38.92	
95th Percentile	18.99		5.69		-4.05		3.41		20.11		13.43		-5.01		11.44		29.52		-38.93	

Source: Morningstar Direct

## State Street Target Retirement 2060 K

### Fund Information

Fund Name : State Street Institutional Investment Trust: State Street Target Retirement 2060 Fund; Class K Shares  
Fund Family : State Street Bank and Trust Company  
Ticker : SSDYX  
Inception Date : 09/30/2014  
Fund Assets : \$9 Million

Portfolio Assets : \$10 Million  
Portfolio Manager : Khatri/McGinn  
PM Tenure : 2014--2014  
Fund Style : IM Mixed-Asset Target 2055+ (MF)  
Style Benchmark : S&P Target Date 2055 Index

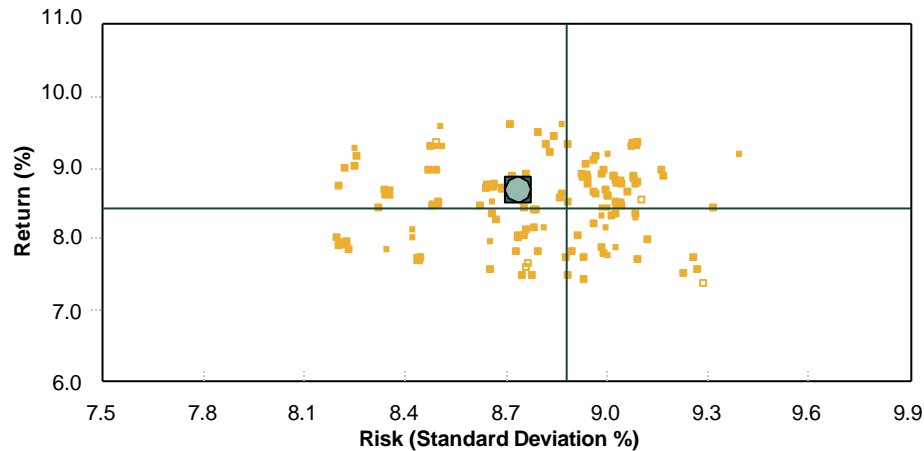
### Fund Investment Policy

The Fund seeks capital growth and income over the long term. It is intended for investors expecting to retire around the year 2060 and likely to stop making new investments in the Fund at that time. It is designed for an investor who plans to withdraw the value of the investors account gradually following that date.

### Historical Statistics (11/01/14 - 12/31/17) \*

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Excess Risk	Inception Date
State Street Target Retirement 2060 K	8.69	8.74	0.96	-0.32	0.99	0.98	1.27	-0.33	8.71	11/01/2014
S&P Target Date 2055 Index	9.15	8.74	1.01	0.00	1.00	1.00	0.00	N/A	8.71	11/01/2014
90 Day U.S. Treasury Bill	0.36	0.12	N/A	0.33	0.00	0.05	8.71	-1.01	0.00	11/01/2014

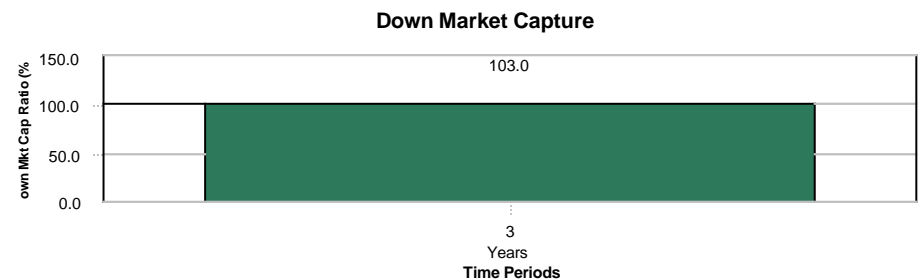
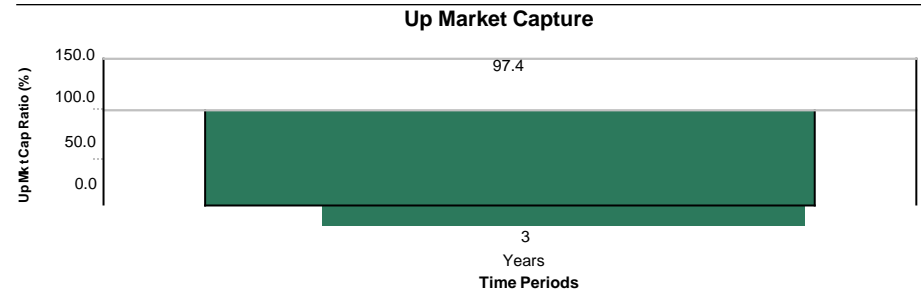
### Peer Group Scattergram (11/01/14 to 12/31/17)



	Return	Standard Deviation
State Street Target Retirement 2060 K	8.69	8.74
State Street Target Retirement 2060 K	8.69	8.74
Median	8.42	8.88

\* Monthly periodicity used.

### Up Down Market Capture



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2060+



### Trailing Returns

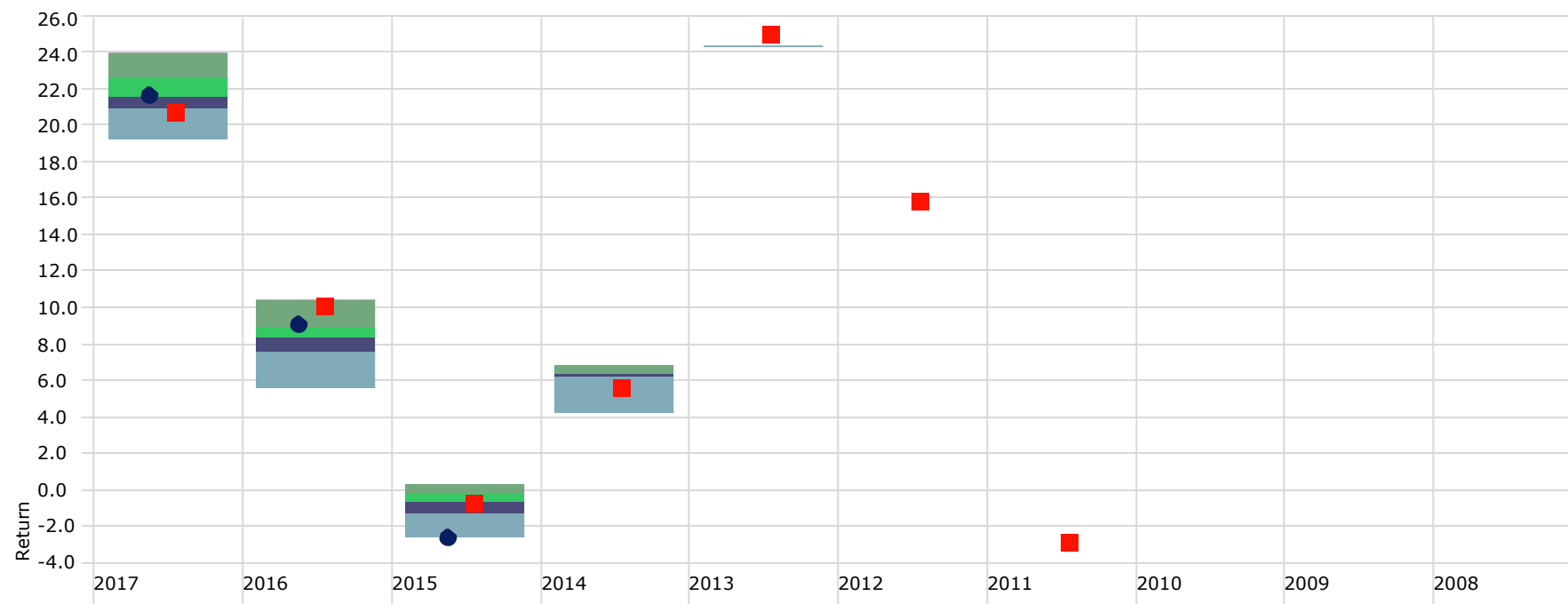
Data Point: Return

	1 Quarter	Peer group percentile	1 Year	Peer group percentile	2 Years	Peer group percentile	3 Years	Peer group percentile	4 Years	Peer group percentile	5 Years	Peer group percentile	6 Years	Peer group percentile	7 Years	Peer group percentile	10 Years	Peer group percentile
State Street Target Retirement 2060 K	5.29	36	21.64	44	15.20	25	8.94	74										
S&P Target Date 2060+ TR USD	5.47	23	20.75	79	15.29	20	9.71	34	8.67	1	11.75	1	12.42	1	10.10	1		
Count	171		150		100		36		9		1							
5th Percentile	5.80		23.94		15.81		10.55		8.44		11.59							
25th Percentile	5.41		22.53		15.17		9.75		8.17		11.59							
50th Percentile	5.18		21.49		14.80		9.35		8.16		11.59							
75th Percentile	4.97		20.92		14.01		8.94		8.15		11.59							
95th Percentile	4.53		19.23		13.71		8.79		7.45		11.59							

Source: Morningstar Direct



Peer Group (5-95%): Open End Funds - U.S. - Target-Date 2060+

■ Top Quartile   
■ 2nd Quartile   
■ 3rd Quartile   
■ Bottom Quartile


● State Street Target Retirement 2060 K

■ S&amp;P Target Date 2060+ TR USD

## Trailing Returns

Data Point: Return

	2017	Peer group percentile	2016	Peer group percentile	2015	Peer group percentile	2014	Peer group percentile	2013	Peer group percentile	2012	Peer group percentile	2011	Peer group percentile	2010	Peer group percentile	2009	Peer group percentile	2008	Peer group percentile
State Street Target Retirement 2060 K	21.64	44	9.09	23	-2.57	100														
S&P Target Date 2060+ TR USD	20.75	79	10.08	11	-0.66	47	5.64	89	24.96	1	15.81	1	-2.87	1						
Count	150		100		36		9		1											
5th Percentile	23.94		10.41		0.23		6.81		24.35											
25th Percentile	22.53		8.86		-0.20		6.28		24.35											
50th Percentile	21.49		8.36		-0.69		6.26		24.35											
75th Percentile	20.92		7.54		-1.30		6.21		24.35											
95th Percentile	19.23		5.64		-2.54		4.27		24.35											

Source: Morningstar Direct

# *Update on Financial Analysis and New Research on the Importance of Coverage*

Presentation to the Oregon Retirement Savings Board


Geoffrey Sanzenbacher  
Center for Retirement Research at Boston College

March 13, 2018



# Outline of today's presentation

- New information on the size of the eligible population
- Updating the feasibility analysis
- Some research on the importance of this program



# Our original estimate was that 590,000 Oregon workers worked for employers without plans.

- The estimate was based on several years of data from the *Current Population Survey*, a commonly used dataset.
- The analysis also suggested that of these 590,000 workers:
  - Over one-third were at employers with over 100 employees; and
  - Another 20 percent were at firms with between 50 and 100 employees.



# Now is a good time to revisit these estimates.

- The recently launched Wave 1 of OregonSaves is enrolling employers with over 100 Oregon workers.
- In response, these employers have either been registering for the program or declaring themselves exempt because they already offer a qualified plan.



# The registration data allow the use of a new dataset to estimate the eligible population.

- The IRS Form 5500 is the form *all* qualified retirement plans fill out each year.
- In theory, it is a perfect way to identify which employers have a plan and how many employees are eligible for OregonSaves.
- The problem is that the Form 5500 data are at the plan level, not the employer level.



# The result is that employers with parent companies that offer plans do not show up.

- For example, workers at HomeGoods are offered a plan through its parent, The TJX Companies, so HomeGoods does not have a specific entry in the Form 5500.
- The issue is not trivial:
  - Using *only* the Form 5500 would link just 17,500 Oregon employers out of over 120,000 (15 percent) to a plan; and
  - Would suggest about 970,000 workers are eligible for Oregon Saves.



# But the registration data can help do a correction to the Form 5500.

- Of 1,815 Wave 1 employers who declared themselves exempt, 997 linked up to a Form 5500 plan – or 80 misses for every 100 hits.
- This information can then be used to provide two estimates:
  1. “High side” – Only augment the Form 5500 data with Wave 1 plans that registered as exempt.
  2. “Low side” – Assume that in all future waves a similar number of plans are “missed” for each linked plan.



The new estimates sandwich the old one, but have fewer workers at large employers.

Estimates of Eligible Employers and Employees

Wave	High Side		Low Side	
	Employers	Employees	Employers	Employees
Wave 1	300	91,000	200	69,000
Wave 2	1,200	84,000	500	31,000
Wave 3	5,100	151,000	3,400	102,000
Wave 4	9,200	124,000	7,500	100,000
Wave 5	15,900	104,000	14,000	92,000
Wave 6	55,000	105,000	49,700	94,000
Total	86,700	659,000	75,300	487,000

Sources: CRR calculations from the *IRS Form 5500* and *Oregon Saves Registration Data*.




# Taking the middle of the two estimates, about 575,000 workers are now expected.

- Previous opt-out population estimate was 590,000 – so, very similar.
- The updated analysis also suggests Waves 1 and 2 are likely to be smaller than anticipated, but later waves larger.
- This finding suggests value exists to allowing smaller employers to enroll earlier if they desire.




# Outline of today's presentation

- New information on the size of the eligible population
- Updating the feasibility analysis
- Some research on the importance of this program



# OregonSaves' rollout makes this a good time to revisit two program financial outcomes.

1. The program must ultimately become cash-flow positive, generating enough revenue to cover ongoing administrative and per account operating costs for Ascensus and the State.
2. The program must become net positive for both parties – able to repay losses that occur at startup (both from fixed costs and operating losses) – within a reasonable period.



# Some issues that were unclear as of our last analysis have solidified...

- The timing of the rollout of the program to employers of various sizes.
- The level of the all-in-fee on assets and its distribution to service providers.
- The cost of administering the program to the State.
- The contribution rate of enrollees, which has settled in slightly below the standard of 5 percent.



...while others remain uncertain.

- The actual size of the affected population.
- The final program opt-out rate.
- Leakages from the program, which will not be known for several years.
- The ability to reach the self-employed and workers at employers with a plan for which they are ineligible.

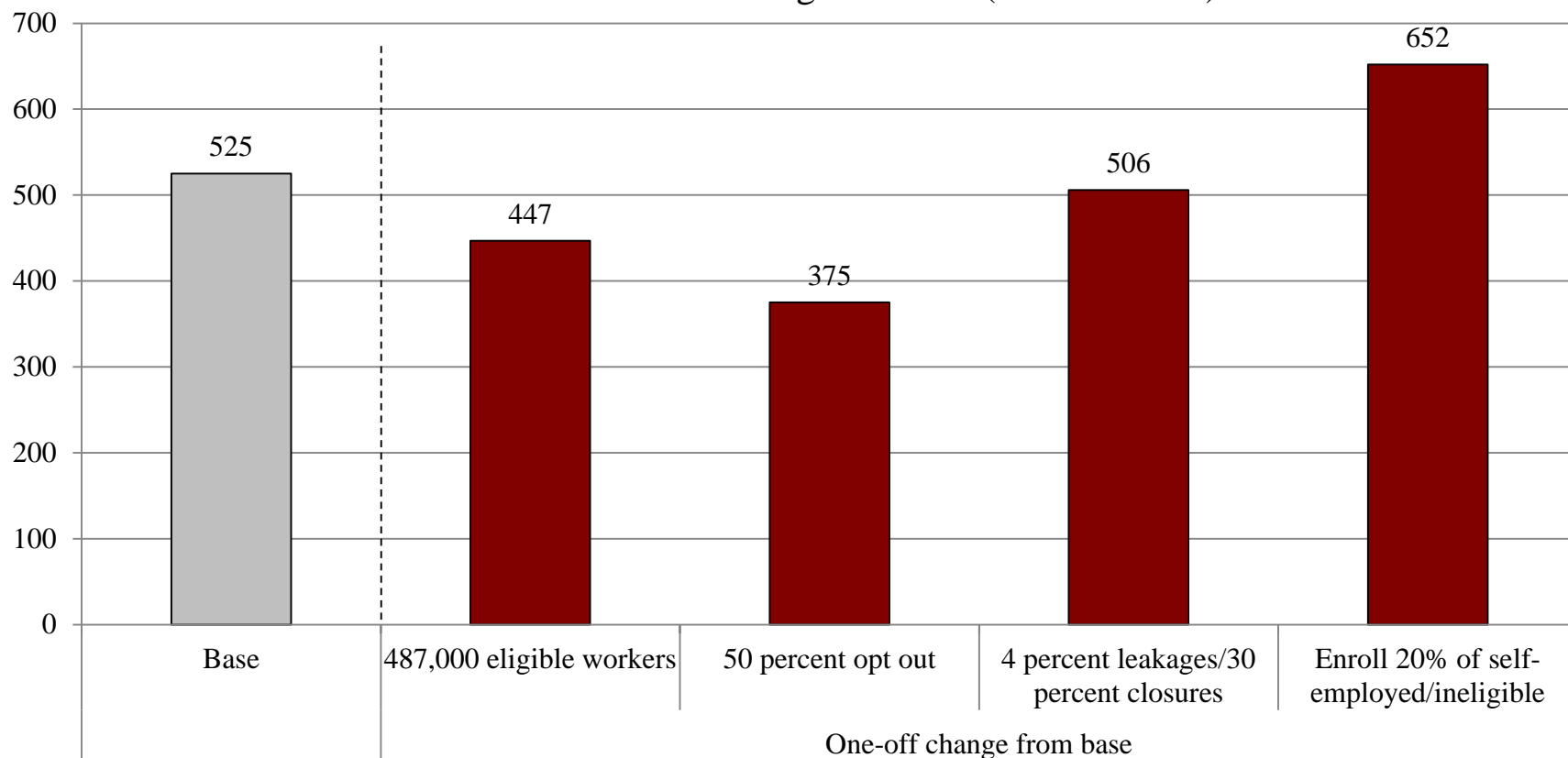


# These uncertainties can affect program finances.

- To ensure the program is “on track,” CRR used its financial feasibility model.
- This model can project program accounts, costs, assets, and revenue under the solidified program features and with various assumptions for unknown outcomes.
- The results indicate the program is likely to be self-sufficient in under a decade under a range of assumptions.

# The number of accounts 10 years out can vary considerably...

Accounts at End of 10 Program Years (in Thousands)

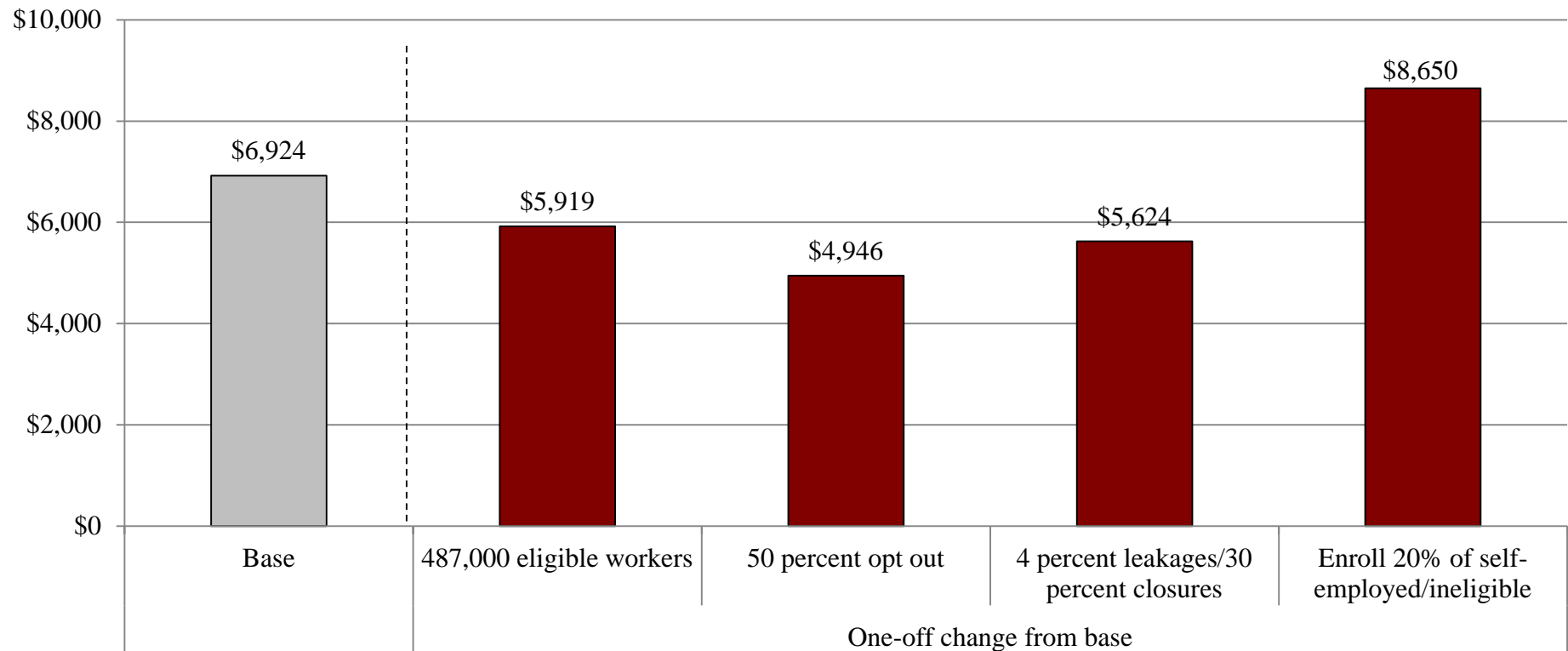


*Note:* The base assumptions are that: 1) the final population of eligible workers is 575,000; 2) 30 percent of eligible workers opt out; 3) 1 percent of dollars leak out of accounts each year and 20 percent of accounts becoming inactive close; 4) that no self-employed/ineligible workers are enrolled; and 5) the contribution rate starts at 4.5 percent and is auto-escalated each year. The rollout is consistent with Oregon's current plans, with a 1-quarter delay.  
*Source:* CRR calculations.



...as can the level of total assets in the program.

Total Assets in Active and Inactive Accounts at End of Year 10 (in Millions)



*Note:* The base assumptions are that: 1) the final population of eligible workers is 575,000; 2) 30 percent of eligible workers opt out; 3) 1 percent of dollars leak out of accounts each year and 20 percent of accounts becoming inactive close; 4) that no self-employed/ineligible workers are enrolled; and 5) the contribution rate starts at 4.5 percent and is auto-escalated each year. The rollout is consistent with Oregon's current plans, with a 1-quarter delay.  
*Source:* CRR calculations.



# Under each of these assumptions, the model predicts self-sufficiency within a decade.

- The program takes 4 to 5 years to become cash-flow positive and another 3 to 4 to become net positive in the base case.
- IF: a high rate of opt-out - delays the time to become net positive by about year.
- IF: high rates of leakages and closures - delays it by half a year.
- Allowing the self-employed and those ineligible for their employer's plan to opt in can make the program become net positive by about half a year to one year faster.



# In summary, with more information in hand, the program is still on the right track.

- Taking steps to minimize opt out and program leakages can ensure the program becomes self-sufficient as soon as possible.
- It is worth noting that, to date, contribution rates have been near the standard rate as expected – but the program’s finances depend on this remaining true.

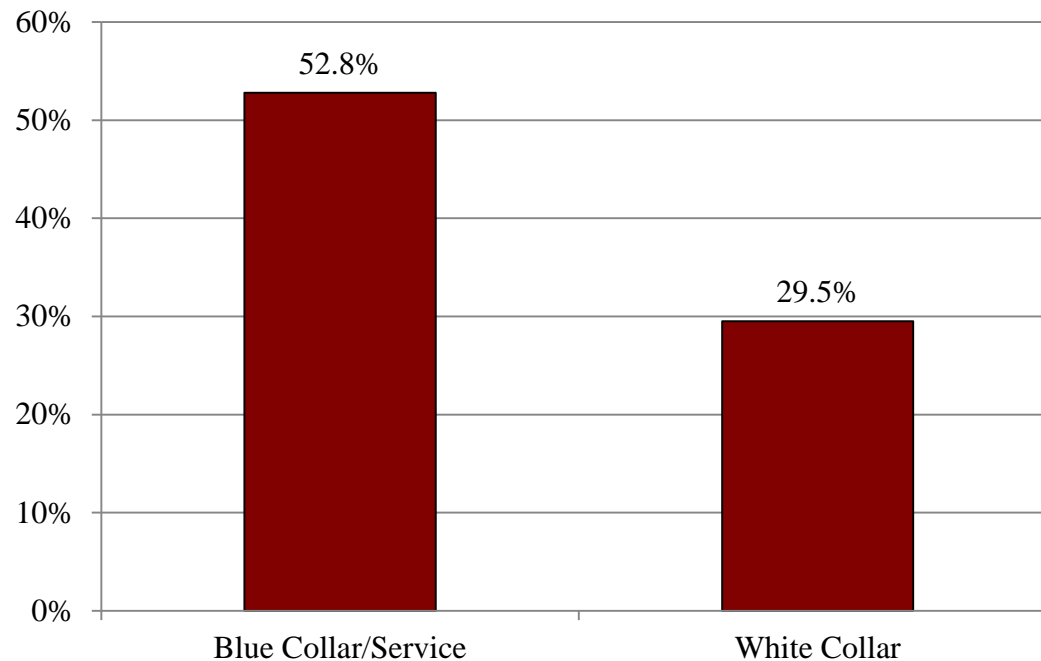


# Outline of today's presentation

- New information on the size of the eligible population
- Updating the feasibility analysis
- Some research on the importance of this program

# OregonSaves targets workers in Blue Collar/Service occupations.

Share of Oregon Workers whose Employer does Not Offer a Retirement Plan





# These workers are less able to respond to low savings with longer careers.

- Research from CRR published in the *Journal of Retirement* highlights issue using something called a “Susceptibility Index.”
- This index highlights how many of the abilities an occupation relies on decline with age.
- The index can then be placed in a model of retirement timing to show how workers in susceptible occupations retire earlier.



# Two sources of data are used to construct the Index.

1. The HRS, to provide data for the retirement timing model.
2. Data from the *O\*Net Program Content Model*, which provides data on features required of occupations:
  - Worker characteristics – abilities (e.g., memorization, strength) as well as personality types likely to succeed.
  - Worker requirements – includes basic skills, knowledge, and level of education.
  - Experience requirements – includes level of experience, specific training, and certificates.



# Constructing the Index

## Step 1: Identify abilities used in occupations

- In particular, the project relies on *O\*Net* ability data, which surveys job-holders, analysts, and experts to measure the importance of abilities in jobs.
- *O\*Net* provides data on 52 physical, cognitive, and sensory abilities for over 900 occupations.
- Each ability is rated on an importance scale from 0 (not important) to 5 (very important).



# Step 2: Identifying which abilities decline

- The project relies on literature from gerontology, psychology, medicine, and occupational studies.
- Abilities assumed to decline early were those identified in the literature to decline significantly by mid-60s, except:
  - Abilities that could be corrected through devices (e.g., eyesight); and
  - Abilities that were likely to be maintained through work (e.g., stamina).

# Example: Assignment of physical abilities

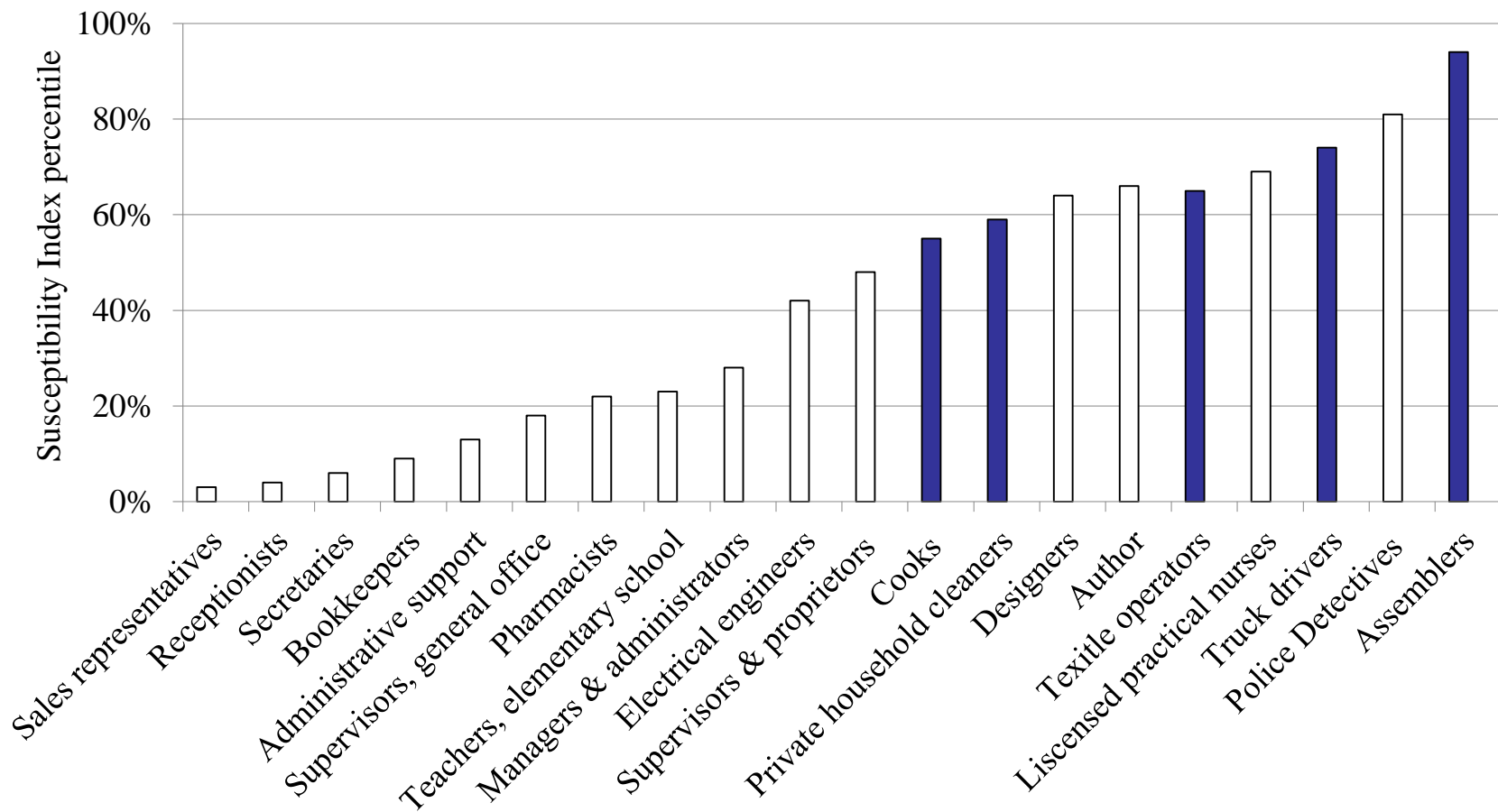
Ability	Shows early decline
<i>Physical strength abilities</i>	
Static strength	No
Explosive strength	Yes
Dynamic strength	Yes
Trunk strength	No
<i>Endurance</i>	
Stamina	No
<i>Flexibility, balance, and coordination</i>	
Extent flexibility	Yes
Dynamic flexibility	Yes
Gross Body coordination	Yes
Gross body equilibrium	Yes



## Step 3: Calculating the Index

- The numerator is the summed importance (measured on a scale from 0-5) of all the abilities that decline.
- The denominator is the summed importance of every ability that the occupation uses.
- The Index represents the share of abilities that decline early, weighted by their importance.
  - For interpretation, the Index is converted to a percentile rank.

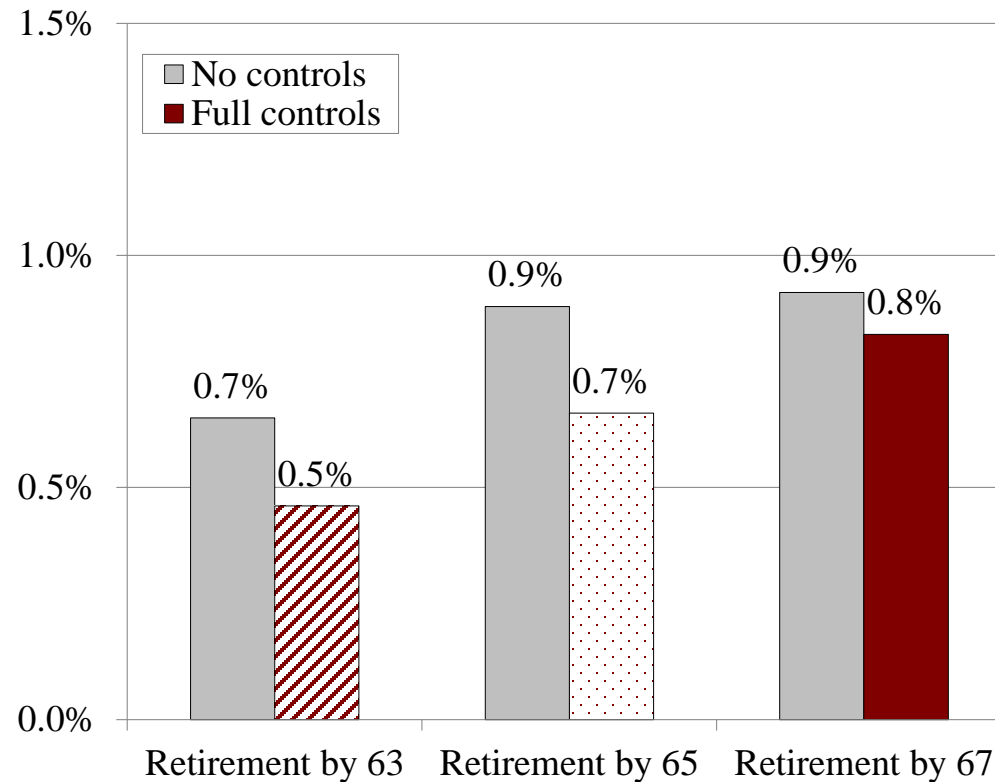
# Blue collar/service occupations tend to have higher Index values.



Source: Authors' calculations from the *O\*Net* and authors' review of literature.

# Even controlling for other factors, the Index has a significant effect on retirement timing.

Marginal Effect of Susceptibility Index Decile on Early Retirement



Note: Solid bars are significant at the 5-percent level. The dotted bar is significant at the 10-percent level.

Source: Authors' calculations from the *Health and Retirement Survey* 1992-2012 waves.



# This research provides evidence as to why OregonSaves is an important program.

- The Oregon workers who lack coverage the most are also the least able to extend their careers.
- By providing these workers with an easy way to save, OregonSaves can ensure if these workers need to retire, they can do so with a financial cushion.

# OregonSaves Strategic Plan

Mission Statements and Objectives  
2018



Oregon State Treasury

Tobias Read, State Treasurer

Master Page # 127 of 133 - Oregon Retirement Savings Board Meeting 3/13/2018

# OregonSaves Mission Statement

Improving Oregon governments' and citizens' financial capabilities through ***Ensuring Oregonians have easy access to professionally managed retirement savings.***

# Values Wordle





# OregonSaves Proposed Values

## Board Short List:

- Trusted
- Ease of Use
- Professional
- Flexible
- Inclusive



## Staff takeaways:

- Based on Mission and Values - Identify Goals
- Develop strategies (pathways) and objectives (intermediate goals)
- Develop measures that indicate progress towards the Goal

# OregonSaves

Oregon State Treasury – OregonSaves Program	
Vision	<i>“Leading the Way for Oregonians to achieve long term financial security”</i>
Mission	Improving Oregon governments’ and citizens’ financial capabilities by ensuring Oregonians have easy access to professionally managed retirement savings.
Values	

## What does success look like in 2020

Goals	Execute Statewide Outreach and Engagement	Ensure Excellent User Experience for Savers and Employers	Lay a Firm Foundation for Long Term Operation of OregonSaves
Strategies	Execute 2018-2019 Communications and Outreach Plans	Develop a Saver experience that builds on Awareness, Ease of Use, Meaningfulness, and a sense of Ownership. Develop resources that foster ongoing engagement, learning, and personal relevance.	Develop a program that is Sustainable, Durable, and Resilient to change and challenge
		Develop an Employer experience that builds on Awareness, Ease of Use, Impact, and Positive Perception.	
		For Savers and Employers, ensure the program is recognized as "for me", impactful, and increasingly useful.	

# Goals, Strategies, and Objectives - OregonSaves Goal 1

Goal: Execute Statewide Outreach and Engagement		
Strategies	Objectives	Metrics (Used for All Objectives)
Execute 2018-2019 Communications and Outreach Plans	Increase statewide awareness and understanding by completing the 4-phase Communications plan for 2018-2019, including consumer research and lessons learned.	Activity metrics and % achievement of communications and outreach plans
		% change in general awareness based on 2018 and 2019 end of year consumer awareness surveys
	Increase statewide engagement by executing 2018 statewide outreach plan, including saver education.	% change in likelihood to recommend OregonSaves to friends and family based on 2018 and 2019 end of year consumer awareness surveys
	Foster partnerships with key stakeholders, ranging from financial wellness organizations to business services providers, research partners, and global retirement experts. Foster support in the Legislature.	

# Goals, Strategies, and Objectives - OregonSaves Goal 2

Goal: Ensure Excellent User Experience for Savers and Employers		
Strategies	Objectives	Metrics (Used for All Objectives)
Develop a Saver experience that builds on Awareness, Ease of Use, Meaningfulness, and a sense of Ownership. Develop resources that foster ongoing engagement, learning, and personal relevance.	Provide relevant and useful materials, including: On-boarding kit, plain language choice and account information, financial wellness and education tools, timely and personalized communication. Review offerings against market standards and innovation.	Activity metrics related to materials, messages, website and resources, linguistic/cultural communities, influencers, and in response to research-based recommendations
		% positive responses to user experience survey questions
		# of testimonials
		\$ saved and # of accounts
		# and % of facilitating employers
Develop an Employer experience that builds on Awareness, Ease of Use, Impact, and Positive Perception.	Provide relevant and useful materials, including: On-boarding kit, plain language facilitation information and simple tools, partner program for payroll providers and other professional support organizations, timely and personalized communication. Continuously evaluate and iterate for ease of use and clarity.	# of recognized OregonSaves payroll providers
For Savers and Employers, ensure the program is recognized as "for me", impactful, and increasingly useful.	Expand linguistic and cultural accessibility; cultivate influencers and ambassadors for the Program; design for diversity. Use research to identify gaps & opportunities.	
	Collect user experience information; Identify and implement prioritized enhancements	
	Identify and communicate impact at the individual, employer, and statewide level	

# Goals, Strategies, and Objectives - OregonSaves Goal 3

Goal: Lay a Firm Foundation for Long Term Operation of OregonSaves		
Strategies	Objectives	Metrics (Used for All Objectives)
Develop a program that is Sustainable, Durable, and Resilient to change and challenge	Achieve sustainable financials and efficient operations.	Program is on target to achieve in-state break even by committed date
	Design and build for strength, volumes, and a wide range of users and user types. With providers, develop shared processes to identify and prioritize issues, initiatives and improvements. Develop and use effective program documentation and risk management processes.	Program is operating within budget and resource
	Create multi-state consortium capability (like ABLE)	Program achieves key goals and operational milestones on time and to required level of quality
	Engage legal experts to ensure program remains on firm footing and to defend and adjust as required	% of survey respondents who would recommend the program to family and friends
	Develop a base of public support	