

Act 44
Notice of Award of Contract for Professional Services
Posted November 6, 2019

Resolution 1560 of the Board of Commissioners of the Township of Upper St. Clair sets forth the procedures relative to the procurement of professional services for the Township's pension plans based on the requirements of Act 44 of 2009.

The Township conducted a Request for Proposals (RFP) process for investment management advisory services for the Police and Non-Uniformed Defined Benefit Pension Plans including consulting, monitoring, and associated ancillary services. The Township contracted with Englebert Financial Advisors to provide independent consulting services for the RFP process. The RFP was advertised and made available on June 26, 2019. Proposals were due on July 17, 2019. Seventeen proposals were received by the deadline. Five proposals were selected for final interviews which took place on October 21, 2019. On November 4, 2019, the Township's Board of Commissioners selected the proposal from PNC Institutional Advisory Solutions (PNC) for both the Police and Non-Uniform pension plans.

In accordance with Resolution 1560, Act 44, and the RFP, the following pages contain the original application form, a summary of the basis for the award, and the required disclosure form.

MEMORANDUM

To: Board of Commissioners
From: Matthew R. Serakowski, Township Manager
Date: November 1, 2019
Subject: **RECOMMENDATION RE. PENSION FUNDS INVESTMENT MANAGEMENT ADVISORY SERVICES RFP**

As previously communicated, the Township recently conducted a Request for Proposals (RFP) process for investment management advisory services for the Police and Non-Uniformed Defined Benefit Pension Plans. Attached is a letter from Mr. Christopher Englebert of Englebert Financial Advisors, who served as the third-party independent consultant for the RFP. The letter summarizes the key points of the RFP process, and concludes with a recommendation.

Staff concurs with Mr. Englerbert's analysis, and recommends that the Board of Commissioners accept the proposal from PNC Institutional Advisory Services to perform investment advisory and custodial services for the Township's Police and Non-Uniform defined benefit pension plans.

This may be accomplished by a simple motion and voice vote.





November 1st, 2019

Mark Romito
Director of Finance
Township of Upper St. Clair
1820 McLaughlin Run Road
Upper St. Clair, PA 15241

Dear Mark,

I am writing this letter to memorialize the consulting project that we did for Upper St. Clair Township's Police and Non-Uniform Defined Benefit Plans. We want to show the process and how the final decision was arrived at.

We wrote the RFP for both Defined Benefit Plans in June, and received 17 responses. Two responses were disqualified on technical aspects required in the RFP. The remaining 15 responses had their references called and verified. We did one-hour phone interviews on each of those 15 RFP responses to ask additional questions and get clarification on aspects of their RFP response. We also verified that each of those 15 responses met the Act 44 criteria.

The 15 responses were then reduced to five finalists, based upon qualifications and subjective "fit" for Upper St. Clair. We were looking for companies that could provide the service and interaction that the Township required.

The five finalists, PNC Institutional Advisory Solutions, Cornerstone Wealth Advisory, Wells Fargo Advisors, Conrad Siegel and Morrison Fiduciary Advisors, then went through a lengthy, in person, interview process on Monday, October 21st. The objective of the in-person interview process was to capture any additional thoughts and comments important to the selection of the final provider.

The approach to this process was to be as objective and professional as possible and treat every respondent with the respect that they deserve.

After careful consideration, it is recommended that PNC Institutional Advisory Solutions be retained for the Police Pension Fund and to provide investment services for the Non-Uniform plan as well. PNC demonstrated a high level of professional competence, reliable depth, and the strongest overall investment performance. This was coupled with a substantial reduction in fees that will save the Township \$70,000 per year in investment costs. The selection of PNC Institutional Advisory Solutions also achieves the goal of one consistent provider for the Township's defined benefit pension funds.

We are pleased that we could be of service to Upper St. Clair Township in this project.

Sincerely,

Christopher P. Englebert
Founding Partner & Chief Investment Officer
Englebert Financial Advisers , LLC
5100 W. Tilghman St. Suite 230
Allentown, PA 18104

MEMORANDUM

To: Board of Commissioners

From: Matthew R. Serakowski, Township Manager

Date: October 25, 2019

Subject: **DISCUSSION RE. PENSION FUNDS INVESTMENT MANAGEMENT ADVISORY SERVICES RFP**

Over the past several months, Township staff has been conducting a Request for Proposals (RFP) process for investment management advisory services for the Police and Non-Uniformed Defined Benefit Pension Plans. The RFP drew interest from the following 17 firms who submitted proposals in July:

- AndCo Consulting
- BNY Mellon Wealth Management
- CBIZ InR
- CIM Investment Management
- Columbus Macro
- Conrad Siegel
- Cornerstone Wealth Advisory
- Girard Pension Services
- Manning & Napier
- Marquette Associates
- Morgan Stanley Wealth Management
- Morrison Fiduciary Advisors
- PFM Asset Management
- PNC Institutional Advisory Solutions
- SEI Institutional Group
- Wells Fargo Advisors
- WesBanco Trust/Investment Services

The Township worked with an independent consultant, Englebert Financial Advisors (EFA), to thoroughly review each of the proposals. EFA also conducted initial screenings and phone interviews of each firm and provided guidance on which firms to identify as finalists. The 5 finalists who were invited to make a final presentation on October 21, 2019 were:

- Conrad Siegel
- Cornerstone Wealth Advisory
- Morrison Fiduciary Advisors
- PNC Institutional Advisory Solutions
- Wells Fargo Advisors

Staff is working with EFA to perform final evaluations and due diligence of each finalist. It is anticipated that a recommendation for selection of a pension funds investment advisor will be provided to the Board of Commissioners for consideration at the regular meeting on November 4, 2019.



REQUEST FOR PROPOSALS
PENSION FUNDS INVESTMENT MANAGEMENT
ADVISORY SERVICES

Township of Upper St. Clair
Allegheny County, Pennsylvania

Police and General Employee Pension Plans

June 26, 2019

Township of
Upper St. Clair
Pennsylvania

**Township of Upper St. Clair, Pennsylvania
Request for Proposals for Professional Services
Pension Funds Investment Management Advisory Services**

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Township of Upper St. Clair, Pennsylvania
Request for Proposals for Professional Services
Pension Funds Investment Management Advisory Services

RFP Opening Date: June 26, 2019
RFP Closing Date: July 17, 2019 at 3:00pm EST

I: INTRODUCTION

1. The Township of Upper St. Clair (the "Township") is soliciting proposals from interested firms for the provision of pension fund investment management advisory services for the Upper St. Clair Township Police Defined Benefit Pension Plan and the Upper St. Clair Township General Employees Defined Benefit Pension Plan, including the consulting, monitoring, and associated ancillary services for these two funds, which currently have approximately \$28.5 million in combined assets. As of December 31, 2018, the two plans had a total of 50 active members, 7 vested inactive members, and 35 participants in pay status. The questions contained in this RFP will apply to all firms interested in responding with the intent of providing investment management advisory services and will also frame the specifications that will be used to evaluate proposals. Please respond completely and concisely to all the information requests in the RFP in the order and format requested.
2. Proposals must be received no later than 3:00 PM on July 17, 2019. One (1) electronic copy of each proposal is to be submitted. No hard copies will be accepted. The proposal must be delivered via email with a PDF file attachment to Mark Romito at romito@twpusc.org. The Township has retained the services of Christopher Englebert, Managing Director of Beirne Wealth Consulting, to serve as the designated contact person for this RFP process and to assist in the review of the proposals.
3. The Township will consider procuring pension funds investment management advisory services from a single firm for the period from hire through December 31, 2023. The Township reserves the right, upon mutual agreement with the selected firm, to extend the agreement period for up to two consecutive two (2) year extensions of the existing agreement for a maximum total of eight (8) years. The Township reserves the right to terminate the agreement with thirty (30) days written notice.
4. No proposal will be accepted after the above stated date and time. All proposals become the property of the Township and will not be returned. All costs incurred by the respondents in the preparation and submission of a proposal shall be the sole responsibility of the respondent. Following the award of a professional services contract, all applications and disclosure forms shall be public except for proprietary information or other information protected by law.
5. The Township may select a proposal other than the lowest cost provider.
6. Respondents shall receive notice in writing from the Township as to the award made pursuant to this RFP. Within ten days of awarding the contract, the Township will transmit the original application form, a summary of the basis for the award, and required disclosure form to all unsuccessful applicants and post on the Township's website at least seven days prior to execution of the contract.
7. The Township reserves the right to cancel this RFP at any time and to reject any and all proposals submitted in response to this RFP, if the Township determines such action or actions to be in the best interest of the membership of the pension plans as permitted by law. The Township also reserves the right to request clarification of any submission, modify or alter the scope of services and solicit new submissions, reject any or all submissions, and waive immaterial irregularities as permitted by law.

II: OVERVIEW OF RFP EVALUATION PROCESS

1. The Township will receive proposals, disclosures and additional materials from applicants through July 17, 2019 at 3:00pm.
2. The Township will conduct a pre-screening to ensure all materials have been submitted.
3. An initial screening will then be conducted to determine whether or not applicants meet the minimum eligibility requirements as outlined by the Township.
4. Applications will be reviewed by a designated committee. The evaluation will center upon the applicant's qualifications, experience, expertise, and fee schedule, among other considerations. The evaluation process shall include, but not be limited to, consideration of:
 - a. The applicant's qualifications, experience and expertise related to Pennsylvania municipal pensions and approach to managing risk and research capabilities;
 - b. The applicant's knowledge of Act 205, Act 600 and Act 44;
 - c. The quoted fee(s) associated with the desired service(s) sought;
 - d. The applicant's availability to attend meetings;
 - e. The response of the references provided by the applicant; and
 - f. The ultimate confidence of the Township of the applicant's ability to meet the Township's goals and address the Township's concerns.
5. The review committee will select up to five (5) finalists for interview. Interviews are expected to be scheduled for either late-August or early-September, 2019.
6. Applicants that are not chosen for an interview will be notified of their status.
7. After interviews, a recommendation for selection shall be made by the review committee to the Township's Board of Commissioners for approval.
8. It is anticipated that the Township's Board of Commissioners will make a final selection on October 7, 2019, subject to change.

III: COMMUNICATION RESTRICTION

1. Except as specifically authorized in this RFP, effective as of the RFP opening date above and prior to the time of a decision by the Township and subsequent closing of this RFP process, there shall be no communication of any type regarding this RFP, any aspect of a response to this RFP, or the awarding of a contract related in any way to this RFP between a prospective applicant and any:
 - a. Elected Official of the Township of Upper St. Clair;
 - b. Employee of the Township of Upper St. Clair;
 - c. Any consultant or advisor currently engaged in assisting the Township with the RFP process;
 - d. Any individual in a position to influence the decision with respect to the RFP.
2. Applicants may not permit or cause any employee or a third party to directly or indirectly violate these communications restrictions. Any communication by any applicant or third party on behalf of an applicant that violates the terms of this communications restriction is grounds for immediate disqualification of that applicant.
3. The Township has retained a consultant to serve as the designated contact for the RFP process through which all related communication shall be made. Applicants may make inquiries for clarification of technical or administrative information related to this RFP to the designated contact. No other questions or forms of communication are authorized between the Township, its officials and employees, or any individual or entity associated with the applicant. Communications related to the RFP that are directed to someone other than the designated contact will not be accepted. The designated contact is:

Christopher Englebert
Beirne Wealth Consulting
Phone: 610-295-1083

Email: cenglebert@beirnewealth.com

All email inquiries should have the Subject: Upper St. Clair Township RFP

IV: MINIMUM REQUIREMENTS

Applicants that respond to this RFP must be able to meet or exceed the following minimum criteria in order to be considered for the award of the professional services contract. Applicants will be required to document that they meet or exceed the minimum criteria stated below.

1. The Applicant must be registered under the Investment Advisors Act of 1940;
2. The Applicant must act and represent itself as a fiduciary with respect to the Township and the pension plan, and the Applicant/Firm will not delegate such fiduciary responsibility to any other entity;
3. The Applicant firm must maintain an errors and omissions insurance policy and/or fiduciary liability insurance policy for coverage of negligent acts or omissions and/or breaches of fiduciary obligations and duties. During the entire period of the agreement, the selected firm shall maintain professional liability insurance and provide the Township with a certificate of insurance;
4. The Applicant's designated team must have a minimum of ten (10) years of experience providing similar pension services to Pennsylvania municipal government entities as desired under this RFP;
5. The Applicant firm must have a representative number of Pennsylvania municipal pension clients under contract for pension services including current clients which are defined benefit (DB) plans;
6. The Applicant firm must have the ability to provide a clearly functional services platform that addresses all desired services in this RFP - directly or in partnership with a subcontractor;
7. Full disclosure: Applicants shall disclose all fees, direct and indirect, associated with any aspect of the services proposed. This includes all fees paid to and received by all subcontractors and advisors to the contractor including all mutual fund costs such as Expense Ratios, if applicable. Failure to do so will result in immediate disqualification from the RFP process

V: OTHER REQUIREMENTS

1. No proprietary investments.
2. No insurance products such as annuities, group annuities, insurance contracts or similar obligations.
3. No Money Market or Certificate of Deposit accounts as a primary source of investments.
4. No contractor shall be a provider of other professional services for any of the two Township defined benefit pension plans (such as Actuarial Services).

VI: SERVICES REQUIRED

All Applicants that respond to the RFP should be able to provide, or facilitate through a subcontractor, a complete package of pension services that will include the items listed below. Any services that will be provided by a subcontractor should be noted, and any additional fees that will be charged by the subcontractor must be disclosed.

1. Comprehensive investment services including; investment management, advisory services and strategy;
2. A comprehensive menu of pension administrative services;
3. All banking and custodial services commensurate with maintaining a municipal pension plan;
4. Periodic reporting on pension plan performance, including attending meetings with the Township to present the performance;
5. Administrative services that include document services, accounting and asset allocations, monthly transactions and periodic account statements;
6. Retiree payments and tax related accounting functions including preparation and distribution of 1099R forms;
7. Additional administrative or advisory services, relevant to a Pennsylvania Municipal Defined Benefit Pension Plan.

All associated charges for these services must be illustrated in the completed fee schedule in Section VII-G.

VII: PROPOSAL QUESTIONS

A: ORGANIZATION AND BACKGROUND

1. Briefly describe the organization, the year it was founded, location of its headquarters and office that would handle the Upper St. Clair Township as a client (if separate from headquarters), its ownership structure, and any affiliations with other companies.
2. Please provide your firm's assets under management as of December 31, 2018 for the following categories:
 - a. Total assets
 - b. Total defined benefit assets
 - c. Total Pennsylvania municipal retirement assets
 - d. Total Pennsylvania municipal defined benefit assets
3. How long has the firm performed investment management advisory services for pension funds?
4. Disclose all potential conflicts of interest the firm has in serving in an investment advisor relationship. In particular, the firm should indicate its compliance with the Act 44 conflict of interest standard. Attached to this RFP is an Act 44 - Professional Services Contract - Required Disclosure, which will need to be completed and submitted with the firm's proposal
5. Provide documentation that the firm is listed as Registered Investment Advisor with the U. S. Securities and Exchange Commission (SEC). This would be accomplished by providing your firm's ADV. Have there been any SEC investigations of your firm that resulted in admonishment or other penalties?
6. Within the last five (5) years has your organization or an officer or principal been involved in any business litigation or other legal proceedings, including arbitrations, relating to your consulting activities? If so, provide an explanation and indicate the current status or disposition.
7. Does your firm, its principals and affiliates, subscribe to a professional Code of Ethics? Please provide a copy of any formal ethics or conflicts of interest policy.
8. What forms of insurance does the firm have against errors & omissions and/or fiduciary liability? The firm shall furnish the Township with a copy of a certificate of insurance as evidence that this type of coverage is in place.

B: STAFFING

List the personnel (the team) you propose to assign to this relationship and their responsibilities. Provide brief biographical information on each individual, including their positions in the company, education, designations/training, years and type of experience in investment management, major clients and experience. Please highlight experience working with defined benefit municipal pension plans.

C: CLIENTS / REFERENCES

1. Provide a list of current municipal government investment advisory clients. Designate Defined Benefit (DB) and Defined Contribution (DC) plans.
2. Attach list of references of three (3) municipal investment advisory client references. Indicate the municipality, address, contact name, and telephone number or email address. In addition, provide the number of years your firm has been providing investment advisory services.

D: PROCESS

1. What is the firm's process for setting client objectives and developing the Investment Policy Statement (IPS)?
2. Describe the process for developing an asset allocation recommendation.
3. What type of investment vehicles does your firm use (individual securities, mutual funds, ETFs, CITs, Separately Managed accounts)? Please list all that apply.
4. Please describe how your firm sets the overall asset allocation for your defined benefit plans. Please describe in detail this process and then how each of the sub-asset classes and their investment weightings are determined.
5. Please describe how you make changes to a fund's asset allocation as well as changes to the sub-allocations used.
6. Describe your Due Diligence Process utilized in Money Manager Selection.
 - a. Describe your overall philosophy in conducting investment manager research.
 - b. What database is utilized to monitor and evaluate investment managers' performance for the purpose of manager selection.
 - c. Is the database proprietary or third-party? Who is the vendor?
 - d. How many investment managers are included in the database?
 - e. How frequently is the investment management information updated, and what are the sources of data?
 - f. Describe your firm's policy regarding frequency of on-site manager visits and portfolio manager calls.
 - g. What policies or procedures do you have in place to ensure objectivity in the evaluation of money managers?
 - h. Do you receive any direct or indirect compensation from investment managers to be included in your database?
7. If you have a recommended funds list, please provide details regarding the list and the process for maintaining it.
8. Give an overview of your firm's approach and criteria for placing a manager/fund on a Watch List.
9. Describe how your firm handles the termination of an investment firm.
10. Does your firm practice tactical or strategic asset allocation?

11. Describe your firm's approach to the use of index funds.
12. Describe your firm's approach to the use of alternative investments.

E: PERFORMANCE MEASUREMENTS / ONGOING REVIEW

1. Explain the methodology and data sources used to compute investment manager rates of return and portfolio rates of return. How are fees incorporated into the returns?
2. Do you reconcile your calculated performance with investment managers and custodians? Describe the process.
3. What performance benchmarking do you provide on a fund and portfolio level? Describe how benchmarks are chosen or developed.
4. What steps are used to monitor risk, style integrity, manager guideline compliance, account restrictions, etc. of the investments?
5. How many business days after the end of a reporting period are the performance reports available? Can the reports be customized?
6. Provide a sample quarterly client report and a sample monthly performance update.
7. What do you believe sets your performance measurement services apart from the competition?
8. Please provide performance returns for an account that would be similar in size to Upper St. Clair Township. Please provide calendar year annual returns, net of fees ending 2018. We understand that all municipal pension funds are different, but we would like to see in a performance report the returns of a fund that you are currently consulting for. This report could be used to answer question E6.

F: ADMINISTRATION

1. Who will have primary responsibility for servicing our account?
2. Explain how the firm will provide administrative support for the account. What responsibility will the Township have when it comes to authorizing recommendations, transactions, rebalancing, etc.?
3. Describe your firm's approach to benefit payment administration
4. Is this included in your services? Does your firm provide this service or is it outsourced to a third party?
5. Please describe the procedure the Township would follow to setup new payments or modify existing payments

G: FEES

In the fee summary chart below, itemize and explain ALL proposed fees and costs (both direct and indirect) associated with requested services. Failure to disclose all fees for a full retainer basis (including all internal fees and fund expenses) will result in disqualification of the firm’s proposal.

- Fees should be based on 2 accounts totaling \$28.5 Million
- Benefit payment cost should be calculated using the current number of participants in pay status.

Upper St. Clair Township
Request for Proposals – Pension Funds Investment Management Advisory Services
Fee Summary for _____ [firm name]

Description	Fee (basis points)	Fee (in dollars)	Explanation/Formula
Investment Advisory			How many in-person meetings are included in this fee?
Fund Expenses Individual funds & manager fees			
Custodial Direct Cost for services & projected transactional fees			
Benefit Payment Administration For services and transactions			Are 1099-R forms included?
Other Potential Fees			
Total Annual Fees			

H. TRANSITION

1. Please describe the transition process for investment advisory, custodial, and benefit payment administration
2. What responsibilities will the Township have?
3. Are there any one-time cost associated with the transition? When would your firm begin charging advisory fees?
4. Provide a timeline of the steps and length of time from when the contract is awarded until the time when assets transfer and benefits payments can be issued.

I: SUMMARY

What do you believe sets the firm's services apart from the competition, and what unique value-added services could your firm provide?

**EXHIBIT A
APPLICANT VERIFICATION**

I _____ [*name*], hereby state that I am the _____ [*position title*]
of _____ [*firm name*] and I am authorized to make this verification.

I hereby verify that the facts set forth in the foregoing Act 44 Disclosure Form for RFP Applicants seeking to provide Professional Services to the Township of Upper St. Clair are true and correct to the best of my knowledge, information and belief.

I hereby verify that the Firm meets all requirement listed in sections IV and V of this Request for Proposals and is able and qualified to provide the services listed in section VI.

I also understand that knowingly making material misstatements or omissions in this form could subject the responding Applicant to penalties and will result in immediate disqualification of the proposal.

Signature

Date

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
INTRODUCTION

In accordance with Pennsylvania Act 44 of 2009 (PA Act 44), all potential Contractors bidding on a Professional Services Contract with one of the pension funds of the Township of Upper St. Clair must disclose the following information in their Request for Proposal (RFP) response documents. Potential contractors should refer to PA Act 44 and become familiar with its required disclosures.

NOTE: RFP APPLICATIONS AND DISCLOSURE FORMS ARE PUBLIC DOCUMENTS AND SHALL BE PUBLIC EXCEPT FOR PROPRIETARY INFORMATION OR INFORMATION OTHERWISE PROTECTED BY LAW.

YOU MUST IDENTIFY ANY CLAIM OF CONFIDENTIALITY AT THE TIME YOUR RFP APPLICATION MATERIALS ARE SUBMITTED.

REQUIRED UPDATES:

WHERE NOTED, INFORMATION IN THIS FORM MUST BE UPDATED IN WRITING AS CHANGES OCCUR.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
DEFINITIONS FOR DISCLOSURE

Term:	Definition:
Contractor	Any person, company, or other entity that receives payments, fees, or any other form of compensation from a municipal pension fund in exchange for rendering professional services for the benefit of the municipal pension fund.
Subcontractor or Advisor	Anyone who is paid a fee or receives compensation from a municipal pension system – directly or indirectly from or through a contractor.
Affiliated Entity	Any of the following: <ol style="list-style-type: none"> 1. A subsidiary or holding company of a lobbying firm or other business entity owned in whole or in part by a lobbying firm. 2. An organization recognized by the Internal Revenue Service as a tax-exempt organization under section 501(c) of the Internal Revenue Code of 1986 (Public Law 99-514, 26 U.S.C. § 501 (c)) established by a lobbyist or lobbying firm or an affiliated entity.
Contributions	As defined in section 1621 of the act of June 3rd, 1937 (P.L. 1333, No. 320), known as the Pennsylvania Election Code.
Political Committee	As defined in section 1621 of the act of June 3rd, 1937 (P.L. 1333, No. 320), known as the Pennsylvania Election Code.
Executive Level Employee	Any employee or person or the person’s affiliated entity who: <ol style="list-style-type: none"> 1. Can affect or influence the outcome of the person’s or affiliated entity’s actions, policies, or decisions relating to pensions and the conduct of business with a municipality or a municipal pension system; or 2. Is directly involved in the implementation or development policies relating to pensions, investments, contracts or procurement, or the conduct of business with a municipality or municipal pension system.
Municipal Pension system	Any qualifying pension plan, under Pennsylvania state law, for any municipality within the Commonwealth of Pennsylvania; includes the Pennsylvania Municipal Retirement System.
Professional Services Contract	A contract to which the municipal pension system is a party that is: (1) for the purchase of professional services including investment services, legal services, real estate services, and other consulting services; and, (2) not subject to a requirement that the lowest bid be accepted.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL

Contractors: (see “DEFINITIONS FOR DISCLOSURE” on the prior page) Any entity who currently provides or is seeking to provide service(s) by means of a Professional Services Contract to the Municipal Pension System of the Township of Upper St. Clair, please respond completely to all required disclosure items.

The Municipal Pension plan(s) for which you are providing information:

- Upper St. Clair Township General Employees Retirement Plan
- Upper St. Clair Township Police Pension Plan

Following is a list of Township officials and employees with oversight or administrative responsibilities for the aforementioned pension plans:

- Elected Officials: Upper St. Clair Township Board of Commissioners
 - Mark D. Christie – President
 - Nicholas J. Seitanakis – Vice President
 - C. Elise Logan
 - Robert W. Orchowski
 - Daniel R. Paoly
 - Ronald J. Pardini
 - Rex A. Waller
- Appointed Officials and Employees:
 - Matthew R. Serakowski, Township Manager – Pension Plan Administrator
 - Mark S. Mansfield, Assistant Township Manager – Pension Plan Administrative Officer
 - Mark P. Romito, Director of Finance – Pension Plan Administrative Officer

1. Please provide the names and titles of all individuals providing professional services to the Township of Upper St. Clair’s pension plan(s) identified above. Also include the names and titles of any advisors and subcontractors of the Contractor, identifying them as such. After each name, provide a description of the responsibilities of that person with regard to the professional services being provided to each designated pension plan.
2. Please list the name and title of any Affiliated Entity and their Executive-level Employee(s) that require disclosure; after each name, include a brief description of their duties. (See: Definitions)
3. Are any of the individuals named in Item 1 or Item 2 above a current or former official or employee of the Township of Upper St. Clair? If “yes”, provide the name of the person employed, their position with the township, and their dates of employment.
4. Are any of the individuals named in Item 1 or Item 2 above, a current or former registered Federal or State lobbyist? If “yes”, provide the name of the individual, specify whether they are/were a State or a Federal lobbyist, and the date of their most recent registration / renewal.

NOTICE: All information provided for items 1- 4 above must be updated with the Township as changes occur.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL (CONTINUED)

5. Since December 17, 2009, has the Contractor or an Affiliated Entity paid compensation to, or employed any, third party intermediary, agent, or lobbyist that is to directly or indirectly communicate with an official or employee of the Municipal Pension System of the Township of Upper St. Clair, or any municipal official or employee of the Township of Upper St. Clair in connection with any transaction or investment involving the Contractor and the Municipal Pension System of the Township of Upper St. Clair?

This question does not apply to an officer or employee of the Contractor who is acting within the scope of the firm's standard professional duties on behalf of the firm, including the actual provision of legal, accounting, engineering, real estate, or other professional advice, services, or assistance pursuant to the professional services contact with Township's pension system.

If "yes", identify: (1) whom (the third party intermediary, agent, or lobbyist) was paid the compensation or employed by the Contractor or Affiliated Entity, (2) their specific duties to directly or indirectly communicate with an official or employee of the Municipal Pension System of the Township of Upper St. Clair or any municipal official or employee of the Township of Upper St. Clair, (3) the official they communicated with, and (4) the dates of this service.

6. Within the past two years, has the Contractor, or any agent, officer, director, or employee of the Contractor solicited a contribution to any municipal official or candidate for municipal office in the Township of Upper St. Clair, or to the political party, or political action committee of that official or candidate? If "yes", identify the agent, officer, director or employee who made the solicitation and the municipal officials, candidates, political party or political action committee who were solicited (to whom the solicitation was made).
7. Within the past two years, has the Contractor or an Affiliated Entity made any contributions to a municipal official or any candidate for municipal office in the Township of Upper St. Clair? If "yes", provide the name and address of the person(s) making the contribution, the contributor's relationship to the Contractor, the name and office or position of the person receiving the contribution, the date of the contribution, and the amount of the contribution.
8. Does the Contractor or an Affiliated Entity have any direct financial, commercial or business relationship with any official of the Township of Upper St. Clair? If "yes", identify the individual with whom the relationship exists and give a detailed description of that relationship. A written letter is required from the Township of Upper St. Clair acknowledging the relationship and consenting to its existence. The letter must be attached to this disclosure. Contact the Township of Upper St. Clair to obtain this letter and attach it to this disclosure before submission.
9. Has the Contractor or an Affiliated Entity given any gifts having more than a nominal value to any official, employee, or fiduciary of the Township of Upper St. Clair? If "yes", provide the name of the person conferring the gift, the person receiving the gift, the office or position of the person receiving the gift, specify what the gift was, and the date conferred.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL (CONTINUED)

10. Disclosure of contributions to any political entity in the Commonwealth of Pennsylvania Applicability: A “yes” response is required, and full disclosure is required ONLY WHEN ALL of the following applies:
- a. The contribution was made within the last 5 years
 - b. The contribution was made by an officer, director, executive-level employee or owner of at least 5% of the Contractor or Affiliated Entity.
 - c. The amount of the contribution was at least \$500 and in the form of:
 - i. A single contribution by a person in (b) above, OR
 - ii. The aggregate of all contributions all persons in (b) above;
 - d. The contribution was for:
 - i. Any candidate for any public office or any person who holds an office in the Commonwealth of Pennsylvania;
 - ii. The political committee of a candidate for public office or any person that holds an office in the Commonwealth of Pennsylvania.

If “yes”, provide the name and address of the person(s) making the contribution, the contributor’s relationship to the Contractor, the name and office or position of the person receiving the contribution (or the political entity / party receiving the contribution), the date of the contribution, and the amount of the contribution.

11. With respect to your provision of professional services to the Municipal Pension System of the Township of Upper St. Clair:

Are you aware of any apparent, potential, or actual conflicts of interest with respect to any officer, director, or employee of the Contractor and officials or employees of the Township of Upper St. Clair?

If “yes”, provide a detailed explanation of the circumstances which provide you with a basis to conclude that an apparent, potential, or actual conflict of interest may exist.

NOTE: If, in the future, you become aware of any apparent, potential, or actual conflict of interest, you are expected to update this Disclosure Form immediately in writing by:

- providing a brief synopsis of the conflict of interest, and
- an explanation of the steps taken to address this apparent, potential, or actual conflict of interest.

12. To the extent that you believe that Chapter 7-A of Act 44 of 2009 requires you to disclose any additional information beyond what has been requested above, please provide that information below or on a separate piece of paper.

July 17, 2019

Township of Upper St. Clair
Mark Romito
1820 McLaughlin Run Road
Upper St. Clair, PA 15241

Dear Mr. Romito and Mr. Englebert:

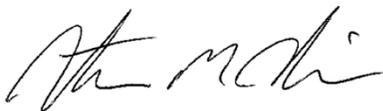
It has been a pleasure working with the Township of Upper St. Clair (the Township) for both the Police and Non-Uniform Pensions since 2011. Serving as your investment manager for your police pension has given us keen insight on your investment goals and preferences. Expanding our current relationship provides the Township with a more efficient and cost effective approach, with an estimated annual cost savings of approximately 25%.

In addition, the Township will experience a seamless transition for the Employee Defined Benefit Pension Plan, as we already serve as your custodian and benefit payment provider – eliminating any conversion or disruption to your services. PNC Institutional Advisory Solutions® (PNC IAS) uses an open architecture platform of investment options – with no proprietary fund requirements. The Township can rest assured your team has you and your participants' best interests in mind.

As you look to engage a single firm to provide investment management and custody services to both Plans, consider the advantages of working with a provider who knows the history of your Plans, as well as one who can deliver a reduction in costs and an unbiased platform of investment options.

Thank you for the opportunity to expand our current relationship. We look forward to discussing next steps.

Sincerely,



Steven M. Shapiro, CFA®

Senior Vice President, Senior Investment Advisor
PNC Institutional Advisory Solutions
300 Fifth Avenue
Pittsburgh, PA 15222

412-762-3466 | steven.shapiro@pnc.com



Grant Duffield, AIF®

Senior Vice President
PNC Institutional Advisory Solutions
300 Fifth Avenue
Pittsburgh, PA 15222

412-768-3355 | grant.duffield@pnc.com

A SINGLE PROVIDER FOR YOUR PLANS

A Team You Know and Trust

For more than seven years, The Township of Upper St. Clair (the Township) has relied on the sound advice of PNC Institutional Advisory Solutions® (PNC IAS) for the investment management of your Police Defined Benefit Pension Plan. Therefore, we already understand the history and requirements of the Township's Plan, as well as your priorities and plans for the future.

Throughout the years, we have worked together on several special projects including depositing the Principal stock shares into the pensions and initiating a DROP program. As you consider providers for the investment management and custody of both Plans, consider the commitment your PNC IAS team has shown as this is what you can continue to expect from us in the future.

A Reduction in Costs

In appreciation of our long standing relationship with the Township, we are proposing a reduction of your current fee schedule for the Police pension. We will apply this reduced fee schedule to the combined assets of both pensions, providing further cost savings leverage. By decreasing the number of firms involved and expanding your services with us, the Township will realize an estimated annual cost savings of approximately 25% for investment management and custodial fees.

A Seamless Transition

There are many factors to consider when changing providers. A key advantage to consolidating services with PNC IAS is the Township's participants will not see a change in the payment services received today.

In addition, we currently hold all assets, which means no movement of assets from one custodian to another.

A Conflict-Free Investment Platform

Your request for proposal (RFP) laid out your requirements for both Plans. The PNC IAS team you know and trust uses an open architecture approach when selecting managers for your portfolio. This means, unlike some of our competitors, you will not be required to use our proprietary investment products. As a fiduciary, you can trust we have your best interests in mind when selecting investments.

“

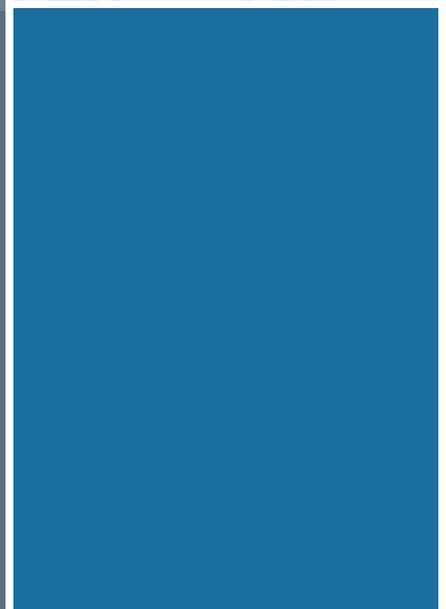
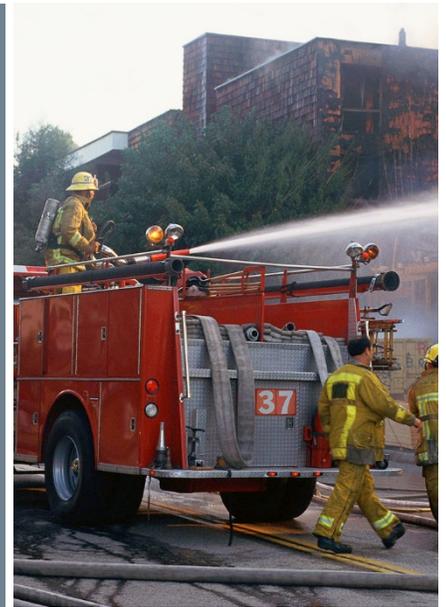
Together, we can create efficiencies, reduce costs, and work to achieve your goals for both Plans.

”

A Local & National Industry Presence

The Township will also work with a firm who is committed to providing pension management and benefit payment services to municipalities as evidenced through our participation in public pension conferences locally and nationally. Our pension professionals help to educate trustees across the country, and the Township will receive this knowledge and insight.

Together, we can create efficiencies, reduce costs, and work to achieve your goals for both Plans.



PROPOSAL TO
**TOWNSHIP OF UPPER ST.
CLAIR**

July 17, 2019

TO LEARN MORE, CONTACT:

Grant Duffield, AIF®
Senior Vice President
PNC Institutional Advisory Solutions
412-768-3355 | grant.duffield@pnc.com

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EXHIBITS

- EXHIBIT I: Act 44 - Professional Services Contract – Required Disclosure
- EXHIBIT II: *The Discipline to Succeed* Whitepaper
- EXHIBIT III: *A Guide to the Strategic Public Pension Portfolios* Whitepaper
- EXHIBIT IV: PNC Affiliated Compensation Disclosure Grid
- EXHIBIT V: Township of Upper St. Clair’s Most Recent Quarterly Review
- EXHIBIT VI: Township of Upper St. Clair’s Performance

This proposal is delivered by PNC Bank, N.A. on the condition that it be kept confidential and not be shown to, or discussed with, any third party, including any financial institutions (other than on a confidential or need-to-know basis with the recipient’s directors, officers, employees, counsel and other advisors, or as required by law), or used other than for the purpose of evaluating this proposal, without PNC’s prior written approval.

This proposal is not a contract or an offer to enter into a contract and does not obligate either party to negotiate or enter into any contract in connection with the services described in this Proposal (“Services”). Any binding agreement to accept or provide the Services will be subject to the parties entering a written agreement that will contain terms that are acceptable to the parties. PNC Bank reserves the right to change, alter, eliminate or withdraw all or portions of the Proposal for the Services or to choose not to provide some or all of the Services. The organization to which this Proposal is addressed is responsible for all costs associated with its evaluation and due diligence efforts.

PNC Institutional Advisory Solutions® (PNC IAS) will provide the services described in this proposal. PNC IAS is a division of PNC Institutional Asset Management® (PNC IAM). PNC IAS and PNC IAM are not legal entities; they are marketing names under which PNC Bank, National Association (PNC Bank) conducts business. PNC Bank is a subsidiary of The PNC Financial Services Group, Inc. (PNC).

A: ORGANIZATION AND BACKGROUND

- 1. Briefly describe the organization, the year it was founded, location of its headquarters and office that would handle the Upper St. Clair Township as a client (if separate from headquarters), its ownership structure, and any affiliations with other companies.**

Since 2007, the Township of Upper St. Clair (the Township) and PNC Bank have worked together on your investment management, custody, and benefit payment needs. Through this time, we have developed a strong relationship, worked together on special projects, and attended local events together. While the Township is already familiar with our organization and we are familiar with yours, we have included the responses below for informational purposes.

ORGANIZATION OVERVIEW

With roots in commercial banking that date back to the 1800s, PNC is one of the largest diversified financial services organizations in the United States, with assets of \$393 billion and a workforce of approximately 53,000 employees as of March 31, 2019. PNC has been a strong competitor, innovator, and engaged corporate citizen.

PNC is the product of a merger of two distinguished Pennsylvania banks in 1983: Pittsburgh National Corporation and Provident National Corporation based in Philadelphia. Each of these institutions had served diverse markets, and their merging created the largest bank in Pennsylvania. Additional information on our corporate history is available at www.pnclegacyproject.com.

Today, PNC operates primarily in 19 states and the District of Columbia. We provide retail and business banking; residential mortgage banking; specialized services for corporations and government entities, including corporate banking, real estate finance and asset-based lending; and wealth management and institutional asset management. Our bankers and financial consultants bring savvy, local knowledge and truly personal service to all of their banking relationships. We are constantly working to find opportunities to better serve clients, employees, shareholders, and the communities in which we operate.

LOCATIONS

Our headquarters and the office that will continue to serve the Township is:

The Tower at PNC Plaza
300 Fifth Avenue
Pittsburgh, PA 15222

OWNERSHIP

PNC is a publicly owned company, whose common stock is listed on the New York Stock Exchange, and is traded under the symbol, *PNC*.

AFFILIATES

Our corporate legal structure as of December 31, 2018, consisted of one domestic subsidiary bank, including its subsidiaries, and approximately 35 active nonbank subsidiaries. Our bank subsidiary is PNC Bank.

2. Please provide your firm's assets under management as of December 31, 2018 for the following categories:

a. Total assets

\$22.18 billion

b. Total defined benefit assets

\$3.05 billion

c. Total Pennsylvania municipal retirement assets

\$672.26 million

d. Total Pennsylvania municipal defined benefit assets

\$601.64 million

3. How long has the firm performed investment management advisory services for pension funds?

PNC IAS has been providing discretionary investment management services to defined benefit plans since 1951.

4. Disclose all potential conflicts of interest the firm has in serving in an investment advisor relationship. In particular, the firm should indicate its compliance with the Act 44 conflict of interest standard. Attached to this RFP is an Act 44 - Professional Services Contract - Required Disclosure, which will need to be completed and submitted with the firm's proposal

We do not anticipate any potential conflict of interest by providing the services outlined in this proposal. We maintain a strict code of business conduct and an ethics policy that employees must acknowledge annually. In addition, we avoid conflicts of interest through our ongoing internal compliance reviews.

Refer to [EXHIBIT I](#) for the completed Act 44- Professional Services Contract – Required Disclosure.

5. Provide documentation that the firm is listed as Registered Investment Advisor with the U. S. Securities and Exchange Commission (SEC). This would be accomplished by providing your firm's ADV. Have there been any SEC investigations of your firm that resulted in admonishment or other penalties?

PNC Bank is not registered as an investment advisor with the SEC under the Investment Advisers Act of 1940. As a national banking association, PNC Bank is not required to register as an investment advisor with the SEC under the Investment Advisers Act of 1940.

6. Within the last five (5) years has your organization or an officer or principal been involved in any business litigation or other legal proceedings, including arbitrations, relating to your consulting activities? If so, provide an explanation and indicate the current status or disposition.

PNC is a large, full service financial services institution with over 50,000 employees and thousands of relationships. Accordingly, we cannot make a blanket representation as to every officer, principal, employee, and relationship.

See the *Legal Proceedings* section of the reports of PNC to the United States Securities and Exchange Commission on Forms 10-K and 10-Q available at www.pnc.com/annualreport. In addition to the proceedings or other matters described therein, PNC and its subsidiaries, particularly its principal banking subsidiary, PNC Bank, in the normal course of business, are subject to various other pending and threatened legal proceedings in which claims for monetary damages and other relief are asserted. We do not anticipate, at the present time, that the ultimate aggregate liability, if any, arising out of such other legal proceedings will have a material adverse effect on our financial position or ability to perform the requested services.

In addition, as a result of the regulated nature of our business and that of a number of our subsidiaries, particularly in the banking and securities areas, we and our subsidiaries are the subject from time to time of investigations and other forms of regulatory inquiry, often as part of industry-wide regulatory reviews of specified activities. Our practice is to cooperate fully with these investigations and inquiries.

7. Does your firm, its principals and affiliates, subscribe to a professional Code of Ethics? Please provide a copy of any formal ethics or conflicts of interest policy.

Yes. PNC has a Code of Business Conduct and Ethics (Code) that guides the company in conducting business with the highest integrity and ethics standards. The Code requires avoiding any situation that creates a conflict of interest for PNC. The Corporate Ethics Office must disclose and approve any unavoidable conflict of interest situations.

Refer to the PNC Code of Business Conduct and Ethics located at www.pnc.com, About Us > Investor Relations > Corporate Governance.

8. What forms of insurance does the firm have against errors & omissions and/or fiduciary liability? The firm shall furnish the Township with a copy of a certificate of insurance as evidence that this type of coverage is in place.

Coverage: \$200 million single aggregate limit subject to a deductible of \$50 million per loss.

PNC maintains professional errors and omissions coverage under its Blended Executive Risk program. On December 1, 2018, PNC effected a one-year, non-cancelable Blended Executive Risk financial products insurance program. The program includes coverage for director and officer liability; professional liability (errors and omissions); employment practices liability; fidelity liability; fidelity bond; computer crime; and cyber security.

This program covers PNC and its subsidiaries, directors, officers, and employees for damages it is legally obligated to pay due to a claim made during the policy period. Specifically, the policy covers liability resulting from any act, error or omission on the part of PNC or any person or entity whose actions PNC is legally responsible for in the rendering or failing to render professional services.

PNC Insurance Coverage				
Coverage	Carrier	Coverage amount	Best Rating	Fsc Rating
Blended Program (includes Errors/Omissions and Fidelity Bond)	XL Specialty Insurance Company	\$10,000,000	A	XV
	AXIS Insurance Company	\$10,000,000	A+	XV
	Berkshire Hathaway Specialty Insurance Co.	\$10,000,000	A++	XV
	Markel Bermuda Limited	\$10,000,000	A	XIV
	Allied World Assurance Company Ltd	\$10,000,000	A	XV
	ACE American (Chubb)	\$10,000,000	A++	XV
	American International Reinsurance (AIG)	\$10,000,000	A	XI
	ACE American (Chubb)	\$10,000,000	A++	XV
	QBE Insurance Corporation	\$10,000,000	A	XV
	Endurance Specialty Insurance Ltd. (Sompo)	\$10,000,000	A+	XV
	National Union (AIG)	\$10,000,000	A	XV
	Everest National	\$10,000,000	A+	XV
	Allianz Global Risks US Insurance Co.	\$5,000,000	A+	XV
	IronStarr Bda	\$12,500,000	A	XV
	Freedom Specialty (Nationwide)	\$12,500,000	A+	XV
	Endurance Specialty Insurance Ltd. (Sompo)	\$ 5,000,000	A+	XV
	CNA	\$10,000,000	A	XV
	RSUI Indemnity Company	\$ 5,000,000	A+	XIV
	Starr Indemnity & Liability Company	\$10,000,000	A	XV
Arch Insurance	\$ 5,000,000	A+	XV	

Policy expiration is December 1, 2019

The following is our Insurance Coverage Information:



**The PNC Financial Services Group, Inc.
2018-2019 Insurance Coverage Information**

PNC manages to an overall moderate level of risk to capture opportunities and optimize shareholder value. In consideration of this risk tolerance, we maintain robust insurance coverage for PNC and all of our subsidiaries in order to protect the assets of the corporation.

DIRECTORS & OFFICERS LIABILITY	
Carrier:	Chubb & Various Other Carriers
Policy Term:	12/1/2018 - 12/1/2019
Per Loss Limit:	\$25,000,000
Coverage Description:	Coverage for wrongful acts or omissions of directors and officers while fulfilling their respective duties

GENERAL LIABILITY	
Carrier:	AIG
Policy Term:	9/1/2018 - 9/1/2019
Per Loss Limit:	\$5,000,000
Coverage Description:	Coverage for third party claims arising from bodily injury, property damage, and/or personal injury

PROFESSIONAL LIABILITY (E&O)	
Carrier:	XL & Various Other Carriers
Policy Term:	12/1/2018 - 12/1/2019
Per Loss Limit:	\$25,000,000
Coverage Description:	Coverage for wrongful acts, errors, omissions, and/or negligence in rendering professional services

AUTOMOBILE LIABILITY	
Carrier:	AIG
Policy Term:	9/1/2018 - 9/1/2019
Per Loss Limit:	\$5,000,000
Coverage Description:	Coverage for bodily injury or property damage arising from the use of vehicles

FINANCIAL INSTITUTION BOND (CRIME)	
Carrier:	XL & Various Other Carriers
Policy Term:	12/1/2018 - 12/1/2019
Per Loss Limit:	\$25,000,000
Coverage Description:	Coverage for fraud, robbery, theft, forgery, and/or employee dishonesty

WORKERS' COMPENSATION	
Carrier:	AIG
Policy Term:	9/1/2018 - 9/1/2019
Per Loss Limit:	Statutory Limits
Coverage Description:	Coverage for employee injury as prescribed/mandated by state regulation

PROPERTY	
Carrier:	Lexington Insurance Co. & Various Other Carriers
Policy Term:	5/1/2019 - 5/1/2020
Per Loss Limit:	\$50,000,000
Coverage Description:	Coverage for loss to real and personal property, including business interruption, boiler and machinery, equipment

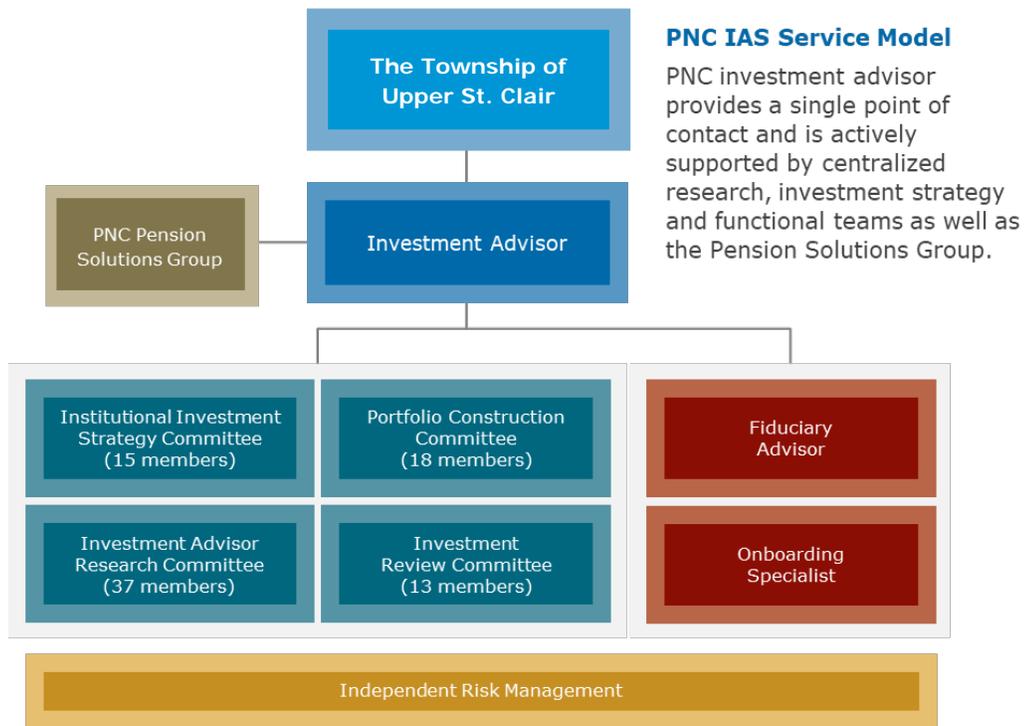
NETWORK & PRIVACY LIABILITY (CYBER)	
Carrier:	AIG & Various Other Carriers
Policy Term:	3/1/2019 - 3/1/2020
Per Loss Limit:	\$15,000,000
Coverage Description:	Coverage for liability arising out of network security breach or systems failure

**Note that the information shown above is not an exhaustive listing of all insurance limits & coverages maintained by PNC.*

B: STAFFING

List the personnel (the team) you propose to assign to this relationship and their responsibilities. Provide brief biographical information on each individual, including their positions in the company, education, designations/training, years and type of experience in investment management, major clients and experience. Please highlight experience working with defined benefit municipal pension plans.

Managing pension funds is a complex responsibility spanning numerous financial disciplines. The Township will continue to work with the dedicated, experienced relationship team you have worked with for the past seven years. Your team is led by an investment advisor and includes multiple specialists all working together – collaboration is our answer to complexity.



The Township's service model

Your *investment advisor*, Steven Shapiro, will continue to serve as your primary contact, managing your Plans and relationship while also coordinating the extended efforts of your service team. Steve is local and serves the same community as you.

Your *fiduciary advisor*, Lori Kinzler, will continue to serve as the single point of contact for the administrative and operational activities for your accounts. In addition, she will continue to provide oversight for fiduciary and regulatory compliance.

Throughout the years, Steve and Lori have gained a thorough understanding of the Township's financial needs, requirements, and goals. Having Steve and Lori collaborate with you on both Plans is beneficial – as they have an understanding of the history of your account, as well as your future goals. They are also active supporters of the Allegheny League of Municipalities (ALOM) and regularly attend the spring and fall conferences.

Biographies for the team you know and trust are as follows:

*Steven Shapiro, CFA®
Senior Investment Advisor*

Steve is a senior investment advisor for PNC IAS, located in the Pittsburgh market. He coordinates the delivery of investment solutions for defined benefit plans and various charitable organizations, endowments and foundations. His key responsibilities include maintaining strong relationships with clients by providing thought leadership, education and insights, managing portfolios in accordance with the client's investment objectives, providing recommendations for asset allocations based upon the client's needs and supporting the development of new business relationships.

Prior to assuming his current role 2007, Steve was an investment advisor for high net worth individuals and personal trusts with PNC Wealth Management®. Before joining the firm in 1998, he was a personal financial advisor with American Express Financial Advisors.

Steve received a Bachelor of Science degree in economics from the University of Pittsburgh. Steve is a holder of the right to use the Chartered Financial Analyst® designation.

Firm start: November 1998 | *Industry start:* February 1995

Steve has worked with Pennsylvania municipal plans for more than 12 years. He currently serves as an investment advisor to 12 public pension relationships representing 19 separate pension plans and approximately \$234 million of assets under management. The plans range in size from \$3.6 million to \$92.1 million, as of June 30, 2019.

Lori Kinzler
Fiduciary Advisor

As a fiduciary advisor for Institutional Client Services, Lori serves as the primary day-to-day contact responsible for the administrative, operational and transaction activities of client accounts, which may consist of employee benefit plans, charitable and endowment organizations and corporate entities where PNC typically has the role of trustee, investment manager, custodian or escrow agent. She also assists clients by participating in annual administrative and relationship reviews, communicating any administrative or fiduciary issues that arise and working with internal PNC partners to implement and maintain policies and procedures designed to help mitigate risk.

After joining the firm in 1975, Lori served in the Trust and Control divisions. She assumed her current position in 1987.

Lori earned her Bachelor of Science in business administration from the University of Pittsburgh and her Master of Science degree in organizational leadership from Geneva College.

Firm start: 1975 | Industry start: 1975

Lori has worked with Pennsylvania municipal plans since 1987. She currently administers 60 public pension plan relationships, representing 94 separate plans, with assets ranging in size from \$2 million to \$791 million.

Grant Duffield, AIF®
Senior Business Development Officer

Grant is a senior business development officer with PNC IAM. In this role, he consults with clients to identify solutions and provide actionable insight regarding their investment and ancillary needs for retirement, charitable and corporate assets.

Grant has been named to PNC Chairman's Circle nine times. Prior to joining the firm in 2001, Grant was director of marketing and communications for Muhlenkamp & Company Investment Management and the Muhlenkamp Fund. He was also responsible for key client and consultant relationships. While at Muhlenkamp & Company, Grant served two terms as chairman of the 100% No-Load Mutual Fund Council, an industry trade group, and helped design a comprehensive 401(k) plan for the small business market. He was also a member of the Mutual Fund Education Alliance (MFEA) and served on several committees within the Investment Company Institute (ICI).

Grant received his bachelor's degree from Wake Forest University. He holds the Accredited Investment Fiduciary® (AIF) professional designation from FI 360.

Firm start: January 2001 | *Industry start:* January 1994

Your team will also be supported by the following professionals:

Kimberlene Matthews, CFA[®], FSA, EA
Director of Pension Solutions

Kim is the director of Pension Solutions for PNC IAM. She oversees the development and distribution of pension management solutions across PNC's client base. In collaboration with our internal partners, she works with defined benefit plan sponsors to establish effective strategies to meet their objectives. Kim is also a voting member of PNC's Institutional Investment Policy Committee (IIPC).

Kim's industry experience dates back to 2004 and prior to assuming her current position, Kim was a senior product specialist for asset liability management. Previously, Kim also served as a pension risk strategist with Northern Trust's outsourced chief investment officer group and held positions with Aon Hewitt Investment Consulting and Mercer.

Kim earned a Bachelor of Science degree in actuarial science and finance from the University of Illinois at Urbana-Champaign. She has earned the Chartered Financial Analyst[®] designation, is an Enrolled Actuary, and is a Fellow of the Society of Actuaries.

Firm start: November 2016 | *Industry start:* June 2004

Adam Hickman, ASA
Asset Liability Research Director

Adam is an asset liability research director for PNC IAS. He is responsible for supporting business initiatives and services for pension plans, including the creation of asset liability modeling studies and the design of liability-driven investing strategies.

Adam has more than 12 years of experience in the actuarial and investment consulting industry, and he has specialized in measuring and managing risk for defined benefit pension plans using actuarial consulting and quantitative analysis. Previously, he served as a senior consultant within Delegated Investment Program Management for Aon Hewitt Investment Consulting where he oversaw investment programs for ERISA 3(38) Fiduciary Model clients.

Adam earned a Bachelor of Science degree in actuarial science from the University of Illinois at Urbana-Champaign and holds the Associate of the Society of Actuaries designation.

Firm start: August 2017 | *Industry start:* June 2006

C: CLIENTS / REFERENCES

1. Provide a list of current municipal government investment advisory clients. Designate Defined Benefit (DB) and Defined Contribution (DC) plans.

PNC IAS provides services to a broad range of institutional client types and sizes. As of March 31, 2019, we provide investment management services to 154 public fund clients, including 93 defined benefit plans. Due to our confidentiality policies, we do not provide complete client lists. Below is a partial list of clients, which is intended to show a sample.

Defined Benefit Public Funds	
Allen Park, MI	Riverview Employee Retirement System, MI
Gibraltar, MI	Wilkes-Barre, City of, PA
Kentucky Higher Education Assistance Association, KY	Woodhaven Employees Retirement System, MI
Meridian, MI	

Clients have provided written consent to PNC IAS to use their name in the list. It is not known whether the listed clients approve or disapprove of PNC IAS or the services provided. Performance results were not a factor in producing the list.
Data as of December 31, 2018

2. Attach list of references of three (3) municipal investment advisory client references. Indicate the municipality, address, contact name, and telephone number or email address. In addition, provide the number of years your firm has been providing investment advisory services.

Included below are a sampling of our municipal investment advisor clients who you may contact for references.

Allegheny County Deputy Sheriffs

Client Since: 1999

Barbara Sparrow, Chairman of the Pension Committee

P.O. Box 99968

Pittsburgh, PA 15233

412-350-4709 | b.jsparrow@verizon.net

Coraopolis Police, Non-Uniform, and Water & Sewer Authority Pensions

Client Since: 1975

Raymond McCutcheon, Borough Manager

1301 4th Avenue

Coraopolis, PA 15108

412-264-3002 | manager@coraopolispa.com

Moon Township Police Pension

Client Since: 1973

Dawn Lane, Township Manager

1000 Beaver Grade Road

Coraopolis, PA 15108

412-262-1700 | dlane@moontwp.us

This list of client references is considered confidential and proprietary information and cannot be reproduced or used for any purpose without the express written consent of PNC Bank.

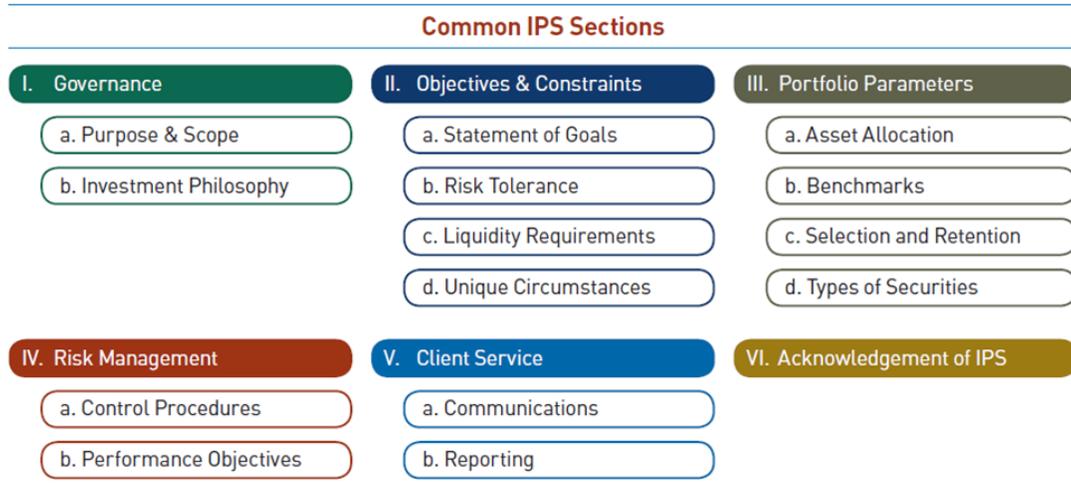
D: PROCESS

1. What is the firm's process for setting client objectives and developing the Investment Policy Statement (IPS)?

Your investment advisor, Steven Shapiro, CFA[®], will continue to work with you to make sure your investment objectives are accurately represented in your investment policy statement (IPS).

To begin our process for your Employee Defined Benefit Pension Plan, the Township will receive a whitepaper guide to developing a robust IPS for defined benefit plans and a sample template IPS. The template is intended to be used as a starting point for further discussions with your legal and accounting advisors, and board/investment committee to help customize the template to your organization's investment program. After agreeing on guidelines, Steve will work to develop and recommend a custom portfolio strategy that aligns with your objectives and constraints. The Township and PNC IAS will sign the IPS and incorporate it as the guide to manage your investment program.

Common sections developed in the process include:



At the Township’s onsite quarterly meetings, PNC IAS will continue to evaluate your IPS to confirm it aligns with your Plans’ goals and objectives. More formal and comprehensive reviews of the Township’s IPS occurs at least annually, more frequently if market conditions or organizational changes warrant immediate review.

The Discipline to Succeed whitepaper is included in [EXHIBIT II](#).

2. Describe the process for developing an asset allocation recommendation.

The Township’s unique liability structure is an integral part of our investment process and analysis. We will continue to leverage the experience of the Township’s actuary by working directly with them to gather all the actuarial data requirements and policy information to reflect in our recommendations. By working with your actuary, we can help the Township evaluate the strategy’s impact on the Plans’ future contributions, funding levels, and liquidity metrics.

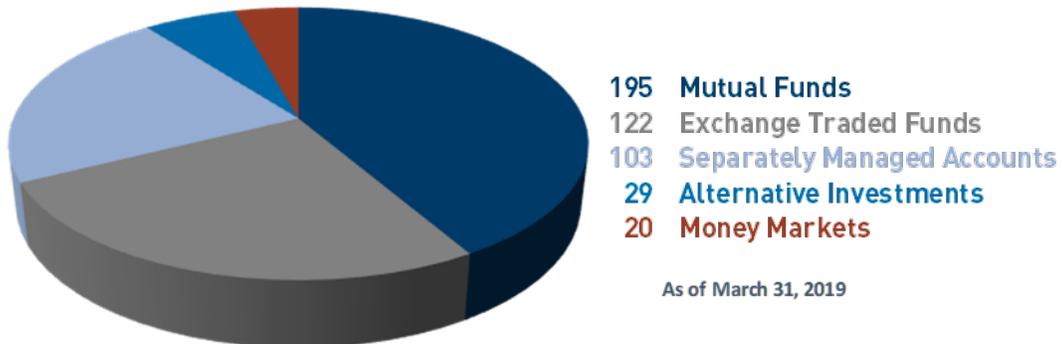
The goal is to help the Township achieve funding objectives while limiting or reducing downside risk and volatility of the fund’s asset levels. By reflecting the Township’s unique liabilities, cash flows, funding policy, and other risk/return considerations, we can accomplish this.

3. What type of investment vehicles does your firm use (individual securities, mutual funds, ETFs, CITs, Separately Managed accounts)? Please list all that apply.

Unlike some of our competitors, the Township will have access to an open architecture platform of investment options – with no proprietary fund requirements. Our universe begins with approximately 9,100 separate account managers, 26,900 mutual funds, 2,300 ETFs, and a growing number of alternatives, as of March 31, 2019. Through a variety of screens, this universe is narrowed to a much smaller collection of carefully selected investment vehicles. Our thorough selection and monitoring process is designed to help the Township make sure you have the right products for your specific return needs and risk tolerance.

The number of available vehicles changes as PNC IAS continually reviews the options. IAR maintains and provides customized solutions through a diverse group of quality proprietary and nonproprietary managers, representing different styles and risk profiles, including both active and passive strategies, in order to help fulfill the Township’s specific needs.

Our platform currently has approximately:



4. Please describe how your firm sets the overall asset allocation for your defined benefit plans. Please describe in detail this process and then how each of the sub-asset classes and their investment weightings are determined.

Finding the optimal balance between return and risk is always a key factor in choosing the appropriate asset allocation and overarching investment strategy to meet your goals and objectives. What makes this exercise important for defined benefit plans, but also challenging in today’s environment, is the trend of declining forward investment returns. The Township needs to consider what level of investment returns are realistic/achievable (or not) over the foreseeable future and what other adjustments might need to be made, as a result, to meet their benefit obligations.

With this as the backdrop, our in-house Investment Strategy team conducts extensive analysis to design/develop customized portfolio solutions specifically for public defined benefit plans. Your investment advisor, Steve Shapiro, will continue to work closely with the Township to determine an appropriate strategic asset allocation as the starting point for the Employee Defined Benefit Plan and then overlay your Plan's unique IPS to develop a custom asset allocation.

Research shows asset allocation is one of the primary factors in determining long run portfolio performance. From the onset, positioning is crucial for the Township's Plan to have long-term success. As market conditions change and investment opportunities evolve, tactical shifts are necessary to provide a dynamic opportunity set for your portfolio to capture.

Additional information regarding asset allocation for public pension plans is included in the [A Guide to the Strategic Public Pension Portfolios](#) whitepaper, attached as [EXHIBIT III](#).

5. Please describe how you make changes to a fund's asset allocation as well as changes to the sub-allocations used.

Strategic and Tactical Allocations: PNC IAS believes in strategic asset allocation for your portfolio. We make our strategic recommendations using 30-year capital market assumptions and are confident that our recommendations will continue to help the Township meet your investment goals and objectives.

Regarding the strategic baseline allocation, we will not make frequent changes. However, for tactical changes, we will make moves when opportunities present themselves. We look to the business cycle as a bellwether to measure the market through three lenses: fundamentals, valuation, and technical factors.

Tactical shifts are most likely to occur when we think the economy is in the contraction or recovery phases; typically, due to the larger performance dispersion among asset classes in those periods.

It is important to note that tactical recommendations are not market timing. Tactical shifts to overweight or underweight asset classes are based on a fundamental assessment of the outlook for that asset class, not on charting technical strength (momentum) in an attempt to time market price changes.

Ongoing Monitoring: PNC IAS will continue to monitor the portfolio throughout the year. On an annual basis, we repeat discovery to confirm the recommendation remains appropriate to the plan situation.

The review includes:

- Plan sponsor financials
- Business cycle analysis
- Manager due diligence
- Independent risk management
- Asset allocation
- Daily compliance monitoring
- Update actuarial liabilities
- IPS re-evaluation
- Monitoring industry trends

Both your investment advisor and our internal portfolio management system monitor your investment portfolios daily. If an asset class breaches the established range or a targeted variance, Steve Shapiro will rebalance the portfolio to our tactical targets and within the ranges specified in your investment policy guidelines.

6. Describe your Due Diligence Process utilized in Money Manager Selection.

The Township will continue to receive access to a broad universe of investment choices across the spectrum of asset classes and styles. Before executing your portfolio, our dedicated Investment Advisor Research (IAR) team puts every investment through the following process:

Proprietary Quantitative Analysis	Qualitative Research
<ul style="list-style-type: none"> ▪ Multiple layers and views – holdings based, returns based and factor exposures to separate skill from style ▪ Data-driven risk and return analysis relative to performance expectations ▪ Tail behavior and regimes 	<ul style="list-style-type: none"> ▪ Holistically assess the manager and strategy across six categories and forty one subcategories <ul style="list-style-type: none"> • Organization • Philosophy • Portfolio & Risk • People • Process • Performance ▪ Analyze every stage of the investment process and portfolio management to ascertain the likelihood of future outperformance and risk control
Operational Due Diligence	Peer Review
<ul style="list-style-type: none"> ▪ Minimize the chance that an investment will suffer from significant capital loss, mispricing or fraud due to operational issues ▪ Verify existence of appropriate checks and balances to mitigate the risk of errors and fraud ▪ Verify accuracy of reports for ongoing monitoring ▪ Confirm infrastructure and executional procedures are properly managed to support investment strategy ▪ Identify compensated and uncompensated risks ▪ Convey analysis and as needed exercise veto power 	<ul style="list-style-type: none"> ▪ Built into our selection and monitoring process to promote dialogue, challenge, and free flow of ideas and insights to help make the prudent investment decision ▪ Serves to combat behavioral biases such as anchoring and confirmation bias ▪ Mechanism to maintain a high research standard and intellectual honesty

IAR combats the challenges that pairing the right manager to each portfolio can present, and ultimately protects your organization's long-term financial wellbeing. Each analyst is a specialist in their area of experience, many holding postgraduate degrees and/or certifications. This team is essential to the peer review stage.

The platform includes investment strategies that have different investment approaches and return characteristics. This provides the

building blocks to create customized portfolios for your organization's unique situation.

Each search begins with an investment objective that specifies the sub-style or investment approach sought. IAR applies *quantitative metrics* to the appropriate investment universe to rank each strategy based on the relevance to the investment objective. For example, if the client seeks a defensive, valuation-conscious manager, quantitative metrics that focus on downside protection and performance in down market periods would likely be used.

The ranking used produces a focus list subjected to *qualitative research* as a second layer of review. The qualitative assessment shows the manager's investment philosophy, process, and leadership to provide context for the performance.

Next, *operational due diligence* is conducted on the manager as a third layer of review. We confirm the existence of appropriate checks and balances to mitigate the risk of errors and fraud. The operational due diligence step also determines whether the infrastructure and procedures are adequate and properly managed.

Once the manager passes the quantitative, qualitative, and operational due diligence screens, the manager undergoes a final *extensive peer review*, conducted by IAR. During the peer review, IAR engages in a vigorous debate intended to combat behavioral biases. In the final step, the Investment Advisor Research Committee (IARC) holds a formal vote to confirm or deny the manager's addition to the platform.

Our manager research analysts are knowledgeable in their respective asset classes. They maintain frequent contact with each manager on our platform, reviewing the performance, team, and investment process. This ongoing level of scrutiny confirms managers continue to invest in-line with your organization's expectations.

IAR Stats

- 27 members
- Total postgraduate degrees and certifications: 12 CFAs, 5 CAIAs, 4 FRMs, and 8 MBA/MS
- Three subteams: Operational Due Diligence, Alternative Strategies, and Traditional Strategies
- Responsibilities are divided by asset class and geography

As of June 30, 2019

a. Describe your overall philosophy in conducting investment manager research.

INVESTMENT PHILOSOPHY

The following beliefs are the foundation of our investment philosophy:

Based on experience, historical evidence, and an understanding that markets are not perfectly efficient and changes occur in systematic, but imperfectly predictable ways, PNC IAS believes:

- Attention to both the asset and liability sides of the equation are essential to keep a pension in balance and on track
- Rigorous analysis and a disciplined, repeatable process enable us to seize investment opportunities and add value
- Clear and systematic decision-making promotes consistency
- Decisions that incorporate a profound understanding of global conditions and geopolitical events are more likely to produce favorable results

SELECTION AND MONITORING OF INVESTMENT MANAGERS

The Investment Advisory Research Committee (IARC) is solely dedicated to the selection and monitoring of investment managers spanning mutual funds, separately managed accounts, alternative investments, and exchange traded funds. This team takes a multidimensional approach that evaluates both quantitative and qualitative factors we believe are critical to identifying the potential of an investment manager over time. The team does not rely on a synthetic performance-based methodology that has little merit or miniscule success of predicting future performance behavior. Rather, we have identified six different areas of an organization that we believe, after careful scrutiny and analysis, will yield high quality investment management firms that can deliver superior future results within their specific areas of experience.

These six areas are not mutually exclusive, but rather interconnect over time:

1. Organization
2. Philosophy
3. Process
4. People
5. Portfolio and Risk
6. Performance

Before they can be included on our platform, each candidate must go through a formal due diligence process, which includes an analysis of quantitative and qualitative factors.

The first phase of analysis is generally quantitative in nature. A manager database is filtered to identify managers that have demonstrated the ability to provide attractive investment performance and risk characteristics over time for each asset class. Once attractive candidates are identified on a quantitative basis, the qualitative assessment begins. Examples of qualitative criteria also are provided in the chart below. Once attractive candidates are identified, it is then incumbent on the IARC to approve or disapprove the offerings recommended to the committee by Investment Advisor Research (IAR) for potential inclusion on our platform.

Examples of quantitative and qualitative criteria are summarized below:

Quantitative Items	Qualitative Items
Rolling 3- & or 5-year Returns Rolling 3- & or 5-year Sharpe Ratios Rolling 3- & or 5-year Standard Deviations Rolling 3- & or 5-year Correlations relative to an index Annual Returns Quarterly Returns Rolling 3- & or 5-year Alphas relative to an index Rolling 3- & or 5-year Betas relative to an index Upside/Downside Capture Ratios Fund's weighted market-capitalization over time Fund's average market-capitalization over time Historical turnover/tax-efficiency	Assessment of portfolio manager skill and team stability Overall experience of investment professionals Review of the investment process Determination of process adherence over time Review of fund characteristics such as P/E, P/B, top holdings, etc. Review of sell process Organizational size, structure, reputation Review compliance record/historical legal issues, on-going litigation Review compensation and incentive structure for investment professionals Expense ratio

When a manager is selected for the PNC IAS universe, internal performance expectations are established. This aids in measuring and evaluating investment managers going forward.

From a qualitative perspective, quarterly questionnaires are sent out to our various investment options to capture any changes to the structure of the organization and changes in investment professionals, while also asking for updates on legal and compliance issues.

The purpose of the ongoing due diligence process is to determine whether selected investment options continue to fit within the framework of the Township's investment policy objectives and obligations. Any changes to our platform of investment options are communicated in a time sensitive manner.

As part of the ongoing due diligence, we continue to review and monitor the manager to see that it remains an attractive investment option. When a change occurs that might affect the manager's ability to meet the Township's goals (e.g., a chosen manager's style falls from favor or a firm departs from its established investment discipline), we evaluate the potential effect and report it to you.

Managers may be removed from the platform for either performance-related or qualitative issues.

b. What database is utilized to monitor and evaluate investment managers' performance for the purpose of manager selection.

PNC IAS subscribes to several industry databases while also maintaining our own proprietary database. The Morningstar® database is maintained daily and remains one of the most comprehensive with more than 375,000 investments including mutual funds, separate accounts, ETFs, money market funds, and hedge funds. We also use Lipper data for mutual funds, in particular for their peer universes to help make appropriate comparisons (e.g., Large Cap Growth, Large Cap Value, etc.). These databases provide extensive historical performance data and are accessed through our analytical tools, Morningstar DirectSM and FactSet®, which enable us to perform in-depth quantitative analysis.

For separate accounts, in addition to the Morningstar database, we also use the PSN investment manager database, which is an independent supplier of comprehensive separate account data. Each of these providers has extensive performance history and significant experience in developing and maintaining their respective databases. With both of these databases, we believe we can access virtually any manager that reports their respective performance information to a data provider. Performance is updated monthly or quarterly, depending on the manager, and we are able to access this information through our analytical systems.

For hedge funds, we use several databases in order to maximize our coverage. In addition to the Morningstar database, we also access the Hedge Fund Research (HFR) database and the Lipper/TASS® hedge fund database. These databases are also accessed through our analytical tools which enable us to perform robust quantitative analysis. These databases are highly regarded in the industry and provide us with performance information on thousands of different hedge fund and fund of hedge funds. Information in the databases is updated on both a monthly and quarterly basis.

c. Is the database proprietary or third-party? Who is the vendor?

We maintain a proprietary database and subscribe to multiple third-party databases. Refer to our response to [Question b](#) for vendor specifics.

d. How many investment managers are included in the database?

Our universe begins with approximately 9,100 separate account managers, 26,900 mutual funds, and 2,300 ETFs, as of March 31, 2019.

e. How frequently is the investment management information updated, and what are the sources of data?

Performance information is updated daily for mutual funds and ETFs, and weekly or monthly for hedge funds (depending on how frequently the manager chooses to report).

Portfolio holding are updated quarterly for mutual funds and separate accounts.

Refer to our response to [Question b](#) for our sources of data.

With regard to our proprietary database, we upload portfolio holdings of equity separate account strategies daily. This allows us to perform analysis in essentially real time as portfolio transactions are made.

Our proprietary database also contains due diligence questionnaires (updated quarterly), meeting notes, manager newsletters, and other related due diligence information.

f. Describe your firm's policy regarding frequency of on-site manager visits and portfolio manager calls.

We formally review managers every 12 to 18 months to determine if any major changes have been made to the team, the investment process or the organization. We have direct conversations with key investment and client service professionals to determine whether our confidence in a manager remains warranted.

IAR constantly meets with prospective and current investment managers. An analyst typically conducts 3 to 10 meetings per week with investment managers, including prospective and current managers.

IAR analysts conduct on-site visits with investment managers. These meetings typically include key decision makers such as CIOs, CEOs, portfolio managers, and analysts.

IAR holds these meetings to understand all aspects of the organization, including:

- Personnel
- Investment philosophy
- Research and risk management process
- Portfolio construction process
- Operations and legal

For calendar year 2018, IAR conducted approximately 650 meetings. This includes on-site and in-house meetings, as well as conference calls.

g. What policies or procedures do you have in place to ensure objectivity in the evaluation of money managers?

The use of our proprietary investment products is not a requirement of the proposed relationship offered in this proposal, and we will adhere to the requirements outlined in your RFP, which prohibit the use of these.

To further avoid the potential for conflicts, any proprietary investment products are vetted by a third party before the IARC considers adding them to the approved platform.

h. Do you receive any direct or indirect compensation from investment managers to be included in your database?

PNC Bank does not accept, receive, or pay any fees to/from investment managers for the services offered in this proposal. This includes referral or finder's fees, compensation, or other payments.

PNC Bank does not accept 12b-1 fees from mutual funds for accounts where PNC Bank serves as a discretionary investment manager. PNC Bank has agreements with certain mutual funds under which PNC Bank receives recordkeeping and servicing fees for accounts where PNC Bank is either a discretionary or nondiscretionary investment manager.

Refer to [EXHIBIT IV](#), the PNC Affiliated Compensation Disclosure Grid.

7. If you have a recommended funds list, please provide details regarding the list and the process for maintaining it.

PNC IAS provides access to a broad universe of investment choices across the spectrum of asset classes and styles. Whether financial goals dictate a conservative, moderate, or aggressive approach to investing, we are prepared to direct investments to meet the Township's needs. We use independent investment managers screened by our team of analysts, with the reassurance of ongoing due diligence.

Our universe begins with approximately 9,100 separate account managers, 26,900 mutual funds, and 2,300 ETFs, as of March 31, 2019. Through a variety of screens, this universe is narrowed to a much smaller group of carefully selected investment vehicles. Our thorough selection and monitoring process helps fiduciaries make sure they have the right products for their specific return needs and risk tolerance.

Our platform has 104 separate account managers and 192 mutual funds, as well as exchange-traded products, individual securities, and a broad menu of alternative investments.

As of March 31, 2019

The number of available vehicles changes as we continually review the best options. Criteria and process for selection of individual securities and the number of individual securities held, varies greatly depending on the manager and strategy selected.

8. Give an overview of your firm's approach and criteria for placing a manager/fund on a Watch List.

When a change occurs that might affect an investment manager's ability to meet our clients' goals (e.g., a chosen manager's style falls from favor or a firm departs from its established investment discipline), PNC IAS evaluates the potential effect and will report it to the Township.

When situations arise, we may place an investment option on *watch*, *hold*, or *sell* status depending on the severity of the concern. Generally, investment managers will be placed on watch, hold, or sell when:

- Key investment personnel depart
- Strategy is experiencing unexplainable difficult performance over an extended period
- Ownership structure changes
- Investment process is altered
- Style drifts

Our goal is to make timely, well-founded investment decisions that consider all relevant information in order to draw the best possible conclusions for our clients.

9. Describe how your firm handles the termination of an investment firm.

The *sell* status is applied to a manager when a critical factor(s) related to the firm, people, philosophy/process, portfolio, or performance, taken in aggregate, causes a heightened or immediate concern regarding the manager or strategy and requires immediate action by the IARC. In such an instance, the IARC would not deem that investment option or strategy appropriate for clients to use unless at the client's discretion. In addition, once an investment option has been rated a sell, it will no longer be monitored by IAR.¹

¹ Illiquid products will continue to be monitored until such time as clients have had the opportunity to redeem substantially all of their capital. An example of illiquid products would be investments in a private vehicle for which redeeming the assets invested may take place over the course of several quarters or even years due to the liquidity provisions of the vehicle and liquidity of the underlying assets.

In the event of a sell recommendation, the IARC will attempt to provide another investment recommendation within the respective asset class. This effort will attempt to find what would be an appropriate investment to fill the gap left by the terminated investment option. The IARC would not force advisors to place their clients in the recommended replacement, but rather would offer it as a recommendation as what it believes to be the best fit given the previous product's investment philosophy and process.

Protecting client assets is paramount. Our goal is to make timely, well-founded investment decisions that consider all relevant information in order to draw the best possible conclusions for our clients.

10. Does your firm practice tactical or strategic asset allocation?

PNC IAS believes in strategic asset allocation for your portfolio. We make our strategic recommendations using 30-year capital market assumptions and are confident that our recommendations will help the Township meet your investment goals and objectives.

While we focus on long-term objectives, we are holistic in our approach. One of the most important messages in taking a dynamic view of the investment world is that the line between strategic and tactical breaks down.

Regarding the strategic baseline allocation, we will not make frequent changes. However, for tactical changes, we will make moves when opportunities present themselves. We look to the business cycle as a bellwether to measure the market through three lenses: fundamentals, valuation, and technical factors.

Tactical shifts are most likely to occur when we think the economy is in the contraction or recovery phases; typically, due to the larger performance dispersion among asset classes in those periods.

It is important to note that tactical recommendations are not market timing. Tactical shifts to overweight or underweight asset classes are based on a fundamental assessment of the outlook for that asset class, not on charting technical strength (momentum) in an attempt to time market price changes.

11. Describe your firms approach to the use of index funds.

Index funds and ETFs are included in our screening process. As of March 31, 2019, we screen more than 9,100 separate account managers, 26,900 mutual funds, thousands of exchange-traded and index funds, and alternative investment products to find the best investment options for your portfolio.

Both active and passive types of investment strategies are blended together in a single portfolio. Typically, passive products make more sense in more efficient markets, and active products are more effective in less efficient markets.

The Township need only look at the marketplace to see that both active and indexed products have found a place in investment portfolios. PNC IAS' view is that investors should use an investment product with a goal or purposes in mind, taking into account the different risks, benefits, and costs inherent in each.

12. Describe your firms approach to the use of alternative investments.

Depending on your specific needs, we provide access to a variety of alternative investments, which include the following:

- Hedge funds
- Fund of funds
- Private real estate
- Private equity and credit
- Commodities
- Natural resources

Primarily, we add alternative investments into your portfolio as a means of diversifying risk, enhancing returns, and reducing overall portfolio volatility. We customize each alternative recommendation to best suit your investment objectives, while considering your unique liquidity needs.

PNC IAS has access to multiple providers of alternative asset partnerships across hedge fund strategies and private equity, debt, and real estate. In many cases, we have negotiated lower minimum investments than are generally available. This allows clients to access partnerships through PNC IAS that might otherwise not be possible. In addition, we have relationships with several alternative investment managers whose funds are no longer accepting new investments except from existing investors. Our clients benefit by being able to access these managers via their relationship to PNC IAS and our status as an existing investor.

More importantly, we provide independent advice on alternative investments based on your organization's specific investment objectives and our knowledge of your overall portfolio. We do not simply recommend products; instead, your investment advisor will work closely with the Township and our investment team to identify alternative investments that best meet your specific situation and existing portfolio.

E: PERFORMANCE MEASUREMENTS / ONGOING REVIEW

1. Explain the methodology and data sources used to compute investment manager rates of return and portfolio rates of return. How are fees incorporated into the returns?

The performance system uses the Modified Dietz methodology to compute investment management rates of return. Trade date accounting, income accruals, and daily-weighted external cash flow methodologies are incorporated. Assets are priced daily, and performance is calculated on a daily basis, although performance reports are primarily run on a monthly basis. Performance is calculated both gross and net of fees.

Our performance reporting software uses account level fee information to determine net-of-fee returns for a given portfolio. We can provide performance both gross and net of fees, based on the Township's preference.

2. Do you reconcile your calculated performance with investment managers and custodians? Describe the process.

IAR maintains a rigorous review of managers on our platform. IAR also weighs the managers against specific benchmarks and peer groups with consideration of performance expectations for a given product relative to the market environment.

Performance reports are actively monitored and verified by an in-house team of experienced performance analysts and your dedicated investment advisor. A monthly quality control auditing process verifies the accuracy of each account's results.

3. What performance benchmarking do you provide on a fund and portfolio level? Describe how benchmarks are chosen or developed.

Our Investment Advisor Research Committee (IARC) assigns each investment option on our platform a respective benchmark for comparing performance and other metrics, such as standard deviation, alpha, beta, etc.

Through our due diligence process, we learn how a manager seeks to add alpha over time, and understand the opportunity set from which the manager generates alpha. We then assign the most appropriate benchmark, and base future evaluations against that benchmark and relevant peer group.

Our benchmark for a manager often coincides with their chosen benchmark for a strategy. However, occasionally we find that a manager selects or changes their benchmark in order to make their performance look more compelling. Our own due diligence process enables us to determine what we believe is the most representative index for a manager's given strategy.

As we develop the Township's IPS, specific portfolio benchmarks are established for the total fund, equities, fixed income, cash equivalents and alternative assets.

4. What steps are used to monitor risk, style integrity, manager guideline compliance, account restrictions, etc. of the investments?

IAR developed a comprehensive framework to assess the level of success a manager has experienced and may experience over time. This methodology does not simply review a performance figure at a point in time to judge success, but rather incorporates a multidimensional approach. It is our belief that this multidimensional approach will provide a comprehensive perspective that will enable us to evaluate the manager properly over the long term.

We layer our universe with equity, fixed income, and fund of funds categories to appropriately classify managers and assign what we believe are the most accurate benchmarks for comparison purposes. For example: we segment U.S. equities into seven distinct categories across the market capitalization spectrum; while in fixed income, four different maturity classifications have been established, with an additional focus on duration management and tax status.

Once managers have been properly classified, a rigorous portfolio review is conducted and measured against benchmarks, peers, and our expectations. We prefer to analyze managers over rolling five-year periods, which generally incorporate both bull and bear market environments. Rolling one-year time periods are reviewed as well, to highlight potential warning signs such as:

Has the manager engaged in style drift over time to capture good performance?

Has the manager changed the stated benchmark over time to appear more competitive?

Various quantitative methods are used to analyze style drift, including both holdings-based and returns-based style analysis. IAR also tries to understand a manager's philosophy and process to set performance. For example: some managers employ strategies with less constraints, which may make them more difficult to put into a particular style box, while other managers may be more style pure. Consistency of style is assessed through the lens of strategy expectations, given a detailed and thorough understanding of the particular strategy. This review is done on an ongoing basis for each of the managers on our platform.

5. How many business days after the end of a reporting period are the performance reports available? Can the reports be customized?

Performance reports are provided typically to clients on the 10th business day of each quarter depending on the complexity of the account; however, they can also be provided monthly or annually.

Yes, performance reports are flexible in nature, including the information most valuable to your specific needs.

6. Provide a sample quarterly client report and a sample monthly performance update.

Refer to [EXHIBIT V](#) for the most recent performance (client review) report presented to the Township.

7. What do you believe sets your performance measurement services apart from the competition?

FLEXIBLE AND TIMELY

Performance reports are flexible in nature, including the information most valuable to your specific needs. PNC IAS reports portfolio performance and individual manager performance against benchmarks. Performance reports are provided typically to clients on the 10th business day of each quarter depending on the complexity of the account; however, they can also be provided monthly or annually.

ACCURATE

Performance reports are actively monitored and verified by an in-house team of experienced performance analysts and your dedicated investment advisor.

8. Please provide performance returns for an account that would be similar in size to Upper St. Clair Township. Please provide calendar year annual returns, net of fees ending 2018. We understand that all municipal pension funds are different, but we would like to see in a performance report the returns of a fund that you are currently consulting for. This report could be used to answer question E6.

Refer to [EXHIBIT VI](#) for the Township's performance report for periods ending December 31, 2018.

F: ADMINISTRATION

1. Who will have primary responsibility for servicing our account?

Your *investment advisor*, Steven Shapiro, will continue to serve as your primary contact, managing your Plans and relationship while also coordinating the extended efforts of your service team.

Your *fiduciary advisor*, Lori Kinzler, will continue to serve as your single point of contact for the administrative and operational activities for your accounts.

2. Explain how the firm will provide administrative support for the account. What responsibility will the Township have when it comes to authorizing recommendations, transactions, rebalancing, etc.?

To help ease some of The Township's administrative burdens, PNC IAS has a number of back-office support personnel. These individuals include fiduciary advisors, custody specialists, and settlement specialists, among others, working seamlessly on your behalf. Your fiduciary advisor, Lori Kinzler, serves as your primary day-to-day contact for inquiries that involve transactions, statements, account documentation, bills/invoices, and online capabilities. She navigates the full internal operational resources of PNC IAS to enable a seamless delivery of services.

As your discretionary investment advisor with custody, the split responsibilities are:

The Township:

- Maintain oversight of the investment program
- Authorize and approve changes to the IPS, as necessary

PNC IAS:

- Implement and comply with the IPS
- Assist in the construction / revision of the investment policy and guidelines (with board approval)
- Recommend asset classes and asset allocation ranges / targets
- Seek return within acceptable risk parameters
- Provide capital markets / asset class information as needed
- Rebalance the portfolio, as appropriate
- Generate desired performance reports
- Retain / dismiss investment and money managers for the portfolio
- Attend regular meetings and reviews
- Provide educational materials to the board, committee, and staff
- Specifically as custodian:
 - Safekeep assets
 - Settle trades
 - Account for investment income received with respect to assets
 - Disseminate account statements
 - Provide book of record, audit, and tax information



3. Describe your firm’s approach to benefit payment administration

As you know, PNC IAS provides a broad array of benefit payment services. PNC processes both checks and direct deposits for monthly pensioners, as well as lump sum distributions throughout the month. The Township can continue to request payments via a secure on-line portal with approval process built into the system. All state and IRS tax filings are prepared on the Plans’ behalf. Monthly reporting packages will continue to be available to the Township via a secure system. The Township’s participants have access to a live, toll-free client service line, 8:30 a.m. – 5:00 p.m. ET, Monday through Friday for any payment inquiries.

Benefit disbursement services include:

- Issuance of checks to eligible participants and beneficiaries as directed by plan sponsors
- Toll-free, live client service line available 8:30 a.m.– 5:00 p.m. ET, Monday through Friday
- 24-hour voicemail
- Electronic funds transfer (EFT) direct deposit
- Secure online access to participants' synoptic and payment data
- Federal and state tax withholding and reporting
- Quarterly death audit

4. Is this included in your services? Does your firm provide this service or is it outsourced to a third party?

Yes, PNC Bank provides pension benefit disbursements services in house – and will continue to provide these services to the Township. No disruption will occur to your pensioner’s payments during the transition.

5. Please describe the procedure the Township would follow to setup new payments or modify existing payments

The Township will continue to have access to our robust benefit payment system. Payments – including pension, lump sum and invoice payments – are setup and maintained in PNC’s I-HUB online system. For multiple payments, a Microsoft Excel spreadsheet can be uploaded to Benefit Processing. Power of Attorney, direct deposit, and tax withholding forms can also be uploaded to the system.

Using the secure on-line portal I-HUB, a user can:

- Create new Lump Sum and Pension Setup individual requests or high volume requests from a spreadsheet
- Process requests on existing participants by selecting the payee or tax ID:
 - Change participant information
 - Request a check copy
 - Request a tax form
 - Request a stop payment on a check
- Find previous requests by using the Search feature or Filter functions
- View To Do (actions required), My Requests (all requests for user), Institution Requests (all requests by all users at organization) for the past 18 months
- Sidebar provides:
 - submission deadlines
 - fax number
 - mailing address

In addition, the Township can continue to use PayWeb, a secure, online system that allows you and your designee’s inquiry access to view participant and payment information. A Monthly Report Package is also available in PayWeb to view online or download into Microsoft Excel or Adobe Reader format.

G: FEES

In the fee summary chart below, itemize and explain ALL proposed fees and costs (both direct and indirect) associated with requested services. Failure to disclose all fees for a full retainer basis (including all internal fees and fund expenses) will result in disqualification of the firm's proposal.

- Fees should be based on 2 accounts totaling \$28.5 Million
- Benefit payment cost should be calculated using the current number of participants in pay status.

Upper St. Clair Township

Request for Proposals – Pension Funds Investment Management Advisory Services Fee Summary for __PNC Bank

The following is a list and explanation of all proposed fees and costs (both direct and indirect) associated with our proposed services.

Description	Fee (basis points)	Fee (in dollars)	Explanation/Formula
Investment Advisory	0.50% on \$10MM 0.35% on \$10MM 0.30% on \$8.5MM	\$110,500	<i>How many in-person meetings are included in this fee?</i> Quarterly in-person portfolio reviews are included in this fee.
Fund Expenses Individual funds & manager fees	0.31%	\$100,163	The fee in basis points is based on the current Upper St. Clair Police Pension portfolio. The fee in dollars assumes the same portfolio, but is based on total combined assets of \$28.5MM for both plans.
Custodial Direct Cost for services & projected transactional fees	FREE	FREE	Custody services are included in PNC IAS' investment advisory fee if PNC IAS has investment management of the funds.
Benefit Payment Administration For services and transactions	Lump sum payments: \$25 per payment Periodic payments: \$2 per payment, plus post Tax Reporting: \$1 per 1099-R, plus post State Withholding: \$100 per state Stock Distributions: \$25.00	Periodic payments: \$840 (annually) Tax Reporting: \$35 (annually) State Withholding: \$100 (annually)	<i>Are 1099-R forms included?</i> PNC is assuming 35 pension payments monthly for this calculation. The fee in dollars is represented on an annual basis. For the state withholding fee, we are assuming all pensioners live in the state of Pennsylvania.
Other Potential Fees	Account Maintenance Fees: \$500.00 per account	\$1,000 (annually)	Fees associated with administrative work done for the account(s).
Total Annual Fees		\$212,638	

H: TRANSITION

1. Please describe the transition process for investment advisory, custodial, and benefit payment administration

Since the Township already uses PNC Bank's custodial and benefit payment administration, no conversion of these services will be required. The Township can simply sign an investment management agreement with us for the Employee Defined Benefit Plan, and we can begin investment advisory work on this Plan the same day.

2. What responsibilities will the Township have?

You can count on your PNC IAS team to guide you through any necessary steps. We will need you to complete and sign the applicable agreement.

3. Are there any one-time cost associated with the transition? When would your firm begin charging advisory fees?

No, costs associated with the conversion are absorbed by PNC Bank.

The Township currently pays investment management fees to PNC IAS for the Police Pension Plan and would begin paying investment management fees when we assume investment discretion over the Non-Uniform Pension Plan assets to which we already serve as custodian.

4. Provide a timeline of the steps and length of time from when the contract is awarded until the time when assets transfer and benefits payments can be issued.

Not applicable. Refer to our response to [Question 1](#) above.

I: SUMMARY

What do you believe sets the firm's services apart from the competition, and what unique value-added services could your firm provide?

The Township will find we stand apart specifically for you by:

- Offering all of your desired services under one roof: investment management, custody, and benefit payments
- Continuing to provide you with a team who you know and trust and who knows and understands your Plans and goals
- Going above and beyond as an extension of your staff as we did for the research and transfer of the Principal stock in 2015 and connecting you with another township as you initiative your Police Pension DROP program.
- Eliminating the hassle of an asset and benefit payment conversion
- Having a no proprietary fund requirement
- Sharing public pension insights from our in-house Pensions Solutions Group

Clients have also told us we stand apart by:

Our Commitment to Clients

We are committed to building a relationship with you, understanding your investment goals for your Plans, and delivering powerful financial knowledge to help you achieve your goals. One way we accomplish this is by providing access to our Pensions Solutions Group.

In order to understand your goals, your PNC IAS service team will continue to welcome any opportunity to meet with the Township to provide updates and actionable insight as you carry out your fiduciary responsibilities.

In addition, we regularly survey clients about their experiences and develop ideas and opportunities to exceed your expectations.

Integrated Approach® , featuring a rigorous manager selection and monitoring process controlled by our internal group, IAR

As the Township's trusted advisor, where you turn for advice and additional solutions, everything we do starts and ends with you in mind. Our consultative approach distinguishes us in the marketplace. Over our seven-year relationship, your team has listened to the Township's key objectives and incorporated this into your portfolio. Armed with this experience and keen insight into your unique needs, we are able to provide thoughtful, customized solutions for your Plans.

Our Integrated Approach is based on seasoned, professional advice; a disciplined, consistent process; ongoing management; and exceptional service. This approach was designed to assist your organization with obtaining the maximum benefits from its assets. The Township also will continue to enjoy access to leading investment managers, often at reduced minimum investment levels and/or fees relative to standard options.

Risk Management Process, identifying and monitoring credit, market, and operational risk

PNC IAS has a business risk management process in place that is responsible for measuring, monitoring, and reporting business risk, including credit, market, and operating risk. Included in the measurement of operating risk is the review of any transactional or risk issues that could affect the Township.

This process has identified risks resulting from the nature of the services provided. We have implemented various measures designed to manage these risks. Risks identified in this process include:

- Credit risk associated with, among others, security issuers and security settlements
- Market risk associated with the timely and accurate execution and/or settlement of trading activities
- Operating risk associated with computerized information systems; manual processes involved in transaction processing; and external systems (e.g., depository interfaces)
- Legal, compliance, and regulatory risk associated with acting on behalf of clients

Armed with these benefits, the Township can look to PNC IAS for the investment management, custody, and benefit payment services you desire – all delivered by your familiar and local team. Together, we can continue to work toward your Plans' goals.

DISCLOSURE

The PNC Financial Services Group, Inc. ("PNC") uses the marketing name PNC Institutional Asset Management® for the various discretionary and non-discretionary institutional investment, trustee, custody and related services provided by PNC Bank, National Association ("PNC Bank"), which is a **Member FDIC**, and investment management activities conducted by PNC Capital Advisors, LLC, a registered investment adviser ("PNC Capital Advisors"). PNC uses the marketing name PNC Institutional Advisory Solutions® for discretionary investment management, trustee, and related services conducted by PNC Bank. PNC uses the marketing name PNC Retirement Solutions® for investment, consulting, trustee, and custody services for employer-sponsored retirement plans provided by PNC Bank. PNC does not provide legal, tax, or accounting advice unless, with respect to tax advice, PNC Bank has entered into a written tax services agreement. PNC Bank is not registered as a municipal advisor under the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Act"). Investment management and related products and services provided to a "municipal entity" or "obligated person" regarding "proceeds of municipal securities" (as such terms are defined in the Act) will be provided by PNC Capital Advisors.

Investments: Not FDIC Insured. No Bank Guarantee. May Lose Value.

"PNC Institutional Asset Management," "PNC Institutional Advisory Solutions," and "PNC Retirement Solutions" are registered marks of The PNC Financial Services Group, Inc.

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FEE DISCLOSURES

Other Charges and Fees:

Unless otherwise agreed, this schedule is a summary of the fee agreement and is not intended to serve as a binding agreement.

Fees for certain services agreed to by PNC Bank, National Association ("PNC Bank"), whether performed by PNC Bank or its agents, in connection with management of life insurance, closely-held businesses, real estate, large holdings of single stocks, and special assets, such as limited partnerships and oil and gas interests will be separately and additionally charged.

A reasonable additional charge will be assessed for other extraordinary services. Extraordinary services are those not included in the normal course, which are complex, time-consuming or unforeseen.

PNC Bank's standard fee schedule is subject to change from time to time, and any future increases or decreases shall be applied to all accounts subject to these rates.

PNC Affiliate-Advised and Serviced Mutual Funds and Other Investments:

PNC Bank and its affiliates may also receive compensation from mutual fund companies or other financial services providers for advisory and other services to the fund(s). This compensation is in addition to the account-level fee and is set forth in a separate disclosure available from your PNC Bank relationship manager.

You may receive a copy of a mutual fund prospectus by calling your PNC Bank relationship manager.

Mutual fund shares are not deposits or obligations of, or guaranteed or endorsed by, any bank, and are not insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board or any other agency. An investment in mutual funds involves risks, including the possible loss of principal. Investments in money market mutual funds are neither insured nor guaranteed by the U.S. Government, and there can be no assurance that a money market fund will be able to maintain a stable \$1.00 net asset value. The compensation earned by PNC Bank and its affiliates from mutual fund investments is calculated as a percentage of the daily amounts invested in such mutual funds.

For non-ERISA accounts, the Fee on any portion of your account invested in one or more portfolios of mutual funds advised by PNC Bank affiliates (other than money market funds) will be reduced by 15%. There is no reduction of the account-level fee for amounts invested in affiliated money market mutual funds.

Any compensation for mutual fund advisory services (other than for money market funds) paid to an affiliated investment advisor in connection with your account will be credited toward the Minimum Annual Fee listed above.

For ERISA accounts: unless otherwise noted, your account will pay an investment management, investment advisory or similar fee to PNC Bank with respect to your account assets invested in one or more portfolios of mutual funds advised by PNC Bank affiliates. Your account's share of the investment advisory fees paid by such funds will be credited to your account by purchasing additional shares of the same fund.

PNC Bank and its affiliates refers to affiliates of The PNC Financial Services Group, Inc. which provide advisory and/or administrative, omnibus record keeping and other services, and receive compensation from, certain mutual funds and the financial services industry in general.

EXHIBIT I

**EXHIBIT A
APPLICANT VERIFICATION**

I Joyce Frydryck, hereby state that I am the Fiduciary Manager of PNC Institutional Asset Management and I am authorized to make this verification.

I hereby verify that the facts set forth in the foregoing Act 44 Disclosure Form for RFP Applicants seeking to provide Professional Services to the Township of Upper St. Clair are true and correct to the best of my knowledge, information and belief.

I hereby verify that the Firm meets all requirements listed in sections IV and V of this Request for Proposals and is able and qualified to provide the services listed in section VI.

I also understand that knowingly making material misstatements or omissions in this form could subject the responding Applicant to penalties and will result in immediate disqualification of the proposal.



Signature

7-12-19

Date

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL

Contractors: (see "DEFINITIONS FOR DISCLOSURE" on the prior page) Any entity who currently provides or is seeking to provide service(s) by means of a Professional Services Contract to the Municipal Pension System of the Township of Upper St. Clair, please respond completely to all required disclosure items.

The Municipal Pension plan(s) for which you are providing information:

- Upper St. Clair Township General Employees Retirement Plan
- Upper St. Clair Township Police Pension Plan

Following is a list of Township officials and employees with oversight or administrative responsibilities for the aforementioned pension plans:

- Elected Officials: Upper St. Clair Township Board of Commissioners
 - Mark D. Christie – President
 - Nicholas J. Seitanakis – Vice President
 - C. Elise Logan
 - Robert W. Orchowski
 - Daniel R. Paoly
 - Ronald J. Pardini
 - Rex A. Waller
- Appointed Officials and Employees:
 - Matthew R. Serakowski, Township Manager – Pension Plan Administrator
 - Mark S. Mansfield, Assistant Township Manager – Pension Plan Administrative Officer
 - Mark P. Romito, Director of Finance – Pension Plan Administrative Officer

1. Please provide the names and titles of all individuals providing professional services to the Township of Upper St. Clair's pension plan(s) identified above. Also include the names and titles of any advisors and subcontractors of the Contractor, identifying them as such. After each name, provide a description of the responsibilities of that person with regard to the professional services being provided to each designated pension plan.

Lorna Kinzler, Fiduciary Advisor:

Provides daily contact with client regarding administration of account

Facilitates pension disbursements

Coordinates in-flows and out-flows of cash

Provides audit support

Steven Shapiro, Investment Advisor:

Meets with clients to ensure their needs are being met

Introduces new products and services that will add value for client

Melissa Richey, Market Director: Managerial oversight of the individuals listed above.

2. Please list the name and title of any Affiliated Entity and their Executive-level Employee(s) that require disclosure; after each name, include a brief description of their duties. (See: Definitions)

PNC Capital Advisors. The individual below has managerial oversight over the services provided by PNC Bank, N.A. for the Plan:

Alistair Jessiman, Chairman & President of PNC Capital Advisors, LLC

NOTICE: All information provided for items 1- 4 above must be updated with the Township as changes occur.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL (CONTINUED)

3. Are any of the individuals named in Item 1 or Item 2 above a current or former official or employee of the Township of Upper St. Clair? If "yes", provide the name of the person employed, their position with the township, and their dates of employment.

According to our records, no individuals named in Item 1 or Item 2 above are current or former officials or employees of The Township of Upper St. Clair.

4. Are any of the individuals named in Item 1 or Item 2 above, a current or former registered Federal or State lobbyist? If "yes", provide the name of the individual, specify whether they are/were a State or a Federal lobbyist, and the date of their most recent registration / renewal.

According to our records, no individuals named in Item 1 or Item 2 above are current or former registered State or Federal lobbyists.

5. Since December 17, 2009, has the Contractor or an Affiliated Entity paid compensation to, or employed any, third party intermediary, agent, or lobbyist that is to directly or indirectly communicate with an official or employee of the Municipal Pension System of the Township of Upper St. Clair, or any municipal official or employee of the Township of Upper St. Clair in connection with any transaction or investment involving the Contractor and the Municipal Pension System of the Township of Upper St. Clair?

This question does not apply to an officer or employee of the Contractor who is acting within the scope of the firm's standard professional duties on behalf of the firm, including the actual provision of legal, accounting, engineering, real estate, or other professional advice, services, or assistance pursuant to the professional services contact with Township's pension system.

If "yes", identify: (1) whom (the third party intermediary, agent, or lobbyist) was paid the compensation or employed by the Contractor or Affiliated Entity, (2) their specific duties to directly or indirectly communicate with an official or employee of the Municipal Pension System of the Township of Upper St. Clair or any municipal official or employee of the Township of Upper St. Clair, (3) the official they communicated with, and (4) the dates of this service.

PNC has not employed or paid compensation to a third party intermediary, agent or lobbyist to directly or indirectly communicate with any official or employee of The Township of Connellsville's Pension Plan or in connection with any transaction or investment involving PNC and the municipal pension system.

PNC does engage legal counsel from time to time to represent it in discussions with legal counsel to the municipal pension system.

6. Within the past two years, has the Contractor, or any agent, officer, director, or employee of the Contractor solicited a contribution to any municipal official or candidate for municipal office in the Township of Upper St. Clair, or to the political party, or political action committee of that official or candidate? If "yes", identify the agent, officer, director or employee who made the solicitation and the municipal officials, candidates, political party or political action committee who were solicited (to whom the solicitation was made).

According to our records, during 2018, no PNC officer, director or employee of PNC has solicited a contribution to any municipal official or candidate for municipal office in the Township of Upper St. Clair or to the political party or political action committee of an official or candidate.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL (CONTINUED)

7. Within the past two years, has the Contractor or an Affiliated Entity made any contributions to a municipal official or any candidate for municipal office in the Township of Upper St. Clair? If "yes", provide the name and address of the person(s) making the contribution, the contributor's relationship to the Contractor, the name and office or position of the person receiving the contribution, the date of the contribution, and the amount of the contribution.

According to our records, during 2018, neither PNC nor any Affiliated Entity has made a contribution to a municipal official or candidate for municipal office in the Township of Upper St Clair.

8. Does the Contractor or an Affiliated Entity have any direct financial, commercial or business relationship with any official of the Township of Upper St. Clair? If "yes", identify the individual with whom the relationship exists and give a detailed description of that relationship. A written letter is required from the Township of Upper St. Clair acknowledging the relationship and consenting to its existence. The letter must be attached to this disclosure. Contact the Township of Upper St. Clair to obtain this letter and attach it to this disclosure before submission.

Neither PNC nor any Affiliated Entity has any direct financial, commercial or business relationship with any official (listed above) of the Township of Upper St. Clair.

PNC may potentially have customary banking relationships (checking and savings accounts, investment accounts, loans, trust accounts, etc.) with officials and employees of the Township of Upper St. Clair.

9. Has the Contractor or an Affiliated Entity given any gifts having more than a nominal value to any official, employee, or fiduciary of the Township of Upper St. Clair? If "yes", provide the name of the person conferring the gift, the person receiving the gift, the office or position of the person receiving the gift, specify what the gift was, and the date conferred.

According to our records, neither PNC nor any Affiliated Entity has given any gifts having more than a nominal value to any official or employee of the Township of Upper St. Clair.

10. Disclosure of contributions to any political entity in the Commonwealth of Pennsylvania Applicability: A "yes" response is required, and full disclosure is required ONLY WHEN ALL of the following applies:
- The contribution was made within the last 5 years
 - The contribution was made by an officer, director, executive-level employee or owner of at least 5% of the Contractor or Affiliated Entity.
 - The amount of the contribution was at least \$500 and in the form of:
 - A single contribution by a person in (b) above, OR
 - The aggregate of all contributions all persons in (b) above;
 - The contribution was for:
 - Any candidate for any public office or any person who holds an office in the Commonwealth of Pennsylvania;
 - The political committee of a candidate for public office or any person that holds an office in the Commonwealth of Pennsylvania.

EXHIBIT B
REQUIRED DISCLOSURE INFORMATION
IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL (CONTINUED)

If "yes", provide the name and address of the person(s) making the contribution, the contributor's relationship to the Contractor, the name and office or position of the person receiving the contribution (or the political entity / party receiving the contribution), the date of the contribution, and the amount of the contribution.

Refer to the attached report entitled PA Political Contributions 2014-2018. This report reflects all contributions of at least \$500 (singly or in the aggregate) made from 2014-2018 by an officer, director, Executive-Level Employee or owner of at least 5% of the firm or an Affiliate Entity to any candidates for public office or the holders of such offices in the Commonwealth and to any political committees of such candidates or office holders. Note that PNC officer is defined as designated under Regulation O of the Board of Governors of the Federal Reserve System (12 C.F.R. 215).

11. With respect to your provision of professional services to the Municipal Pension System of the Township of Upper St. Clair:

Are you aware of any apparent, potential; or actual conflicts of interest with respect to any officer, director, or employee of the Contractor and officials or employees of the Township of Upper St. Clair?

If "yes", provide a detailed explanation of the circumstances which provide you with a basis to conclude that an apparent, potential, or actual conflict of interest may exist.

NOTE: If, in the future, you become aware of any apparent, potential, or actual conflict of interest, you are expected to update this Disclosure Form immediately in writing by:

- providing a brief synopsis of the conflict of interest, and
- an explanation of the steps taken to address this apparent, potential, or actual conflict of interest.

According to our records, we are not aware of any apparent, potential or actual conflict of interest with respect to any officer, director or employee of PNC and officials or employees of the Township of Upper St. Clair.

12. To the extent that you believe that Chapter 7-A of Act 44 of 2009 requires you to disclose any additional information beyond what has been requested above, please provide that information below or on a separate piece of paper.

No additional information to disclose.

PA Political Contributions (2014 - 2018) - Officer/Director/Executive Employee

Note: PNC Officer is defined as designated under Regulation O of the Board of Governors of the Federal Reserve System.

- (i) The contribution was made within the last five years.
- (ii) The contribution was made by an officer, director, executive-level employee or owner of at least 5% of the person or affiliated entity.
- (iii) The amount of the contribution was at least \$300 in the form of:
 - (A) A single contribution by a person included in subparagraph (ii).
 - (B) The aggregate of all contributions by all persons listed in subparagraph (ii).
- (iv) The contribution was made to:
 - (A) A candidate for any public office in the Commonwealth or to an individual who holds that office.
 - (B) A political committee of a candidate for public office in the Commonwealth or of an individual who holds that office. (Section 703-A. Disclosure)

Contributor Name	Contributor Is	Contributor Address	Date of Contribution	Name of Recipient	Recipient Is A	State Title Of Office	Amount of Contribution
Bill S Demchak	Chairman & CEO	5564 Aylesboro Avenue Pittsburgh, PA	11/10/2015	Bill Peduto	Candidate (or Candidate's Committee) for State or Local Office	Mayor of Pittsburgh	\$350
Bill S Demchak	Chairman & CEO	5564 Aylesboro Avenue Pittsburgh, PA	11/10/2015	Bill Peduto	Candidate (or Candidate's Committee) for State or Local Office	Mayor of Pittsburgh	\$350
Gregory Jordan	Officer	601 West Drive Sewickley, PA	11/10/2015	Bill Peduto	Candidate (or Candidate's Committee) for State or Local Office	Mayor of Pittsburgh	\$150
Gregory Jordan	Officer	601 West Drive Sewickley, PA	11/10/2015	Bill Peduto	Candidate (or Candidate's Committee) for State or Local Office	Mayor of Pittsburgh	\$150
Gregory Jordan	Officer	601 West Drive Sewickley, PA	4/7/2015	Hugh McGough	Candidate (or Candidate's Committee) for State or Local Office	Court of Common Pleas Judge	\$1,000
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	2/21/2014	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$250
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	4/17/2014	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$250
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	8/4/2014	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$250
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	6/27/2015	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$250
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	4/19/2016	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$500
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	5/18/2017	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$250
Jane Pepper	PNC Director	128 Springton Lake Road Media, PA	11/17/2017	Leanne Krueger-Braneky	Candidate (or Candidate's Committee) for State or Local Office	State Representative	\$100
Thomas Usher	PNC Director	26124 Fawn Wood Ct. Bonita Springs, FL	7/21/2015	Mike George	Candidate (or Candidate's Committee) for State or Local Office	PA Supreme Court	\$1,000
Thomas Usher	PNC Director	26124 Fawn Wood Ct. Bonita Springs, FL	4/30/2014	Tom Corbett	Candidate (or Candidate's Committee) for State or Local Office	Governor	\$1,000
Charles Bunch	PNC Director	1414 Beechwood Blvd Pittsburgh, PA	9/4/2014	Tom Corbett	Candidate (or Candidate's Committee) for State or Local Office	Governor	\$2,500
Bill S Demchak	Chairman & CEO	5564 Aylesboro Avenue Pittsburgh, PA	9/4/2018	Tom Wolf	Candidate (or Candidate's Committee) for State or Local Office	Governor	\$350
Gregory Jordan	Officer	601 West Drive Sewickley, PA	9/4/2018	Tom Wolf	Candidate (or Candidate's Committee) for State or Local Office	Governor	\$350

EXHIBIT II

The Discipline to Succeed

Assembling a Robust Investment Policy Statement for Defined Benefit Plans

Economic conditions, securities markets, people, and philosophies tend to be in a perpetual state of flux. Constant change can undermine commitment to a long-term investment plan; however, when an organization has a comprehensive investment policy statement (IPS) that sets forth long-term strategic direction, investment guidelines, and accountability standards, the course is well established and, over time, goals are more likely to be achieved.

Having a well-drafted IPS helps give organizations the discipline to face the uncertainties of challenging investment environments. Removing emotion from the equation positively correlates with better results for the investment portfolio, leaving the organization better positioned to fulfill its mission.

Executive Summary

An IPS is an investment management document drafted by a client, often with the help of an investment manager or consultant. The document serves as a strategic guide to the management of the client assets specified in the IPS and outlines the fiduciary responsibilities of those groups and individuals involved in the oversight of the assets.

Documentation of the client's objectives and constraints is critical in determining the strategic asset allocation (SAA) that may best help achieve the client's long-term investment goals. Portfolio parameters may also be established which identify suitable investment styles and vehicles to employ in the portfolio, as well as tactical asset allocation ranges that managers may utilize in order to take advantage of market dislocations. Risk management control procedures, performance, and client service/reporting requirements may also be outlined.

The entire process of developing the IPS should be an educational experience for the client, as it entails a detailed discussion of how investment decisions are made, who is responsible for each aspect of this process, and clearly lays out expectations. The development process has value to the investment manager as well, as it allows the adviser to get to know the client better, and ultimately, the IPS provides clarity around guidance for investment decision making.

We recommend that the IPS be reviewed periodically and as a response to material changes in an organization's circumstances or capital market assumptions. The IPS is meant to be a portable document that can be easily understood by anyone involved in the investment process. It is important that parties involved in the oversight of assets review and acknowledge they have reviewed and acknowledge the client's most recent IPS.

In this piece, we focus on the components of an IPS for a defined benefit plan.

The Components of an IPS

To help organizations develop a robust IPS, below we have outlined the sections commonly included. In this paper, we will try to explain the “what” and “why” of each section, and note any special considerations (Table below).

Common IPS Sections		
I. Governance	II. Objectives & Constraints	III. Portfolio Parameters
a. Purpose & Scope	a. Statement of Goals	a. Asset Allocation
b. Investment Philosophy	b. Risk Tolerance	b. Benchmarks
	c. Liquidity Requirements	c. Selection and Retention
	d. Unique Circumstances	d. Types of Securities
IV. Risk Management	V. Client Service	VI. Acknowledgement of IPS
a. Control Procedures	a. Communications	
b. Performance Objectives	b. Reporting	

Part One: Governance

Governance largely defines two elements: the purpose and scope of the IPS, and the definition of duties for parties outlined in the IPS. The purpose and scope often serve as a table of contents or summary of what the IPS will include and will also identify the specific assets governed by the IPS. The definition of duties identifies key stakeholders, those individuals or groups with fiduciary responsibilities, and may outline how they are accountable toward the assets governed by the IPS.

Purpose and Scope

This section should clearly state the general goals and objectives of the organization and of the investment policy statement. Providing a clear understanding of the purpose of the funds can help the investment managers to meet your organization’s investing objectives.

This section may further detail what assets are covered by the IPS: specifically, which assets should comply with the SAA set forth within the document.

Definition of Duties

The definition of duties outlines the roles and responsibilities of boards, committees, and staff. Some of the more important responsibilities for which individuals or groups should be identified as responsible for include:

- developing and executing investment policy;
- development and affirmation of capital market assumptions inputs;
- preparation and review of investment performance and risk management reports;
- annual review and updates to the IPS; and
- selection and removal of consultants and investment managers.

The IPS to enumerate clearly the responsibilities and expectations of all parties involved. Some of the main parties and responsibilities may include¹:

- **The board of directors** typically has fiduciary responsibility for the investment portfolio and general responsibility for maintaining and reviewing the IPS for accuracy and relevancy. Ultimately, the board is accountable to care for and protect the assets as established by the guidelines of the IPS.
- **The investment committee** typically is responsible for hiring and firing consultants and/or investment managers, reviewing fund performance, providing oversight and coordination of assets while in the investment managers' care, and implementing the IPS in a timely and accurate manner. If there is no investment committee, these responsibilities generally remain with the board of directors.
- **The asset management firm** is responsible for guiding the board of directors and/or investment committee in all areas of investing that relate to the assets being managed. These include, but are not limited to, recommendations for and review of the IPS, asset allocation, ongoing investment manager selection (internal or external), portfolio review, and performance assessment.
- **Investment managers** implement the IPS. The investment committee should specify exactly what the investment managers are being hired to do in addition to the level of discretion and authority the investment managers have over the portfolio. Whether tasked with maintaining a diversified portfolio or implementing a single strategy, the investment managers are responsible for investing within the confines of the IPS. In some cases, a consultant may also serve as an investment manager.
- **The custodian and/or trustee** is in charge of safeguarding specific financial assets. Toward this end, responsibilities might include administering the distribution of any trust assets to plan participants and beneficiaries as directed by the plan sponsor, controlling access, settling trades efficiently, collecting investment income and principal, and/or collecting and disseminating investment portfolio performance.

Part Two: Objectives and Constraints

An investor's long-term SAA is the culmination of two work sets: capital market expectations, and objectives and constraints. Investment managers may work with an investment strategist to produce the former, but the latter requires input from your organization.

When defining objectives and constraints, we recommend certain categories be addressed: statement of goals, risk tolerance, liquidity requirements, and unique circumstances. In this part, we will address what we believe may be appropriate to consider when defining these factors.

Statement of Goals

The primary purpose of a defined benefit plan is to fund the payment of pension liabilities. Secondary goals can include minimizing the year-to-year volatility of future contribution payments, minimizing funding status volatility, or increasing year-over-year funded status.

Furthermore, the goals should be sufficiently specific to be meaningful, but adequately flexible to be practicable. These objectives are designed to establish an attitude and philosophy that will guide the investment managers toward the desired policies and performance.

Risk Tolerance

The risk tolerance of a defined benefit plan is determined by the plan and plan sponsor characteristics. Specific factors include the current financial condition of the sponsor and the time horizon and liquidity needs of the plan.

¹The roles and responsibilities outlined here are examples for a typical plan governance structure. This section should be customized to your particular plan requirements and operations.

Unlike required return, which an organization can solve for quantitatively, evaluating risk tolerance is one area that may be difficult to assess. This difficulty may be exacerbated by the need to aggregate the risk preferences of many board or committee members.

Some of the factors that affect risk tolerance include funded status, plan status (open, closed, frozen), contribution policy, benefit structure, and organization objectives. An example of a risk tolerance statement is as follows:

“It is understood that a defined benefit plan should balance risk tolerance, defined as funded status volatility, with return requirements.”

Liquidity Requirements

For defined benefit plans, a given plan’s liquidity requirement is equal to the net cash outflow in a given year. Net cash outflow is defined as benefit payments minus pension contributions. Explicitly stating the expected net cash outflow and/or schedule of expected net cash outflows can help the investment managers to match the time horizon of plan assets with that of plan liabilities. This is important because of the generally positive correlation between time horizon and return expectations: taking too short of a time horizon with investments reduces return potential, while taking too long can cause liquidity risk for the plan.

Unique Circumstances

In this section, an organization can list any special objectives, constraints, rules around abnormal distributions (for example, for emergency purposes), or any other policies that could affect the investment program. An example of this is socially responsible investing: here the organization would list any preferences, such as following the U.S. Conference of Catholic Bishops (USCCB) investment guidelines, they may expect investment managers to follow to the fullest extent permissible under applicable law. This section can also include whether the investment program is allowed to invest in alternative assets, in addition to any policies around the approval process (for example, if the board or committee needs to approve each alternative investment).

Part Three: Portfolio Parameters

This section of the IPS should lay out the investment process: the strategic asset allocation and benchmarks, rules for manager selection and retention, and the types of securities allowed.

SAA and Benchmarks

We recommend that the target asset allocation reflect both the organization’s long-term strategic view and the stated goals for the designated funds. How specific the asset allocation guidelines are will vary by organization. Some organizations may prefer broad parameters, setting targets for equities, fixed income, and cash. Other organizations may be more precise, segmenting the major asset classes into smaller categories such as large capitalization (cap), mid cap, and small cap equity. This section of the IPS may also set restrictions on how much or how little an investment manager may deviate from the allocation target for a given asset class or category; with that said, restrictions should be considered carefully given that there are potential benefits to allowing investment managers to tactically allocate assets on the basis of prevailing market opportunities and conditions. While narrow ranges may overly restrict asset managers, too much latitude may allow asset allocation to deviate from the overall investment objective.

Some organizations will establish a derisking strategy, or glidepath, that changes the asset allocation targets if, for example, funded status changes. If a glidepath is established for the portfolio, we recommend referencing it in this section and including the full glidepath in the appendix.

We also recommend using this section to establish the benchmarks for measuring the relative performance of each asset and subasset class. Further, we recommend establishing an absolute benchmark, or hurdle rate, which serves as a measure of success in meeting the overall goals of the investment program. Investment returns below the absolute benchmark would imply the program is failing to meet its objective; above this number would imply that it is meeting or exceeding its objective.

Selection and Retention Criteria for Investments

Managers should be given discretion to manage the funds entrusted in accordance with the style for which they are employed, provided they comply with the restrictions and limitations set forth in the IPS. Important criteria for selection may include: the investment style and discipline of the proposed manager; past performance, considered relative to other benchmarks and other strategies having the same investment objective; historical volatility and downside risk management; the size of the organization as measured by the amount of assets under management with respect to the investment style under consideration; length of the manager's track record; and the experience of the organization as measured by the tenure of the professionals with respect to the investment style under consideration.

Types of Securities Allowed

While risk and volatility are present with all types of investments, it should be stated that high levels of relative risk are to be avoided in every asset class. Diversification by asset class, sector, industry and issuer limits, maturity limits, and, to the extent possible, management style can be used to reduce risk. We recommend that this section also clearly outline investments that are prohibited, as well as any other restrictions such as types of securities, weighting limits, quality standards, or liquidity requirements. Further, if mutual funds are utilized, their investment objectives should be consistent with the investment guidelines set forth in the IPS.

Exclusions and limitations can help reduce risk, but they also reduce the investment opportunities available to managers. With that said, a list of prohibited investments can proactively prevent the inclusion of security types that the board/investment committee is not familiar with and/or does not desire.

Part Four: Risk Management

This part may cover both the operating and investment risks of the investment program. We recommend that the control procedures section discuss the schedule of reviewing the portfolio for both performance and compliance. Performance objectives should define how success for the purposes of the investment program will be measured.

Control Procedures

In this section, the investment committee may reiterate its performance expectations in addition to establishing a schedule to review the portfolio and performance with the investment managers. This section can also make clear what performance periods are important to the organization: while performance may be best measured over full market cycles, as it may more accurately reflect progress toward the organization's stated goals, analysis of shorter time periods may help explain the impact that certain investments are having on the portfolio.

Furthermore, it is important to herein state the focus of the reviews, including topics such as investment managers' adherence to the policy guidelines; comparison of results to the benchmarks; and material changes in the investment managers' organizations, such as philosophical or personnel changes. Along the same lines, it may be stated here the circumstances for which termination of an investment manager will be considered, such as deviation from the IPS guidelines; substantial deviation from investment disciplines and processes; or when the client's representatives have any material problem or concern regarding the investment managers.

Performance Objectives

The fund's investment performance should be reviewed regularly, such as on an annual basis; however, the emphasis with regard to performance should be focused on results achieved over a full market cycle (typically a three- to-five-year period). Furthermore, overall policy and investment objectives should be reviewed periodically and adjusted, if necessary, after consultation with the appropriate parties.

We recommend that manager performance be measured against policy objectives and for consistency with the total return objectives, evaluated on a net-of-fees basis. With regard to benchmarking, the overall portfolio should be measured against an appropriate, often blended, index that measures both the return and risk profile of the portfolio. This blend should be based on the strategic allocation, incorporating the target levels of equity, fixed income, and/or alternative assets comprising the portfolio.

Part Five: Client Service

This section may include what your organization expects from the investment managers and/or consultants with respect to communications and reporting. This section may also address the frequency of in-person meetings and the method(s) of communication. Clearly establishing these expectations at the onset can help a board or committee to better manage the investment program and lead to better interactions between the organization and those assigned to manage the organization's assets.

Communications

As earlier discussed, it is important that the investment managers provide performance evaluations on a regular basis. This section may require that the managers provide regular accounting of transactions, portfolio holdings, yields, current market values, summary of cash flows, and calculations of the portfolio's total rate of return.

It is additionally important that a reasonable, baseline frequency of communication be established, such as on the basis of "as market conditions and the portfolio warrant," to allow for full transparency. Along these lines, it may be stated that significant changes within the investment managers' operations or personnel, and the anticipated impact on the portfolio, should be brought to the attention of the committee.

Reporting

Setting the expectations for reporting can facilitate transparency and access between the plan sponsor, investment managers, and all other relevant parties. With this in mind, a schedule for reports containing portfolio activity and asset holdings, in addition to tactical and strategic updates, may be established at the onset of the relationship. The language may also further specify that the investment managers are responsible for frequent and open communication with regard to all significant matters pertaining to the investment of assets.

With regard to the schedule of reporting and account reviews, it is important that the schedule is framed around reasonable and appropriate timing. End-of-quarter and end-of-year reports take time to produce: reviews and reports scheduled soon after a period's end will necessarily lack some of the details and clarity that reports scheduled later on can provide. We recommend balancing the need for urgency with the level of detail desired, accounting for the fact that the two are sometimes mutually exclusive.

Part Six: Acknowledgment

The last part of the IPS should document the organization's recognition of the importance of following the guidelines, rules, and best practices incorporated within the document. A sample acknowledgment would be as follows:

"The Plan Sponsor certifies that this Investment Policy Statement was adopted by the Plan's Investment Committee on [_____]."

Thus, the acknowledgment signifies all parties as having read the investment policy statement and states the mutual intention to follow both the letter and the spirit of the document.

Conclusion:

In summary, the points to address in your plan's IPS include naming those with fiduciary responsibilities, documenting objectives and constraints, outlining a strategic asset allocation, defining how success is measured, and setting standards and a schedule around performance reviews.

Every IPS should address the preceding points in some detail. When addressing each point, the organization should be certain to set forth not only what the point is, but also why the point is necessary. Once a draft of the statement is complete, the entire document should be carefully reviewed to identify and resolve inconsistencies. When all points are consistent and the organization's leadership is in agreement, the plan's fiduciaries should adopt the final document.

Thus, the IPS may serve as the blueprint for institutional investment programs. In addition, it may serve as a foundation for the organization's overall governance structure and determine that all fiduciaries are fulfilling their responsibilities and obligations. At PNC, we believe that an IPS created with such a level of care will result in an investment experience that is fully integrated and aligned with the needs and objectives of the overall organization, thus increasing the likelihood and probability of success over the long term.

Consultation with Legal and Other Advisors

We recommend that you consult with your legal, actuarial, and other financial advisors when drafting an IPS for a defined benefit plan. A well-drafted IPS should be customized for the particular governance and operational structure of your plan, as well as reflect your investment goals. Your investment manager will play a key role in helping you develop the investment, risk, and portfolio parameters in the IPS. Your legal and other advisors, however, will play a key role in helping you customize the purpose and scope, duties, and performance objectives of the IPS to reflect the unique characteristics of your plan and your ultimate goals.

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Sample Investment Policy Statement

Defined Benefit (DB) Pension

This sample Investment Policy Statement (“Sample IPS”) is provided to you by PNC Bank, National Association (“PNC”) for informational purposes only and is intended to be used as a basis for further discussions with PNC investment professionals and your legal, accounting and other financial advisers. Nothing in this Sample IPS is, or should be construed to be, the provision by PNC of investment, legal, tax, or accounting advice. This Sample IPS is not prepared with respect to the specific investment objectives, financial situation, plan governance structure, or particular needs of any person or entity. Use of this Sample IPS is dependent upon the judgment and analysis applied by you and your legal and financial advisers who should consider your individual circumstances, as appropriate.

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[Name of Defined Benefit Pension]

Investment Policy Statement

[Adopted _____]

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Governance

This Investment Policy Statement (“IPS”) serves as a strategic guide in the planning and implementation of an investment program for the [Insert Name of Plan] (the “Plan”), which is sponsored by [Insert Name of Plan Sponsor] (the “Plan Sponsor”). The Plan Sponsor has delegated authority over the Plan’s investments to the Investment Committee. The Investment Committee may retain one or more Investment Managers to recommend an investment strategy and, once adopted, manage and implement such strategy.

I. Purpose and Scope

This IPS seeks to establish the expectations of the Plan Sponsor and the Investment Committee with respect to the management of Plan assets.

This IPS is intended to:

- ▶ Define the assets to be governed by the IPS and allocation of duties among the Plan Sponsor, the Investment Committee, and the Investment Manager(s) with respect to such assets.
- ▶ Establish reasonable objectives for performance of investments.
- ▶ Establish the appropriate target allocation and the parameters around restricted security types and asset classes.
- ▶ Establish an appropriate benchmark for the evaluation of Plan asset investment performance and risk management.
- ▶ Establish expectations for investment and money managers, securities guidelines, and for the monitoring of the selected managers.
- ▶ Provide a basis for risk management and the evaluation of the investment performance of the Plan’s assets at the Investment Manager level.
- ▶ Encourage effective communication between all parties involved in the oversight, management and operation of the Plan.
- ▶ Establish the Plan Sponsor’s and the Investment Committee’s expectations regarding reports to be delivered by the Investment Manager(s) and the frequency of meetings with the Investment Manager(s).

Further, this IPS is intended to provide investment objectives that are sufficiently specific to be meaningful, but adequately flexible to be practicable. The objectives in this IPS are designed to establish a philosophy to guide the Plan Sponsor and the Investment Committee toward the desired policies and performance in management of the Plan’s assets.

II. Definition of Duties¹

POSITION	GENERAL RESPONSIBILITY	SPECIFIC TASKS
Plan Sponsor	Overall fiduciary responsibility for the Plan	<ul style="list-style-type: none">▶ Appoints Investment Committee▶ Authorizes and approves changes to the IPS▶ Confirms strategic asset allocations▶ Delegates fiduciary responsibility as appropriate

¹The roles and responsibilities outlined here are examples for a typical plan governance structure. This section should be customized to your particular plan requirements and operations.

II. Definition of Duties (continued)

POSITION	GENERAL RESPONSIBILITY	SPECIFIC TASKS
Investment Committee	Plan fiduciary; coordinates investment activities, institutional direction, and strategic initiatives	<ul style="list-style-type: none"> ➤ Maintains oversight responsibility of the investment portfolio ➤ Coordinates periodic asset allocation review ➤ Reviews and recommends revisions to the IPS ➤ Reviews Plan transactions and holdings ➤ Reports investment results to the Plan Sponsor ➤ Retains/dismisses custodian(s) and Investment Manager
Investment Manager(s)	Plan fiduciary under ERISA section 3(38); supports the Plan Sponsor and Investment Committee in the development and execution of investment strategy	<ul style="list-style-type: none"> ➤ Helps construct / revise the IPS ➤ Manages Plan assets in accordance with the IPS ➤ Recommends asset classes and asset allocation ranges / targets ➤ Seeks return within acceptable risk parameters ➤ Provides capital markets / asset class information as needed ➤ Rebalances investments, as appropriate ➤ Generates desired performance reports ➤ Supports Investment Committee requests ➤ Selects investment and money managers to manage Plan assets
Trustee / Custodian Bank	Safeguards Plan assets	<ul style="list-style-type: none"> ➤ Administers the distribution of any trust assets to beneficiaries or other parties as directed by the Plan Sponsor ➤ Controls access to assets ➤ Settles trades ➤ Collects investment income and principal ➤ Collects and disseminates Plan statements ➤ Provides book of record, audit, and tax information

The Investment Committee will be responsible for adopting the Plan's investment strategy and overall Plan asset management, as set forth in this IPS. The Investment Manager(s) are responsible for recommending an investment strategy to the Investment Committee and, once adopted, the management and implementation of the selected strategy.

Objectives and Constraints

III. Statement of Goals

The primary goal of the investment program is to grow the Plan's assets in such a manner that, when coupled with contributions to the Plan (if applicable), the Plan's assets are sufficient to pay the benefits promised to Plan participants and beneficiaries as they come due.

[Optional liability-driven] The investments should be managed in a way to minimize volatility of the Plan's funded status while controlling pension costs such as Plan contributions. Throughout the IPS, funded status is defined as market value of Plan assets divided by pension benefit obligations of the Plan (measured based on current bond yields).

[Optional return-driven] The investments should be managed with a long-term perspective, focusing on maximizing returns with a reasonable amount of risk. The investments should seek to achieve returns that meet or exceed the actuarial rate of interest while minimizing volatility of asset returns. The actuarial rate of interest is developed based on the Plan's unique asset allocation. The current actuarial rate of interest as of the date of this IPS is _____ and is reviewed and monitored by the Plan Sponsor as a measure of long-term growth of the assets.

IV. Risk Tolerance

The Plan's time horizon, current financial condition and several other factors suggest collectively some interim fluctuations in market value and rates of return may be tolerated in order to achieve the longer-term objectives. Diversification of the Plan assets will be employed in order to minimize the risk of large losses in the Plan.

[Optional liability-driven] In pursuit of the objective of minimizing funding status volatility, some of the Plan assets will be allocated to fixed income investments that perform like the Plan's liabilities ("Liability Hedge Assets").

V. Liquidity Requirements

The Plan asset allocation will be developed and managed with consideration of liquidity requirements, which include benefit payments to Plan participants and beneficiaries and administrative expenses. Sufficient liquid investments should be maintained to help achieve cash availability in order to cover ongoing distributions.

VI. Unique Circumstances

[Describe any unique client-specific circumstances or considerations.]

Portfolio Parameters

VII. Strategic Asset Allocation and Benchmarks

[Static Asset Allocation, generally for Return-Driven] The Investment Committee believes that the most significant decision impacting the ability of the Plan to meet its objectives is asset allocation. In the event there are two or more Investment Managers, this Section XI shall be implemented and monitored by the Investment Committee with respect to the Plan as a whole, and by each Investment Manager with respect to the portion of assets of the Plan being managed by that Investment Manager (each a “Portfolio”). With that in mind, and based on the investment objectives and risk tolerances stated herein, the following asset mix targets and ranges are considered appropriate:

Asset Class	Minimum	Target	Maximum	Evaluative Index
U.S. Equity				
Large Cap				
Mid Cap				
Small Cap				
REITs				
Non-U.S. Equity				
Developed				
Emerging				
Global				
U.S. Fixed Income				
Short				
Intermediate				
Long				
High Yield				
Non-U.S. Fixed Income				
Developed				
Emerging				
Global				
Alternatives				
Hedge Funds				
Private Equity				
Private Debt				
Private Real Estate				
Natural Resources				
Cash or Cash Equivalents				

It is the responsibility of each Investment Manager to monitor asset allocations and to make adjustments in its Portfolio, as necessary, to achieve on-going allocation consistency with the guidelines for the Portfolio set forth in this IPS. It is the responsibility of the Investment Committee to monitor asset target allocations with respect to the Plan as a whole to maintain compliance with the objectives set forth in this IPS.

[Dynamic Asset Allocation, generally for Liability-Driven]

The Investment Committee has adopted a dynamic asset allocation plan (“Glide Path”) which assists in optimizing the volatility of the Plan’s funding status over the long term. The details of the Glide Path are shown in Appendix A to

this IPS, as from time to time amended. The Glide Path is a schedule of planned asset allocation shifts, dependent upon changes in the Plan’s funding status, and/or changes in the discount rate used to measure the present value of pension obligations. It is expected that the allocation to Liability Hedge Assets will increase as the funded status of the Plan improves or discount rates rise.

The starting asset allocation for the Glide Path is detailed below:

Asset Class	Minimum	Target	Maximum	Evaluative Index
Liability Hedge Assets				
U.S. Fixed Income				
Short duration				
Intermediate duration				
Long duration				
Custom liability hedge				
Return Seeking (R-S) Assets				
U.S. Equity				
Large Cap				
Mid Cap				
Small Cap				
REITs				
Non-U.S. Equity				
Developed				
Emerging				
Global				
U.S. Fixed Income				
High Yield				
Non-U.S. Fixed Income				
Developed				
Emerging				
Global				
Alternatives				
Hedge Funds				
Private Equity				
Private Debt				
Private Real Estate				
Natural Resources				
Cash / Cash Equivalents				

In order to manage the Glide Path, the Investment Manager(s) will periodically update estimates of the Plan’s current funding status and discount rate. These updates may indicate that an asset allocation change is in order (as indicated by the Glide Path’s asset allocation schedule). The Investment Manager(s) will notify the Investment Committee of all changes in strategic asset allocation due to movement along the Glide Path. **[Optional]** It is anticipated if market conditions cause the funded ratio or discount rate to fall below the most recently adopted targets from the Glide Path, the allocation will not shift backwards along the Glide Path to previous allocations, but rather will maintain the newest adopted allocation until its targets are exceeded (i.e. the Investment Committee does not anticipate ‘re-risking’ the strategic asset allocation following a decline in the Plan’s funding status and/or discount rate).

It is the responsibility of the Investment Manager(s) to monitor asset allocations and to make adjustments in its Portfolio, as necessary, to achieve on-going allocation consistency with the guidelines for the Portfolio set forth in this IPS. It is the responsibility of the Investment Committee to monitor asset target allocations with respect to the Plan as a whole to maintain compliance with the objectives set forth in this IPS..

VIII. Selection and Retention Criteria for Investments

The Investment Committee may appoint one or more Investment Managers following a systematic search for those with demonstrated skill in the discipline desired. The Investment Manager will have discretion to manage its Portfolio in accordance with the style for which it is employed, subject to the restrictions and limitations in this IPS.

Investment funds and managers should be selected by the Investment Manager(s) using criteria including, but not limited to, the following:

- ▶ The investment style and discipline of the proposed manager.
- ▶ Past performance, considered relative to benchmarks having the same investment objective – consideration shall be given to both rankings over various time frames and consistency of performance.
- ▶ The historical volatility and downside risk of each proposed investment.
- ▶ The size of the organization as measured by the amount of assets under management with respect to the investment style under consideration.
- ▶ Experience of the organization as measured by the tenure of the professionals with respect to the investment style under consideration.

The Investment Manager(s) should monitor selected managers it retains for consistent investment process, performance, and risk including but not limited to key man and operational risks.

The Investment Manager(s) selection of managers with active mandates should be predicated on whether or not they fulfill the purpose for which they were selected. If the purpose is:

- ▶ risk management, the manager should be evaluated as to how well downside protection is provided and at what cost to upside participation;
- ▶ security selection, the manager should be evaluated relative to an appropriate benchmark.

The Investment Manager(s) should monitor active managers to determine whether or not value is added relative to the intention or to a passive mandate. If the Investment Manager(s) and Investment Committee determine that it is not, a passive investment vehicle may be selected for that part of the allocation.

IX. Types of Securities

The Plan Sponsor and Investment Committee recognize that risk and volatility is present with all types of investments and, in performing their respective fiduciary duties for the Plan, they should avoid high levels of relative risk. To this end, the Investment Committee should ensure that the Plan manages risk appropriately through diversification by asset class, sector, industry and issuer limits, maturity limits and, to the extent possible, management style.

Restricted Investments:

The limitations and restrictions in this section shall be implemented and monitored by the Investment Committee with respect to the Plan as a whole and by each Investment Manager with respect to its Portfolio. With the exception of being within approved investment vehicles, direct exposure to the following strategies and types of securities is prohibited:

- ▶ oil and gas wells;
- ▶ interest only securities;
- ▶ warrants;
- ▶ principal only securities;
- ▶ margin trading; and,
- ▶ inverse floating rate securities.

Risk Management

X. Control Procedures

Review and Evaluation of Investment Objectives

The achievement of the investment objectives in this IPS shall be reviewed at least on an annual basis by the Investment Committee. This review will focus on the continued feasibility of achieving the objectives and the continued appropriateness of this IPS. It is not expected that this IPS will change frequently. In particular, short-term changes in the financial markets should not require an adjustment in the IPS.

Review and Evaluation of Investment Manager²

The Investment Committee should meet periodically with the Investment Manager(s). Additionally, with or without the Investment Manager(s), the Investment Committee will review investment results on an established basis.

These reviews will focus on:

- ▶ The Investment Manager's adherence to this IPS.
- ▶ Comparison of the Investment Manager's results to the benchmark established for its Portfolio.
- ▶ Material changes in the Investment Manager's investment philosophy or changes in personnel managing the Plan's assets.

Termination of an Investment Manager should be considered under the following circumstances:

- ▶ Deviation from this IPS.
- ▶ Deviation substantially from the Investment Manager's investment disciplines and process.
- ▶ Identification by the Plan Sponsor or Investment Committee of a material problem or concern regarding the Investment Manager.

²The Review and Evaluation criteria for Investment Manager(s) should be carefully reviewed and considered by the Plan Sponsor and the Investment Committee. The list above contains examples of criteria, but each organization should consider its unique circumstances and goals and tailor these criteria to meet your specific needs.

XI. Performance Objectives

The Plan's and each Portfolio's investment performance will be reviewed on a quarterly basis, with long-term emphasis placed on results achieved over a full market cycle (typically three-to-five year period). This IPS should be reviewed periodically and adjusted, if necessary, after consultation with the Investment Committee. Investment Manager(s)' performance will be measured against this IPS and for consistency with the total return objectives for the Investment Manager's Portfolio.

With regard to performance benchmarking, the Plan's investment performance will be measured against a blended index of the component parts used to measure the equity, fixed income, and alternative asset allocations, if applicable. This blend will be weighted by the targeted strategic allocation proposed for the Plan, as outlined in this IPS.

Client Service

XII. Communication

The Investment Manager is responsible for frequent and open communication with the Investment Committee on all material matters pertaining to the investments in its Portfolio.

Each Investment Manager should promptly notify the Investment Committee of changes in market conditions that may materially impact the Plan. The Plan Sponsor or Investment Committee will promptly notify the Investment Manager(s) of any changes in the Plan or the IPS that may impact the Investment Manager's performance or duties under this IPS.

XIII. Reporting

Each Investment Manager will provide comparative performance evaluation reports on a quarterly basis for its portfolio. The Investment Manager(s) and/or Custodian will forward to the Investment Committee, as they become available, **[monthly/quarterly]** reports containing **[portfolio]** Plan activity and asset holdings at book and market values.

Periodically, the Investment Manager(s) should submit tactical and strategic updates regarding their portfolio's management for performance evaluation purposes.

Acknowledgment of IPS

XIX. Adoption of Investment Policy Statement

The Plan Sponsor certifies that this Investment Policy Statement was adopted by the Plan's Investment Committee on [_____].

[Organization]

By: _____

Name: _____

Title: _____

Acknowledgement By Investment Manager

The Investment Manager named below acknowledges receipt of the Investment Policy Statement for the [Insert Name of Plan], dated [_____]. In the event any of the terms of the Investment Policy Statement conflict with the terms and conditions of the client agreement entered into between the Plan Sponsor and the Investment Manager the terms of the client agreement shall govern.

[NAME OF INVESTMENT MANAGER]

Date

Signature

[Create a separate acknowledgement page for each Investment Manager]

Appendix A³

The Glide Path is a schedule of planned asset allocation shifts, dependent upon changes in the Plan's funding status, and/or changes in the discount rate used to measure the present value of pension obligations. It is expected that the allocation might change as the funded status improves or discount rates rise.

	Funded Ratio					
	≤85%	85%	90%	95%	100%	≥105%
Liability Hedge	XX%	XX%	XX%	XX%	XX%	XX%
Equity	XX%	XX%	XX%	XX%	XX%	XX%
Fixed Income (R-S)	XX%	XX%	XX%	XX%	XX%	XX%
Alternatives	XX%	XX%	XX%	XX%	XX%	XX%
Cash	XX%	XX%	XX%	XX%	XX%	XX%

	Funded Ratio					
	≤85%	85%	90%	95%	100%	≥105%
Liability Hedge	XX%	XX%	XX%	XX%	XX%	XX%
Equity	XX%	XX%	XX%	XX%	XX%	XX%
Fixed Income (R-S)	XX%	XX%	XX%	XX%	XX%	XX%
Alternatives	XX%	XX%	XX%	XX%	XX%	XX%
Cash	XX%	XX%	XX%	XX%	XX%	XX%

	Funded Ratio					
	≤85%	85%	90%	95%	100%	≥105%
Liability Hedge	XX%	XX%	XX%	XX%	XX%	XX%
Equity	XX%	XX%	XX%	XX%	XX%	XX%
Fixed Income (R-S)	XX%	XX%	XX%	XX%	XX%	XX%
Alternatives	XX%	XX%	XX%	XX%	XX%	XX%
Cash	XX%	XX%	XX%	XX%	XX%	XX%

³This is just an example. The tables on this page would need to be customized specifically for a given Plan.

EXHIBIT III

A Guide to the Strategic Public Pension Portfolios

The PNC Institutional Advisory Solutions® (IAS) Investment Strategy team has developed Strategic Public Pension Portfolios with and without various forms of alternative asset classes and based on specific investment goals and objectives. This report discusses the portfolios and key elements of their development.

While every institutional client portfolio is customized to meet the needs of the particular client, we have built a series of strategic portfolios that will serve as a baseline for client portfolios with similar objectives and provide a starting point for helping similar clients achieve their long-term objectives. We outline the recommended Public Pension Portfolios along with key elements of their development.

The portfolios have been developed to address the specific challenges faced by pension plans with respect to balancing a potentially underfunded plan status with the longer duration nature of liabilities and any ongoing liquidity needs, as well as the fairly high rates of return required to support these objectives as outlined in their actuarial assumptions. Additionally, we decided to develop these baseline portfolios based on specific investment objectives deemed to be representative of typical public pension (or Taft-Hartley plans with similar objectives), regulatory, and/or accounting standards.

Public Pension Client Profile

The profile outlined in this paper is unlikely to precisely describe any one pension client. Each client has unique and often rather complex needs that we must disregard to some degree for the purpose of developing a baseline portfolio applicable to a meaningful subset of our clients.

Nonetheless, we believe it is important to establish baseline portfolios reflecting well-defined, albeit somewhat simplified, investment objectives as a

starting point for addressing more complex situations.

We start by defining, at a high level, a public defined-benefit (DB) pension plan. Chartered Financial Analyst® (CFA) Institute provides the following description of a public DB pension plan:¹

A type of pension plan in which an employer promises a specified monthly benefit when an employee retires that is predetermined by a formula based on the employee's earnings history, tenure of service, and age, rather than depending on investment returns. In this particular case, the employer (that is, the plan sponsor) is typically a public entity such as a municipal or state government, labor union, etc.

The Public Pension Portfolios are being developed for a hypothetical public DB plan with the following key characteristics:

- **Plan funded status:** *Underfunded*—A rule of thumb is the higher the deficit, the lower the funded status and, therefore, the lower the risk tolerance. This means that because a funding shortfall already exists, the plan has relatively less *ability* (not *willingness*) to take on risk, particularly in extreme situations where the viability of the plan might be called into question. For the sake of capturing the broadest group of clients and prospects with this analysis, we will assume that despite being underfunded, the plans still have the ability and willingness to take more risk in order to increase the likelihood

¹ Maginn, Tuttle, Pinto & McLeavey, "Managing Institutional Investor Portfolios," CFA Institute, Wiley, 3rd Edition, pp. 64–85.

of maintaining and/or closing their funding gap.

- **Sponsor financial status:** *Constrained*—In general, higher debt levels and leverage ratios coupled with contributions from participants and tax revenues imply relatively less risk tolerance. In this case, the ability to make additional contributions above what is scheduled, if necessary, might jeopardize the financial health of the entity.
- **Common risk exposures:** *None*—The operating results of public entities typically have very low or no correlation with investment returns, certainly relative to corporate/for-profit firms, which implies a greater risk tolerance (that is, the size of any necessary contributions to the plan does not necessarily coincide with weak operating results and vice versa, but is more driven by sales tax receipts and so forth).
- **Plan special features:** *None*—For the purposes of modeling and simulation, we will assume there are no special features that might artificially lower the duration of plan liabilities, such as early retirement provisions or lump-sum distributions. The absence of any such provisions would imply a greater risk tolerance.
- **Workforce characteristics:** *Active Lives Predominate*—The younger the workforce and greater proportion of active versus retired lives increases the duration of liabilities and implies greater risk tolerance.
- **Inflation-sensitive liabilities:** Public DB plans generally have cost-of-living adjustments for their retirees that are typically tied to changes in the Consumer Price Index. Additionally, many of the benefits provided are based on salaries, which are affected by wage inflation. This is a key distinction from corporate DB plans, and, as such, we have intentionally incorporated inflation-sensitive asset

classes into the recommended portfolios to act as a partial inflation hedge against changes in a plan's liabilities over time.

We have also chosen to follow the recommended guidelines from CFA Institute with regard to the creation of an investment policy statement² for this exercise. The Public Pension Portfolios are being developed for a hypothetical public DB plan which meets the following criteria:

- The DB plan is a U.S.-domiciled tax-exempt entity whose asset value and spending needs are dollar denominated.
- **Risk profile:**
 - Despite the long-time horizon, the DB plan has a moderate-to-high risk profile. An underfunded status and constrained balance sheet are partially offset by the lower average age of its workforce, the lack of duration-reducing special features and correlation with the market.
- **Return objective(s):**
 - The primary return objective for the DB plan is to achieve a total return sufficient to fund its liabilities on an inflation-adjusted basis and translates into a long-term growth orientation.
 - A 2017 National Association of State Retirement Administrators (NASRA) survey revealed the median total return objective for all respondents is 7.5% per year, down only 10 basis points relative to the 2016 survey.³ This objective is rather herculean in our view, especially in the current market environment. Nonetheless, it is the practical challenge many DB plans are facing.
 - In an effort to make this analysis as real world applicable as possible, we depict a portfolio that targets 7.5% simply as a reference point or guidepost and should not be considered a formal strategic

² Ibid.

³ Average return assumption of the 127 plans surveyed. National Association of State Retirement Administrators (February 2017).

<http://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf>

portfolio recommendation. This is how we think plans would need to be positioned in order to achieve a 7.5% targeted rate of return over the long run. In short, it is quite an aggressive portfolio, in our view.

- Instead, we have designed recommended portfolios with relatively lower return objectives between 6.00% and 7.25%. We believe a spectrum of portfolio options provides plan sponsors with greater flexibility to balance and/or better align portfolios with objectives (that is, return targets, risk tolerances, and their ability to use alternatives).
- **Time horizon:** has a long investment time horizon reflecting the assumption that the plan has a long funding period and the active lives portion of the workforce exceeds the retired lives portion.
- **Liquidity needs:**
 - Given the larger component of active lives in the plan, liquidity needs are important, but not the overarching concern. However, we recognize even with large active populations in the plan, if the contributions coming in from active employees and the plan sponsor do not cover the benefits of the retirees, there could be liquidity issues. As such, we have capped our exposures to nonliquid investments at a maximum of 30%.
 - Consequently, we do not need to incorporate sizeable allocations to cash or quasi-cash instruments in the portfolio.
 - Little or no alternative funding sources are available to bridge a potential shortfall in expected returns, given the somewhat reduced financial flexibility of the entity.
- **Tax concerns:** As a tax-exempt investor, the portfolio should be invested in assets with a focus on total return without distinction

made between returns generated from income nor capital gains.

- **Legal/Regulatory:**
 - State and local government plans are subject to state law and regulations that can differ from state to state and can differ from the Employee Retirement Income Security Act of 1974, as amended (ERISA).
 - Collectively bargained multiemployer plans are subject to regulation under the Taft-Hartley Act of 1947.
- **Unique circumstances:**
 - The organization has sufficient size, scope, experience, and resources to qualify for and maintain an allocation to alternative investments.
 - There are no self-imposed constraints against investing in certain asset classes or industries viewed as having negative ethical or welfare-related connotations that need to be considered in managing this portfolio.

Composition and Development of the Portfolios

Two key assumptions are worth mentioning at the outset.

Inflation

Our inflation assumption for modeling purposes is 2%, which is in-line with the Federal Open Market Committee's (FOMC) long-run inflation target and mandate for achieving price stability and maximum employment.⁴ To the extent that your view and/or your actuary's assumption on long-run inflation deviates from 2%, one may be able to justify adding or subtracting that differential from our distribution of nominal returns calculations discussed later in this paper (Table 5, page 9). For example, if the actuary's long-run assumed inflation is 3% for projecting liabilities, then you could justify adding 100 basis points to each of our nominal returns to

⁴ https://www.federalreserve.gov/faqs/economy_14400.htm

get a rough approximation of how a higher rate of inflation would affect (that is, increase) the projected returns for these portfolios over a 30-year horizon. Some actuaries have been reducing their inflation assumption to be in line with the investment manager, in our experience; so it is worth having that discussion prior to making any decisions.

Expenses

Additionally, for the purposes of trying to capture as many clients and prospects as possible with this analysis, we have chosen to *not* model in any assumptions for investment management fees and/or expenses. Given the degree of dispersion in expenses/fees across different plans, we chose to keep this analysis pure. What's more, the idea of adjusting the nominal projected rate of return for fees/expenses is not a certainty. Sometimes, plans will make contributions to cover expenses (that is, include in their normal costs), and in this case there would be no adjustment made to the rate of return. Administrative fees also vary, at times significantly, depending on size of the plan. You should subtract

some assumption for expenses, if applicable, off the distribution of nominal returns calculations with a goal of remaining within the 50–75% confidence level range highlighted in Table 5, page 9. We believe confidence levels are important to understand in this analysis because they help demonstrate how simulated investment returns may vary from the long-term objectives/goals of the DB plan and should, therefore, enable clients to better assess the reward/risk tradeoffs associated with their asset allocation and investment policy decisions.

Based on these core assumptions, the primary focus/objective was to construct portfolios using various combinations of traditional and alternative asset classes that would be capable of achieving a spectrum of targeted rates of return, which in the case of public DB plans, is approximately equal to their discount rate.

High Level Allocations

The allocations were developed to provide our best thinking to meet pension plan assumptions ranging

Table 1
Asset Allocations of Public Pension Portfolios

	No Alternatives			With Hedge Funds			With Private Alternatives			7.50%*
	Base	Mid	Hi	Base	Mid	Hi	Base	Mid	Hi	
Public Equities	59.00%	75.00%	87.00%	59.00%	71.00%	76.00%	41.00%	53.00%	70.00%	60.00%
U.S.	33.25%	40.50%	45.00%	33.25%	35.75%	42.00%	24.00%	30.00%	40.75%	34.00%
International	20.75%	26.50%	32.00%	20.75%	25.25%	28.00%	15.00%	19.00%	25.25%	24.00%
REITs	5.00%	8.00%	10.00%	5.00%	10.00%	6.00%	2.00%	4.00%	4.00%	2.00%
Public Fixed Income	41.00%	25.00%	13.00%	35.00%	17.00%	4.00%	47.00%	30.00%	8.00%	10.00%
U.S. Core Taxable	12.50%	5.00%	0.00%	11.50%	4.00%	0.00%	14.00%	9.00%	0.00%	0.00%
U.S. Gov/Corp Inter	12.50%	5.00%	0.00%	11.50%	4.00%	0.00%	14.00%	9.00%	0.00%	0.00%
High Yield	2.00%	5.00%	5.00%	0.00%	0.00%	0.00%	3.00%	2.00%	0.00%	0.00%
Leveraged Loans	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	2.00%	0.00%	0.00%
Emerging Market	2.00%	3.00%	3.00%	2.00%	4.00%	0.00%	3.00%	2.00%	0.00%	0.00%
TIPS	10.00%	7.00%	5.00%	10.00%	5.00%	4.00%	10.00%	6.00%	8.00%	10.00%
Alternatives	0.00%	0.00%	0.00%	6.00%	12.00%	20.00%	12.00%	17.00%	22.00%	30.00%
Hedge Funds	0.00%	0.00%	0.00%	6.00%	12.00%	20.00%	5.00%	6.00%	6.00%	6.00%
Private Equity	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	5.00%	8.00%	12.00%
Private Debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	3.00%	4.00%	6.00%
Private Real Estate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	3.00%	4.00%	6.00%
Cash	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

* 2017 Median Targeted Rate of Return as reported by NASRA
Source: PNC

from 6.00% to 7.50%. This represents what we believe to be a realistic range of assumed returns based on forward-looking expectations and is also aligned with the trend of falling return assumptions in the pension industry. Given our projections and assumptions may not be the only factors considered in the final selection of a return assumption for plan sponsors, the portfolios were designed to potentially cover portions of the 6.00–7.50% target range of returns. Specifically, the "Base" portfolio is intended to solve for the lower end of the range while the "Mid" and "Hi" should be used as the plan's assumed return moves up the scale toward 7.50%.

We begin by laying out the asset allocations of the Public Pension Portfolios at a high level. As seen in Table 1 (page 4), public equities comprise the majority of the portfolios, including publicly traded real estate investment trusts (REITs). The sizable equity position reflects the need for significant long-term growth potential in the portfolio. In addition, it is supported by the notion that because they tend to mean-revert, equities help stabilize long-run portfolio returns.

As for fixed income and alternatives, as the targeted rate of return increases (from left to right in Table 1, page 4), it requires a sizable trade-off (that is, less traditional fixed income allocations and more alternatives). The fixed income portion of the more conservative portfolios consist of a traditional core allocation to taxable bonds supplemented with allocations to high yield, leveraged loans, and emerging market debt. As one might suspect, high yield, leveraged loans, and emerging market debt tend to offer substantially higher return profiles over time than does core taxable fixed income—for tax-exempt investors, enough to justify their higher risk profiles, in our view. Our analysis also shows the correlations/characteristics of these asset classes tend to be additive from a portfolio diversification standpoint.

For the more aggressive portfolios, fixed income allocations shrink to consisting of only Treasury Inflation Protected Securities (TIPS) in the most

extreme cases in Table 1 (page 4), though we have included allocations to TIPS in varying degrees across all of the portfolios. Due to the highly inflation-sensitive nature of a public DB plan's liabilities (that is, their liabilities *increase* in value as inflation *increases*), we believe TIPS are a necessity in helping to at least partially hedge those liabilities. We believe these allocations to TIPS also offer the added benefit of portfolio diversification, as their returns do not closely correlate with stocks and nominal bonds. However, in market downturns, the portfolios with fixed income allocations limited to just TIPS and/or only nontraditional fixed income asset classes are likely to experience substantially more volatility than those with the more sizeable traditional core fixed income allocations.

Also in Table 1 (page 4), we have included allocations to both publicly traded and private forms of real estate across the portfolios. Although not as precise an inflation hedge as TIPS, we still believe real estate has the potential to be an effective inflation hedge, particularly over very long investment horizons. Additionally, allocations to real estate offer the potential to derive consistent/recurring income generation for the portfolio, add diversification benefits via lower correlation to traditional asset classes, the potential to outpace inflation at various points in the economic cycle, and ultimately positive real returns. "Also, historically, real estate has experienced lower volatility than other asset classes because it is typically less affected by short-term economic conditions."⁵

The allocation to inherently illiquid asset classes/strategies—hedge funds, private equity, private debt, and private real estate—was limited to 30% in the most extreme case in Table 1 (page 4). The IAS Investment Strategy team performed an extensive simulation analysis based on explicitly modeling the structural characteristics that make private investments illiquid, including capital commitments, drawdowns, and distribution processes.

⁵ Maginn, Tuttle, Pinto, & McLeavey, "Managing Institutional Investor Portfolios," CFA Institute, Wiley, 3rd Edition, p. 493.

Based on our analysis, we have concluded that a combined targeted allocation of no more than 30% to private investments strikes an appropriate balance between their underlying attractive investment characteristics (relatively high return potential and solid contribution to overall portfolio diversification) and the drawbacks associated with illiquidity. In our view, the portfolio is unlikely to experience either explicit liquidity problems or excessive drift in portfolio weights, provided a significant portion of the allocation is directed to funds which allow the investor reasonable control over the timing of investment and redemption (for example, hedge funds). However, the risk of such problems rises rapidly for larger allocations (that is, in excess of 30%).

Worth noting, we have deliberately excluded an allocation to commodities, for a couple of reasons. There is no solid basis for believing that a long position in commodities earns a persistently

positive and significant risk premium. Depending on the specific asset and environment, the risk premium may actually accrue to the short position.

An exception to this is timber, which does typically generate a positive economic return over time and may be viewed as a component of a private real estate and/or REIT allocation. Active trading strategies involving both long and short positions, that is, commodity trading advisors, may be viewed as falling within our hedge fund allocation. Although natural resources tend to be positively correlated with short-term inflation, there is scant evidence they provide reliable protection of purchasing power over long horizons.

Detail of Public Equity Allocations

Table 2 highlights the public equity allocations at a more granular level.

Table 2
Public Equity Allocations

	No Alternatives			With Hedge Funds			With Private Alternatives			7.50%*
	Base	Mid	Hi	Base	Mid	Hi	Base	Mid	Hi	
Total Public Equity	59.00%	75.00%	87.00%	59.00%	71.00%	76.00%	41.00%	53.00%	70.00%	60.00%
U.S.	38.25%	48.50%	55.00%	38.25%	45.75%	48.00%	26.00%	34.00%	44.75%	36.00%
Large Cap	15.00%	15.00%	13.50%	15.00%	13.50%	13.50%	10.50%	12.00%	13.75%	13.75%
S&P 500 Growth	4.50%	4.50%	4.00%	4.50%	4.00%	4.00%	3.00%	3.50%	4.00%	4.00%
S&P 500	5.00%	5.00%	4.50%	5.00%	4.50%	4.50%	3.50%	4.00%	4.50%	4.50%
S&P 500 Value	5.50%	5.50%	5.00%	5.50%	5.00%	5.00%	4.00%	4.50%	5.25%	5.25%
Mid Cap	10.75%	15.00%	18.00%	10.75%	13.25%	16.50%	7.50%	10.50%	15.00%	12.75%
S&P 400 Growth	3.00%	4.50%	5.50%	3.00%	4.00%	5.00%	2.00%	3.00%	4.50%	3.50%
S&P 400	3.50%	5.00%	6.00%	3.50%	4.25%	5.50%	2.50%	3.50%	5.00%	4.50%
S&P 400 Value	4.25%	5.50%	6.50%	4.25%	5.00%	6.00%	3.00%	4.00%	5.50%	4.75%
Small Cap	7.50%	10.50%	13.50%	7.50%	9.00%	12.00%	6.00%	7.50%	12.00%	7.50%
S&P 600 Growth	2.00%	3.00%	4.00%	2.00%	2.50%	3.50%	1.50%	2.00%	3.50%	2.00%
S&P 600	2.50%	3.50%	4.50%	2.50%	3.00%	4.00%	2.00%	2.50%	4.00%	2.50%
S&P 600 Value	3.00%	4.00%	5.00%	3.00%	3.50%	4.50%	2.50%	3.00%	4.50%	3.00%
REITs	5.00%	8.00%	10.00%	5.00%	10.00%	6.00%	2.00%	4.00%	4.00%	2.00%
International	20.75%	26.50%	32.00%	20.75%	25.25%	28.00%	15.00%	19.00%	25.25%	24.00%
Developed Large Cap	11.75%	14.50%	15.50%	11.75%	13.75%	13.25%	9.50%	11.00%	10.25%	10.25%
MSCI WxUS Growth	3.50%	4.50%	5.00%	3.50%	4.25%	4.25%	3.00%	3.50%	3.25%	3.25%
MSCI WxUS	3.75%	5.00%	5.00%	3.75%	4.50%	4.50%	3.00%	3.50%	3.50%	3.50%
MSCI WxUS Value	4.50%	5.00%	5.50%	4.50%	5.00%	4.50%	3.50%	4.00%	3.50%	3.50%
Developed Small Cap	5.00%	5.00%	6.50%	5.00%	5.50%	7.25%	3.50%	5.00%	6.50%	5.25%
MSCI WxUS SC Growth	1.50%	1.50%	2.00%	1.50%	1.50%	2.25%	1.00%	1.50%	2.00%	1.50%
MSCI WxUS SC	1.50%	1.50%	2.00%	1.50%	1.50%	2.25%	1.00%	1.50%	2.00%	1.50%
MSCI WxUS SC Value	2.00%	2.00%	2.50%	2.00%	2.50%	2.75%	1.50%	2.00%	2.50%	2.25%
Emerging/Frontier Markets	4.00%	7.00%	10.00%	4.00%	6.00%	7.50%	2.00%	3.00%	8.50%	8.50%

* 2017 Median Targeted Rate of Return as reported by NASRA
Source: PNC

Table 3

Public Equities by Market Capitalization and Style****

	No Alternatives			With Hedge Funds			With Private Alternatives				Approximate Market Cap
	Base	Mid	Hi	Base	Mid	Hi	Base	Mid	Hi	7.50%*	
Size											
U.S. Only**											
Large Cap	39.2%	30.9%	24.5%	39.2%	29.5%	28.1%	40.4%	35.3%	30.7%	38.2%	89.5%
Mid Cap	28.1%	30.9%	32.7%	28.1%	29.0%	34.4%	28.8%	30.9%	33.5%	35.4%	7.3%
Small Cap	19.6%	21.6%	24.5%	19.6%	19.7%	25.0%	23.1%	22.1%	26.8%	20.8%	3.2%
Total***											
Large Cap	45.3%	39.3%	33.3%	45.3%	38.4%	35.2%	48.8%	43.4%	34.3%	40.0%	70.5%
Mid Cap	18.2%	20.0%	20.7%	18.2%	18.7%	21.7%	18.3%	19.8%	21.4%	21.3%	15.1%
Small Cap	21.2%	20.7%	23.0%	21.2%	20.4%	25.3%	23.2%	23.6%	26.4%	21.3%	14.4%
Style											
Growth	24.6%	24.0%	23.6%	24.6%	22.9%	25.0%	25.6%	25.5%	24.6%	23.8%	
Core	27.5%	26.7%	25.3%	27.5%	25.0%	27.3%	29.3%	28.3%	27.1%	27.5%	
Value	32.6%	29.3%	28.2%	32.6%	29.6%	29.9%	35.4%	33.0%	30.4%	31.3%	

* 2017 Median Targeted Rate of Return as reported by NASRA

** Relative to the S&P 500®, S&P 400, and S&P 600 as a % share of market capitalization in the S&P 1500, as reported via FactSet.

*** Relative to the Large, Mid, and Small Cap indexes comprising the MSCI AC World Index, as reported via FactSet.

**** The size and style categories do not sum to 100% because we have excluded both REITs and Emerging Markets from the calculations.

Source: PNC

As indicated in Table 2 (page 6), we maintain a strategic home country bias relative to market capitalization weights, which would be closer to 50%/50% of total public equities. Aside from slavish adherence to market capitalization weights, we see no compelling reason for a bigger international allocation.

- Correlation among markets is quite high. With more than 20% already allocated to international stocks (and many U.S. managers holding some foreign stocks), the marginal diversification benefit beyond this level is likely to be small.
- The U.S. market is as diversified with respect to sectors and industries as the whole global market.
- International equities generally entail currency exposure, which adds volatility but is not necessarily adequately and reliably compensated and has not been shown to offer reliable purchasing power protection.

Public Equity Breakdown (Percent of Total)

Table 3 depicts the breakdown of public equities by both market capitalization (small, mid, and large) and style (growth, core, and value) categories.

As shown in Table 3, the portfolios are overweight in small cap and mid cap compared with their fairly low market capitalization weights. These allocations allow us to more fully capture the well-known “size factor,” take advantage of the fact that mid cap stocks often exhibit stronger performance as large cap managers look for acquisition opportunities in relatively smaller firms, and, more generally, reduce reliance on mega-cap names that dominate the large cap universe.

We have also introduced explicit allocations to Growth and Value styles with a moderate tilt toward Value. The tilt toward Value reflects the well-known empirical regularity that over time Value stocks tend to outperform Growth stocks on a risk-adjusted basis.

Performance and Return/Risk Characteristics of the Portfolios

The next sections examine the performance and estimated return/risk characteristics of the Strategic Public Pension Portfolios.

Return Expectations Falling⁶

Over the last 10 years, our capital market assumptions have been in a declining trend (that is, for both equities and fixed income), with much of this decline concentrated in the past five years. Our expected returns for equities and fixed income are approximately 150 and 100 basis points lower, respectively.

Are equity returns in the 12–13% range considered reasonable, or are 7–8% returns more appropriate? At one time, 12–13% was considered a reasonable assumption, at least by historical standards. However, not so today, in our view. We think there has been a cyclical shift lower in returns, largely a function of the following key items:

- where we presently stand at this stage of the business cycle (later innings);
- sluggish overall economic growth;
- peaking corporate profits and margins;
- a lack of capital investment activity;
- stretched valuations (at least by historical standards), which do not leave room for material multiple expansion; and
- being on the verge of a slow, but extended interest rate tightening cycle.

The implications from these views, of course, have had a material impact on how we think about designing portfolios for our clients and in conversations regarding long-term strategic asset allocation positioning, as well as tactical guidance, risk-taking/mitigating exposures, shortfall risks, and so forth.

The key consideration is, of course, how long do investment returns remain “under pressure”? Is it a cyclical change (that is, specific to the current business cycle) or more of a secular phenomenon (that is, with lasting, long-term effects)? We used 30-year capital market assumptions for modeling purposes in this analysis to more closely resemble what we believe a public DB plan is likely to experience over the course of multiple market cycles. Despite this, we do not see a materially improved returns backdrop over the next 10+ years either. This translates into a heightened concern, in our view, regarding potential shortfall risks (that is, the risks a public DB plan’s benefit obligations or liabilities exceed the amount of available assets/cash) and the associated implications of having to play catch-up over the remainder of the horizon – a highly undesirable outcome.

The pension industry has also responded to the changing landscape for investment returns via a trend toward cutting targeted rates of return. Keith Brainard, research director of NASRA believes:

We're in the midst of what I would call a secular shift in the return assumptions. That has occurred particularly in the wake of sustained reductions of interest rates. It's a longer-term issue. There's a continuous, ongoing review of, among other factors, the [return] rate by all or most public pension funds, so there's a continuous, multiyear trend toward lower rates. About two-thirds of the public pension funds that we follow have reduced their return assumptions since 2008, some more than once.⁷

As a natural consequence, the lower projected return environment has also led to discussions regarding the potential need to increase contributions from employees and their employers to help fund their pension plans, among numerous other issues, as partial offsets.

⁶ The capital market assumptions used in this analysis are not the same rolling 10-year assumptions we publish at the end of each calendar year. Instead, we used more “neutral” return and volatility assumptions based on a very long horizon (30 years), which are available upon request.

⁷ <http://www.cnbc.com/2015/10/14/heres-why-pension-giant-calpers-wants-to-cut-investment-goals.html>

Table 4

Key Portfolio Characteristics

	No Alternatives			With Hedge Funds			With Private Alternatives			7.50%*
	Base	Mid	Hi	Base	Mid	Hi	Base	Mid	Hi	
Expected Arithmetic Return	6.77%	7.61%	8.21%	6.93%	7.84%	8.27%	6.77%	7.57%	8.66%	8.83%
Volatility	11.63%	15.05%	17.59%	11.69%	14.72%	15.94%	10.06%	12.72%	16.76%	16.33%
Median Compound Growth Rate	6.30%	6.78%	6.95%	6.46%	7.04%	7.28%	6.42%	6.98%	7.60%	7.82%

*2017 Median Targeted Rate of Return as reported by NASRA.

Note: For return and volatility assumptions, see footnote 6, page 7.

Source: Windham Portfolio Advisor, PNC

Key Nominal Portfolio Characteristics

Table 4 summarizes the key characteristics of our Strategic Public Pension Portfolios. The expected (that is, arithmetic) returns shown are not compounded returns. Hence, they should not be interpreted as the compound growth rate of the portfolio over multiperiod horizons. We have included in the bottom row of Table 4 the expected median compound growth rates for the various portfolios based on our analysis.

Of particular note, the results of our analysis demonstrate the volatility-reducing benefits of introducing hedge funds and private alternative asset classes into the portfolios relative to using traditional asset classes only.⁸ Consider the three portfolios in the table that are projected to generate an approximate compound growth rate of 7% (one without alternatives labeled “Hi,” one with hedge funds labeled “Mid,” and one using private alternatives, also labeled “Mid”). The portfolio without any alternatives has a volatility measure of approximately 17.59%. The expected return handily exceeds our estimates for the long-run return profiles of all large cap public equity styles, as well as mid cap growth equities, with a volatility measure falling somewhere in between the long-run estimated volatility of the S&P 500 Value and S&P 400 Growth indexes—comparable projected return for *commensurate* level of risk. However, adding in hedge funds and private alternatives leads to a dramatic decline in the volatility measures of

the two other portfolios (that is, down 287 and 487 basis points, respectively), while still being able to generate a compound growth rate of approximately 7% over the 30-year horizon—comparable projected returns for *relatively less* projected risk.

Distribution of Returns by Confidence Level

The results of our Monte Carlo simulations are shown in Table 5 (page 10), which depicts the distribution of nominal compounded returns (that is, growth rates) for each portfolio by confidence level ranging from 5% to 95%. Monte Carlo simulations involve the calculation and statistical description of the outcomes resulting in a particular asset allocation under random scenarios for investment returns, inflation, and other relevant variables. This approach provides information about the range of possible investment results from a given asset allocation over the course of the investor’s time horizon (in this case, 30 years), as well as the likelihood that each result will occur.⁹

Notice the green highlighted band in the middle of the table. Although there is quite a wide range of potential returns between the 5% and 95% confidence levels, we do not recommend choosing a portfolio based on these so-called extreme or less than likely outcomes. We believe choosing a portfolio where the targeted compound growth rate falls within the 50–75% confidence level range strikes the right balance between taking enough risk to generate a portfolio return that can help

⁸ This analysis uses data series for private alternatives that have been “de-smoothed” by applying various statistical processes/techniques. In our estimation, this approach better represents the true underlying volatilities of alternatives (which tend to be substantially higher than what is traditionally reported by the major indices). Failure to adjust for smoothing could result in overestimating the benefits of incorporating private forms of alternatives into any asset allocation framework.

⁹ Maginn, Tuttle, Pinto, & McLeavey, “Managing Institutional Investor Portfolios,” CFA Institute, Wiley, 3rd Edition, p. 284.

Table 5

Compound Growth Rate Distributions by Confidence Level

Distribution of Returns (nominal)

Confidence Levels	No Alternatives			With Hedge Funds			With Private Alternatives			7.50%*
	Base	Mid	Hi	Base	Mid	Hi	Base	Mid	Hi	
5%	9.85%	11.42%	12.25%	10.05%	11.58%	12.19%	9.52%	10.93%	12.78%	12.78%
25%	7.74%	8.63%	9.07%	7.88%	8.86%	9.24%	7.66%	8.57%	9.66%	9.82%
50%	6.30%	6.78%	6.95%	6.46%	7.04%	7.28%	6.42%	6.98%	7.60%	7.82%
75%	4.80%	4.90%	4.89%	4.98%	5.23%	5.39%	5.15%	5.37%	5.52%	5.78%
95%	2.84%	2.35%	1.98%	3.01%	2.72%	2.65%	3.39%	3.23%	2.74%	3.04%

* 2017 Median Targeted Rate of Return as reported by NASRA

Note: For return and volatility assumptions, see footnote 6, page 7.

Source: Windham Portfolio Advisor, PNC

maintain or close a plan's funding gap, but not too much risk that the portfolio is likely to face a permanent impairment or shortfall over the life of the plan.

Conclusion

Finding the optimal balance between return and risk is always a key issue in choosing the appropriate asset allocation and overarching investment strategy to meet a client's goals and objectives. What makes this exercise even more important for underfunded public DB plans, in our view, but all the more challenging in today's environment, is the trend of declining forward investment returns. The fact of the matter is, public DB plans need to understand what level of

investment returns are realistic/achievable (or not) over the foreseeable future and consider what other adjustments might need to be made, as a result, to not be solely reliant on investment returns to meet their benefit obligations.

With this as the backdrop, the IAS Investment Strategy Team has conducted extensive analysis to design/develop customized solutions specifically for public DB plans, and this paper is the culmination of that research effort. Indeed, we think these Strategic Public Pension Portfolios are excellent solutions capable of meeting the unique needs, long-run return objectives, and benefit obligations of typical public DB plans over a 30-year investment horizon.

Amanda E. Agati, CFA®

Managing Director, Chief Institutional Investment Strategist

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EXHIBIT IV

PNC Affiliated Compensation Disclosure Grid

As of September 30, 2018

Investment vehicles, such as mutual funds, exchange traded funds (ETFs) and exchange traded notes (ETNs), are among the types of investments that PNC Bank, National Association ("PNC Bank"), PNC Delaware Trust Company and PNC Ohio Trust Company ("PNC," "we" or "us") use to manage investment portfolios on behalf of our clients. Investment vehicles pay fees to various service providers for services rendered to them. This Affiliated Compensation Disclosure Grid is sent to you on a semi-annual basis so that we can inform you of the service fees and other revenue earned by PNC, by members of The PNC Financial Services Group¹, or by others considered to be affiliated with us, and which are paid to us or our affiliates by the investment vehicles that may be held in your account or by the investment vehicles' affiliates.²

We and/or our affiliates may earn compensation for providing services to investment vehicles, including but not limited to acting as investment adviser, providing omnibus record keeping and associated shareholder services. Generally, these fees, referred to in the tables below as "Total to PNC Affiliates" and "Service Fees", are earned on a percentage-of-assets-basis, and are paid by either the investment vehicle or the investment vehicle's investment adviser (or its affiliate). Amounts paid by the investment vehicle will generally be reflected in the vehicle's total expense ratio, while amounts paid by the vehicle's investment adviser (or its affiliate) will generally not. The current total expense ratio for each investment vehicle is also shown on this Affiliated Compensation Disclosure Grid.

The expenses paid by the investment vehicles or their affiliates may create a conflict of interest because they are separate from, and in addition to, any account level fees paid by client accounts to PNC. Certain investment vehicles that are included in this grid are not mutual funds, ETFs or ETNs, but are other types of investment vehicles that pay fees to us and/or our affiliates.

The investment vehicles' current prospectuses or offering documents provide more comprehensive information regarding the specific services we and/or our affiliates provide the vehicles and the compensation we or our affiliates receive in connection with providing those services. Therefore, this Affiliated Compensation Disclosure Grid should be read in conjunction with, and is supplemented by, the applicable prospectuses and/or other offering documents. Copies of the prospectuses and/or offering documents have been provided to you for certain of the investment vehicles in which your account is invested; additional copies may be obtained by contacting your account officer or by following the instructions set forth in the footnotes following the grid below.

This Affiliated Compensation Disclosure Grid does not constitute an offer for sale of any investment vehicle listed herein.

If your account is an employee benefit plan subject to the Employee Retirement Income Security Act of 1974, as amended (ERISA), or an individual retirement account (IRA) managed by PNC, certain of the service fees described herein may not apply, be charged or be retained by us with respect to your account. Please contact your account officer for more information.

The investment vehicles are not deposits of or obligations of and are not guaranteed by, PNC or its affiliates or any other bank. Investments in the investment vehicles involve risks, including possible loss of the principal amount invested. The investment vehicles are not insured or guaranteed by the Federal Deposit Insurance Company (FDIC) or by any other governmental agency or government-sponsored agency of the U.S. government or any state.

Section 1. BLACKROCK MUTUAL FUNDS^{2,3} INSTITUTIONAL CLASS EXPENSE RATIOS¹⁰

NAME OF FUND	TOTAL EXPENSE RATIO ^{4,5,6}	TOTAL TO PNC AFFILIATES ^{4,5,6,7}	NAME OF FUND	TOTAL EXPENSE RATIO ^{4,5,6}	TOTAL TO PNC AFFILIATES ^{4,5,6,7}
20/80 Target Allocation Fund ⁸	0.09%	0.00%	iShares Edge MSCI Min Vol USA Index Fund	0.18%	0.00%
40/60 Target Allocation Fund ⁸	0.09%	0.00%	iShares Edge MSCI Multifactor Intl Index Fund	0.35%	0.00%
60/40 Target Allocation Fund ⁸	0.09%	0.00%	iShares Edge MSCI Multifactor USA Index Fund	0.25%	0.00%
80/20 Target Allocation Fund ⁸	0.09%	0.00%	iShares Edge MSCI USA Momentum Factor Index Fund	0.20%	0.00%
Advantage Emerging Markets Fund ⁸	0.95%	0.67%	iShares Edge MSCI USA Quality Factor Index Fund	0.18%	0.00%
Advantage Global Fund	0.72%	0.44%	iShares Edge MSCI USA Size Factor Index Fund	0.20%	0.00%
Advantage International Fund	0.64%	0.46%	iShares Edge MSCI USA Value Factor Index Fund	0.20%	0.00%
Advantage Large Cap Core Fund	0.48%	0.39%	iShares MSCI Asia ex Japan Index Fund	0.45%	0.21%
Advantage Large Cap Growth Fund	0.62%	0.40%	iShares MSCI Developed World Index Fund	0.18%	0.09%
Advantage Large Cap Value Fund	0.54%	0.37%	iShares MSCI EAFE International Index Fund	0.10%	0.01%
Advantage Small Cap Core Fund	0.48%	0.40%	iShares MSCI Total International Index Fund	0.16%	0.04%
Advantage Small Cap Growth Fund	0.50%	0.26%	iShares Russell 1000 Large-Cap Index Fund	0.13%	0.01%
Advantage U.S. Total Market Fund	0.49%	0.25%	iShares Russell 2000 Small-Cap Index Fund	0.12%	0.00%
All-Cap Energy & Resources	0.92%	0.44%	iShares Russell Mid-Cap Index Fund	0.14%	0.10%
Alternative Capital Strategies	0.95%	0.00%	iShares Russell Small/Mid-Cap Index Fund	0.12%	0.00%
Asian Dragon Fund, Inc.	1.04%	0.61%	iShares S&P 500 Index Fund	0.11%	0.11%
Balanced Capital	0.62%	0.43%	iShares Short-Term TIPS Bond Index Fund	0.10%	0.00%
Basic Value	0.54%	0.44%	iShares Total U.S. Stock Market Index Fund	0.08%	0.00%
Bond Allocation Target Shares Ser. A	0.00%	0.00%	iShares U.S. Aggregate Bond Index Fund	0.09%	0.09%
Bond Allocation Target Shares Ser. C	0.00%	0.00%	Large Cap Focus Growth Fund	0.79%	0.75%
Bond Allocation Target Shares Ser. E	0.00%	0.00%	Latin America	1.35%	1.00%
Bond Allocation Target Shares Ser. M	0.00%	0.00%	LifePath Dynamic 2020 ⁹	0.40%	0.39%
Bond Allocation Target Shares Ser. P	0.00%	0.00%	LifePath Dynamic 2025 ⁹	0.39%	0.35%
Bond Allocation Target Shares Ser. S	0.54%	0.00%	LifePath Dynamic 2030 ⁹	0.40%	0.39%
California Municipal Opportunities	0.44%	0.36%	LifePath Dynamic 2035 ⁹	0.40%	0.34%
Capital Appreciation	0.76%	0.62%	LifePath Dynamic 2040 ⁹	0.40%	0.39%
Commodity Strategies	0.72%	0.43%	LifePath Dynamic 2045 ⁹	0.40%	0.31%
Core Bond	0.43%	0.42%	LifePath Dynamic 2050 ⁹	0.40%	0.37%
CoreAlpha Bond	0.36%	0.33%	LifePath Dynamic 2055 ⁹	0.40%	0.23%
Credit Strategies Fund	0.62%	0.46%	LifePath Dynamic 2060 ⁹	0.41%	0.00%
Dynamic High Income	0.66%	0.57%	LifePath Dynamic Retirement ⁹	0.41%	0.38%
Emerging Markets	1.12%	0.77%	LifePath Smart Beta 2020 ⁹	0.08%	0.00%
Emerging Markets Bond Fund	0.67%	0.00%	LifePath Smart Beta 2025 ⁹	0.08%	0.00%
Emerging Markets Dividend	1.52%	0.00%	LifePath Smart Beta 2030 ⁹	0.06%	0.00%
Emerging Markets Equity Strategies	1.28%	0.00%	LifePath Smart Beta 2035 ⁹	0.06%	0.00%
Emerging Markets Local Currency Bond Fund	0.77%	0.00%	LifePath Smart Beta 2040 ⁹	0.08%	0.00%
Emerging Market Flexible Dynamic Bond	0.71%	0.38%	LifePath Smart Beta 2045 ⁹	0.10%	0.00%
Energy and Resources	1.02%	0.80%	LifePath Smart Beta 2050 ⁹	0.10%	0.00%
Equity Dividend	0.69%	0.56%	LifePath Smart Beta 2055 ⁹	0.08%	0.00%
EuroFund	1.09%	0.70%	LifePath Smart Beta 2060 ⁹	0.00%	0.00%
Event Driven	1.85%	1.13%	LifePath Smart Beta Retirement ⁹	0.10%	0.00%
Exchange BlackRock	0.62%	0.52%	LifePath Index 2020 ⁹	0.10%	0.04%
Floating Rate Income	0.63%	0.60%	LifePath Index 2025 ⁹	0.09%	0.03%
Focus Growth	0.90%	0.65%	LifePath Index 2030 ⁹	0.09%	0.03%
Global Allocation	0.80%	0.68%	LifePath Index 2035 ⁹	0.09%	0.02%
Global Dividend	0.73%	0.63%	LifePath Index 2040 ⁹	0.08%	0.01%
Global Long/Short Credit ⁸	1.07%	1.02%	LifePath Index 2045 ⁹	0.08%	0.01%
Global Long/Short Equity	1.64%	1.47%	LifePath Index 2050 ⁹	0.08%	0.01%
GNMA	0.40%	0.30%	LifePath Index 2055 ⁹	0.07%	0.00%
Health Sciences Opportunities	0.86%	0.73%	LifePath Index 2060 ⁹	0.07%	0.00%
High Equity Income Fund	0.85%	0.64%	LifePath Index Retirement ⁹	0.10%	0.03%
High Yield Bond	0.59%	0.59%	Long-Horizon Equity	0.96%	0.75%
High Yield Municipal	0.52%	0.43%	Low Duration Bond	0.49%	0.38%
Impact Bond Fund	0.41%	0.00%	Managed Account Advantage Global SmallCap Fund	0.00%	0.00%
Impact U.S. Equity	0.56%	0.08%	Managed Account Mid Cap Dividend Fund	0.00%	0.00%
Inflation Protected Bond	0.34%	0.31%	Managed Account U.S. Mortgage	0.45%	0.30%
International	0.91%	0.71%	Managed Income	0.24%	0.24%
International Dividend Fund	0.84%	0.57%	Mid Cap Dividend Fund	0.86%	0.57%
iShares Developed Real Estate Index Fund	0.20%	0.12%	Mid-Cap Growth Equity	0.86%	0.70%
iShares Edge MSCI Min Vol EAFE Index Fund	0.23%	0.01%	Money Market	0.20%	0.12%

PNC Affiliated Compensation Disclosure Grid

As of September 30, 2018

Section 1. BLACKROCK MUTUAL FUNDS^{2,3} INSTITUTIONAL CLASS EXPENSE RATIOS¹⁰ CONTINUED

NAME OF FUND	TOTAL EXPENSE RATIO ^{4,5,6}	TOTAL TO PNC AFFILIATES ^{4,5,6,7}	NAME OF FUND	TOTAL EXPENSE RATIO ^{4,5,6}	TOTAL TO PNC AFFILIATES ^{4,5,6,7}
Multi Asset Income ⁸	0.56%	0.53%	Strategic Global Bond	0.53%	0.17%
National Municipal	0.44%	0.36%	Strategic Income Opportunities ⁵	0.63%	0.60%
Natural Resources	0.93%	0.60%	Strategic Municipal Opportunities	0.54%	0.45%
New Jersey Municipal Bond	0.52%	0.39%	Tactical Opportunities ⁵	0.89%	0.78%
New York Municipal Opportunities	0.49%	0.41%	Technology Opportunities Fund	0.99%	0.80%
Pennsylvania Municipal Bond	0.54%	0.45%	Total Emerging Markets	0.85%	0.60%
Real Estate Securities	1.07%	0.00%	Total Factor Fund ⁸	0.55%	0.05%
Short Obligations	0.24%	0.19%	Total Return	0.72%	0.32%
Short-Term Municipal Bond	0.36%	0.23%	U.S. Government Bond	0.40%	0.38%

Section 2. BLACKROCK LIQUIDITY FUNDS EXPENSE RATIOS^{2,3,10}

INSTITUTIONAL SHARES			ADMINISTRATION SHARES		
NAME OF FUND	TOTAL EXPENSE RATIO ^{4,5,6}	TOTAL TO PNC AFFILIATES ^{4,5,6,7}	NAME OF FUND	TOTAL EXPENSE RATIO ^{4,5,6}	TOTAL TO PNC AFFILIATES ^{4,5,6,7}
California Money	0.20%	0.01%	N/A	N/A	N/A
Federal Trust	0.17%	0.16%	0.27%	0.16%	0.16%
FedFund	0.17%	0.17%	0.27%	0.17%	0.17%
MuniCash	0.20%	0.18%	N/A	N/A	N/A
MuniFund	0.20%	0.02%	0.30%	0.02%	0.02%
New York Money	0.20%	0.01%	N/A	N/A	N/A
TempCash	0.18%	0.15%	N/A	N/A	N/A
TempFund	0.18%	0.17%	0.28%	0.17%	0.17%
T-Fund	0.17%	0.16%	0.27%	0.16%	0.16%
Treasury Trust	0.17%	0.16%	0.27%	0.16%	0.16%

Section 3. PNC MUTUAL FUNDS¹¹ INSTITUTIONAL CLASS EXPENSE RATIOS

NAME OF FUND	TOTAL EXPENSE RATIO ^{5,12}	TOTAL TO PNC AFFILIATES ^{5,7,12}	NAME OF FUND	TOTAL EXPENSE RATIO ^{5,12}	TOTAL TO PNC AFFILIATES ^{5,7,12}
Balanced Allocation	1.06%	0.00%	Multi-Factor Large Cap Growth	0.76%	0.32%
Bond Fund	0.74%	0.00%	Multi-Factor Large Cap Value	0.77%	0.34%
Emerging Markets Equity	1.01%	0.00%	Multi-Factor Small Cap Core	0.85%	0.68%
Government Money Market	0.19%	0.17%	Multi-Factor Small Cap Growth	0.87%	0.61%
Government Mortgage	0.94%	0.00%	Multi-Factor Small Cap Value	0.94%	0.08%
Intermediate Bond	0.58%	0.39%	Ohio Intermediate Tax Exempt Bond	0.85%	0.00%
Intermediate Tax Exempt Bond	0.57%	0.19%	Small Cap	1.04%	0.86%
International Equity	0.96%	0.85%	Tax Exempt Limited Maturity Bond	0.52%	0.31%
International Growth	1.50%	0.00%	Total Return Advantage	0.57%	0.30%
Limited Maturity Bond	0.53%	0.35%	Treasury Money Market	0.23%	0.17%
Maryland Tax Exempt Bond	0.54%	0.00%	Treasury Plus Money Market	0.28%	0.17%
Multi-Factor All Cap	0.70%	0.00%	Ultra Short Bond	0.33%	0.21%

Section 4. OTHER INVESTMENT VEHICLES¹⁴

NAME OF INVESTMENT VEHICLE	TOTAL EXPENSE RATIO ⁵	SERVICE FEE TO PNC ⁵	NAME OF INVESTMENT VEHICLE	TOTAL EXPENSE RATIO ⁵	SERVICE FEE TO PNC ⁵
American Century Capital Value Fund I Class	0.81%	0.15%	Carillon Reams Unconstrained Bond Fund Class I	0.50%	0.10%
American Century Capital Value Fund Investor Class	1.01%	0.35%	Carillon Scout International Fund Class I	1.05%	0.10%
American Century Heritage Fund I Class	0.81%	0.15%	Citigroup Real Estate Partners, LLC ¹⁵	1.16%	0.00%
American Century Income and Growth Fund Investor Class	0.67%	0.35%	ClearBridge Small Cap Growth Fund Class I	0.91%	0.05%
American Century International Bond Fund Investor Class	0.80%	0.35%	Cohen & Steers Preferred Securities and Income Fund, Inc. Class I	0.85%	0.10%
American Century International Discovery Fund I Class	1.45%	0.15%	Cohen & Steers Real Estate Securities Fund, Inc. Class Institutional	0.88%	0.10%
American Century International Growth Fund Investor Class	1.17%	0.35%	Columbia Acorn Fund Institutional Class	0.86%	0.25%
American Century Large Company Value Fund I Class	0.64%	0.15%	Columbia Acorn International Fund Institutional Class	0.99%	0.25%
American Century Large Company Value Fund Investor Class	0.84%	0.35%	Columbia Floating Rate Fund Institutional Class	0.79%	0.25%
American Century Small Cap Value Fund I Class	1.06%	0.15%	Columbia Small Cap Growth Fund I Institutional Class	1.10%	0.25%
American Century Small Cap Value Fund Investor Class	1.26%	0.35%	Cullen International High Dividend Fund Class Institutional	1.01%	0.10%
AMG GW&K Small Cap Core Fund Class I	0.94%	0.10%	Dana Large Cap Equity Fund Institutional Class	0.74%	0.08%
AMG GW&K U.S. Small Cap Growth Fund Class I	1.00%	0.10%	Dreyfus Appreciation Fund, Inc. Class I	0.74%	0.10%
AMG Managers Amundi Intermediate Government Fund Class N	0.87%	0.10%	Dreyfus Appreciation Fund, Inc. Class Investor	0.91%	0.10%
AMG Managers Fairpointe Mid Cap Fund Class I	0.89%	0.10%	Dreyfus International Stock Fund Class I	0.93%	0.10%
AMG Managers LMC Small Cap Growth Fund Class I	1.06%	0.10%	Dreyfus/Standish Global Fixed Income Fund Class I	0.53%	0.10%
AQR Diversified Arbitrage Fund Class I	2.10%	0.10%	Driehaus Active Income Fund	1.18%	0.15%
AQR Equity Market Neutral Fund Class I	2.18%	0.10%	Dupree Mutual Fund Kentucky Tax-Free Income Fund	0.55%	0.06%
AQR Long-Short Equity Fund Class I	2.11%	0.10%	DWS RREF Global Real Estate Securities Fund - Class Inst	0.95%	0.05%
AQR Managed Futures Strategy Fund Class I	1.22%	0.10%	DWS Massachusetts Tax Free Fund - Class S	0.65%	0.05%
AQR Multi-Strategy Alternative Fund Class I	2.42%	0.10%	DWS Short Term Municipal Bond Fund - Class Inst	0.46%	0.05%
Artisan International Fund Advisor Class	1.04%	0.10%	Eaton Vance Floating - Rate Fund Institutional Class	0.79%	0.08%
Artisan International Fund Investor Class	1.18%	0.35%	Eaton Vance Global Macro Absolute Return Advantage Fund Class I	1.11%	0.08%
Artisan Mid Cap Fund Advisor Class	1.05%	0.10%	Eaton Vance Global Macro Absolute Return Fund Class I	0.74%	0.08%
Artisan Mid Cap Fund Investor Class	1.18%	0.35%	Edgewood Growth Fund Class Institutional	1.00%	0.10%
Artisan Mid Cap Value Fund Investor Class	1.17%	0.35%	Federated Equity Income Fund, Inc. Class A Shares	1.13%	0.35%
Artisan Small Cap Fund Investor Shares	1.21%	0.35%	Federated Government Income Securities Inc Class F Shares	1.01%	0.35%
Baird Mid Cap Fund Institutional Class	0.84%	0.10%	Federated Kaufmann Fund Class A Shares	1.98%	0.35%
Baron Asset Fund Institutional Class	1.04%	0.15%	Federated MDT Large Cap Value Fund Class A Shares	0.99%	0.35%
Baron Asset Fund Retail Class	1.31%	0.25%	Federated MDT Mid Cap Growth Fund Class A Shares	1.15%	0.35%
Baron Growth Fund Retail Shares	1.30%	0.25%	Federated Pennsylvania Municipal Income Fund Class A Shares	0.76%	0.30%
Baron Small Cap Fund Institutional Class	1.05%	0.15%	Federated Short-Intermediate Duration Municipal Trust Service Shares	0.71%	0.30%
Baron Small Cap Fund Retail Class	1.31%	0.25%	Federated Strategic Value Dividend Fund Class A Shares	1.06%	0.35%
BlackRock Arthur Street Fund LP ⁷	0.52%	0.00%	Federated Strategic Value Dividend Fund Institutional Shares	0.81%	0.10%
BlackRock Fulton Street Fund LP ⁷	0.71%	0.00%	Federated Total Return Bond Fund Service Shares	0.69%	0.30%
BrandywineGLOBAL - Alternative Credit Fund Class I	1.36%	0.05%	Federated Total Return Government Bond Fund Service Shares	0.66%	0.30%
Calamos Convertible Fund Class A	1.18%	0.10%	Fidelity Advisor [®] Diversified International Fund I Class	0.93%	0.10%
Calamos Convertible Fund Institutional Class	0.93%	0.10%	Fidelity Advisor [®] Dividend Growth Fund I Class	0.61%	0.10%
Calamos Growth Fund Class A	1.40%	0.10%	Fidelity Advisor [®] Floating Rate High Income Fund I Class	0.75%	0.10%
Calamos Growth Fund Institutional Class	1.15%	0.10%	Fidelity [®] Inflation-Protected Bond Index Fund Investor Class	0.05%	0.10%
Cambiar International Equity Institutional	0.95%	0.10%	Goldman Sachs Absolute Return Tracker Fund Institutional Class	0.78%	0.10%
Carillon Eagle Small Cap Growth Fund Class I	0.78%	0.10%	Goldman Sachs Growth Opportunities Fund Institutional Class	0.95%	0.10%
Carillon Scout Mid Cap Fund Class I	1.03%	0.10%	Goldman Sachs Large Cap Value Fund Institutional Class	0.78%	0.10%
Carillon Reams Core Plus Bond Fund Class I	0.40%	0.10%	Goldman Sachs Mid Cap Value Fund Institutional Class	0.77%	0.10%

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Section 4. OTHER INVESTMENT VEHICLES¹⁴ CONTINUED

NAME OF INVESTMENT VEHICLE	TOTAL EXPENSE RATIO ⁵	SERVICE FEE TO PNC ⁶	NAME OF INVESTMENT VEHICLE	TOTAL EXPENSE RATIO ⁵	SERVICE FEE TO PNC ⁶
Goldman Sachs U.S. Equity Dividend and Premium Fund Institutional Class	0.74%	0.10%	T. Rowe Price Equity Income Fund	0.65%	0.15%
Gotham Absolute Return Fund Institutional Class Shares	2.81%	0.10%	T. Rowe Price Georgia Tax-Free Bond Fund	0.55%	0.15%
Gotham Enhanced Return Fund Institutional Class Shares	3.55%	0.10%	T. Rowe Price Growth Stock Fund	0.67%	0.15%
Gotham Neutral Fund Institutional Class	3.10%	0.10%	T. Rowe Price High Yield Fund	0.73%	0.15%
Hamlin High Dividend Equity Fund Institutional Class Shares	1.02%	0.10%	T. Rowe Price Instl Floating Rate Fund Class F	0.69%	0.15%
Harbor Capital Appreciation Fund Institutional Class	0.66%	0.10%	T. Rowe Price International Bond Fund	0.67%	0.15%
Harbor International Fund Institutional Class	0.72%	0.10%	T. Rowe Price Maryland Tax-Free Bond Fund	0.47%	0.15%
Harbor Large Cap Value Fund Institutional Class	0.68%	0.10%	T. Rowe Price Mid-Cap Growth Fund	0.76%	0.15%
Harbor Small Cap Value Fund Institutional Class	0.88%	0.10%	T. Rowe Price Mid-Cap Value Fund	0.79%	0.15%
Harding Loevner Emerging Markets Portfolio Advisor Class	1.42%	0.05%	T. Rowe Price New Horizons Fund	0.78%	0.15%
Harding Loevner International Equity Portfolio Institutional Class	0.82%	0.05%	T. Rowe Price New Jersey Tax-Free Bond Fund	0.54%	0.15%
Harding Loevner International Small Companies Portfolio Institutional	1.15%	0.05%	T. Rowe Price Real Estate Fund	0.73%	0.15%
Invesco Convertible Securities Fund Class Y	0.69%	0.10%	T. Rowe Price Short-Term Bond Fund	0.47%	0.15%
Ivy Asset Strategy Fund Class I	0.83%	0.10%	T. Rowe Price Small-Cap Stock Fund	0.89%	0.15%
Ivy Natural Resources Fund Class I	1.11%	0.10%	T. Rowe Price Summit Municipal Income Fund Investor Class	0.50%	0.15%
Janus Henderson Mid Cap Value Fund Class I	0.61%	0.10%	T. Rowe Price Summit Municipal Intermediate Fund Investor Class	0.50%	0.15%
Janus Henderson Small Cap Value Fund Class I	1.03%	0.10%	T. Rowe Price Virginia Tax-Free Bond Fund	0.50%	0.15%
JPMorgan Mortgage-Backed Securities Fund Class I	0.40%	0.10%	T. Rowe Price Value Fund	0.80%	0.15%
JPMorgan Research Market Neutral Fund Class L	3.27%	0.10%	Third Avenue Real Estate Value Fund Institutional Class	1.11%	0.35%
JPMorgan U.S. Large Cap Core Plus Fund Class I Shares	1.80%	0.10%	Third Avenue Small Cap Value Fund Institutional Class	1.15%	0.35%
JPMorgan Value Advantage Fund Class L	0.75%	0.05%	Third Avenue Value Fund Institutional Class	1.13%	0.35%
Kinetics Small Capital Opportunities Fund Class Institutional	1.46%	0.10%	Touchstone Mid Cap Growth Fund Class Y	1.03%	0.10%
Lazard Global Listed Infrastructure Portfolio Institutional Shares	0.96%	0.10%	Touchstone Mid Cap Value Fund Class Y	0.97%	0.10%
Lzaaed US Equity Concentrated Portfolio Institutional Shares	0.76%	0.10%	Touchstone Sands Capital Emerging Markets Growth Fund Class Y	1.35%	0.10%
Madison Mid Cap Fund Class Y	0.98%	0.10%	Touchstone Sands Capital Select Growth Fund Class Y	0.99%	0.10%
Mainstay Epoch Global Equity Yield Fund Class I	0.84%	0.10%	VanEck Global Hard Assets Fund Class I	0.95%	0.10%
MFS® Growth Fund Class I	0.69%	0.10%	VanEck Unconstrained Emerging Markets Bond Fund Class I	0.96%	0.10%
MFS® International Growth Fund Class I	0.90%	0.10%	Victory Sophus Emerging Markets Fund Class Y	0.99%	0.05%
MFS® Value Fund Class I	0.59%	0.10%	Victory RS Small Cap Growth Fund Class A	1.41%	0.05%
Neuberger Berman Real Estate Fund Institutional Class	0.86%	0.10%	Voya Global Real Estate Fund Class I	1.05%	0.08%
Neuberger Berman Sustainable Equity Fund Institutional Class	0.67%	0.10%	Voya MidCap Opportunities Fund Class I	0.98%	0.08%
Olstein All Cap Value Fund Class Advisor	1.18%	0.25%	Voya Real Estate Fund Class I	0.92%	0.08%
Parnassus Core Equity Fund - Institutional Shares	0.64%	0.10%	WCM Focused International Growth Fund Institutional Class	1.06%	0.15%
Parnassus Endeavor Fund Institutional Shares	0.72%	0.10%	Wells Fargo Core Bond Fund - Class Inst	0.42%	0.10%
Parnassus Mid Cap Fund Institutional Shares	0.75%	0.10%	Wells Fargo Emerging Markets Equity Fund - Class Inst	1.20%	0.15%
PIMCO CommodityRealReturn Strategy Fund Class I-2	1.34%	0.10%	Wells Fargo International Bond Fund - Class Inst	0.70%	0.10%
PIMCO Extended Duration Fund Class I-2	1.04%	0.10%	Wells Fargo Intermediate Tax/AMT-Free Fund - Class Inst	0.45%	0.10%
PIMCO Long Duration Total Return Fund Class I-2	1.10%	0.10%	Wells Fargo Municipal Bond Fund - Class Inst	0.46%	0.10%
PIMCO Total Return Fund Class I-2	0.65%	0.10%	Wells Fargo Short-Term Municipal Bond Fund - Class Inst	0.40%	0.10%
Polen Growth Fund Institutional Class	1.00%	0.10%	Wells Fargo Special Mid Cap Value Fund - Class Inst	0.85%	0.15%
Putnam International Capital Opportunities Fund Class Y	1.04%	0.10%	Wells Fargo Strategic Municipal Bond Fund - Class Inst	0.48%	0.10%
Royce Opportunity Fund Investment Class	1.18%	0.10%	Western Asset Core Plus Bond Fund Class I	0.45%	0.05%
Royce Total Return Fund Investment Class	1.21%	0.10%	Western Asset Intermediate Bond Fund Class I	0.52%	0.05%
Seafarer Overseas Growth and Income Fund Institutional Class	0.87%	0.05%	Western Asset Total Return Unconstrained Fund Class I	0.75%	0.15%
Selected American Shares Fund Class D	0.65%	0.10%			

Section 5. ISHARES® EXCHANGE TRADED FUNDS¹⁶ MANAGEMENT FEES^{17,18}

NAME OF EXCHANGE TRADED FUND ¹⁶	MGT. FEE ^{17,18}	NAME OF EXCHANGE TRADED FUND ¹⁶	MGT. FEE ^{17,18}
iBonds® Dec 2018 Term Corporate ETF	0.10%	iShares Bloomberg Roll Select Commodity Strategy ETF	0.28%
iBonds® Dec 2019 Term Corporate ETF	0.10%	iShares Broad USD High Yield Corporate Bond ETF	0.22%
iBonds® Dec 2020 Term Corporate ETF	0.10%	iShares Broad USD Investment Grade Corporate Bond ETF	0.06%
iBonds® Dec 2021 Term Corporate ETF	0.10%	iShares California Muni Bond ETF	0.25%
iBonds® Dec 2021 Term Muni Bond ETF	0.18%	iShares China Large-Cap ETF	0.74%
iBonds® Dec 2022 Term Corporate ETF	0.10%	iShares CMBS ETF	0.25%
iBonds® Dec 2022 Term Muni Bond ETF	0.18%	iShares Cohen & Steers REIT ETF	0.34%
iBonds® Dec 2023 Term Corporate ETF	0.10%	iShares Commodities Select Strategy ETF	0.48%
iBonds® Dec 2023 Term Muni Bond ETF	0.18%	iShares Commodity Optimized Trust	0.75%
iBonds® Dec 2024 Term Corporate ETF	0.10%	iShares Convertible Bond ETF	0.20%
iBonds® Dec 2024 Term Muni Bond ETF	0.18%	iShares Core 10+ Year USD Bond ETF	0.06%
iBonds® Dec 2025 Term Corporate ETF	0.10%	iShares Core 1-5 Year USD Bond ETF	0.06%
iBonds® Dec 2026 Term Corporate ETF	0.10%	iShares Core 5-10 Year USD Bond ETF	0.06%
iBonds® Dec 2027 Term Corporate ETF	0.10%	iShares Core Aggressive Allocation ETF	0.25%
iBonds® Dec 2028 Term Corporate ETF	0.10%	iShares Core Conservative Allocation ETF	0.25%
iBonds® Mar 2020 Term Corporate ETF	0.10%	iShares Core Dividend Growth ETF	0.08%
iBonds® Mar 2020 Term Corporate ex-Financials ETF	0.10%	iShares Core Growth Allocation ETF	0.25%
iBonds® Mar 2023 Term Corporate ETF	0.10%	iShares Core High Dividend ETF	0.08%
iBonds® Mar 2023 Term Corporate ex-Financials ETF	0.10%	iShares Core International Aggregate Bond ETF	0.09%
iBonds® Sep 2019 Term Muni Bond ETF	0.18%	iShares Core Moderate Allocation ETF	0.25%
iBonds® Sep 2020 Term Muni Bond ETF	0.18%	iShares Core MSCI EAFE ETF	0.08%
iShares 0-5 Year High Yield Corporate Bond ETF	0.30%	iShares Core MSCI Emerging Markets ETF	0.14%
iShares 0-5 Year Investment Grade Corporate Bond ETF	0.06%	iShares Core MSCI Europe ETF	0.10%
iShares 0-5 Year TIPS Bond ETF	0.06%	iShares Core MSCI International Developed Markets ETF	0.05%
iShares 10+ Year Investment Grade Corporate Bond ETF	0.06%	iShares Core MSCI Pacific ETF	0.10%
iShares 10-20 Year Treasury Bond ETF	0.15%	iShares Core MSCI Total International Stock ETF	0.10%
iShares 1-3 Year International Treasury Bond ETF	0.35%	iShares Core S&P 500 ETF	0.04%
iShares 1-3 Year Treasury Bond ETF	0.15%	iShares Core S&P Mid-Cap ETF	0.07%
iShares 20+ Year Treasury Bond ETF	0.15%	iShares Core S&P Small-Cap ETF	0.07%
iShares 3-7 Year Treasury Bond ETF	0.15%	iShares Core S&P Total U.S. Stock Market ETF	0.03%
iShares 5-10 Year Investment Grade Corporate Bond ETF	0.06%	iShares Core S&P U.S. Growth ETF	0.04%
iShares 7-10 Year Treasury Bond ETF	0.15%	iShares Core S&P U.S. Value ETF	0.04%
iShares Aaa - A Rated Corporate Bond ETF	0.15%	iShares Core Total USD Bond Market ETF	0.06%
iShares Adaptive Currency Hedged MSCI EAFE ETF	0.35%	iShares Core U.S. Aggregate Bond ETF	0.05%
iShares Adaptive Currency Hedged MSCI Eurozone ETF	0.52%	iShares Core U.S. REIT ETF	0.08%
iShares Adaptive Currency Hedged MSCI Japan ETF	0.49%	iShares Currency Hedged JPX-Nikkei 400 ETF	0.48%
iShares Agency Bond ETF	0.20%	iShares Currency Hedged MSCI ACWI ex U.S. ETF	0.35%
iShares Asia 50 ETF	0.50%	iShares Currency Hedged MSCI Australia ETF	0.52%
iShares Asia/Pacific Dividend ETF	0.49%	iShares Currency Hedged MSCI Canada ETF	0.52%

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Section 5. ISHARES® EXCHANGE TRADED FUNDS¹⁶ MANAGEMENT FEES^{17,18} CONTINUED

NAME OF EXCHANGE TRADED FUND ¹⁶	MGT. FEE ^{17,18}	NAME OF EXCHANGE TRADED FUND ¹⁶	MGT. FEE ^{17,18}
iShares Currency Hedged MSCI EAFE ETF	0.35%	iShares International Developed Property ETF	0.48%
iShares Currency Hedged MSCI EAFE Small-Cap ETF	0.43%	iShares International Developed Real Estate ETF	0.48%
iShares Currency Hedged MSCI Emerging Markets ETF	0.69%	iShares International Dividend Growth ETF	0.22%
iShares Currency Hedged MSCI Eurozone ETF	0.52%	iShares International High Yield Bond ETF	0.40%
iShares Currency Hedged MSCI Germany ETF	0.53%	iShares International Preferred Stock ETF	0.55%
iShares Currency Hedged MSCI Italy ETF	0.49%	iShares International Select Dividend ETF	0.50%
iShares Currency Hedged MSCI Japan ETF	0.49%	iShares International Treasury Bond ETF	0.35%
iShares Currency Hedged MSCI Mexico ETF	0.53%	iShares J.P. Morgan EM Corporate Bond ETF	0.50%
iShares Currency Hedged MSCI South Korea ETF	0.61%	iShares J.P. Morgan EM Local Currency Bond ETF	0.30%
iShares Currency Hedged MSCI Spain ETF	0.52%	iShares J.P. Morgan USD Emerging Markets Bond ETF	0.40%
iShares Currency Hedged MSCI Switzerland ETF	0.52%	iShares JPX-Nikkei 400 ETF	0.48%
iShares Currency Hedged MSCI United Kingdom ETF	0.49%	iShares Latin America 40 ETF	0.48%
iShares Dow Jones U.S. ETF	0.20%	iShares Long-Term Corporate Bond ETF	0.06%
iShares Edge High Yield Defensive Bond ETF	0.35%	iShares MBS ETF	0.09%
iShares Edge Investment Grade Enhanced Bond ETF	0.18%	iShares Micro-Cap ETF	0.60%
iShares Edge MSCI Intl Momentum Factor ETF	0.30%	iShares Morningstar Large-Cap ETF	0.20%
iShares Edge MSCI Intl Quality Factor ETF	0.30%	iShares Morningstar Large-Cap Growth ETF	0.25%
iShares Edge MSCI Intl Size Factor ETF	0.30%	iShares Morningstar Large-Cap Value ETF	0.25%
iShares Edge MSCI Intl Value Factor ETF	0.30%	iShares Morningstar Mid-Cap ETF	0.25%
iShares Edge MSCI Min Vol Asia ex Japan ETF	0.35%	iShares Morningstar Mid-Cap Growth ETF	0.30%
iShares Edge MSCI Min Vol EAFE ETF	0.20%	iShares Morningstar Mid-Cap Value ETF	0.30%
iShares Edge MSCI Min Vol Emerging Markets ETF	0.25%	iShares Morningstar Multi-Asset Income ETF	0.59%
iShares Edge MSCI Min Vol Europe ETF	0.25%	iShares Morningstar Small-Cap ETF	0.25%
iShares Edge MSCI Min Vol Global ETF	0.20%	iShares Morningstar Small-Cap Growth ETF	0.30%
iShares Edge MSCI Min Vol Japan ETF	0.30%	iShares Morningstar Small-Cap Value ETF	0.30%
iShares Edge MSCI Min Vol USA ETF	0.15%	iShares Mortgage Real Estate ETF	0.48%
iShares Edge MSCI Min Vol USA Small-Cap ETF	0.20%	iShares MSCI ACWI ETF	0.32%
iShares Edge MSCI Multifactor Emerging Markets ETF	0.45%	iShares MSCI ACWI ex U.S. ETF	0.32%
iShares Edge MSCI Multifactor Global ETF	0.35%	iShares MSCI ACWI Low Carbon Target ETF	0.20%
iShares Edge MSCI Multifactor Intl ETF	0.30%	iShares MSCI All Country Asia ex Japan ETF	0.69%
iShares Edge MSCI Multifactor Intl Small-Cap ETF	0.40%	iShares MSCI Argentina and Global Exposure ETF	0.59%
iShares Edge MSCI Multifactor USA ETF	0.20%	iShares MSCI Australia ETF	0.49%
iShares Edge MSCI Multifactor USA Small-Cap ETF	0.30%	iShares MSCI Austria ETF	0.49%
iShares Edge MSCI USA Momentum Factor ETF	0.15%	iShares MSCI Belgium ETF	0.49%
iShares Edge MSCI USA Quality Factor ETF	0.15%	iShares MSCI Brazil ETF	0.62%
iShares Edge MSCI USA Size Factor ETF	0.15%	iShares MSCI Brazil Small-Cap ETF	0.62%
iShares Edge MSCI USA Value Factor ETF	0.15%	iShares MSCI BRIC ETF	0.70%
iShares Edge U.S. Fixed Income Balanced Risk ETF	0.25%	iShares MSCI Canada ETF	0.49%
iShares Emerging Markets Dividend ETF	0.49%	iShares MSCI Chile ETF	0.62%
iShares Emerging Markets High Yield Bond ETF	0.50%	iShares MSCI China A ETF	0.65%
iShares Emerging Markets Infrastructure ETF	0.75%	iShares MSCI China ETF	0.62%
iShares ESG 1-5 Year USD Corporate Bond ETF	0.12%	iShares MSCI China Small-Cap ETF	0.62%
iShares ESG USD Corporate Bond ETF	0.18%	iShares MSCI Colombia ETF	0.61%
iShares Europe Developed Real Estate ETF	0.48%	iShares MSCI Denmark ETF	0.53%
iShares Europe ETF	0.60%	iShares MSCI EAFE ESG Optimized ETF	0.20%
iShares Evolved U.S. Consumer Staples ETF	0.18%	iShares MSCI EAFE ETF	0.32%
iShares Evolved U.S. Discretionary Spending ETF	0.18%	iShares MSCI EAFE Growth ETF	0.40%
iShares Evolved U.S. Financials ETF	0.18%	iShares MSCI EAFE Small-Cap ETF	0.40%
iShares Evolved U.S. Healthcare Staples ETF	0.18%	iShares MSCI EAFE Value ETF	0.39%
iShares Evolved U.S. Innovative Healthcare ETF	0.18%	iShares MSCI EM ESG Optimized ETF	0.25%
iShares Evolved U.S. Media and Entertainment ETF	0.18%	iShares MSCI Emerging Markets Asia ETF	0.49%
iShares Evolved U.S. Technology ETF	0.18%	iShares MSCI Emerging Markets ETF	0.69%
iShares Exponential Technologies ETF	0.47%	iShares MSCI Emerging Markets ex China ETF	0.49%
iShares Fallen Angels USD Bond ETF	0.25%	iShares MSCI Emerging Markets Small-Cap ETF	0.69%
iShares Floating Rate Bond ETF	0.20%	iShares MSCI Europe Financials ETF	0.48%
iShares Global 100 ETF	0.40%	iShares MSCI Europe Small-Cap ETF	0.40%
iShares Global Clean Energy ETF	0.47%	iShares MSCI Eurozone ETF	0.49%
iShares Global Comm Services ETF	0.47%	iShares MSCI Finland ETF	0.55%
iShares Global Consumer Discretionary ETF	0.47%	iShares MSCI France ETF	0.49%
iShares Global Consumer Staples ETF	0.47%	iShares MSCI Frontier 100 ETF	0.79%
iShares Global Energy ETF	0.47%	iShares MSCI Germany ETF	0.49%
iShares Global Financials ETF	0.47%	iShares MSCI Germany Small-Cap ETF	0.59%
iShares Global Healthcare ETF	0.47%	iShares MSCI Global Agriculture Producers ETF	0.39%
iShares Global Industrials ETF	0.47%	iShares MSCI Global Energy Producers ETF	0.39%
iShares Global Infrastructure ETF	0.47%	iShares MSCI Global Gold Miners ETF	0.39%
iShares Global Materials ETF	0.47%	iShares MSCI Global Impact ETF	0.49%
iShares Global REIT ETF	0.14%	iShares MSCI Global Metals & Mining Producers ETF	0.39%
iShares Global Tech ETF	0.47%	iShares MSCI Global Silver Miners ETF	0.39%
iShares Global Timber & Forestry ETF	0.47%	iShares MSCI Hong Kong ETF	0.49%
iShares Global Utilities ETF	0.47%	iShares MSCI India ETF	0.68%
iShares GNMA Bond ETF	0.15%	iShares MSCI India Small-Cap ETF	0.75%
iShares Gold Strategy ETF	0.25%	iShares MSCI Indonesia ETF	0.62%
iShares Gold Trust	0.25%	iShares MSCI Ireland ETF	0.49%
iShares Government/Credit Bond ETF	0.20%	iShares MSCI Israel ETF	0.62%
iShares iBoxx \$ High Yield Corporate Bond ETF	0.49%	iShares MSCI Italy ETF	0.49%
iShares iBoxx \$ High Yield ex Oil & Gas Corporate Bond ETF	0.50%	iShares MSCI Japan ETF	0.49%
iShares iBoxx \$ Investment Grade Corporate Bond ETF	0.15%	iShares MSCI Japan Small-Cap ETF	0.49%
iShares India 50 ETF	0.92%	iShares MSCI KLD 400 Social ETF	0.25%
iShares Inflation Hedged Corporate Bond ETF	0.20%	iShares MSCI Kokusai ETF	0.25%
iShares Interest Rate Hedged Corporate Bond ETF	0.24%	iShares MSCI Malaysia ETF	0.49%
iShares Interest Rate Hedged Emerging Markets Bond ETF	0.48%	iShares MSCI Mexico ETF	0.49%
iShares Interest Rate Hedged High Yield Bond ETF	0.54%	iShares MSCI Netherlands ETF	0.49%
iShares Interest Rate Hedged Long-Term Corporate Bond ETF	0.16%	iShares MSCI New Zealand ETF	0.49%
iShares Intermediate Government/Credit Bond ETF	0.20%	iShares MSCI Norway ETF	0.53%
iShares Intermediate-Term Corporate Bond ETF	0.06%	iShares MSCI Pacific ex Japan ETF	0.49%

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Section 5. ISHARES® EXCHANGE TRADED FUNDS¹⁶ MANAGEMENT FEES^{17,18} CONTINUED

NAME OF EXCHANGE TRADED FUND ¹⁶	MGT. FEE ^{17,18}	NAME OF EXCHANGE TRADED FUND ¹⁶	MGT. FEE ^{17,18}
iShares MSCI Peru ETF	0.62%	iShares S&P 100 ETF	0.20%
iShares MSCI Philippines ETF	0.62%	iShares S&P 500 Growth ETF	0.18%
iShares MSCI Poland ETF	0.63%	iShares S&P 500 Value ETF	0.18%
iShares MSCI Qatar ETF	0.62%	iShares S&P GSCI Commodity-Indexed Trust	0.75%
iShares MSCI Russia ETF	0.62%	iShares S&P Mid-Cap 400 Growth ETF	0.25%
iShares MSCI Saudi Arabia ETF	0.74%	iShares S&P Mid-Cap 400 Value ETF	0.25%
iShares MSCI Singapore ETF	0.49%	iShares S&P Small-Cap 600 Growth ETF	0.25%
iShares MSCI South Africa ETF	0.62%	iShares S&P Small-Cap 600 Value ETF	0.25%
iShares MSCI South Korea ETF	0.62%	iShares Select Dividend ETF	0.39%
iShares MSCI Spain ETF	0.49%	iShares Short Maturity Bond ETF	0.25%
iShares MSCI Sweden ETF	0.49%	iShares Short Maturity Municipal Bond ETF	0.25%
iShares MSCI Switzerland ETF	0.49%	iShares Short Treasury Bond ETF	0.15%
iShares MSCI Taiwan ETF	0.62%	iShares Short-Term Corporate Bond ETF	0.06%
iShares MSCI Thailand ETF	0.62%	iShares Short-Term National Muni Bond ETF	0.07%
iShares MSCI Turkey ETF	0.62%	iShares Silver Trust	0.50%
iShares MSCI UAE ETF	0.62%	iShares TIPS Bond ETF	0.20%
iShares MSCI United Kingdom ETF	0.49%	iShares Transportation Average ETF	0.43%
iShares MSCI United Kingdom Small-Cap ETF	0.59%	iShares Treasury Floating Rate Bond ETF	0.15%
iShares MSCI USA Equal Weighted ETF	0.15%	iShares U.S. Aerospace & Defense ETF	0.43%
iShares MSCI USA ESG Optimized ETF	0.15%	iShares U.S. Basic Materials ETF	0.43%
iShares MSCI USA ESG Select ETF	0.25%	iShares U.S. Broker-Dealers & Securities Exchanges ETF	0.43%
iShares MSCI USA Small-Cap ESG Optimized ETF	0.17%	iShares U.S. Consumer Goods ETF	0.43%
iShares MSCI World ETF	0.24%	iShares U.S. Consumer Services ETF	0.43%
iShares Nasdaq Biotechnology ETF	0.47%	iShares U.S. Dividend and Buyback ETF	0.25%
iShares National Muni Bond ETF	0.07%	iShares U.S. Energy ETF	0.43%
iShares New York Muni Bond ETF	0.25%	iShares U.S. Financial Services ETF	0.43%
iShares North American Natural Resources ETF	0.47%	iShares U.S. Financials ETF	0.43%
iShares North American Tech ETF	0.47%	iShares U.S. Healthcare ETF	0.43%
iShares North American Tech-Multimedia Networking ETF	0.47%	iShares U.S. Healthcare Providers ETF	0.43%
iShares North American Tech-Software ETF	0.47%	iShares U.S. Home Construction ETF	0.43%
iShares PHLX Semiconductor ETF	0.47%	iShares U.S. Industrials ETF	0.43%
iShares Residential Real Estate ETF	0.48%	iShares U.S. Infrastructure ETF	0.40%
iShares Robotics and Artificial Intelligence ETF	0.47%	iShares U.S. Insurance ETF	0.43%
iShares Russell 1000 ETF	0.15%	iShares U.S. Medical Devices ETF	0.43%
iShares Russell 1000 Growth ETF	0.20%	iShares U.S. Oil & Gas Exploration & Production ETF	0.43%
iShares Russell 1000 Pure U.S. Revenue ETF	0.15%	iShares U.S. Oil Equipment & Services ETF	0.43%
iShares Russell 1000 Value ETF	0.20%	iShares U.S. Pharmaceuticals ETF	0.43%
iShares Russell 2000 ETF	0.19%	iShares U.S. Preferred Stock ETF	0.46%
iShares Russell 2000 Growth ETF	0.24%	iShares U.S. Real Estate ETF	0.43%
iShares Russell 2000 Value ETF	0.24%	iShares U.S. Regional Banks ETF	0.43%
iShares Russell 2500 ETF	0.15%	iShares U.S. Technology ETF	0.43%
iShares Russell 3000 ETF	0.20%	iShares U.S. Telecommunications ETF	0.43%
iShares Russell Mid-Cap ETF	0.20%	iShares U.S. Treasury Bond ETF	0.15%
iShares Russell Mid-Cap Growth ETF	0.25%	iShares U.S. Utilities ETF	0.43%
iShares Russell Mid-Cap Value ETF	0.25%	iShares Ultra Short-Term Bond ETF	0.08%
iShares Russell Top 200 ETF	0.15%	iShares US & Intl High Yield Corp Bond ETF	0.40%
iShares Russell Top 200 Growth ETF	0.20%	iShares Yield Optimized Bond ETF	0.25%
iShares Russell Top 200 Value ETF	0.20%		

1) The PNC Financial Services Group, Inc. ("PNC") uses the marketing names PNC Wealth Management® and Hawthorn, PNC Family Wealth® to provide investment, wealth management, and fiduciary services through its subsidiary, PNC Bank, National Association ("PNC Bank"), which is a **Member FDIC**, and to provide specific fiduciary and agency services through its subsidiary, PNC Delaware Trust Company or PNC Ohio Trust Company. PNC also uses the marketing names PNC Institutional Asset Management®, PNC Retirement Solutions®, Vested Interest® and PNC Institutional Advisory Solutions® for the various discretionary and non-discretionary institutional investment activities conducted through PNC Bank and through PNC's subsidiary PNC Capital Advisors, LLC, a registered investment adviser ("PNC Capital Advisors"). Standalone custody, escrow, and directed trustee services; FDIC-insured banking products and services; and lending of funds are also provided through PNC Bank. PNC does not provide legal, tax, or accounting advice unless, with respect to tax advice, PNC Bank has entered into a written tax services agreement. PNC does not provide services in any jurisdiction in which it is not authorized to conduct business. PNC Bank is not registered as a municipal advisor under the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Act"). Investment management and related products and services provided to a "municipal entity" or "obligated person" regarding "proceeds of municipal securities" (as such terms are defined in the Act) will be provided by PNC Capital Advisors.

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- 2) PNC and our affiliates may have an interest in account holders being invested in investment vehicles that pay us or our affiliates fees for services rendered. For further information regarding such services rendered or fees received, contact your PNC account officer. Our ability to invest any account governed by Indiana law in investment vehicles that pay us or our affiliates fees for services will end upon PNC's receipt, at any time, of a notice of objection by a majority of the persons entitled to receive statements of that account's activity, and PNC and its affiliates may not accept such fees with respect to accounts governed under the law of certain other states.
- 3) Mutual funds advised by affiliates of BlackRock, Inc. PNC indirectly owns less than 25% of BlackRock, Inc. as of September 30, 2018.
- 4) Under a services agreement between BlackRock Advisors, LLC, and PNC Bank ("BlackRock Agreement"), PNC Bank receives from BlackRock Advisors, LLC and/or BlackRock mutual funds administration and services fees up to 0.25% of the assets of PNC client accounts invested in BlackRock mutual funds. Under BlackRock Agreement, PNC Bank combines the mutual fund share purchases of multiple client accounts to satisfy minimum investment requirements and thus qualify such accounts for lower cost institutional share classes. You can obtain a prospectus for BlackRock mutual funds by calling your PNC account officer, 1-800-441-7450 or 1-800-441-7762.
- 5) Total Expense Ratio and amounts to PNC affiliates shown are net of any fee waivers by the investment vehicles' service providers (including BlackRock and its affiliates). Accordingly amounts reported may change from time to time because of the effects of these fee waivers. For more information regarding vehicle expenses and fees, including fee waivers, please consult the vehicle's prospectus.
- 6) Certain types of PNC accounts may hold Service Class shares of the BlackRock Funds, which have a service fee of 0.25% (0.15% for the iShares S&P 500 Index Fund). These fees are in addition to the amounts reported in both the Total Expense Ratio and Total to PNC Affiliates columns in the tables.
- 7) PNC Bank, PNC Delaware Trust Company and PNC Ohio Trust Company may also receive an account level fee for services provided to your account. However, in light of the compensation for the services described above, for certain accounts, PNC Bank, PNC Delaware Trust Company and PNC Ohio Trust Company provide a variety of reductions in the account level fee for the portion of an account's assets invested in mutual funds (other than a money market fund) for which a PNC affiliate provides investment advisory services. PNC Bank, PNC Delaware Trust Company and PNC Ohio Trust Company reserve the right at any time to eliminate, in whole or part, any or all of these account level fee reductions. For more information regarding these arrangements please refer to your fee letter, fee schedule or your most recent periodic fee invoice, as applicable.
- 8) The expense ratios do not include expenses attributable to this mutual fund's investments in underlying funds, which may be funds advised by BlackRock or its affiliates. You can obtain a prospectus for this fund by calling your PNC account officer, 1-800-441-7450 or 1-800-441-7762.
- 9) Expense ratios are as of June 30, 2018.
- 10) The expense ratios of the mutual funds listed in Sections 1 and 2 represent annualized expense ratios for the fiscal period through September 30, 2018 unless otherwise disclosed.
- 11) Mutual Funds advised by PNC Capital Advisors, LLC ("PCA"). PCA is a wholly-owned subsidiary of PNC Bank.

- 12) Under a services agreement between PCA and PNC Bank ("PCA Agreement"), PNC Bank receives from PCA and/or PNC mutual funds services fees up to 0.10% of the assets of PNC client accounts invested in PNC mutual funds. Under the PCA Agreement, PNC Bank combines the mutual fund purchases of multiple client accounts to satisfy minimum investment requirements and thus qualify such accounts for lower cost institutional share classes. You can obtain a prospectus for PNC mutual funds by calling your PNC account officer or 1-800-551-2145.
- 13) The expense ratios do not include expenses attributable to this mutual fund's investments in underlying funds, which may be funds advised by PNC or its affiliates. You can obtain a prospectus for PNC mutual funds by calling your PNC account officer or 1-800-551-2145.
- 14) Section 4 includes registered mutual funds that are not advised by a PNC affiliate ("Non-Proprietary Funds"), but which pay servicing fees to PNC and/or our affiliates and unregistered investment vehicles which are advised by a BlackRock, Inc. affiliate that pay fees to BlackRock. A description of the services provided and fees earned can be found in the mutual fund prospectuses or other disclosure documents for the mutual fund or other investment vehicle. You can obtain the prospectus for a particular mutual fund by calling your PNC account officer or through each fund company's website. If the investment vehicle you hold is not a mutual fund, you should have a copy of the offering disclosure document. If you have any questions, please call your PNC account officer.
- 15) Expense ratios are as of June 30, 2018.
- 16) iShares® and iBonds® are registered trademarks of BlackRock Institutional Trust Company N.A. ("BTC"). iShares® Exchange Traded Funds are advised by BlackRock Fund Advisors ("BFA"), a wholly-owned subsidiary of BTC, which in turn is a wholly-owned subsidiary of BlackRock, Inc. PNC indirectly owns less than 25% of BlackRock, Inc. as of September 30, 2018.
- 17) Pursuant to the Investment Advisory Agreements between BFA and the BTC, BFA is responsible for substantially all expenses of the Fund, including the cost of transfer agency, custody, fund administration, legal, audit and other services except interest expense and taxes, brokerage expenses, future distribution fees or expenses and extraordinary expenses. You can obtain a prospectus for iShares Funds by calling your account officer or 1-800-iShares (1-800-474-2737).
- 18) PNC Bank, PNC Delaware Trust Company and PNC Ohio Trust Company receive an account level fee for services provided to your account. However, in light of the compensation for the services described above, for certain accounts, PNC Bank, PNC Delaware Trust Company and PNC Ohio Trust Company provide a variety of reductions in the account level fee for the portion of an account's assets invested in exchange traded funds for which a PNC affiliate provides investment management services. PNC Bank, PNC Delaware Trust Company and PNC Ohio Trust Company reserve the right at any time to eliminate, in whole or part, any or all of these account level fee reductions. For more information regarding these arrangements please refer to your fee letter, fee schedule or your most recent periodic fee invoice, as applicable.

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EXHIBIT V

Client Review

5/30/2019

Presented by: **Steven Shapiro, CFA**
Senior Vice President, Senior Investment Advisor
Office: 412-762-3466
steven.shapiro@pnc.com

The Tower at PNC Plaza 29th Floor
300 Fifth Avenue
Pittsburgh PA 15222

Presentation To:
Upper St. Clair Police Pension

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- I. Performance
- II. Portfolio Review
- III. Capital Markets Review and Economic Outlook
- IV. Manager Summaries

Performance

SELECTED PERIOD PERFORMANCE

UPPER ST CLAIR POLICE PENSION TOTAL PORTFOLIO

As of April 30, 2019

	Market Value	3 Months	Year to Date (4 Months)	1 Year	3 Years	5 Years	7 Years	Inception to Date (89 Months)
Total Portfolio	23,022,414	5.93	11.78	7.16	9.34	6.78	8.05	9.00

SELECTED PERIOD PERFORMANCE

UPPER ST CLAIR POLICE PENSION CASH/SHORT-TERM FIXED INCOME PORTFOLIO As of April 30, 2019

	Market Value	3 Months	Year to Date (4 Months)	1 Year	3 Years	5 Years	7 Years	Inception to Date (89 Months)
Total Portfolio	442,225	.74	.95	2.29	1.06	.30	.29	.37
Total Fixed	210,948	.89	1.12	2.94	.86			
Cash ACI & Money Market Funds	231,277	.61	.82	2.16	1.26	.87	.70	.71

SELECTED PERIOD PERFORMANCE

UPPER ST CLAIR POLICE PENSI UMA

As of April 30, 2019

	Market Value	3 Months	Year to Date (4 Months)	1 Year	3 Years	5 Years	7 Years	Inception to Date (88 Months)
Total Portfolio	22,580,189	6.12	12.17	7.34	9.57	6.96	8.22	9.12
45%SP5/5%RM/2%R2/13%EAFEn/35%BCAGG		6.28	12.23	8.34	9.26	7.25	8.71	9.40
Total Equity	15,229,550	8.25	17.01	8.23	13.21	9.18	10.83	12.16
68SP500/8RMID/4R2/20EAFEN		8.66	17.43	9.46	13.17	9.57	12.02	13.00
US Domestic Equities	12,131,524	8.47	17.26	10.99	14.43	10.49	11.86	13.23
S&P 500 TR		9.48	18.25	13.49	14.87	11.63	13.59	14.66
Total International	3,098,026	7.40	16.04	-0.92	8.97	3.85	6.56	7.73
MSCI EAFE Net		6.10	13.07	-3.22	7.24	2.60	6.35	7.04
Total Fixed	7,293,793	1.98	3.38	5.00	2.47	2.33	2.79	3.26
Bloomberg Barclays US Aggregate		1.89	2.97	5.29	1.90	2.57	2.32	2.53
Cash ACI & Money Market Funds	56,846	.59	.98	2.20	1.25	1.99	1.49	1.47
FTSE 90 T-Bill		.60	.80	2.18	1.23	.76	.56	.53

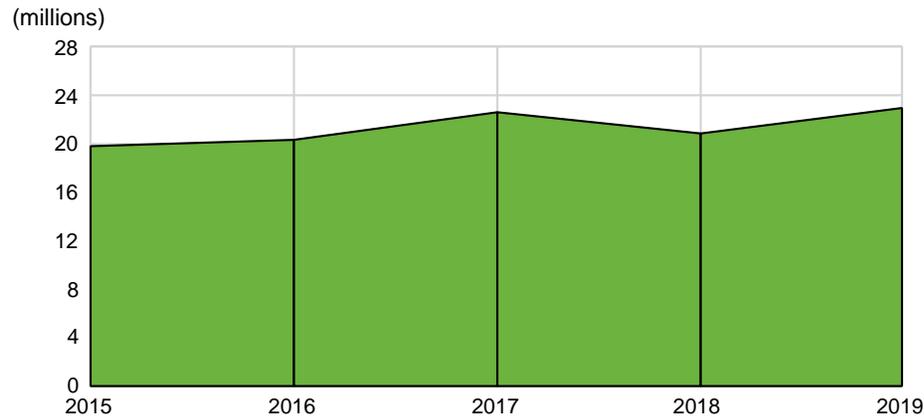
HISTORY OF ASSET GROWTH

UPPER ST CLAIR POLICE PENSION CONS

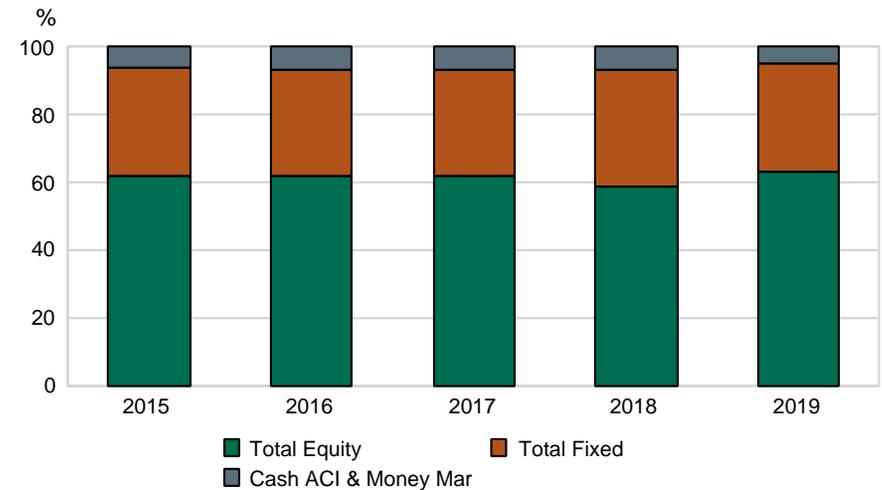
As of April 30, 2019

	Consolidated	Jan 2015- Dec 2015	Jan 2016- Dec 2016	Jan 2017- Dec 2017	Jan 2018- Dec 2018	Jan 2019- Apr 2019
Beginning Market Value	18,467,638.11	18,467,638.11	19,724,970.23	20,359,409.71	22,618,160.93	20,913,603.96
Net Contributions/Withdrawals	-1,381,808.16	1,143,938.83	-459,376.14	-899,146.96	-832,846.31	-334,377.58
Income Received	1,843,085.46	375,585.25	396,153.60	425,497.26	503,824.98	142,024.37
Gain/Loss	4,093,496.72	-262,191.96	697,662.02	2,732,400.92	-1,375,535.64	2,301,161.38
Ending Market Value	23,022,412.13	19,724,970.23	20,359,409.71	22,618,160.93	20,913,603.96	23,022,412.13
Total Return	6.62	.64	5.64	15.82	-4.08	11.78

Ending Market Value



Historical Asset Allocation

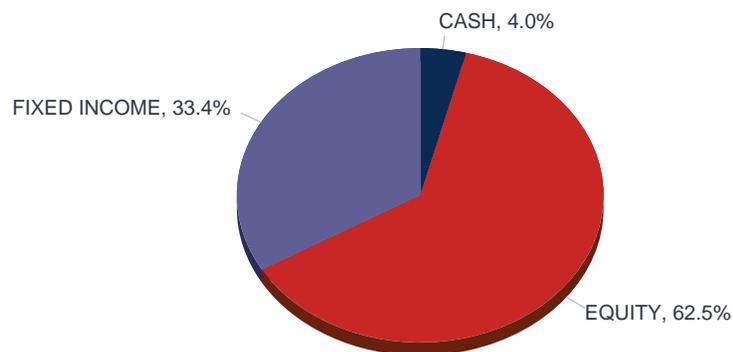


Portfolio Review

Portfolio Summary by Asset Class

UPPER ST CLAIR POLICE PENSI CONS

As of May 22, 2019

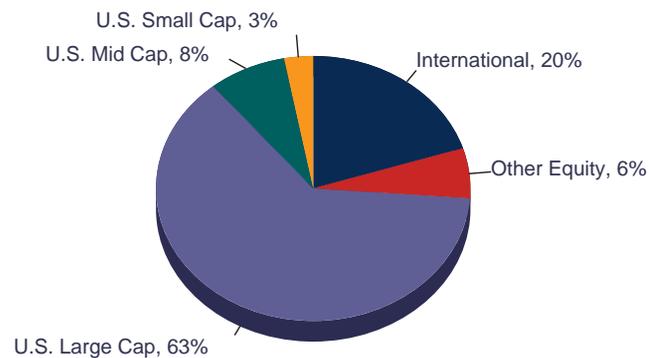


Details				
Description	Market Value	Carrying Value	Annual Income	Yield
Cash	908,347	908,347	3,251	0.4%
Equity	14,072,021	11,671,875	256,176	1.8%
Fixed Income	7,524,913	7,572,841	222,370	3.0%
Total	22,505,281	20,153,063	481,797	2.1%

Equity Summary

UPPER ST CLAIR POLICE PENSI CONS

As of May 22, 2019



Details

Description	Market Value	Carrying Value	Gain/Loss
U.S. Large Cap	8,840,711	6,812,645	2,028,066
U.S. Mid Cap	1,124,901	899,728	225,173
U.S. Small Cap	418,625	298,219	120,406
International	2,827,591	2,786,219	41,372
Other Equity	860,194	875,064	(14,870)
Total	14,072,021	11,671,875	2,400,146

Portfolio Holdings by Asset Class, Style and Capitalization

UPPER ST CLAIR POLICE PENSI CONS

As of May 22, 2019

Security Description	Shares (Units)	Ticker	MAT Date/ Coupon	Market Value	Carrying Value	Recent Price	Annual Dividend	Annual Income	Yield	% Asset Class	% Of Portfolio
Cash											
CASH - PRINCIPAL	1.00	@@@@CA SH		763,933	763,933	1.00	0.00	0	0.0%	84.1%	3.4%
PNC GOVT. PRINCIPAL - MONEY MARKET	144,414.04			144,414	144,414	1.00	0.02	3,251	2.3%	15.9%	0.6%
Total Cash				908,347	908,347			3,251	0.4%	100.0%	4.0%
Equity											
Large Cap											
Large Cap Core											
SMART BETA CORE	1.00			3,091,414	2,473,262		1.49	63,865	2.1%	22.0%	13.7%
Total Large Cap Core				3,091,414	2,473,262			63,865	2.1%	22.0%	13.7%
Large Cap Growth											
JENNISON LCG MODEL	1.00			1,486,612	916,406		1.20	10,884	0.7%	10.6%	6.6%
T ROWE PRICE LCG	19,215.56	PRGFX		1,285,905	926,915	66.92	0.11	2,114	0.2%	9.1%	5.7%
Total Large Cap Growth				2,772,518	1,843,322			12,998	0.5%	19.7%	12.3%
Large Cap Value											
ARISTOTLE LGE CAP VL	1.00			1,477,336	1,243,768		1.65	26,360	1.8%	10.5%	6.6%
DELAWARE LRGE CAP VL	1.00			1,499,444	1,252,294		2.04	39,073	2.6%	10.7%	6.7%
Total Large Cap Value				2,976,779	2,496,061			65,433	2.2%	21.2%	13.2%
Total Large Cap				8,840,711	6,812,645			142,296	1.6%	62.8%	39.3%

Portfolio Holdings by Asset Class, Style and Capitalization

UPPER ST CLAIR POLICE PENSI CONS

As of May 22, 2019

Security Description	Shares (Units)	Ticker	MAT Date/ Coupon	Market Value	Carrying Value	Recent Price	Annual Dividend	Annual Income	Yield	% Asset Class	% Of Portfolio
Mid Cap											
Mid Cap Growth											
BAIRD MCG MODEL	1.00			584,378	427,121		1.00	4,244	0.7%	4.2%	2.6%
Total Mid Cap Growth				584,378	427,121			4,244	0.7%	4.2%	2.6%
Mid Cap Value											
WELLS FARGO MCV MDL	1.00			540,523	472,607		1.33	10,003	1.9%	3.8%	2.4%
Total Mid Cap Value				540,523	472,607			10,003	1.9%	3.8%	2.4%
Total Mid Cap				1,124,901	899,728			14,247	1.3%	8.0%	5.0%
Small Cap											
Small Cap Growth											
ISHARES S&P 600 SCG	1,174.00	IJT		208,455	144,589	177.56	1.50	1,762	0.8%	1.5%	0.9%
Total Small Cap Growth				208,455	144,589			1,762	0.8%	1.5%	0.9%
Small Cap Value											
EARNEST PRTNR SCV MD	1.00			210,170	153,630		0.90	3,133	1.5%	1.5%	0.9%
Total Small Cap Value				210,170	153,630			3,133	1.5%	1.5%	0.9%
Total Small Cap				418,625	298,219			4,895	1.2%	3.0%	1.9%
International											
International Large Cap Growth											
WCM INTL LCG	1.00			1,170,126	1,080,405		0.96	13,581	1.2%	8.3%	5.2%
Total International Large Cap Growth				1,170,126	1,080,405			13,581	1.2%	8.3%	5.2%

Portfolio Holdings by Asset Class, Style and Capitalization

UPPER ST CLAIR POLICE PENSI CONS

As of May 22, 2019

Security Description	Shares (Units)	Ticker	MAT Date/ Coupon	Market Value	Carrying Value	Recent Price	Annual Dividend	Annual Income	Yield	% Asset Class	% Of Portfolio
International Large Cap Value											
CAMBIAR INTL EQUITY	1.00			1,007,135	1,086,726		0.77	28,249	2.8%	7.2%	4.5%
Total International Large Cap Value				1,007,135	1,086,726			28,249	2.8%	7.2%	4.5%
International Small Cap											
WASATCH INTL GROWTH	66,907.87	WIOX		229,494	194,898	3.43	0.00	0	0.0%	1.6%	1.0%
Total International Small Cap				229,494	194,898			0	0.0%	1.6%	1.0%
International Emerging Markets											
ISHARES MSCI EMERGNG	10,409.00	EEM		420,836	424,189	40.43	0.87	9,097	2.2%	3.0%	1.9%
Total International Emerging Markets				420,836	424,189			9,097	2.2%	3.0%	1.9%
Total International				2,827,591	2,786,219			50,927	1.8%	20.1%	12.6%
Equity Other											
LAZARD GLOBAL LISTED	57,193.73	GLIFX		860,194	875,064	15.04	0.77	43,810	5.1%	6.1%	3.8%
Total Equity Other				860,194	875,064			43,810	5.1%	6.1%	3.8%
Total Equity				14,072,021	11,671,875			256,176	1.8%	100.0%	62.5%
Fixed Income											
Short Taxable											
ISHARES 1 TO 3 YEAR TREASURY BOND ETF	2,672.00	SHY		224,742	224,420	84.11	1.70	4,532	2.0%	3.0%	1.0%
Total Short Taxable				224,742	224,420			4,532	2.0%	3.0%	1.0%
Core Intermediate Taxable											

Portfolio Holdings by Asset Class, Style and Capitalization

UPPER ST CLAIR POLICE PENSI CONS

As of May 22, 2019

Security Description	Shares (Units)	Ticker	MAT Date/ Coupon	Market Value	Carrying Value	Recent Price	Annual Dividend	Annual Income	Yield	% Asset Class	% Of Portfolio
VANGUARD TOTAL BD IN	217,656.03	VBTLX		2,328,919	2,349,417	10.70	0.30	65,297	2.8%	30.9%	10.3%
Total Core Intermediate Taxable				2,328,919	2,349,417			65,297	2.8%	30.9%	10.3%
Core Long Taxable											
ISHARES BARCLAYS TPS	6,810.00	TIP		772,799	786,574	113.48	2.19	14,900	1.9%	10.3%	3.4%
ISHARES CORE US AG B	22,350.00	AGG		2,437,268	2,447,041	109.05	2.99	66,782	2.7%	32.4%	10.8%
RIDGEWORTH FLTG RATE	61,691.84	SAMBX		527,465	530,710	8.55	0.44	27,391	5.2%	7.0%	2.3%
WESTERN CORE PLUS	106,538.83	WACPX		1,233,720	1,234,679	11.58	0.41	43,468	3.5%	16.4%	5.5%
Total Core Long Taxable				4,971,251	4,999,004			152,541	3.1%	66.1%	22.1%
Total Fixed Income				7,524,913	7,572,841			222,370	3.0%	100.0%	33.4%
Grand Total				22,505,281	20,153,063			481,797	2.1%		100.0%

Disclosure

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Capital Markets Review and Economic Outlook

Capital Markets Review

Introduction

Executive Summary

Topic	Commentary
U.S. Economy	<ul style="list-style-type: none">U.S. economic growth is moderating, but underlying fundamentals are stable and an imminent recession is unlikely, in our view. Fourth-quarter GDP dipped to 2.2%, and the backdrop for consumption and capital expenditures remains healthy. PNC forecasts full-year 2019 growth of 2.7%, consistent with a slowing expansion phase of the cycle.
International Economy	<ul style="list-style-type: none">The global growth moderation continues, with tightness in financial conditions and geopolitical tensions remaining headwinds.We believe the recovery of the Chinese economy is critical to alleviating concerns about global growth and extending the current cycle.
Global Monetary Policy	<ul style="list-style-type: none">The Federal Reserve (Fed) signaled to investors that it is “patient and data-dependent” rather than on “autopilot,” a shift that provided significant relief to financial markets during much of the first quarter.Other major central banks have also moved away from actively tightening monetary policy in response to less optimistic outlooks for economic conditions.
Corporate Earnings	<ul style="list-style-type: none">As of March 1, 2019, S&P 500® constituents posted double-digit earnings growth for the fifth consecutive quarter. Earnings grew 13.1%, and all but the Utilities sector generated positive results. Sales ticked up 7.2%.Better-than-feared fourth-quarter earnings helped support the recent stock market rally, but a stabilization in 2019 earnings estimates is critical to justifying further gains.
U.S. Equity Markets	<ul style="list-style-type: none">Easing of key 2018 risks and improved investor sentiment have allowed multiples to re-expand amid slowing but stable growth.Mergers and acquisitions activity has proven to be a popular strategy for firms seeking to deploy capital in ways that directly create value.
International Equity Markets	<ul style="list-style-type: none">Improved investor sentiment continues to lift global financial markets despite an uncertain economic outlook.While the global stock relief rally continues, investors should be mindful of how quickly prices have moved higher. We do not expect this straight-line trajectory higher to persist indefinitely.
Fixed Income Markets	<ul style="list-style-type: none">Fixed income markets have posted solid returns thus far in 2019 on the back of the Fed’s pause in interest rate hikes.We also favor intermediate maturities given our view that rates will remain low.
Alternative Assets	<ul style="list-style-type: none">We believe asset classes that are historically less correlated to traditional stocks and bonds have the potential to add value as volatility remains elevated at this later stage in the cycle.
Foreign Exchange	<ul style="list-style-type: none">PNC Economics expects the dollar to stabilize, if not weaken, with larger U.S. fiscal deficits, slowing U.S. growth, and the change in the Fed’s monetary policy limiting further currency appreciation. This did not play out in the first quarter, however.

Capital Markets Review

Introduction

Major Asset Class Total Returns

As of : 3/31/2019		Trailing Total Returns				
Asset Class	Market/Style Index	Quarter and Year to Date	Twelve Months	Three Years	Five Years	Ten Years
U.S. Equity	Russell 3000	14.04%	8.77%	13.48%	10.36%	16.00%
Large Cap	S&P 500	13.65%	9.50%	13.51%	10.91%	15.92%
Value	S&P 500 Value	12.19%	5.93%	10.62%	8.05%	14.49%
Growth	S&P 500 Growth	14.95%	12.77%	15.91%	13.36%	17.17%
Mid Cap	S&P 400	14.49%	2.59%	11.24%	8.29%	16.28%
Value	S&P 400 Value	14.02%	3.60%	10.32%	7.52%	15.80%
Growth	S&P 400 Growth	14.95%	1.69%	11.90%	8.79%	16.64%
Small Cap	Russell 2000	14.58%	2.05%	12.92%	7.05%	15.36%
Value	Russell 2000 Value	11.93%	0.17%	10.86%	5.59%	14.12%
Growth	Russell 2000 Growth	17.14%	3.85%	14.87%	8.41%	16.52%
REITs	FTSE NAREIT All-Equity REITs	17.17%	20.46%	7.84%	10.00%	18.80%
Infrastructure	S&P Global Infrastructure	14.06%	9.24%	8.66%	5.44%	10.92%
International Equity***	MSCI ACWI Ex USA IMI (USD)	10.30%	-4.96%	7.94%	2.66%	9.20%
Intl. Large/Mid Cap	MSCI World Ex USA	10.45%	-3.14%	7.29%	2.20%	8.82%
Value	MSCI World Ex USA Value	8.49%	-5.46%	7.13%	0.68%	8.25%
Growth	MSCI World Ex USA Growth	12.41%	-0.82%	7.42%	3.67%	9.35%
Intl. Small Cap	MSCI World Ex USA Small Cap	10.93%	-8.66%	7.28%	3.69%	12.25%
Value	MSCI World Ex USA Small Value	9.18%	-9.28%	6.72%	2.38%	11.77%
Growth	MSCI World Ex USA Small Growth	12.72%	-8.03%	7.85%	4.99%	12.70%
Emerging Market	MSCI Emerging Market	9.92%	-7.41%	10.68%	3.68%	8.94%
Fixed Income						
Municipal Short-Term	Barclays Municipal 1-3 Yr	0.98%	2.43%	1.20%	1.07%	1.39%
Municipal	Barclays Municipal	2.90%	5.38%	2.71%	3.73%	4.72%
Core Short-Term	Barclays U.S. Aggregate 1-3 Yr	1.22%	3.05%	1.34%	1.24%	1.65%
U.S. Core	Barclays U.S. Aggregate	2.94%	4.48%	2.03%	2.74%	3.77%
Taxable Intermediate	Barclays U.S. Govt/Credit Interm.	2.32%	4.24%	1.66%	2.12%	3.14%
Taxable Long	Barclays U.S. Govt/Credit Long	6.45%	5.24%	3.75%	5.35%	7.23%
U.S. High Yield	Barclays U.S. Corporate High Yield	7.26%	5.93%	8.56%	4.68%	11.26%
U.S. Leveraged Loans	S&P/LSTA U.S. Leveraged Loans	5.10%	3.01%	5.29%	3.07%	7.50%
Intl. Developed Bond	Barclays Global Agg. Ex-USA	1.78%	-3.12%	1.22%	0.13%	2.68%
Emerging Market Bond	Barclays EM Debt USD Aggregate	5.43%	4.38%	5.36%	4.75%	8.54%
Inflation-Linked Bonds	Barclays U.S. Treasury TIPS	3.19%	2.70%	1.70%	1.94%	3.41%
Cash	Barclays U.S. Treasury Bill 1-3 M	0.59%	2.09%	1.14%	0.71%	0.40%
Alternative Assets						
Hedge Funds	HFRX Global Hedge Fund*	2.60%	-3.32%	1.95%	-0.30%	1.74%
Equity Hedge	HFRX Equity Hedge*	5.95%	-5.14%	2.87%	0.66%	1.90%
Event Driven	HFRX Event Driven*	0.80%	-6.48%	2.16%	-1.77%	2.29%
Macro-CTA	HFRX Macro*	-0.87%	-2.10%	-1.57%	-0.10%	-1.95%
Relative Value	HFRX Relative Value*	2.62%	0.43%	3.03%	-0.22%	4.15%
Private Equity	Cambridge U.S. Private Equity**	3.79%	18.01%	14.49%	13.40%	11.99%
Private Debt	Barclays U.S. High Yield (Caa-Rated)	7.15%	2.73%	12.95%	4.69%	14.13%
Private Real Estate	NCREIF Property Index**	6.71%	6.71%	7.22%	9.33%	7.49%
Timber	NCREIF Timber**	3.21%	3.21%	3.14%	4.93%	3.80%
Commodities	Bloomberg Commodity	6.30%	-5.30%	5.29%	3.07%	7.50%
Master Limited Partnerships	Alerian MLP	16.82%	15.11%	5.69%	-4.73%	10.12%

Source: PNC, Standard & Poor's, FTSE Russell, MSCI, Bloomberg Barclays, HFR indexes, Cambridge Associates, NCREIF

*HFR indexes subject to multiple revisions: Flash-Estimate - 5th business day, Mid-Estimate -15th of Month; End-Estimate 1st of following month

**Private Alternative Investments subject to reporting lag; Data are available as of most recent reported data. 3rd Quarter 2018

***All International Equity Returns dollar-denominated; net basis

Capital Markets Review

Market Commentary

Major Asset Class Total Returns

Constant rotation in asset class leadership calls for thoughtful diversification.

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 YTD
Core Bonds 5.2%	Emerging Markets 78.9%	Real Estate 27.9%	Municipal Bonds 10.7%	Real Estate 19.7%	Small-Cap 38.8%	Real Estate 28.0%	Large-Cap Growth 5.5%	Small-Cap 21.3%	Emerging Markets 37.8%	Municipal Bonds 1.3%	Real Estate 17.2%
Municipal Bonds -2.5%	High Yield 58.2%	Small-Cap 26.8%	Real Estate 8.3%	Emerging Markets 18.6%	Mid-Cap 33.5%	Large-Cap Growth 14.9%	Municipal Bonds 3.3%	Mid-Cap 20.7%	Large-Cap Growth 27.4%	Core Bonds 0.0%	Large-Cap Growth 15.0%
Hedge Funds -23.3%	Mid-Cap 37.3%	Mid-Cap 26.6%	Core Bonds 7.8%	International Developed 18.0%	Large-Cap Growth 32.7%	Large-Cap 13.7%	Real Estate 2.8%	Large-Cap Value 17.4%	International Developed 25.7%	Large-Cap Growth 0.0%	Small-Cap 14.6%
High Yield -26.2%	International Developed 32.6%	Emerging Markets 19.2%	High Yield 5.0%	Mid-Cap 17.8%	Large-Cap 32.4%	Large-Cap Value 12.3%	Large-Cap 1.4%	High Yield 17.1%	Large-Cap 21.8%	High Yield -2.1%	Mid-Cap 14.5%
Small-Cap -33.8%	Large-Cap Growth 31.5%	High Yield 15.1%	Large-Cap Growth 4.6%	Large-Cap Value 17.7%	Large-Cap Value 32.0%	Mid-Cap 9.7%	Core Bonds 0.5%	Large-Cap 12.0%	Mid-Cap 16.2%	Real Estate -4.0%	Large-Cap 13.7%
Large-Cap Growth -34.9%	Real Estate 28.0%	Large-Cap Value 15.1%	Large-Cap 2.11%	Small-Cap 16.4%	International Developed 23.4%	Municipal Bonds 9.1%	International Developed -0.3%	Emerging Markets 11.8%	Large-Cap Value 15.4%	Large-Cap -4.4%	Large-Cap Value 12.2%
Mid-Cap -36.2%	Small-Cap 27.1%	Large-Cap 15.1%	Large-Cap Value -0.1%	Large-Cap 16.0%	High Yield 7.4%	Core Bonds 6.0%	Mid-Cap -2.2%	Real Estate 8.6%	Small-Cap 14.6%	Hedge Funds -6.7%	International Developed 10.5%
Large-Cap -37.0%	Large-Cap 26.4%	Large-Cap Growth 15%	Mid-Cap -1.7%	High Yield 15.8%	Hedge Funds 6.7%	Small-Cap 4.9%	Large-Cap Value -3.1%	Large-Cap Growth 6.9%	Real Estate 8.7%	Large-Cap Value -9.0%	Emerging Markets 9.9%
Real Estate -37.7%	Large-Cap Value 21.2%	International Developed 8.3%	Small-Cap -4.2%	Large-Cap Growth 14.6%	Real Estate 2.9%	High Yield 2.5%	Hedge Funds -3.6%	Core Bonds 2.6%	High Yield 7.5%	Small-Cap -11%	High Yield 7.26%
Large-Cap Value -39.2%	Hedge Funds 13.4%	Core Bonds 6.5%	Hedge Funds -8.9%	Municipal Bonds 6.8%	Core Bonds -2.0%	Hedge Funds -0.6%	Small-Cap -4.4%	Hedge Funds 2.5%	Hedge Funds 6.0%	Mid-Cap -11.1%	Core Bonds 2.9%
International Developed -43.0%	Municipal Bonds 12.9%	Hedge Funds 5.2%	International Developed -11.7%	Core Bonds 4.2%	Emerging Markets -2.3%	Emerging Markets -2.0%	High Yield -4.5%	International Developed 1.6%	Municipal Bonds 5.4%	International Developed -13.3%	Municipal Bonds 2.9%
Emerging Markets -53.2%	Core Bonds 5.9%	Municipal Bonds 2.4%	Emerging Markets -18.2%	Hedge Funds 3.5%	Municipal Bonds -2.6%	International Developed -4.3%	Emerging Markets -14.6%	Municipal Bonds 0.2%	Core Bonds 3.5%	Emerging Markets -14.5%	Hedge Funds 2.6%

■ Large-Cap	S&P 500
■ Large-Cap Growth	S&P 500 Growth
■ Large-Cap Value	S&P 500 Value
■ Mid-Cap	S&P 400
■ Small-Cap	Russell 2000
■ International Developed	MSCI ACWI-ex.US
■ Emerging Markets	MSCI EAFE
■ Core Bonds	Bloomberg Barclays U.S. Aggregate
■ High Yield	Bloomberg Barclays U.S. Corporate High Yield
■ Municipal Bonds	Bloomberg Barclays Municipal Bond
■ Hedge Funds	HFRX Global Hedge Fund
■ Real Estates	FTSE NAREIT

Capital Markets Review

Market Commentary

U.S. Economic Review

The U.S. economy is moderating, but underlying fundamentals remain stable and an imminent recession is unlikely.

Economic Growth

- GDP growth dipped to 2.2% year over year during the fourth quarter. Although growth is expected to moderate in the coming quarters, the economy remains solid. PNC forecasts 2019 growth of 2.7%.

Trade

- U.S.-China trade headlines remain inconsistent but optimistic. We believe a completed deal has been largely priced in and that investors are now concerned primarily with global growth.

Consumption

- The consumer remains the workhorse of the economy. Accounting for about 75% of GDP, consumption remains strong alongside solid income growth and an elevated saving rate.

Labor Markets

- Labor markets remain tight. Job openings have exceeded the number of unemployed persons for seven straight months, and wages are ticking higher, albeit modestly.

Inflation

- Inflation remains in check on modest wage gains and still-low oil prices, and is currently not pressuring the Federal Reserve to tighten monetary policy.

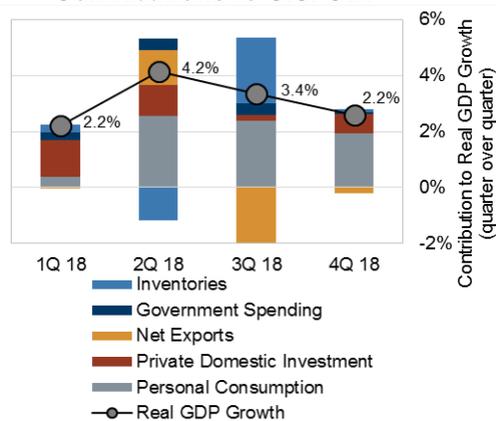
Capital Expenditures/Productivity

- Capital expenditures (capex) recovered during the fourth quarter, though not to the extent that many investors had hoped. Capex remains a critical growth driver by combating diminished capacity and lifting productivity.

Housing

- The housing market remains seasonally weak though stable. The recent decline in mortgage rates will likely support housing in the coming quarter.

Contributions to U.S. GDP



U.S. Economic Indicators

Real GDP (4Q Final, q/q annualized)	2.2%
Unemployment Rate %	3.8%
Average Hourly Earnings	3.4%
Headline Consumer Price Index	1.5%
Retail Sales	2.2%
Existing Home Sales	5.51M
New Housing Starts	1.16M
Case Shiller 20-City (Jan.)	3.6%
Industrial Production	3.6%
ISM Manufacturing	55.3
ISM Non-Manufacturing	56.1

All % are year over year; as of February 2019 unless noted

Source: FactSet Research Systems Inc.

Capital Markets Review

Market Commentary

International Economic Review

The global growth moderation continues to materialize, with tightness in financial conditions and geopolitical tensions pressuring the economic outlook.

Eurozone

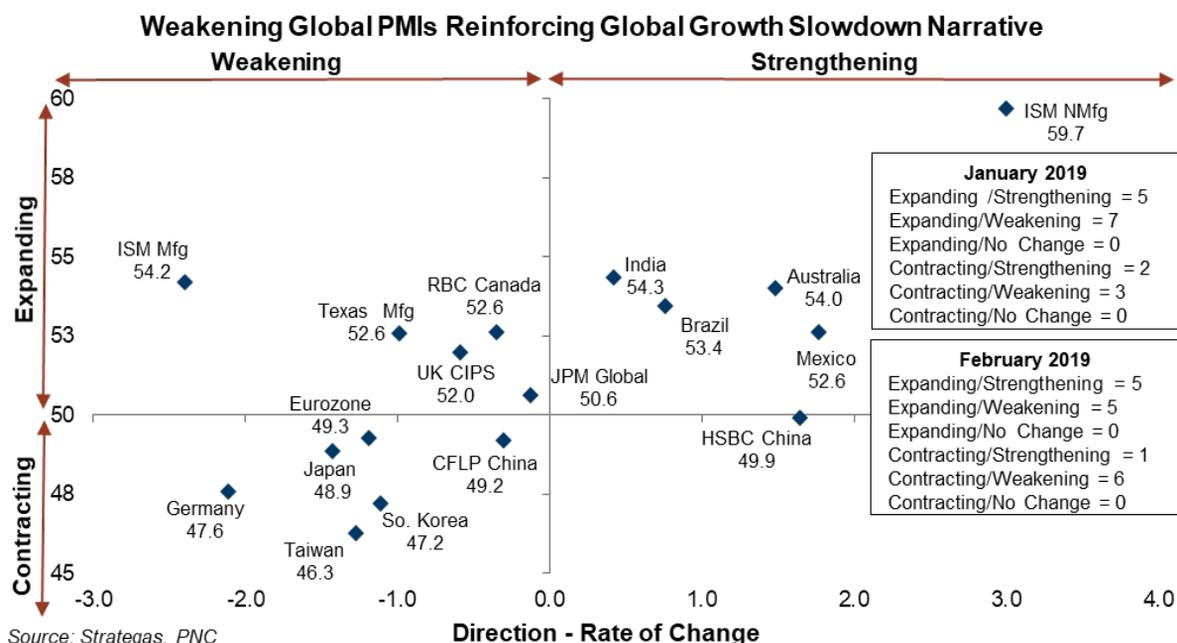
- Economic data out of Europe continue to come in weaker than expected. Eurozone industrial production is slowing, and the more forward-looking Eurozone Manufacturing PMI fell to 49.2 in February, marking the first time since June 2013 the index fell below 50, indicating a contraction in economic activity.
- Idiosyncratic factors such as new vehicle emission testing standards weighing on the German auto industry, Italy's budget turmoil, "yellow vest" protests in France, and the ongoing Brexit negotiations, combined with a slowdown in external demand on global trade tensions, have pressured growth.

United Kingdom

- The UK Parliament voted to reject Prime Minister Theresa May's Brexit proposal, rule out a no-deal Brexit, and request to delay the March 29 Brexit deadline. The delay, if granted, could be helpful for negotiating a new, better deal, but it could also perpetuate economic and market uncertainty.

China

- We believe the recovery of the Chinese economy is critical to alleviating concerns about a global growth slowdown and extending the current cycle. Since credit flows are correlated with demand and PMIs, a sustainable move higher in the credit impulse is one metric that can point to a recovery in economic growth. The China credit impulse staged a strong recovery in January but dipped slightly in February.
- Despite the lower-than-hoped-for reading, the Chinese administration reaffirmed its ability to adjust interest rates and reserve requirements to drive economic growth. A combination of monetary policy tweaks, infrastructure spending, and tax cuts indicate financial conditions should ease further this year.



Capital Markets Review

Market Commentary

Global Monetary Policy

Major central banks have shifted away from actively tightening monetary policy as a global growth continues to moderate.

U.S. Federal Reserve

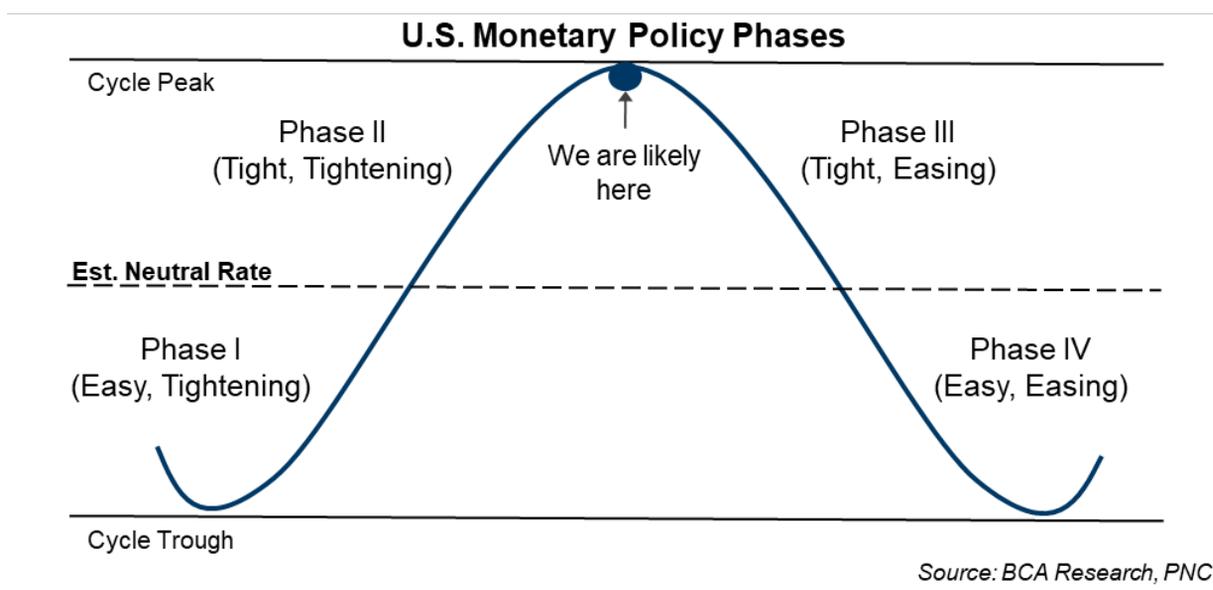
- The Federal Reserve (Fed) shifted away from hiking rates to a more patient and data-dependent tone and now projects zero rate hikes in 2019 and one in 2020. This pivot has helped ease financial conditions, which tightened considerably during 2018. Tighter credit spreads, tame inflation, a recovery in equity markets, and lower interest rates have collectively helped ease conditions.
- While the Fed's initial pivot has likely been a key tailwind to the 2019 rally in financial markets, we believe the Fed's now decisively dovish stance on monetary policy may begin to reignite global growth concerns, especially on the back of lower-than-expected global manufacturing data and an inverted U.S. Treasury yield curve. However, we still believe a soft-landing outcome is possible if central banks remain patient and Chinese stimulus provides meaningful relief.
- Stocks returns are typically challenged with a tighter monetary policy backdrop. These periods (Phases II and III in the chart below) produced a compound annual growth rate (CAGR) for the S&P 500® of 5.8% from 1979 through August 2018 versus 11.0% during periods of easier monetary policy.

European Central Bank (ECB)

- In an effort to combat slowing growth, the ECB surprised investors by reverting to stimulus via extended bank loans. While the effectiveness of the stimulus is yet to be determined, the ECB's preventative measures show how major central banks are taking the global growth slowdown seriously, which helps support the case for a soft landing and should ultimately come as a relief to investors.

Bank of Japan (BOJ)

- Persistently low inflation remains far from the BOJ's 2% target, suggesting to us that monetary policy will remain ultra-loose for the foreseeable future.



Capital Markets Review

Market Commentary

Corporate Earnings and Expectations

Better-than-feared fourth-quarter earnings aided the 2019 stock market rally, but a stabilization in 2019 earnings estimates is critical to justifying further gains.

Fourth-Quarter Earnings Season Recap

- S&P 500® constituents posted double-digit earnings growth for the fifth consecutive quarter. Earnings grew 13.1%, and all but the Utilities sector generated positive results.
- Although the number and magnitude of positive earnings surprises fell below their respective five-year averages, overall results were still better than initially expected.
- Additionally, the market did not punish companies reporting negative earnings surprises nearly as much as it had over the past five years.
- Multiple expansion has been a key driver behind the equity rally thus far in 2019, but we believe earnings growth and a stabilization in 2019 earnings estimates are critical to justifying a road higher for equities.

First-Quarter 2019 Expectations

- Revisions for first-quarter 2019 earnings estimates have declined 3.7%, the most in three years.
- These earnings growth estimates have fallen below zero for three main reasons:
 - Year-over-year comparisons are tougher due to the Tax Cuts and Jobs Act's positive influence on revisions during first-quarter 2018.
 - A few notable tech names such as Apple Inc. are struggling with company-specific issues.
 - Earnings expectations have lowered sharply for the Energy sector, which was initially supposed to be the key earnings driver.
- Furthermore, the first few months of the year have been seasonally weak over the past few years as companies set the stage for the full year.

Bottoms-Up Consensus Revenue and Earnings Growth Estimates for the S&P 500 Sectors

GICS Sector	Fourth Quarter 2018			First Quarter 2019E*		CY 2018	CY 2019E
	EPS % Beat	Revenue Growth%	EPS Growth%	Revenue Growth%	EPS Growth%	EPS Growth%	EPS Growth%
S&P 500	67.2	6.0	13.1	5.3	-3.3	20.1	4.2
Consumer Disc.	75.0	6.3	14.2	3.1	-5.8	17.8	8.1
Consumer Staples	57.1	1.8	4.6	2.8	-4.3	9.0	1.5
Energy	53.8	12.3	94.1	0.3	-17.6	112.4	-12.77
Financials	56.1	-4.7	8.0	6.2	-1.4	21.7	8.3
Health Care	74.5	9.0	12.8	12.8	5.1	15.1	5.4
Industrials	79.4	6.4	18.2	3.9	3.0	17.1	9.6
Info. Tech.	85.7	1.4	5.1	-0.91	-10.3	14.3	2.7
Materials	56.5	7.1	4.5	3.9	-11.1	29.5	-2.2
Real Estate	30.0	12.3	9.4	3.7	1.7	8.9	1.9
Comm. Services	79.2	20.4	22.3	12.5	-3.4	24.0	3.6
Utilities	52.4	3.2	-4.1	4.5	3.3	14.3	4.6

Source: FactSet Research Systems Inc., PNC Earnings Updates 4Q18; Earnings Wrap-up March 1, 2019; *Estimate

Capital Markets Review

Market Commentary

U.S. Equity Markets

Easing of key 2018 risks and improved investor sentiment have allowed multiples to re-expand amid slowing but stable growth.

Summary

- Since the stock market's recent low on Christmas Eve 2018, the S&P 500® has enjoyed its best start to the year in more than 30 years. We believe the sharp recovery is attributable to three key factors:
 - the Federal Reserve's (Fed's) signal to investors that it is "patient and data-dependent" rather than on "autopilot";
 - Optimistic headlines regarding U.S.-China trade relations; and
 - Better-than-feared fourth-quarter earnings.
- While we do not believe the risks associated with these factors have completely dissipated, the reduced uncertainty has charted a path higher for U.S. equities during the first quarter.

Market Capitalization

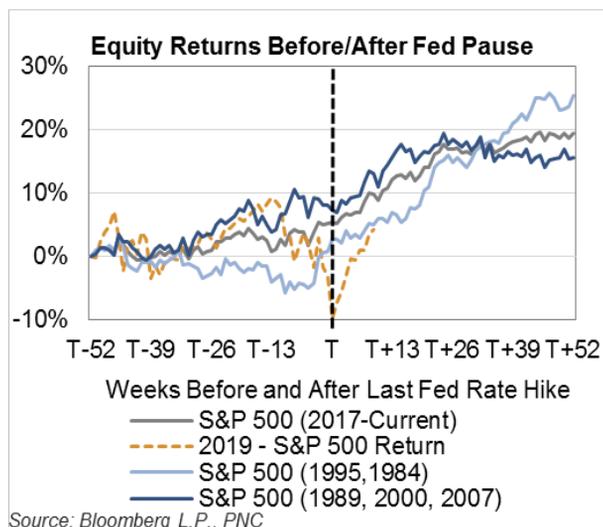
- Small-cap stocks, although beginning to lose some momentum, have outperformed during the broader equity market rally.
- Across stocks of all sizes, a pickup in mergers and acquisitions activity has proven to be a popular strategy for firms seeking to deploy capital in ways that directly create value.

Style

- Growth and Value stocks have ticked up in tandem, with the easing of key concerns continuing to benefit both styles. Growth stocks regained leadership toward the end of the quarter alongside the outperformance of tech stocks.

Valuations

- Year to date, multiples have expanded by the widest margin since 2009, with many of the market's biggest concerns alleviated. History seems to be repeating itself as multiples expand and markets rally after the Fed took a pause in hiking interest rates.



Domestic Equity Total Returns

As of 3/31/19	3 Month	1 Year
Russell 3000®	14.04%	8.77%
S&P 500®	13.65%	9.50%
Value	12.19%	5.93%
Growth	14.95%	12.77%
Comm. Services	13.98%	7.75%
Cons. Discretionary	15.73%	13.19%
Cons. Staples	12.01%	10.49%
Energy	16.43%	1.32%
Financials	8.56%	-4.67%
Health Care	6.59%	14.89%
Industrial	17.20%	3.23%
Info. Tech.	19.86%	15.44%
Materials	10.30%	-0.43%
Real Estate	17.53%	21.00%
Utilities	10.84%	19.33%
S&P 400	14.49%	2.59%
Value	14.02%	3.60%
Growth	14.95%	1.69%
Russell 2000	14.58%	2.05%
Value	11.93%	0.17%
Growth	17.14%	3.85%

Source: Standard & Poor's, FTSE Russell

Capital Markets Review

Market Commentary

International Equity Markets

Improved investor sentiment continues to lift global financial markets despite an uncertain economic outlook.

Overview

- Despite ongoing trade tensions and softening global economic data, developed international markets have posted strong year-to-date returns.
- This performance can be attributed to a sharp improvement in investor sentiment, demonstrated by rising price-to-earnings (P/E) multiples.
- While the global stock relief rally continues, investors should be mindful of how quickly prices have moved higher. MSCI EAFE forward earnings expectations have fallen so far this year. We believe a stabilization in earnings growth expectations is critical for markets to chart a sustainable path higher.
- Emerging market (EM) equities have also posted strong returns but have lagged their developed counterparts alongside a slightly stronger dollar.



Market Capitalization and Style

- Return dispersions among large caps versus small caps and growth stocks versus value stocks narrowed over the quarter, with the easing of key concerns continuing to benefit stocks of all market capitalizations.

Valuations

- Over the past decade, the divergence between U.S. and international stock market prices has widened significantly and has helped drive a similar differential in valuations.
- Over time, divergences such as this (for example, the run-up in EM valuations during the early 2000s) tend to mean revert. Therefore, since the divergence between U.S. and international stock market valuations is unlikely to repeat itself over the long term, we continue to advocate allocations to international and EM equities.

International Equity Total Returns

As of 3/31/19	3 Month	1 Year
MSCI ACWI	12.18%	2.60%
MSCI ACWI ex USA IMI	10.30%	-4.96%
MSCI EAFE	9.98%	-3.71%
MSCI World Ex USA	10.45%	-3.14%
Value	8.49%	-5.46%
Growth	12.41%	-0.82%
North America	13.82%	8.53%
Europe & Middle East	10.83%	-3.63%
Pacific	8.53%	-3.86%
MSCI World Ex USA Small Cap	10.93%	-8.66%
Value	9.18%	-9.28%
Growth	12.72%	-8.03%
MSCI Emerging Market	9.92%	-7.41%
Value	7.83%	-5.27%
Growth	12.04%	-9.52%
EM Latin America	7.85%	-6.72%
EM EMEA	5.52%	-10.57%
EM Asia	11.11%	-6.84%

Source: MSCI; Returns reported in USD terms, on a net basis

Capital Markets Review

Market Commentary

Taxable Fixed Income Markets

Fixed income markets have posted solid returns thus far in 2019 on the back of the Federal Reserve's (Fed's) pause in interest rate hikes.

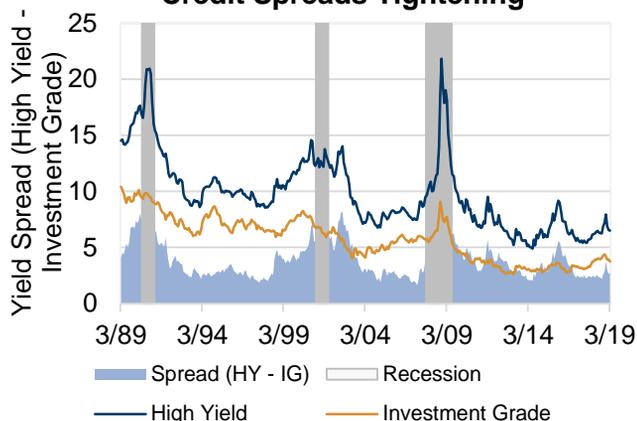
U.S. Treasury Yield Curve

- The U.S. Treasury yield curve, which comprises U.S. government bonds ranging from three months to 30 years in maturity, inverted alongside a decline in growth expectations, but lingering concerns about a more broad-based yield curve inversion in the near term have mostly faded.
- Historically, the yield curve has inverted an average of 18 months before a recession. This measure is consistent with continued, albeit slower, economic growth.
- Though an inversion does not cause a recession, it is a reflection of market perception. Although we continue to respect yield curve inversions as a meaningful signpost within our business cycle analysis, we do not overestimate their importance within a larger framework of economic data that still suggest an expanding economy.
- Approximately 50% of the yield curve inverted. On average, 77% of the yield curve has inverted prior to recession. Furthermore, the Fed's updated policy expectations for no additional tightening this year could mean longer-dated Treasury yields are near their cycle highs.

Fixed Income Performance

- U.S. fixed income markets are off to a strong start in 2019, with leveraged loans and high yield leading the market. However, even with a sharp rebound in sentiment, these higher-risk categories have not yet recovered from late-2018 declines and have trailed investment-grade bonds in recent months.
- Credit spreads have tightened year to date, with high yield outperforming investment-grade corporate bonds.

Credit Spreads Tightening



Fixed Income Total Returns

As of 3/31/19	3 Month	1 Year
B.Barclays U.S. Aggregate	2.94%	4.48%
Short	1.22%	3.05%
U.S. Treasury	2.11%	4.22%
U.S. TIPS	3.19%	2.70%
U.S. Credit	4.87%	4.89%
Securitized	2.22%	4.48%
B.Barclays U.S. Govt./Credit	3.26%	4.48%
Intermediate	2.32%	4.24%
Long	6.45%	5.24%
U.S. Corporate Invest. Grade	5.14%	4.94%
Industrials	5.50%	4.96%
Financial Institutions	4.61%	5.18%
Utilities	4.57%	3.62%
AAA-Rated	5.01%	6.13%
AA-Rated	3.69%	5.08%
A-Rated	4.70%	4.78%
BAA-Rated	5.73%	4.97%
U.S. Corporate High Yield	7.26%	5.93%
Ba-Rated	7.21%	6.32%
B-Rated	7.21%	6.38%
CAA-Rated	7.15%	2.73%
B.Barclays EM Debt USD Agg.	5.43%	4.38%

Source: Bloomberg Barclays Indexes

Capital Markets Review

Market Commentary

Other Asset Classes

Alternative assets continue to provide value by typically offering the advantage of reduced volatility without sacrificing meaningful potential for return.

Real Estate Investment Trusts (REITs)

- REIT performance was strong on the back of the Federal Reserve's dovish pivot in its monetary policy stance. Prices of income-producing investment such as real estate have an inverse relationship with interest rates. Thus, a decline in interest rates acts as a direct tailwind to REITs.

Global Infrastructure

- Our allocation to global infrastructure has proven dependable by considerably outperforming the broader stock market amid the uptick in volatility during the fourth quarter, while modestly underperforming during the recent market rally.
- In addition to the benefits of global diversification and lower correlation to traditional asset classes, global infrastructure can offer attractive cash flows relative to most fixed income asset classes and relatively less volatility than broader equity markets.

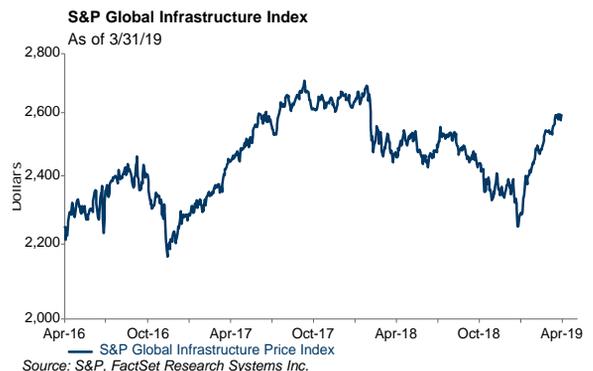
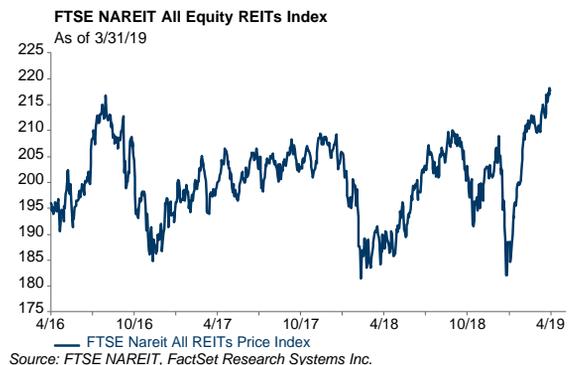
Hedge Funds

- Limited partnership hedge funds, especially those in the long/short equity and global macro spaces, outperformed their liquid counterparts, but, it was not surprising to us that hedge funds trailed the broader equity market's strong rally over the quarter.
- A transition from a primarily macro-driven environment to a more fundamentally driven one should help serve as a tailwind for alpha-generating strategies.

Real Asset Total Returns

As of 3/31/2019	3 Month	1 Year
All Equity REITs	17.2%	20.5%
All Equity Infrastructure	21.3%	28.1%
All Timber	21.1%	-19.1%
Equity REITs	16.3%	20.9%
Data Centers	20.2%	12.9%
Diversified	16.6%	21.1%
Health Care	13.0%	36.5%
Industrial	21.3%	22.4%
Lodging/Resorts	15.8%	6.3%
Office	20.3%	10.9%
Residential	16.5%	26.1%
Retail	14.4%	22.5%
Self Storage	9.9%	15.9%
S&P Global Infrastructure	14.1%	9.2%

Source: FTSE NAREIT, Standard & Poor's



Capital Markets Review

Market Commentary

Foreign Exchange Rates

Larger U.S. fiscal deficits, slowing U.S. economic and earnings growth, and the change in the Fed's monetary policy guidance will likely limit dollar appreciation.

U.S. Dollar vs. Euro

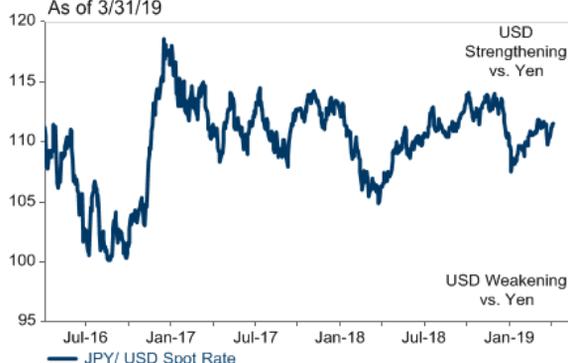
As 3/31/19



Source: WM/Reuters, FactSet Research Systems Inc.

Japanese Yen vs. U.S. Dollar

As of 3/31/19



Source: WM/Reuters, FactSet Research Systems Inc.

U.S. Dollar vs. U.K. Pound

As of 3/31/19



Source: WM/Reuters, FactSet Research Systems Inc.

Chinese Yuan vs. U.S. Dollar

As of 3/31/19



Source: WM/Reuters, FactSet Research Systems Inc.

Foreign Exchange Rates

% Change in USD Perspective

As of 3/31/19			3/31/18	12/31/18	3/31/19	3 Month	1 Year
Trade-Weighted USD							
Broad	Nominal		107.99	116.25	114.76	-1.3%	6.3%
Major Currency	Nominal		103.14	110.11	109.82	-0.3%	6.5%
OITP	Nominal		114.21	123.89	121.14	-2.2%	6.1%
Currency Pairs	Country						
USD / EUR	Eurozone		1.23	1.14	1.12	1.8%	9.5%
USD / GBP	United Kingdom		1.40	1.27	1.30	-2.3%	7.7%
JPY / USD	Japan		106.35	109.72	110.69	0.9%	4.1%
USD / AUD	Australia		0.77	0.70	0.71	-0.9%	8.0%
CAD / USD	Canada		1.29	1.37	1.34	-2.2%	3.6%
MXN / USD	Mexico		18.25	19.69	19.40	-1.5%	6.3%
CNY / USD	China		6.29	6.87	6.72	-2.1%	6.8%
INR / USD	India		65.22	69.82	69.28	-0.8%	6.2%
BRL / USD	Brazil		3.32	3.88	3.89	0.4%	17.1%
RUB / USD	Russia		57.50	69.37	65.70	-5.3%	14.3%

Source: PNC Economics, FactSet Research Systems Inc.

Capital Markets Review

Market Commentary

Commodities

Although oil prices remain far below recent highs, a sharp recovery has been a key driver behind positive commodity returns thus far in 2019.

Commodity Index

- The Bloomberg Commodity Index posted gains this quarter amid a perceived improvement in trade relations and a strong rally in oil prices. Since commodities have a -0.75 correlation with the dollar, dollar weakness could be key for a sustained recovery in commodities in the shorter term.

Energy

- U.S. crude oil prices have rebounded sharply so far in 2019 but still remain below their year-earlier prices. Therefore, year-over-year comparisons have helped to keep a lid on inflation in recent months.
- On the supply side, adherence to OPEC crude oil production cuts, U.S. sanctions on Venezuela, and unforeseen production outages have outweighed record U.S. production. Despite weakening demand expectations, declines in production have served to allay concerns of a renewed crude oil glut in 2019, although global inventories are still expected to build modestly over the course of the year.

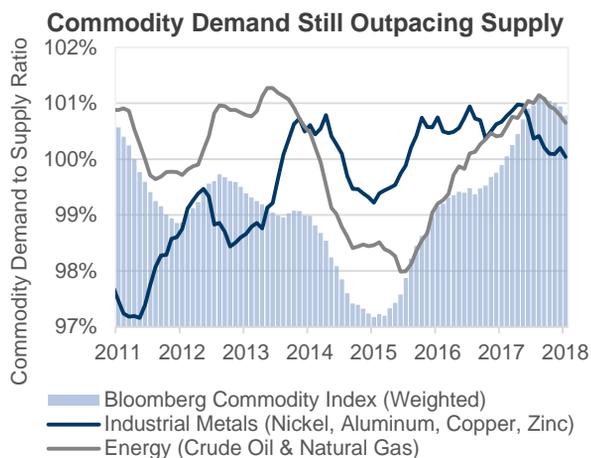
Metals

- Industrial metals also ticked higher over the quarter along with supportive supply/demand dynamics. Demand remains stable while inventories are below seasonal averages, suggesting any upside surprise in the demand component would likely have an outsized impact on price. In particular, stronger copper prices may indicate an improvement in sentiment toward Chinese growth, given the country's 50% share of global demand, following a surge in credit creation last month.

Commodity Spot Rate Total Returns

As of 3/31/2019	3 Month	1 Year
Bloomberg Commodity Index	6.3%	-5.3%
GS Commodity Index	15.0%	-3.0%
Energy	25.1%	-1.4%
Crude Oil	30.7%	-4.3%
Natural Gas	-4.7%	4.6%
Heating Oil	19.0%	1.1%
Gasoline	27.7%	-8.7%
Industrial Metals	8.6%	-4.1%
Aluminum	3.4%	-4.1%
Copper	9.3%	-1.6%
Lead	-0.3%	-15.1%
Nickel	21.5%	-2.8%
Zinc	20.7%	-5.2%
Precious Metals	0.6%	-3.3%
Gold	0.9%	-2.8%
Silver	-2.8%	-7.9%
Agriculture	-4.5%	-14.9%
Wheat	-9.0%	-8.7%
Corn	-6.4%	-17.8%
Soybeans	-2.1%	-19.9%
Cotton	6.2%	-4.0%
Livestock	3.9%	13.4%
Cattle	2.4%	17.2%
Hogs	6.9%	6.6%

Source: Bloomberg L.P., S&P Goldman Sachs Commodity Index



Capital Markets Review

Strategy Views

Looking Ahead: Top Five Investor Questions for Second-Quarter 2019

1. How has the backdrop for financial markets evolved thus far in 2019?

A confluence of lower earnings revisions, falling equity prices, and softening business confidence weighed heavily on investor sentiment as 2018 came to a close. However, we believe that sentiment decoupled from fundamentals. 2019 has been a year of positive upside surprises that have meaningfully soothed those lingering uncertainties. Equity markets have responded in kind; we believe the sharp recovery is attributable mostly to the Federal Reserve's (Fed's) signal to investors that it is "patient and data-dependent," optimistic U.S.-China trade headlines, and better-than-expected fourth-quarter earnings.

While we do not believe the primary risks to the market have completely dissipated, the reduced uncertainty has charted a path higher for U.S. equities. In fact, domestic stocks have enjoyed their best start to the year in more than 30 years. From a technical standpoint, the momentum behind this rally has been historically strong – at one point 93% of stocks in the S&P 500® *exceeded* their respective 50-day moving averages. After such a rapid recovery, we think some consolidation would be reasonable to expect. Indeed, equity markets have cooled in toward the end of the quarter as markets continue recalibrating to fundamentals.

The recent U.S. Treasury yield curve inversion has also garnered much attention. The 10-year rate dipped just below the three-month rate for the first time since 2007. Approximately 50% of the yield curve inverted. On average, 77% of the yield curve has inverted prior to recession.

Though an inversion does not cause a recession, it is a reflection of market perception. Although we continue to respect yield curve inversions as a meaningful signpost within our business cycle analysis, we do not overestimate their importance within a larger framework of economic data that still suggest an expanding economy.

2. What has been the most important driver behind the pivot in sentiment thus far in 2019?

We believe the Fed's pause in tightening monetary policy remains the most important relief to financial markets. Whether the Fed's next move is to cut or hike rates is yet to be determined; however, history clearly reveals that multiples usually expand and markets tend to rally when the Fed takes a pause. Furthermore, the Fed's pivot toward "patience" has helped ease financial conditions, which tightened considerably during 2018. Tighter credit spreads, tame inflation, a recovery in equity markets, and lower interest rates have collectively improved the health of financial markets.

More recently, however, investors seem to be finding less comfort from the pivots in monetary policy guidance and are focusing more on the economic growth moderation that prompted these shifts in the first place. In other words, while the Fed's initial pivot has likely been a key tailwind to the 2019 rally in financial markets, we believe the Fed's now decisively dovish stance on monetary policy may begin to reignite global growth concerns, especially on the back of lower-than-expected global manufacturing data and an inverted U.S. Treasury yield curve. The Fed now projects zero rate hikes in 2019 and one in 2020. However, we still believe a "soft landing" outcome is possible if central banks remain patient and Chinese stimulus proves to have a significant impact.

Capital Markets Review

Strategy Views

Looking Ahead: Top Five Investor Questions for Second-Quarter 2019 (cont'd)

3. How healthy is the backdrop for U.S. consumption?

The consumer remains the workhorse of the U.S. economy and is in good financial health given where we are in the later stages of this cycle and relative to this point in the prior cycle. We continue to believe the December retail sales reading was more of an anomaly than the beginning of a new trend, and was perhaps skewed by the extended partial government shutdown and the pullback in financial markets. The reading ran counter to strong fourth-quarter earnings results reported by major retailers Amazon.com, Inc. and Walmart Inc. Tight labor markets, rising incomes, elevated saving rates, and the recent recovery in stock prices should help serve as near-term tailwinds for the U.S. consumer. This still-healthy backdrop underscores our view that the U.S. economy remains on solid footing despite growth moderating.

4. When do we anticipate the next recession to occur?

We continue to believe it is too early to expect a bear market or recession. As the economy continues to expand and companies continue to grow earnings, we think there is a higher, albeit rocky, road for the market. Currently, our Recession Risk Indicator (RRI) tells us a recession is unlikely in 2019. Dating back to the 1970s, our analysis includes 12 variables and indicates that once the level crosses definitively above 50, a recession occurs an average of eight quarters later. Our RRI reads 66.0. The fact that our indicator crossed 50 in August 2018 suggests a recession in late 2020, absent some material shock. Of course, conditions can change, but we believe this gives investors a reasonable sense of the positioning of the current economic cycle and, in turn, how vulnerable the market may be to an extended downturn. The current backdrop is consistent with a slowing expansion phase of the cycle.

We strive to identify major turning points in market cycles, and although we have entered a new phase that includes a pause in global central bank policy normalization and global growth concerns, we do not believe the current market cycle is over. Based on our analysis, the countdown to the next recession has begun, but we believe it is unlikely the economy will contract in 2019.

5. Where do we go from here?

To offer a road higher for financial markets, investors likely need to see continued progress toward resolving key macro concerns. The United States is joining the global growth moderation, but growth remains stable. We believe there could be a “soft landing” case materializing in the United States, as evidenced by a recovery in manufacturing data, a bounce in consumer sentiment, and low unemployment claims. Abroad, Chinese economic recovery via fiscal stimulus could offer a meaningful upside surprise to the global growth narrative, especially for emerging markets.

Employing our investment process, our 1) business cycle analysis indicates a recession is not imminent; 2) valuation analysis suggests that longer-term returns may be muted, but that a rise in multiples can continue throughout the year; and 3) technical analysis points to near-term consolidation before further progress. From an asset allocation standpoint, we do not believe now is the time to reduce equity exposure, but beginning to prepare portfolios for an environment in which growth will continue to slow is advisable (for example, allocation to infrastructure, preference for higher-quality fixed income, extending duration in fixed income, and preference for less volatile managers). It is unusual for a recession to occur against the still-stable fundamental backdrop.

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NATIONAL ECONOMIC OUTLOOK

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Executive Summary

Weak February Job Growth, and Slow Retail Sales at the End of 2018

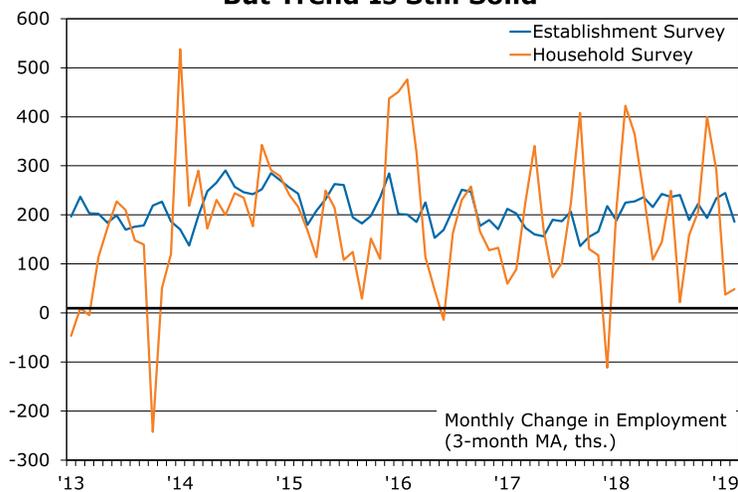
- The U.S. economy added just 20,000 jobs in February, far below consensus expectations for a gain of 180,000. This was the smallest number of net jobs created in a month since September 2017, when Hurricanes Harvey and Irma weighed on hiring. There were combined upward revisions of 12,000 in December and January. Private-sector hiring was 25,000 in February. Despite the very weak February report, job growth has averaged 186,000 over the past three months. The unemployment rate fell to 3.8 percent in February from 4.0 percent in January as government workers who had been on unpaid furlough because of the partial government shutdown, and were counted as unemployed in January, moved back into employed status. This is just slightly above the cyclical low unemployment rate of 3.7 percent in September and November of last year. Average hourly earnings rose 0.4 percent over the month after a gain of less than 0.1 percent in January. Year-over-year growth in wages was 3.4 percent in February, the strongest gain since March 2009.
- U.S. gross domestic product, adjusted for inflation, increased 2.6 percent at an annual rate in the fourth quarter of 2018, better than the 2.4 percent consensus. This was the “initial” estimate from the Bureau of Economic Analysis. It combined the “advance” and “second” estimates; the advance estimate was canceled due to the partial government shutdown earlier this year. This was a solid result, although growth slowed from the second and third quarters. Real GDP increased 2.9 percent in 2018 from 2017, averaged across the four quarters of the year. On a year-over-year basis real GDP growth was 3.1 percent in the fourth quarter, up from 3.0 percent in the third quarter. Consumer spending and business investment led overall economic growth in the fourth quarter.
- Retail sales rose 0.2 percent in January, slightly better than the consensus expectation for a 0.1 percent increase. But this followed a huge 1.6 percent drop in December, revised even lower from the initially reported 1.2 percent decline. December was the biggest monthly drop since September 2009, after federal incentives for new car buyers expired. January details were better than the headline number. December’s decline does not appear to be related to data problems from the government shutdown. The big drop in stock prices in late 2018 may have spooked consumers.

Baseline U.S. Economic Outlook, Summary Table*

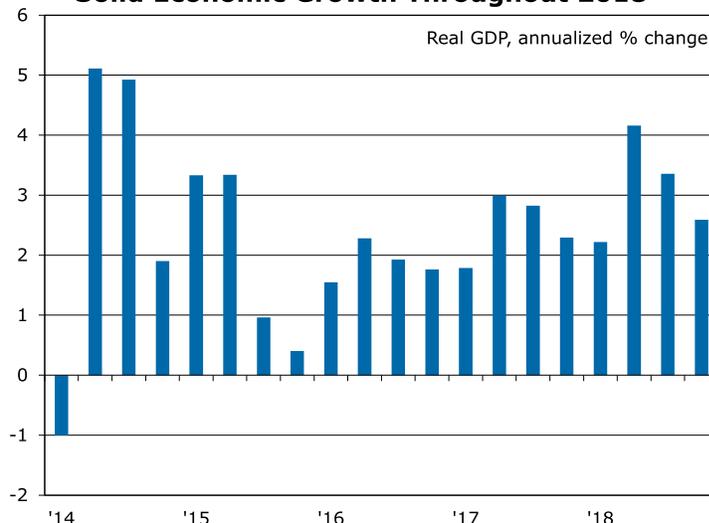
	1Q'18a	2Q'18a	3Q'18p	4Q'18p	1Q'19f	2Q'19f	3Q'19f	4Q'19f	2017a	2018p	2019f	2020f
Output & Prices												
Real GDP (Chained 2012 Billions \$)	18324	18512	18665	18785	18814	18952	19074	19180	18051	18571	19005	19399
Percent Change Annualized	2.2	4.2	3.4	2.6	0.6	3.0	2.6	2.2	2.2	2.9	2.3	2.1
CPI (1982-84 = 100)	249.3	250.6	251.8	252.8	253.3	255.0	256.6	258.1	245.1	251.1	255.8	261.8
Percent Change Annualized	3.2	2.1	2.0	1.5	0.9	2.7	2.5	2.4	2.1	2.4	1.9	2.4
Labor Markets												
Payroll Jobs (Millions)	148.0	148.7	149.4	150.1	150.7	151.2	151.6	152.0	146.6	149.1	151.3	152.7
Percent Change Annualized	1.8	1.9	1.8	1.7	1.6	1.3	1.1	1.0	1.6	1.7	1.5	0.9
Unemployment Rate (Percent)	4.1	3.9	3.8	3.8	3.9	3.7	3.6	3.5	4.4	3.9	3.7	3.6
Interest Rates (Percent)												
Federal Funds	1.45	1.74	1.92	2.22	2.40	2.40	2.40	2.40	1.00	1.83	2.40	2.40
Treasury Note, 10-year	2.76	2.92	2.92	3.04	2.66	2.62	2.63	2.64	2.33	2.91	2.64	2.63

a = actual f = forecast p = preliminary * Please see the Expanded Table for more forecast series.

Weak Job Growth in February, But Trend Is Still Solid



Solid Economic Growth Throughout 2018



Risk of Recession Is Low in 2019, But Likelihood Will Increase in 2020 and 2021

Although job growth was weak in February and retail sales plunged in December, overall the U.S. economy remains in solid shape in early 2019. With solid fundamentals the current U.S. economic expansion, now the second-longest in history, should continue at least through the rest of this year and into 2020. However, the risk of recession will increase in 2020 and again in 2021, as much of the support for the economy is coming from tax cuts and temporary increases in government spending; that fiscal stimulus is likely to turn into a drag on growth over the next couple of years.

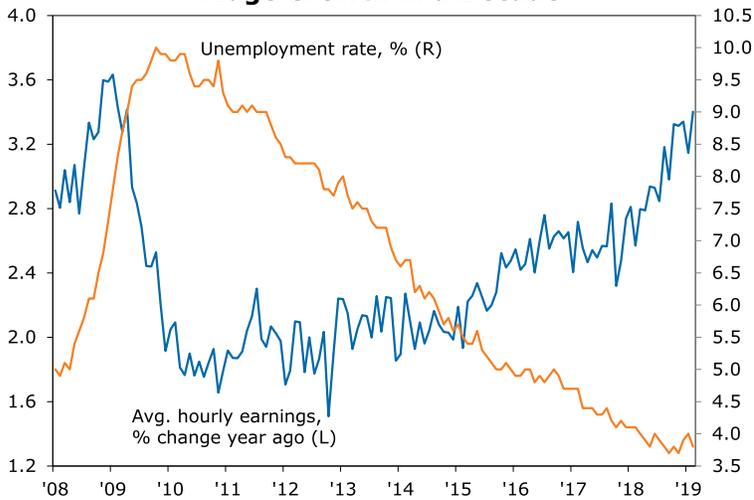
The current economic expansion started in June 2009, according to the National Bureau of Economic Research, which dates U.S. business cycles. If the current expansion lasts until mid-2019 it will become the longest in U.S. history; currently, the longest expansion lasted 120 months, from 1991 to 2001. Recessions are caused by imbalances in the economy, and right now there are few worrisome signs. Although job growth slipped in February, it has averaged better than 200,000 per month over the past year, well above what is needed to keep up with underlying growth in the labor force. And weekly initial unemployment insurance claims, a very timely labor market indicator, remain near a decades-long low. Despite the big drop in retail sales in December and weak January rebound, consumers are in good shape thanks to solid job growth, the best wage growth in a decade, and a high savings rate. As consumer spending accounts for about two-thirds of the economy, the expansion should continue as long as the labor market holds up. Business investment is also in good shape, as profitability is good and firms feel confident and need to invest to increase output. The corporate and personal income tax cuts passed at the end of 2017 and a big increase in federal spending legislated in 2018 are providing fiscal stimulus to the economy this year. And with inflation low, the Federal Reserve has the flexibility to provide monetary stimulus to the U.S. economy if weakness does emerge.

The biggest risks to the economy in 2019 are therefore geopolitical. There are a number of things that could go wrong. A hard Brexit could cause a steep recession in Great Britain and the Eurozone, pushing the U.S. economy into recession. Or a trade war erupts between the U.S. and China, leading to a global downturn. Or a domestic political crisis, like a debt limit standoff, leads to plunge in the stock market and spooks U.S. consumers and businesses. PNC puts the probability of recession in 2019 at a low 15 percent.

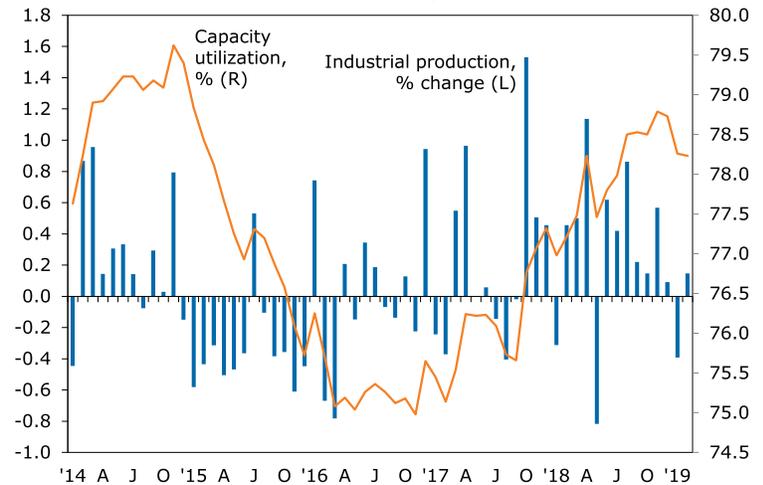
But the risk of recession will rise in 2020, and then again in 2021. The big reason is the withdrawal of fiscal stimulus. Right now the federal tax cuts and spending increases are fueling growth, but that positive impact will fade over the course of this year and into 2020, making the economy more vulnerable to an external shock. The Trump administration may try to avoid a recession in 2020, ahead of the presidential election, by attempting more fiscal stimulus, but by 2021 fiscal stimulus is likely to turn into fiscal drag. PNC puts the probability of a recession beginning by 2020 at 30 percent, and of one beginning by 2021 at about 50 percent. The baseline forecast calls for continued, albeit slower, economic growth over the next five years, because it is difficult to predict exactly when a recession will begin. But at some point over the next few years a recession will likely occur through some combination of economic excess; a policy mistake, either by the federal government or the Federal Reserve; and an external shock.

After growth of 2.9 percent in 2018, the U.S. economy should expand 2.3 percent this year. Growth was soft in the first quarter because of the partial federal government shutdown, will rebound in the second quarter, and then slow in the second half of this year as fiscal stimulus wears off. Monthly job growth will slow to around 150,000 in 2019 because of the tight labor market. The unemployment rate will fall slowly to end this year at around 3.5 percent, then rise a bit in 2020 with slower economic growth. With inflation slowing thanks to a big drop in energy prices, the Federal Open Market Committee signaled at its March 20 rate decision that policymakers do not expect to raise the target for the federal funds rate in 2019, and could be done raising interest rates for this cycle. Inflation will soften in the first half of 2019, then gradually trend higher toward the Federal Reserve's 2 percent objective.

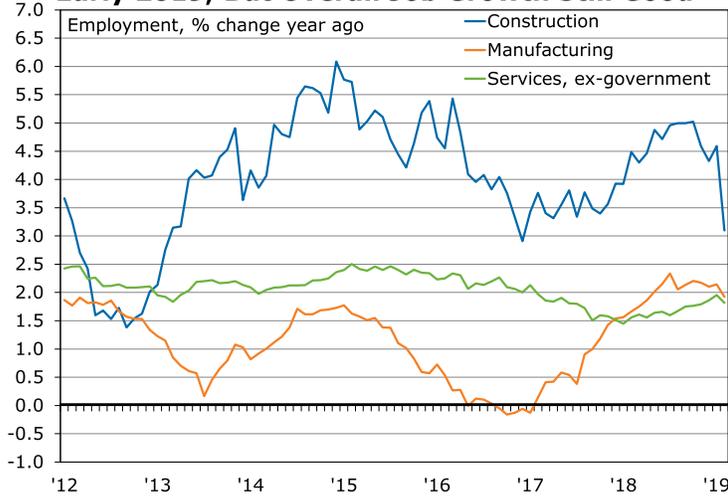
Tight Labor Market Spurs Strongest Wage Growth in a Decade



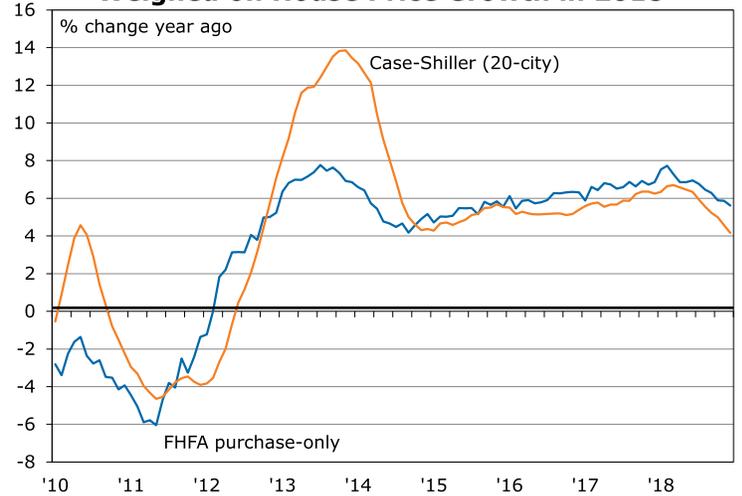
Some Softness in the Industrial Sector in Early 2019



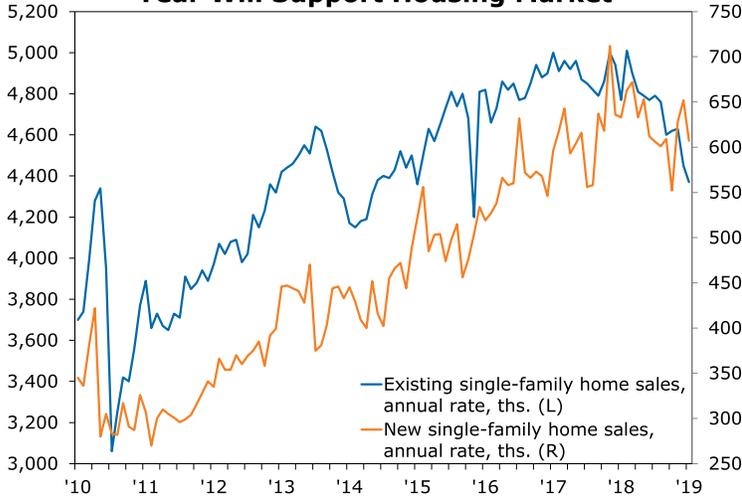
Weather Distorted Construction Activity in Early 2019, But Overall Job Growth Still Good



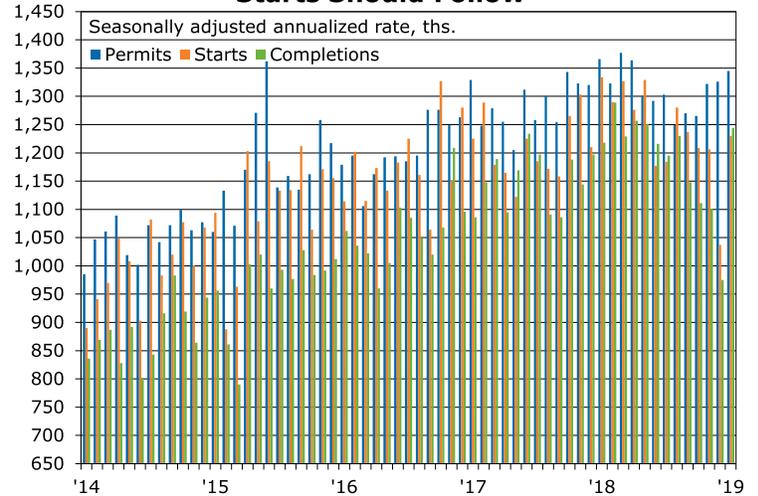
Tax Changes, Higher Mortgage Rates Weighed on House Price Growth in 2018



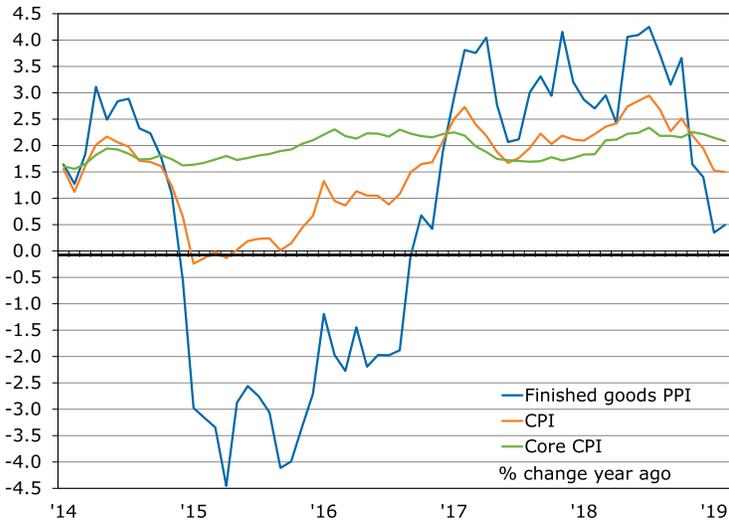
Lower Mortgage Rates So Far This Year Will Support Housing Market



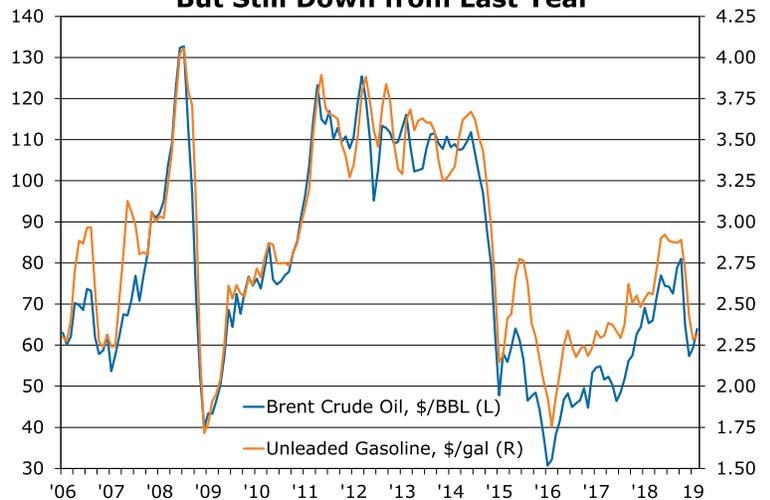
With Higher Permits, Housing Starts Should Follow



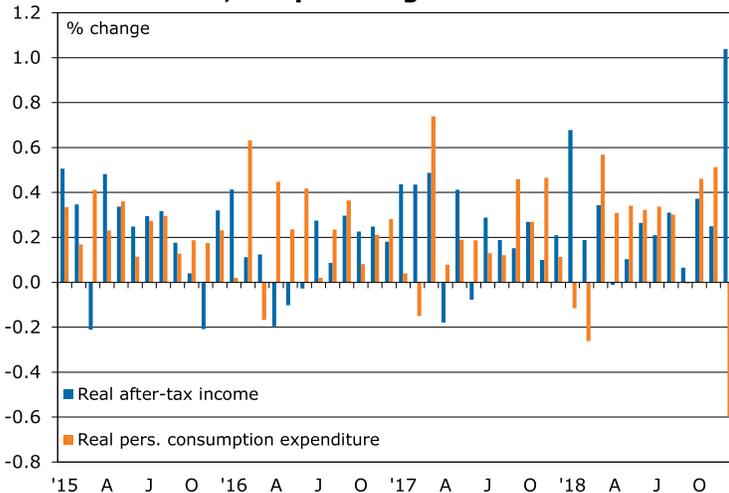
Lower Inflation Allows Fed to Be Patient



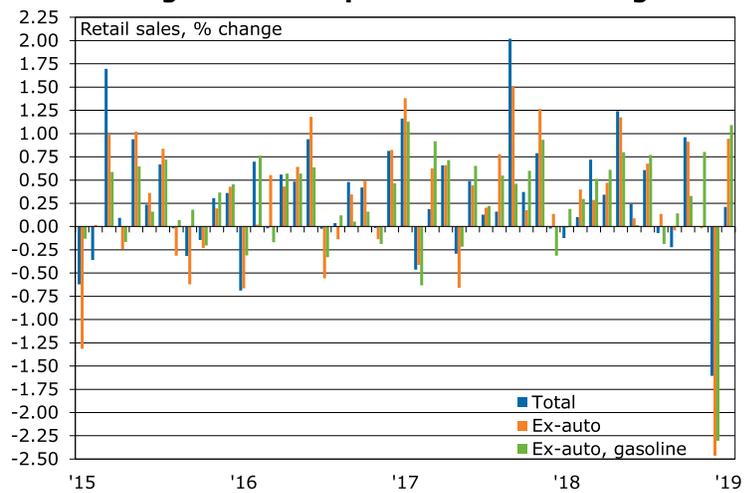
Energy Prices Up in February, But Still Down from Last Year



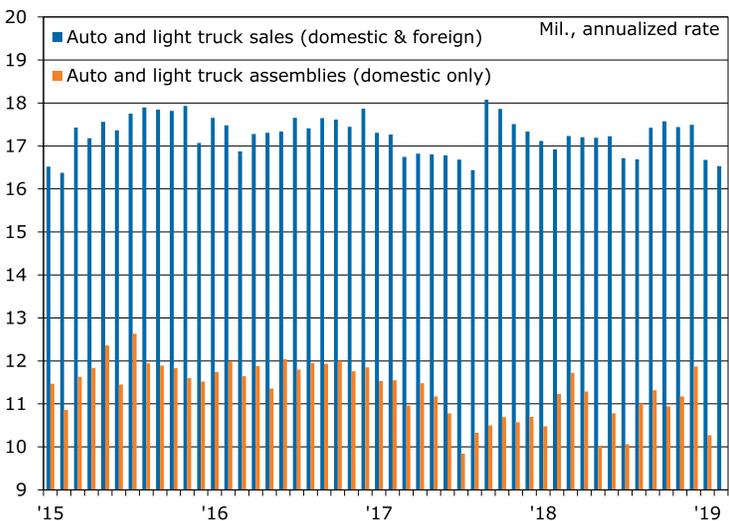
Big Drop in Consumer Spending in December, Despite Large Gain in Income



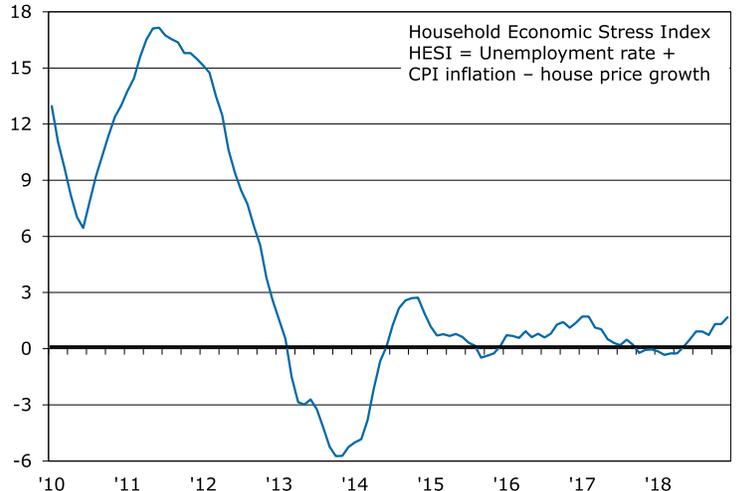
January Bounceback in Retail Sales Not Enough to Make Up for December Plunge



Softer Auto Sales So Far in 2019



Slower House Price Growth Means Slightly Higher Household Stress



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Baseline U.S. Economic Outlook, Expanded Table

	1Q'18a	2Q'18a	3Q'18p	4Q'18p	1Q'19f	2Q'19f	3Q'19f	4Q'19f	2017a	2018p	2019f	2020f
Output												
Nominal GDP (Billions \$)	20041	20412	20658	20891	20990	21249	21498	21745	19485	20501	21371	22293
Percent Change Annualized	4.3	7.6	4.9	4.6	1.9	5.0	4.8	4.7	4.2	5.2	4.2	4.3
Real GDP (Chained 2012 Billions \$)	18324	18512	18665	18785	18814	18952	19074	19180	18051	18571	19005	19399
Percent Change Annualized	2.2	4.2	3.4	2.6	0.6	3.0	2.6	2.2	2.2	2.9	2.3	2.1
Pers. Consumption Expenditures	12723	12842	12953	13044	13073	13165	13242	13313	12559	12891	13198	13467
Percent Change Annualized	0.5	3.8	3.5	2.8	0.9	2.8	2.4	2.2	2.5	2.6	2.4	2.0
Nonresidential Fixed Investment	2654	2710	2727	2768	2796	2830	2861	2886	2538	2715	2843	2929
Percent Change Annualized	11.5	8.7	2.5	6.2	4.1	4.9	4.4	3.6	5.3	7.0	4.7	3.0
Residential Investment	615	613	608	602	606	607	609	613	611	610	609	622
Percent Change Annualized	-3.4	-1.3	-3.6	-3.5	2.2	0.8	1.8	2.3	3.3	-0.2	-0.2	2.2
Change in Private Inventories	30	-37	90	97	66	61	54	50	23	45	58	45
Net Exports	-902	-841	-950	-963	-964	-977	-988	-998	-859	-914	-982	-996
Government Expenditures	3152	3172	3192	3195	3197	3226	3256	3276	3130	3178	3239	3291
Percent Change Annualized	1.5	2.5	2.6	0.4	0.2	3.7	3.7	2.6	-0.1	1.5	1.9	1.6
Industrial Prod. Index (2012 = 100)	105.9	107.3	108.6	109.8	109.9	110.7	111.3	111.7	103.7	107.9	110.9	112.3
Percent Change Annualized	2.5	5.2	4.9	4.6	0.4	2.9	2.1	1.5	1.6	4.0	2.8	1.2
Capacity Utilization (Percent)	77.2	77.8	78.3	78.8	78.9	79.4	79.8	80.1	76.1	78.0	79.5	80.5
Prices												
CPI (1982-84 = 100)	249.3	250.6	251.8	252.8	253.3	255.0	256.6	258.1	245.1	251.1	255.8	261.8
Percent Change Annualized	3.2	2.1	2.0	1.5	0.9	2.7	2.5	2.4	2.1	2.4	1.9	2.4
Core CPI Index (1982-84 = 100)	255.7	256.9	258.2	259.6	260.9	262.2	263.5	264.8	252.2	257.6	262.9	268.1
Percent Change Annualized	2.7	1.9	2.0	2.2	2.1	2.0	2.0	2.0	1.8	2.1	2.1	2.0
PCE Price Index (2012 = 100)	107.5	108.1	108.5	108.9	109.1	109.7	110.3	110.9	106.1	108.2	110.0	112.2
Percent Change Annualized	2.5	2.0	1.6	1.5	0.7	2.3	2.2	2.1	1.8	2.0	1.6	2.0
Core PCE Price Index (2012 = 100)	109.2	109.8	110.2	110.7	111.2	111.6	112.1	112.5	108.0	110.0	111.8	113.7
Percent Change Annualized	2.2	2.1	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.9	1.7	1.7
GDP Price Index (2012 = 100)	109.4	110.3	110.7	111.2	111.6	112.1	112.7	113.4	107.9	110.4	112.5	115.0
Percent Change Annualized	2.0	3.3	1.5	2.0	1.3	2.1	2.2	2.4	1.9	2.3	1.9	2.2
Crude Oil, WTI (\$/Barrel)	62.9	68.1	69.7	59.5	55.4	59.3	60.7	62.1	50.8	65.0	59.4	64.2
Labor Markets												
Payroll Jobs (Millions)	148.0	148.7	149.4	150.1	150.7	151.2	151.6	152.0	146.6	149.1	151.3	152.7
Percent Change Annualized	1.8	1.9	1.8	1.7	1.6	1.3	1.1	1.0	1.6	1.7	1.5	0.9
Unemployment Rate (Percent)	4.1	3.9	3.8	3.8	3.9	3.7	3.6	3.5	4.4	3.9	3.7	3.6
Average Weekly Hours, Prod. Works.	33.7	33.8	33.8	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7
Personal Income												
Average Hourly Earnings (\$)	22.42	22.61	22.79	22.99	23.18	23.38	23.57	23.76	22.05	22.70	23.47	24.24
Percent Change Annualized	3.2	3.6	3.2	3.6	3.3	3.4	3.3	3.3	2.3	3.0	3.4	3.3
Real Disp. Income (2012 Billions \$)	14219	14281	14374	14523	14610	14630	14641	14657	13949	14350	14634	14720
Percent Change Annualized	4.4	1.8	2.6	4.2	2.4	0.5	0.3	0.4	2.6	2.9	2.0	0.6
Housing												
Housing Starts (Ths., Ann. Rate)	1317	1261	1234	1151	1229	1236	1239	1237	1208	1241	1235	1241
Ext. Home Sales (Ths., Ann. Rate)	5507	5407	5307	5143	5039	5132	5232	5313	5531	5341	5179	5418
New SF Home Sales (Ths., Ann. Rate)	656	633	605	590	614	616	620	622	616	621	618	625
Case/Shiller HPI (Jan. 2000 = 100)	199.7	201.9	203.6	206.0	207.8	209.3	210.7	211.8	191.6	202.8	209.9	214.6
Percent Change Year Ago	6.4	6.4	5.7	5.0	4.1	3.7	3.5	2.8	5.8	5.9	3.5	2.3
Consumer												
Household Economic Stress Index	-0.1	0.2	0.7	1.0	1.4	1.8	2.1	2.8	0.7	0.5	2.0	3.7
Auto Sales (Millions)	17.1	17.2	16.9	17.5	16.8	16.9	17.0	17.0	17.1	17.2	16.9	17.0
Consumer Credit (Billions \$)	3863	3891	3957	4018	4031	4059	4082	4110	3758	3932	4070	4186
Percent Change Annualized	3.3	3.0	6.9	6.3	1.3	2.8	2.3	2.7	5.6	4.6	3.5	2.8
Interest Rates (Percent)												
Prime Rate	4.53	4.80	5.01	5.28	5.50	5.50	5.50	5.50	4.10	4.90	5.50	5.50
Federal Funds	1.45	1.74	1.92	2.22	2.40	2.40	2.40	2.40	1.00	1.83	2.40	2.40
3-Month Treasury Bill	1.58	1.87	2.07	2.36	2.41	2.38	2.33	2.28	0.95	1.97	2.35	2.25
10-Year Treasury Note	2.76	2.92	2.92	3.04	2.66	2.62	2.63	2.64	2.33	2.91	2.64	2.63
30-Year Fixed Mortgage	4.27	4.54	4.57	4.78	4.38	4.29	4.28	4.26	3.99	4.54	4.30	4.25
a = actual f = forecast p = preliminary												

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Manager Summaries

JMA Large Cap Growth Equity

PNC Investment Advisor Research

AMG Status Approved
 Platform Add Date 6/24/2009
 Status Chg Date

Investment Philosophy/Process

Jennison believes that using bottom-up, fundamental analysis to uncover companies with above-average growth in units, revenues, earnings, and cash flow will drive the value of a portfolio over time. Jennison is looking to capture the inflection point in a company's growth rate that is not yet fully reflected in the stock price. The portfolio typically holds 55-70 stocks, with estimated long-term earnings-per-share (EPS) growth rates 1.5-2 times that of the Russell 1000® Growth index. Individual positions rarely exceed 5% of the portfolio.

Setting Expectations

Given the manager's focus on EPS and revenue growth, Investment Advisor Research (IAR) believes the portfolio should outperform when growth stocks are in favor (for example, 2015: Jennison 12.4% versus R1000G 5.7%; R1000V -3.8%, and 2017: Jennison 36.6% versus R1000G 30.2%; R1000V 13.7%) and in up markets (for example, 2013: Jennison 38.9% versus R1000G 33.5%). Conversely, IAR feels the fund may lag the benchmark when value stocks are in favor (for example, 2016: Jennison -1.2% versus R1000G 7.1%; R1000V 17.3%) and in "risk-off" or down markets. Even though the portfolio tends to have a moderate-to-low active share, annualized tracking error versus the Russell 1000 Growth has consistently been greater than 4% because of its pronounced growth tilt.

Strategy Overview

Investment Type Separate Account
 Morningstar Category US SA Large Growth
 Benchmark Russell 1000 Growth TR USD
 Sub-Style Aggressive Growth

Strategy Facts

of Stock Holdings 53
 Top 10 Holdings (%) 38
 Turnover Ratio (%) 37
 Inception Date 7/31/1969

Operations

Firm Name Jennison Associates LL
 Vehicle Assets (Mil) \$ 675
 Investment Minimum \$ 100,000
 Management Fee 0.30%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
JMA Large Cap Growth Equity	17.44	21	17.44	21	12.20	43	18.93	17	14.59	12	14.98	16	18.02	17
Russell 1000 Growth TR USD	16.10	42	16.10	42	12.75	35	16.53	39	13.50	26	14.34	28	17.52	26
50th Percentile	15.84		15.84		11.39		15.66		11.98		13.42		16.50	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
JMA Large Cap Growth Equity	-0.07	34	36.61	6	-1.17	90	12.41	3	10.97	55	38.85	17	16.47	44
Russell 1000 Growth TR USD	-1.51	48	30.21	32	7.08	34	5.67	35	13.05	33	33.48	59	15.26	58
50th Percentile	-1.63		27.70		5.44		4.31		11.37		34.56		15.84	

Attribution

Relative Weights

Active Return

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	4.3	0.5
Consumer Discretionary	4.8	0.3
Consumer Staples	-2.5	0.5
Energy	-0.8	0.0
Financials	-0.5	0.0
Health Care	-0.3	0.5
Industrials	-6.4	0.1
Information Technology	1.3	-0.2
Materials	-0.9	-0.1
Real Estate	-0.8	0.0

	Port	Index	Return	Contrib
Netflix Inc	3.8	1.1	33.2	1.16
Amazon.com Inc	5.8	5.3	18.6	1.10
Alibaba Group Holding Ltd ADR	3.5	0.0	33.1	1.07
Mastercard Inc A	3.9	1.5	25.0	0.97
Microsoft Corp	5.0	6.2	16.6	0.87

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Tesla Inc	2.2	0.4	-15.9	-0.40
Bristol-Myers Squibb Company	0.7	0.4	-7.4	-0.06
Activision Blizzard Inc	0.9	0.3	-1.4	-0.01
UnitedHealth Group Inc	1.8	2.0	-0.4	-0.01
Constellation Brands Inc A	0.0	0.2		0.00

Performance Analysis

Jennison was roughly 135 basis points (bps) ahead of the Russell 1000® Growth, but lags the benchmark by 55 bps over the trailing 12 months. In the quarter, the fund's aggressive growth profile was a factor tailwind (Russell 1000 Growth 16.1% > Russell 1000® Value 11.9%). More than one-third of the portfolio has a long-term EPS growth rate above 20% versus only one-fifth of the Russell 1000 Growth. These companies within the benchmark were up 19.6%, while the index as a whole was up only 16.1%. Sector allocation effects as a whole were negligible. The portfolio's top two relative contributors were both up 33%: Alibaba (BABA 33.1%) and Netflix (NFLX 33.2%). Netflix rebounded from a difficult fourth-quarter 2018 (-28.5%) after announcing close to 9 million net new subscribers during the final three months of 2018. Tesla (TSLA -15.9%) was the biggest relative detractor. Over the trailing 12 months, the portfolio's growth-bias was a factor tailwind (Russell 1000 Growth 12.8% > Russell 1000 Value 5.7%). Strength in Information Technology (Salesforce.com, CRM 36.2%; Mastercard, MA 35.2%) and Industrials (underweight the sector; Boeing, BA 18.6%) was offset by weakness in Consumer Discretionary (Alibaba, BABA -0.6%; Marriott International, MAR -6.8%) and Communication Services (Tencent Holdings, TCEHY -11.7%; Activision Blizzard, ATVI -32.0%).

IAR's Current Assessment

Performance over the past several quarters is in line with IAR's expectations. IAR would have expected the strategy to outperform given the strength of growth stocks since the beginning of 2017 (1/2017 - 3/2019: Jennison 23.3% versus Russell 1000 Growth 19.4%; Russell 1000® Value 7.1%), which is different from 2016 when value stocks led the market (Russell 1000 Growth 7.1% < Russell 1000 Value 17.3%) and the Jennison struggled, down 1.2%. The strategy's active share is less than 60%, but it maintains a tracking error above 4% because of its aggressive growth posture.

JMA Large Cap Growth Equity

Manager Biographies

Spiros Segalas

Spiros "Sig" Segalas is one of the founders of Jennison Associates. In addition to managing institutional portfolios, he has managed the Harbor Capital Appreciation Fund since May 1990.

Kathleen A. McCarragher

Kathleen McCarragher is a managing director and head of growth equity with Jennison, Ms. McCarragher joined Jennison Associates as an Executive Vice President and portfolio manager in May 1998. She was appointed Head of Growth Equity in January 2003.

Blair A. Boyer

Blair Boyer is a managing director and a large cap growth equity portfolio manager. He joined Jennison Associates in March 1993. Prior to joining the Growth Equity team in 2003, Blair co-managed international equity portfolios for 10 years.

Michael A. Del Balso

Michael Del Balso is a managing director, the director of research for growth equity, and a large cap growth equity portfolio manager. He joined Jennison Associates in May 1972 as a research analyst. He has been director of research for growth equity since 1994 and became a portfolio manager in 1999.

Natasha Kuhlkin, CFA

Natasha Kuhlkin, CFA, is a managing director and a large cap growth portfolio manager and research analyst. She joined Jennison Associates in May 2004.

Portfolio Characteristics

Calculation Benchmark: Russell 1000 Growth TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	299,454	291,374
Dividend Yield	0.69	1.23
Price/Earnings	33.9	23.8
Price/Book	8.1	6.5
Price/Cash Flow	21.8	15.6
Price/Sales	4.8	3.1
5 Yr EPS Growth	30.6	24.2
Return on Equity	22.9	31.0
Debt/Capital	41.4	46.9
Active Share (Avg)	57	

Risk/Reward vs. Benchmark

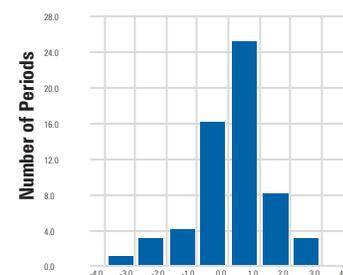
Calculation Benchmark: Russell 1000 Growth TR USD

	3YR	5YR	10YR
Standard Deviation	13.66	14.03	14.84
Sharpe Ratio	1.25	0.99	1.17
Information Ratio	0.57	0.25	0.12
R2	91	91	92
Beta	1.07	1.09	1.07
Alpha	1.21	0.05	-0.55
Tracking Error	4.18	4.36	4.26
Up Capture Ratio	111	109	106
Down Capture Ratio	106	110	111
Batting Average	58	60	58

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell 1000 Growth TR USD

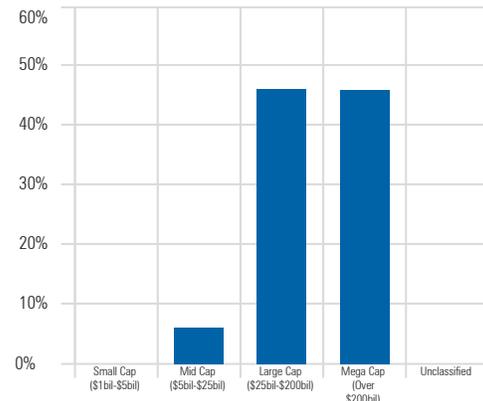


Top 10 Holdings - Ending Weights

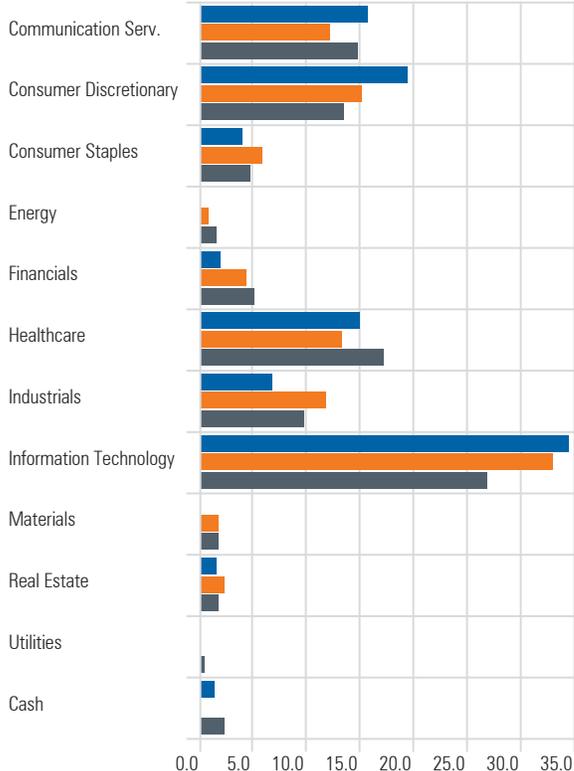
Calculation Benchmark: Russell 1000 Growth TR USD Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
Amazon.com Inc	6.3	18.6	18.6
Microsoft Corp	4.6	16.6	16.6
Mastercard Inc A	4.1	25.0	25.0
Salesforce.com Inc	3.7	15.6	15.6
Netflix Inc	3.6	33.2	33.2
Boeing Co	3.4	18.9	18.9
Visa Inc Class A	3.3	18.6	18.6
Tencent Holdings Ltd ADR	3.2	16.5	16.5
Alphabet Inc A	3.0	12.6	12.6
Alphabet Inc Class C	3.0	13.3	13.3

Market Cap Exposure



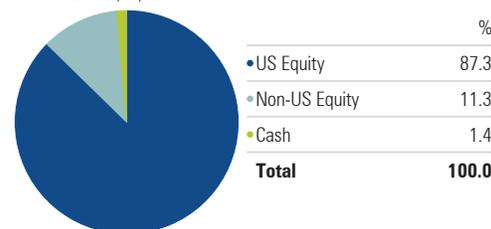
GICS Sector Exposure



■ JMA Large Cap Growth Equity
 ■ Russell 1000 Growth TR USD
 ■ US SA Large Growth

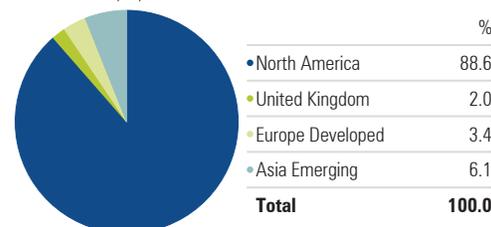
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



T. Rowe Price Growth Stock PRGFX

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 12/1/2001

Status Chg Date 9/4/2014

Investment Philosophy/Process

Joe Fath, the fund's portfolio manager since January 2014, describes his investment philosophy as an "upside-down pyramid" with the top slice made up of secular growth companies (50–60% of the portfolio). These are innovative disrupters in secular growth industries (for example, Alphabet, Amazon, Facebook). The middle section is cyclical opportunities (20–25%). These are more opportunistic investments with shorter holding periods. The bottom section is categorized as special situations (20–25%), which can be stocks transitioning from value to growth, companies within an industry undergoing a lasting structural change (for example, airlines), and roll-ups. Roll-ups are companies with strong management teams that are applying discipline and efficiency in fragmented industries through acquisition.

Setting Expectations

Investment Advisor Research (IAR) believes the fund should outperform when growth stocks are in favor (for example, 2015: PRGFX 10.9% versus R1000G 5.7%; R1000V -3.8%, and 2017: PRGFX 33.6% versus R1000G 30.2%; R1000V 13.7%) and in up markets (for example, 2013: PRGFX 39.2% versus R1000G 33.5%). Conversely, IAR feels the strategy may lag the benchmark when value stocks are in favor (for example, 2016: PRGFX 1.4% versus R1000G 7.1%; R1000V 17.3%) and in "risk-off" or down markets (for example, 2011: PRGFX -1.0% versus R1000G 2.6%). Even though the portfolio tends to have a moderate-to-low active share (usually <75%), annualized tracking error compared with the Russell 1000® Growth has been greater than 4% over the past several years because of its pronounced growth tilt.

Strategy Overview

Investment Type	Open-End Fund
Morningstar Category	US Fund Large Growth
Benchmark	Russell 1000 Growth TR USD
Sub-Style	Aggressive Growth

Fund Facts

# of Stock Holdings	76
Top 10 Holdings (%)	39
Turnover Ratio (%)	42
Inception Date	4/11/1950

Operations

Advisor	T. Rowe Price Associates, Inc.
Subadvisor	
Fund Size (mil)	\$ 55,787
Net Expense Ratio	0.67%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
T. Rowe Price Growth Stock	15.90	51	15.90	51	10.48	55	17.99	21	13.68	16	14.66	13	17.78	13
Russell 1000 Growth TR USD	16.10	47	16.10	47	12.75	31	16.53	34	13.50	19	14.34	18	17.52	16
50th Percentile	15.94		15.94		11.11		15.40		11.71		12.95		16.03	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
T. Rowe Price Growth Stock	-1.03	39	33.63	17	1.41	66	10.85	6	8.83	69	39.20	14	18.92	17
Russell 1000 Growth TR USD	-1.51	44	30.21	36	7.08	22	5.67	39	13.05	22	33.48	61	15.26	57
50th Percentile	-2.07		28.43		3.12		4.14		10.53		34.63		15.67	

Attribution

Relative Weights

Active Return

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

Communication Services	5.1	0.2
Consumer Discretionary	6.6	0.0
Consumer Staples	-4.7	0.5
Energy	-0.8	0.0
Financials	0.8	-0.5
Health Care	1.8	0.1
Industrials	-2.9	0.3
Information Technology	-5.1	-0.1
Materials	-1.2	-0.1
Real Estate	-1.8	0.0
Utilities	1.4	0.0

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Amazon.com Inc	8.7	5.3	18.6	1.63
Facebook Inc A	4.1	2.9	27.2	1.06
Microsoft Corp	5.2	6.2	16.6	0.90
Mastercard Inc A	2.9	1.5	25.0	0.72
Boeing Co	3.9	1.6	18.9	0.69

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Tesla Inc	1.4	0.4	-15.9	-0.25
Cigna Corp	1.3	0.2	-15.3	-0.21
Centene Corp	0.8	0.2	-7.9	-0.07
Humana Inc	0.4	0.3	-7.1	-0.03
UnitedHealth Group Inc	2.7	2.0	-0.4	-0.01

Performance Analysis

T. Rowe Growth Stock underperformed the Russell 1000® Growth by 20 basis points (bps) in the quarter, putting it close to 230 bps behind the benchmark over the trailing 12 months. In the quarter, the fund's aggressive growth profile was a factor tailwind (Russell 1000 Growth 16.1% > Russell 1000® Value 11.9%). No sector added or detracted more than 50 bps of relative value. The top individual relative contributor was Worldpay (WVP 48.5%). Worldpay, a payments processing company, was acquired by Fidelity National Information Services for roughly \$35 billion in March. The deal values Worldpay at close to \$43 billion when debt is included. Two stocks in the portfolio were down more than 10%: Tesla (TSLA -15.9%) and Cigna (CI -15.3%). Over the trailing 12 months, Information Technology added close to 200 bps of relative value, especially VMware (VMW 78.0%), Red Hat (RHT 22.2%), and Intuit (INTU 52.1%). Red Hat, an open source enterprise software maker, was acquired by IBM in October 2018 for roughly \$34 billion. Intuit, a financial management and compliance platform company, has seen broad-based revenue growth across its small business/self-employed group, which includes QuickBooks, and its consumer group, which includes TurboTax. Consumer Discretionary (Booking Holdings, BKNG -16.1%; Alibaba, BABA -0.6%) and Financials (overweight the sector; TD Ameritrade, AMTD -14.1%) were the biggest drags on relative returns.

IAR's Current Assessment

Performance over the past several quarters is in line with IAR's expectations. IAR would have expected the strategy to outperform given the strength of growth stocks since the beginning of 2017 (1/2017 - 3/2019: PRGFX 20.9% versus Russell 1000 Growth 19.4%; Russell 1000 Value 7.1%), which is different from 2016 when value stocks led the market (Russell 1000 Growth 7.1% < Russell 1000 Value 17.3%) and T. Rowe struggled, only up 1.4%.

T. Rowe Price Growth Stock PRGFX

Manager Biographies

Joseph B. Fath

Joe Fath is a vice president of T. Rowe Price Group, Inc., and T. Rowe Price Associates, Inc. He is the portfolio manager and chairman of the Investment Advisory Committee for the Growth Stock Fund. He is also a member of the portfolio management team for the US Large-Cap Growth Equity Strategy in the U.S. Equity Division. Joe serves as a vice president and Investment Advisory Committee member of the Media & Telecommunications and Mid-Cap Growth Funds. He joined the firm in 2002 as an analyst covering gaming, lodging, cruise lines, airlines, and air freight and logistics companies after serving as a summer intern for the firm in 2001. He was also the chief financial officer and cofounder of Broadform, Inc., a start-up educational/software company. In addition, Joe worked as director of operations analysis for Players International, a multi-jurisdictional gaming operator in the United States. He also was employed by Coopers & Lybrand as a senior associate in the Business Assurance and Financial Services Group. Joe graduated, with honors, with a B.S. in accounting from the University of Illinois at Urbana-Champaign. He earned an M.B.A., with honors, in finance and entrepreneurial management from the Wharton School, University of Pennsylvania. Joe also has earned the Certified Public Accountant accreditation.

Portfolio Characteristics

Calculation Benchmark: Russell 1000 Growth TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	295,445	291,374
Dividend Yield	0.77	1.23
Price/Earnings	29.1	23.8
Price/Book	5.3	6.5
Price/Cash Flow	18.3	15.6
Price/Sales	3.4	3.1
5 Yr EPS Growth	25.7	24.2
Return on Equity	23.6	31.0
Debt/Capital	41.9	46.9
Active Share (Avg)	59	

Risk/Reward vs. Benchmark

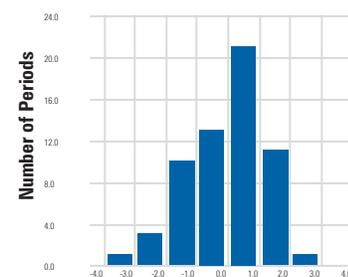
Calculation Benchmark: Russell 1000 Growth TR USD

	3YR	5YR	10YR
Standard Deviation	12.95	13.35	14.70
Sharpe Ratio	1.25	0.97	1.16
Information Ratio	0.37	0.05	0.07
R2	91	91	94
Beta	1.01	1.04	1.07
Alpha	1.18	-0.15	-0.77
Tracking Error	3.99	4.10	3.78
Up Capture Ratio	103	101	104
Down Capture Ratio	94	100	107
Batting Average	58	55	53

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell 1000 Growth TR USD

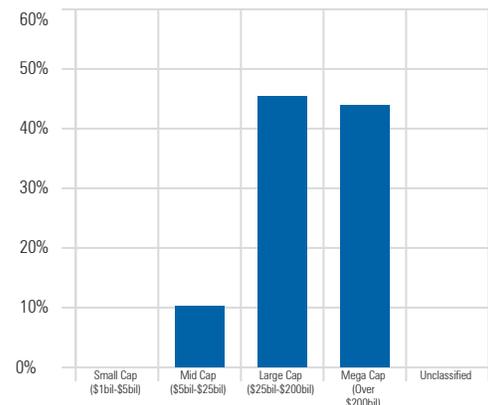


Top 10 Holdings - Ending Weights

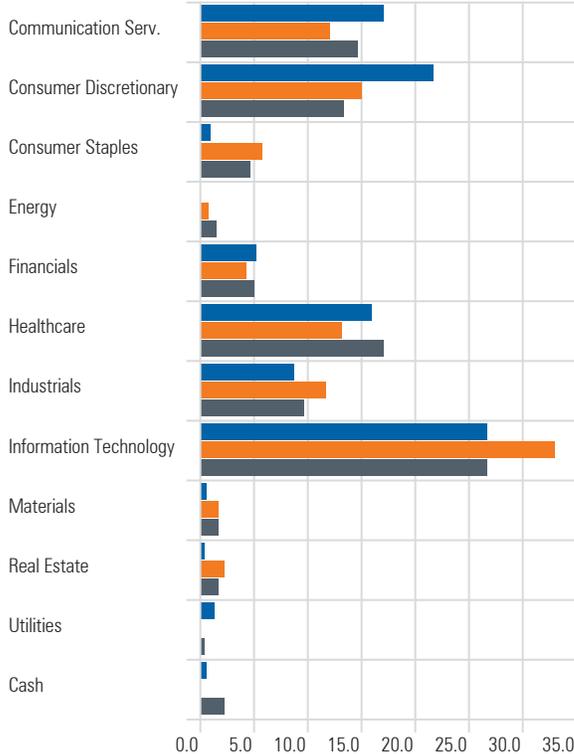
Calculation Benchmark: Russell 1000 Growth TR USD Portfolio Date: 12/31/2018

	Port Weight	QTR Return	YTD Return
Amazon.com Inc	8.7	18.6	18.6
Microsoft Corp	5.3	16.6	16.6
Facebook Inc A	3.9	27.2	27.2
Boeing Co	3.6	18.9	18.9
Visa Inc Class A	3.5	18.6	18.6
Alphabet Inc A	3.2	12.6	12.6
Alphabet Inc Class C	3.1	13.3	13.3
UnitedHealth Group Inc	2.9	-0.4	-0.4
Mastercard Inc A	2.8	25.0	25.0
Tencent Holdings Ltd	2.3	15.0	15.0

Market Cap Exposure



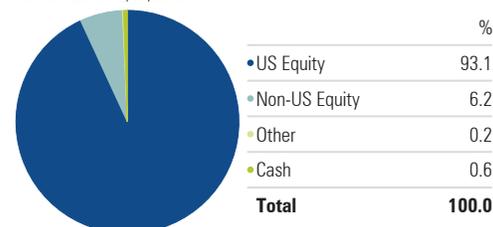
GICS Sector Exposure



■ T. Rowe Price Growth Stock
 ■ Russell 1000 Growth TR USD
 ■ US Fund Large Growth

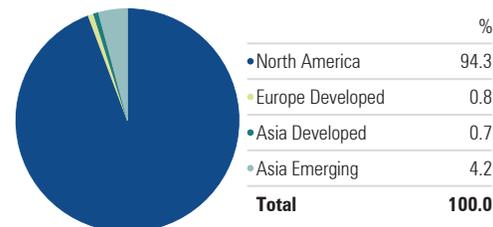
Asset Allocation

Portfolio Date: 12/31/2018



Equity Regional Exposure

Portfolio Date: 12/31/2018



Aristotle Value Equity

PNC Investment Advisor Research

AMG Status Approved

Platform Add Date 5/18/2007

Status Chg Date

Investment Philosophy/Process

Aristotle believes its focus on high quality will provide downside protection; a global perspective deepens the team’s knowledge of the companies along with those companies’ global competitors, suppliers, and customers; a long-term view allows them to capitalize on market inefficiencies while limiting turnover in the portfolio; and constructing focused high-conviction portfolios, while being mindful of diversity by sector, allows stock selection to drive relative performance. The team defines high quality businesses as those with proven management teams; sustainable competitive advantages to their products or services; and high returns on invested capital and operating margins. Aristotle also seeks to identify change or a catalyst that will be positive for the companies’ future prospects.

Setting Expectations

The strategy tends to have a quality bias given Aristotle’s focus on identifying companies with strong/improving lines of business. This quality bias and the manager’s focus on valuation and catalysts typically lead the fund to outperform in down/flat markets and underperform in rapidly rising markets where low quality is in favor. While concentrated with 35-45 stocks, the portfolio is diversified across sectors, with sector weights typically 50-200% of the S&P 500®. This strategy can serve as a core large cap value holding for investors seeking some downside protection and long-term outperformance driven by stock selection and opportunistic international exposures. Due to Aristotle’s global focus, the fund will typically have international exposure, which has historically averaged 10%.

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Large Value
Benchmark	Russell 1000 Value TR USD
Sub-Style	Traditional Value

Strategy Facts

# of Stock Holdings	42
Top 10 Holdings (%)	33
Turnover Ratio (%)	15
Inception Date	1/31/2001

Operations

Firm Name	Aristotle Capital Manag
Vehicle Assets (Mil)	\$ 10,004
Investment Minimum	\$ 100,000
Management Fee	0.30%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Aristotle Value Equity	12.29	23	12.29	23	3.80	59	13.73	6	10.54	6	13.51	3	16.53	6
Russell 1000 Value TR USD	11.93	36	11.93	36	5.67	41	10.45	60	7.72	57	11.14	49	14.52	49
50th Percentile	11.43		11.43		4.81		10.73		7.87		11.11		14.49	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Aristotle Value Equity	-8.25	55	22.74	5	17.61	23	3.58	4	11.63	57	30.82	67	22.10	2
Russell 1000 Value TR USD	-8.27	56	13.66	86	17.34	24	-3.83	69	13.45	29	32.53	51	17.51	26
50th Percentile	-8.10		16.75		15.29		-2.60		12.19		32.58		15.25	

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-5.0	0.2
Consumer Discretionary	1.9	-0.4
Consumer Staples	3.4	-1.1
Energy	-3.5	-0.4
Financials	-2.7	0.6
Health Care	-1.8	0.2
Industrials	2.2	0.1
Information Technology	7.7	0.8
Materials	0.5	0.2
Real Estate	-2.2	-0.1
Utilities	-4.2	0.2

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Danaher Corp	3.2	0.6	28.2	0.91
Adobe Inc	4.7	0.0	17.8	0.85
Ansys Inc	2.9	0.0	27.8	0.78
PayPal Holdings Inc	2.9	0.0	23.5	0.71
Microsoft Corp	3.9	0.3	16.6	0.69

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Sony Corp ADR	2.5	0.0	-12.5	-0.34
The Kroger Co	2.0	0.2	-10.1	-0.22
AbbVie Inc	1.4	0.0	-11.5	-0.19
Walgreens Boots Alliance Inc	2.1	0.5	-6.8	-0.16
Amgen Inc	2.8	0.1	-1.7	-0.05

Performance Analysis

The strategy outperformed the Russell 1000® Value index by roughly 35 basis points (bps) in the quarter but trails by almost 190 bps over the past 12 months. The portfolio’s mild outperformance during the quarter came as a result of sector allocation (overweight to Information Technology) while stock selection slightly detracted. Picks within Consumer Staples (Kroger, KR -10.1%) were the portfolio’s greatest sources of weakness, followed by consumer Discretionary (Sony, SNE -12.5%). Shares of Kroger dropped sharply in early March after reporting earnings results that fell short of market expectations as the grocer seeks to reduce food prices while investing in technology to compete with Amazon in the online grocery shopping arena. This was somewhat offset by favorable picks within Financials (no exposure to Berkshire Hathaway, BRK.B -1.6%) and Information Technology (Ansys, ANSS 27.8%). Over the past 12 months, relative underperformance is primarily attributable to stock selection, though sector allocations, most notably underweights to Utilities and Real Estate, have mildly detracted. In terms of stock selection, picks within Financials (Banco Bilbao Vizcaya Argentaria, BBVA -24.9%), Energy (Halliburton, HAL -36.3%), and Health Care (Acadia Healthcare, ACHC -25.2%) were most challenged while those within Information Technology (PayPal Holdings, PYPL 36.8%; Microsoft, MSFT 31.4%) added value.

IAR's Current Assessment

The strategy’s mild outperformance during the quarter and underperformance over the trailing year is in line with IAR’s expectations, taking a mild breather following strong outperformance in 2017. In our view, while classified as a value strategy, Aristotle has a quality bias that leads it to some investments that might be considered more growth oriented. Nevertheless, we believe that the manager can deliver excess returns over the benchmark, albeit with heightened volatility at times. Longer term, stock selection continues to be the primary driver of returns, which IAR expects for a concentrated strategy. While the strategy lags over the trailing 1 year, it continues to possess a strong record over the trailing 3-, 5-, 7- and 10-year periods.

Aristotle Value Equity

Manager Biographies

Howard Gleicher

Howard serves as the portfolio manager since December 2012. Mr. Gleicher is Chief Executive Officer and Chief Investment Officer of Aristotle. Mr. Gleicher joined Aristotle in 2010. Prior to Aristotle, Mr. Gleicher was co-founder, Chief Executive Officer and Chief Investment Officer at Metropolitan West Capital Management, LLC (1997-2010). Mr. Gleicher serving as a Principal, Portfolio Manager and Investment Policy Committee member at Palley-Needelman Asset Management, Inc. (1988-1997), and as an Equity Portfolio Manager at Pacific Investment Management Company (PIMCO).

Portfolio Characteristics

Calculation Benchmark: Russell 1000 Value TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	112,867	125,640
Dividend Yield	1.90	2.56
Price/Earnings	13.7	17.6
Price/Book	2.0	1.9
Price/Cash Flow	10.0	9.8
Price/Sales	1.3	1.6
5 Yr EPS Growth	13.3	3.3
Return on Equity	21.0	13.9
Debt/Capital	43.1	41.0
Active Share (Avg)	90	

Risk/Reward vs. Benchmark

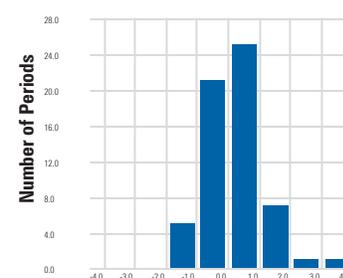
Calculation Benchmark: Russell 1000 Value TR USD

	3YR	5YR	10YR
Standard Deviation	11.28	11.83	13.66
Sharpe Ratio	1.08	0.84	1.16
Information Ratio	1.06	0.84	0.58
R2	93	92	94
Beta	1.02	1.03	1.01
Alpha	2.82	2.50	1.73
Tracking Error	3.09	3.34	3.48
Up Capture Ratio	110	110	104
Down Capture Ratio	87	92	94
Batting Average	58	57	55

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell 1000 Value TR USD

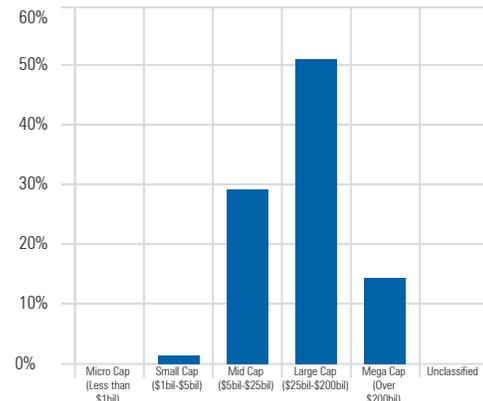


Top 10 Holdings - Ending Weights

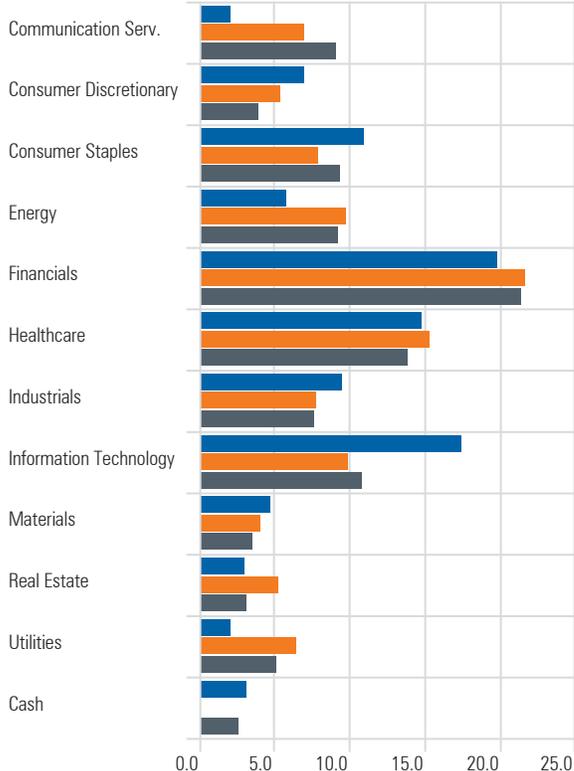
Calculation Benchmark: Russell 1000 Value TR USD Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
Adobe Inc	4.8	17.8	17.8
Microsoft Corp	4.0	16.6	16.6
Danaher Corp	3.5	28.2	28.2
Bank of America Corporation	3.3	12.6	12.6
Microchip Technology Inc	3.0	15.9	15.9
PayPal Holdings Inc	3.0	23.5	23.5
Amgen Inc	2.9	-1.7	-1.7
Ansys Inc	2.7	27.8	27.8
Coca-Cola Co	2.7	-0.2	-0.2
Medtronic PLC	2.7	0.7	0.7

Market Cap Exposure



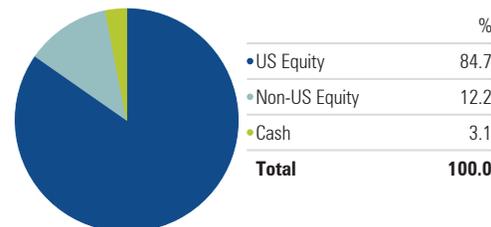
GICS Sector Exposure



■ Aristotle Value Equity
■ Russell 1000 Value TR USD
■ US SA Large Value

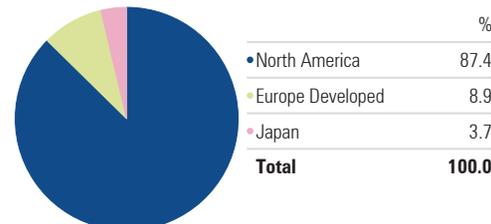
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



Delaware US Large Cap Value Eq SMA

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 8/30/2006

Status Chg Date

Investment Philosophy/Process

Delaware seeks to capitalize on discrepancies between their estimate of intrinsic value and a company's stock price. By acting independently, thinking rationally, and applying a disciplined investment process, the team believes they can take advantage of mean reversion to deliver superior performance, with below-average volatility over a full market cycle. The team's process screens a universe of U.S. stocks with market capitalizations of at least \$2 billion on a number of valuation (75%) and quality (25%) factors. Once investment candidates are identified, close attention is paid to the company's valuation history across a range of valuation measures. In order to help determine the company's intrinsic value, the analysts will run a Dividend Discount Model or Discounted Cash Flow model using their own earnings assumptions.

Setting Expectations

Delaware Large Cap Value tends to be positioned defensively with a relative value orientation. The strategy should offer a beta less than one and strong downside protection (lower downside capture ratio). This strategy can serve as a core large cap value holding for investors seeking downside protection and long-term outperformance driven by stock selection. Investment Advisor Research (IAR) would expect the strategy to outperform in flat or down markets or when quality is in favor. The strategy has generally underperformed in market environments that are momentum and/or narrowly sector-driven, strong up markets, those where low quality and high beta are in favor, or those where smaller-caps are favored. The portfolio is equally weighted (3% position size) with 30-40 holdings and has low turnover. At times, significant relative sector over/under weights may exist.

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Large Value
Benchmark	Russell 1000 Value TR USD
Sub-Style	Relative Value

Strategy Facts

# of Stock Holdings	33
Top 10 Holdings (%)	32
Turnover Ratio (%)	15
Inception Date	8/31/1994

Operations

Firm Name	Macquarie Investment
Vehicle Assets (Mil)	\$ 1,402
Investment Minimum	\$ 100,000
Management Fee	0.30%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Delaware US Large Cap Value E	10.10	81	10.10	81	8.81	15	11.81	25	9.66	15	12.87	7	15.60	20
Russell 1000 Value TR USD	11.93	36	11.93	36	5.67	40	10.45	61	7.72	57	11.14	49	14.52	51
50th Percentile	11.43		11.43		4.77		10.73		7.89		11.13		14.55	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Delaware US Large Cap Value E	-2.04	7	14.06	81	15.58	48	0.01	21	14.77	13	34.27	40	15.26	50
Russell 1000 Value TR USD	-8.27	57	13.66	87	17.34	24	-3.83	70	13.45	29	32.53	52	17.51	26
50th Percentile	-8.04		16.82		15.33		-2.53		12.24		32.64		15.26	

Attribution

Relative Weights

Active Return

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-1.3	0.0
Consumer Discretionary	1.0	0.3
Consumer Staples	-1.9	0.2
Energy	2.4	-0.5
Financials	-7.0	0.9
Health Care	7.9	-1.9
Industrials	1.6	-0.1
Information Technology	-0.3	0.2
Materials	-1.1	-0.3
Real Estate	-2.1	-0.1
Utilities	-3.4	0.0

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Cisco Systems Inc	3.1	1.7	25.6	0.79
Mondelez International Inc Class A	3.0	0.5	25.4	0.76
Lowe's Companies Inc	3.1	0.0	19.1	0.61
Oracle Corp	3.1	0.9	19.4	0.60
Raytheon Co	3.1	0.0	18.7	0.58

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
CVS Health Corp	2.6	0.6	-17.1	-0.51
Cigna Corp	2.8	0.4	-15.3	-0.48
Pfizer Inc	2.9	2.0	-1.9	-0.06
Broadcom Inc	0.0	0.4		0.00
DowDuPont Inc	2.9	1.0	0.4	0.01

Performance Analysis

The strategy trailed the Russell 1000® Value index by roughly 185 basis points (bps) during the quarter but is ahead by nearly 315 bps over the trailing 12 months. Underperformance during the quarter was due to a combination of sector allocations and stock selection, with the latter accounting for roughly 80% of the results. Coming into 2019, the portfolio held an above-average cash position following the closing of two acquisitions which proved to be a drag on performance. An overweight to the lagging Health Care sector also detracted; however, this was somewhat offset by an underweight to Financials. In terms of stock selection, picks within Health Care, most notably Cigna (CI -15.3%) and CVS (CVS -17.1%), were the epicenter of underperformance. Shares of CVS traded lower after the company booked a \$2.2 billion charge related to its pharmacy distribution business within skilled nursing and long term care facilities and lowered guidance for 2019. Weakness was somewhat offset by favorable picks within Financials (no exposure to Berkshire Hathaway, BRK.B -1.6%). For the trailing 12 months, both sector allocations and stock selection have contributed to relative outperformance with the former accounting for roughly two thirds of the results. An overweight to Health Care and an underweight to Financials added value; however, this was somewhat attenuated by underweights to Utilities and Real Estate. In terms of stock selection, picks within Information Technology (CA, CA 33.0%) and Consumer Discretionary (Lowe's, LOW 27.3%) sectors more than offset the negative impact of picks within Health Care (Cardinal Health, CAH -20.1%) and Industrials (Northrup Grumman, NOC -21.5%).

IAR's Current Assessment

Delaware's underperformance during the quarter is within IAR's expectations, given the strategy's somewhat conservative and defensive positioning in the strong absolute return environment. The elevated cash position that the portfolio possessed coming into the year has been brought down with the purchase of a new position in Broadcom (AVGO) and adds to existing positions. As such, IAR doesn't expect the cash position to have as much of an impact going forward as it did in the quarter. Over the trailing 1-year period, the strategy is more than 310 bps ahead of the benchmark and ranks in the top quartile relative to peers over the trailing 1-, 5-, 7- and 10-year periods. Longer term, IAR continues to have confidence in Delaware's investment team and approach and believes that the quality and value biased exposures the portfolio provides will be rewarded over time.

Delaware US Large Cap Value Eq SMA

Manager Biographies

Nikhil G. Lalvani

Nikhil G. Lalvani - Nikhil G. Lalvani, CFA Vice President, Senior Portfolio Manager, Team Leader — Large-Cap Value Equity Nikhil G. Lalvani is a senior portfolio manager for the firm's Large-Cap Value team and assumed the role of Team Leader in October 2018. At Macquarie Investment Management (MIM) Lalvani has worked as both a fundamental and quantitative analyst. Prior to joining the firm in 1997 as an account analyst, he was a research associate with Bloomberg. Lalvani holds a bachelor's degree in finance from The Pennsylvania State University. He is a member of the CFA Institute and the CFA Society of Philadelphia.

Portfolio Characteristics

Calculation Benchmark: Russell 1000 Value TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	99,514	125,937
Dividend Yield	2.51	2.56
Price/Earnings	19.2	17.2
Price/Book	2.3	2.0
Price/Cash Flow	10.0	9.6
Price/Sales	1.1	1.6
5 Yr EPS Growth	4.4	3.4
Return on Equity	17.1	13.9
Debt/Capital	44.1	41.0
Active Share (Avg)	79	

Risk/Reward vs. Benchmark

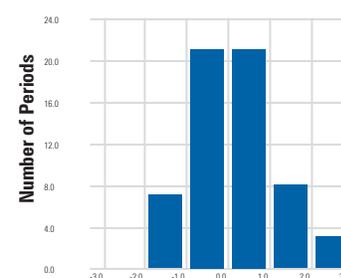
Calculation Benchmark: Russell 1000 Value TR USD

	3YR	5YR	10YR
Standard Deviation	10.19	10.54	11.25
Sharpe Ratio	1.02	0.85	1.31
Information Ratio	0.37	0.56	0.25
R2	88	90	90
Beta	0.90	0.90	0.81
Alpha	2.13	2.44	3.35
Tracking Error	3.71	3.46	4.33
Up Capture Ratio	104	101	92
Down Capture Ratio	95	86	75
Batting Average	47	53	51

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell 1000 Value TR USD

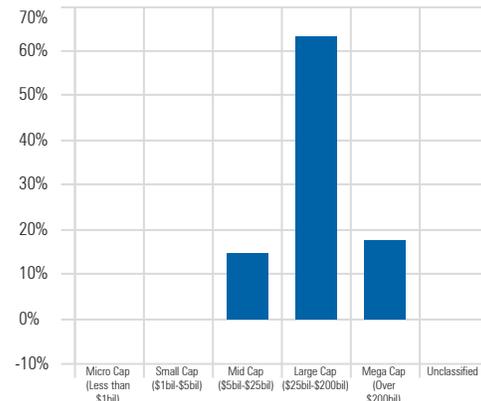


Top 10 Holdings - Ending Weights

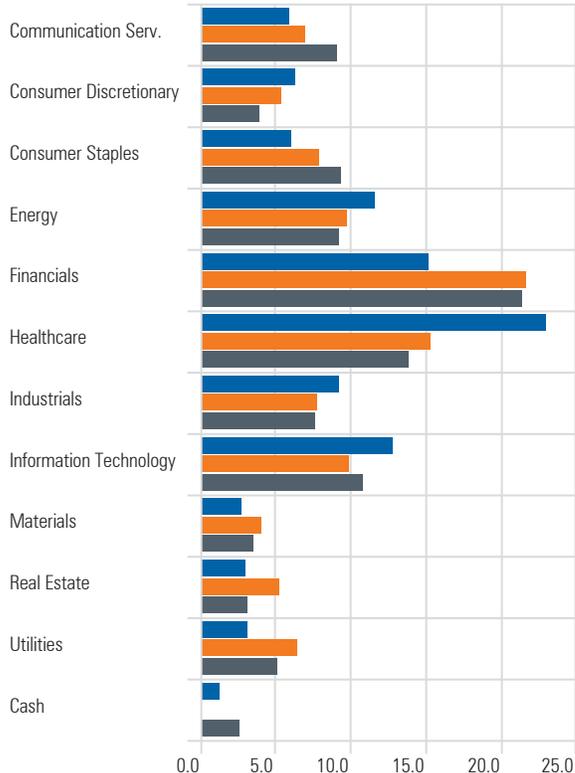
Calculation Benchmark: Russell 1000 Value TR USD Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
Mondelez International Inc Class A	3.2	25.4	25.4
Broadcom Inc	3.2	19.3	19.3
Lowe's Companies Inc	3.2	19.0	19.0
Oracle Corp	3.2	19.4	19.4
Cisco Systems Inc	3.2	25.4	25.4
Waste Management Inc	3.2	17.3	17.3
Marsh & McLennan Companies Inc	3.2	18.3	18.3
Allstate Corp	3.1	14.6	14.6
Abbott Laboratories	3.1	11.0	11.0
Merck & Co Inc	3.1	9.6	9.6

Market Cap Exposure



GICS Sector Exposure



■ Delaware US Large Cap Value Eq SMA
■ Russell 1000 Value TR USD
■ US SA Large Value

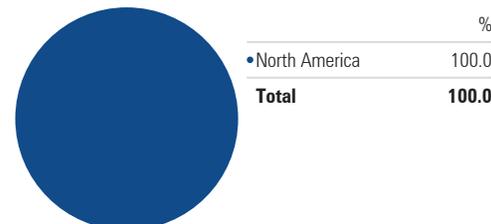
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



Baird Mid-Cap Growth Equity

PNC Investment Advisor Research

AMG Status	Approved
Platform Add Date	11/9/2004
Status Chg Date	1/30/2007

Investment Philosophy/Process

Baird seeks companies that exhibit what they call "PRIME" growth factors: durable profitability; sustainable revenue growth; attractive industry dynamics; capable management teams who maintain strong balance sheets (low debt); and market expectations that present a favorable risk/reward balance. Baird also employs technical analysis to aid in buy/sell timing and categorizes all investments into three tiers (Tier 3 > 2.25%; Tier 2 1.25% - 2.25%; Tier 1 < 1.25%) based upon their level of conviction in each position. The portfolio holds 50-60 stocks with typical position sizes in the 1-3% range.

Setting Expectations

Investment Advisor Research (IAR) feels Baird's bias toward financially strong companies (low debt, stable growth) gives the portfolio a quality tilt and the ability to perform well in risk-off (for example, 2011: Baird 5.6% versus RMidG -1.7%) or down markets (for example, 2008: Baird -40.3% versus RMidG -44.3%; 2018: Baird -0.8% versus RMidG -4.8%). IAR believes the strategy may lag during strong up markets (for example, 2013: Baird 34.1% versus RMidG 35.7%). Baird has less stock-specific risk than most managers, in IAR's opinion, because of the portfolio's diversification (Top 10 < 30%).

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Mid-Cap Growth
Benchmark	Russell Mid Cap Growth TR USD
Sub-Style	Traditional Growth

Strategy Facts

# of Stock Holdings	58
Top 10 Holdings (%)	25
Turnover Ratio (%)	38
Inception Date	6/30/1993

Operations

Firm Name	Baird Equity Asset Man
Vehicle Assets (Mil)	\$ 3,035
Investment Minimum	\$ 100,000
Management Fee	0.30%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Baird Mid-Cap Growth Equity	18.71	37	18.71	37	12.53	25	16.83	28	10.06	47	12.18	52	17.80	28
Russell Mid Cap Growth TR USCI	19.62	26	19.62	26	11.51	33	15.06	43	10.89	38	12.97	36	17.60	31
50th Percentile	17.89		17.89		9.20		14.55		9.88		12.30		16.82	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Baird Mid-Cap Growth Equity	-0.80	19	27.99	22	6.38	68	-2.79	80	5.78	69	34.12	70	17.62	33
Russell Mid Cap Growth TR USCI	-4.75	45	25.27	39	7.33	62	-0.20	56	11.90	23	35.74	60	15.81	53
50th Percentile	-5.39		23.74		8.62		0.33		8.39		37.45		16.06	

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-1.9	0.4
Consumer Discretionary	3.5	-1.6
Consumer Staples	-1.5	0.1
Energy	0.0	-0.2
Financials	-0.7	-0.4
Health Care	-0.1	0.0
Industrials	2.6	0.5
Information Technology	0.1	0.4
Materials	-3.6	0.1
Real Estate	-2.2	0.0

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
EPAM Systems Inc	2.4	0.2	45.8	1.03
Euronet Worldwide Inc	2.6	0.1	39.3	1.00
ServiceNow Inc	2.5	1.3	38.4	0.90
Veeva Systems Inc Class A	2.1	0.4	42.0	0.85
Global Payments Inc	2.1	0.6	32.4	0.68

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
GrubHub Inc	1.6	0.3	-9.6	-0.17
Abiomed Inc	0.9	0.5	-12.1	-0.13
Burlington Stores Inc	2.7	0.4	-3.7	-0.11
Insulet Corp	0.0	0.2		0.00
Hasbro Inc	0.0	0.3		0.00

Performance Analysis

Baird underperformed the Russell Mid Cap® Growth by close to 90 basis points (bps) in the first quarter, but remains ahead of the benchmark by more than 100 bps over the trailing one year. In the quarter, sector allocation effects were negligible with the majority of relative underperformance being driven by weak stock selection in Consumer Discretionary (Burlington Stores, BURL -3.7%; GrubHub, GRUB -9.6%). Burlington Stores was the second largest position in portfolio and the largest detractor of relative performance. On March 7, the company beat fourth-quarter earnings estimates but fell short of revenue and same-store sales estimates causing the stock to fall close to 12%. Stock selection in Industrials (Mercury Systems, MRCY 35.5%) and Information Technology (EPAM Systems, EPAM 45.8%; Euronet Worldwide, EEF 39.3%) helped make up for some of the losses in Consumer Discretionary. For the trailing one year, Baird benefitted from an underweight to Materials, Financials, and Communication Services – the three worst performing sectors in the benchmark. Stock selection was marginally positive with underperforming positions in Industrials (Beacon Roofing Supply, BECN -50.6%; BWX Technologies, BWXT -24.6%) offsetting the majority of gains from strong stock selection in Health Care (Veeva Systems, VEEV 73.7%) and Communication Services (Cable One, CABO 44.2%).

IAR's Current Assessment

Performance for the quarter and over the trailing one year is in line with IAR's expectations. Baird's short-term performance generally does not deviate much from the Russell Mid Cap Growth index (5 year tracking error = 3.7%) because of the diversified nature of the portfolio (top 10 holdings only 25% of portfolio). Underperformance in the quarter was concentrated in a handful of positions in Consumer Discretionary (Burlington Stores, BURL -3.7%; GrubHub, GRUB -9.6%) which has been a standout sector for the strategy since 2017. Despite stronger recent performance in 2018 and 2017, the strategy's trailing five-year return still lags the benchmark due to underperformance in 2015 and 2016.

Baird Mid-Cap Growth Equity

Manager Biographies

Charles F. Severson

Mr. Severson is a Senior Portfolio Manager and Senior Vice President of Robert W. Baird & Co. Incorporated. He joined the firm in 1987 as an Institutional Salesman. In 1991, Mr. Severson joined Baird Investment Management after spending four years as an Institutional Equity Salesman. Mr. Severson has served as a Senior Portfolio Manager on the Mid Cap product since its inception in 1993 and the fund since its inception in 2000. He has a B.B.A. degree in Accounting and Finance and an M.S. degree in Finance from the University of Wisconsin-Madison. Mr. Severson earned the Chartered Financial Analyst designation in 1990.

Ken Hemauer

Mr. Hemauer has over 16 years of investment experience and currently serves as the Director of BIM research as well as Senior Research Analyst for the financial services sector. Prior to joining BIM he spent seven years in Baird's sell-side Equity Research Department as a Senior Analyst leading the coverage of financial institutions. Mr. Hemauer has both a BBA and Master of Science degree in Finance from the University of Wisconsin-Madison where he was a member of the Applied Security Analysis Program. He earned the Chartered Financial Analyst designation in 1995.

Portfolio Characteristics

Calculation Benchmark: Russell Mid Cap Growth TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	15,354	17,503
Dividend Yield	0.67	0.85
Price/Earnings	30.8	24.5
Price/Book	5.4	5.5
Price/Cash Flow	17.4	15.0
Price/Sales	3.1	2.5
5 Yr EPS Growth	18.3	17.6
Return on Equity	21.0	22.0
Debt/Capital	39.6	45.9
Active Share (Avg)	81	

Risk/Reward vs. Benchmark

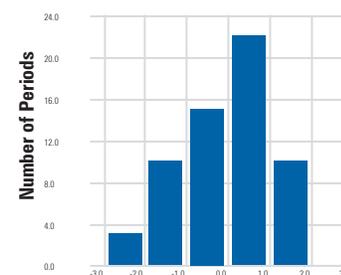
Calculation Benchmark: Russell Mid Cap Growth TR USD

	3YR	5YR	10YR
Standard Deviation	12.67	12.65	14.80
Sharpe Ratio	1.20	0.76	1.16
Information Ratio	0.50	-0.22	0.05
R2	93	92	94
Beta	0.92	0.92	0.94
Alpha	2.58	0.05	1.05
Tracking Error	3.56	3.68	3.80
Up Capture Ratio	102	95	97
Down Capture Ratio	90	97	92
Batting Average	61	53	56

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell Mid Cap Growth TR USD

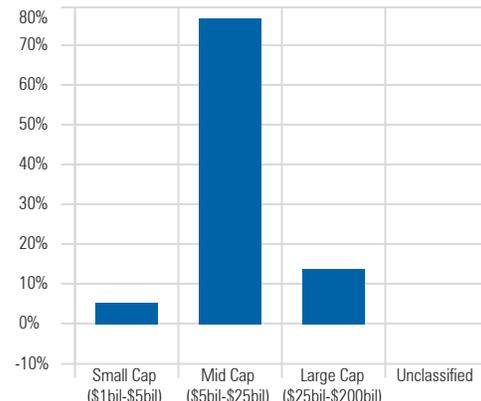


Top 10 Holdings - Ending Weights

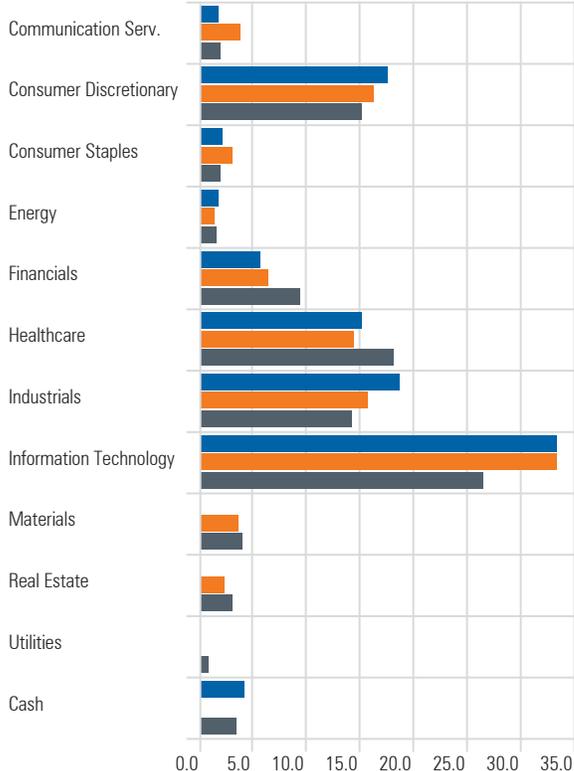
Calculation Benchmark: Russell Mid Cap Growth TR USD Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
Euronet Worldwide Inc	2.9	39.3	39.3
Dollar General Corp	2.7	10.6	10.6
EPAM Systems Inc	2.7	45.8	45.8
ServiceNow Inc	2.6	38.4	38.4
Verisk Analytics Inc	2.6	22.2	22.2
Veeva Systems Inc Class A	2.3	42.0	42.0
Global Payments Inc	2.3	32.4	32.4
Pool Corp	2.2	11.3	11.3
Lamb Weston Holdings Inc	2.2	2.1	2.1
CDW Corp	2.2	19.3	19.3

Market Cap Exposure



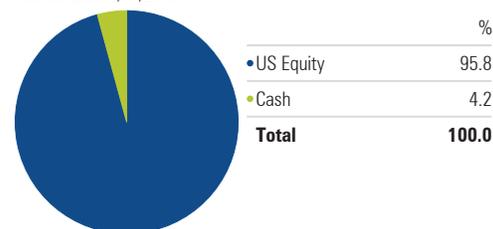
GICS Sector Exposure



■ Baird Mid-Cap Growth Equity
 ■ Russell Mid Cap Growth TR USD
 ■ US SA Mid-Cap Growth

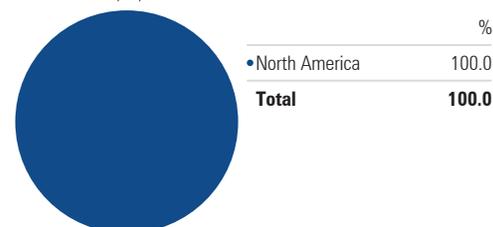
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



WFAM Special US Mid Cap Value Eq

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Mid-Cap Value
Benchmark	Russell Mid Cap Value TR USD
Sub-Style	Traditional Value

Strategy Facts

# of Stock Holdings	67
Top 10 Holdings (%)	26
Turnover Ratio (%)	33
Inception Date	5/1/2001

Operations

Firm Name	Wells Fargo Asset Man
Vehicle Assets (Mil)	\$ 8,962
Investment Minimum	\$ 100,000
Management Fee	0.35%

PNC Investment Advisor Research

AMG Status	Approved
Platform Add Date	5/11/2016
Status Chg Date	

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
WFAM Special US Mid Cap Vali	16.24	6	16.24	6	4.43	20	10.58	26	8.41	27	13.08	9	16.56	28
Russell Mid Cap Value TR USD	14.37	29	14.37	29	2.89	31	9.50	41	7.22	49	11.30	47	16.39	33
50th Percentile	13.44		13.44		0.54		9.14		7.16		11.07		15.78	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
WFAM Special US Mid Cap Vali	-12.39	45	12.13	72	22.69	31	-1.88	32	13.01	32	40.28	25	19.71	20
Russell Mid Cap Value TR USD	-12.29	43	13.34	60	20.00	51	-4.78	53	14.75	19	33.46	65	18.51	26
50th Percentile	-13.21		14.19		20.33		-4.32		10.68		35.25		16.29	

Investment Philosophy/Process

Wells Fargo believes that market inefficiencies can be exploited in valuing a company through the analysis of the balance sheet. The team employs a research-driven fundamental value investing approach seeking to identify companies with strong balance sheets led by management teams that can optimize the company's capital structure. They believe the last line of defense for a company is the protection provided by the balance sheet, so they conduct an in-depth analysis of a company's debt and covenant analysis to determine the margin of safety for the equity under a worst-case scenario.

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-3.2	0.3
Consumer Discretionary	-3.6	0.0
Consumer Staples	-0.9	0.1
Energy	0.6	0.0
Financials	0.4	0.0
Health Care	3.8	0.1
Industrials	6.4	0.7
Information Technology	1.6	-0.3
Materials	3.1	1.0
Real Estate	-7.4	0.1
Utilities	-2.2	0.3

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Sealed Air Corp	2.8	0.1	32.7	0.89
Jacobs Engineering Group Inc	2.6	0.2	28.9	0.75
Euronet Worldwide Inc	1.9	0.1	39.3	0.72
Kansas City Southern	2.7	0.3	21.9	0.59
CBRE Group Inc	2.2	0.2	23.5	0.50

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Amdocs Ltd	1.8	0.2	-7.1	-0.14
Humana Inc	1.6	0.0	-7.1	-0.12
D.R. Horton Inc	0.0	0.1		0.00
Annaly Capital Management Inc	0.0	0.3		0.00
Ryder System Inc	0.0	0.1	29.8	0.01

Setting Expectations

Wells Fargo constructs portfolios in a risk-averse, valuation-focused approach which has demonstrated an ability to outperform in a variety of markets. The portfolio will typically hold 50-70 positions, diversified across sectors. The team's focus on balance sheet strength and downside risk leads to a risk/return profile that typically provides protection in risk off markets and market participation in up markets. Their detailed valuation work tilts the portfolio to higher quality, less levered companies with the potential to deploy excess capital in accretive ways to add to shareholder value. Conversely, the strategy may lag when high growth, momentum markets are driven by narrow leadership or low quality rallies.

Performance Analysis

The strategy outperformed the Russell Midcap® Value index by approximately 185 basis points (bps) during the quarter and roughly 155 bps over the trailing 12 months. During the quarter, stock selection was the primary driver of excess return while sector allocations mildly detracted in aggregate. An underweight to Communication Services and an overweight to Industrials added value, though this was more than offset by an underweight to Real Estate and the portfolio's cash position in the strongly positive absolute return environment. In terms of stock selection, picks within Materials (Sealed Air, SEE 32.7%) and Industrials (Jacobs Engineering, JEC 28.9%) were the primary sources of excess return while those within Information Technology (Amdocs, DOX -7.1%) detracted. Shares of both Sealed Air and Jacobs Engineering rebounded strongly after challenged performance in 2018 on fears of rising input costs, which pulled back in fourth-quarter 2018 and resulted in margin expansion. For the trailing 12 months, favorable stock selection was able to more than offset the negative impact of sector allocations, most notably underweights to Real Estate and Utilities and a mild overweight to Energy. From a stock selection perspective, picks across multiple sectors added value with Health Care (Charles River Laboratories, CRL 36.1%) and Financials (Brown & Brown, BRO 17.3%) names leading the pack. This strength, however, was somewhat attenuated by challenges within Consumer Staples (Molson Coors, TAP -18.8%) and Energy (Cimarex, XEC -24.6%).

IAR's Current Assessment

The strategy's performance for the quarter is in line with to slightly ahead of IAR's expectations given the team's quality-biased philosophy in the strongly positive absolute return environment. A number of the portfolio's greatest contributors during the quarter were names that the team continued to lean into in the challenged environment of 2018. While the team seems a bit cautious about being later in the economic cycle, it continues to look for quality companies with healthy balance sheets and cash flows to support them that are trading at attractive valuations.

WFAM Special US Mid Cap Value Eq

Manager Biographies

Bryant VanCronkhite, CFA, CPA

Bryant VanCronkhite, CFA is a senior portfolio manager and co-team leader for the Special Global Equity team at Wells Capital Management. Bryant has oversight and portfolio management responsibility for the Special U.S. Small Cap Value, Special U.S. Mid Cap Value, Special Global Small Cap, Special International Small Cap, and Special Dividend Focused Equity portfolios. Prior to this, Bryant was a senior research analyst on the team, which he joined in 2004 before the acquisition of Strong Capital Management. Earlier, Bryant was a mutual fund accountant for Strong. He earned a bachelor's degree and a master's degree in professional accountancy from the University of Wisconsin, Whitewater, and is a Certified Public Accountant (CPA). He is a member of the Milwaukee Society of Financial Analysts and the AICPA. Bryant has earned the right to use the CFA designation.

James M. Tringas, CFA, CPA

Jim Tringas, CFA is a senior portfolio manager and co-team leader for the Special Global Equity team at Wells Capital Management. He joined WellsCap from Evergreen Investments, where he began his investment industry career in 1994, which includes serving as a portfolio manager with Wachovia Asset Management Group. Prior to this, he served in the Personal Financial Group of Ernst & Young. Jim earned a bachelor's degree and a master's degree in accounting from the University of Florida. He is a CPA and a member of the Boston Security Analysts Society. Jim has earned the right to use the CFA designation.

Portfolio Characteristics

Calculation Benchmark: Russell Mid Cap Value TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	15,722	14,989
Dividend Yield	1.80	2.31
Price/Earnings	18.8	17.8
Price/Book	2.1	1.9
Price/Cash Flow	9.8	9.1
Price/Sales	1.4	1.4
5 Yr EPS Growth	11.3	8.2
Return on Equity	12.4	10.9
Debt/Capital	41.4	42.7
Active Share (Avg)	87	

Risk/Reward vs. Benchmark

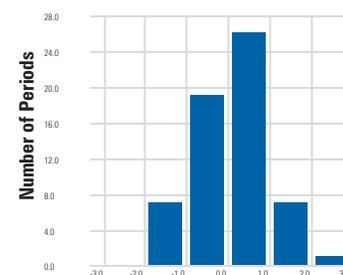
Calculation Benchmark: Russell Mid Cap Value TR USD

	3YR	5YR	10YR
Standard Deviation	11.62	11.76	14.31
Sharpe Ratio	0.81	0.68	1.12
Information Ratio	0.37	0.41	0.04
R2	94	94	93
Beta	0.94	0.95	0.94
Alpha	1.43	1.44	1.06
Tracking Error	2.93	2.89	3.79
Up Capture Ratio	96	98	98
Down Capture Ratio	82	88	95
Batting Average	56	57	53

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell Mid Cap Value TR USD

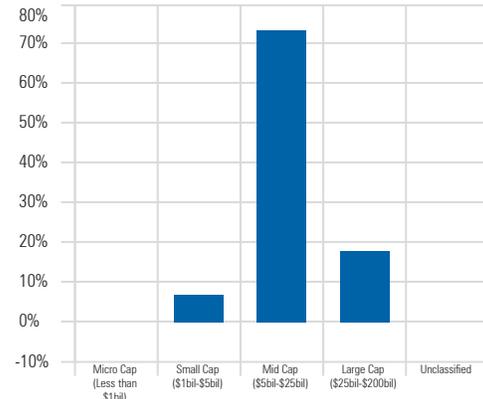


Top 10 Holdings - Ending Weights

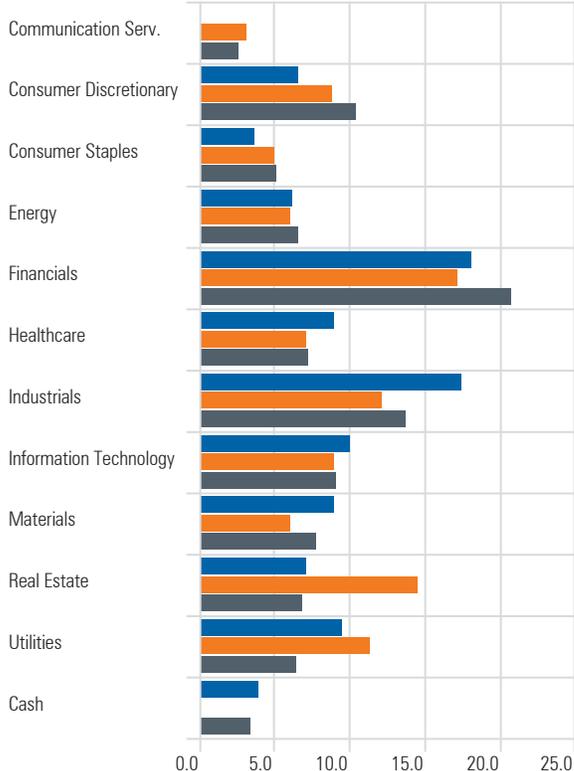
Calculation Benchmark: Russell Mid Cap Value TR USD Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
Ameren Corp	3.0	13.5	13.5
Jacobs Engineering Group Inc	2.8	28.9	28.9
American Electric Power Co Inc	2.7	13.0	13.0
Kansas City Southern	2.7	21.9	21.9
Brown & Brown Inc	2.7	7.4	7.4
American Water Works Co Inc	2.7	15.4	15.4
Molson Coors Brewing Co B	2.5	6.9	6.9
Fidelity National Information Services Inc	2.4	10.6	10.6
Republic Services Inc Class A	2.4	12.0	12.0
Sealed Air Corp	2.2	32.7	32.7

Market Cap Exposure



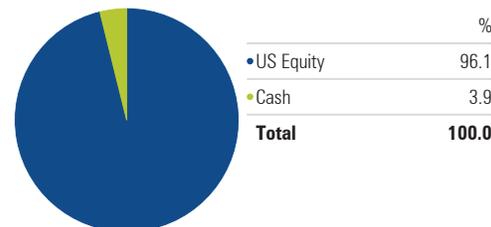
GICS Sector Exposure



■ WFAM Special US Mid Cap Value Eq
■ Russell Mid Cap Value TR USD
■ US SA Mid-Cap Value

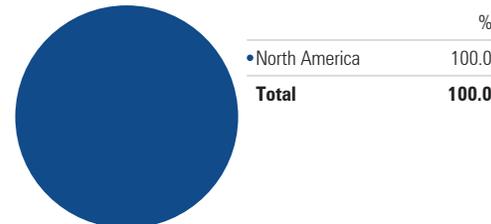
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



iShares S&P Small-Cap 600 Growth ETF IJT

Strategy Overview

Investment Type	Exchange-Traded Fund
PNC Category	Small Cap Growth - ETF
Tracking Index	S&P SmallCap 600 Growth TR U

Fund Facts

# of Stock Holdings	336
Top 10 Holdings (%)	9
Turnover Ratio (%)	47
Inception Date	7/24/2000

Operations

Net Expense Ratio	0.25
Fund Size (\$Mil)	5,634
Advisor	BlackRock Fund Advisors
Replication	Physical-Sample

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 10/1/2002

Status Chg Date

Index Description

The index measures the performance of growth stocks drawn from the S&P Small Cap 600 index. The complete market capitalization of S&P Small Cap 600 index is divided into growth and value segments by using three factors: sales growth, the ratio of earnings change to price, and momentum.

Trailing Returns

	QTR	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
iShares S&P Small-Cap 600 Growth ETF	10.74	10.74	3.59	13.87	9.53	12.76	17.75	9.11
S&P SmallCap 600 Growth TR USD	10.84	10.84	3.84	14.10	9.73	12.92	17.93	9.31

Calendar Year Performance

	2018	2017	2016	2015	2014	2013	2012	2011
iShares S&P Small-Cap 600 Growth ETF	-4.28	14.57	22.00	2.65	3.71	42.62	14.47	3.45
S&P SmallCap 600 Growth TR USD	-4.05	14.79	22.16	2.78	3.87	42.69	14.56	3.62

ETF Risk Characteristics

Time Period: 4/1/2016 to 3/31/2019

	Up Capture	Down Capture	R2	Tracking Error	Excess Return
iShares S&P Small-Cap 600 Growth ETF	99.35	100.14	100.00	0.07	-0.23

Liquidity

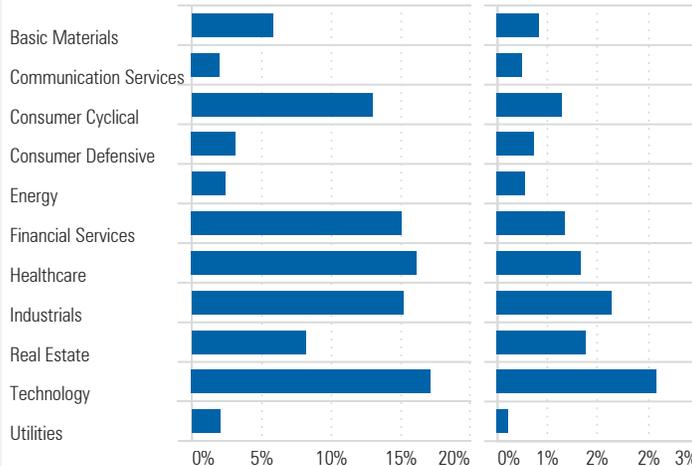
Avg Daily Vol (3 Mo)	128,106
Prem/Disc (1 Yr Avg)	-0.03%
Bid/Ask Spread (%)	0.001%
Bid/Ask Spread (\$)	\$ 0.15

Investment Strategy

The investment seeks to track the investment results of the S&P SmallCap 600 Growth Index™, which measures the performance of the small-capitalization growth sector of the U.S. equity market. The fund generally invests at least 90% of its assets in securities of the underlying index and in depository receipts representing securities of the underlying index. It may invest the remainder of its assets in certain futures, options and swap contracts, cash and cash equivalents, as well as in securities not included in the underlying index, but which the advisor believes will help the fund track the underlying index.

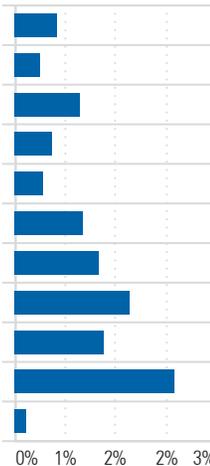
ETF Sector Weights

Time Period: 1/1/2019 to 3/31/2019



Return Contribution

Time Period: 1/1/2019 to 3/31/2019

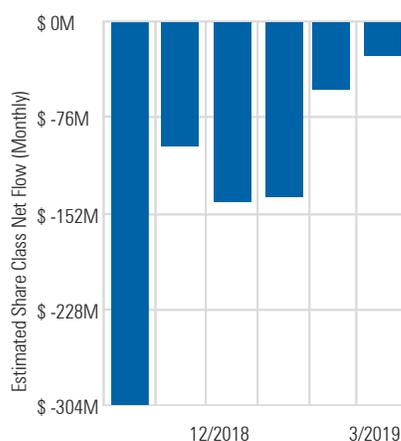


Top 15 Holdings

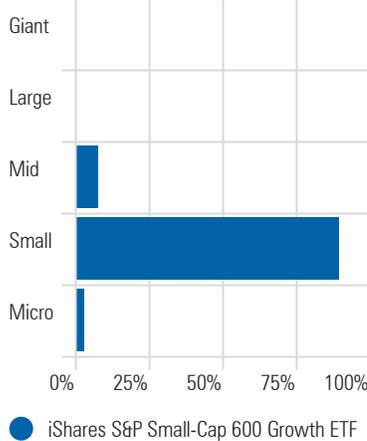
Portfolio Date: 3/29/2019

Company	Weight %
EastGroup Properties Inc	1.10%
FirstCash Inc	1.02%
Merit Medical Systems Inc	0.92%
Glacier Bancorp Inc	0.92%
Semtech Corp	0.91%
Omniceil Inc	0.89%
iRobot Corp	0.88%
Cabot Microelectronics Corp	0.88%
Axon Enterprise Inc	0.87%
Community Bank System Inc	0.83%
Neogen Corp	0.81%
Exponent Inc	0.80%
Monro Inc	0.77%
Strategic Education Inc	0.77%
Proto Labs Inc	0.77%

6-Month Net Fund Flows



Market Capitalization



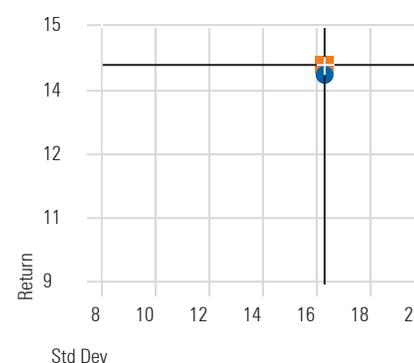
Portfolio Characteristics

As of Date: 12/31/2018

ETF	Value
WtgAvg MktCap (\$Mil)	1,911
Dividend Yield	1.25
Price/Earnings	21.0
Price/Book	2.5
Price/Sales	1.7
5 Yr EPS Growth	10.4
Return on Equity	12.1
Debt/Capital	29.9

Risk-Reward

Time Period: 4/1/2016 to 3/31/2019



This Quarterly Review is produced by PNC Bank, National Association ("PNC") Investment Advisor Research ("IAR"). IAR is group of investment professionals dedicated to selecting and monitoring investment managers for the PNC platform, including, mutual funds, separately managed accounts, alternative investments and exchange traded funds. PNC certifies that all views expressed in this Quarterly Review accurately reflect IAR's views about the above-referenced fund ("Fund"). No part of the compensation of any member of IAR is, or will be, directly or indirectly related to the views expressed in this Quarterly Review.

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Benchmark Description:

The index measures the performance of growth stocks drawn from the S&P Small Cap 600 index. The complete market capitalization of S&P Small Cap 600 index is divided into growth and value segments by using three factors: sales growth, the ratio of earnings change to price, and momentum.

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EARNEST Small Cap Value

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 3/3/2004

Status Chg Date 7/17/2008

Investment Philosophy/Process

The backbone of Earnest's investment process is Return Pattern Recognition® (RPR), a proprietary systematic screening tool that attempts to identify financial and market characteristics that have been in place when an individual company has produced outstanding performance. RPR uses 24 factors (for example, valuation, growth, profitability) applied across 36 industry-specific clusters. Earnest then performs bottom-up, fundamental analysis focusing on companies in attractive industries with strong operating metrics (for example, return on invested capital) and management teams. Lastly, Earnest uses a quantitative risk optimizer (downside deviation) to create a portfolio of approximately 60 stocks they believe provide the best combination of excess return potential and limited downside risk versus the benchmark.

Setting Expectations

The portfolio will typically hold 50-70 positions with a preference for high quality companies (high return on equity, above average earnings growth, and low financial leverage) and constructs the portfolio in a diversified manner to mitigate risks. Given the investment process' focus on downside risk, the strategy is expected to provide downside protection, but also has shown an ability to outperform in up trending markets. The strategy is expected to lag in environments when momentum or low quality companies are in favor, but should outperform when investors favor larger capitalization stocks, as the manager has a bias toward larger cap companies relative to the benchmark and small cap value peers.

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Small Value
Benchmark	Russell 2000 Value TR USD
Sub-Style	Relative Value

Strategy Facts

# of Stock Holdings	58
Top 10 Holdings (%)	27
Turnover Ratio (%)	12
Inception Date	10/15/1993

Operations

Firm Name	Earnest Partners LLC
Vehicle Assets (Mil)	\$ 2,180
Investment Minimum	\$ 75,000
Management Fee	0.40%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
EARNEST Small Cap Value	13.54	24	13.54	24	-1.42	47	12.62	9	8.73	4	12.16	12	16.31	39
Russell 2000 Value TR USD	11.93	65	11.93	65	0.17	26	10.86	29	5.59	62	9.61	69	14.12	85
50th Percentile	12.12		12.12		-1.78		9.58		5.85		10.28		15.74	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
EARNEST Small Cap Value	-14.76	55	21.88	2	24.67	74	-3.38	35	8.81	23	37.01	54	14.79	84
Russell 2000 Value TR USD	-12.86	33	7.84	65	31.74	23	-7.47	75	4.22	74	34.52	71	18.05	57
50th Percentile	-14.24		8.98		28.44		-4.97		6.16		38.03		18.27	

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-3.1	-0.1
Consumer Discretionary	-5.5	0.5
Consumer Staples	0.2	0.2
Energy	-1.9	0.0
Financials	-5.4	0.0
Health Care	1.3	0.2
Industrials	17.5	1.0
Information Technology	10.9	0.0
Materials	-1.4	-0.1
Real Estate	-6.8	-0.3
Utilities	-5.7	0.2

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Hexcel Corp	3.5	0.0	20.9	0.70
Catalent Inc	2.3	0.0	30.2	0.63
Triumph Group Inc	1.2	0.1	66.0	0.58
FirstCash Inc	3.0	0.0	19.9	0.58
Entegris Inc	2.0	0.0	28.2	0.54

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
EnerSys	2.5	0.1	-15.8	-0.43
United Fire Group Inc	1.7	0.1	-20.7	-0.41
Mednax Inc	1.5	0.0	-17.7	-0.28
Horace Mann Educators Corp	1.2	0.2	-5.3	-0.07
American Equity Investment Life Holdir	1.5	0.3	-3.3	-0.05

Performance Analysis

The strategy outperformed the Russell 2000® Value index by nearly 145 basis points (bps) during the quarter but trails by close to 210 bps over the past 12 months. Most of the outperformance in the quarter was the result of stock selection, though sector allocation also contributed mildly. From a sector perspective, the portfolio's overweight to Information Technology and underweight to Financials added value; however, this was somewhat offset by an underweight to Real Estate and overweight to Industrials. In terms of stock selection, favorable picks within Industrials (Triumph Group, TGI 66.0%; Wellbit, WBT 47.4%) added most of the value along with a couple of Health Care (Catalent, CTLT 30.2%) names. Shares of Triumph Group, a provider of parts and services to the aerospace industry, rose significantly after the company's decision to divest a couple of non-core and underperforming businesses was cheered by investors. The portfolio's Information Technology (ManTech International, MANT 3.8%) picks detracted. Over the past 12 months, both sector allocations and stock selections detracted from relative performance. Underweights to Utilities and Real Estate weighed on results, while an overweight to Information Technology added value. In terms of stock selection weakness was seen across multiple sectors, most notably Information Technology (Coherent, COHR -24.4%) and Financials (Cadence Bancorporation, CADE -30.1%), however, picks within Industrials (Teledyne Technologies, TDY 26.3) offset some of the weakness.

IAR's Current Assessment

Performance in the quarter and year to date is in within IAR's expectations. Trailing 12-month performance ranks the strategy around the 50th percentile relative to peers despite being more than 200 bps behind the index and follows very strong relative performance in 2017. The strategy continues to possess one of the most attractive track records in the universe over the trailing 3-, 5-, 7-, and 10-year periods. The portfolio's significant overweight to Information Technology, which we expect to persist, has historically led the portfolio to outperform the benchmark in environments where growth stocks outperform their value counterparts as was witnessed in the first quarter (Russell 2000® Growth 17.1% > Russell 2000® Value 11.9%).

EARNEST Small Cap Value

Manager Biographies

Paul E. Viera

Mr. Viera is the founder of EARNEST Partners, an investment firm responsible for overseeing over \$17.0 billion for municipalities, states, corporations, endowments, eleemosynary groups, and universities. He developed Return Pattern Recognition®, the investment methodology used to select equities at EARNEST Partners. Mr. Viera has a BA in Economics from the University of Michigan and an MBA from the Harvard Business School. Mr. Viera has over twenty-five years of investment experience.

Portfolio Characteristics

Calculation Benchmark: Russell 2000 Value TR USD

	Port	Index
WtgAvg MktCap (\$Mil)	3,837	2,114
Dividend Yield	1.39	2.18
Price/Earnings	18.6	14.4
Price/Book	2.0	1.4
Price/Cash Flow	11.6	7.5
Price/Sales	1.2	0.9
5 Yr EPS Growth	10.2	7.1
Return on Equity	14.0	6.5
Debt/Capital	37.4	37.2
Active Share (Avg)	94	

Risk/Reward vs. Benchmark

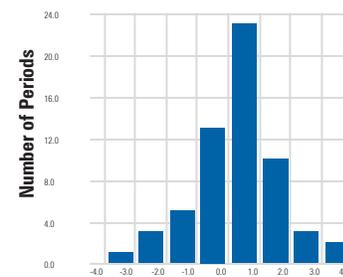
Calculation Benchmark: Russell 2000 Value TR USD

	3YR	5YR	10YR
Standard Deviation	15.63	15.75	16.67
Sharpe Ratio	0.76	0.56	0.97
Information Ratio	0.32	0.66	0.46
R2	88	91	93
Beta	0.91	0.95	0.91
Alpha	2.47	3.24	3.04
Tracking Error	5.59	4.78	4.81
Up Capture Ratio	94	100	98
Down Capture Ratio	79	85	85
Batting Average	56	63	57

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: Russell 2000 Value TR USD

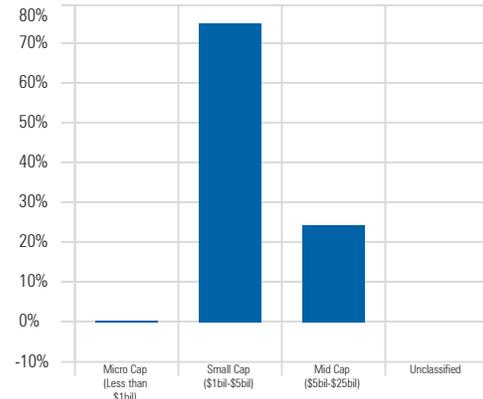


Top 10 Holdings - Ending Weights

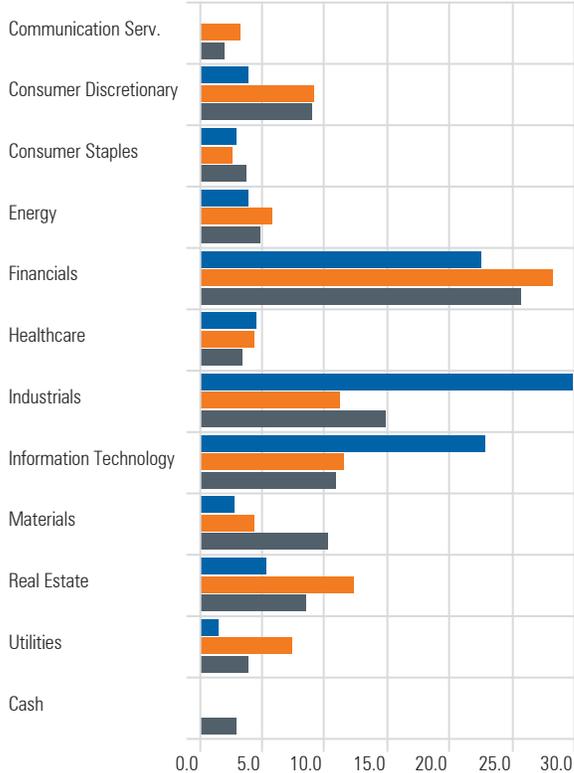
Calculation Benchmark: Russell 2000 Value TR USD Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
Hexcel Corp	3.6	20.9	20.9
FirstCash Inc	3.1	19.9	19.9
Teledyne Technologies Inc	3.1	14.5	14.5
Cabot Microelectronics Corp	2.8	17.9	17.9
Catalent Inc	2.4	30.2	30.2
Darling Ingredients Inc	2.4	12.5	12.5
Franklin Electric Co Inc	2.4	19.5	19.5
OSI Systems Inc	2.4	19.5	19.5
Monolithic Power Systems Inc	2.4	16.9	16.9
Albany International Corp	2.3	15.0	15.0

Market Cap Exposure



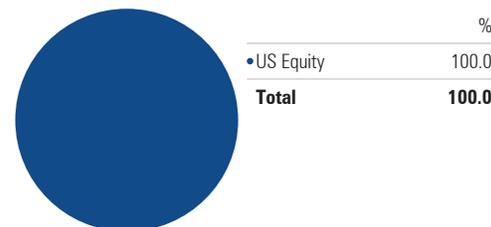
GICS Sector Exposure



■ EARNEST Small Cap Value
 ■ Russell 2000 Value TR USD
 ■ US SA Small Value

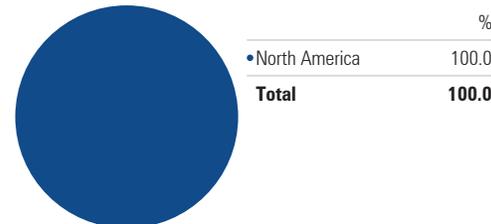
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



WCM Focused Growth International ADR

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 6/14/2017

Status Chg Date

Investment Philosophy/Process

The core tenants of the strategy rest on: (1) being different than the benchmark, (2) avoid diluting the portfolio with sub-par ideas, and (3) capturing inefficiencies across international markets by buying companies that are likely to grow their economic moat over time, have the financial strength to withstand periods of financial market stress and a unique corporate culture that the market is underpricing.

Setting Expectations

Investment Advisor Research (IAR) expects that WCM to produce differentiated returns over time, but those returns are likely to exhibit more volatility than the underlying benchmark and other International Large Cap Growth options on the PNC platform. IAR expects WCM's approach to investing might struggle to outperform in years when deep cyclical, lower quality stocks are favored. WCM should outperform in years where quality does well and/or individual stocks perform well.

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Foreign Large Growth
Benchmark	MSCI ACWI Ex USA Growth NR I
Sub-Style	Aggressive Growth

Strategy Facts

# of Stock Holdings	30
Top 10 Holdings (%)	43
Turnover Ratio (%)	23
Inception Date	12/1/2004

Operations

Firm Name	WCM Investment Man
Vehicle Assets (Mil)	\$ 2,245
Investment Minimum	\$ 75,000
Management Fee	0.50%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
WCM Focused Growth Internati	14.38	31	14.38	31	5.63	4	13.00	10	8.70	6	9.60	6	14.45	4
MSCI ACWI Ex USA Growth NR	12.31	62	12.31	62	-3.05	54	8.42	56	4.01	63	5.68	88	9.47	86
50th Percentile	12.98		12.98		-2.63		9.00		4.50		7.33		10.94	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
WCM Focused Growth Internati	-5.95	3	34.42	29	0.18	53	5.80	14	0.04	19	22.01	37	13.82	93
MSCI ACWI Ex USA Growth NR	-14.43	61	32.01	43	0.12	53	-1.25	82	-2.65	49	15.49	83	16.67	78
50th Percentile	-13.32		31.50		0.33		1.29		-2.81		20.34		19.96	

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

Category	Relative Weights	Active Return
Communication Services	-2.9	0.5
Consumer Discretionary	0.8	-0.3
Consumer Staples	0.1	0.0
Energy	-5.5	0.0
Financials	-9.1	1.1
Health Care	7.4	0.0
Industrials	7.1	0.8
Information Technology	11.3	2.1
Materials	-4.3	0.1
Real Estate	-3.4	-0.1
Utilities	-3.2	0.1

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

Company	Port	Index	Return	Contrib
Shopify Inc A	3.8	0.1	49.4	1.78
AIA Group Ltd ADR	5.0	0.0	21.8	1.10
Accenture PLC Class A	3.9	0.0	24.8	1.01
Mettler-Toledo International Inc	3.5	0.0	27.8	0.99
LVMH Moet Hennessy Louis Vuitton SI	3.7	0.0	26.1	0.99

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

Company	Port	Index	Return	Contrib
Essilorluxottica ADR	3.7	0.0	-13.4	-0.56
ResMed Inc	2.0	0.0	-8.3	-0.20
Ryanair Holdings PLC ADR	1.3	0.0	5.0	0.07
Geberit AG ADR	2.0	0.0	3.5	0.08
Wal - Mart de Mexico SAB de CV ADR	2.5	0.0	5.6	0.15

Performance Analysis

WCM slightly underperformed its benchmark, the MSCI ACWI ex US Growth Index, trailing by 65 basis points (bps), but ended the year ahead by 742 bps. The equity selloff during the quarter, while style blind, had a pronounced negative impact on growth stocks more so than value. Asian technology stocks led the market downturn, including Alibaba (BABA-US, -16.8%), Softbank (9984-JP, -34.1%), and Taiwan Semiconductor (2330-TW, -14.7%). Defensive and bond proxy sectors such as Consumer Staples and Utilities fared relatively better. Emerging markets stocks also declined broadly – with the notable exceptions of Brazil and India, where assets in the former rallied on the election of market-friendly Jair Bolsonaro and lower energy prices prompted a rally in the latter. During the quarter, stock selection was a mixed bag with weakness in health care equipment (Sysmex Corporation 6869-JP, -44.2%) and oil services (Core Laboratories CLB-US, -48.2%) overriding strength in banks (HDFC Bank HDB-US, 10.1%). Over the calendar year period, stock selection was robust in 7 out of 9 economic sectors. Information Technology, Consumer Discretionary, Health Care, and Financials all added over 100 bps to relative performance. The two largest individual contributors included Australian biopharmaceutical company CSL (CSL-AU, 19.4%) and U.K.-based credit scores provider Experian PLC (EXPN-GB, 11.7%). Also, the strategy had close to 7% in cash throughout the year due to portfolio turnover (4 new buys and 8 liquidations). As such, cash contributed close to 125 bps to relative returns.

IAR's Current Assessment

Stock selection drove relative performance for the year, which is in line with IAR's expectations from a high conviction portfolio. The strategy's focus on owning shares of companies with expanding economic moats helps insulate the portfolio from higher than benchmark downside risk, particularly during periods of market stress.

WCM Focused Growth International ADR

Manager Biographies

Pete Hunkel

Pete Hunkel, Portfolio Manager & Business Analyst, has been working with WCM since 2001; as a member of the Investment Strategy Group, his primary responsibilities are portfolio management and equity research. His nineteen-year career in the investment industry includes a position as Portfolio Analyst for the Templeton Private Client Group, followed by his time as Managing Director at the formerly WCM-affiliated firm, Centurion Alliance. He earned his B.A. in Communications from San Jose State University (California), where he graduated with honors, and his J.D. at the Monterey College of Law (California).

Mike Trigg

Mike Trigg, Portfolio Manager & Business Analyst, joined WCM in 2006; as a member of the Investment Strategy Group, his primary responsibilities are portfolio management and equity research. His seventeen years in the investment industry include a position as Equity Analyst at Morningstar, Inc. in Chicago where, in addition to general equity analysis, he managed their Model Growth Portfolio. Earlier, Mike held a position as Analyst at the Motley Fool, an online investment service. He earned his B.S. in Finance from Saint Louis University (Missouri), where he graduated with honors.

Sanjay Ayer

Sanjay Ayer, Business Analyst joined WCM in 2007; he produces original equity research for our global growth strategies. His 16 years in the investment industry include a position as Equity Analyst at Morningstar, Inc. in Chicago, where he covered the gaming, cruise and online travel industries, and earlier a position at J. & W. Seligman & Co. in New York as a performance analyst. Sanjay graduated Phi Beta Kappa from Johns Hopkins University (Maryland) with a B.A. in Economics and B.S. in Applied Mathematics. He is also a CFA charterholder.

Portfolio Characteristics

Calculation Benchmark: iShares MSCI ACWI ex US ETF

	Port	Index
WtgAvg MktCap (\$Mil)	88,399	70,266
Dividend Yield	1.36	3.09
Price/Earnings	26.3	13.4
Price/Book	5.2	1.5
Price/Cash Flow	19.7	3.7
Price/Sales	3.7	0.6
5 Yr EPS Growth	14.7	11.7
Return on Equity	23.7	15.3
Debt/Capital	31.0	33.1
Active Share (Avg)	93	

Risk/Reward vs. Benchmark

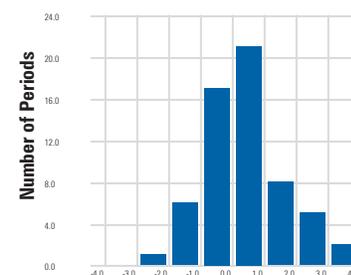
Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD

	3YR	5YR	10YR
Standard Deviation	11.51	12.07	13.89
Sharpe Ratio	1.01	0.69	1.01
Information Ratio	1.18	1.09	0.95
R2	89	88	88
Beta	0.98	0.95	0.86
Alpha	4.39	4.64	5.71
Tracking Error	3.87	4.31	5.26
Up Capture Ratio	103	102	98
Down Capture Ratio	68	71	67
Batting Average	61	60	57

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD

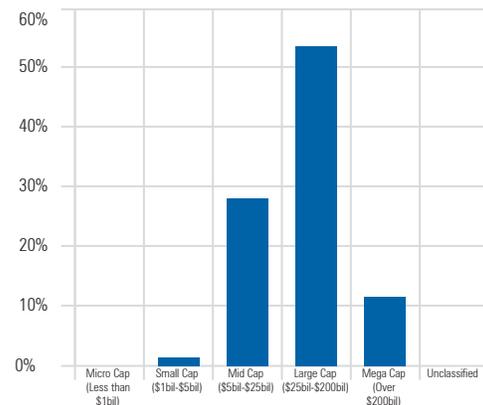


Top 10 Holdings - Ending Weights

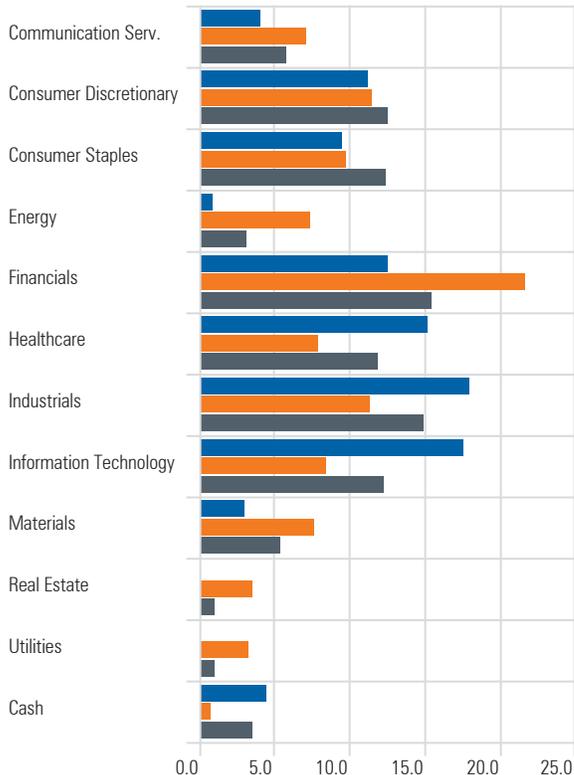
Calculation Benchmark: iShares MSCI ACWI ex US ETF Portfolio Date: 3/31/2019

	Port Weight	QTR Return	YTD Return
AIA Group Ltd ADR	5.1	21.8	21.8
Shopify Inc A	4.6	46.1	46.1
Experian PLC ADR	4.6	12.7	12.7
CSL Ltd ADR	4.5	8.1	8.1
Accenture PLC Class A	4.2	24.8	24.8
Canadian Pacific Railway Ltd	4.1	13.9	13.9
Tencent Holdings Ltd ADR	4.0	16.5	16.5
LVMH Moet Hennessy Louis Vuitton SE ADR	4.0	26.1	26.1
Nestle SA ADR	3.9	17.7	17.7
HDFC Bank Ltd ADR	3.8	11.9	11.9

Market Cap Exposure



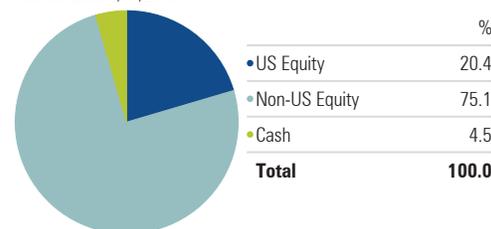
GICS Sector Exposure



■ WCM Focused Growth International ADR
■ iShares MSCI ACWI ex US ETF
■ US SA Foreign Large Growth

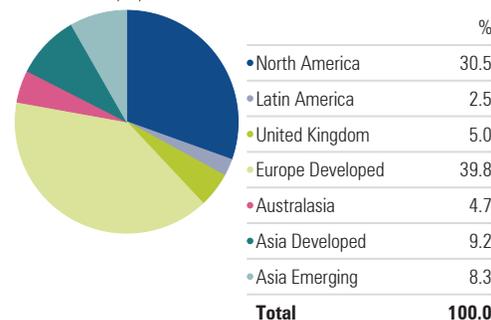
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



Cambiar International Equity ADR

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 6/27/2012

Status Chg Date

Investment Philosophy/Process

Cambiar follows a hybrid (20% top-down/80% bottom-up) relative value investment approach focusing on stocks that can benefit from mean reversion in earnings. They seek to buy financially strong companies that rank in the lower quartile of the valuation range relative to industry peers. The fund expects that over a one- to two-year period, an identifiable catalyst will help the stock return to a normalized valuation and earnings levels. The investment team requires a 50% ex-ante total return hurdle rate before a stock can be included in the portfolio.

Setting Expectations

The strategy has historically demonstrated the ability to outperform in a variety of market environments. The focus on earnings quality (cash dominates accruals) and valuation helps the strategy limit its downside risk but also allows it to participate in up markets when fundamentals are in favor and price multiples are expanding. IAR expects the portfolio to more frequently shift active exposures on a regional and sector basis as stocks become overvalued or their macroeconomic views on a particular country or sector shift. Narrow factor leadership or a low quality rally can help lead to periods of underperformance. Additionally, getting a stock or economic theme wrong, or a catalyst failing to materialize over its one- to two-year period, can be challenging to performance.

Strategy Overview

Investment Type	Separate Account
Morningstar Category	US SA Foreign Large Value
Benchmark	MSCI ACWI Ex USA Value NR US
Sub-Style	Relative Value

Strategy Facts

# of Stock Holdings	46
Top 10 Holdings (%)	26
Turnover Ratio (%)	40
Inception Date	2/28/2006

Operations

Firm Name	Cambiar Investors LLC
Vehicle Assets (Mil)	\$ 6,096
Investment Minimum	\$ 75,000
Management Fee	0.35%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Cambiar International Equity AD	9.45	37	9.45	37	-8.58	80	4.33	90	2.69	27	6.07	34	10.57	27
MSCI ACWI Ex USA Value NR L	8.33	70	8.33	70	-5.39	30	7.73	31	1.08	71	3.72	89	8.19	68
50th Percentile	8.98		8.98		-6.49		6.61		2.12		5.32		8.90	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Cambiar International Equity AD	-17.36	77	21.78	81	0.02	90	8.26	1	-7.07	82	28.76	10	18.41	45
MSCI ACWI Ex USA Value NR L	-13.97	30	22.66	72	8.92	14	-10.06	93	-5.10	62	15.04	87	16.97	58
50th Percentile	-15.34		24.85		4.29		-3.13		-4.33		23.42		17.88	

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-3.6	0.0
Consumer Discretionary	-5.3	-0.6
Consumer Staples	-0.9	-0.2
Energy	0.3	-0.3
Financials	2.4	0.7
Health Care	-1.7	-0.3
Industrials	7.1	0.3
Information Technology	-0.6	0.1
Materials	3.6	0.2
Real Estate	-3.4	-0.1
Utilities	1.7	0.0

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
BHP Group PLC ADR	3.4	0.0	23.9	0.83
Airbus SE ADR	2.0	0.0	39.2	0.74
Koninklijke DSM NV ADR	2.2	0.0	34.5	0.73
Lloyds Banking Group PLC ADR	2.2	0.0	25.4	0.54
British American Tobacco PLC ADR	1.5	0.0	33.1	0.52

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Seven & i Holdings Co Ltd ADR	2.3	0.0	-13.2	-0.34
Essilorluxottica ADR	2.1	0.0	-13.4	-0.31
International Consolidated Airlines Gro	1.6	0.0	-15.5	-0.26
Toray Industries Inc ADR	1.9	0.0	-10.0	-0.21
Otsuka Holdings Co Ltd ADR	1.9	0.0	-3.2	-0.06

Performance Analysis

Cambiar lagged its benchmark, the MSCI ACWI ex US Value, by 431 basis points (bps) and ended the year underperforming by 339 bps. International equities retreated, swept up by a global market downturn as slowing economic growth, rising interest rates, and worsening global trade relations took center stage. On the value side, all sectors except Utilities posted negative returns, weighed down by a 15.0% decline in Energy and 11.4% decline in Financials. In relative terms, bond proxy sectors performed the best, as did lower beta stocks. Against this backdrop, the strategy's value tilt and overweight to lower beta stocks were tailwinds. Stock selection, however, was poor. Health Care was the standout sector where the portfolio generated higher returns than the benchmark. On an individual stock basis, Schlumberger NV (SLB-US, -37.3%), the vertically integrated oil and gas company, was the largest single detractor from relative returns. A similar pattern of performance played out over the full calendar year. Cambiar's stock selection was subpar, with 10 of 11 sectors producing negative relative returns. Energy, Consumer Staples, and Consumer Discretionary detracted the most. Notable individual detractors included two stocks: British American Tobacco (BTI-US, -49.5%, and Schlumberger NV (SLB-US, -42.0%).

IAR's Current Assessment

International value investors are happy to bid farewell to 2018, a miserable year in which 87% of active managers in the Morningstar foreign value category have underperformed the benchmark. Cambiar's relative performance, while disappointing to us, was comparable to peers with a relative value investment style. Historically, Cambiar's relative performance can be volatile in the short run, but IAR believes the experience and stability of the investment team along with a consistent process and philosophy will allow the fund to turn relative performance around and outperform the benchmark over a full market cycle.

Cambiar International Equity ADR

Manager Biographies

Jennifer M. Dunne

Jennifer M. Dunne, CFA, Investment Principal, joined the Cambiar Investors LLC in 2005 and has over 19 years of investment experience. She co-manages the Cambiar International Equity Fund with a focus on the energy, industrials, utilities and basic materials sectors. Prior to joining the Cambiar Investors LLC, Ms. Dunne was a senior equity analyst at Founders Asset Management LLC, a Colorado based asset management firm. Ms. Dunne holds a graduate diploma from the London School of Economics as well as a Masters of Economics from the University of British Columbia and a BA from the University of Colorado, Boulder. She also holds the Chartered Financial Analyst designation.

Portfolio Characteristics

Calculation Benchmark: iShares MSCI ACWI ex US ETF

	Port	Index
WtgAvg MktCap (\$Mil)	61,436	70,266
Dividend Yield	3.60	3.09
Price/Earnings	13.2	13.4
Price/Book	1.5	1.5
Price/Cash Flow	5.5	3.7
Price/Sales	1.1	0.6
5 Yr EPS Growth	10.8	11.7
Return on Equity	15.0	15.3
Debt/Capital	37.5	33.1
Active Share (Avg)	88	

Risk/Reward vs. Benchmark

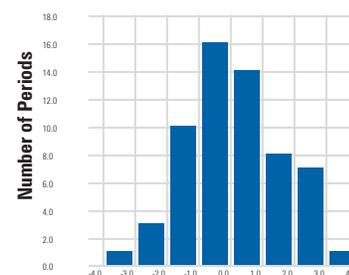
Calculation Benchmark: MSCI ACWI Ex USA Value NR USD

	3YR	5YR	10YR
Standard Deviation	11.70	11.62	14.92
Sharpe Ratio	0.31	0.22	0.72
Information Ratio	-0.96	0.31	0.41
R2	91	84	88
Beta	1.02	0.84	0.84
Alpha	-3.29	1.63	3.33
Tracking Error	3.55	5.13	5.74
Up Capture Ratio	86	84	90
Down Capture Ratio	104	74	74
Batting Average	39	50	56

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: MSCI ACWI Ex USA Value NR USD

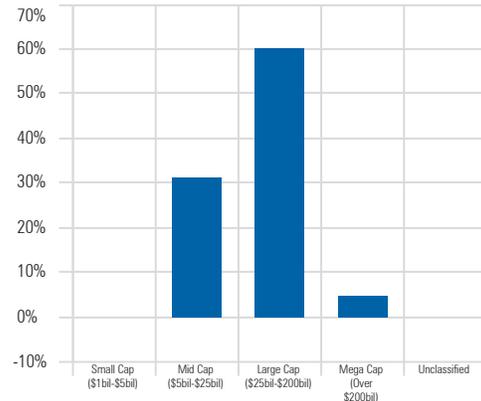


Top 10 Holdings - Ending Weights

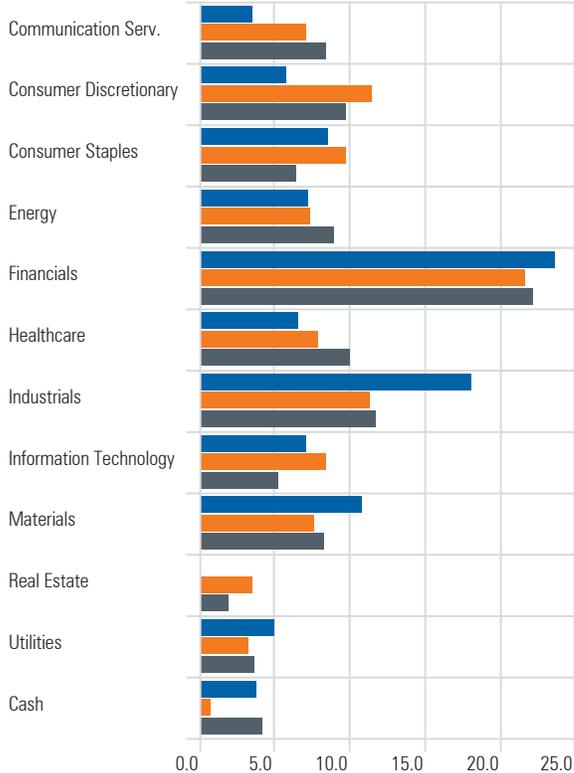
Calculation Benchmark: iShares MSCI ACWI ex US ETF Portfolio Date: 12/31/2018

	Port Weight	QTR Return	YTD Return
BHP Group PLC ADR	3.4	22.8	22.8
SAP SE ADR	3.0	16.0	16.0
Repsol SA ADR	2.9	6.6	6.6
E.ON SE ADR	2.7	12.5	12.5
AerCap Holdings NV	2.6	17.5	17.5
Roche Holding AG ADR	2.5	14.1	14.1
Seven & i Holdings Co Ltd ADR	2.5	-13.2	-13.2
Carlsberg A/S ADR	2.4	20.4	20.4
Royal Dutch Shell PLC ADR Class A	2.3	9.0	9.0
Essilorluxottica ADR	2.2	-13.4	-13.4

Market Cap Exposure



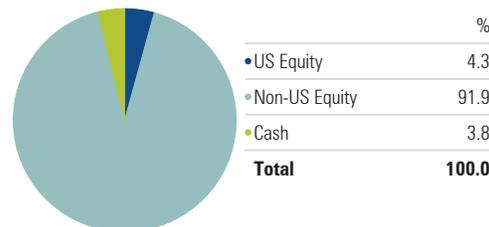
GICS Sector Exposure



■ Cambiar International Equity ADR
 ■ iShares MSCI ACWI ex US ETF
 ■ US SA Foreign Large Value

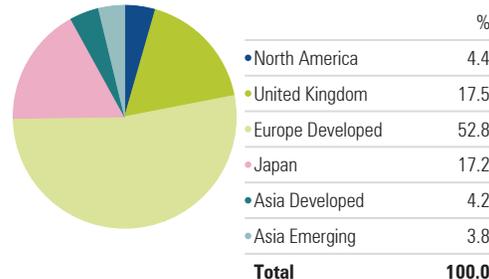
Asset Allocation

Portfolio Date: 12/31/2018



Equity Regional Exposure

Portfolio Date: 12/31/2018



**Wasatch International
Opps Instl
WIOX**

PNC Investment Advisor Research

AMG Status	Approved
Platform Add Date	5/11/2016
Status Chg Date	6/13/2018

Investment Philosophy/Process

The Wasatch International Opportunities Fund is a strategy that focuses on investing in undiscovered stocks with significant growth potential. The team seeks out companies with low debt and high returns on capital that are capable of growing earnings at least 15% annually driven by long-term competitive advantages. Significant emphasis is placed on meeting with company management and the composition of the team is a source of its competitive advantage as the vast majority have lived and worked in the countries where they are investing. The fund will pay up (higher valuations) for high quality and high growth opportunities.

Setting Expectations

The fund seeks out smaller, undiscovered, and underfollowed companies, which leads the team to invest in emerging and frontier markets. The fund has a quality bias (low balance sheet leverage and high returns on capital) and has shown that it can outperform in both up and down markets, owing to its combination of high growth and quality factors. Stock selection will be the primary driver of returns, as the top 10 holdings typically account for 15-25% of the portfolio. As a result of these exposures and concentrations, the fund has a moderately high tracking error and returns will differ materially from the benchmark.

Strategy Overview

Investment Type	Open-End Fund
Morningstar Category	US Fund Foreign Small/Mid Grow
Benchmark	MSCI ACWI Ex USA SMID Growt
Sub-Style	Growth

Fund Facts

# of Stock Holdings	109
Top 10 Holdings (%)	21
Turnover Ratio (%)	36
Inception Date	2/1/2016

Operations

Advisor	Wasatch Advisors Inc.
Subadvisor	
Fund Size (mil)	\$ 435
Net Expense Ratio	1.95%

Performance Returns & Peer Group Rankings*

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Wasatch International Opps Instl	13.70	21	13.70	21	-4.47	25	8.33	32	7.34	8	10.17	12	16.50	7
MSCI ACWI Ex USA SMID Grow	10.99	62	10.99	62	-8.14	37	6.61	64	3.71	57	5.80	84	10.75	91
50th Percentile	11.62		11.62		-9.86		7.26		4.38		7.29		12.34	

Calendar Year Performance Returns*

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Wasatch International Opps Instl	-14.54	29	27.74	99	4.60	4	9.45	54	3.07	1	19.33	84	31.79	13
MSCI ACWI Ex USA SMID Grow	-17.28	42	32.40	73	0.02	26	4.18	68	-2.85	40	16.63	95	16.09	97
50th Percentile	-18.02		35.34		-1.82		9.56		-3.69		25.96		23.40	

Attribution

Relative Weights

Active Return

Time Period: 1/1/2019 to 3/31/2019

Time Period: 1/1/2019 to 3/31/2019

	Relative Weights	Active Return
Communication Services	-0.5	0.3
Consumer Discretionary	1.4	0.8
Consumer Staples	9.8	0.4
Energy	-2.6	0.1
Financials	2.3	1.0
Health Care	7.0	1.1
Industrials	-6.2	1.0
Information Technology	9.1	0.9
Materials	-4.8	-0.2
Real Estate	-9.7	-0.3
Utilities	-2.8	-0.1

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
Yihai International Holdings Ltd	1.6	0.1	82.1	1.26
Pro Medicus Ltd	3.3	0.0	37.8	1.25
Digital Arts Inc	1.4	0.0	47.5	0.64
Webjet Ltd	1.9	0.0	34.5	0.63
Vitasoy International Holdings Ltd	2.0	0.1	27.0	0.58

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

	Port	Index	Return	Contrib
accesso Technology Group PLC	0.7	0.0	-38.9	-0.33
TCI Co Ltd	1.3	0.1	-18.9	-0.31
Gear4music (Holdings) PLC	0.1	0.0	-57.2	-0.10
Jamieson Wellness Inc	0.9	0.0	-9.3	-0.10
BusinessOn Communication Co Ltd Orc	0.6	0.0	-13.8	-0.09

Performance Analysis

Wasatch underperformed its benchmark, the MSCI ACWI ex US SMID Growth, by 193 basis points (bps) but ended 2018 ahead by 274 bps. A volatile and bearish fourth quarter benefited defensive and bond proxy sectors and hurt cyclical ones. Utilities, Health Care, Real Estate, and Consumer Staples declined 8%, on average, while more business-cycle-sensitive sectors, in aggregate, lost 15%. Stocks within the highest quartile of next year's earnings growth estimates (>20%) returned -18%, underperforming stocks with lower 2019 earnings growth estimates by 200-400 bps. Against this backdrop, the fund's bias toward stocks with higher earnings-per-share growth estimates was a strong headwind. Stock selection, in aggregate, was positive, with strength in Materials and Consumer Staples offset by subpar stock performance in Financials. Regionally, the fund's stock selection in emerging markets was strong and more diverse by country. Within developed markets, the fund's Japanese holdings were the largest detractors from relative performance. For the year, stock selection dominated relative returns. Stocks in the Consumer Staples and Consumer Discretionary sectors were the notable contributors. On a regional level, the fund generated positive relative returns in both developed and emerging markets, with Asia the dominant regional contributor. On the negative side, South Korea and Turkey were meaningful detractors, costing the fund close to 130 bps of relative performance.

Current Assessment

The fund's relative performance in 2018 is within IAR's expectations. Overall relative performance on a rolling three- and five-year basis continues to improve, driven mostly by stock selection.

Wasatch International Opps Instl WIOX

Manager Biographies

Jared Whatcott

Jared Whatcott, CFA joined Wasatch Advisors in 2005 as a senior equities analyst on the international research team. Prior to joining Wasatch, Mr. Whatcott was a Captain in the United States Air Force, where he served as a contracting officer. Mr. Whatcott earned a Master of Business Administration from the Darden School at the University of Virginia and a Bachelor of Science in Management with a minor in Foreign Language (Mandarin Chinese) from the United States Air Force Academy.

Linda Lasater

Linda Lasater, CFA joined Wasatch Advisors in 2006 as a senior equities analyst on the international research team. Prior to joining Wasatch, Ms. Lasater worked as an investment applications project lead with AIM Investments. Ms. Lasater earned a Master of Business Administration from the Tuck School of Business at Dartmouth, and a Bachelor of Business Administration in Management Information Systems from the University of Texas.

Allison He

Allison He, CFA has been an associate portfolio manager. She joined Wasatch Advisors in 2013 as a senior research analyst on the international research team. She has a background in data engineering and analytics. Prior to joining Wasatch advisors, she was a vice president and associate portfolio manager at Western Investment LLC, a multi-strategy hedge fund. Ms. He earned a Master of Business Administration from the Wharton School of the University of Pennsylvania where she was awarded the Palmer Scholar honor. Ms. He also holds a Master of Engineering in Computer Science from the University of Utah. She is also a CFA charterholder.

Portfolio Characteristics

Calculation Benchmark: Vanguard FTSE All-World ex-US SmCp ETF

	Port	Index
WtgAvg MktCap (\$Mil)	1,193	2,046
Dividend Yield	1.13	2.64
Price/Earnings	29.6	14.1
Price/Book	5.1	0.6
Price/Cash Flow	14.8	6.2
Price/Sales	2.4	0.8
5 Yr EPS Growth	24.7	12.9
Return on Equity	24.8	11.8
Debt/Capital	21.4	29.9
Active Share (Avg)	98	

Risk/Reward vs. Benchmark*

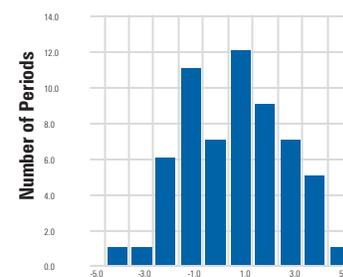
Calculation Benchmark: MSCI ACWI Ex USA SMID Growth NR USD

	3YR	5YR	10YR
Standard Deviation	13.36	12.18	16.31
Sharpe Ratio	0.57	0.58	0.99
Information Ratio	0.26	0.53	0.86
R2	76	70	83
Beta	1.00	0.85	0.94
Alpha	1.84	4.03	5.82
Tracking Error	6.58	6.90	6.70
Up Capture Ratio	87	87	101
Down Capture Ratio	67	59	67
Batting Average	53	57	59

Excess Return Distribution*

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: MSCI ACWI Ex USA SMID Growth NR USD

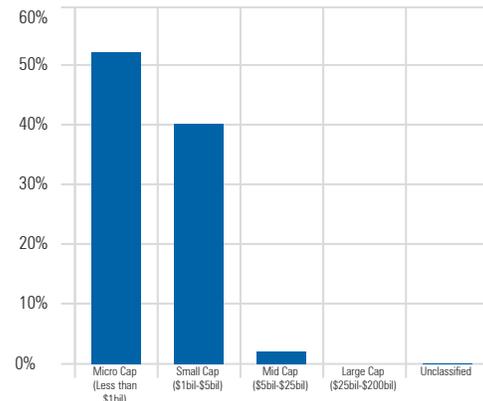


Top 10 Holdings - Ending Weights

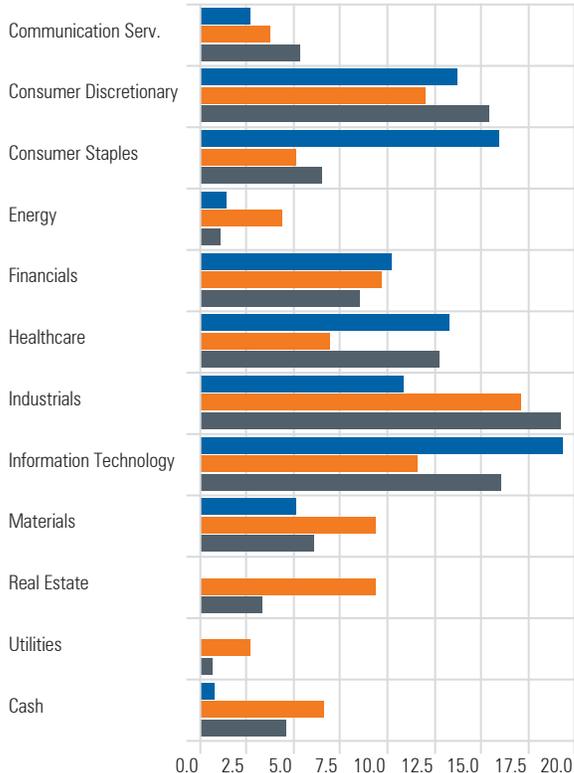
Calculation Benchmark: Vanguard FTSE All-World ex-US SmCp ETF Portfolio Date: 12/31/2018

	Port Weight	QTR Return	YTD Return
Pro Medicus Ltd	3.1	36.6	36.6
Philippine Seven Corp	2.6	1.0	1.0
Vmart Retail Ltd Common Stock Inr10.0	2.1		
Hypoport AG	2.1	20.8	20.8
Gulf Oil Lubricants India Ltd	2.1	1.6	1.6
Vitasoy International Holdings Ltd	2.0	27.3	27.3
Webjet Ltd	1.7	33.3	33.3
Open Door Inc	1.7	33.0	33.0
Gruppo Mutuonline SpA	1.6	16.4	16.4
TCI Co Ltd	1.5	-18.7	-18.7

Market Cap Exposure



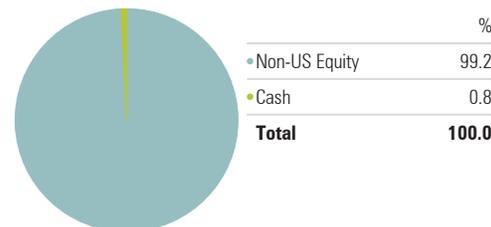
GICS Sector Exposure



■ Wasatch International Opps Instl
■ Vanguard FTSE All-World ex-US SmCp ETF
■ US Fund Foreign Small/Mid Growth

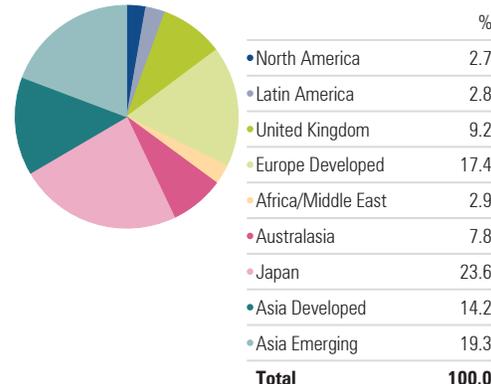
Asset Allocation

Portfolio Date: 12/31/2018



Equity Regional Exposure

Portfolio Date: 12/31/2018



iShares MSCI Emerging Markets ETF EEM

Strategy Overview

Investment Type	Exchange-Traded Fund
PNC Category	Emerging Markets Equity - ETF
Tracking Index	MSCI EM NR USD

Fund Facts

# of Stock Holdings	954
Top 10 Holdings (%)	24
Turnover Ratio (%)	16
Inception Date	4/7/2003

Operations

Net Expense Ratio	0.67
Fund Size (\$Mil)	35,097
Advisor	BlackRock Fund Advisors
Replication	Physical-Sample

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 3/4/2005

Status Chg Date

Index Description

The index measures the performance of the large cap segments of emerging market equity securities. It is free float-adjusted market-capitalization weighted.

Trailing Returns

	QTR	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
iShares MSCI Emerging Markets ETF	9.70	9.70	-7.79	10.03	3.10	2.08	7.79	10.43
MSCI EM NR USD	9.91	9.91	-7.41	10.68	3.68	2.69	8.94	10.96

Calendar Year Performance

	2018	2017	2016	2015	2014	2013	2012	2011
iShares MSCI Emerging Markets ETF	-14.98	36.42	10.51	-15.41	-2.82	-3.14	17.32	-18.87
MSCI EM NR USD	-14.57	37.28	11.19	-14.92	-2.19	-2.60	18.22	-18.42

ETF Risk Characteristics

Time Period: 4/1/2016 to 3/31/2019

	Up Capture	Down Capture	R2	Tracking Error	Excess Return
iShares MSCI Emerging Markets ETF	98.24	101.40	99.99	0.11	-0.65

Liquidity

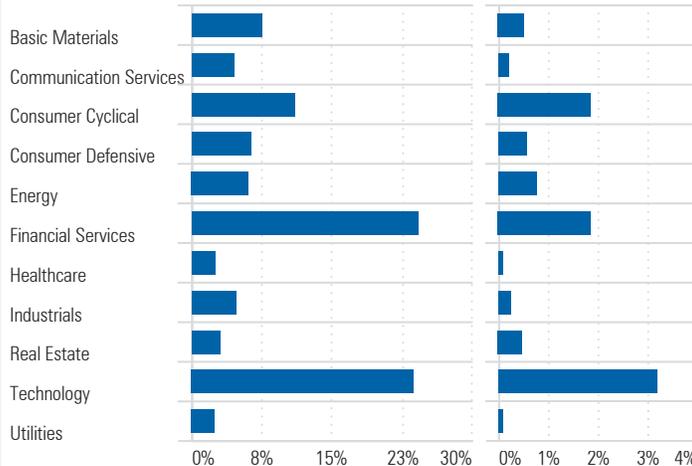
Avg Daily Vol (3 Mo)	75,703,749
Prem/Disc (1 Yr Avg)	-0.04%
Bid/Ask Spread (%)	0.000%
Bid/Ask Spread (\$)	\$ 0.01

Investment Strategy

The investment seeks to track the investment results of the MSCI Emerging Markets Index. The fund generally invests at least 90% of its assets in the securities of its underlying index and in depositary receipts representing securities in its underlying index. The index is designed to measure equity market performance in the global emerging markets. It may invest the remainder of its assets in other securities, including securities not in the underlying index, but which BFA believes will help the fund track the index, and in other investments, including futures contracts, options on futures contracts, other types of options and swaps related to its index.

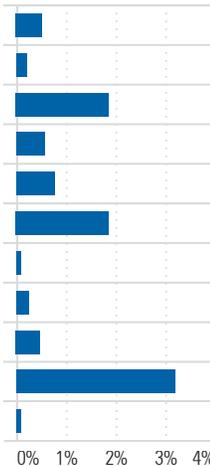
ETF Sector Weights

Time Period: 1/1/2019 to 3/31/2019



Return Contribution

Time Period: 1/1/2019 to 3/31/2019

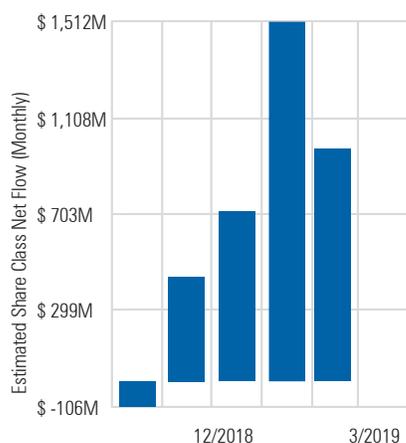


Top 10 Country Exposure

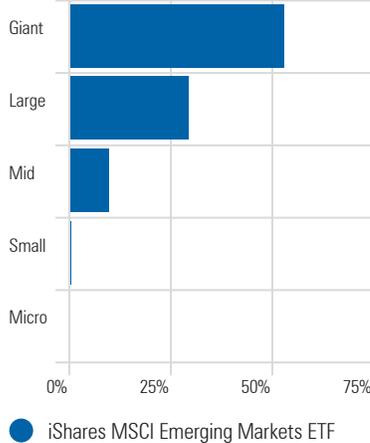
Time Period: 1/1/2019 to 3/31/2019

Country	Weight	Return	Contribution
China	31.80	17.47	5.38
South Korea	14.15	4.59	0.68
Taiwan	11.40	8.99	1.05
India	9.21	7.16	0.69
Brazil	7.88	8.19	0.63
South Africa	6.08	5.02	0.30
Mexico	2.84	5.56	0.16
Russian Federation	2.58	11.31	0.29
Malaysia	2.39	0.33	0.01
Indonesia	2.35	4.12	0.10

6-Month Net Fund Flows



Market Capitalization



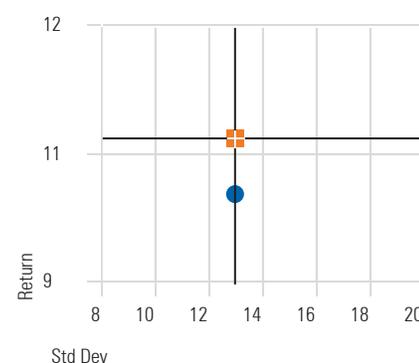
Portfolio Characteristics

As of Date: 3/31/2019

	ETF
WtgAvg MktCap (\$Mil)	100,162
Dividend Yield	2.48
Price/Earnings	9.2
Price/Book	1.6
Price/Sales	1.3
5 Yr EPS Growth	14.6
Return on Equity	17.1
Debt/Capital	26.5

Risk-Reward

Time Period: 4/1/2016 to 3/31/2019



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Benchmark Description:

The index measures the performance of the large cap segments of emerging market equity securities. It is free float-adjusted market-capitalization weighted.

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Lazard Global Listed Infrastructure Inst GLIFX

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 11/4/2010

Status Chg Date

Investment Philosophy/Process

Lazard's philosophy on infrastructure investing is that consistency in revenues and earnings should result in a lower risk of capital loss while still providing inflation-linked returns. The team follows a bottom-up, fundamental process with a value bias to construct a portfolio of infrastructure securities. They first rank companies on factors related to revenue certainty, profitability, and longevity before valuing each company from the bottom up. The outcome is a portfolio of 25-50 securities of the most attractively ranked stocks that the team believes have an expected return of at least inflation +5%.

Setting Expectations

Lazard's focus on investing in preferred infrastructure companies and valuation bias has resulted in a portfolio with excellent downside protection and good upside participation, with a low standard deviation and beta. Its benchmark-agnostic approach typically leads to a portfolio that looks very different from the index, with high active share and tracking error. The fund generally will have little to no exposure in infrastructure securities with more commodity price sensitivity or in emerging markets, and it may lag the benchmark or peers if these areas are outperforming. Lazard's policy of fully hedging the portfolio back to the dollar also can have a significant impact on returns, since a large portion of the portfolio is invested outside of the United States. These hedges also affect the yield of the mutual fund, which incorporates the cost of the hedges.

Strategy Overview

Investment Type Open-End Fund
 Morningstar Category US Fund Infrastructure
 Benchmark S&P Global Infrastructure NR US
 Sub-Style

Fund Facts

of Stock Holdings 29
 Top 10 Holdings (%) 58
 Turnover Ratio (%) 49
 Inception Date 12/31/2009

Operations

Advisor Lazard Asset Management LLC
 Subadvisor
 Fund Size (mil) \$ 6,228
 Net Expense Ratio 0.96%

Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Lazard Global Listed Infrastructu	9.47	98	9.47	98	11.74	29	9.82	6	10.73	1	14.29	1		
S&P Global Infrastructure NR US	13.83	65	13.83	65	8.19	73	7.66	67	4.52	66	6.75	94	9.93	100
50th Percentile	14.35		14.35		9.74		8.11		5.25		8.20		12.42	

Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Lazard Global Listed Infrastructu	-3.73	6	20.80	9	9.30	41	9.30	1	17.95	6	26.56	14	18.05	15
S&P Global Infrastructure NR US	-10.37	84	19.07	25	11.45	19	-12.17	69	12.12	44	14.00	94	10.89	96
50th Percentile	-8.41		17.89		8.96		-10.27		11.72		18.19		16.04	

Attribution

Relative Weights

Active Return

Contributors - Average Weights

Time Period: 1/1/2019 to 3/31/2019



Time Period: 1/1/2019 to 3/31/2019

Company	Port	Index	Return	Contrib
Atlantia SpA	8.3	4.0	25.5	2.11
Norfolk Southern Corp	5.0	0.0	25.6	1.27
Terna SpA	8.0	0.0	12.0	1.00
Snam SpA	4.8	0.8	20.4	0.98
Vinci SA	4.6	0.0	18.3	0.87

Detractors - Average Weights

Time Period: 1/1/2019 to 3/31/2019

Company	Port	Index	Return	Contrib
PG&E Corp	3.1	0.2	-25.1	-1.12
SES SA DR	5.6	0.0	-18.5	-1.11
Eutelsat Communications	3.6	0.0	-11.0	-0.42
Red Electrica Corporacion SA	4.5	0.0	-2.9	-0.14
REN-Redes Energeticas Nacionais Sgp	1.1	0.0	2.6	0.03

IAR's Quick Take

Lazard underperformed the S&P Global Infrastructure® index by approximately 437 basis points (bps) in the first quarter, however is still ahead by 355 bps over the trailing 1-year period. Global infrastructure securities registered a strong rebound after a challenging fourth quarter of 2018 and managed to outperform the broader market by nearly 170 bps during the quarter, rising 13.8%. Every important sector within Infrastructure rose during the quarter led by Energy and Transportation Infrastructure. One of the top contributors was Atlantia, an 8% position, which rose during the quarter as investors' fears about the company losing the Italian transportation concession were assuaged. Italian electricity and gas transmission networks were also positive contributors, due primarily to expectations that the European Central Bank will continue an accommodative monetary policy. The major detractor for the period was, once again, PG&E, reducing performance by 230 bps. The company announced it would file for Chapter 11 bankruptcy protection in late January. Lazard sold the position after the announcement, since the risk profile for this company during the bankruptcy process no longer fits their 'Preferred Infrastructure' model. The strategy uses a full currency hedge back to the US Dollar, which protected returns by approximately 81 bps, as the dollar strengthened over the quarter. These FX gains/losses are passed through as income to the fund and will impact the distribution yield of the fund.

Lazard delivered positive absolute returns, but underperformed the benchmark due to poor stock selection and 0% exposure to Energy which rallied strongly during the quarter. The portfolio remains concentrated with only 30 stocks, including several names not included in the benchmark, which may lead to lumpy returns and quarters of large positive (or negative) excess returns. The manager continues to indicate the opportunity set of attractively priced investments is smaller today than in the past eight years, which is why the portfolio has concentrated into fewer names. The strategy's consistent underweight to Energy assets has been a positive for the fund in prior years but was a drag on relative returns during the quarter. The stated objective of the strategy is to deliver a return of "inflation + 5%" over rolling 5 year periods, which it has successfully done over the prior 5 and 10-year periods. IAR expects the manager to deliver positive returns over time, due to positive stock selection; however, due to the concentrated nature of the strategy, the return pattern will continue to be lumpy and relative returns will depend on stock selection as well as the performance of the Energy sector.

Lazard Global Listed Infrastructure Inst GLIFX

Manager Biographies

John Mulquiney

John Mulquiney, CFA
Senior Vice President, Portfolio Manager/Analyst
Lazard Asset Management Pacific Co. (Sydney)
John is a portfolio manager/analyst with Lazard Asset Management Pacific in Sydney, Australia and has been working in the investment field since 1997. Prior to joining Lazard in August 2005, John worked at Tyndall Australia and in the Asset and Infrastructure Group at Macquarie Bank, where he undertook transactions and developed valuation models for airports, electricity generators, rail projects and health infrastructure. Most recently John spent four years at Nanyang Ventures, an early expansion venture capital fund. John holds a PhD from the Australian National University, and a BA (Hons) from Sydney University. He is a Chartered Financial Analyst.

Warryn Robertson

Warryn Robertson
Senior Vice President, Portfolio Manager/Analyst
Lazard Asset Management Pacific Co. (Sydney)
Warryn is a Portfolio Manager/Analyst with Lazard Asset Management Pacific in Sydney, Australia and has been working in the investment field since 1992. Prior to joining Lazard in April 2001, Warryn was an Associate Director at Capital Partners. Previously, Warryn worked at PriceWaterhouseCoopers Corporate Finance. Warryn holds an MBA from the Melbourne Business School (Melbourne University) and a B.Comm, University of Canberra.

Portfolio Characteristics

Calculation Benchmark: iShares Global Infrastructure ETF

	Port	Index
WtgAvg MktCap (\$Mil)	7,496	14,307
Dividend Yield	3.60	3.32
Price/Earnings	17.4	22.5
Price/Book	2.0	1.9
Price/Cash Flow	8.5	8.5
Price/Sales	1.8	1.5
5 Yr EPS Growth	6.3	8.8
Return on Equity	11.7	9.0
Debt/Capital	54.2	48.3
Active Share (Avg)	87	

Risk/Reward vs. Benchmark

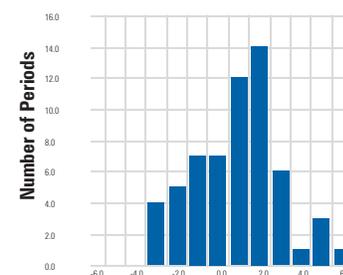
Calculation Benchmark: S&P Global Infrastructure NR USD

	3YR	5YR	10YR
Standard Deviation	9.34	8.92	
Sharpe Ratio	0.91	1.10	
Information Ratio	0.33	0.85	
R2	59	54	
Beta	0.72	0.62	
Alpha	3.80	7.24	
Tracking Error	6.62	7.30	
Up Capture Ratio	91	93	
Down Capture Ratio	66	45	
Batting Average	58	62	

Excess Return Distribution

Time Period: 4/1/2014 to 3/31/2019

Calculation Benchmark: S&P Global Infrastructure NR USD

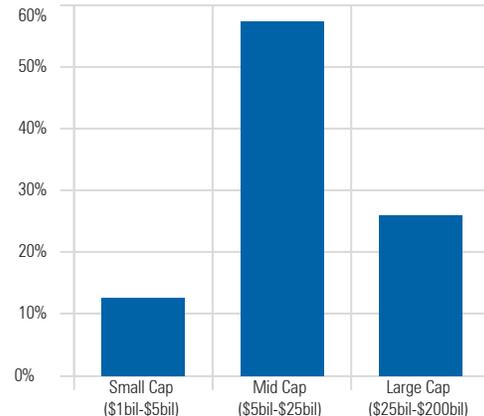


Top 10 Holdings - Ending Weights

Calculation Benchmark: iShares Global Infrastructure ETF Portfolio Date: 3/31/2019

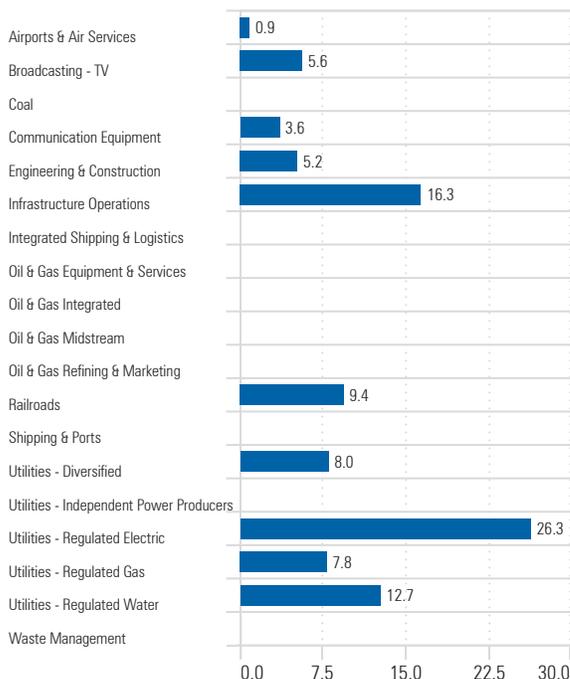
	Port Weight	QTR Return	YTD Return
Atlantia SpA	8.7	27.8	27.8
Norfolk Southern Corp	8.5	25.6	25.6
National Grid PLC	7.8	11.3	11.3
Transurban Group	4.9	13.3	13.3
Terna SpA	4.8	14.0	14.0
Snam SpA	4.8	22.3	22.3
United Utilities Group PLC	4.6	10.6	10.6
Vinci SA	4.6	20.4	20.4
Kansas City Southern	4.4	21.9	21.9
Severn Trent PLC	4.4	8.8	8.8

Market Cap Exposure



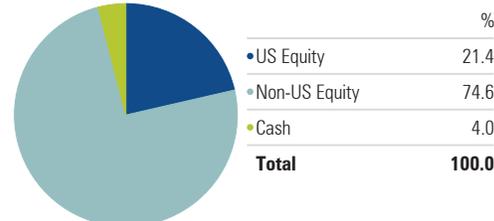
Industry Exposure - Ending Weight

Time Period: 1/1/2019 to 3/31/2019



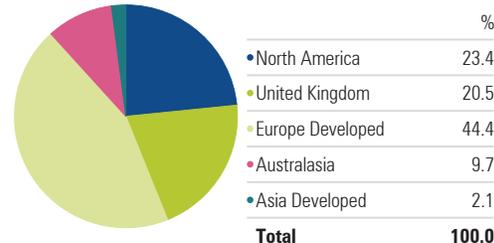
Asset Allocation

Portfolio Date: 3/31/2019



Equity Regional Exposure

Portfolio Date: 3/31/2019



iShares 1-3 Year Treasury Bond ETF SHY

Strategy Overview

Investment Type	Exchange-Traded Fund
PNC Category	Taxable FI (Short Government) - ETF
Tracking Index	ICE U.S. Treasury 1-3 Year Bond TR

Fund Facts

# of Holdings	68
Top 10 Holdings (%)	45
Turnover Ratio (%)	85
Inception Date	7/22/2002

Operations

Net Expense Ratio	0.15
Fund Size (\$Mil)	20,475
Advisor	BlackRock Fund Advisors
Replication	Physical-Sample

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 10/29/2004

Status Chg Date

Index Description

The ICE U.S. Treasury 1-3 Year Bond Index measures the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than one year and less than or equal to three years.

Trailing Returns

	QTR	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
iShares 1-3 Year Treasury Bond ETF	0.94	0.94	2.59	0.85	0.85	0.71	0.90	1.95
ICE U.S. Treasury 1-3 Year Bond TR USD	0.99	0.99	2.73	0.98				

Calendar Year Performance

	2018	2017	2016	2015	2014	2013	2012	2011
iShares 1-3 Year Treasury Bond ETF	1.45	0.27	0.75	0.43	0.48	0.23	0.31	1.43
ICE U.S. Treasury 1-3 Year Bond TR USD	1.56	0.42						

ETF Risk Characteristics

Time Period: 4/1/2016 to 3/31/2019

	Up Capture	Down Capture	R2	Tracking Error	Excess Return
iShares 1-3 Year Treasury Bond ETF	95.6	111.1	99.67	0.05	-0.15

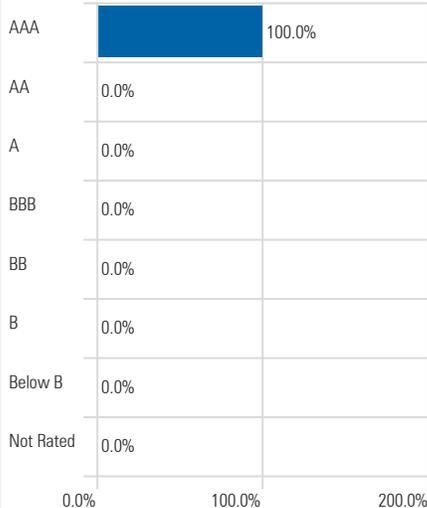
Liquidity

Avg Daily Vol (3 Mo)	3,554,924
Prem/Disc (1 Yr Avg)	0.02%
Bid/Ask Spread (\$)	\$ 0.01
Bid/Ask Spread (%)	0.000%

Investment Strategy

The investment seeks to track the investment results of the ICE U.S. Treasury 1-3 Year Bond Index (the "underlying index"). The fund generally invests at least 90% of its assets in the bonds of the underlying index and at least 95% of its assets in U.S. government bonds. The underlying index measures the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than one year and less than or equal to three years.

Credit Quality Distribution



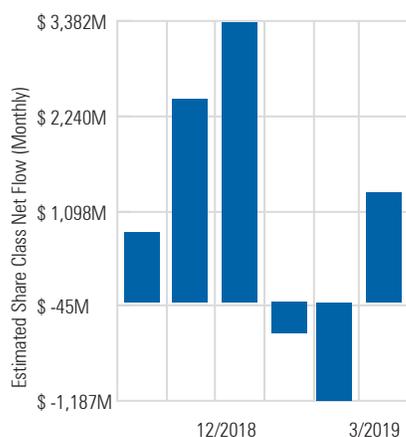
Maturity Distribution



Fixed Income Sector Exposure

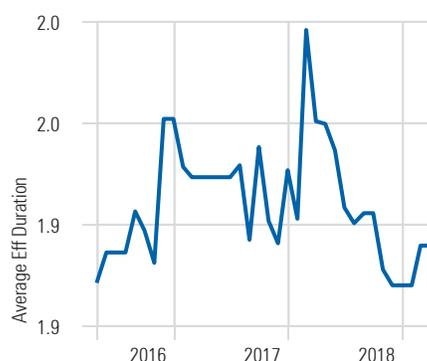


6-Month Net Fund Flows



Effective Duration

Time Period: 4/1/2016 to 3/31/2019

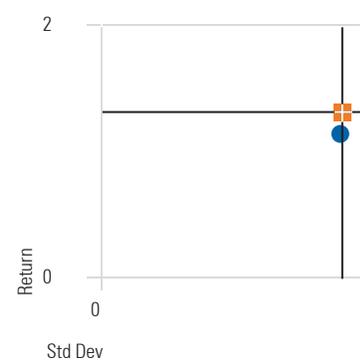


Portfolio Characteristics

Avg Eff Maturity	1.95
Avg Eff Duration	1.89
Avg Credit Quality	AAA
Average Coupon	2.10
Yield to Maturity	2.53

Risk-Reward

Time Period: 4/1/2016 to 3/31/2019



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Benchmark Description:

The ICE U.S. Treasury 1-3 Year Bond Index measures the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than one year and less than or equal to three years.

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**Vanguard Total Bond Market Index Adm
VBTXL**

PNC Investment Advisor Research

AMG Status Approved

Platform Add Date 12/31/2008

Status Chg Date

Investment Philosophy/Process

The fund seeks a performance similar to that of the broad market-weighted bond index. All of the fund's investments are selected via a sampling process, and at least 80% of its assets are invested in bonds that are held in the Barclays Aggregate Bond Index. The fund is designed to provide broad passive exposure to the U.S. investment-grade bond market.

Setting Expectations

Securities that are backed by the U.S. government comprise approximately 70% of the fund. This includes U.S. government-related debt such as Treasuries, agency debentures, and agency mortgages. In mimicking benchmark holdings, the fund will typically be longer duration and lower in credit risk than the peer universe, and should outperform peers in risk-off environments when longer-dated Treasuries outperform. The fund will tend to lag peers during risk-on environments when corporate credit spreads tighten.

Strategy Overview

Investment Type	Open-End Fund
Morningstar Category	US Fund Intermediate-Term Bond
Benchmark	BBgBarc US Agg Bond TR USD
Style Category	Core

Fund Facts

# of Bond Holdings	17,187
Top 10 Holdings (%)	4
Turnover Ratio (%)	54
Inception Date	11/12/2001

Operations

Advisor	Vanguard Group Inc
Subadvisor	
Fund Size (mil)	\$ 215,926
Net Expense Ratio	0.05%

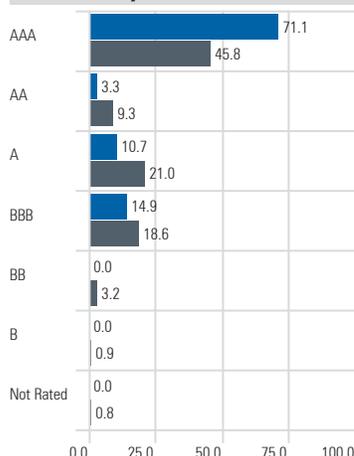
Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Vanguard Total Bond Market Inc	2.94	68	2.94	68	4.45	22	1.98	66	2.67	40	2.41	61	3.69	79
BBgBarc US Agg Bond TR USD	2.94	68	2.94	68	4.48	20	2.03	63	2.74	35	2.48	56	3.77	77
50th Percentile	3.24		3.24		4.00		2.30		2.53		2.56		4.62	

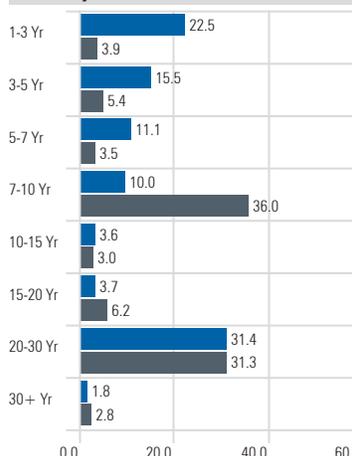
Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Vanguard Total Bond Market Inc	-0.03	26	3.56	58	2.60	65	0.40	29	5.89	32	-2.15	70	4.15	85
BBgBarc US Agg Bond TR USD	0.01	24	3.54	58	2.65	64	0.55	21	5.97	29	-2.02	66	4.21	84
50th Percentile	-0.60		3.82		3.07		-0.01		5.53		-1.54		6.84	

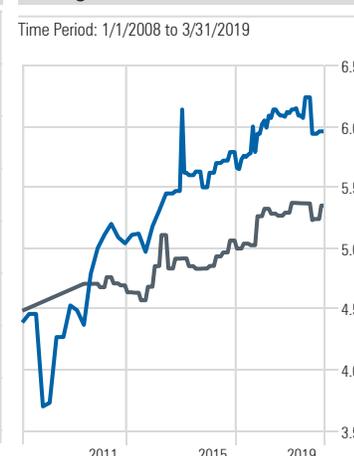
Credit Quality



Maturity Distribution



Average Effective Duration



■ Vanguard Total Bond Market Index Adm ■ US Fund Intermediate-Term Bond

Performance Analysis

The fund performed in line with the index for the first quarter, which ranked below the peer median of the Intermediate term Bond fund universe. Over the trailing 12 months, the fund has underperformed the benchmark by 3 bps, ranking near the peer median. The difference primarily reflects the fund's utilization of a sampling process that does not perfectly replicate the index, as well as expenses.

IAR's Current Assessment

As expected, the fund's performance continues to closely track the Barclays U.S. Aggregate Bond Index. This is true for both recent periods and for longer periods, and we expect it to continue. In periods of high bond market volatility, however, disparities may widen between the fund and its benchmark index.

Vanguard Total Bond Market Index Adm VBTLX

Manager Biographies

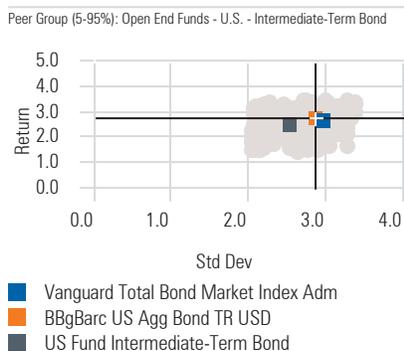
Joshua C. Barrickman

Barrickman is a portfolio manager of Vanguard. He has worked in investment management with Vanguard since 1999, managed investment portfolios since 2005 and co-managed the intermediate-term bond index fund since 2008. Barrickman holds the Chartered Financial Analyst designation. Education: B.S., Ohio Northern University; M.B.A., Lehigh University.

Portfolio Characteristics

	Port	Peers
# of Bond Holdings	17,187	271
Average Eff Duration	5.96	5.35
Average Eff Maturity	8.30	7.45
Average Credit Quality	AA	A
Average Coupon	3.24	3.54
Average Price	102.25	102.35
Yield to Maturity	3.00	3.19

Risk/Reward - 5 Year



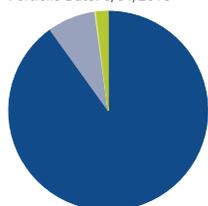
Risk/Reward vs. Benchmark

Calculation Benchmark: BBgBarc US Agg Bond TR USD

	3YR	5YR	10YR
Standard Deviation	3.06	2.96	2.94
Sharpe Ratio	0.24	0.63	1.09
Information Ratio	-0.15	-0.24	-0.27
R2	99	99	99
Beta	1.02	1.03	1.03
Alpha	-0.06	-0.13	-0.17
Tracking Error	0.29	0.30	0.29
Up Capture Ratio	100	101	101
Down Capture Ratio	101	105	105
Batting Average	39	45	48

Asset Allocation

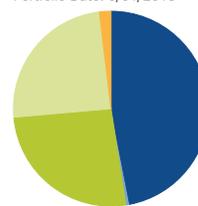
Portfolio Date: 3/31/2019



	%
US Bond	90.1
Non-US Bond	7.7
Other	0.3
Cash	1.9
Total	100.0

Fixed Income Sector Exposure

Portfolio Date: 3/31/2019



	%
Government	46.9
Municipal	0.6
Corporate	26.0
Securitized	24.5
Cash & Equivalents	1.9
Total	100.0

Fixed Income Region Exposure

Portfolio Date: 3/31/2019

	Port	Peers
North America	94.6	92.8
Latin America	1.0	2.0
United Kingdom	1.0	1.3
Europe Developed	1.8	2.6
Europe Emerging	0.1	0.1
Africa/Middle East	0.1	0.2
Australasia	0.3	0.3
Japan	0.6	0.5
Asia Developed	0.2	0.1
Asia Emerging	0.2	0.2

Fixed Income Sector Breakdown

Portfolio Date: 3/31/2019

	Port	Peers
Government	42.6	18.2
Government Related	4.3	12.2
Municipal Taxable	0.6	0.5
Municipal Tax-Exempt	0.0	0.1
Bank Loan	0.0	0.0
Convertible	0.2	0.3
Corporate Bond	25.8	25.6
Preferred Stock	0.0	0.0
Agency Mortgage-Backed	22.7	23.3
Non-Agency Residential Mortgage-Backed	0.1	1.1
Commercial Mortgage-Backed	1.1	5.0
Covered Bond	0.1	0.0
Asset-Backed	0.6	6.9
Cash & Equivalents	1.9	5.2
Swap	0.0	1.2
Forward/Future	0.0	0.4
Option/Warrant	0.0	0.0

iShares TIPS Bond ETF TIP

Strategy Overview

Investment Type	Exchange-Traded Fund
PNC Category	Taxable FI (TIPS) - ETF
Tracking Index	BBgBarc US Treasury US TIPS TR USD

Fund Facts

# of Holdings	38
Top 10 Holdings (%)	58
Turnover Ratio (%)	21
Inception Date	12/4/2003

Operations

Net Expense Ratio	0.19
Fund Size (\$Mil)	21,716
Advisor	BlackRock Fund Advisors
Replication	Physical-Sample

PNC Investment Advisor Research

AMG Status Approved

Platform Add Date 9/23/2005

Status Chg Date

Index Description

The index measures the performance of rules based, market value-weighted inflation-protected securities issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index(Series-L).

Trailing Returns

	QTR	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
iShares TIPS Bond ETF	3.16	3.16	2.56	1.57	1.81	1.09	3.27	3.79
BBgBarc US Treasury US TIPS TR USD	3.19	3.19	2.70	1.70	1.94	1.21	3.41	3.94

Calendar Year Performance

	2018	2017	2016	2015	2014	2013	2012	2011
iShares TIPS Bond ETF	-1.43	2.92	4.56	-1.59	3.49	-8.65	6.80	13.40
BBgBarc US Treasury US TIPS TR USD	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98	13.56

ETF Risk Characteristics

Time Period: 4/1/2016 to 3/31/2019

	Up Capture	Down Capture	R2	Tracking Error	Excess Return
iShares TIPS Bond ETF	98.2	101.0	99.94	0.07	-0.13

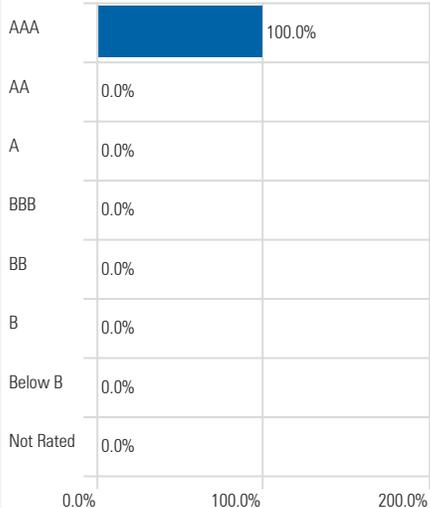
Liquidity

Avg Daily Vol (3 Mo)	1,184,867
Prem/Disc (1 Yr Avg)	0.01%
Bid/Ask Spread (\$)	\$ 0.01
Bid/Ask Spread (%)	0.000%

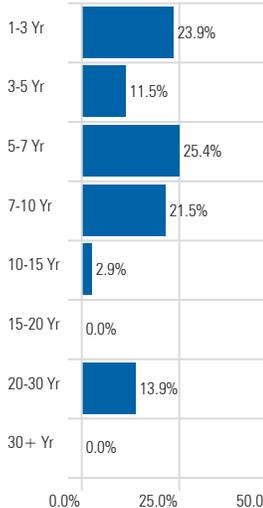
Investment Strategy

The investment seeks to track the investment results of Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L) which composed of inflation-protected U.S. Treasury bonds. The fund generally invests at least 90% of its assets in the bonds of the underlying index and at least 95% of its assets in U.S. government bonds. It may invest up to 10% of its assets in U.S. government bonds not included in the underlying index, but which BFA believes will help the fund track the underlying index. It also may invest up to 5% of its assets in repurchase agreements collateralized by U.S. government obligations and in cash and cash equivalents.

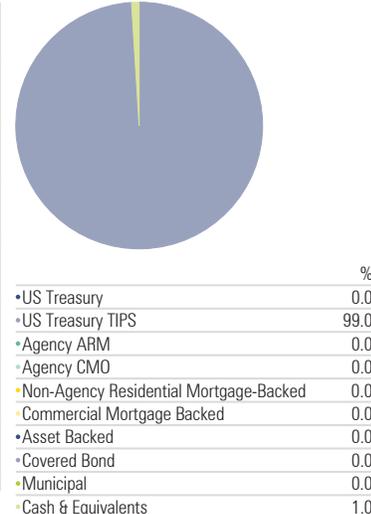
Credit Quality Distribution



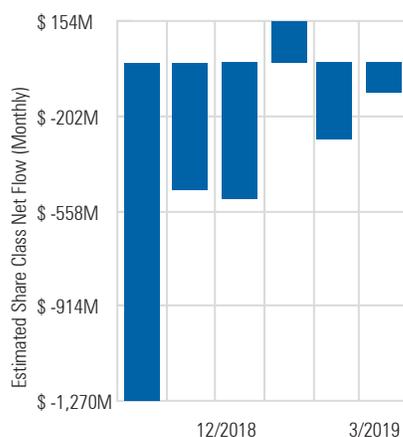
Maturity Distribution



Fixed Income Sector Exposure



6-Month Net Fund Flows



Effective Duration

Time Period: 4/1/2016 to 3/31/2019

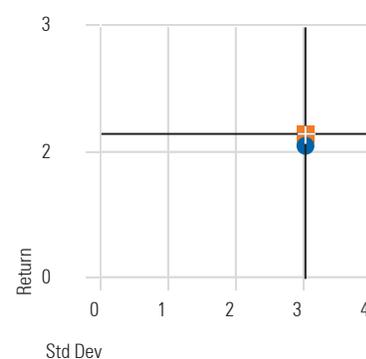


Portfolio Characteristics

Avg Eff Maturity	7.99
Avg Eff Duration	7.34
Avg Credit Quality	AAA
Average Coupon	0.68
Yield to Maturity	2.64

Risk-Reward

Time Period: 4/1/2016 to 3/31/2019



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Benchmark Description:

The index measures the performance of rules based, market value-weighted inflation-protected securities issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index (Series-L).

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iShares Core US Aggregate Bond ETF AGG

Strategy Overview

Investment Type	Exchange-Traded Fund
PNC Category	Taxable FI (Core) - ETF
Tracking Index	BBgBarc US Agg Bond TR USD

Fund Facts

# of Holdings	7,158
Top 10 Holdings (%)	8
Turnover Ratio (%)	252
Inception Date	9/22/2003

Operations

Net Expense Ratio	0.05
Fund Size (\$Mil)	58,830
Advisor	BlackRock Fund Advisors
Replication	Physical-Sample

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 10/29/2004

Status Chg Date

Index Description

The index measures the performance of investment grade, U.S. dollar-denominated, fixed rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-through), ABS, and CMBS. It rolls up into other Barclays flagship indices, such as the multicurrency Global Aggregate Index and the U.S. Universal Index, which includes high yield and emerging markets debt.

Investment Strategy

The investment seeks to track the investment results of the Bloomberg Barclays U.S. Aggregate Bond Index. The index measures the performance of the total U.S. investment-grade bond market. The fund generally invests at least 90% of its net assets in component securities of its underlying index and in investments that have economic characteristics that are substantially identical to the economic characteristics of the component securities of its underlying index.

Trailing Returns

	QTR	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
iShares Core US Aggregate Bond ETF	2.94	2.94	4.46	1.98	2.70	2.42	3.64	3.80
BBgBarc US Agg Bond TR USD	2.94	2.94	4.48	2.03	2.74	2.48	3.77	3.96

Calendar Year Performance

	2018	2017	2016	2015	2014	2013	2012	2011
iShares Core US Aggregate Bond ETF	-0.05	3.53	2.56	0.48	6.04	-2.15	4.04	7.58
BBgBarc US Agg Bond TR USD	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84

ETF Risk Characteristics

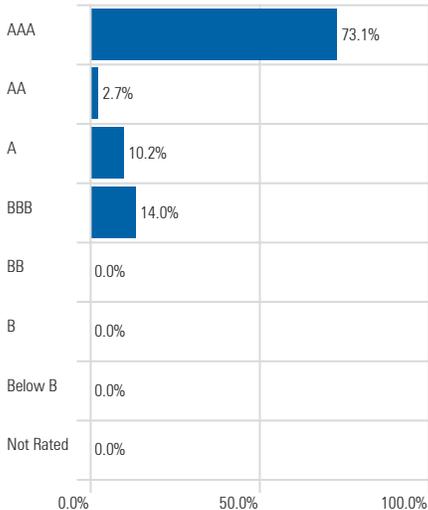
Time Period: 4/1/2016 to 3/31/2019

	Up Capture	Down Capture	R2	Tracking Error	Excess Return
iShares Core US Aggregate Bond ETF	99.5	100.9	99.98	0.04	-0.05

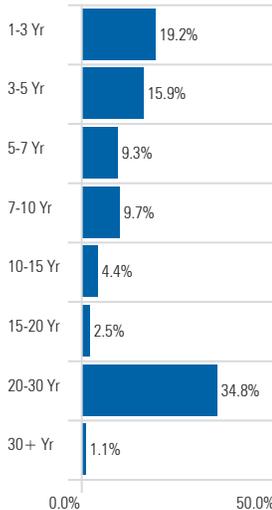
Liquidity

Avg Daily Vol (3 Mo)	5,395,755
Prem/Disc (1 Yr Avg)	0.03%
Bid/Ask Spread (\$)	\$ 0.01
Bid/Ask Spread (%)	0.000%

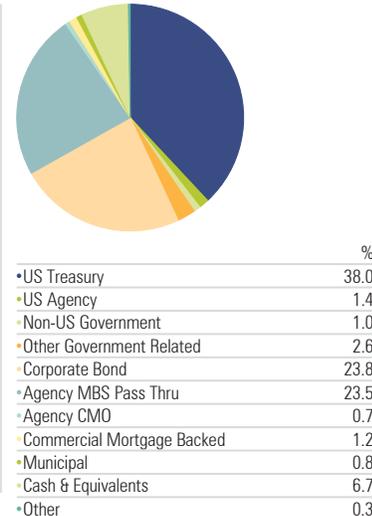
Credit Quality Distribution



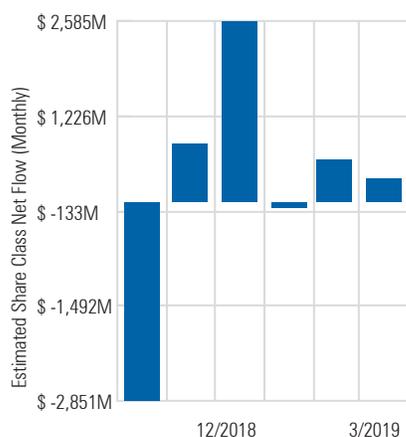
Maturity Distribution



Fixed Income Sector Exposure



6-Month Net Fund Flows



Effective Duration

Time Period: 4/1/2016 to 3/31/2019

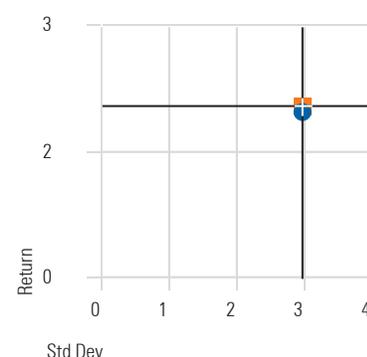


Portfolio Characteristics

Avg Eff Maturity	8.00
Avg Eff Duration	5.67
Avg Credit Quality	AA
Average Coupon	3.35
Yield to Maturity	3.20

Risk-Reward

Time Period: 4/1/2016 to 3/31/2019



● iShares Core US Aggregate Bond ETF

■ BBgBarc US Agg Bond TR USD

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Benchmark Description:

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Virtus Seix Floating Rate High Inc I SAMBX

PNC Investment Advisor Research

AMG Status Approved
Platform Add Date 7/13/2016
Status Chg Date 8/15/2018

Investment Philosophy/Process

The manager believes that a higher-quality credit bias in both bank loans and high yield will lead to superior results over the longer-term periods as the downside protection will overcompensate for a longstanding B-rated and CCC-rated overweight positions in credit up-markets. Additionally, the manager will build in an additional liquidity premium in the valuation assessments contingent upon the determination of the level of credit risk within a given issuer. The managers utilize the same approach when they view the second-lien loan universe. They may buy compelling opportunities at the lower end of the credit spectrum or lower within the capital structure, however, these ideas will be emphasized to a lesser extent than that found in the portfolios of most peers.

Setting Expectations

Although the managers approaches the below-investment grade credit space with a higher-quality bias, they will aim to exploit market displacements in lower-rated credits when they believe that valuations justify such a move. Such opportunities have led the managers to more cyclical, commodity-oriented businesses, which tend to be areas from which conservative managers will shy away. Ridgeworth/Seix's approach has allowed it to outperform in environments typified by risk aversion, such as those in 2008 and 2011. However, the managers have also outperformed in markets friendlier to credit and coupon-clipping (that is, 2010 and 2012-14). While they found their portfolio on the wrong side of the metal/mining trade in rough credit markets of 2015, their patient style allowed them to ride the rebound in commodities well into 2016.

Strategy Overview

Investment Type Open-End Fund
Morningstar Category US Fund Bank Loan
Benchmark S&P/LSTA Leveraged Loan TR
Style Category Floating Rate

Fund Facts

of Bond Holdings 410
Top 10 Holdings (%) 14
Turnover Ratio (%) 75
Inception Date 3/1/2006

Operations

Advisor Virtus Fund Advisers, LLC
Subadvisor Seix Investment Advisors LLC
Fund Size (mil) \$ 4,683
Net Expense Ratio 0.64%

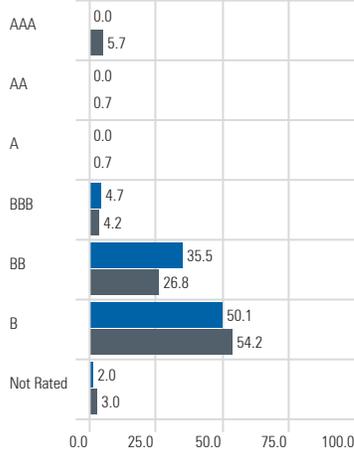
Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Virtus Seix Floating Rate High In	4.01	28	4.01	28	2.84	14	5.64	22	3.48	12	4.16	19	6.58	48
S&P/LSTA Leveraged Loan TR	4.00	30	4.00	30	2.97	8	5.67	22	3.62	6	4.33	11	7.98	15
50th Percentile	3.79		3.79		2.23		4.83		2.92		3.53		6.55	

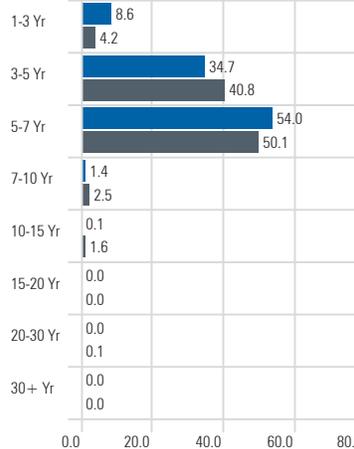
Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Virtus Seix Floating Rate High In	0.22	24	3.87	35	11.14	23	-1.17	47	0.81	36	5.15	49	9.07	45
S&P/LSTA Leveraged Loan TR	0.44	14	4.12	28	10.16	35	-0.69	40	1.60	9	5.29	42	9.66	28
50th Percentile	-0.31		3.55		8.91		-1.23		0.50		5.13		8.84	

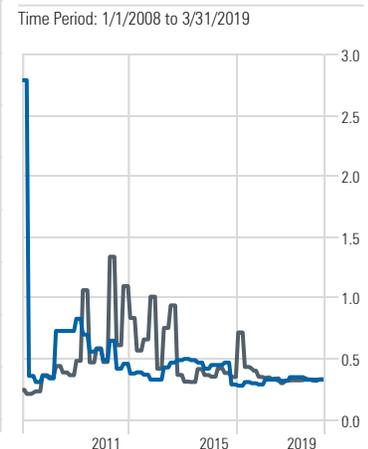
Credit Quality



Maturity Distribution



Average Effective Duration



■ Virtus Seix Floating Rate High Inc I ■ US Fund Bank Loan

Performance Analysis

The fund outperformed its benchmark by 1 basis point (bp) and the peer median in the first quarter. Over the trailing 12 months, the fund has underperformed the benchmark by 13 bps, ranking within the top quartile of the peer universe. Performance was driven by a combination of issue selection and industry positioning. Risk assets broadly rallied in the first quarter, and many industries which had lagged in the fourth quarter led in the first. This included Retailers and Oil Services names, area where Seix has been particularly selective in exposure. While underweights in these areas detracted from returns, these were somewhat offset by strong issue selection. Overweights to Cable/Wireless and Gaming/Leisure names also detracted, these names held up well in the fourth quarter, but saw commensurately smaller gains in the first quarter.

IAR's Current Assessment

Seix had a strong first quarter, as relatively mixed performance in the fourth quarter translated to a hodge-podge of hits in rebounding industries and names in the first quarter. The bank loan index has consistently been among the peer universe's stronger performers, so keeping pace with it is no mean feat. Passive products are generally poor replications of the index or universe, with higher expenses, poorer performance, and greater tracking error than passive products in other spaces. The fund's higher-quality lean often manifests in a modest yield disadvantage versus its benchmark, which poses a stylistic headwind in credit flat or up markets. The fund's prior track record exhibits an impressive run, and it has outperformed in multiple credit environments despite its higher-quality bias and a diversified stance among issuers. While the fund's assets under management are well in excess of more nimble managers, they are far from a bloated product asset base as may be certain category behemoths. The fund was taken off watch in third-quarter 2018, following a smooth transition of Seix's sale from Ridgeworth to Virtus.

Virtus Seix Floating Rate High Inc I SAMBX

Manager Biographies

George Goudelias, Managing Director, Head of Leveraged Finance, Senior Portfolio Manager

Mr. Goudelias is the head of the firm's leveraged finance team, providing oversight of high yield bond portfolio management activities as well as serving as Senior Portfolio Manager for leveraged loan portfolios. Since 2005, he has led the leveraged loan group including the firm's collateralized loan obligation activities. He joined the firm in 2001 as a senior high yield research analyst covering telecommunications and has extensive experience covering the telecommunications industry. In addition, he is a member of the Executive Committee of RidgeWorth Capital Management LLC. Prior to joining Seix, he was a senior high yield research analyst at J.P. Morgan Securities. Mr. Goudelias received both a Bachelor of Science degree in Finance and Accounting and a Master of Business Administration degree in Finance from New York University.

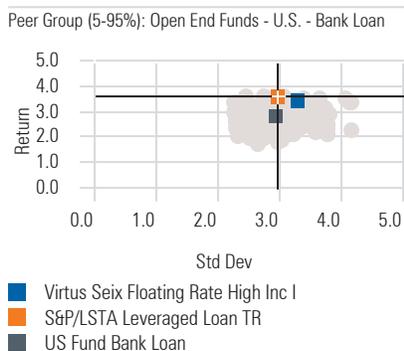
Vince Flanagan, CFA - Portfolio Manager, Senior High Yield Research Analyst - Media, Technology

Mr. Flanagan joined Seix in 2006 and is a high yield research analyst focused on the media and technology industries and became a portfolio manager in October of 2011 to assist in the management of the RidgeWorth Seix Floating Rate High Income Fund. Before joining Seix, he was the director of research for Assurant, Inc., covering the telecommunications, cable/media, utility and broadcasting industries. Vince began his career at TD Securities, as a high yield research analyst, where he focused on U.S. and Canadian wireless carriers. Mr. Flanagan received a Bachelor of Science degree in Finance from New York University and holds a Chartered Financial Analyst designation.

Portfolio Characteristics

	Port	Peers
# of Bond Holdings	410	344
Average Eff Duration	0.33	0.33
Average Eff Maturity	5.08	4.98
Average Credit Quality	B	B
Average Coupon		6.33
Average Price	93.95	98.18
Yield to Maturity		6.35

Risk/Reward - 5 Year



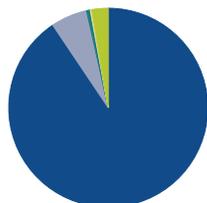
Risk/Reward vs. Benchmark

Calculation Benchmark: S&P/LSTA Leveraged Loan TR

	3YR	5YR	10YR
Standard Deviation	2.85	3.28	4.10
Sharpe Ratio	1.45	0.81	1.46
Information Ratio	-0.05	-0.21	-0.80
R2	97	96	90
Beta	1.00	1.09	0.77
Alpha	-0.01	-0.37	0.33
Tracking Error	0.50	0.68	1.75
Up Capture Ratio	99	103	88
Down Capture Ratio	94	114	105
Batting Average	53	48	44

Asset Allocation

Portfolio Date: 3/31/2019



	%
US Bond	90.6
Non-US Bond	5.9
US Equity	0.6
Other	0.3
Cash	2.7
Total	100.0

Fixed Income Sector Exposure

Portfolio Date: 3/31/2019



	%
Corporate	97.3
Securitized	0.1
Cash & Equivalents	2.7
Total	100.0

Fixed Income Region Exposure

Portfolio Date: 1/31/2015

	Port	Peers
North America	97.5	
Latin America	0.0	
United Kingdom	0.0	
Europe Developed	2.1	
Europe Emerging	0.0	
Africa/Middle East	0.2	
Australasia	0.0	
Japan	0.1	
Asia Developed	0.0	
Asia Emerging	0.0	

Fixed Income Sector Breakdown

Portfolio Date: 3/31/2019

	Port	Peers
Government	0.0	0.0
Government Related	0.0	0.1
Municipal Taxable	0.0	0.0
Municipal Tax-Exempt	0.0	0.0
Bank Loan	96.4	68.7
Convertible	0.0	0.1
Corporate Bond	0.8	19.3
Preferred Stock	0.0	0.3
Agency Mortgage-Backed	0.0	0.1
Non-Agency Residential Mortgage-Backed	0.0	0.0
Commercial Mortgage-Backed	0.0	0.0
Covered Bond	0.0	0.0
Asset-Backed	0.1	1.7
Cash & Equivalents	2.7	8.8
Swap	0.0	0.0
Forward/Future	0.0	0.9
Option/Warrant	0.0	0.0

Western Asset Core Plus Bond I WACPX

PNC Investment Advisor Research

AMG Status **Approved**

Platform Add Date 3/9/2016

Status Chg Date

Investment Philosophy/Process

Western Asset's approach is one that draws on its strengths in multisector fixed income management and bottom-up fundamental credit selection. The managers believe that making informed credit decisions with an investable universe across the quality spectrum will normally allow the fund to exploit inefficiencies in most markets. While a low turnover approach may invite periodic volatility, key investment professionals use their credit research depth to gain a comfort level with longer holding periods that allow for competitive results. Furthermore, the managers believe that a well-resourced portfolio risk oversight is necessary to navigate markets in which fundamentals may not be the predominant performance drivers.

Setting Expectations

In strong credit up markets, the fund can be expected by Investment Advisor Research (IAR) to outpace the index and most peers as the managers will leverage the main competencies of the fixed income shop. Conversely, the fund can be expected to lag most peers and the index in a prolonged credit down market. Nevertheless, given Western's heightened focus on portfolio risk during the post-financial crisis period, the managers are more mindful of the risk factor exposures across the fixed income complex. As such, the fund saw a competitive showing in 2014 and 2015, environments that did not reward credit risk. Furthermore, the fund's duration and yield curve positioning may influence results during periods where these factors are the main performance drivers in the market.

Strategy Overview

Investment Type	Open-End Fund
Morningstar Category	US Fund Intermediate-Term Bond
Benchmark	BBgBarc US Agg Bond TR USD
Style Category	Core Plus

Fund Facts

# of Bond Holdings	2,140
Top 10 Holdings (%)	14
Turnover Ratio (%)	105
Inception Date	7/8/1998

Operations

Advisor	Legg Mason Partners Fund Adv
Subadvisor	Multiple
Fund Size (mil)	\$ 25,345
Net Expense Ratio	0.45%

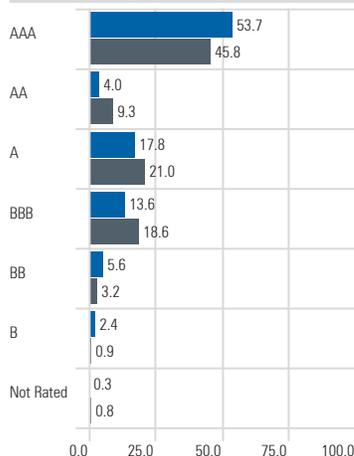
Performance Returns & Peer Group Rankings

	QTR	%	YTD	%	1 Year	%	3 Years	%	5 Years	%	7 Years	%	10 Years	%
Western Asset Core Plus Bond	4.15	6	4.15	6	3.71	66	3.87	5	4.06	2	4.01	3	7.43	2
BBgBarc US Agg Bond TR USD	2.94	68	2.94	68	4.48	20	2.03	63	2.74	35	2.48	56	3.77	77
50th Percentile	3.24		3.24		4.00		2.30		2.53		2.56		4.62	

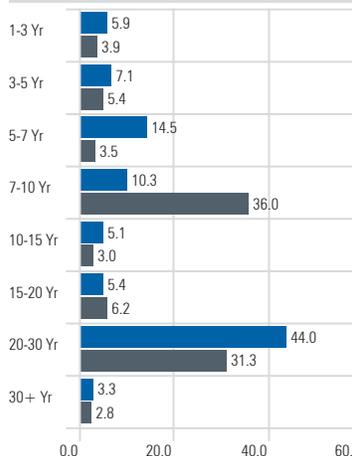
Calendar Year Performance Returns

	2018	%	2017	%	2016	%	2015	%	2014	%	2013	%	2012	%
Western Asset Core Plus Bond	-1.49	83	6.96	1	4.79	14	1.29	6	7.68	4	-1.07	35	8.44	24
BBgBarc US Agg Bond TR USD	0.01	24	3.54	58	2.65	64	0.55	21	5.97	29	-2.02	66	4.21	84
50th Percentile	-0.60		3.82		3.07		-0.01		5.53		-1.54		6.84	

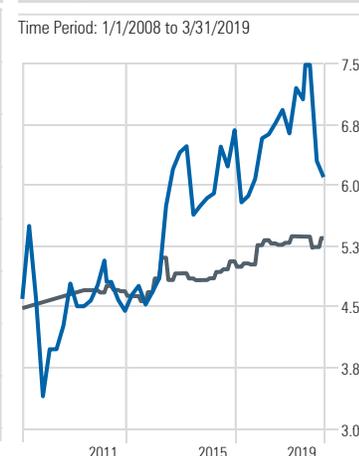
Credit Quality



Maturity Distribution



Average Effective Duration



Performance Analysis

The fund rallied 415 basis points (bps) during the quarter, besting the Aggregate Index by 121 bps, as credit spread products began to snap back early in the quarter. Yields declined across intermediate and long portions of the yield curve as investors piled into Treasuries and credit, favorably digesting the Fed's retraction from the tightening cycles of 2017 and 2018. A key driver of the fund's relative performance was its yield curve positioning and longer duration. Within the fund's credit exposures, the investment-grade credit stake was among the larger contributors as it posted the largest gain among index components. A longstanding emphasis on financial issues certainly buoyed results, yet industrials exhibited more upside in 1Q. The fund's holdings in external emerging markets also participated in the upswing as spreads compressed and the sector was unencumbered by nondollar underperformance. High yield, one of the largest gainers for the quarter, and bank loans also added value, in clear recovery mode from a fourth-quarter tumble. Within the fund's emerging markets local exposures, the weaker ascent of Brazil was a detractor, yet strong showings from Russia, Mexico, and Indonesia helped offset this drag on results. With a seemingly more accommodative Fed in 2019, the managers believe that role of duration as a credit risk hedge has been restored. While credit sectors may be added opportunistically, the managers have continued to lengthen duration as both a hedge and as a periodic play on intermittent long curve selloffs.

IAR's Current Assessment

Last year was the first calendar year postcrisis in which the fund's relative performance suffered versus peers. While the year's results were well below that of the index, Western maintained its view that the Fed would become more data dependent in 2019 and retract on tightening efforts. By the end of 2019, this view went from outlier to consensus, given the increasingly mixed economic signals. Trade war consequences, a strong dollar, and monetary tightening also compromised performance in emerging markets debt, an area in which Western Asset believes that competitive relative value lies. As value-oriented fixed income investors, the team may exhibit some modest concentration in a given theme or sector, albeit, not excessively. It should be noted, however, that the fund is diversified significantly among off-index exposures to complement its Aggregate exposure base. While the Western's sector expertise is well rounded, it may not preclude results from suffering in certain environments in which the team believes market sentiment to be inaccurate.

Western Asset Core Plus Bond I WACPX

Manager Biographies

Michael C. Buchanan

Michael Buchanan, Managing Director, is head of US credit products, a senior member of the Core Fixed Income team and a member of the Global Credit Committee. He joined in 2003 from Janus Capital Management, where he was an Executive Vice President and managed high yield portfolios. Previously, he was a Managing Director at BlackRock Financial Management, where he was a senior high yield portfolio manager and a member of the firm's investment strategy group; and a Vice President at Conseco Capital Management, where he managed high yield portfolios and was responsible for the trading of high yield debt, bank loans and emerging market debt. Mr. Buchanan holds a BA in business economics and organizational behavior/management from Brown University. He is a CFA charterholder.

S. Kenneth Leech

Leech transitioned into a CIO Emeritus role in September 2008 and joined Western Asset as Chief Investment Officer in 1990. Prior to joining Western in 1990, he was a portfolio manager with Greenwich Capital Markets from 1988 to 1990; the First Boston Corporation from 1980 to 1988; and the National Bank of Detroit from 1977 to 1980. He has over 32 years of investment experience.

Carl Eichstaedt

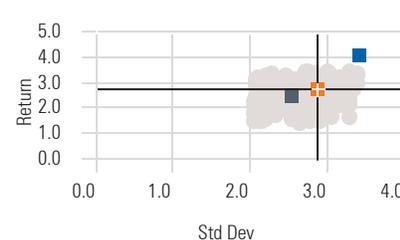
Carl Eichstaedt is a Portfolio Manager at Western Asset Management Company and is the lead manager on Core Plus. Mr. Eichstaedt joined the firm in 1994. Mr. Eichstaedt is head of the US Broad Market team, a generalist portfolio manager group in which its members are assigned to overseeing positioning across the firms different multisector products (Core Fixed, Intermediate, Core Plus, Global Strategic Income, Total Return Unconstrained, Macro Opportunities). From 1986 through 1993, Mr. Eichstaedt worked at Harris Investment Company, PIMCO and Security Pacific. He holds a BS from University of Illinois, an MBA from Northwestern and a CFA charter.

Portfolio Characteristics

	Port	Peers
# of Bond Holdings	2,140	271
Average Eff Duration	6.10	5.35
Average Eff Maturity	12.22	7.45
Average Credit Quality	BBB	A
Average Coupon	4.05	3.54
Average Price	101.31	102.35
Yield to Maturity	4.31	3.19

Risk/Reward - 5 Year

Peer Group (5-95%): Open End Funds - U.S. - Intermediate-Term Bond



■ Western Asset Core Plus Bond I
 ■ BBgBarc US Agg Bond TR USD
 ■ US Fund Intermediate-Term Bond

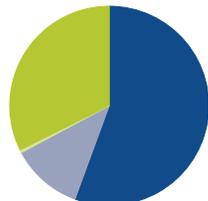
Risk/Reward vs. Benchmark

Calculation Benchmark: BBgBarc US Agg Bond TR USD

	3YR	5YR	10YR
Standard Deviation	3.67	3.40	4.14
Sharpe Ratio	0.70	0.95	1.64
Information Ratio	1.14	0.83	1.30
R2	82	79	55
Beta	1.13	1.06	1.08
Alpha	1.72	1.18	3.26
Tracking Error	1.62	1.58	2.81
Up Capture Ratio	130	120	147
Down Capture Ratio	89	91	72
Batting Average	64	60	68

Asset Allocation

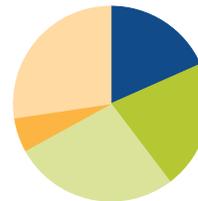
Portfolio Date: 3/31/2019



	%
US Bond	55.6
Non-US Bond	11.6
Other	0.5
Cash	32.3
Total	100.0

Fixed Income Sector Exposure

Portfolio Date: 3/31/2019



	%
Government	18.4
Corporate	21.3
Securitized	27.3
Cash & Equivalents	5.6
Derivative	27.4
Total	100.0

Fixed Income Region Exposure

Portfolio Date: 3/31/2019

	Port	Peers
North America	83.2	92.8
Latin America	5.0	2.0
United Kingdom	2.3	1.3
Europe Developed	4.7	2.6
Europe Emerging	0.9	0.1
Africa/Middle East	0.8	0.2
Australasia	0.2	0.3
Japan	2.0	0.5
Asia Developed	0.1	0.1
Asia Emerging	0.8	0.2

Fixed Income Sector Breakdown

Portfolio Date: 3/31/2019

	Port	Peers
Government	13.5	18.2
Government Related	4.9	12.2
Municipal Taxable	0.0	0.5
Municipal Tax-Exempt	0.0	0.1
Bank Loan	1.4	0.0
Convertible	0.4	0.3
Corporate Bond	19.5	25.6
Preferred Stock	0.0	0.0
Agency Mortgage-Backed	20.6	23.3
Non-Agency Residential Mortgage-Backed	2.4	1.1
Commercial Mortgage-Backed	2.0	5.0
Covered Bond	0.0	0.0
Asset-Backed	2.3	6.9
Cash & Equivalents	5.6	5.2
Swap	0.3	1.2
Forward/Future	27.1	0.4
Option/Warrant	0.0	0.0

Disclosure

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EXHIBIT VI

I Annual Period Performance

UPPER ST CLAIR POLICE PENSI UMA

As of December 31, 2018

	Jan 2012 - Dec 2012	Jan 2013 - Dec 2013	Jan 2014 - Dec 2014	Jan 2015 - Dec 2015	Jan 2016 - Dec 2016	Jan 2017 - Dec 2017	Jan 2018 - Dec 2018
Total Portfolio Net of Fees	14.77	18.26	5.67	.83	5.13	15.60	-4.86

RE: Proposed PNC fee for the Upper St. Clair Police and General Employees Pensions

1 message

Shapiro, Steven M <steven.shapiro@pnc.com>

Tue, Oct 29, 2019 at 8:56 AM

To: Mark Romito <romito@twpusc.org>

Cc: "Richey, Melissa A" <melissa.richey@pnc.com>, "Kinzler, Lorna A" <lorna.kinzler@pnc.com>, "Duffield, Grant" <grant.duffield@pnc.com>

Hi Mark,

Great news – we've been approved to offer an asset based fee of a flat 25 bps on all assets! We of course greatly appreciate the relationship we've had over the past eight years, and appreciate the opportunity to add investment management services for the general employee's pension. Please let me know if you have any questions.

Best,

Steve

Steven M. Shapiro, CFA

Senior Vice President, Senior Investment Advisor
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