



# Moraga-Orinda Fire District

## Board of Directors

REGULAR MEETING

March 20, 2019

**8:00 p.m. OPEN SESSION**

**8:30 p.m. CLOSED SESSION**

**PLEASE NOTE NEW MEETING ADDRESS:**

Sarge Littlehale Room  
22 Orinda Way  
Orinda, CA 94563

1. OPENING CEREMONIES

- 1.1. Call the Meeting to Order
- 1.2. Roll Call

2. PUBLIC COMMENT

The public is invited to speak on any matter not appearing on the agenda, and within the subject matter jurisdiction of the District. Comments should be limited to three minutes. Please state your name and address for the record.

3. CONSENT AGENDA

- 3.1. **Meeting Minutes – January 16, 2019, January 24, 2019 (special), February 8, 2019 (special), and February 20, 2019**
- 3.2. **Monthly Incident Report for February 2019**  
Staff Recommendation: Approve and File
- 3.3. **Monthly Check/Voucher Register – February 2019**  
Staff Recommendation: Approve and File
- 3.4. **Monthly Financial Report – January 2019**  
Staff Recommendation: Approve and File
- 3.5. **Contra Costa County Employees' Retirement Association Investment Performance Review – Period Ending: December 31, 2018**  
Staff Recommendation: Information only
- 3.6. **Authorize Contract with Delta Dental of California for the Period April 1, 2019 through March 31, 2020**  
Staff Recommendation: Authorize a contract with Delta Dental of California for the period April 1, 2019 through March 31, 2020.
- 3.7. **Declare Temporary Station 43 Surplus and Authorize Staff to Dispose of the Mobile Trailer**  
Staff Recommendation: Declare the temporary Station 43 mobile trailer surplus and authorize staff to dispose of the mobile trailer.

4. REGULAR AGENDA

- 4.1. **Authorize a General Fund Expenditure Increase Budget Adjustment for Board of Directors Meetings and Travel in the amount of \$2,500**  
Staff Recommendation: 1) Discuss; 2) Deliberate; 3) Authorize General Fund Expenditure Budget Adjustment Increase in the amount of \$2,500.
- 4.2. **North Orinda Fuel Break Grant**  
Staff Recommendation: No action required; Information only

5. COMMITTEE REPORTS

- 5.1. **Finance Committee (Directors Danziger and Jorgens)**
- 5.2. **Audit Ad Hoc Committee (Director Jex)**
- 5.3. **Long Range Financial Plan Ad Hoc Committee (Directors Donner and Jorgens)**
- 5.4. **Facilities Ad Hoc Committee (Directors Baitx and Donner)**
- 5.5. **Fire Chief Performance Evaluation Ad Hoc Committee (Directors Baitx and Donner)**

6. ANNOUNCEMENTS

- 6.1. **Brief information only reports related to meetings attended by a Director at District expense**  
(Government Code Section 53232.3(d))
- 6.2. **Questions and informational comments from Board members and Staff**
- 6.3. **Fire Chief Updates**
- 6.4. **Communications Received**
- 6.5. **Future Agenda Items**

7. CLOSED SESSION

- 7.1. **Conference with Labor Negotiator**  
(Government Code Section 54957.6)  
Agency Designated Representative: David Winnacker, Fire Chief  
Unrepresented Employees: Administrative Services Director, Fire Marshal, Human Resources Benefits Manager, and Fire Inspector/Plans Examiner
- 7.2. **Conference with Labor Negotiator**  
(Government Code Section 54957.6)  
Agency Designated Representative: Jonathan Holtzman  
Unrepresented Employee: Fire Chief


8. REPORT OF CLOSED SESSION ACTION

9. ADJOURNMENT

*The Moraga-Orinda Fire Protection District ("District"), in complying with the Americans with Disabilities Act ("ADA"), requests individuals who require special accommodations to access, attend and/or participate in District Board meetings due to a disability, to please contact the District Chief's office, (925) 258-4599, at least one business day prior to the scheduled District Board meeting to ensure that we may assist you.*

Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the Moraga-Orinda Fire District to a majority of members of the Board of Directors less than 72 hours prior to that meeting are available for public inspections at 1280 Moraga Way, Moraga, during normal business hours.

I hereby certify that this agenda in its entirety was posted on March 15, 2019, at the Moraga and Orinda Fire Administration offices, Stations 41, 42, 43, 44, and 45. Agenda provided to the Moraga Town Office (Hacienda) and Orinda City Hall.



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Interim District Secretary/Clerk

# Moraga-Orinda Fire Protection District

## BOARD OF DIRECTORS REGULAR BOARD MEETING MINUTES

January 16, 2019



1. **Opening Ceremonies**
2. **Call the Meeting to Order**
3. **Roll Call**
4. **Pledge of Allegiance**

The Board of Directors convened in Open Session at 7:00 P.M. on January 16, 2019 at the Sarge Littlehale Room, 22 Orinda Way, Orinda, California. Director Baitx was absent. President Danziger called the meeting to order. Present were the following Directors and Staff:

Director Donner  
Director Jex  
Director Jorgens

President Danziger  
Dave Winnacker, Fire Chief  
Jonathan Holtzman, District Counsel

Kathy Leonard, Fire Marshal  
Gloriann Sasser, Admin Services Director  
Grace Santos, District Clerk

### 5. **Public Comment**

President Danziger opened the public comment.

Bernard Riff, Moraga resident, expressed concern about an article in the Lamorinda Weekly entitled "PG&E to Conduct Wildfire Safety Program in Moraga". He asked if PG&E's work would be coordinated with MOFD staff and if a similar program would be conducted in Orinda. As a CERT volunteer in the Moraga evacuation drill, he observed that the traffic lights flashed red instead of yellow. He stated that this created confusion and would be a serious problem in the event of an actual evacuation. Chief Winnacker responded that PG&E conducted an accelerated wildfire risk reduction program in North Orinda, Moraga, and Canyon in the fall. This resulted in 8,000 trees either cut to the ground or trimmed. In June, Moraga, MOFD, and PG&E coordinated extensive mitigation work on Miner Road resulting in a four-day road closure and 300 trees were either cut or trimmed. PG&E does not recognize internal political boundaries and their work is not limited to a single sub jurisdiction. The current work is driven by annual inspection and the expansion of the CPUC requirements. He added that the traffic lights in Moraga are not capable of flashing yellow so they default to flashing red. Orinda, Moraga, and the police departments are aware of the problem and working for a solution.

Dan DeBusschere, Orinda resident, informed the Board that the CASA Compact passed the Metropolitan Transportation Commission. A Legislative Committee will be established. Certain revenue plans for the CASA Compact threaten MOFD's revenue stream. The CASA Compact would withhold 45% of the property tax incremental revenue growth from MOFD. The District stands to lose approximately \$1.3M annually. He urged the Board to support the housing program but not the intended funding source. If this passes, Orinda cannot balance its budget. He offered to provide the Board with updates as information becomes available.

President Danziger directed staff to put this item on the next Board agenda.

Kimberly Parkers, Moraga resident, stated that some of the group which has banded together to work on the CASA Compact have begun to lobby Sacramento. She stated that no legislation is going to be passed by virtue of the signing of this agreement but this will maintain the group's ability to be part of the discussion.

President Danziger closed the Public Comment.

### 6. **Not Used**

### 7. **Public Hearing**

#### 7.1 **Opportunity for public comments contesting weed abatement notification given by the Fire District**

In accordance with the California Health and Safety Code, the Board of Directors must hold a public hearing to confirm the costs of abatement incurred by the Fire District in abating separate parcels of land. The purpose of the hearing is to review any objections from property owners legally responsible to be assessed. Confirmation of the costs includes the passing, approval, and adoption of Resolution 19-01

which includes the necessary documents to be submitted to the Contra Costa County Auditor-Controller Tax Division for enrollment on the property tax roll.

On April 15, 2018, notices to abate vegetation were sent to all properties within the boundaries of the Fire District with a compliance date of June 15, 2018. Property owners who were non-compliant and received notices to abate vegetation hazards were given a minimum of 15 days (as required by Ordinance) to remove the vegetation. If such removal was not completed by the requested removal date, the Fire District, after inspection and proper second and final notices, conducted the required abatement of the property. A contracted company conducted the removal in accordance with the instructions from the Office of the Fire Marshal and the vegetation clearance standards. After the work order was executed, the property owners were billed for the work and had an opportunity to pay prior to the District processing a lien on the property.

President Danziger opened the public hearing to hear public comment. There was no public comment. President Danziger closed the Public Hearing. There were no questions from the Board for Fire Marshal Kathy Leonard. President Danziger noted that there is an amended list of parcels as several property owners paid the fees after the agenda was posted. The Weed Abatement Parcel List needed to be updated before submitting to the County. President Danziger asked how much money the District recovers from the property tax records. Chief Winnacker stated that the County places the lien on the property and the County Treasury makes the payments to the District. The County carries the debt until the property changes hands.

Motion by Director Jorgens and seconded by Director Donner to adopt Resolution 19-01, Confirming and Adopting the Reported Costs Incurred by the Moraga-Orinda Fire District in Abating Public Nuisances on Certain Property within the District Pursuant to Health and Safety Code section 14912. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens, and Danziger; Absent: Baitx; Noes: None).

## **7.2 Public Hearing to consider the proposed revision to the Schedule of Fees for District Services.**

On August 7, 2013, Fire Prevention staff reported on the results of a third party independent fee study analysis and in-house comparable agency survey in order to evaluate MOFD's current fees. These fees have not been updated since 2005. The Board instructed staff to continue development of a new fee structure, with substantiating data that will restructure fees for services and reflect the true cost of providing those services for revenue cycle improvement to the District. In 2014, the updated fee schedule was adopted along with the adoption of the 2013 California Fire Code and Ordinance 13-01.

In October of 2016, the Board adopted Ordinance 16-02 and the 2016 California Fire Code. The District may, if authorized by the Board of Directors, increase fees and charges based on annual adjustment of the Consumer Price Index (CPI) Urban Wage Earners, San Francisco-Oakland-San Jose, California region, measured as of October of each year. In 2015, the updated fee schedule was approved by the Board to reflect the annual adjustment of the CPI.

President Danziger opened the public hearing to hear public comment. There was no public comment and President Danziger closed the public hearing.

Director Jorgens stated that last year the Resolution exempted nonprofits based in Orinda. Chief Winnacker stated that nonprofits are still exempt but the challenge has been making sure that the enforcement is correct. For nonprofits which are headquartered elsewhere are exempted for one event per year. The exemption does not apply to building permits. Nonprofits in the District are not charged event fees. Fire Marshall Leonard stated that most fees are generated as a result of building permits and inspection fees to make sure that building and fire codes are carefully analyzed and inspected. Director Jorgens asked if schools are charged these fees. Fire Marshal Leonard responded that schools are not charged fees. Chief Winnacker stated that there is a separate policy which addresses these exemptions.

Motion by Director Jex and seconded by Director Donner to adopt Resolution 19-02, A Resolution of the Moraga-Orinda Fire District Revising a Schedule of Fees for District Services. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens and Danziger; Absent: Baitx; Noes: None).



## 8. Consent Agenda

- 8.1 **Monthly Incident Report for November and December 2018**
- 8.2 **Monthly Check/Voucher Register**
- 8.3 **Monthly Financial Reports**
- 8.4 **Contra Costa County Employees' Retirement Association Investment Performance Review Report for the Quarter Ended September 30, 2018**

Chief Winnacker stated that Minutes were not available due to staffing issues but will be included in next month's packet.

Director Jorgens questioned the Median Response Time for the two structure Fires. Chief Winnacker stated that these are automated reports and he will research this. Director Jorgens also questioned the \$14,000 annual Fire Flow Tax Collection Fee. Admin Services Director Sasser stated that it is what the District pays the County to put the Fire Flow Tax on property tax bills and collect the payments.

Director Jex questioned the Strike Team expenditures and reimbursement process. Chief Winnacker stated that the process is antiquated. MOFD's billing statements are reconciled against the Form F42 field reports. The State does pay the bills but the turnaround time is inconsistent. MOFD charges a 23% Administrative cost. The State makes no effort to process the reimbursement on either a calendar or fiscal year. Director Jex asked about the tax revenues for the current period except for \$1.7M. Ms. Sasser responded that the District expects to meet budget for this fiscal year. Director Jex also questioned the ambulance fees of \$857,131 versus the budget of \$1,133,000 and if this indicates that revenue will exceed the budget projections. Ms. Sasser stated that ambulance fees were changed to be comparable to what other agencies in the county charge. Staff is tracking this revenue.

President Danziger requested a revised Response Time Summary for the structure fires. President Danziger opened the public comment. There was none. Motion by Director Jorgens and seconded by Director Donner to accept the Consent Calendar and file item 8.1 Monthly Incident Report for November and December 2018, 8.2 Monthly Check/Voucher Register, item 8.3 Monthly Financial Reports; and item 8.4 Contra Costa County Employees' Retirement Association Investment Performance Review Report for the Quarter Ended September 30, 2018. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens, and Danziger; Absent: Baitx; Noes: None).

## 9. Regular Agenda

### 9.1 **Resolution No. 19-03 Authorizing Investment of Monies in Local Agency Investment Fund**

Admin. Services Director Sasser provided the report. The District uses the State of California Local Agency Investment Fund (LAIF) for the investment of District funds. One of the requirements of participation in LAIF is for the Board to confirm the authority of District officers to order the deposit or withdrawal of funds in LAIF. Due to the new Board treasurer and Board president, it is necessary to update the officers authorized for the District's LAIF account.

There were no Board comments. President Danziger opened the public comment. There was none. Motion by Director Donner and seconded by Director Jorgens to adopt Resolution 19-03 Authorizing Investment of Monies in Local Agency Investment Fund. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens, and Danziger; Absent: Baitx; Noes: None)

### 9.2 **Resolution No. 19-04 A Resolution of the Moraga-Orinda Fire Protection District Approving an Investment Policy for District Funds**

Admin. Services Director Sasser provided the report. The District's Investment Policy requires the Board to annually review the Policy. The Policy has been reviewed by staff. No changes are recommended.

President Danziger opened the public comment. There was none. There were no Board comments. Motion by Director Jorgens and seconded by Director Donner to adopt Resolution 19-04 Approving an Investment Policy for District Funds. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens, and Danziger; Absent: Baitx; Noes: None)

### **9.3 Teeter Plan and County Treasury**

President Danziger opened the public comment. There was none. Admin. Services Director Sasser provided the report. Last year, the Board discussed the Teeter Plan and the District's participation in the County Treasury. The Board directed staff to continue to monitor the District's cash balances and bring the item back for consideration in a year. During the last year, the District did not need to borrow money from the County. The District's reserves and cash balances were high enough to carry the District through the "dry" period cash flow (period between property tax payments). The advantages to using the County Treasury is cash flow security and investment flexibility. If the Board decided in the future to return to the County Treasury, the County would allow it. Staff recommends that the District remain in the County Treasury and reevaluate the issue in January 2020.

Director Jorgens stated that the District has the ability to use the County as a line of credit and borrow if necessary. He noted that this option would cost the District the interest on its cash balances which could amount to \$27,000. Ms. Sasser stated that the District's cash balances are invested in LAIF and the District would not borrow until these funds are expended. Ms. Sasser stated that the reserve balances are required to stay in the County Treasury. The District's only investment opportunity is LAIF. Director Jorgens asked how much interest the County charges. Ms. Sasser responded that the District does not pay interest on funds which it borrows from the County Treasury. Director Jex said that the District, under the Teeter Plan, would need to expend all of its reserves before it could borrow from the County. Ms. Sasser noted that the General Fund is currently balanced and she does not expect that the District will need to borrow funds in the fall. However, she noted that the District will need approximately \$1M in Capital Projects Fund to complete Station 43. Director Donner asked for the process to reenter the Plan if the Board opts to exit the Plan. Ms. Sasser stated the County would work with the District to reenter the Plan. Director Jex asked if other Districts are using the Teeter Plan.

President Danziger opened the public comment. A resident asked why the District would opt for the Teeter Plan rather than have the flexibility to invest privately at a higher rate. Ms. Sasser noted that this is the first year that the District has not had to borrow cash. She recommended caution and that the District monitor the situation for another year, complete Station 43, evaluate future plans and then decide if a change is the best action. Director Jorgens asked what the current reserve balances are. Ms. Sasser noted that the Capital Projects Fund Reserves as of June 30, 2018 were \$8.3M. Station 43 will use \$3.3M leaving a balance of \$5M. Director Jex asked if the decision could be made in May after the Mid-Year budget adjustments are known. Ms. Sasser stated that there is no deadline. Director Jex recommended that the decision be deferred to later in the year. President Danziger suggested that questions from the Board on this item be prepared for staff. No Board action was taken on this item.

### **9.4 Approval of Three Month Extension of District's Payment of Enhanced Medical Insurance Contribution Rates**

President Danziger opened the public comment. There was none. The Board deferred action on this item because it is related to a Closed Session item. It may be brought back after the Closed Session.

### **9.5 Approval of GASB 75 Valuation Report for June 30, 2018: Key Results**

President Danziger opened the public comment. There was none. Admin. Services Director Sasser provided the report. At the November 7, 2018 Board meeting, the District's GASB 75 OPEB Valuation Report as of June 30, 2018 was presented and approved. During discussions, public input was provided that requested the report be summarized in simple terms and posted on the District's website. The Board directed staff to have the District's actuary produce a summary report of the District's GASB 75 Valuation Report. A one page summary of key results was prepared. Ms. Sasser noted that the report will be posted to the District's web site.

President Danziger asked for Board discussion. He commented that the report was easy to read. Motion by Director Jorgens to approve the GASB 75 Valuation Report for June 30, 2018: Key Results was seconded by Director Donner. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens, and Danziger; Absent: Baitx; Noes: None)

### **9.6 Moraga Way Evacuation Exercise Review and North Orinda Evacuation Exercise**

President Danziger opened the public comment. There was none. Chief Winnacker provided the report. Due to topography and limited surface street capacity, emergency evacuations of large portions of the District will be a challenge. In order to execute a time sensitive evacuation, multiple agencies will be

involved and detailed coordination will need to occur. To prepare for an evacuation, in partnership with Moraga, Orinda, and Lafayette Police Departments, Moraga and Orinda Public Works, and other surrounding agencies including Cal Fire and CHP conducted a limited scale evacuation of the Moraga Country Club on December 15, 2018. The Moraga Country Club (MCC) was selected because of its relatively small size (500 occupants), one way in and one way out, and a professional HOA staff. Approximately 360 residents signed up to participate and 120 vehicles exited from the MCC to Glorietta utilizing contra-flow traffic techniques on Moraga Way.

The exercise was successful and validated several planning assumptions and identified additional areas that require improvement. Key metrics include: 74 members of the CERT team participated as traffic monitors (41), evacuees (5), data collectors (6), division supervisors (6), and logistics and planning section staff (9). This is the largest CERT call out which demonstrates the community's engagement with CERT and concern about wild fires. The section of Moraga Way which was used for contra-flow traffic involved 71 homes with driveways to Moraga Way. These homes were notified via door hangers in advance of the exercise. Twenty-three intersections were controlled during the evacuation.

On January 26, 2019, a similar exercise to evacuate large portions of North Orinda neighborhoods of Sleepy Hollow, Dalewood (Orinda Downs) and Upper Miner. Chief Winnacker outlined the exercise. The exercise involves potentially 1,400 homes. Miner Road will be closed to eastbound traffic and all lanes converted to westbound only. Evacuees will travel from their homes following normal traffic patterns and laws to the intersection of Miner Road and Lombardy. From this point, law enforcement and CERT volunteers will institute contra-flow traffic patterns along Miner Road to Camino Pablo. Evacuees will then travel southbound on Camino Pablo to Hwy 24. Appropriate traffic control measures will be in place through the placement of police officers and CERT volunteers at intersections along the route.

This exercise will allow MOFD to validate North Orinda evacuation traffic assumptions, identify critical intersections which need police traffic control, and contra-flow traffic patterns for Miner Road. MOFD focuses outward to put the fire out. PD focuses inward to moving residents in and out of the District. The key is to get the residents out of the District through the freeway on ramps. Traffic will flow east and west. Residents will not get a choice which way they are going on Highway 24. The key is to rapidly flush the arterials and get people onto the freeway which has excess capacity to get them out of the District. Residents need to get out of the District so that upstream folks can get out and the roadways are available for firefighting equipment to get to the District. Chief Winnacker noted that residents who are interested in participating in the exercise should sign up. They must be registered in the Community Warning System (CWS) in order to be notified. MOFD will be using the CWS data base.

Chief Winnacker reviewed the events and timeline for the North Orinda exercise. He discussed the technology which will be used to update and coordinate evacuation plans. Residents should use as few vehicles as possible. The primary evacuation option is early by vehicle. Sheltering in place is an option if residents have done defensible space preparation around their home. The last option is a temporary refuge area which can be defended by the MOFD until the fire front is passed or the road congestion has eased. Director Donner asked how many people have signed up for the CWS. Chief Winnacker stated that the information is not available from County CWS. Director Donner asked how the District can encourage people to sign up for CWS. Chief Winnacker replied that they use every opportunity to encourage people to sign up. Director Jorgens complimented Chief Winnacker on his report.

## 10. Committee Reports

### 10.1 Finance Committee ((Directors Danziger and Jorgens)

The Committee did not meet and there was nothing to report.

### 10.2 Audit Ad Hoc Committee (Director Jex)

The Committee did not meet and there was nothing to report.

### 10.3 Long Range Financial Plan Ad Hoc Committee (Directors Donner and Jorgens)

The Committee did not meet and there was nothing to report.

### 10.4 Facilities Ad Hoc Committee (Directors Baitx and Donner)

The Committee did not meet and there was nothing to report.

### 10.5 Fire Chief Performance Evaluation Ad Hoc Committee (Directors Baitx and Donner)

The Committee did not meet and there was nothing to report.

## 11. Announcements

### 11.1 Brief information only reports related to meetings attended by a Director at District expense (Government Code Section 53232.3(d))

There was nothing to report.

### 11.2 Questions and informational comments from Board members and Staff

Director Donner attended a LAFCO meeting to introduce himself but there was nothing to report from the meeting. President Danziger recognized Director Donner for his fund raising efforts (\$50,000) for the Camp Fire survivors. Engineer Steve Rogness also assisted in this effort.

### 11.3 Fire Chief Updates

Chief Winnacker stated that some time was lost due to the rain on the exterior work for Station 43. He anticipates that the concrete can be poured next week. There is an opportunity to conduct a walk through on January 24, 2019. Dry wall is largely complete. Taping is done. The roof is complete. Upper levels of siding are being done now. Doors are approximately three weeks out. The firefighter who was injured in the Moraga Way fire is fully recovered and back to work.

### 11.4 Communications Received

There was nothing to report.

### 11.5 Future Agenda Items

Director Jorgens would like an update on the MOFD's efforts on fire prevention e.g. fuel removal.

Director Jex asked if the weed abatement deadline could be earlier. Chief Winnacker responded that the deadline is an element of the California Fire Code. The Code goes through an adoption process and involves Orinda, Moraga, and the County Board of Supervisors. In the coming Code cycle, MOFD is making several recommendations which will significantly increase the fire resistant nature of construction in the District and align the Exterior Hazard Abatement Ordinance deadline with regional partners. Under the MOFD's existing authorities, the Fire Marshal can declare something a public hazard. MOFD will be aggressively providing outreach, education, and informing residents of the risk before the deadline. Due to the Board's authorization of a Fuels Mitigation Manager and four aides, there will be more staff to do the work. These efforts should be an excellent transition to get the District through this year.

Director Jorgens requested more information on the benefits of a Fire Wise designation. Chief Winnacker reported that Carroll Ranch started the Fire Wise program. They received a Fire Safety Council grant for fuels mitigation.

President Danziger asked about the impact of the new contract with Local 1230 on the budget and the Long Range Financial Forecast. Chief Winnacker stated that it is agendaized for next month.

Director Donner asked about the process for the Type VI Engine. Chief Winnacker stated that the Wildland Committee and the Apparatus Committee are reviewing specs and developing recommendations for the chassis, equipment, and layout.

President Danziger closed this part of the regular meeting and convened to Closed Session. Before closing the meeting, he requested a Moment of Silence in memory of Davis Police Officer Natalie Corona. Counsel Holtzman reminded the Board that it needs to address item 9.4 after the Closed Session.

## 12. Closed Session

### 12.1 Conference with Labor Negotiator

(Government Code Section 54957.6) Agency Designated Representative: Jeff Sloan  
Employee Organization: Local 2700 United Clerical, Technical & Specialized Employees

### 12.2 Conference with Labor Negotiator

(Government Code Section 54957.6) Agency Designated Representative: Jeff Sloan  
Employee Organization: Moraga-Orinda Fire Chief Officers Association (MOFCOA)

### 12.3 Public Employee Performance Evaluation

(Government Code Section 54957) Public Employee Appointment Title: Fire Chief

### 12.4 Conference with Legal Counsel – Existing Litigation

(Paragraph (1) of subdivision (d) of Section 54956.9) Pacific-Mountain Contractors of California, Inc. v. Moraga-Orinda Fire District, Contra Costa County Superior Court C18-02124

At 8:28 P.M., the Board adjourned into Closed Session.

## 13. Reconvene the Meeting

President Danziger reconvened the regular business meeting of the Moraga-Orinda Fire District Board of Directors at 11:00 P.M. Present were the following Directors and Staff:

Director Donner	President Danziger
Director Jex	Dave Winnacker, Fire Chief
Director Jorgens	Jonathan Holtzman, District Counsel

**14. Report of Closed Session Action**

There was no reportable action taken in Closed Session.

**9.4 Approval of Three Month Extension of District's Payment of Enhanced Medical Insurance Contribution Rates**

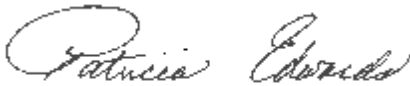
Motion by **Director Jorgens and seconded by Director Donner** to Approve the Three Month Extension of District's Payment of Enhanced Medical Insurance Contribution Rates. Said motion carried a 4-0 roll-call vote (Ayes: Donner, Jex, Jorgens, and Danziger; Absent: Baitx; Noes: None)

**15. Public Comment**

There was no comment from the public.

**16. Adjournment**

At 11:00 P.M., President Danziger called for adjournment of the regular meeting.



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Interim District Secretary/Clerk

For an audio recording of this and other Board meetings, please visit the MOFD District Board Meeting webpage <http://www.mofd.org/board/meetings>

# Moraga-Orinda Fire Protection District

## BOARD OF DIRECTORS SPECIAL BOARD MEETING MINUTES

January 24, 2019



### 1. Opening Ceremonies

The Board of Directors convened in Open Session at 3:00 P.M. on January 24, 2019 at the Hacienda Mosaic Room, 2100 Donald Drive, Moraga, California. President Danziger called the meeting to order. Director Baitx was absent. Present were the following Directors and Staff:

Director Donner  
Director Jex

Director Jorgens  
President Danziger

Dave Winnacker, Fire Chief  
Jonathan Holtzman, District Counsel

### 2. Public Comment

There was no public comment.

### 3. Closed Session

#### 3.1 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Local 2700 United Clerical, Technical & Specialized Employees

#### 3.2 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Moraga-Orinda Fire Chief Officers Association (MOFCOA)

#### 3.3 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: David Winnacker, Fire Chief

Unrepresented Employees: Administrative Services Director, Fire Marshal, Human Resources Benefits Manager and Fire Inspector/Plans Examiner

#### 3.4 Public Employee Performance Evaluation

(Government Code Section 54957)

Public Employee Appointment Title: Fire Chief

#### 3.5 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: Jonathan Holtzman

Unrepresented Employee: Fire Chief

At 3:00 P.M., the Board adjourned into Closed Session.

### 4. Reconvene the Meeting

President Danziger reconvened the regular business meeting of the Moraga-Orinda Fire District Board of Directors at 5:30 P.M. Present were the following Directors and Staff:

Director Donner  
Director Jex

Director Jorgens  
President Danziger

Dave Winnacker, Fire Chief  
Jonathan Holtzman, District Counsel

### 5. Report of Closed Session Action

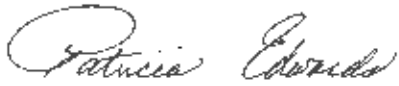
President Danziger stated that no reportable action was taken was taken by the Board on items 3.1 Conference with Labor Negotiator (Local 2700), 3.2 Conference with Labor Negotiator (MOFCOA), 3.3 Conference with Labor Negotiator (Unrepresented Employees: Administrative Services Director, Fire Marshal, Human Resources Benefits Manager, and Fire Inspector/Plans Examiner), 3.4. Public Employee Performance Evaluation (Fire Chief), and 3.5 Conference with Labor Negotiator (Fire Chief).

**6. Public Comment**

There was no comment from the public.

**7. Adjournment**

At 5:30 P.M., President Danziger called for adjournment of the special meeting.



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Interim District Secretary/Clerk

DRAFT

# Moraga-Orinda Fire Protection District

## BOARD OF DIRECTORS SPECIAL BOARD MEETING MINUTES

February 8, 2019



### 1. Opening Ceremonies

The Board of Directors convened in Closed Session at 8:10 A.M. on February 8, 2019 at the Sarge Littlehale Room, Orinda, California. President Danziger called the meeting to order. Present were the following Directors and Staff:

President Baitx	Director Jorgens	Gloriann Sasser, Admin Services Director
Director Donner	President Danziger	Jeff Sloan, Labor Negotiator
Director Jex	Dave Winnacker, Fire Chief	

### 2. Public Comment

There was no comment from the public.

### 3. Closed Session

#### 3.1 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Local 2700 United Clerical, Technical & Specialized Employees

#### 3.2 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Moraga-Orinda Fire Chief Officers Association (MOFCOA)

#### 3.3 Conference with Labor Negotiator

(Government Code Section 54957.6)

Agency Designated Representative: David Winnacker, Fire Chief

Unrepresented Employees: Administrative Services Director, Fire Marshal, Human Resources Benefits Manager and Fire Inspector/Plans Examiner

At 8:10 A.M., the Board adjourned into Closed Session.

### 4. Reconvene the Meeting

President Danziger reconvened the special business meeting of the Moraga-Orinda Fire District Board of Directors at 9:30 A.M. Present were the following Directors and Staff:

Director Baitx	Director Jorgens	Gloriann Sasser, Admin Services Director
Director Donner	President Danziger	Jeff Sloan, Labor Negotiator
Director Jex	Dave Winnacker, Fire Chief	

### 5. Report of Closed Session Action

President Danziger reported that no reportable action was taken by the Board on items 3.1 Conference with Labor Negotiator (Local 2700), 3.2 Conference with Labor Negotiator (MOFCOA), and 3.3 Conference with Labor Negotiator (Unrepresented Employees: Administrative Services Director, Fire Marshal, Human Resources Benefits Manager, and Fire Inspector/Plans Examiner).

### 6. Public Comment

There was no comment from the public.

### 7. Regular Agenda

#### 7.1 Board Orientation

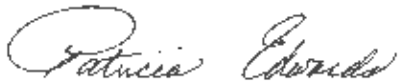
Teresa Stricker, Partner with Renee Public Law Group, provided a Government Ethics and Open Government Overview.



At 12:15 P.M., Director Baitx left. The rest of the Board along with Chief Winnacker and Ms. Stricker went on fire station facility tours at the following locations: Station 45 (33 Orinda Way, Orinda), Station 44 (295 Orchard Road, Orinda), Station 42 (555 Moraga Road, Moraga), and Station 41 (1284 Moraga Way, Moraga)

**8. Adjournment**

At 1:25 P.M., President Danziger called for adjournment of the special meeting.



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Interim District Secretary/Clerk

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# Moraga-Orinda Fire Protection District

## BOARD OF DIRECTORS REGULAR BOARD MEETING MINUTES

February 20, 2019



1.

The Board of Directors convened in Open Session at 6:04 P.M. on February 20, 2019 at the Hacienda Mosaic Room, 2100 Donald Drive, Moraga, California. President Danziger called the meeting to order. Present were the following Directors and Staff:

Director Baitx  
Director Donner  
Director Jex

Director Jorgens  
President Danziger  
Dave Winnacker, Fire Chief

Jonathan Holtzman, District Counsel  
Patricia Edwards, Interim District Clerk

2. **Public Comment**

Dan DeBusschere, Orinda resident, provided an update on the CASA Compact. The Metropolitan Transportation Commission voted to support the CASA Compact and the issue is now before the Legislature. The CASA Compact will be funded by appropriating a portion of the property tax increment. He encouraged the Board to take action to preserve MOFD's revenue stream because the loss of this revenue is not provided for in the MOFD budget.

President Danziger closed the Public Comment and the Board convened to Closed Session at 6:15 P.M.

3. **Closed Session**

3.1 **Conference with Labor Negotiator**

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Local 2700 United Clerical, Technical & Specialized Employees

3.2 **Conference with Labor Negotiator**

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Moraga-Orinda Fire Chief Officers Association (MOFCOA)

3.3 **Conference with Labor Negotiator**

(Government Code Section 54957.6)

Agency Designated Representative: Jeff Sloan

Employee Organization: Local 1230, International Association of Firefighters IAFF

3.4 **Conference with Labor Negotiator**

(Government Code Section 54957.6)

Agency Designated Representative: David Winnacker, Fire Chief

Unrepresented Employees: Administrative Services Director, Fire Marshal, Human Resources Benefits Manager and Fire Inspector/Plans Examiner

4. **Reconvene the Meeting**

President Danziger reconvened the regular business meeting of the Moraga-Orinda Fire District Board of Directors at 7:03 P.M. Present were the following Directors and Staff:

Director Baitx  
Director Donner  
Director Jex  
Jeff Sloan, Labor Negotiator (teleconference)

Director Jorgens  
President Danziger  
Dave Winnacker, Fire Chief

Gloriann Sasser, Admin Services Director  
Jonathan Holtzman, District Counsel  
Patricia Edwards, Interim District Clerk

5. **Report of Closed Session Action**

There was no reportable action taken in Closed Session.

6. **Public Comment**

There was no comment from the public.

## 7. Proclamations

### 7.1 PROCLAMATION HONORING LIFE-SAVING EFFORTS OF COURTNEY NEWTON ON JANUARY 27, 2019

President Danziger presented the proclamation to Courtney Newton recognizing her life-saving CPR efforts at the Moraga Starbucks. Ms. Newton thanked the MOFD for the recognition. Chief Winnacker complimented Ms. Newton on the calmness with which she handled the incident.

### 7.2 PROCLAMATION HONORING VOLUNTEERS FROM THE LAMORINDA COMMUNITY EMERGENCY RESPONSE TEAM, MORAGA-ORINDA FIRE DISTRICT COMMUNICATIONS-SUPPORT UNIT AND THE LAMORINDA RADIO INTEREST GROUP

Chief Winnacker presented the proclamations honoring volunteers from the LaMOrinda Community Emergency Response Team, Moraga-Orinda Fire District Communications Support Unit and the LaMOrinda Radio Interest Group. Residents are invited to join these groups. Chief Winnacker recognized the importance of the contributions of these groups to the area's safety.

### SPECIAL RECOGNITION

Chief Winnacker recognized Gordon Nathan and the Moraga Rescue One Foundation as he announced that the Gordon and Betty Moore Foundation awarded a \$100,000 grant to Rescue One to support the development of the wildfire early detection and warning system. This grant will allow the District, at no cost to residents and taxpayers, to develop and field this warning system. Mr. Nathan said that Rescue One has been in existence for 42 years. Its objective is to help the District be in the forefront of technology and life saving techniques. Development of the first of its kind early warning system with the latest technology will enhance the early fire detection, response, and evacuation procedures and make a safer community. Chief Winnacker stated that Rescue One has helped MOFD purchase and field innovative solutions to problems. MOFD President Danziger thanked Rescue One for all they do for the District.

## 8. Consent Agenda

President Danziger requested that Board members signify their intent to approve the Consent Agenda by voice vote and stating "aye". All Board members responded affirmatively. All items on the Consent Agenda were approved and filed: 8.1 Meeting Minutes – December 5, 2018, December 13, 2018, and December 19, 2018; 8.2 Monthly Incident Report for January 2019; 8.3 – Monthly Check/Voucher Register for December 2018 and January 2019; 8.4 – Monthly Financial Reports for December 2018; 8.5 – Quarterly Treasurer's Report; and 8.6 Quarterly Ambulance Report. There was no comment from the public.

## 9. Regular Agenda

### 9.1 Approval of a Memorandum of Understanding between the District and the Moraga-Orinda Fire Chief Officers Association for the period July 1, 2018 – June 30, 2021; Approval of Salary Schedule Effective July 1, 2018

Chief Winnacker provided the staff report. Jeff Sloan, District Counsel, participated by teleconference. Mr. Sloan noted that the negotiations included six intensive preplanning meetings and five negotiating sessions. The Board was updated via Closed Sessions. The Memorandum of Understanding (MOU) includes: salary increases (8% over three years); elimination of take home District issued vehicles to battalion chiefs (estimated savings \$12,000 annually); continued cap on retiree health care premium benefits at 2010 rates; no change to retirement contributions; and the inclusion of a management rights provision. Mr. Sloan (by telephone) noted that the MOU does not include higher rates for dental benefits which was an oversight. He recommended that the MOU be amended to include the adjustment to dental benefits. There was no Board discussion.

President Danziger opened Public Comment. There was none.

Director Jorgens noted that MOFD battalion chiefs' duties are more extensive than comparables in the survey. Director Jex's motion to approve the MOU and include the dental adjustment was seconded by Director Jorgens. Mr. Holtzman clarified the motion and stated that the monthly amounts for the dental are: employee only \$51.20; employee plus one \$90.12; and employee plus two or more are \$136.35.

Director Jorgens added that the cost would be approximately \$9,000 per year. Said motion carried a 5-0 voice vote (Ayes: Baitx, Donner, Jex, Jorgens, and Danziger; Noes: None).

**9.2 Approval of a Memorandum of Understanding between the District and the United Clerical, Technical & Specialized Employees AFSCME, Local 2700 for the period July 1, 2018 – June 30, 2021; Approval of Salary Schedule Effective July 1, 2018**

Jeff Sloan, District Counsel, (by telephone) stated that the negotiations included intensive preplanning meetings and negotiating sessions. The Board was updated via Closed Sessions. He noted that the parties involved saw comparables in a different light from the battalion chiefs. With the 3% salary increase, these positions were above the median and mean and equity adjustments were not necessary or appropriate. Significant items in the MOU include: 8% salary increase over 3 years; elimination of alternative work schedules; elimination of vacation buy back effective July 1, 2020; retiree health care premium benefits are capped at 2010 rates through the contract; and elimination of the stipend-in-lieu of medical benefits program.

President Danziger opened Public Comment. There was none.

Motion by Director Jex and seconded by Director Donner to approve the MOU between the District and the United Clerical, Technical & Specialized Employees AFSCME, Local 2700 for the period July 1, 2018 – June 30, 2021; Approval of Salary Schedule Effective July 1, 2018. Said motion carried a 5-0 voice vote (Ayes: Baitx, Donner, Jex, Jorgens, and Danziger; Noes: None).

**9.3 Approval of Amended Memorandum of Understanding between the District and United Professional Fire Fighters of Contra Costa County I.A.F.F. Local 1230, AFL-CIO for the period July 1, 2018 – June 30, 2021 to Amend Language for the Janus Decision and Consideration of Dental Plan Contribution Language**

Chief Winnacker provided the report. In June 2018, the Supreme Court issued a ruling (known as the “Janus Decision”) that ended compelled union dues for public employees. In October 2018, the Board approved a Memorandum of Understanding (MOU) between the District and United Professional Fire Fighters of Contra Costa County I.A.F.F. Local 1230, AFL-CIO (Local 1230.) The MOU contained previous language regarding compelled union dues. Over the last few months, the District has worked together with Local 1230 to write new language that complies with the Janus Decision. It is necessary at this time to approve an amended MOU that reflects the new language. There is no cost to the District by adopting the amended Janus language. The new MOU language stayed the same as the previous MOU regarding the dental program.

President Danziger opened Public Comment. There was none. Director Danziger noted that both items were discussed in the negotiations and were accepted. There was no Board discussion.

Motion by Director Baitx and seconded by Director Donner to approve the Amended Memorandum of Understanding between the District and United Professional Fire Fighters of Contra Costa County I.A.F.F. Local 1230, AFL-CIO for the period July 1, 2018 – June 30, 2021 to Amend Language for the Janus Decision and Consideration of Dental Plan Contribution Language. Said motion carried a 5-0 voice vote (Ayes: Baitx, Donner, Jex, Jorgens, and Danziger; Noes: None).

**9.4 Mid-Year Budget Review Fiscal Year 2019 and Approval of Budget Adjustment**

Administrative Services Director Sasser provided the report and reviewed the budget process. The original budget adopted in June 2018 was a balanced budget that projected a General Fund surplus of \$171K, a Debt Service Fund surplus of \$241K, and a Capital Projects Fund deficit of \$236K. In October 2018, a new MOU with I.A.F.F. Local 1230 was approved which included a 5% salary increase. The original budget did not include appropriations for the salary increase. As a result, in November 2018, the board approved a General Fund budget adjustment to increase expenditure appropriations by \$754,206. This resulted in a General Fund budgeted deficit of \$583K for the fiscal year 2019.

Based on updated revenue and expenditure projections, the Mid-Year Budget Review now projects increased revenue and a General Fund surplus of \$99K. Total General Fund revenue is projected to exceed budget \$682K. Four significant revenue items were detailed. Property tax revenue is expected to meet the budget of \$20.9M which is a 5.1% increase over FY2018. Ambulance service revenue is

expected to exceed budget by \$440K. This is due in part to a 15% increase in transports. Another contributing factor is that the District modified its emergency medical services cost recovery fee structure effective July 1, 2018. The single base fee of \$2,500 per transport is consistent with the rates and practices of other area transport providers. Strike team cost recovery is projected to exceed budget by \$192K due to increased strike team activity because of the significant 2018 wildfire activity.

Director Jorgens questioned the reason for the increase in ambulance service. Chief Winnacker attributed it to the aging demographics, increased calls for Highway 24, and mutual aid to Lafayette. President Danziger asked how ambulance charges are reimbursed. Chief Winnacker explained the process. Director Jex expressed concern that the District is heading to a serious deficit within two years because it has inadequate general reserves. He asked if the projections are realistic. Chief Winnacker stated that the budget is developed with conservative assumptions across the board. He added that there are very few unknown budget elements at this time. Although the \$100K surplus is small, the budget does allow for \$1.6M to be contributed to OPEB and pension rate stabilization. Director Jorgens remarked that the District laid off staff in 2008 due to a lack of funds. Director Jex noted that the monies in the pension stabilization fund would not cover District expenses for one year. The Long Range Plan needs to address increased revenues. He is also concerned about the potential impact of the CASA Compact. Director Jex stated that the District needs to address the problem. The District will need to borrow funds if a serious capital need occurs. He suggested that operational changes may be needed.

President Danziger opened Public Comment. Johnson Buchanan, resident, asked Director Jex to reiterate his concerns. Director Jex stated that the General Fund is basically reserved funds. There is no tax revenue in the first six months of the year and so the District borrows from the county. Other Districts have established a 50-60% General Fund reserve goal to cover this deficit period. The District needs to increase its General Fund balance.

Motion by Director Danziger and seconded by Director Baitx to approve an increase in the General Fund revenue budget in the amount of \$681,856. Said motion carried a 4-1 vote (Ayes: Baitx, Donner, Jorgens, and Danziger; Noes: Jex).

**9.5 Determine the Amount of the OPEB Trust Contribution and the Amount of the Pension Rate Stabilization Program Trust Contribution for Fiscal Year 2019 and Authorize the Transfer of District Funds to Complete the Trust Contributions**

Chief Winnacker provided the report. The District participates in the Public Agency Retirement Services (PARS) Post-Employment Benefits Trust. The District's PARS trust account includes money set-aside for other post - employment benefits (OPEB) retiree medical benefits and money set-aside for the pension rate stabilization program to prefund pension costs. The District makes annual contributions to both accounts. The Board has the authority to decide the amount of any contributions. The fiscal year 2019 Budget includes \$439,771 for the OPEB contribution. The June 30, 2018 OPEB actuarial valuation report calculated a trust contribution of \$407,733. The fiscal year 2019 Budget includes \$1,100,000 for the pension rate stabilization program trust contribution.

Director Jorgens noted that a decision on this item would be made after the mid-year budget status was known. Director Jex stated that, considering the budget adjustments, the bottom line is a break-even situation with no contributions. Chief Winnacker noted that the Board approved a \$1.6 million contribution to OPEB and pension rate stabilization and an additional \$100K surplus. Director Jex noted that that the original budget reflected higher revenue over expenditures but unanticipated expenses reversed this. Chief Winnacker stated that the previous budget did not anticipate the pay raise but the mid-year budget adjustments allows the District to make the fully budgeted contribution to OPEB and the pension rate stabilization and an additional \$100K contribution. Director Jex noted that a break-even budget is not an adequate budget if there is no plan to add to the general reserve fund. Chief Winnacker noted that the Board has the option to decide not to make an OPEB and pension fund contribution which allows \$1.7M for the reserve. Director Jorgens noted that the OPEB and pension trust contributions are special use reserves. Mr. Holtzman stated that the Board cannot withdraw OPEB and pension rate stabilization funds. Director Jex noted that there, with this contribution, the pension rate stabilization fund will have \$1.9M but the annual pension obligation is \$5M. Without a general fund reserve, the District will be out of money when bills are due. He asked the Board to think about deferring OPEB contributions until June. Chief Winnacker noted that the OPEB contribution is 100% voluntary and at the Board's discretion.

Director Jex asked when information from CCCERA is expected. Chief Winnacker stated that the information is usually available in September-October. Property tax information should be available in April.

President Danziger opened Public Comment. There was none.

Director Jex recommended deferring the OPEB payments for two months until the Board discusses the long-range financial plan. Director Donner's motion to defer the OPEB trust contribution and the pension rate stabilization trust for 60 days was seconded by Director Jorgens. Mr. Holtzman suggested a clarification of the motion as the Board has not decided to make the payment. Director Donner proposed a revised motion to defer discussion of the OPEB payment to the April Board meeting. The motion was seconded by Director Jorgens. Said motion carried a 5-0 voice vote (Ayes: Baitx, Donner, Jex, Jorgens, and Danziger; Noes: None).

## **9.6 Review of the Budget Development Policy and Approval of the Annual Operating Budget Timeline Fiscal Year 2020**

Chief Winnacker provided the report. The District approved a Budget Development Policy (Policy) on January 17, 2018. The purpose of the Policy is to provide a process for developing the Annual Operating Budget (Budget). A Budget Timeline has been drafted based on the Policy. Per the Policy, the Proposed Budget shall be submitted to the Board in May at a public Budget Workshop. The Proposed Budget shall then be revised based on Board direction at the Budget Workshop and then submitted to the Board in May at the regular Board meeting. Per the Policy, the Proposed Budget is not submitted to the Finance Committee. Chief Winnacker asked for Board direction to approve the process and to select dates in order to comply with the Policy. He suggested that the Budget meetings could be held on May 1<sup>st</sup> or May 8<sup>th</sup> for final approval at the Board's May 15<sup>th</sup> meeting. Director Jorgens stated that two meetings should be sufficient starting with a Public Workshop. Director Jex clarified that community input could be given at the Workshop. President Danziger asked how the process is started. Chief Winnacker responded that the program managers discuss priorities and identify budget requests in April. The Budget is presented in a Workshop for the public to identify their priorities. The Budget is then provided to the Board. Director Jorgens noted that if the Budget is not approved on time, the old Budget rates would be in effect. Director Jex recommended that the community meeting include a discussion of long-range plans.

President Danziger opened Public Comment. Robert Mitchum, Orinda resident, suggested that the Board provide targeted issues in order to focus community input.

President Danziger made a motion to hold a Special Meeting on May 1<sup>st</sup> to discuss the Budget followed by a regular Board meeting on May 15<sup>th</sup>. Director Jorgens asked how long it would take staff to incorporate comments. Chief Winnacker stated that staff could incorporate comments in a one week turnaround time frame. Chief Winnacker stated that staff will work with the Directors to schedule the meetings. The motion died.

## **9.7 Wildfire Prevention Strategic Plan**

Chief Winnacker provided the report. The Plan is designed to coordinate staff efforts. He summarized the major fires that occurred since 1905. Factors that currently contribute to a fire threat include: a compressed rainy season as a result of climate change; exclusion of fire from the ecosystem; and expansion of development in wilderness areas. In 1923, the fuel load consisted of oak woodland, grassland, and savanna with an average of one tree per acre. In 2019, the fuel load was complicated with the presence of more than 100 trees per acre and suburban development. He added that low humidity, not hot days, increases the speed of fire spread. There is no simple solution to the problem of reducing the risk of catastrophic wildfire. Recognizing this fact, MOFD is committed to a sustained, multidisciplinary effort organized along seven lines of effort over the next five years. The Lines of Effort include: external fuels mitigation projects; internal fuels mitigation projects; wildfire preplanning; evacuation planning; building code updates; community outreach and education; and early detection and notification systems.

Director Jorgens asked if these efforts have the potential to become a significant budget issue for MOFD. Chief Winnacker responded that, with the Board's decision to hire a new Fuels Mitigation Manager and the four aides, MOFD is working with large landowners to conduct fuel mitigation efforts. MOFD is in a pilot phase to determine what works and what does not and the community demand and need, in order to appropriately allocate resources for maximum effect. Director Jorgens asked if MOFD should be one of the instigators of fuel mitigation. President Danziger asked if water pressure is an issue and how MOFD can work with EBMUD. Chief Winnacker responded that EBMUD's Policy 303 directs that they will maintain a water system to their as designed capacity of 500 gallons. He noted that there are some hydrants which do not meet this 500-gallon threshold. MOFD identifies these hydrants and provides the information to EBMUD. EBMUD has laid approximately 23 miles of replacement pipe in Orinda to increase water pressure. EBMUD will not put additional funds into the system if the 500-gallon minimum is met. Chief Winnacker stated that all MOFD fire hydrants are marked with the pressure and gallons per minute (GPM). Director Jorgens stated that EBMUD's replacement philosophy is "If it is broken, we fix it. Otherwise it is working pretty well." EBMUD does not have emergency power backup. Chief Winnacker is working on how to identify and access reliable water supplies. Water supply is also a tremendous problem in Canyon which is not served by EBMUD. Director Jorgens noted that Chief Winnacker did an inventory of water supplies and related accessibility. Chief Winnacker stated that EBMUD refills its reservoirs at night and the reservoirs provide the water to fire hydrants. EBMUD has a single water system which serves residential, industrial, and firefighting uses. Director Danziger stated that it is important to get information such as Pulse Point and Reverse 911 to the public on a wider scale. He encouraged MOFD to expand its efforts to publicize important information at a minimal cost including adding it to the MOFD agendas and distributing handouts with permits. Chief Winnacker stated that MOFD is working with the City of Orinda in its project to underground high-risk electrical lines.

President Danziger opened Public Comment. Jonathan Goodwin, resident, complimented the Board on their wildfire prevention efforts. He disagreed with the fire spread models which were presented. He would like MOFD to place resources where the people are most likely to be impacted. President Danziger encouraged residents to take advantage of available programs and information.

## **9.8 Evacuation Exercises Review**

Chief Winnacker reported that the Evacuation Exercises provided valuable information. The MOFD partnered with the Moraga and Orinda Police Departments. The Moraga Evacuation Exercise was held on December 15, 2018. Participating agencies included: LaMorinda CERT, Moraga PD and Public Works, Orinda PD and Public Works, Lafayette PD, MOFD, CHP, Contra Costa County Community Warning System, and the Contra Costa County GIS. Seventy-four members of the CERT team also participated. The North Orinda Evacuation Exercise was held on January 26, 2019. Participating agencies included: LaMorinda CERT, Moraga PD, Orinda PD and Public Works, MOFD, CHP, Contra Costa County Community Warning System, Contra Costa County GIS, El Cerrito Fire Department, City of Lafayette, and Contra Costa County Search and Rescue Team. Thirty members of the CERT team and MOFD Communications Support team also participated. Lessons learned from the Moraga Exercise were incorporated into the Orinda Exercise. The goals were to: refine Fire-Police evacuation coordination; refine Police-CWS evacuation notification; speed CWS-Public communication; validate North Orinda evacuation traffic assumptions; validate contra-flow traffic patterns for Miner Road; and validate Evacuation Decision Support Tool integration. Staff will continue to refine plans and coordination with surrounding agencies based on the lessons learned from these exercises.

Director Jorgens commented that the drills were a good learning exercise. President Danziger opened Public Comment. Jonathan Goodwin, resident, stated that the first multi-agency evacuation exercise in the East Bay was held in either 2006 or 2008.

## **10. Committee Reports**

### **10.1 Finance Committee (Directors Danziger and Jorgens)**

The Committee did not meet and there was nothing to report.

### **10.2 Audit Ad Hoc Committee (Director Jex)**

The Committee did not meet and there was nothing to report.

**10.3 Long Range Financial Plan Ad Hoc Committee (Directors Donner and Jorgens)**

Director Jorgens reported that the Committee met twice and was making progress.

**10.3 Facilities Ad Hoc Committee (Directors Baitx and Donner)**

The Committee did not meet and there was nothing to report.

**10.4 Fire Chief Performance Evaluation Ad Hoc Committee (Directors Baitx and Donner)**

The Committee did not meet and there was nothing to report.

Jonathan Goodwin expressed concern that the Ad Hoc Committees were “secret” committees because he does not receive notification when they meet. Director Jorgens noted that Ad Hoc committees do not have a notice requirement. Mr. Holtzman explained that Ad Hoc committees, unlike Standing Committees, are single purpose committees and are not required under the Brown Act to post agendas.

**11. Announcements**

**11.1 Brief information only reports related to meetings attended by a Director at District expense (Government Code Section 53232.3(d))**

Directors Donner and President Danziger attended the Contra Costa County Fire Commissioners Association dinner at which a Pulse Point presentation was made. Some districts are adding first responders to the Pulse Point app.

Director Donner stated that he attended the School District meeting at no cost to the District. The School District included a Reverse 911 notice in their recent mailing which reached 2,500 households.

Director Jorgens and President Danziger attended an Orinda City Council meeting.

Director Danziger attended a Rescue One Foundation Board meeting. He also attended a Contra Costa County Special District Association meeting. He asked if MOFD is a member.

President Danziger attended a Moraga Town Council meeting to introduce himself.

**11.2 Questions and informational comments from Board members and Staff**

There was nothing to report.

**11.3 Fire Chief Updates**

Chief Winnacker discussed the closure of temporary Station 43. Thirteen members were taken ill in a short space of time so the Station was closed. As firefighters are constantly living in the Station, the Station was closed and tested and the testing came back negative. The Station is expected to be reoccupied on February 21, 2019.

He reported that new Station 43 is moving forward with slight delays due to the rain. One concern is due to PG&E changing the date of the power pole installation from February to April. When the new Station 43 is opened, obsolete items from the old Station will be surplus. Director Baitx asked why the Board was not notified at its February 8, 2019 meeting that Station 43 was vacated on January 29, 2019. Chief Winnacker stated that he is responsible for fire department operations and there was nothing to report until he had an understanding of the problem and the results of the testing. Director Donner stated that it is appropriate to notify the Board when a Fire Station is closed. The other Directors concurred.

**11.4 Communications Received**

Chief Winnacker reported that the District received three letters. One concerned water removal and two were commendatory regarding the professionalism of EMS service calls. He added that he attended nine meetings including Orinda Rotary, CERT, and seven fire safety meetings including four follow-ups for Fire Wise designations.

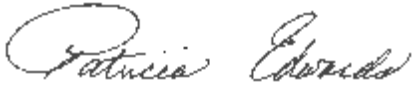
**11.5 Future Agenda Items**

There was nothing to report.



## 12. Adjournment

At 9:34 P.M., Director Jorgens' motion to adjourn the meeting was seconded by Director Baitx. Said motion carried a 5-0 voice vote (Ayes: Baitx, Donner, Jex, Jorgens, and Danziger; Noes: None).



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Interim District Secretary/Clerk

For an audio recording of this and other Board meetings, please visit the MOFD District Board Meeting webpage <http://www.mofd.org/board/meetings>

### MOFD Response Time Summary by Incident Type (grouped) for All Code 2 and Code 3 Responses.

Will only show Incident Types that are applicable. EMS/Rescue - Structure Fires (actual type is in structure) - Vegetation Fires - Other Types Grouped (Alarms/Hazards/Pub Svc/Etc) Data Based On Completed RMS Incident Report Data entered by Company Officer - Not based on Raw CAD Data...

	February, 2019			Totals
	All Others (Alarms / Pub Service / Etc.)	EMS / Rescue	Structure Fires	
Incident Totals	107	158	2	290
Median Turnout	1.33	1.18	1.44	1.28
Median Resp Time	5.87	5.87	7.29	6.06
Resp Time (90th%)	9.02	10.88	13.26	10.57

### Code 3 Response Time Summary by City and Incident Type. Times shown are based on the First Responding Units Arrival at Scene of Emergency.

	February, 2019					
	Incident Totals	Median Turnout	Median Resp Time	Resp Time (90th%)		
Orinda	EMS / Rescue	81	1.37	5.52	8.58	
	Structure Fires	2	1.51	6.39	6.85	
	All Other Types	19	1.28	5.05	7.09	
	Totals for City	102	1.35	5.52	8.47	
Moraga	EMS / Rescue	60	1.06	4.38	7.34	
	All Other Types	12	1.30	4.95	8.22	
	Totals for City	72	1.09	4.53	7.50	
Lafayette	EMS / Rescue	4	0.50	7.38	10.99	
	All Other Types	1	1.12	7.50	7.50	
	Totals for City	5	1.12	7.48	9.25	
Canyon	EMS / Rescue	1	1.28	13.22	13.22	
	Totals for City	1	1.28	13.22	13.22	
	Overall Total	180	1.24	5.16	7.87	

### Response Totals By Incident Type

	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Total
All Others (Alarms / Pub Service / Etc.)	103	80	95	113	111	106	97	105	124	98	110	107	1,249
EMS / Rescue	191	172	185	155	159	179	173	207	164	182	165	158	2,090
Structure Fires		1	1	5	2	2	2	2	2	2		2	21
Veg Fires		1	4	9	3	2	3	2	1		1		26
Vehicle Accidents		24	19	13	15	16	11	24	18	20	23	23	233
Grand Total	321	278	304	295	290	305	286	340	309	302	299	290	3,619

3.2A

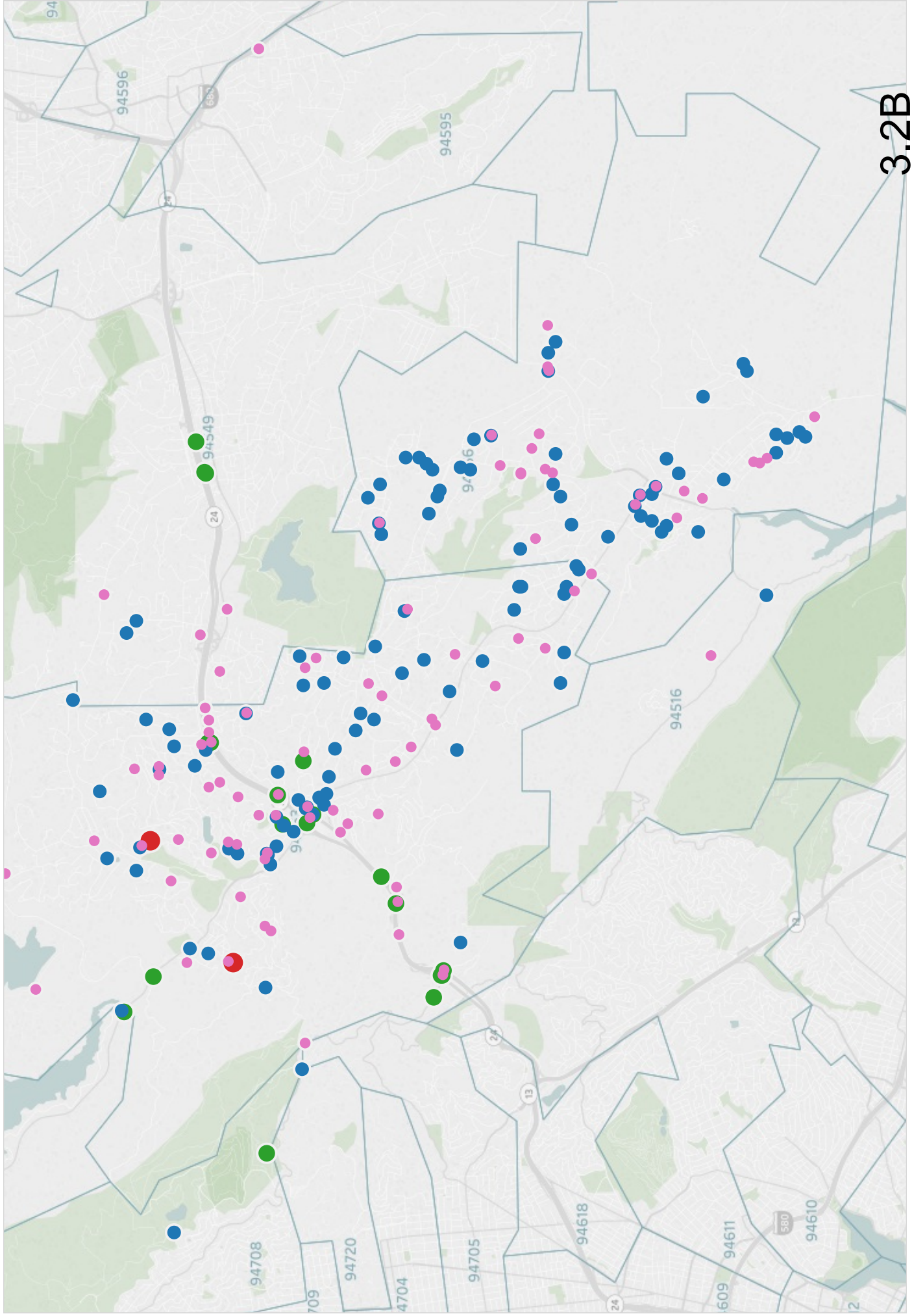
**Incident Types**

■ All Others (Alarms / Pub Service .. EMS / Rescue

■ Vehicle Accidents

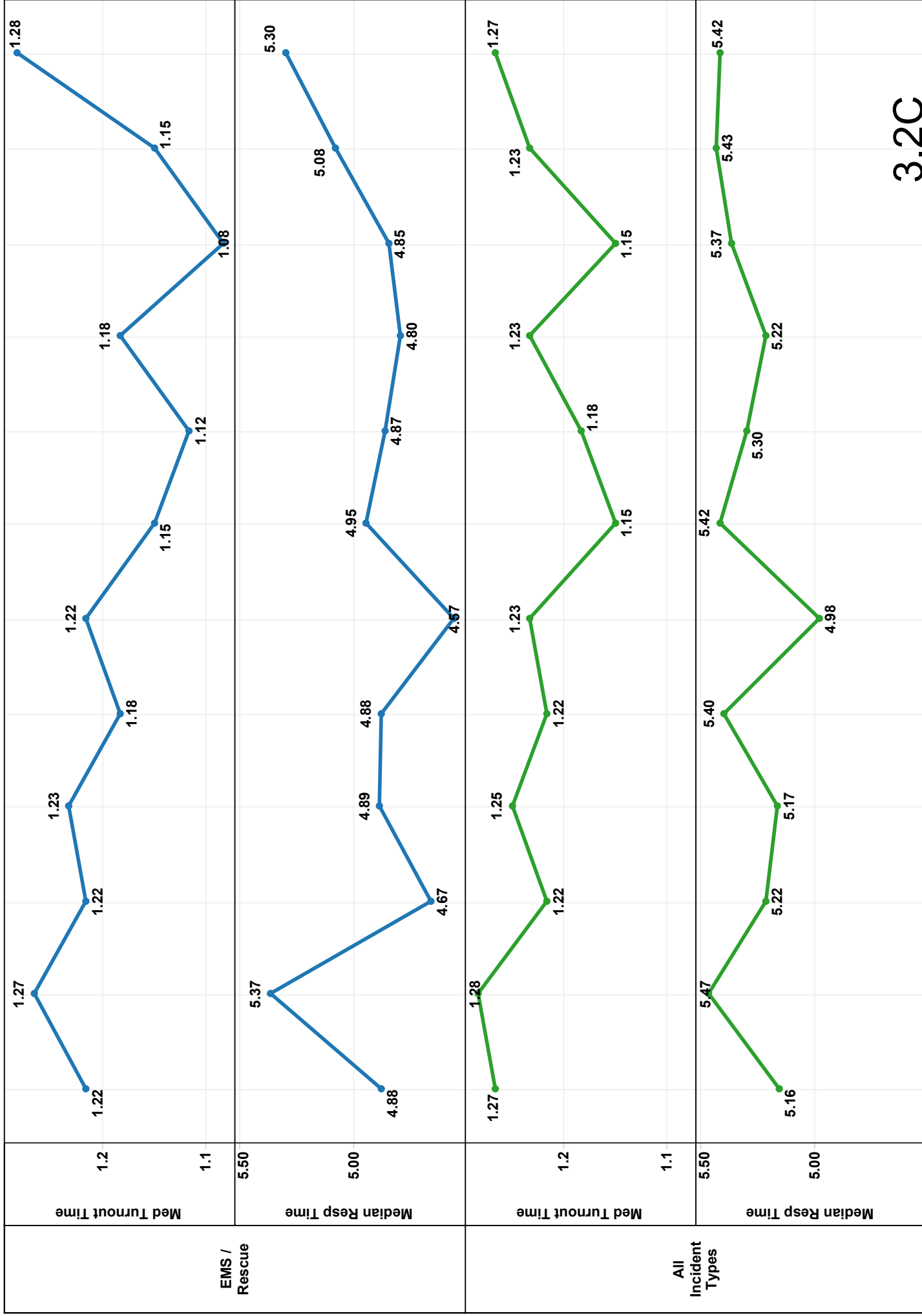
■ Structure Fires

**Incident Location Map for MOFD February 2019**



Run Chart for MOFD EMS / Rescue and All Incident Types for the last full 12 months. Median Turnout and Response Times By Month for First At Scene

Units



3.2C

**Moraga-Orinda Fire District**  
 Check/Voucher Register - Check Register  
 From 2/1/2019 Through 2/28/2019

Check Number	Check Date	Name	Check Amount	Transaction Description
26892	2/8/2019	AFSCME Council 57	187.31	Period Ending 01/31/19
26893	2/8/2019	Allied Propane Services, Inc	487.57	Commercial propane 01/22/19
26894	2/8/2019	ALSCO - American Linen Divi...	459.32	January 2019 linen
26895	2/8/2019	American Fidelity	3,340.96	Period Ending 01/31/2019
	2/8/2019	American Fidelity	1,202.74	Supplemental deductions-Period Ending 01/31/19
26896	2/8/2019	A T and T	152.60	Acct# 9391053307 01/01/19-01/31/19 Emergency landlines
26897	2/8/2019	Bound Tree Medical, LLC	388.35	Adenosine
	2/8/2019	Bound Tree Medical, LLC	126.00	Calcium chloride
	2/8/2019	Bound Tree Medical, LLC	477.43	Megamover transport units
	2/8/2019	Bound Tree Medical, LLC	4,931.11	Misc supplies
26898	2/8/2019	FASIS - Calif Bank and Trust	219,694.00	3rd Qtr FY18/19 Workers Comp
26899	2/8/2019	California Compression	437.75	Compressor repair
26900	2/8/2019	CCC Fire Protection District	1,125.00	Evidence kit
26901	2/8/2019	Concord Uniforms	104.29	District aide uniforms
26902	2/8/2019	Dell Financial Services	570.70	Rental & Admin Fee 01/13/19-02/12/19 A/C #001-8402535-008
26903	2/8/2019	FDAC EBA	1,874.80	February 2019 vision & life insur.
	2/8/2019	FDAC EBA	1,866.80	January 2019 vision & life insur.
26904	2/8/2019	IAFF Local 1230 Dues	7,282.36	Period Ending 01/31/19
26905	2/8/2019	IAFF Local 1230 Insurance	1,579.45	Period Ending 01/31/19
26906	2/8/2019	Greg Kennedy	2,160.00	4th quarter EMS training/prep-2018
26907	2/8/2019	Matt Lopez	200.00	ACLS class-M. Lopez
26908	2/8/2019	Mallory Safety & Supply, LLC	1,339.46	Scott regulator
26909	2/8/2019	Moraga Hardware & Lumber	69.06	Misc. station repair supplies
26910	2/8/2019	National Construction Rentals	34.26	Overhead meter pole-0002 monthly rental-01/22/19-02/18/19
26911	2/8/2019	Peter Norton	750.00	Services through 01/31/19-Fire sensor project
26912	2/8/2019	Office Depot	411.06	4 toner cartridges
	2/8/2019	Office Depot	137.46	File folders, duct tape and cleaning supplies
26913	2/8/2019	Pacific Office Automation	265.58	Copies 10/25/18-01/25/19
26914	2/8/2019	Paymentus Group, Inc.	111.83	Credit card fees-January 2019
26915	2/8/2019	Dennis Rein	161.00	Reimb.-food for Evacuation Exercises 12/14/18 and 1/23/19
26916	2/8/2019	Staples Advantage	1,037.31	Misc. supplies
26917	2/8/2019	Verizon Wireless	640.50	Account 623714059-00001 Service 12/24/18-01/23
	2/8/2019	Verizon Wireless	300.35	Account 623714059-00003 Service 12/24/18-01/23
	2/8/2019	Verizon Wireless	105.84	Account 623714059-00004 Service 12/24/18-01/23
26918	2/14/2019	ADP, Inc.	396.89	ADP Payroll Fees ending 01/31/19
26919	2/14/2019	Bound Tree Medical, LLC	538.05	Midazolam
	2/14/2019	Bound Tree Medical, LLC	5,327.99	Misc supplies-Station 41
	2/14/2019	Bound Tree Medical, LLC	2,877.27	Misc supplies-Station 45
26920	2/14/2019	Patrick Carrillo	175.00	Reimb. LiveScan and uniform costs-P. Carrillo
26921	2/14/2019	Comcast	88.38	8155 40 006 0191002 Station 44-02/14/19-03/13/19
	2/14/2019	Comcast	88.38	8155 40 006 0191028 Station 43-02/14/19-03/13/19
26922	2/14/2019	Concord Garden Equipment	107.23	Ventilator blower repair
	2/14/2019	Concord Garden Equipment	313.20	VP 50:1 fuel
26923	2/14/2019	Concord Uniforms	202.98	Uniform-Scott Watson
26924	2/14/2019	Definitive Networks, Inc.	19,366.00	Service coverage for January 2019
26925	2/14/2019	Dell Financial Services	302.46	Rental & Admin Fee 03/01/19-03/31/19 A/C #001-8402535-009
26926	2/14/2019	Department of Justice	96.00	3 fingerprint applications
26927	2/14/2019	ECMS, Inc.	170.49	PPE inspection and repair
26928	2/14/2019	L.N. Curtis & Sons	216.41	Structure boots-Airola
	2/14/2019	L.N. Curtis & Sons	261.00	Wildland pants-Academy
26929	2/14/2019	M & M Sanitary	35.00	1/30/19 Service-PP41

**Moraga-Orinda Fire District**  
 Check/Voucher Register - Check Register  
 From 2/1/2019 Through 2/28/2019

Check Number	Check Date	Name	Check Amount	Transaction Description
26930	2/14/2019	National Construction Rentals	34.26	Overhead meter pole-0001 monthly rental-02/06/19-03/05/19
26931	2/14/2019	Occu-Med, Ltd.	316.50	4 pre-employment exams
26932	2/14/2019	Scott Peirce	30.00	Reimb. LiveScan fee
26933	2/14/2019	PODS Enterprises, LLC	216.61	Container rental 01/12/19-02/11/19
26934	2/14/2019	Michael Roemer	200.00	Comm support uniform reimb.
26935	2/14/2019	Sausal Corporation	202,797.39	Station 43 construction thru 12/31/18
26936	2/14/2019	Scott's PPE Recon	42.41	SCBA bottle ID and 1 shoulder strap ID
	2/14/2019	Scott's PPE Recon	82.65	SCBA bottle ID and 3 shoulder strap IDs
26937	2/14/2019	Shah Kawasaki Architects	4,557.96	Services 01/01/19-01/31/19
26938	2/14/2019	Shred-it	66.00	January 2019 pick-up
26939	2/14/2019	Smart Clean Building Mainten...	245.00	February 2019 cleaning service
26940	2/14/2019	Staples Advantage	819.61	Misc. supplies
26941	2/14/2019	Michael Stiehr	1,298.31	Reimb. travel costs-Driver/Operator 1B-2/3/19-2/8/
26942	2/14/2019	St. Stephen's Episcopal Church	4,356.41	Temp Station rent- February 2019
26943	2/14/2019	TIAA Commercial Finance, Inc.	223.34	Copier Rental February 2019 A/C #20317889-1
26944	2/14/2019	Scott Watson	71.00	Reimb. for Fire Mitigation shirts
26945	2/21/2019	ADP, Inc.	711.36	HR/Benefits Workforce processing fees ending 02/11/19
26946	2/21/2019	Airgas USA, LLC	197.88	Oxygen-Station 44- #2902766
	2/21/2019	Airgas USA, LLC	425.77	Tank Rental-Station 41- #2118770 -January 2019
	2/21/2019	Airgas USA, LLC	45.77	Tank Rental-Station 44- #2902766 -January 2019
	2/21/2019	Airgas USA, LLC	311.48	Tank Rental-Station 45- #2867225 -January 2019
26947	2/21/2019	A T and T	387.78	Acct# 9391035207 01/12/19-02/11/19
	2/21/2019	A T and T	24.42	Acct#9391060223 01/13/19-02/12/19 Conference calling
26948	2/21/2019	Bay Area News Group	409.36	Weed abatement and Fee schedule notices 1/4/19
26949	2/21/2019	Biomedical Waste Disposal	79.00	February 2019 Medical Waste A/C #0349
	2/21/2019	Biomedical Waste Disposal	79.00	February 2019 Medical Waste A/C #0350
26950	2/21/2019	Bound Tree Medical, LLC	288.34	Misc supplies
	2/21/2019	Bound Tree Medical, LLC	3.50	Shears
26951	2/21/2019	California Bank of Commerce	22,533.04	Sausal Corporation Account #1079128 MOFD-Stat 43
26952	2/21/2019	Concord Garden Equipment	1,457.14	Honda 3" portable pump for pump trailers
26953	2/21/2019	Concord Uniforms	202.00	District aide uniforms
	2/21/2019	Concord Uniforms	30.34	Uniform-Scott Watson
26954	2/21/2019	County Clerk	14,729.93	November 6, 2018 general election costs
26955	2/21/2019	Deluxe For Business	465.85	1000 A/P laser checks
26956	2/21/2019	EBMUD	242.86	Water 12/04/18-02/01/19 3/4" meter
	2/21/2019	EBMUD	499.84	Water 12/04/18-02/01/19 6" meter
26957	2/21/2019	Entenmann-Rovin Co.	201.41	Second badges-Martinez and Kalenian-Reimb Oct. 2018
26958	2/21/2019	Environmental Systems Rese...	1,500.00	ArcGIS level 2 term license for 3 people
	2/21/2019	Environmental Systems Rese...	900.00	ArcGIS primary maintenance 2/5/19-2/4/20
26959	2/21/2019	Daniel Giffin	200.00	Paramedic licence renewal-D. Giffin
26960	2/21/2019	Katy Himsl	200.00	Paramedic licence renewal-K. Himsl
26961	2/21/2019	Kaiser Foundation Health Plan...	4,201.00	Annual physicals
26962	2/21/2019	Andy Kalenian	691.31	Reimb. travel costs-Driver/Operator 1B-2/3/19-2/8/
26963	2/21/2019	Mallory Safety & Supply, LLC	1,706.49	1 Scott-80339301
26964	2/21/2019	Mike Marquardt	375.00	Remote pilot refresher course and FAA test
26965	2/21/2019	Moraga Hardware & Lumber	10.88	4 Single sided keys
	2/21/2019	Moraga Hardware & Lumber	136.02	Weed abatement stakes
26966	2/21/2019	Pacific Gas & Electric	982.28	01/04/19-02/03/19 Station 44
	2/21/2019	Pacific Gas & Electric	1,108.39	01/04/19-02/03/19 Station 45 Electric
	2/21/2019	Pacific Gas & Electric	381.21	01/05/19-02/04/19 Admin
	2/21/2019	Pacific Gas & Electric	1,011.92	01/05/19-02/04/19 Station 41
	2/21/2019	Pacific Gas & Electric	763.71	01/05/19-02/04/19 Station 42 Electric

**Moraga-Orinda Fire District**  
 Check/Voucher Register - Check Register  
 From 2/1/2019 Through 2/28/2019

Check Number	Check Date	Name	Check Amount	Transaction Description
	2/21/2019	Pacific Gas & Electric	879.02	01/06/19-02/05/19 Station 42 Gas
26967	2/21/2019	Republic Services	485.72	February 2019 Trash A/C#302100093245
	2/21/2019	Republic Services	465.77	February 2019 Trash A/C#302100095331
	2/21/2019	Republic Services	186.18	February 2019 Trash A/C#302100108522
26968	2/21/2019	United Site Services	2,121.09	Service 02/01/19-02/28/19
26969	2/21/2019	Verizon Wireless	56.16	12-lead modem wireless 01/11/19-02/10/19
26970	2/21/2019	Scott Watson	277.48	Replace lost check # 15072
26971	2/28/2019	ADP, Inc.	351.45	ADP Payroll Fees ending 02/15/19
26972	2/28/2019	ADT Security Services	42.99	Services 03/04/19-04/03/19- Admin bldg. burglar system
	2/28/2019	ADT Security Services	39.52	Services 03/4/19-04/03/19- Admin bldg. camera
	2/28/2019	ADT Security Services	72.27	Services 03/9/19-04/08/19- Station 45
26973	2/28/2019	Airgas USA, LLC	1,392.53	Oxygen-Station 41- #2118770
26974	2/28/2019	Bound Tree Medical, LLC	218.50	Post valve seal protector
26975	2/28/2019	CCCERA	764.00	Fee allocation-Actuarial valuation & outside audit-GASB68
26976	2/28/2019	Comcast	88.47	8155 40 005 0208436 Station 42-02/24/19-03/23/19
	2/28/2019	Comcast	88.38	8155 40 006 0190996 Station 45-02/23/19-03/22/19
26977	2/28/2019	Jian Eddinger	78.62	Reimb. Fire Prevention T-shirts
26978	2/28/2019	Empire Today	1,898.85	Station 41 vinyl flooring
26979	2/28/2019	EMS Technology Solutions, LLC	5,095.00	Narcotics tracking license and training
26980	2/28/2019	Fire Districts Assoc. of Calif	412.50	2018-2019 Membership Dues
26981	2/28/2019	Uriel Garcia	2,610.00	GIS Services 12/03/18 thru 02/22/19
26982	2/28/2019	ICC Birmingham District Office	135.00	2019 ICC membership-K. Leonard
26983	2/28/2019	L.N. Curtis & Sons	500.25	4 pair structure gloves
	2/28/2019	L.N. Curtis & Sons	5,641.41	Academy PPE
26984	2/28/2019	Julie Luckenbach	176.94	Reimb.-Volunteer uniform-J. Luckenbach
26985	2/28/2019	Mallory Safety & Supply, LLC	5,356.01	4 Scott regulators
26986	2/28/2019	Michael Ross Investigations	494.60	Background investigation
26987	2/28/2019	Monte Deignan & Associates	873.00	Water and swab testing-Temp station 43
26988	2/28/2019	National Construction Rentals	34.26	Overhead meter pole-0002 monthly rental-02/22/19-03/18/19
26989	2/28/2019	Pacific Gas & Electric	547.68	01/16/19-02/13/19 Station 45 Gas
	2/28/2019	Pacific Gas & Electric	1,028.39	01/17/19-02/15/19 Station 43
26990	2/28/2019	PLIC	99.90	March 2019
26991	2/28/2019	Sloan Sakai Yeung & Wong LLP	5,622.27	AFSCME Negotiations-January 2019
	2/28/2019	Sloan Sakai Yeung & Wong LLP	2,115.77	BC Negotiations-January 2019
	2/28/2019	Sloan Sakai Yeung & Wong LLP	70.00	IAFF Negotiations-December 2018
	2/28/2019	Sloan Sakai Yeung & Wong LLP	105.00	IAFF Negotiations-January 2019
26992	2/28/2019	Scott Watson	130.39	Rain gear reimbursement
26993	2/28/2019	Wittman Enterprises, LLC	5,325.40	January 2019
CC-0219	2/8/2019	CCCERA Retirement	162,949.50	CCCERA retirement payment-January 2019 contributions
CU-0219	2/8/2019	1st NorCal Federal Credit Union	1,720.20	Period Ending 01/31/19
L1408327072	2/28/2019	Employment Development Dept.	2,146.00	UI-10/01/18-12/31/18
PFA 0219	2/8/2019	Moraga-Orinda Professional Fi...	1,534.00	Period ending 01/31/19
Report Total			771,657.18	

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures - General Fund Actual to Budget 18/19  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Total Budget \$ - Original	Total Budget \$ Variance - Original	Percent Total Budget Remaining - Original
<b>Revenue</b>					
<b>Taxes</b>					
Property Tax-Current Secured	4010	19,701,837.83	19,861,594.00	(159,756.17)	(0.80)%
Property Tax-Supplemental	4011	127,826.26	300,000.00	(172,173.74)	(57.39)%
Property Tax-Unitary	4013	238,262.43	200,000.00	38,262.43	19.13%
Property Tax-Curr Unsecured	4020	611,108.44	600,000.00	11,108.44	1.85%
Prop Tax- Prior Secured	4030	(29,636.70)	(55,000.00)	25,363.30	(46.12)%
Prop Tax-Prior Supplement	4031	(1,008.27)	(35,000.00)	33,991.73	(97.12)%
Prop Tax Prior Unsecured	4035	9,453.23	(10,000.00)	19,453.23	(194.53)%
Fire Flow Tax	4066	1,084,245.06	1,085,000.00	(754.94)	(0.07)%
<b>Total Taxes</b>		<u>21,742,088.28</u>	<u>21,946,594.00</u>	<u>(204,505.72)</u>	<u>(0.93)%</u>
<b>Use of Money &amp; Property</b>					
Investment Earnings	4181	19,670.28	3,000.00	16,670.28	555.68%
<b>Total Use of Money &amp; Property</b>		<u>19,670.28</u>	<u>3,000.00</u>	<u>16,670.28</u>	<u>555.68%</u>
<b>Intergovernmental Revenue</b>					
Homeowners Relief Tax	4385	0.00	154,000.00	(154,000.00)	(100.00)%
Intergovernmental Revenue-Federal Grants	4437	173,463.00	480,000.00	(306,537.00)	(63.86)%
CA FF JAC Training Funds	4440	0.00	15,000.00	(15,000.00)	(100.00)%
Other/In Lieu of Taxes	4580	939.70	902.00	37.70	4.18%
Measure H-Emerg Med Ser Subsid	4896	0.00	85,513.00	(85,513.00)	(100.00)%
<b>Total Intergovernmental Revenue</b>		<u>174,402.70</u>	<u>735,415.00</u>	<u>(561,012.30)</u>	<u>(76.29)%</u>
<b>Charges for Service</b>					
Permits	4740	354.00	2,000.00	(1,646.00)	(82.30)%
Plan Review	4741	159,958.00	250,000.00	(90,042.00)	(36.02)%
Inspection Fees	4742	24,044.00	35,000.00	(10,956.00)	(31.30)%
Weed Abatement Charges	4744	19,117.86	25,000.00	(5,882.14)	(23.53)%
CPR/First Aid Classes	4745	893.00	2,000.00	(1,107.00)	(55.35)%
Reports/ Photocopies	4746	222.00	350.00	(128.00)	(36.57)%
Other Charges for Service	4747	8,607.00	6,000.00	2,607.00	43.45%
<b>Total Charges for Service</b>		<u>213,195.86</u>	<u>320,350.00</u>	<u>(107,154.14)</u>	<u>(33.45)%</u>
<b>Charges for Service - Ambulance</b>					
Ambulance Service Fees	4898	1,208,713.31	1,133,000.00	75,713.31	6.68%
Ambulance Service Fee Reimbursements	4899	(76,704.51)	(116,000.00)	39,295.49	(33.88)%
Ambulance Collection Recovery Payments	4900	1,551.86	2,000.00	(448.14)	(22.41)%
Ground Emergency Medical Transportation	4901	48,542.00	40,000.00	8,542.00	21.36%
<b>Total Charges for Service - Ambulance</b>		<u>1,182,102.66</u>	<u>1,059,000.00</u>	<u>123,102.66</u>	<u>11.62%</u>
<b>Other Revenue</b>					
Other Revenue-Strike Team Recovery	4971	722,457.67	530,000.00	192,457.67	36.31%
Other Revenue & Financing Sources	4972	14,450.97	33,000.00	(18,549.03)	(56.21)%
Other Revenue-Misc.	4974	9,883.70	1,000.00	8,883.70	888.37%
Misc Rebates & Refunds	4975	895.90	1,000.00	(104.10)	(10.41)%
Sale of Surplus Property	4980	106.00	1,000.00	(894.00)	(89.40)%
Transfers In	4999	542.43	0.00	542.43	0.00%
<b>Total Other Revenue</b>		<u>748,336.67</u>	<u>566,000.00</u>	<u>182,336.67</u>	<u>32.21%</u>
<b>Total Revenue</b>		<u>24,079,796.45</u>	<u>24,630,359.00</u>	<u>(550,562.55)</u>	<u>(2.24)%</u>



**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures - General Fund Actual to Budget 18/19  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Total Budget \$ - Original	Total Budget \$ Variance - Original	Percent Total Budget Remaining - Original
<b>Expenditures</b>					
<b>Salaries &amp; Benefits</b>					
Permanent Salaries	5011	5,064,809.60	9,393,200.00	4,328,390.40	46.08%
Temporary Salaries	5013	106,756.11	254,531.00	147,774.89	58.06%
Overtime	5014	1,385,082.34	1,528,928.00	143,845.66	9.41%
Deferred Compensation	5015	13,392.00	22,100.00	8,708.00	39.40%
Overtime - Strike Team	5016	469,948.13	550,020.00	80,071.87	14.56%
Worker's Compensation Recovery	5019	(127,879.85)	(122,000.00)	5,879.85	(4.82)%
Payroll Taxes -FICA,SUI	5042	107,359.32	193,441.00	86,081.68	44.50%
Payroll Processing Fees	5043	9,245.35	20,000.00	10,754.65	53.77%
Retirement Contributions	5044	2,647,457.58	5,237,068.00	2,589,610.42	49.45%
Life/Health Insurance-Permanent Employees	5060	609,332.49	1,265,628.00	656,295.51	51.86%
Employee's-Health Insurance Contribution	5061	(70,448.92)	(135,058.00)	(64,609.08)	47.84%
Retiree Health Insurance	5062	717,078.54	1,200,000.00	482,921.46	40.24%
Retiree-Health Insurance Contribution	5063	(188,697.58)	(325,000.00)	(136,302.42)	41.94%
Unemployment Insurance	5064	611.00	18,000.00	17,389.00	96.61%
Retiree-Health OPEB Contribution	5065	0.00	439,771.00	439,771.00	100.00%
Vision Insurance	5066	7,537.92	19,908.00	12,370.08	62.14%
Pension Rate Stabilization	5067	0.00	1,100,000.00	1,100,000.00	100.00%
Workers' Compensation Insurance	5070	659,082.00	878,775.00	219,693.00	25.00%
<b>Total Salaries &amp; Benefits</b>		<b>11,410,666.03</b>	<b>21,539,312.00</b>	<b>10,128,645.97</b>	<b>47.02%</b>
<b>Operating Expense</b>					
Office Supplies	6100	3,866.52	11,725.00	7,858.48	67.02%
Postage	6101	2,852.25	5,000.00	2,147.75	42.95%
Books & Periodicals	6102	1,301.51	7,650.00	6,348.49	82.99%
Printer Ink Cartridges	6103	1,210.77	3,000.00	1,789.23	59.64%
Telephone/Communication	6110	23,291.56	50,000.00	26,708.44	53.42%
Dispatch/Comm Center Services w/ AVL MDT	6111	0.00	188,700.00	188,700.00	100.00%
Utilities- Sewer	6120	3,649.67	5,400.00	1,750.33	32.41%
Utilities-Garbage	6121	7,963.69	12,845.00	4,881.31	38.00%
Utilities-PG&E	6122	34,492.06	65,690.00	31,197.94	47.49%
Utilities-Water	6123	8,257.69	13,860.00	5,602.31	40.42%
Utilities-Medical Waste	6124	1,574.87	3,300.00	1,725.13	52.28%
Small Tools & Instruments	6130	3,730.73	7,000.00	3,269.27	46.70%
Minor Equipment/Furniture	6131	1,566.74	1,500.00	(66.74)	(4.45)%
Computer Equipment & Supplies	6132	0.00	3,000.00	3,000.00	100.00%
Gas Power Chain Saw/Other Equipmen	6133	2,140.52	6,800.00	4,659.48	68.52%
Fire Trail Grading	6135	3,428.04	20,000.00	16,571.96	82.86%
Fire Fighting Equipment & Supplies	6137	2,071.93	3,400.00	1,328.07	39.06%
Fire Fighting Equipment-Hoses & Nozzles	6138	7,450.44	11,000.00	3,549.56	32.27%

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures - General Fund Actual to Budget 18/19  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Total Budget \$ - Original	Total Budget \$ Variance - Original	Percent Total Budget Remaining - Original
Fire Fighting Equipment-Class A Foam	6139	1,986.70	2,000.00	13.30	0.67%
Medical & Lab Supplies	6140	61,947.02	90,000.00	28,052.98	31.17%
Food Supplies	6150	1,133.82	4,000.00	2,866.18	71.65%
Safety Clothing & Personal Supplies	6160	45,171.16	150,300.00	105,128.84	69.95%
Non-Safety Clothing & Personal Supplies	6161	650.00	1,500.00	850.00	56.67%
Household Expense	6170	5,265.61	17,000.00	11,734.39	69.03%
Household Expense-Linen	6171	3,557.33	6,880.00	3,322.67	48.29%
Public & Legal Notices	6190	3,456.07	11,000.00	7,543.93	68.58%
Dues, Memberships & Professional Fees	6200	6,505.00	9,695.00	3,190.00	32.90%
EMT/Paramedic Licensure Fees	6201	1,800.00	6,500.00	4,700.00	72.31%
Rent & Leases (Equipment)	6250	16,794.58	35,400.00	18,605.42	52.56%
Computer Software & Maintenance	6251	59,685.21	85,750.00	26,064.79	30.40%
Website Development & Maintenance	6252	1,696.00	1,800.00	104.00	5.78%
EPA ID# Verification Fee	6264	150.00	150.00	0.00	0.00%
CCC HazMat Plan (CUPA)	6265	2,575.00	3,000.00	425.00	14.17%
BAAQMD & Environmental Health Fees	6266	589.00	900.00	311.00	34.56%
Air Monitor Maintenance & Replacement	6269	0.00	1,300.00	1,300.00	100.00%
Maintenance -- Equipment	6270	24,229.17	52,500.00	28,270.83	53.85%
Central Garage Repairs	6271	45,788.99	200,000.00	154,211.01	77.11%
Central Garage Gasoline & Oil	6272	44,460.05	65,000.00	20,539.95	31.60%
Central Garage Tires	6273	7,364.03	7,500.00	135.97	1.81%
Service/Repair Fuel System Dispensers	6274	1,860.31	3,500.00	1,639.69	46.85%
Aerial Ladder & Pump Testing	6275	0.00	1,000.00	1,000.00	100.00%
Smog Inspections	6276	0.00	500.00	500.00	100.00%
Air Compressor Quarterly Service	6278	1,109.77	1,500.00	390.23	26.02%
Hydro Test SCBA & Oxy Cylinder	6279	0.00	2,500.00	2,500.00	100.00%
Tank Testing	6280	0.00	1,000.00	1,000.00	100.00%
Maintenance -- Building	6281	40,604.55	52,000.00	11,395.45	21.91%
Maintenance -- Grounds	6282	755.44	6,400.00	5,644.56	88.20%
Meetings & Travel Expenses	6303	185.69	1,375.00	1,189.31	86.50%
Medical - Pre-Emp Processing and Annual Exams	6311	3,400.65	30,000.00	26,599.35	88.66%
Ambulance Billing Administration Fees	6312	36,278.15	62,000.00	25,721.85	41.49%
Outside Attorney Fees	6313	65,069.64	150,000.00	84,930.36	56.62%
Outside CPR Instructors	6314	1,610.00	3,000.00	1,390.00	46.33%
CCC County Tax Administration Fee	6316	0.00	190,000.00	190,000.00	100.00%
Professional Services	6317	24,565.00	40,000.00	15,435.00	38.59%
Professional Services - Labor Negotiator	6318	76,846.45	50,000.00	(26,846.45)	(53.69)%

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures - General Fund Actual to Budget 18/19  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Total Budget \$ - Original	Total Budget \$ Variance - Original	Percent Total Budget Remaining - Original
Professional Services - Technology	6319	116,196.00	248,312.00	132,116.00	53.21%
Professional Services - Pre-Employment Investigations	6320	9,971.22	15,000.00	5,028.78	33.53%
Professional Services - Promotional Exams & Recruitment	6321	1,245.88	21,000.00	19,754.12	94.07%
Professional Services-OPEB Actuarial Valuation	6322	4,740.76	4,000.00	(740.76)	(18.52)%
Exterior Hazard Removal	6323	14,689.13	25,000.00	10,310.87	41.24%
Professional Services-Prop Tax Audit & Forecasting	6326	1,575.00	12,600.00	11,025.00	87.50%
Professional Services	6327	12,940.00	14,000.00	1,060.00	7.57%
Burn Trailer Grant Maintenance	6352	0.00	3,500.00	3,500.00	100.00%
Testing Materials & Training Props	6354	7,326.70	12,000.00	4,673.30	38.94%
Career Development Classes	6357	3,737.15	15,000.00	11,262.85	75.09%
Target Safety Online Training	6359	2,720.00	6,500.00	3,780.00	58.15%
Training & Education Classes-Paramedic & EMT CE	6360	8,268.96	5,000.00	(3,268.96)	(65.38)%
District Sponsored Training-Mandated	6361	1,910.32	35,000.00	33,089.68	94.54%
Election Expense	6465	200.00	22,000.00	21,800.00	99.09%
Recruiting Costs	6470	10,000.00	75,000.00	65,000.00	86.67%
Strike Team Supplies	6474	12,962.98	4,500.00	(8,462.98)	(188.07)%
Community Emergency Response Team	6475	14.60	6,500.00	6,485.40	99.78%
Exercise Supplies/Maint.	6476	660.85	5,000.00	4,339.15	86.78%
Recognition Supplies	6478	788.36	5,000.00	4,211.64	84.23%
Other Special Departmental Exp	6479	37,286.27	65,350.00	28,063.73	42.94%
Public Education Supplies	6480	2,488.65	3,000.00	511.35	17.05%
CPR Supplies	6481	1,274.96	3,000.00	1,725.04	57.50%
LAFCO	6482	11,623.56	12,000.00	376.44	3.14%
Emergency Preparedness Expense	6484	9,164.91	22,500.00	13,335.09	59.27%
Misc. Services & Supplies	6490	11,611.31	30,000.00	18,388.69	61.30%
Fire Chief Contingency	6491	5,909.09	100,000.00	94,090.91	94.09%
Property & Liability Insurance	6540	55,621.00	48,000.00	(7,621.00)	(15.88)%
<b>Total Operating Expense</b>		<u>1,040,867.04</u>	<u>2,585,582.00</u>	<u>1,544,714.96</u>	<u>59.74%</u>
Other Expense					
Bank Fees	7510	2,857.13	3,300.00	442.87	13.42%
Interest on County Teeter Account	7520	0.00	50.00	50.00	100.00%
County Tax Collection Fees	7530	254.56	300.00	45.44	15.15%
Transfers to Debt Service Fund	7999	507,028.45	1,085,000.00	577,971.55	53.27%
<b>Total Other Expense</b>		<u>510,140.14</u>	<u>1,088,650.00</u>	<u>578,509.86</u>	<u>53.14%</u>
<b>Total Expenditures</b>		<u>12,961,673.21</u>	<u>25,213,544.00</u>	<u>12,251,870.79</u>	<u>48.59%</u>
<b>Excess of Revenues Over/ (Under) Expenditures</b>		<u>11,118,123.24</u>	<u>(583,185.00)</u>	<u>11,701,308.24</u>	<u>(2,006.45)%</u>

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures - Capital Projects Fund Actual to Budget-18/19  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Total Budget - Original	Total Budget Variance - Original	Percent Total Budget Remaining - Original
<b>Revenue</b>					
Use of Money & Property					
Investment Earnings	4181	34,393.31	10,000.00	24,393.31	243.93%
Total Use of Money & Property		34,393.31	10,000.00	24,393.31	243.93%
Charges for Service					
Impact Mitigation Fees	4743	37,200.00	40,000.00	(2,800.00)	(7.00)%
Total Charges for Service		37,200.00	40,000.00	(2,800.00)	(7.00)%
Other Revenue					
Other Revenue-Misc.	4974	38,286.50	0.00	38,286.50	0.00%
Sale of Surplus Property	4980	35,200.00	100,000.00	(64,800.00)	(64.80)%
Transfers In	4999	0.00	73,186.00	(73,186.00)	(100.00)%
Total Other Revenue		73,486.50	173,186.00	(99,699.50)	(57.57)%
Total Revenue		145,079.81	223,186.00	(78,106.19)	(35.00)%
<b>Expenditures</b>					
Other Expense					
Bank Fees	7510	76.00	100.00	24.00	24.00%
Fire Flow Tax Collection Fees	7531	11,434.68	14,000.00	2,565.32	18.32%
Capital Contingency-Facilities, ...	7700	0.00	150,000.00	150,000.00	100.00%
Apparatus/Vehicles-Fixed Asset...	7703	0.00	160,000.00	160,000.00	100.00%
Buildings-Station #43-Fixed Ass...	7706	1,836,492.52	3,723,394.00	1,886,901.48	50.68%
FEMA (AFG) Grants-Fixed Asse...	7707	0.00	50,000.00	50,000.00	100.00%
Misc. Equipment Expense	7709	34,442.05	84,650.00	50,207.95	59.31%
Total Other Expense		1,882,445.25	4,182,144.00	2,299,698.75	54.99%
Total Expenditures		1,882,445.25	4,182,144.00	2,299,698.75	54.99%
Excess of Revenues Over/ (Under) Expenditures		(1,737,365.44)	(3,958,958.00)	2,221,592.56	(56.12)%

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures - Debt Service Fund Actual to Budget-18/19  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Total Budget \$ - Original	Total Budget \$ Variance - Original	Percent Total Budget Remaining - Original
<b>Revenue</b>					
<b>Taxes</b>					
Property Tax-Current Secured	4010	3,543,473.00	3,543,473.00	0.00	0.00%
Total Taxes		3,543,473.00	3,543,473.00	0.00	0.00%
<b>Use of Money &amp; Property</b>					
Investment Earnings	4181	439.42	5,000.00	(4,560.58)	(91.21)%
Total Use of Money & Property		439.42	5,000.00	(4,560.58)	(91.21)%
<b>Other Revenue</b>					
Transfers In	4999	507,028.45	1,011,814.00	(504,785.55)	(49.89)%
Total Other Revenue		507,028.45	1,011,814.00	(504,785.55)	(49.89)%
Total Revenue		4,050,940.87	4,560,287.00	(509,346.13)	(11.17)%
<b>Expenditures</b>					
<b>Other Expense</b>					
Pension Obligation Bond Principal Payment	7900	2,640,000.00	2,640,000.00	0.00	0.00%
Pension Obligation Bond Interest Payment	7901	667,377.00	667,377.00	0.00	0.00%
Apparatus Lease Principal Payment	7902	321,751.26	646,542.00	324,790.74	50.24%
Apparatus Lease Interest Payment	7903	23,482.56	43,927.00	20,444.44	46.54%
Lease Agreement Station 43 Principal	7906	123,000.00	245,000.00	122,000.00	49.80%
Lease Agreement Station 43 Interest	7907	38,794.63	76,345.00	37,550.37	49.19%
Transfers to Other Funds	7997	542.43	0.00	(542.43)	0.00%
Total Other Expense		3,814,947.88	4,319,191.00	504,243.12	11.67%
Total Expenditures		3,814,947.88	4,319,191.00	504,243.12	11.67%
Excess of Revenues Over/ (Under) Expenditures		235,992.99	241,096.00	(5,103.01)	(2.12)%

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
27 - Capital Projects Fund  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
<b>Revenue</b>				
Use of Money & Property				
Investment Earnings	4181	34,393.31	5,833.31	28,560.00
Total Use of Money & Property		34,393.31	5,833.31	28,560.00
Charges for Service				
Impact Mitigation Fees	4743	37,200.00	23,333.31	13,866.69
Total Charges for Service		37,200.00	23,333.31	13,866.69
Other Revenue				
Other Revenue-Misc.	4974	38,286.50	0.00	38,286.50
Sale of Surplus Property	4980	35,200.00	58,333.31	(23,133.31)
Transfers In	4999	0.00	42,691.81	(42,691.81)
Total Other Revenue		73,486.50	101,025.12	(27,538.62)
Total Revenue		145,079.81	130,191.74	14,888.07
<b>Expenditures</b>				
Other Expense				
Bank Fees	7510	76.00	58.31	(17.69)
Fire Flow Tax Collection Fees	7531	11,434.68	8,166.69	(3,267.99)
Capital Contingency-Facilities, Equipment	7700	0.00	87,500.00	87,500.00
Apparatus/Vehicles-Fixed Asset Expenditures	7703	0.00	93,333.31	93,333.31
Buildings-Station #43-Fixed Asset Expenditures	7706	1,836,492.52	2,171,979.81	335,487.29
FEMA (AFG) Grants-Fixed Asset Expenditures	7707	0.00	29,166.69	29,166.69
Misc. Equipment Expense	7709	34,442.05	49,379.19	14,937.14
Total Other Expense		1,882,445.25	2,439,584.00	557,138.75
Total Expenditures		1,882,445.25	2,439,584.00	557,138.75
Excess of Revenues Over/ (Under) Expenditures		<u>(1,737,365.44)</u>	<u>(2,309,392.26)</u>	<u>572,026.82</u>

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
50 - General Fund  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
<b>Revenue</b>				
<b>Taxes</b>				
Property Tax-Current Secured	4010	19,701,837.83	11,585,929.81	8,115,908.02
Property Tax-Supplemental	4011	127,826.26	175,000.00	(47,173.74)
Property Tax-Unitary	4013	238,262.43	116,666.69	121,595.74
Property Tax-Curr Unsecured	4020	611,108.44	350,000.00	261,108.44
Prop Tax- Prior Secured	4030	(29,636.70)	(32,083.31)	2,446.61
Prop Tax-Prior Supplement	4031	(1,008.27)	(20,416.69)	19,408.42
Prop Tax Prior Unsecured	4035	9,453.23	(5,833.31)	15,286.54
Fire Flow Tax	4066	1,084,245.06	632,916.69	451,328.37
<b>Total Taxes</b>		<b>21,742,088.28</b>	<b>12,802,179.88</b>	<b>8,939,908.40</b>
<b>Use of Money &amp; Property</b>				
Investment Earnings	4181	19,670.28	1,750.00	17,920.28
<b>Total Use of Money &amp; Property</b>		<b>19,670.28</b>	<b>1,750.00</b>	<b>17,920.28</b>
<b>Intergovernmental Revenue</b>				
Homeowners Relief Tax	4385	0.00	89,833.31	(89,833.31)
Intergovernmental Revenue-Federal Grants	4437	173,463.00	280,000.00	(106,537.00)
CA FF JAC Training Funds	4440	0.00	8,750.00	(8,750.00)
Other/In Lieu of Taxes	4580	939.70	526.19	413.51
Measure H-Emerg Med Ser Subsid	4896	0.00	49,882.56	(49,882.56)
<b>Total Intergovernmental Revenue</b>		<b>174,402.70</b>	<b>428,992.06</b>	<b>(254,589.36)</b>
<b>Charges for Service</b>				
Permits	4740	354.00	1,166.69	(812.69)
Plan Review	4741	159,958.00	145,833.31	14,124.69
Inspection Fees	4742	24,044.00	20,416.69	3,627.31
Weed Abatement Charges	4744	19,117.86	14,583.31	4,534.55
CPR/First Aid Classes	4745	893.00	1,166.69	(273.69)
Reports/ Photocopies	4746	222.00	204.19	17.81
Other Charges for Service	4747	8,607.00	3,500.00	5,107.00
<b>Total Charges for Service</b>		<b>213,195.86</b>	<b>186,870.88</b>	<b>26,324.98</b>
<b>Charges for Service - Ambulance</b>				
Ambulance Service Fees	4898	1,208,713.31	660,916.69	547,796.62
Ambulance Service Fee Reimbursements	4899	(76,704.51)	(67,666.69)	(9,037.82)
Ambulance Collection Recovery Payments	4900	1,551.86	1,166.69	385.17
Ground Emergency Medical Transportation	4901	48,542.00	23,333.31	25,208.69
<b>Total Charges for Service - Ambulance</b>		<b>1,182,102.66</b>	<b>617,750.00</b>	<b>564,352.66</b>
<b>Other Revenue</b>				
Other Revenue-Strike Team Recovery	4971	722,457.67	309,166.69	413,290.98
Other Revenue & Financing Sources	4972	14,450.97	19,250.00	(4,799.03)
Other Revenue-Misc.	4974	9,883.70	583.31	9,300.39
Misc Rebates & Refunds	4975	895.90	583.31	312.59
Sale of Surplus Property	4980	106.00	583.31	(477.31)
Transfers In	4999	542.43	0.00	542.43
<b>Total Other Revenue</b>		<b>748,336.67</b>	<b>330,166.62</b>	<b>418,170.05</b>

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
50 - General Fund  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
Total Revenue		<u>24,079,796.45</u>	<u>14,367,709.44</u>	<u>9,712,087.01</u>
Expenditures				
Salaries & Benefits				
Permanent Salaries	5011	5,064,809.60	5,244,185.31	179,375.71
Temporary Salaries	5013	106,756.11	148,476.44	41,720.33
Overtime	5014	1,385,082.34	835,524.76	(549,557.58)
Deferred Compensation	5015	13,392.00	12,891.69	(500.31)
Overtime - Strike Team	5016	469,948.13	320,845.00	(149,103.13)
Worker's Compensation Recovery	5019	(127,879.85)	(71,166.69)	56,713.16
Payroll Taxes -FICA,SUI	5042	107,359.32	108,815.56	1,456.24
Payroll Processing Fees	5043	9,245.35	11,666.69	2,421.34
Retirement Contributions	5044	2,647,457.58	2,926,156.31	278,698.73
Life/Health Insurance-Permanent Employees	5060	609,332.49	731,500.00	122,167.51
Employee's-Health Insurance Contribution	5061	(70,448.92)	(87,598.00)	(17,149.08)
Retiree Health Insurance	5062	717,078.54	700,000.00	(17,078.54)
Retiree-Health Insurance Contribution	5063	(188,697.58)	(189,583.31)	(885.73)
Unemployment Insurance	5064	611.00	10,500.00	9,889.00
Retiree-Health OPEB Contribution	5065	0.00	256,533.06	256,533.06
Vision Insurance	5066	7,537.92	11,613.00	4,075.08
Pension Rate Stabilization	5067	0.00	641,666.69	641,666.69
Workers' Compensation Insurance	5070	659,082.00	512,618.75	(146,463.25)
Total Salaries & Benefits		<u>11,410,666.03</u>	<u>12,124,645.26</u>	<u>713,979.23</u>
Operating Expense				
Office Supplies	6100	3,866.52	6,839.63	2,973.11
Postage	6101	2,852.25	2,916.69	64.44
Books & Periodicals	6102	1,301.51	4,462.50	3,160.99
Printer Ink Cartridges	6103	1,210.77	1,750.00	539.23
Telephone/Communication	6110	23,291.56	29,166.69	5,875.13
Dispatch/Comm Center Services w/ AVL MDT	6111	0.00	110,075.00	110,075.00
Utilities- Sewer	6120	3,649.67	3,150.07	(499.60)
Utilities-Garbage	6121	7,963.69	7,492.94	(470.75)
Utilities-PG&E	6122	34,492.06	38,319.12	3,827.06
Utilities-Water	6123	8,257.69	8,085.00	(172.69)
Utilities-Medical Waste	6124	1,574.87	1,925.07	350.20
Small Tools & Instruments	6130	3,730.73	4,083.31	352.58
Minor Equipment/Furniture	6131	1,566.74	875.00	(691.74)
Computer Equipment & Supplies	6132	0.00	1,750.00	1,750.00
Gas Power Chain Saw/Other Equipmen	6133	2,140.52	3,966.69	1,826.17
Fire Trail Grading	6135	3,428.04	11,666.69	8,238.65
Fire Fighting Equipment & Supplies	6137	2,071.93	1,983.31	(88.62)



**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
50 - General Fund  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
Fire Fighting Equipment-Hoses & Nozzles	6138	7,450.44	6,416.69	(1,033.75)
Fire Fighting Equipment-Class A Foam	6139	1,986.70	1,166.69	(820.01)
Medical & Lab Supplies	6140	61,947.02	52,500.00	(9,447.02)
Food Supplies	6150	1,133.82	2,333.38	1,199.56
Safety Clothing & Personal Supplies	6160	45,171.16	87,675.00	42,503.84
Non-Safety Clothing & Personal Supplies	6161	650.00	875.00	225.00
Household Expense	6170	5,265.61	9,916.55	4,650.94
Household Expense-Linen	6171	3,557.33	4,013.31	455.98
Public & Legal Notices	6190	3,456.07	6,416.69	2,960.62
Dues, Memberships & Professional Fees	6200	6,505.00	5,655.44	(849.56)
EMT/Paramedic Licensure Fees	6201	1,800.00	3,791.69	1,991.69
Rent & Leases (Equipment)	6250	16,794.58	20,650.00	3,855.42
Computer Software & Maintenance	6251	59,685.21	50,020.81	(9,664.40)
Website Development & Maintenance	6252	1,696.00	1,050.00	(646.00)
EPA ID# Verification Fee	6264	150.00	87.50	(62.50)
CCC HazMat Plan (CUPA)	6265	2,575.00	1,750.00	(825.00)
BAAQMD & Environmental Health Fees	6266	589.00	525.00	(64.00)
Air Monitor Maintenance & Replacement	6269	0.00	758.31	758.31
Maintenance -- Equipment	6270	24,229.17	30,625.07	6,395.90
Central Garage Repairs	6271	45,788.99	116,666.69	70,877.70
Central Garage Gasoline & Oil	6272	44,460.05	37,916.69	(6,543.36)
Central Garage Tires	6273	7,364.03	4,375.00	(2,989.03)
Service/Repair Fuel System Dispensers	6274	1,860.31	2,041.69	181.38
Aerial Ladder & Pump Testing	6275	0.00	583.31	583.31
Smog Inspections	6276	0.00	291.69	291.69
Air Compressor Quarterly Service	6278	1,109.77	875.00	(234.77)
Hydro Test SCBA & Oxy Cylinder	6279	0.00	1,458.31	1,458.31
Tank Testing	6280	0.00	583.31	583.31
Maintenance -- Building	6281	40,604.55	30,333.31	(10,271.24)
Maintenance -- Grounds	6282	755.44	3,733.31	2,977.87
Meetings & Travel Expenses	6303	185.69	802.06	616.37
Medical - Pre-Emp Processing and Annual Exams	6311	3,400.65	17,500.00	14,099.35
Ambulance Billing Administration Fees	6312	36,278.15	36,166.69	(111.46)
Outside Attorney Fees	6313	65,069.64	87,500.00	22,430.36
Outside CPR Instructors	6314	1,610.00	1,750.00	140.00
CCC County Tax Administration Fee	6316	0.00	110,833.31	110,833.31
Professional Services	6317	24,565.00	23,333.31	(1,231.69)

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
50 - General Fund  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
Professional Services - Labor Negotiator	6318	76,846.45	29,166.69	(47,679.76)
Professional Services - Technology	6319	116,196.00	144,848.69	28,652.69
Professional Services - Pre-Employment Investigations	6320	9,971.22	8,750.00	(1,221.22)
Professional Services - Promotional Exams & Recruitment	6321	1,245.88	12,250.00	11,004.12
Professional Services-OPEB Actuarial Valuation	6322	4,740.76	2,333.31	(2,407.45)
Exterior Hazard Removal	6323	14,689.13	14,583.31	(105.82)
Professional Services-Prop Tax Audit & Forecasting	6326	1,575.00	7,350.00	5,775.00
Professional Services	6327	12,940.00	8,166.69	(4,773.31)
Burn Trailer Grant Maintenance	6352	0.00	2,041.69	2,041.69
Testing Materials & Training Props	6354	7,326.70	7,000.00	(326.70)
Career Development Classes	6357	3,737.15	8,750.00	5,012.85
Target Safety Online Training	6359	2,720.00	3,791.69	1,071.69
Training & Education Classes-Paramedic & EMT CE	6360	8,268.96	2,916.69	(5,352.27)
District Sponsored Training-Mandated	6361	1,910.32	20,416.69	18,506.37
Election Expense	6465	200.00	12,833.31	12,633.31
Recruiting Costs	6470	10,000.00	43,750.00	33,750.00
Strike Team Supplies	6474	12,962.98	2,625.00	(10,337.98)
Community Emergency Response Team	6475	14.60	3,791.69	3,777.09
Exercise Supplies/Maint.	6476	660.85	2,916.69	2,255.84
Recognition Supplies	6478	788.36	2,916.69	2,128.33
Other Special Departmental Exp	6479	37,286.27	38,120.88	834.61
Public Education Supplies	6480	2,488.65	1,750.00	(738.65)
CPR Supplies	6481	1,274.96	1,750.00	475.04
LAFCO	6482	11,623.56	7,000.00	(4,623.56)
Emergency Preparedness Expense	6484	9,164.91	13,125.00	3,960.09
Misc. Services & Supplies	6490	11,611.31	17,500.00	5,888.69
Fire Chief Contingency	6491	5,909.09	58,333.31	52,424.22
Property & Liability Insurance	6540	55,621.00	28,000.00	(27,621.00)
<b>Total Operating Expense</b>		<u>1,040,867.04</u>	<u>1,508,256.54</u>	<u>467,389.50</u>
<b>Other Expense</b>				
Bank Fees	7510	2,857.13	1,925.00	(932.13)
Interest on County Teeter Account	7520	0.00	29.19	29.19
County Tax Collection Fees	7530	254.56	175.00	(79.56)
Transfers to Debt Service Fund	7999	507,028.45	632,916.69	125,888.24
<b>Total Other Expense</b>		<u>510,140.14</u>	<u>635,045.88</u>	<u>124,905.74</u>
<b>Total Expenditures</b>		<u>12,961,673.21</u>	<u>14,267,947.68</u>	<u>1,306,274.47</u>

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
50 - General Fund  
From 7/1/2018 Through 1/31/2019

	Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
Excess of Revenues Over/ (Under) Expenditures	<del>11,118,123.24</del>	<del>99,761.76</del>	<del>11,018,361.48</del>

**Moraga-Orinda Fire District**  
Statement of Revenues and Expenditures  
90 - Debt Service Fund  
From 7/1/2018 Through 1/31/2019

		Current Period Actual	Prorated Monthly Budget	Prorated Monthly Variance
<b>Revenue</b>				
<b>Taxes</b>				
Property Tax-Current Secured	4010	3,543,473.00	2,067,025.94	1,476,447.06
Total Taxes		3,543,473.00	2,067,025.94	1,476,447.06
<b>Use of Money &amp; Property</b>				
Investment Earnings	4181	439.42	2,916.69	(2,477.27)
Total Use of Money & Property		439.42	2,916.69	(2,477.27)
<b>Other Revenue</b>				
Transfers In	4999	507,028.45	590,224.81	(83,196.36)
Total Other Revenue		507,028.45	590,224.81	(83,196.36)
Total Revenue		4,050,940.87	2,660,167.44	1,390,773.43
<b>Expenditures</b>				
<b>Other Expense</b>				
Pension Obligation Bond Principal Payment	7900	2,640,000.00	1,540,000.00	(1,100,000.00)
Pension Obligation Bond Interest Payment	7901	667,377.00	389,303.25	(278,073.75)
Apparatus Lease Principal Payment	7902	321,751.26	377,149.50	55,398.24
Apparatus Lease Interest Payment	7903	23,482.56	25,624.06	2,141.50
Lease Agreement Station 43 Principal	7906	123,000.00	142,916.69	19,916.69
Lease Agreement Station 43 Interest	7907	38,794.63	44,534.56	5,739.93
Transfers to Other Funds	7997	542.43	0.00	(542.43)
Total Other Expense		3,814,947.88	2,519,528.06	(1,295,419.82)
Total Expenditures		3,814,947.88	2,519,528.06	(1,295,419.82)
Excess of Revenues Over/ (Under) Expenditures		235,992.99	140,639.38	95,353.61

**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



PERIOD ENDING: DECEMBER 31, 2018  
Investment Performance Review for

**Contra Costa County Employees' Retirement Association**

**35**  
Meeting Date  
**02/27/19**  
Agenda Item  
**#8a.**

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Investment Landscape

TAB I

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Investment Performance  
Review

TAB II



▲ **PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

1ST QUARTER 2019  
Investment Landscape



# Recent Verus research

<https://www.verusinvestments.com/insights/>

## Sound thinking

### PRIORITIES FOR 2019

The start of the year is a good time to consider some of the likely key issues that investors may have to deal with over the next 12 months. Our CIO, Ian Toner, identifies eight topics that are likely to be important during 2019. He also outlines ways that investors might approach each of these topics, and identifies some of the ways they might impact portfolios over the year.

## Topics of interest

### BUILDING EFFECTIVE PRIVATE MARKET PORTFOLIOS

Institutional sponsors often invest in private asset classes to boost the return profile of their overall plan portfolios. Yet, many fall short of achieving the desired returns. We believe that effective portfolio construction is an important component of achieving attractive return targets in private markets. Drawing on our experience over the last 20 years, we highlight the key considerations for any investor seeking to build a private markets portfolio.

### PRIVATE MARKETS COMMITMENT PACING AND CASH FLOW MODELING

Private markets investors are faced with the difficulty of estimating future exposures within their portfolios over a longer time horizon. An effective pacing model designed to manage investor target allocations is a key process for managing exposures accurately. We provide an overview to commitment strategies, maintaining allocations over the long-term and monitoring liquidity risk.



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Fixed income rates & credit	18
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# 4<sup>th</sup> quarter summary

## THE ECONOMIC CLIMATE

- U.S. real GDP growth reached 3.0% in Q3, supported by fiscal stimulus which is more or less expected to fade in 2019. Growth is forecast to moderate in the U.S., in-line with the rest of the developed world. [p. 9](#)
- The U.S. and China ended their most recent round of trade negotiations during the first week of January. China indicated willingness to purchase more American agricultural goods, energy, and other manufactured goods, but little progress is evident overall. [p. 15](#)

## PORTFOLIO IMPACTS

- The Federal Reserve raised the fed funds rate by 0.25% to a range of 2.25%-2.50%. Market expectations for future rate hikes changed dramatically in December. As of year-end, the fed funds futures market is pricing in zero hikes for 2019, and a rate cut for 2020. [p. 19](#)
- Emerging markets were the top equity performer in Q4, as these markets (MSCI EM -7.5%) experienced much less pain than developed markets (S&P 500 -13.5%, MSCI EAFE -12.5%) during the equity sell-off. Currencies stabilized in Q4 (JPMorgan EM Currency Index +0.2%) and emerging market crises concerns faded from the news headlines. [p. 34](#)

# What drove the market in Q4?

“Stocks continue to fall on global growth concerns”

GLOBAL MANUFACTURING PMI					
Q3 17	Q4 17	Q1 18	Q2 18	Q3 18	Q4 18
53.2	54.5	53.3	53.0	52.2	51.5

Article Source: Yahoo Finance, December 14<sup>th</sup>, 2018

“Fed seen slowing, or even stopping, rate hikes next year”

YEAR-END 2020 MARKET IMPLIED FED FUNDS RATE					
Jul	Aug	Sep	Oct	Nov	Dec
2.72%	2.62%	2.82%	2.86%	2.71%	2.38%

Article Source: Reuters, December 10<sup>th</sup>, 2018

“The great cheapening of 2018: global stock valuations now at five-year lows”

MSCI ACWI FORWARD P/E RATIO					
Jul	Aug	Sep	Oct	Nov	Dec
14.9x	14.9x	14.8x	13.7x	13.9x	13.0x

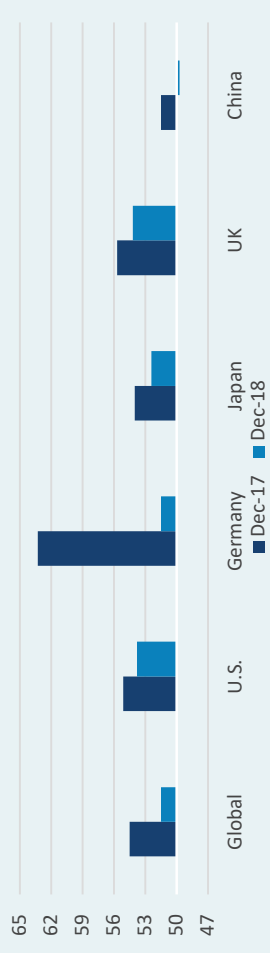
Article Source: Wall Street Journal, December 10<sup>th</sup>, 2018

“Market volatility is surging”

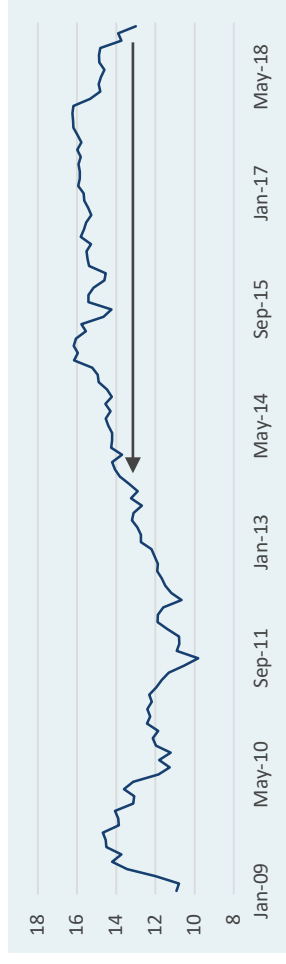
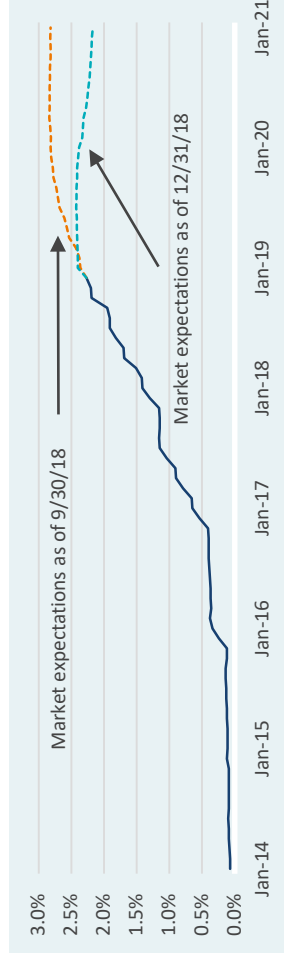
DAILY AVERAGE OF S&P 500 INDEX IMPLIED VOLATILITY (VIX)					
Jul	Aug	Sep	Oct	Nov	Dec
13.1	12.5	12.9	19.4	19.4	25.0

Article Source: Forbes, October 11<sup>th</sup>, 2018

## GLOBAL MANUFACTURING PMIs



Source: Bloomberg, JPMorgan, Market, as of 12/31/18, 50 indicates a neutral level



Source: Bloomberg, as of 12/31/18, blended 12-month forward earnings

# Tough years for diversification

RELATIVE TO DOMESTIC 60/40	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
US Large	8.6	(7.8)	(8.0)	(12.1)	9.5	2.3	0.8	4.4	(0.5)	(14.0)	6.9	2.7	(2.4)	4.1	14.5	3.3	0.2	3.2	7.4	(1.9)
US Small	8.9	(1.7)	6.4	(10.5)	28.1	9.7	0.5	7.0	(7.6)	(10.8)	7.6	14.5	(8.7)	4.4	20.9	(5.5)	(5.6)	12.5	0.2	(8.5)
International Developed	14.6	(12.9)	(17.5)	(5.9)	19.4	11.6	9.4	14.9	5.2	(20.4)	12.2	(4.6)	(16.6)	5.4	4.9	(15.3)	(2.0)	(7.8)	10.6	(11.3)
Emerging Markets	(12.4)	1.3	1.3	3.8	36.6	17.0	29.9	20.7	33.4	(30.3)	58.9	6.5	(22.9)	6.3	(20.5)	(12.6)	(16.1)	2.4	22.9	(12.1)
US TIPS	(10.0)	14.5	11.8	26.6	(10.8)	(0.1)	(1.3)	(11.0)	5.6	20.6	(8.2)	(6.1)	9.1	(4.9)	(26.5)	(6.8)	(2.6)	(4.1)	(11.4)	1.2
US Treasury	(17.7)	16.0	10.7	24.5	(17.3)	(4.2)	(1.7)	(8.7)	4.2	41.0	(25.6)	(3.0)	11.1	(7.7)	(23.9)	(1.4)	0.4	(7.7)	(11.8)	3.4
Global Sovereign ex-US	(18.9)	(1.5)	-	31.9	(1.0)	3.5	(12.9)	(4.1)	4.9	32.4	(15.3)	(6.3)	0.7	(10.1)	(22.8)	(13.2)	(6.0)	(6.9)	(5.1)	1.6
Core Fixed Income	(13.2)	12.9	12.3	20.3	(15.1)	(4.3)	(1.7)	(7.1)	1.0	28.2	(13.7)	(5.9)	3.3	(7.7)	(19.9)	(4.4)	(0.7)	(6.2)	(10.9)	2.5
High Yield Corp. Credit	(10.0)	(4.6)	9.2	8.6	9.8	2.5	(1.4)	0.4	(4.1)	(3.2)	38.6	2.7	0.5	3.9	(10.5)	(7.9)	(5.7)	8.3	(6.9)	0.4
Bank Loans.	(12.4)	1.3	3.9	10.0	(19.2)	(3.4)	1.0	(4.7)	(3.9)	(6.1)	32.0	(2.3)	(3.0)	(2.2)	(12.6)	(8.8)	(1.9)	1.4	(10.3)	3.6
Global Credit	(12.4)	1.3	7.1	23.6	(2.8)	1.4	(6.1)	(3.1)	0.6	13.5	1.4	(5.7)	(0.1)	0.2	(16.8)	(8.0)	(4.6)	(3.4)	(5.2)	(0.8)
Emerging Market Debt (Hard)	7.2	14.0	13.6	23.7	3.0	3.0	6.1	(1.5)	0.2	11.0	10.2	(0.2)	2.8	5.5	(23.2)	(3.0)	-	1.4	(4.1)	(1.8)
Emerging Market Debt (Local)	(12.4)	1.3	3.9	10.0	(19.2)	(8.6)	2.2	3.8	12.1	17.8	2.4	3.3	(6.3)	4.9	(26.9)	(16.1)	(16.1)	1.1	0.8	(3.7)
Commodities	11.9	33.1	(15.6)	35.9	4.7	0.5	17.3	(9.3)	10.2	(12.6)	(0.7)	4.4	(17.8)	(13.0)	(27.4)	(27.4)	(25.9)	3.0	(12.7)	(8.8)
Hedge Fund	14.1	5.4	6.7	11.0	(7.6)	(1.7)	3.4	(1.0)	4.3	1.6	(8.1)	(6.7)	(10.2)	(7.1)	(8.9)	(7.0)	(1.5)	(8.3)	(6.6)	(1.0)
REITs	(15.0)	32.3	16.2	13.6	17.0	24.6	9.7	24.6	(23.6)	(16.2)	9.0	16.2	4.7	5.7	(16.0)	21.4	3.0	(1.6)	(10.2)	(2.3)
Risk Parity (HFR Vol 10)	(12.4)	1.3	3.9	10.0	(19.2)	9.1	11.4	(9.1)	4.7	6.6	(3.6)	5.7	4.7	1.1	(18.4)	(2.3)	(6.3)	1.2	(0.9)	6.4
Core Real Estate (NCREIF ODCE)	0.8	15.6	9.5	15.5	(9.9)	4.5	17.3	4.9	10.0	13.0	(49.4)	4.0	11.5	(1.0)	(4.0)	2.1	13.8	-	(6.8)	7.8
Domestic 60/40 (S&P 500, BC Universal)	12.4	(1.3)	(3.9)	(10.0)	19.2	8.6	4.1	11.4	6.0	(23.0)	19.6	12.4	4.5	11.9	17.9	10.4	1.2	8.8	14.4	(2.5)

% of Assets Outperforming Domestic 60/40



3.5

# Economic environment

3.5

# U.S. economics summary

- Real GDP growth reached 3.0% YoY (3.4% quarterly annualized rate) in the third quarter, the fastest pace of growth in more than three years. Consumers drove growth after bouncing back from a spending slowdown in Q1.
- The U.S. and China ended the recent round of trade negotiations during the first week of January. The U.S. noted China's willingness to purchase more American agricultural goods, energy, and other manufactured goods, but little progress is evident overall.
- U.S. inflation remained near the Federal Reserve's 2.0% target. Headline U.S. inflation fell from 2.3% to 1.9% over the quarter, driven by lower oil prices. U.S. core CPI remained at 2.2%. Moderate inflation has likely contributed to the willingness of the Fed to keep on course with rate hikes.
- The labor market remained a bright spot in the U.S. economy. On average, nonfarm payrolls increased by 254,000 per month during the quarter, well above the expansion average of 201,000.
- The headline U-3 unemployment rate rose from 3.7% to 3.9%, in part due to an increase in labor force participation.
- Fiscal stimulus continued to support growth, although the impacts will likely subside in the first half of 2019. Stimulus may be masking a slowdown in the economy, which would be directionally in line with the rest of the developed world.
- The Federal Reserve hiked the target range for its benchmark interest rate by 25 basis points to a new range of 2.25% - 2.50%. Consistent with expectations for a "dovish hike", central bank officials re-rated hike expectations in 2019 from three to two.

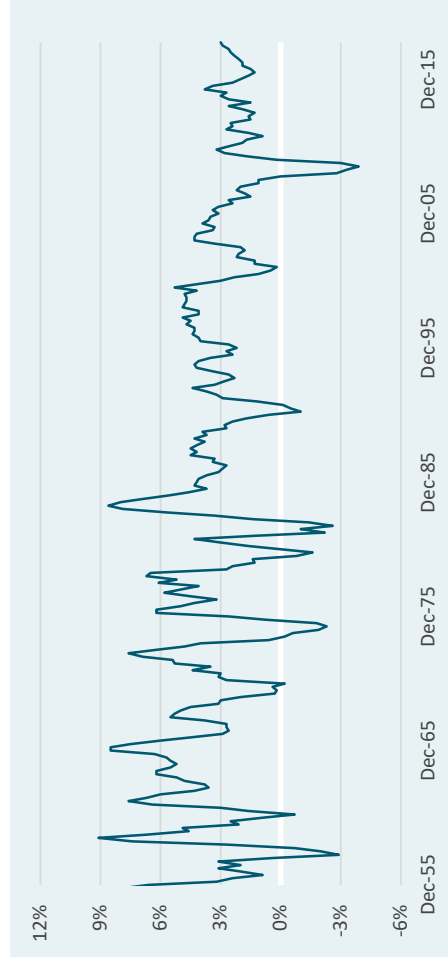
	Most Recent	12 Months Prior
GDP (YoY)	3.0% 9/30/18	2.3% 9/30/17
Inflation (CPI YoY, Core)	2.2% 12/31/18	1.8% 12/31/17
Expected Inflation (5yr-5yr forward)	1.8% 12/31/18	2.0% 12/31/17
Fed Funds Target Range	2.25 – 2.50% 12/31/18	1.25 – 1.50% 12/31/17
10 Year Rate	2.7% 12/31/18	2.4% 12/31/17
U-3 Unemployment	3.9% 12/31/18	4.1% 12/31/17
U-6 Unemployment	7.6% 12/31/18	8.1% 12/31/17

# GDP growth

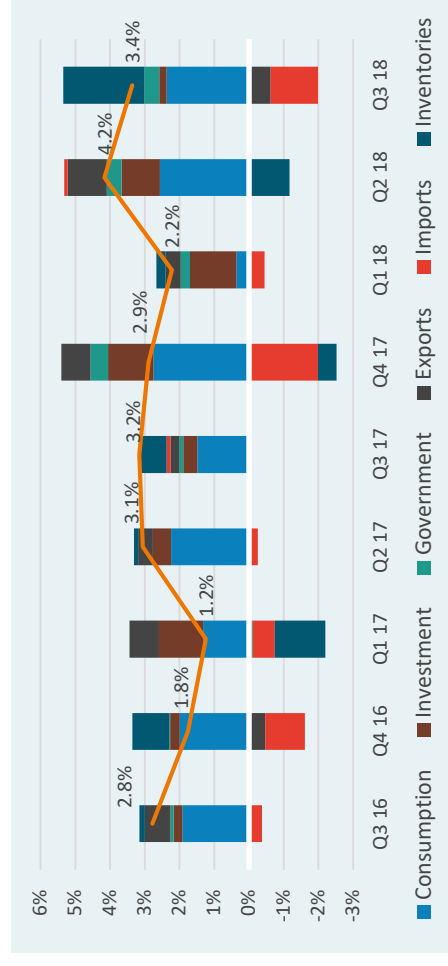
Real GDP growth reached 3.0% YoY (3.4% quarterly annualized rate) in the third quarter, the fastest pace in more than three years. Consumer spending was a core driver for the second straight quarter after bouncing back from a spending slowdown earlier in the year. A tight labor market, firming wage growth, and low inflation created a strong backdrop for spending, which added 2.4% to the quarterly growth rate. A build in inventories was the second biggest contributor to growth, which could be the result of pulling future growth into the current quarter as inventory builds are typically drawn down in subsequent quarters.

Fiscal stimulus continued to support growth, although its impact will likely subside in the first half of 2019. This support may be masking a slowdown in the U.S. economy, which has already started to appear in other parts of the world. More current metrics of the economy, such as PMIs, are indeed indicating that activity is slowing from recent high levels, but growth remains positive. However, fading fiscal stimulus and monetary tightening (that impacts the economy with a lag) present unique challenges to the economic outlook and increase the possibility of a more significant slowdown.

U.S. REAL GDP GROWTH (YOY)



U.S. GDP GROWTH ATTRIBUTION



3.5

# Inflation

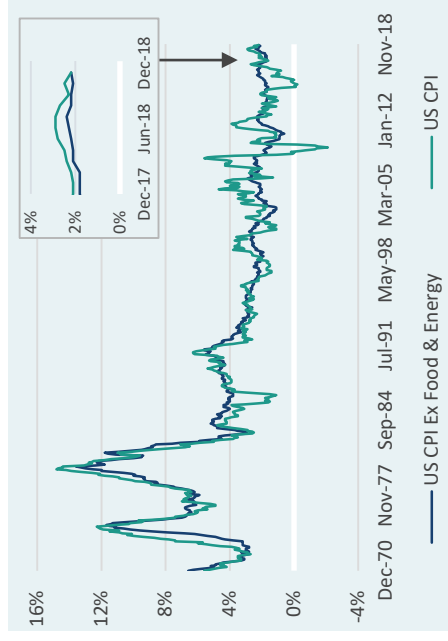
U.S. inflation remained near the Federal Reserve's 2.0% target. Headline U.S. inflation fell from 2.3% to 1.9% over the quarter, driven by lower oil prices. U.S. core CPI remained at 2.2%. Moderate inflation has likely contributed to the willingness of the Fed to keep on course with rate hikes.

Inflation fears remained muted as indicated by consumer expectations and market pricing. Breakeven inflation rates implied by U.S. 10-year Treasury pricing fell by a net 0.4% to 1.7% in the fourth quarter alongside a significant drop in

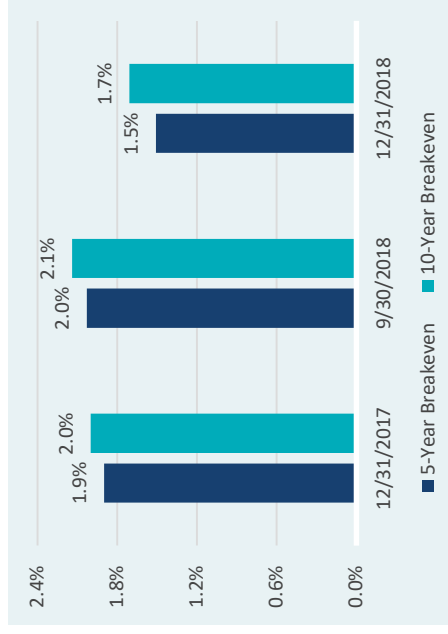
energy prices. Consumer inflation expectations moderated by a net 0.3% during that time, according to the University of Michigan consumer survey.

U.S.-China tariffs have recently been cited as a potential source of inflation risk. However, flow-through effects from import prices to consumer prices are complex, and the outcome may be more nuanced. We do not expect a material increase in inflation due to the tariffs that have been implemented.

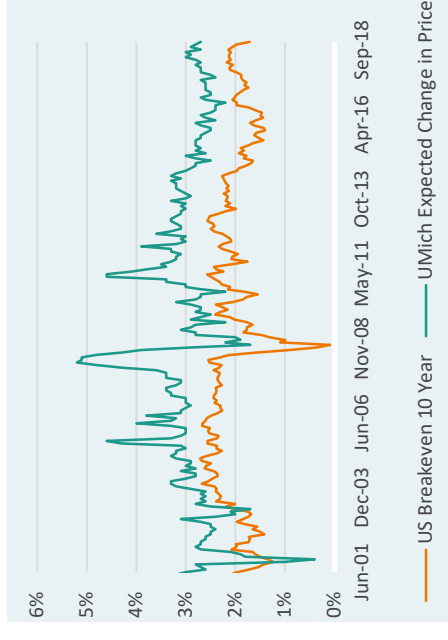
## U.S. CPI (YOY)



## BREAKEVEN INFLATION RATES



## INFLATION EXPECTATIONS



3.5



# Labor market

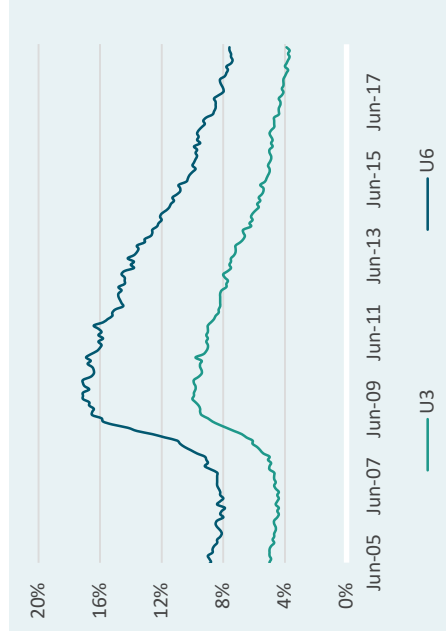
The labor market remained a bright spot in the U.S. economy, although this strength may reflect where the economy has been rather than where it is headed. Labor market conditions tend to lag the broader economy.

employment may have played a role in enticing people to come back to work. Core age participation (ages 25-54) rose from 81.8% to 82.3% in the fourth quarter. This measure is up a net 1.7% (this increase roughly equates to 3.5 million more employed persons, all else equal) since hitting a secular low in late 2015.

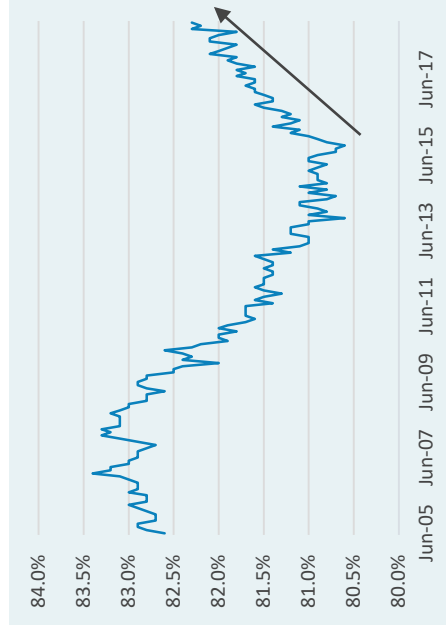
On average, nonfarm payrolls increased by 254,000 per month during the quarter, well above the expansion average of 201,000. The headline U-3 unemployment rate ticked up from 3.7% to 3.9%, in part due to an increase in labor force participation. Rising wages and ease of obtaining

The tightness in the labor market appears to be translating to above average wage gains. In December, wage growth hit a cycle high of 3.3% from the previous year.

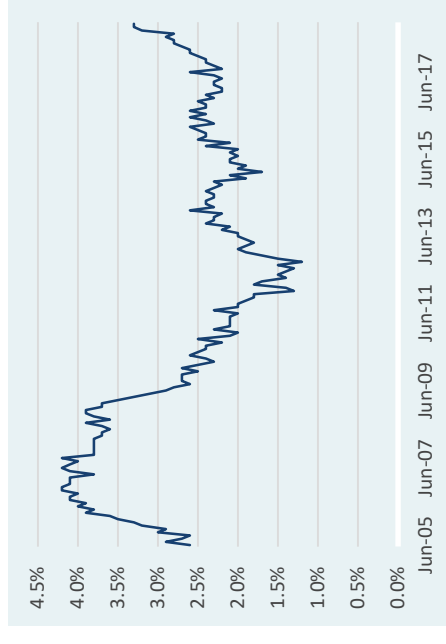
**UNEMPLOYMENT RATE**



**CORE AGE PARTICIPATION RATE**



**WAGE GROWTH (YOY)**



3.5

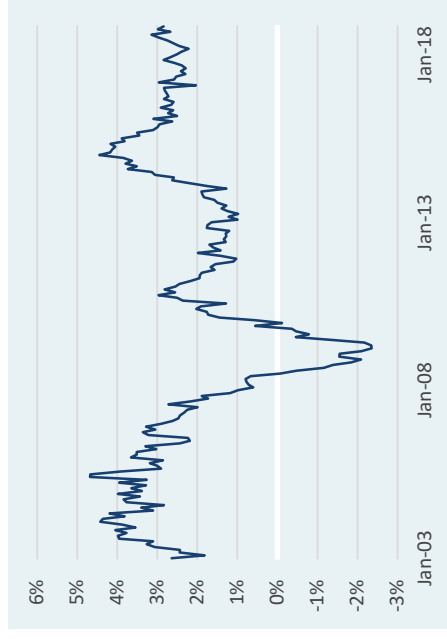
# The consumer

Real consumer spending rose 2.8% year-over-year, and remains a core driver of recent economic growth.

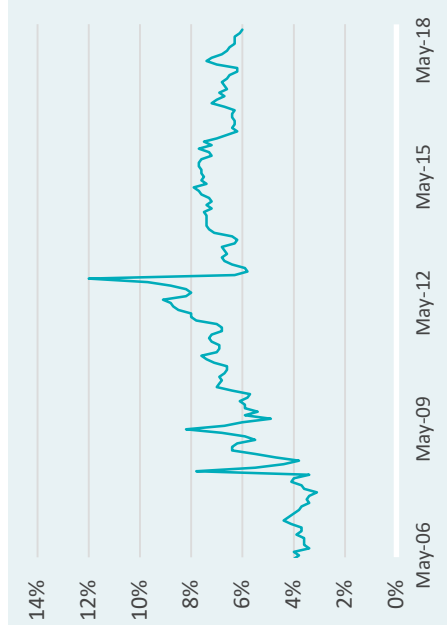
A strong job market, decent wage gains, and low interest rates have provided continued support to spending. Although conditions and sentiment are strong relative to history, U.S. consumers appear to be behaving conservatively. Overall, spending growth and debt usage has been more moderate than seen in recent expansions, perhaps partly due to memories of the 2008-2009 recession.

The 30-year fixed mortgage rate approached 5% towards the end of the year but tapered off as interest rates fell in December. Credit card interest rates have also risen materially. We believe further rate increases from this point will most likely be minimal, but that recent rate rises will act as a headwind to the consumer in many areas. For example, higher home values post-2009 were possible because low interest rates helped keep monthly payments within budgets. Now the reversal in interest rates, paired with additional home price appreciation, has squeezed the budget for new homeowners and contributed to a slowdown in the U.S. housing market.

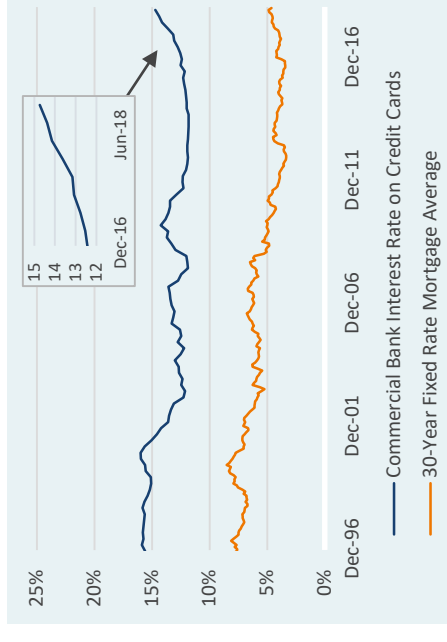
**REAL CONSUMER SPENDING (YOY)**



**PERSONAL SAVINGS RATE**



**CONSUMER INTEREST RATES**



# Sentiment

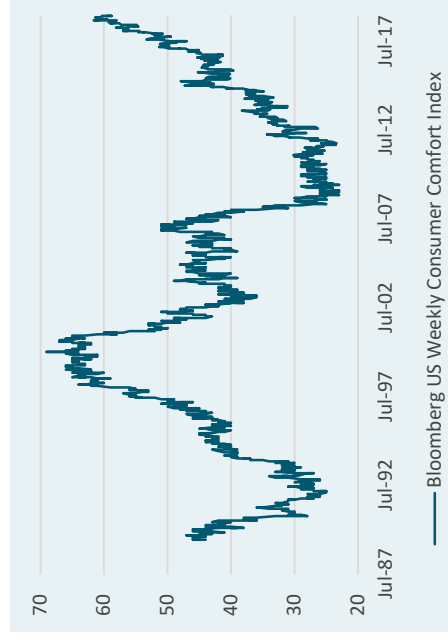
Both consumer and business sentiment indicators were resilient in the fourth quarter, holding at above average levels.

focused on positive perceptions of employment and income prospects, according to the survey administrators.

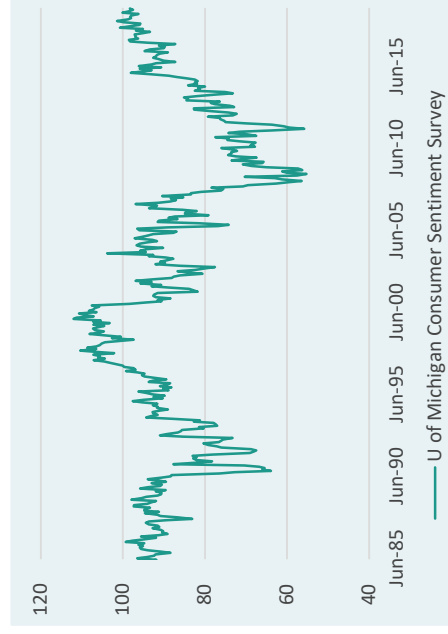
The University of Michigan Index of Consumer Sentiment fell modestly during the quarter from 100.1 to 98.3, but is still elevated relative to its own history (87<sup>th</sup> percentile since index inception in 1978). The recent plunge in stock prices was only reported by 12% of respondents as a primary economic concern. Consumers were instead

Small business sentiment drifted lower, but remained near record highs. At 104.4, the December reading for the NFIB Small Business Optimism Index was in the 92<sup>nd</sup> percentile of its own history going back to 1985.

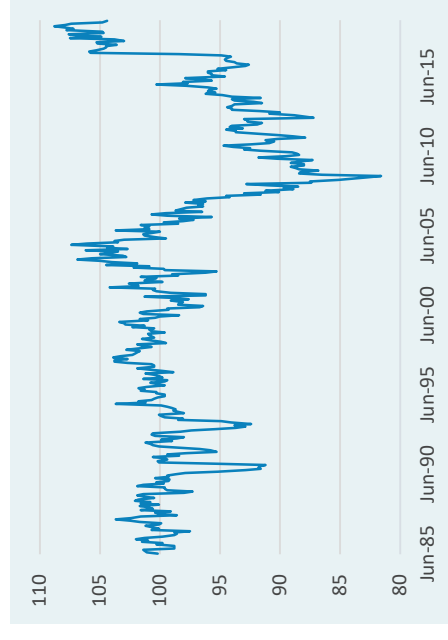
**CONSUMER COMFORT INDEX**



**CONSUMER SENTIMENT**



**NFIB SMALL BUSINESS OPTIMISM INDEX**



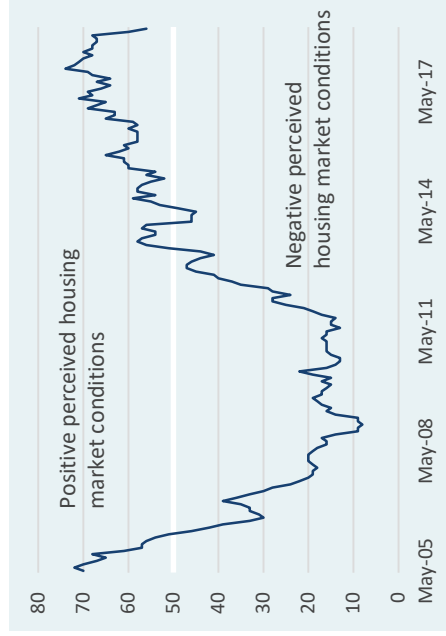
3.5

# Housing

Housing market data that was released in the fourth quarter consistently came in below expectations. Monetary tightening has led to higher interest rates and likely begun to weigh on sales activity and home price appreciation. The National Association of Homebuilders (NAHB) Housing Market Index, based on a monthly survey of NAHB members designed to take the pulse of the single-family housing market, fell sharply from 67 to 56. However, the survey suggests conditions remain favorable overall, as 50 represents the neutral point for the index.

Less favorable buying conditions have flowed through to a slower pace of home sales despite a slowdown in price increases. Existing home sales, which make up the majority of national sales, fell to an annualized rate of 5.3 million in November, the slowest pace since early 2016. Home prices continue to march upward, but at a more moderate pace. In the most recent October print, the Case-Shiller National Home Price Index rose 5.5% year-over-year.

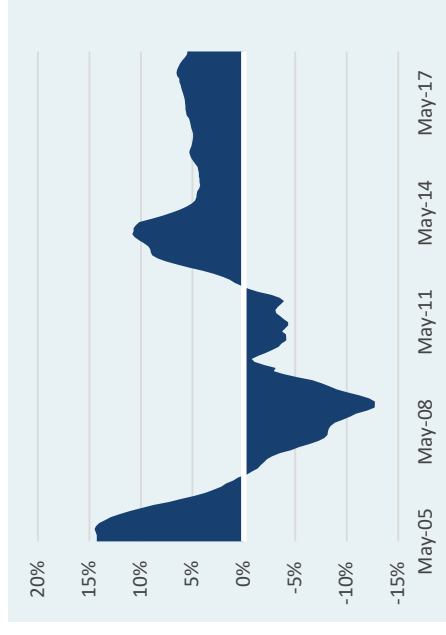
**NAHB HOUSING MARKET INDEX**



**EXISTING HOME SALES (MILLIONS)**



**NATIONAL HOME PRICE INDEX (YOY)**



3.5

# International economics summary

- Outside of the U.S., economic growth has slowed in recent quarters, most notably in Europe and Japan. Developed real GDP growth is expected to slow from 2.2% in 2018 to 2.0% in 2019, according to the World Bank.
- The U.S. and China ended the recent round of trade negotiations during the first week of January. Officials continue to work towards an agreement, though little progress is been demonstrated thus far. On March 2<sup>nd</sup>, U.S. tariffs are scheduled to increase from 10% to 25% on \$200 billion of Chinese imports.
- China's Purchasing Managers' Index (PMI) fell to 49.7 in December. An index reading of 50 indicates economic expansion while a reading below 50 indicates contraction. This reading is in line with a string of weak economic data coming out of China.
- The House of Commons in British Parliament overwhelmingly rejected Theresa May's Brexit deal that had been approved by the European Union. The details surrounding the terms of Great Britain's exit remain uncertain ahead of the March 30<sup>th</sup> deadline. Potential resolutions include renegotiating a deal with the EU, leaving without a deal, or delaying the exit deadline.
- The U.S. dollar appreciated by 1.9% during the quarter on a trade-weighted basis. A slowing U.S. economy would likely put downside pressure on the dollar, which has been boosted recently by U.S. economic exceptionalism.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	3.0% 9/30/18	2.2% 11/30/18	3.9% 12/31/18
Eurozone	1.6% 9/30/18	1.8% 11/30/18	8.1% 10/31/18
Japan	0.0% 9/30/18	0.8% 11/30/18	2.5% 11/30/18
BRICS Nations	5.6% 9/30/18	2.4% 12/31/18	5.4% 9/30/18
Brazil	1.3% 9/30/18	4.1% 11/30/18	11.7% 12/31/18
Russia	1.5% 9/30/18	4.3% 12/31/18	4.8% 11/30/18
India	7.1% 9/30/18	2.3% 11/30/18	8.8% 12/31/17
China	6.5% 9/30/18	2.2% 11/30/18	3.8% 9/30/18

# International economics

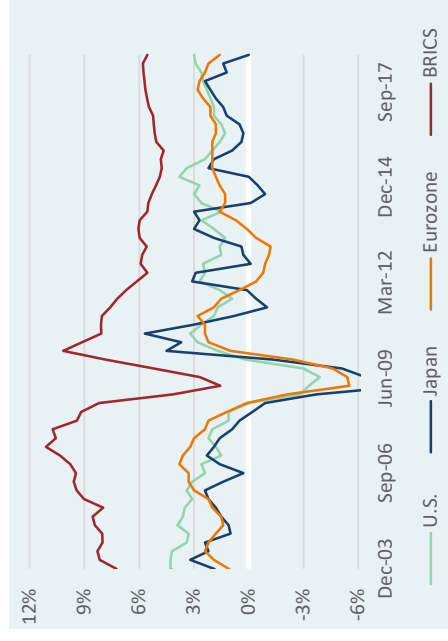
Outside of the U.S., economic growth slowed in recent quarters, most notably in Europe and Japan. Inflation turned lower in Q4 alongside falling energy prices. Low inflation provides greater flexibility for central banks to remain accommodative as needed.

In the Eurozone, real GDP decelerated to 1.6% YoY as many economies struggled with stagnation and social unrest. European Union rules restrict the ability of member nations to fully implement fiscal and monetary stimulus to their economies, which may have contributed to Europe's uneven

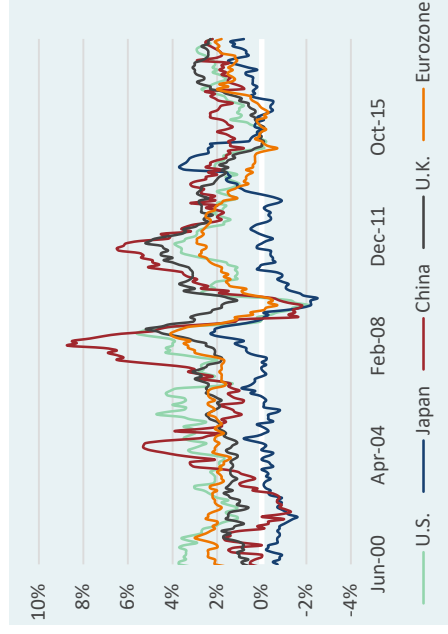
economic recovery. It is possible that certain laggards of the Eurozone will eventually push for greater sovereign control of their economies if stagnation continues. This may result in standoffs such as seen recently between Italy and the EU.

The House of Commons in British Parliament overwhelmingly rejected Theresa May's Brexit deal that had been approved by the European Union. The details surrounding the terms of Great Britain's exit remain uncertain ahead of the March 30th deadline. Potential resolutions include renegotiating a deal with the EU, leaving without a deal, or delaying the exit deadline.

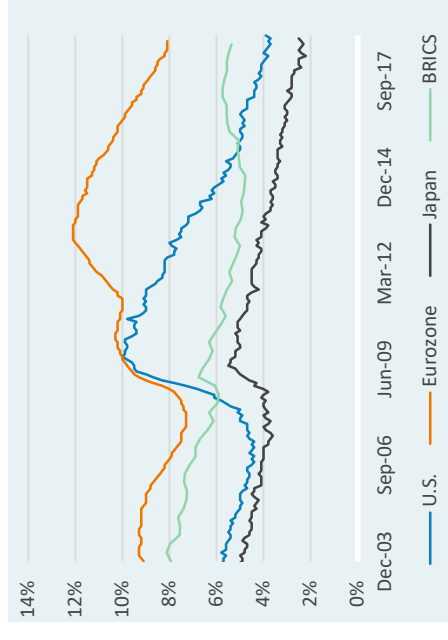
**REAL GDP GROWTH (YOY)**



**INFLATION (CPI YOY)**



**UNEMPLOYMENT RATE**



3.5

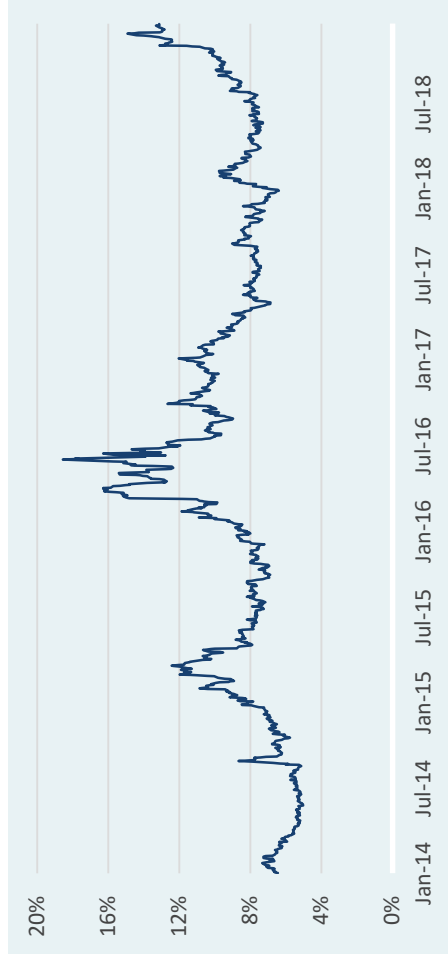
# Brexit

The chaos surrounding Brexit negotiations has not yet had a large impact on markets (outside of higher volatility in the British pound), but it will likely become an increasing area of focus for global investors the closer we get to the March 2019 deadline. While most political and market commentators remain anti-Brexit, when we take a step back and think more dispassionately about the issue, a different picture emerges. Less immigration from Europe will likely be balanced by easier movement from other countries, including the U.S., India, Australia and others with historically strong links to the UK. Some businesses will likely shift to

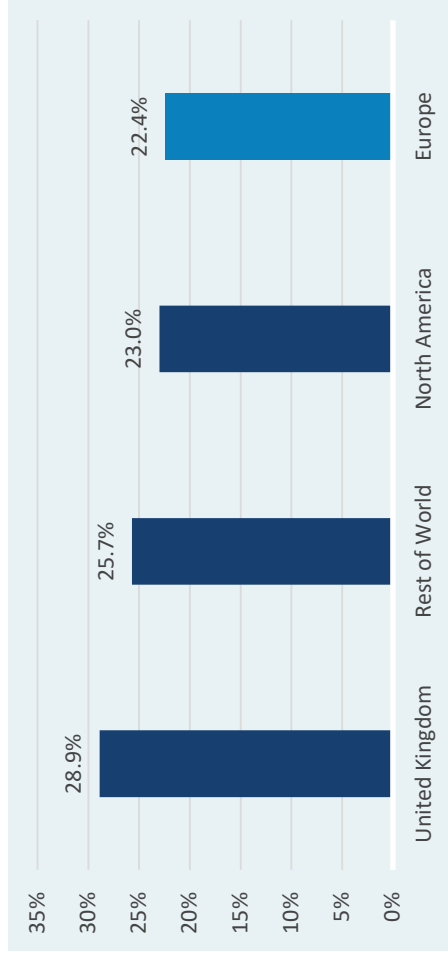
accommodate the UK being outside of the protectionist area of the EU, but for most UK firms, much of their business is either done domestically or with non-EU countries.

There will be both gains and losses from Brexit, and yet current market pricing behavior seems to be putting little focus on the good and exaggerating the bad, which may present investment opportunity, particularly for non-consensus active managers. In the short-term, however, investors should brace for higher volatility.

3-MONTH IMPLIED VOLATILITY OF GBP/USD



FTSE 100 COMPANY REVENUES BY REGION (2017)



3.5

# Fixed income rates & credit

3.5

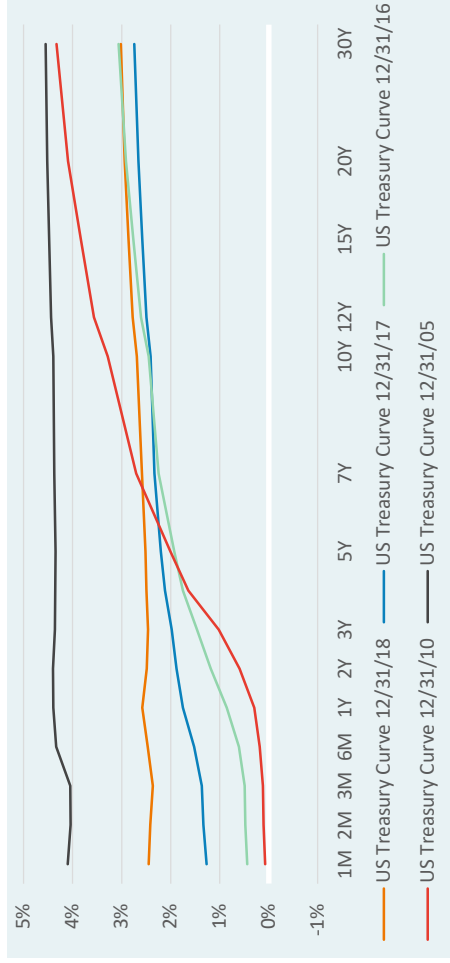


# Interest rate environment

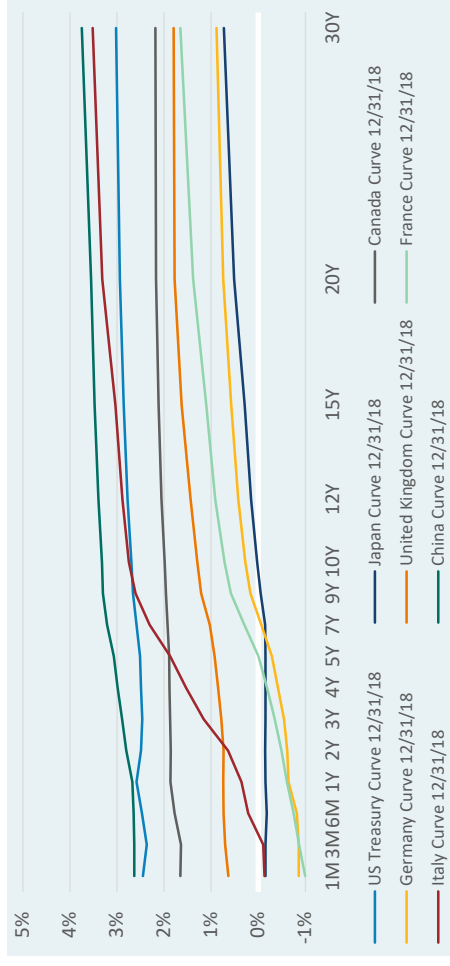
- The Federal Reserve raised the target for the fed funds rate by 0.25% in December, to a range of 2.25%-2.50%. Despite the hike, Fed officials indicated a more patient approach to future tightening, and lowered expectations for hikes in 2019 from three to two.
- The market's expectation for future rate hikes changed dramatically in December. As of year-end, the fed fund futures market is pricing zero hikes in 2019 and a rate cut priced in 2020.
- After reaching a cycle high of 3.2% in November, the 10-year Treasury yield fell sharply to end the year at 2.7%. Much of this drop was due to falling breakeven inflation as oil prices plunged. The 10-year breakeven inflation rate fell from 2.1% to 1.7% over the quarter.
- Although certain parts of the U.S. Treasury yield curve have inverted, there remains a 15 bps gap between the 10- and 2-year yields, which is the most widely cited measure of yield curve shape.
- Developed sovereign yields fell alongside U.S. Treasuries. The 10-year German bund yield was cut in half over the quarter to 0.24%.
- As expected, the European Central Bank officially announced the end of its asset purchase program. Beginning in January of 2019, monthly purchases will fall from €30 billion to €0. Central bank officials have said that they will fully reinvest maturing securities for the foreseeable future and keep interest rates unchanged until at least the second half of 2019.

Area	Short Term (3M)	10-Year
United States	2.36%	2.69%
Germany	(0.77%)	0.24%
France	(0.86%)	0.71%
Spain	(0.42%)	1.42%
Italy	(0.06%)	2.74%
Greece	1.30%	4.40%
U.K.	0.73%	1.28%
Japan	(0.15%)	0.00%
Australia	2.01%	2.32%
China	2.83%	3.31%
Brazil	6.48%	9.24%
Russia	7.12%	8.78%

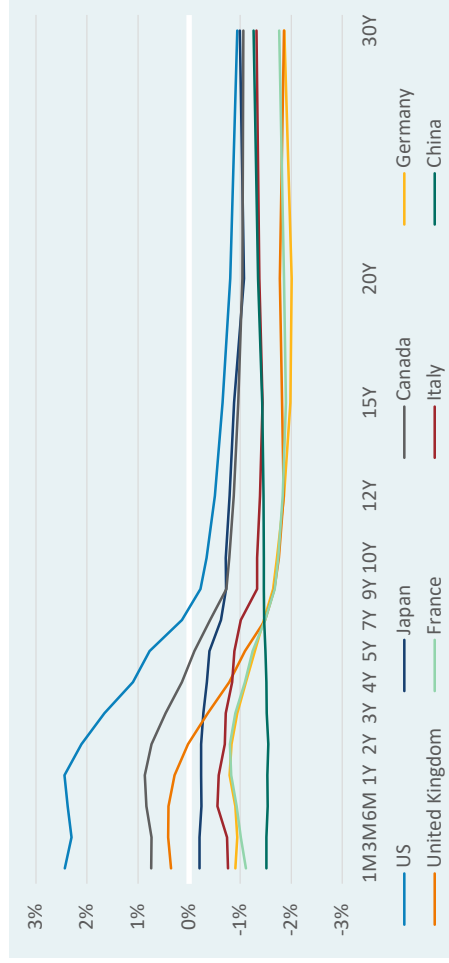
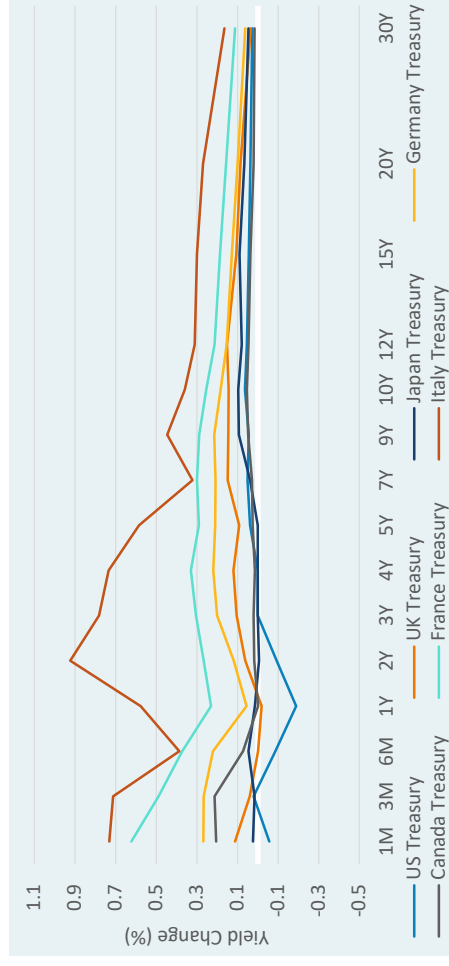
# Yield environment



GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR



3.5

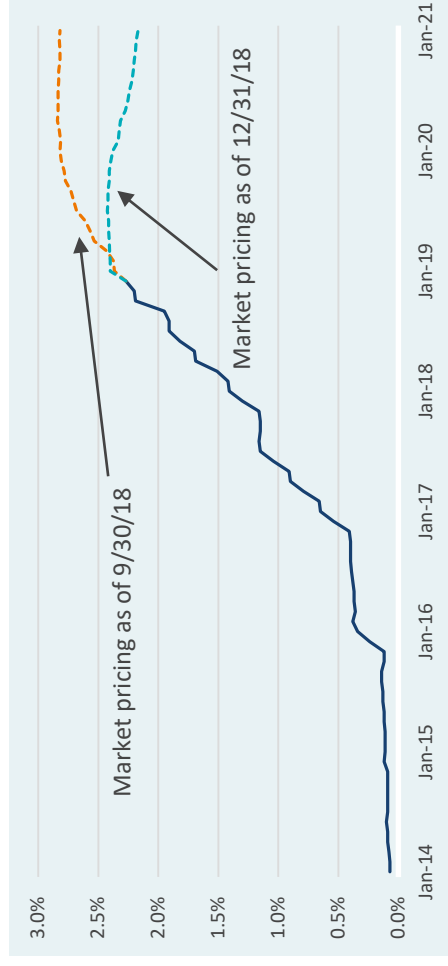
# Fed pricing

The Fed raised rates by another 25 bps in December to a target range of 2.25% to 2.50% on the fed funds rate, the fourth such hike of 2018. More important than what the Fed did, however, is what Fed officials said, and how the market reacted and adjusted its expectations for future monetary tightening. Leading up to the December meeting, Fed officials began to take a more a dovish tone amid market volatility and economic data misses, and they stressed the importance of future policy being data dependent. The Fed then acknowledged these concerns by lowering expectations for rate hikes in 2019 from three to two. Meanwhile, market expectations for future rate hikes plummeted as equity

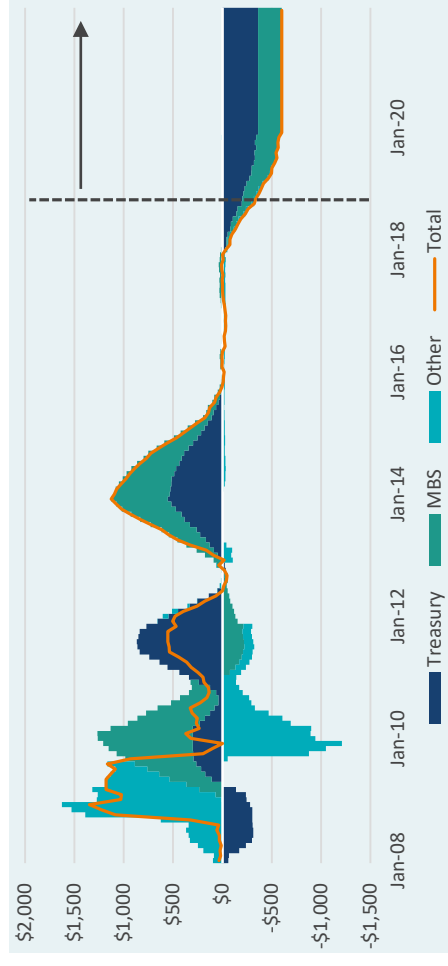
markets sold off and volatility spiked. As of the end of the year, not only were markets priced for a Fed pause in 2019, but they were also priced for a rate cut in 2020. With such dovish market pricing, it is important to note that in order for the Fed to provide any stimulus at this point, it will likely need to cut rates or halt the balance sheet unwind.

As of December, the Fed balance sheet had been reduced by around \$500 billion without any immediate issues. To this point, officials have been adamant that the balance sheet is not an active tool for tightening monetary policy, and that there are no plans to adjust the current rate of unwind.

**MARKET PRICING OF THE FED FUNDS RATE**



**NET CHANGE IN FED BALANCE SHEET (YOY, \$BILLIONS)**



3.5

# Credit environment

High yield and bank loans delivered losses during the quarter on slowing growth expectations, energy price volatility, investor outflows, and broad risk-off market sentiment (BbgBarc US Corp High Yield -4.5%, CS Leveraged Loans -3.1%).

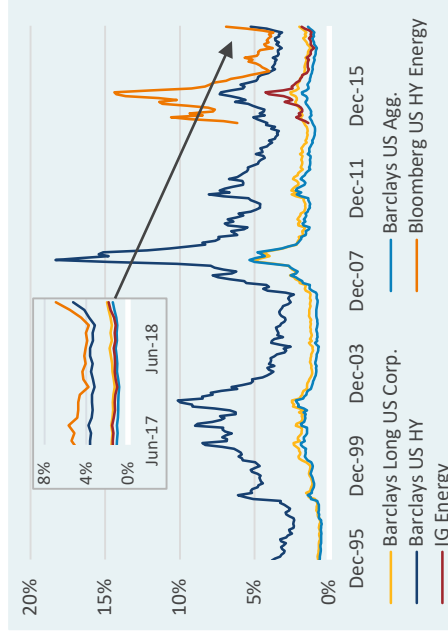
High yield bonds returned -2.1% for 2018, which is the second lowest annual return for the asset class in the last ten years after 2015. Yields and spreads in high yield credit are at their highest since 2016, increasing to 8.0% and 526 bps, respectively.

Loans were also under pressure in December as the asset class

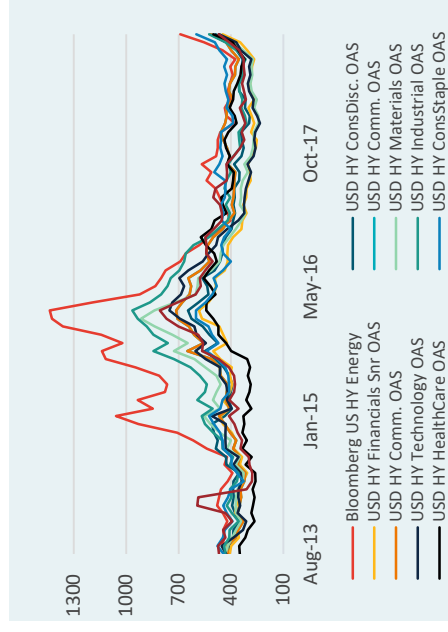
dealt with accelerated outflows and negative press – spreads on loans increased to 505 bps from 374 bps the prior quarter. The credit quality of bank loans has deteriorated throughout the cycle as covenant-lite loans dominated new issuance.

Based on the recent behavior and heightened volatility in credit, we do not believe investors are being adequately compensated for credit risk and believe an underweight to U.S. investment grade, high yield credit, and bank loans is warranted. Within credit, we have a bias toward owning higher quality and more liquid assets.

## SPREADS



## HIGH YIELD SECTOR SPREADS (BPS)



Market	Credit Spread (OAS 12/31/18)	Credit Spread (1 Year Ago)
Long US Corporate	2.0%	1.4%
US Aggregate	1.4%	0.9%
US High Yield	5.3%	3.4%
US Bank Loans*	5.1%	4.0%

3.5

# Issuance and default

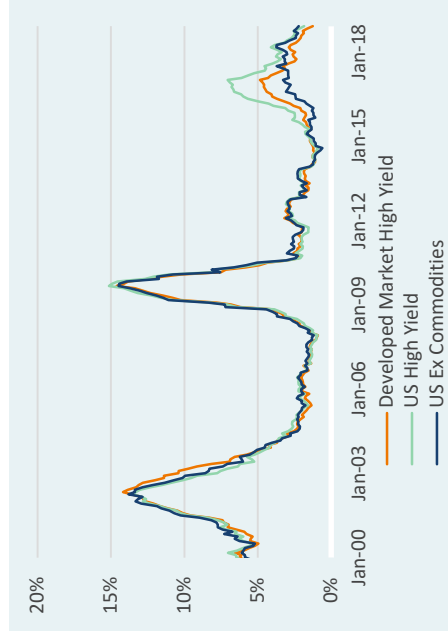
Default activity has been low and stable in the U.S. credit market, despite wider spreads. The par-weighted default rate of 1.9% remains below its long-term average of 3.0-3.5%. There were 29 defaults in 2018, affecting \$40.9 billion in bonds. iHeartRadio accounted for 40% of default volume (\$16 billion). The loan par-weighted default rate finished the year at 1.6%.

Senior loan and high yield markets have essentially recovered from a wave of defaults seen in 2015-2016 that were generated from the energy and metals/mining sectors.

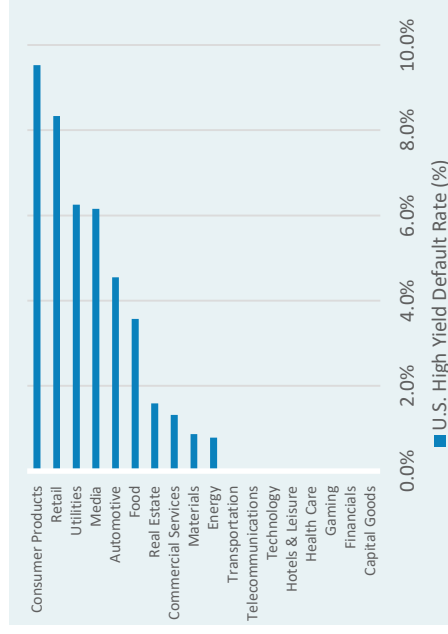
Recovery rates for high yield bonds have vastly improved since that time.

There were no high yield bonds issued in December due to market volatility – the first time this has happened since November 2008. Loan market issuance also slowed, with only \$8 billion in institutional loan volume. Gross new high yield and loan issue activity totaled \$187 billion and \$704 billion for 2018, respectively.

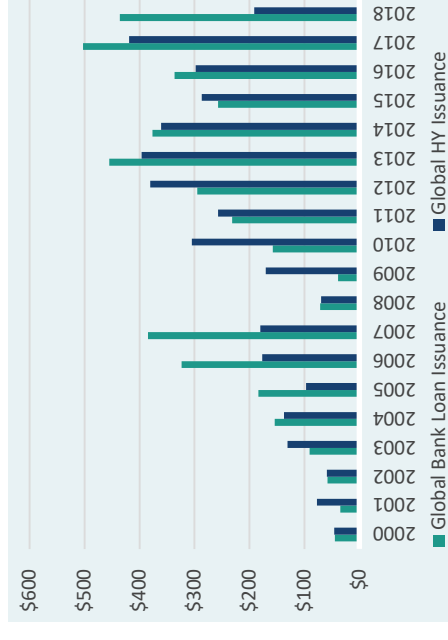
HY DEFAULT RATE (ROLLING 1-YEAR)



HY SECTOR DEFAULTS (LAST 12 MONTHS)



GLOBAL ISSUANCE (\$ BILLIONS)

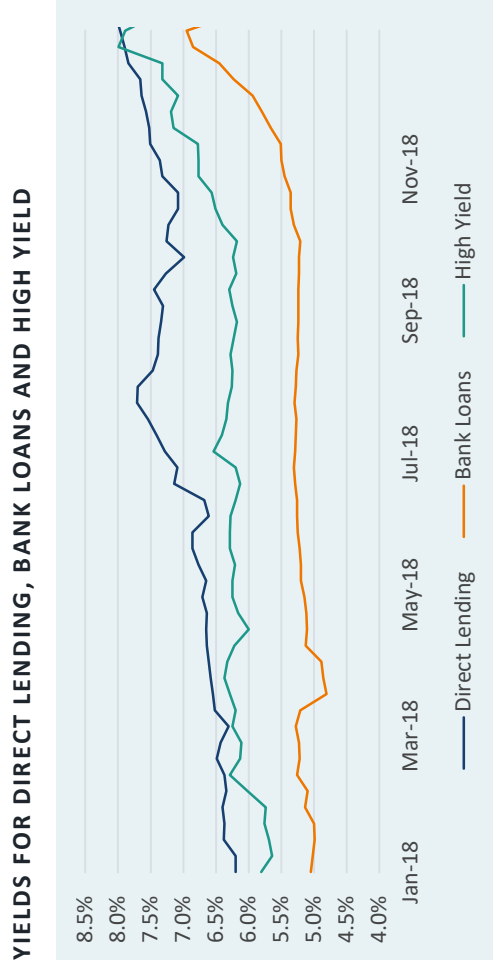


3.5

# Private credit

Fundraising in Private Credit slowed in 2018. 163 funds closed on \$110 billion in 2018, which was down from 189 funds and \$129 billion in 2017. Direct lending, mezzanine and distressed debt were the most active strategies raising \$45 billion, \$31 billion, and \$21 billion, respectively. Even with the slower fundraising, dry powder in private credit is at record levels. Private debt dry powder at the end of 2018 was \$280 billion, which eclipsed the 2017 record of \$246 billion.

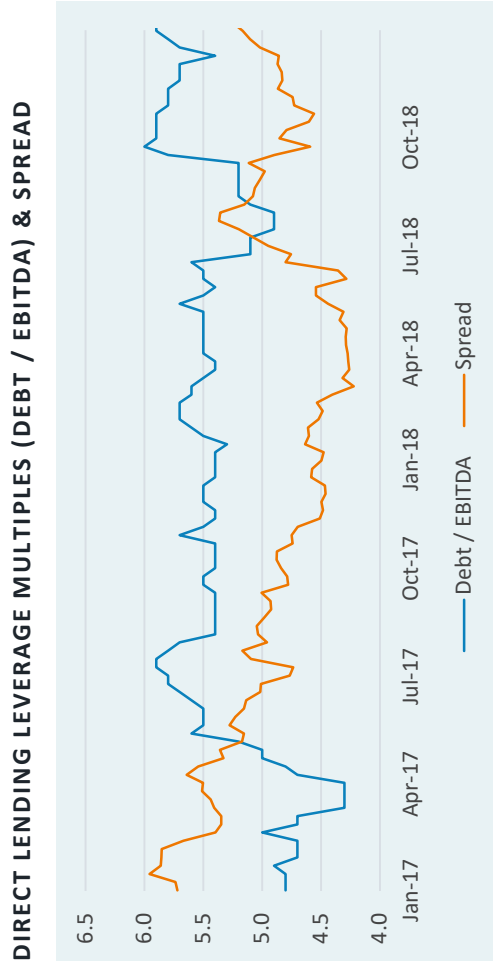
Yields for loans made by direct lending funds finished the year above 8% (8.04%). While yields have been aided by higher LIBOR rates,



Source: The Lead Left, Middle Market, EBITDA < \$50MM; S&P LSTA US Leveraged Loan Index; ICE BofAML US High Yield Master II, as of 12/31/18

which grew from 1.7% to 2.8% during 2018, spreads increased from 4.5% to 5.35% during the year.

While credit spreads expanded in 2018, so too did the debt multiples for borrowers. Borrowers now average debt totaling 5.9x EBITDA, a 0.5x increase from January 2018-levels.



3.5

# Equity

3.5

# Equity environment

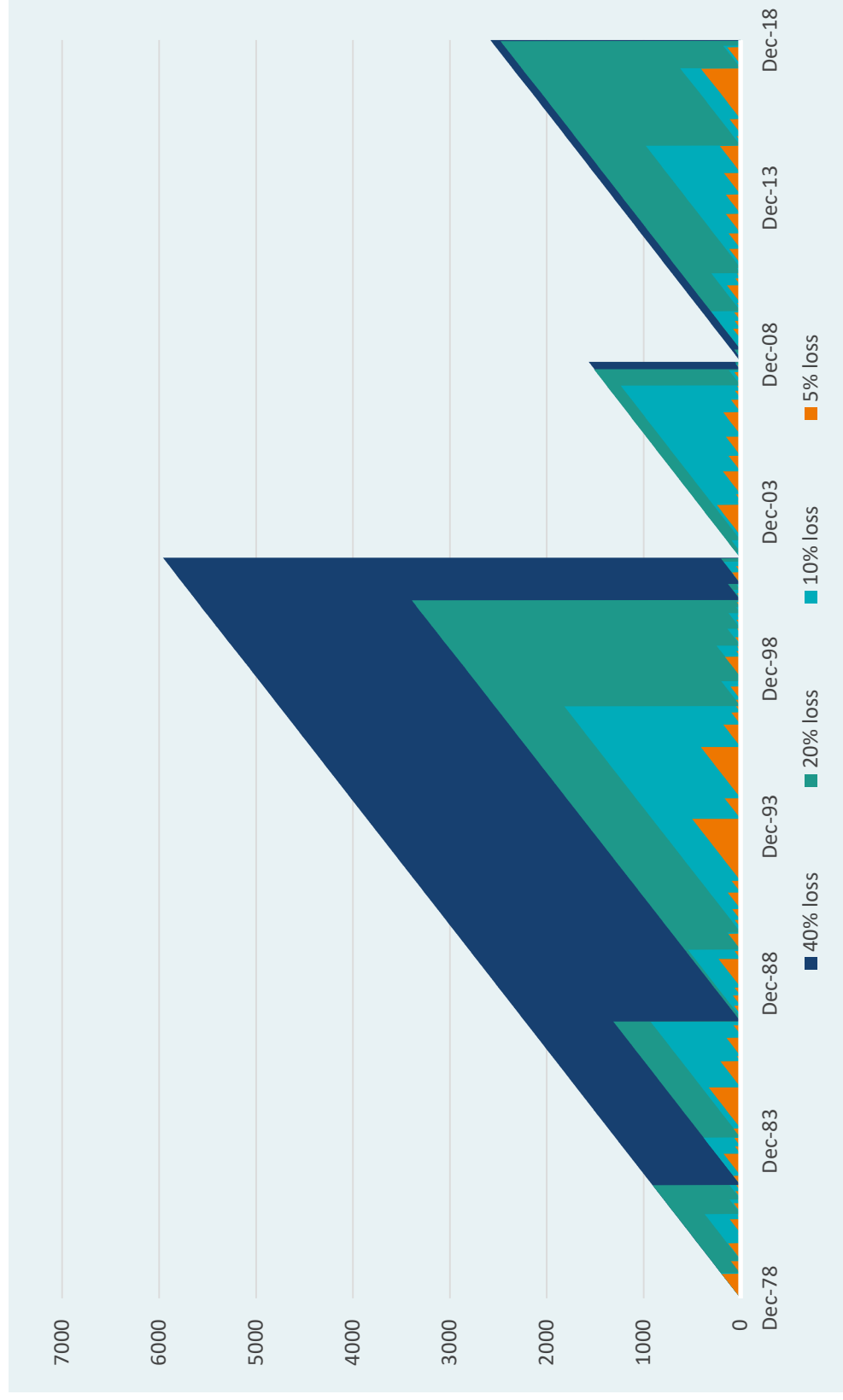
	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	(13.8%)		(4.8%)	
US Small Cap (Russell 2000)	(20.2%)		(11.0%)	
US Large Value (Russell 1000 Value)	(11.7%)		(8.3%)	
US Large Growth (Russell 1000 Growth)	(15.9%)		(1.5%)	
International Large (MSCI EAFE)	(12.5%)	(11.6%)	(13.8%)	(9.0%)
Eurozone (Euro Stoxx 50)	(14.1%)	(10.7%)	(16.2%)	(9.3%)
U.K. (FTSE 100)	(11.7%)	(9.1%)	(14.0%)	(7.3%)
Japan (NIKKEI 225)	(14.6%)	(16.6%)	(8.6%)	(9.6%)
Emerging Markets (MSCI Emerging Markets)	(7.5%)	(7.4%)	(14.6%)	(10.3%)

3.5



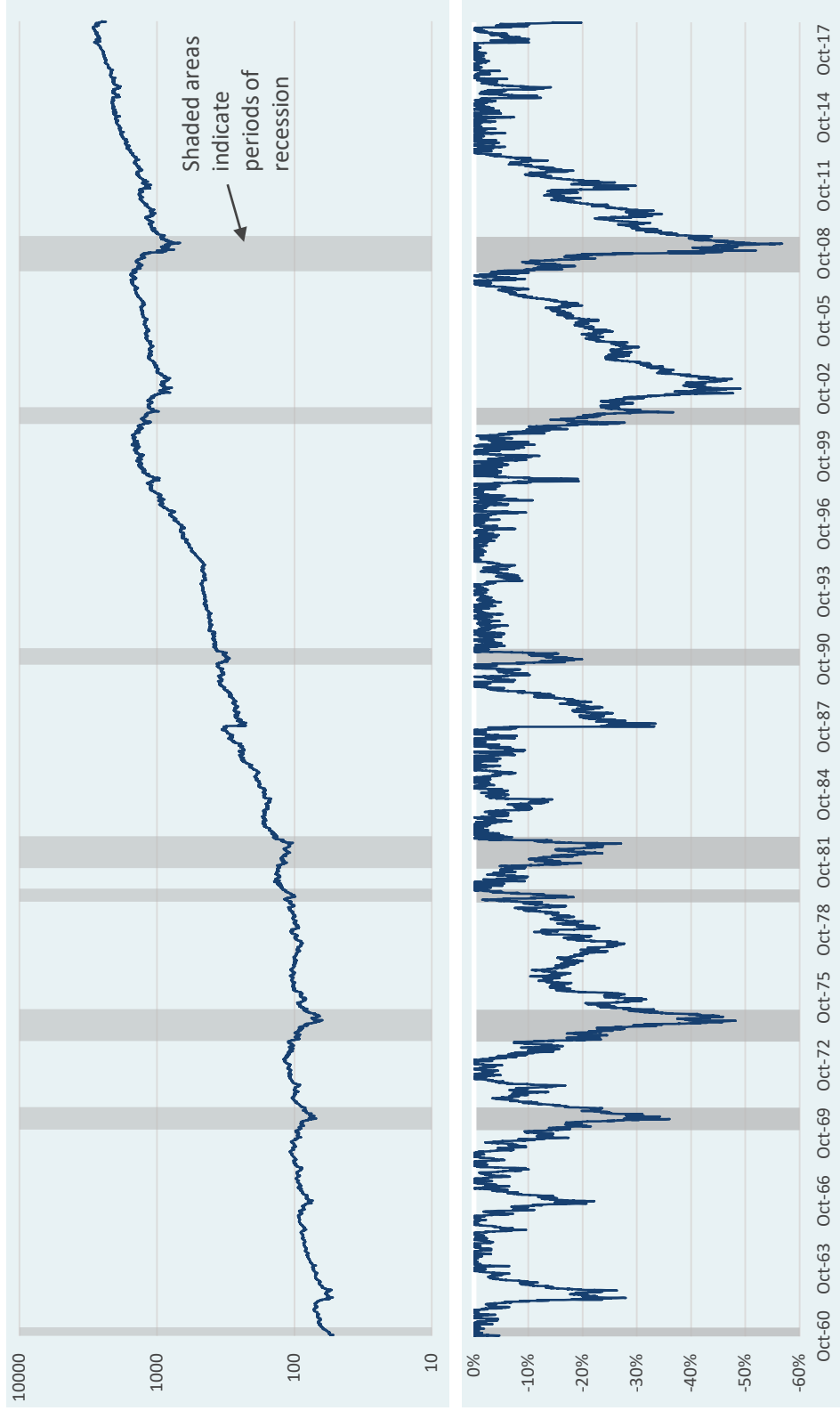
# Corrections are normal

RUSSELL 1000 INDEX – CUMULATIVE TRADING DAYS SINCE LOSS OF GIVEN MAGNITUDE



# Drawdowns of greater than 20% occur less frequently

S&P 500 INDEX (UPPER PANEL) AND DRAWDOWN FROM PEAK (LOWER PANEL)

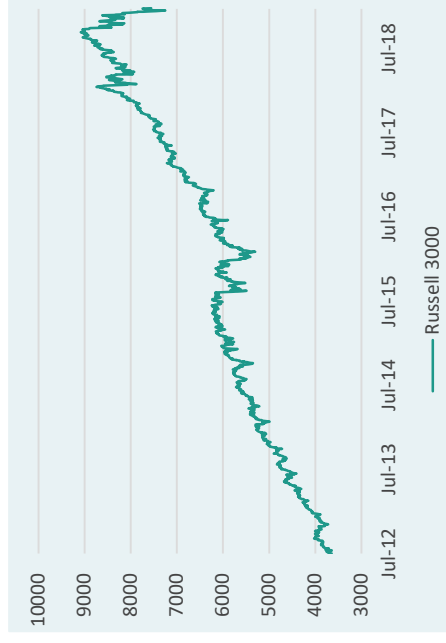


# Domestic equity

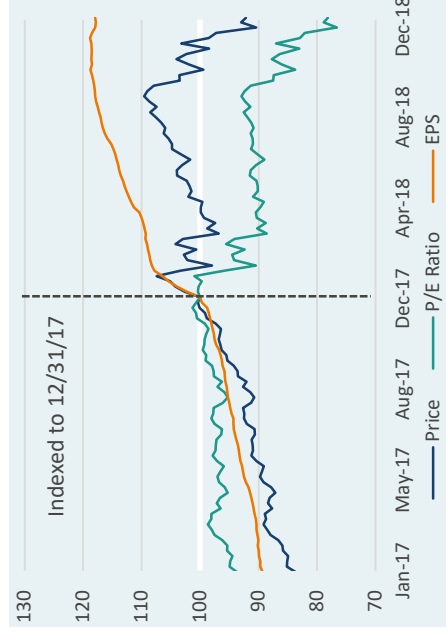
U.S. equities experienced their worst quarter since 2008 as the S&P 500 Index returned -13.5%. For much of 2018, strong realized and expected earnings growth more than offset rising risk premiums (i.e. February sell-off) and discount rates as shown below in the middle chart. However, when cracks appeared in the growth story, influenced by poor economic data as well as profit warnings from companies, this support quickly vanished. The sharp drawdown, particularly in December, was also influenced by pockets of illiquidity in the market that exacerbated the move lower.

The question for investors now becomes whether the recent drawdown was a healthy reset of the pricing of earnings and risk premia, or whether it was a more urgent warning signal of a deterioration in the growth and profit cycle. We believe it to be more of the former rather than the latter, and that the market priced in an overly pessimistic view of macro conditions. However, we also recognize the growing headwinds to equities, including slowing global growth, further potential monetary tightening, and high debt levels. These conditions will likely result in sustained higher volatility, consistent with previous late cycle experiences.

## U.S. EQUITIES



## S&P 500 PRICE MOVEMENT ATTRIBUTION



## CYCLICALS-DEFENSIVES RETURN SPREAD



3.5

# Domestic equity size & style

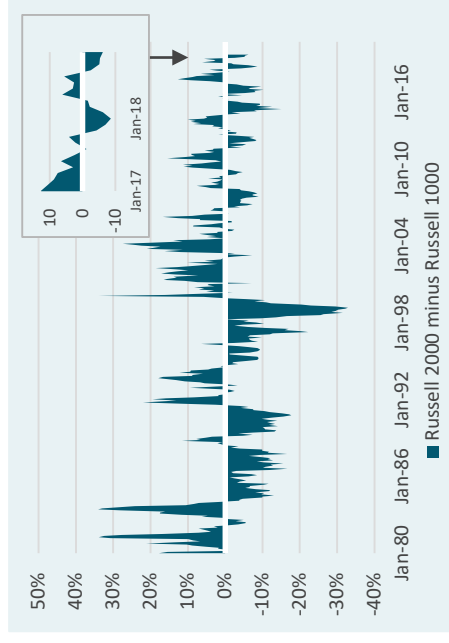
Large cap equities (Russell 1000 -13.8%) significantly outperformed small cap equities (Russell 2000 -20.2%) during the quarter. It may not be surprising that small cap equities underperformed, given the broad risk-off moves during this period. Growth stocks underperformed value stocks during the quarter (Russell 1000 Growth -15.9% vs. Russell 1000 Value -11.7%) for the first time since Q4 2016.

The sector weights in large-cap style benchmarks explain most of the recent value underperformance. Over the past

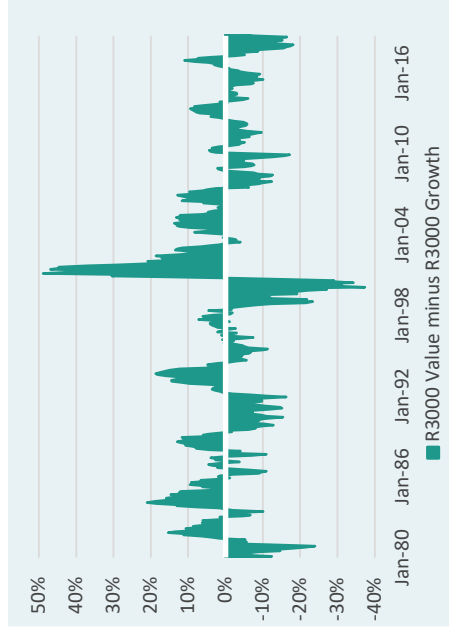
year, Energy, Materials, and Financials returned -18.1%, -14.7%, and -13.0%, respectively. These sectors are heavily weighted with value stocks, which resulted in a large drag to value. Information technology was an outperforming sector with a return of -0.3% during the period.

Long spans of style (size, value) underperformance is, and will always be, discouraging for investors. Similar to an investment in the broader equity market, we should expect to see rough patches of performance through time.

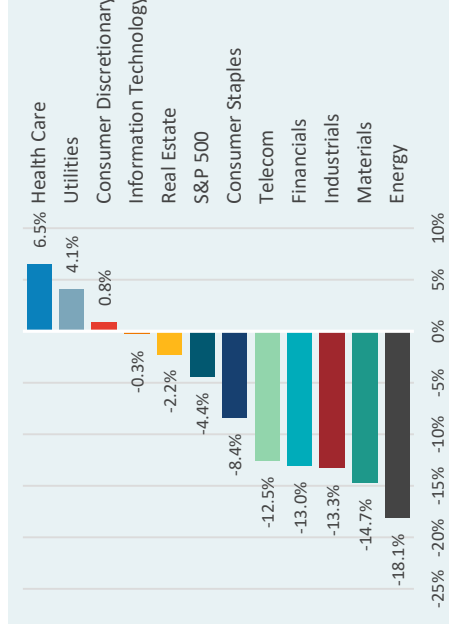
**SMALL CAP VS LARGE CAP (YOY)**



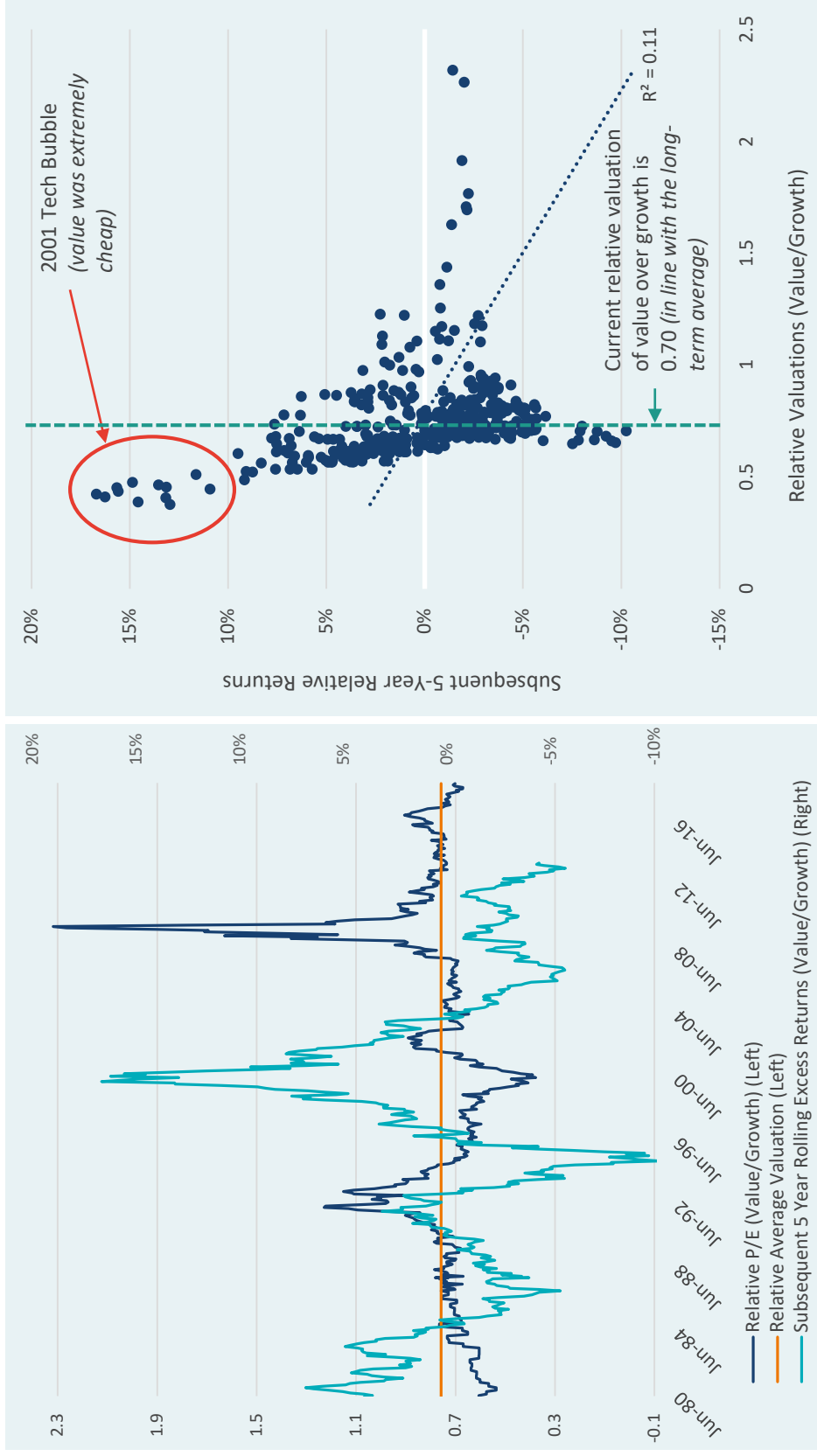
**VALUE VS GROWTH (YOY)**



**1-YEAR S&P 500 SECTOR RETURNS**



# Value – extreme prices indicate opportunity



Source: Verus, FTSE Russell, as of 12/31/18

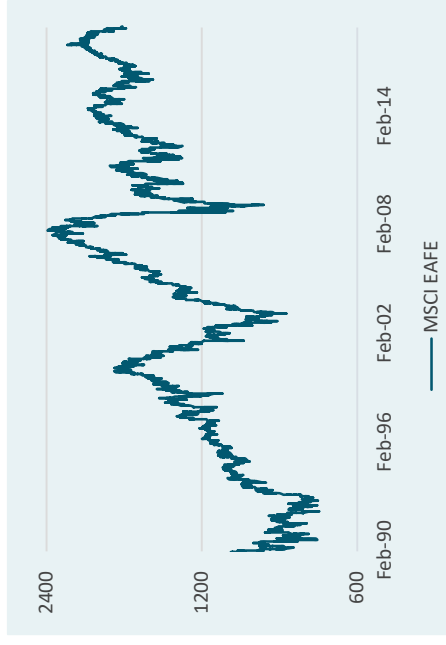
# International developed equity

International developed equities sold off alongside U.S. equities. On an unhedged basis, the MSCI EAFE Index returned -12.5% in Q4 (-11.6% on a currency hedged basis). The three major equity markets in the EAFE Index – Japan, the Eurozone, and the UK – were all down more than 10%. The key factors that may have driven U.S. equities lower, most notably concerns over slowing global growth and central bank tightening, likely played an important role in non-U.S. developed markets. These concerns were particularly acute in the Eurozone where economic data routinely missed expectations, while the ECB officially

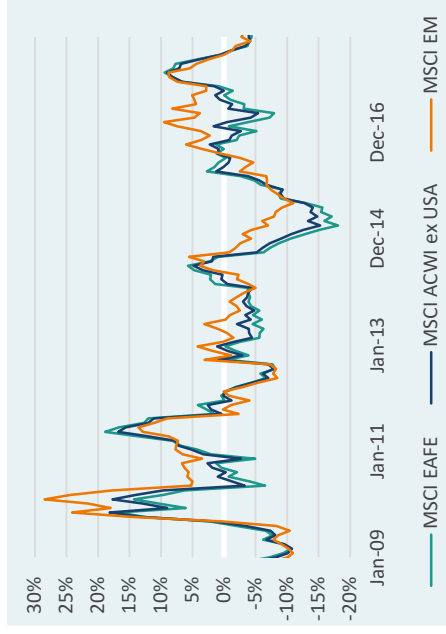
announced the end to its asset purchase program in December.

International developed equity markets are still cheap on both an absolute and relative basis at 11.9x forward earnings, but we believe there are good reasons for this pricing in certain markets. Within equity allocations, we are pessimistic on EAFE equities due to a negative view on the Eurozone. We believe slowing economic growth at the same time political risks are increasing and the ECB is unable to meaningfully ease policy present material headwinds to equity performance.

**INTERNATIONAL DEVELOPED EQUITIES**



**EFFECT OF CURRENCY (1-YEAR ROLLING)**



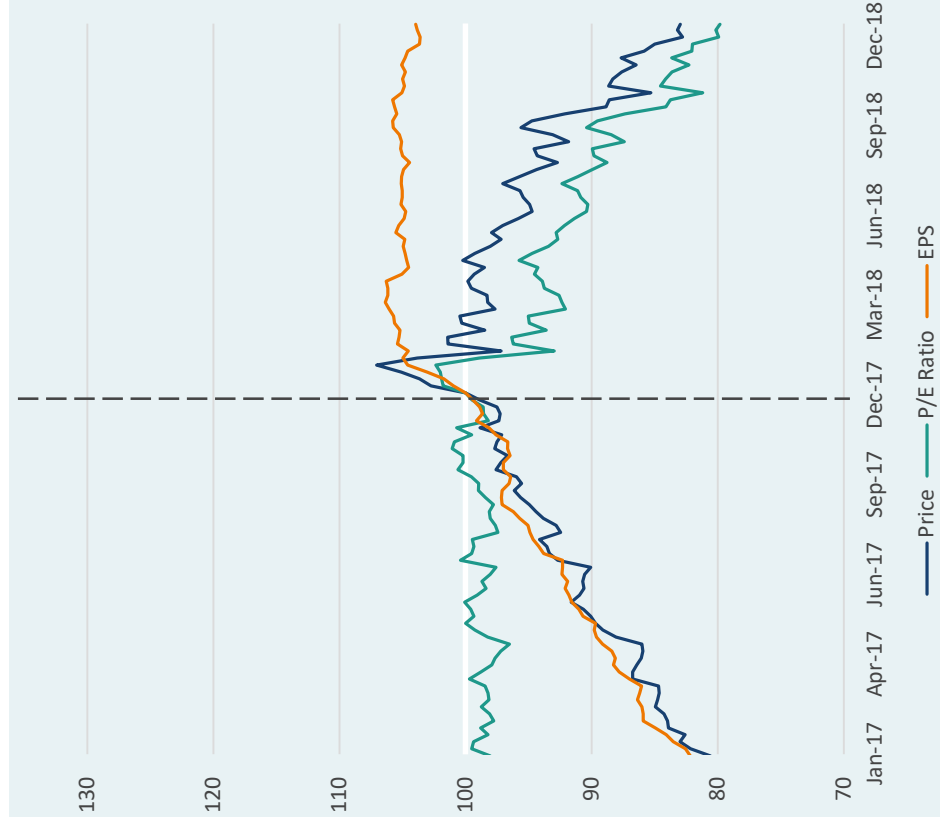
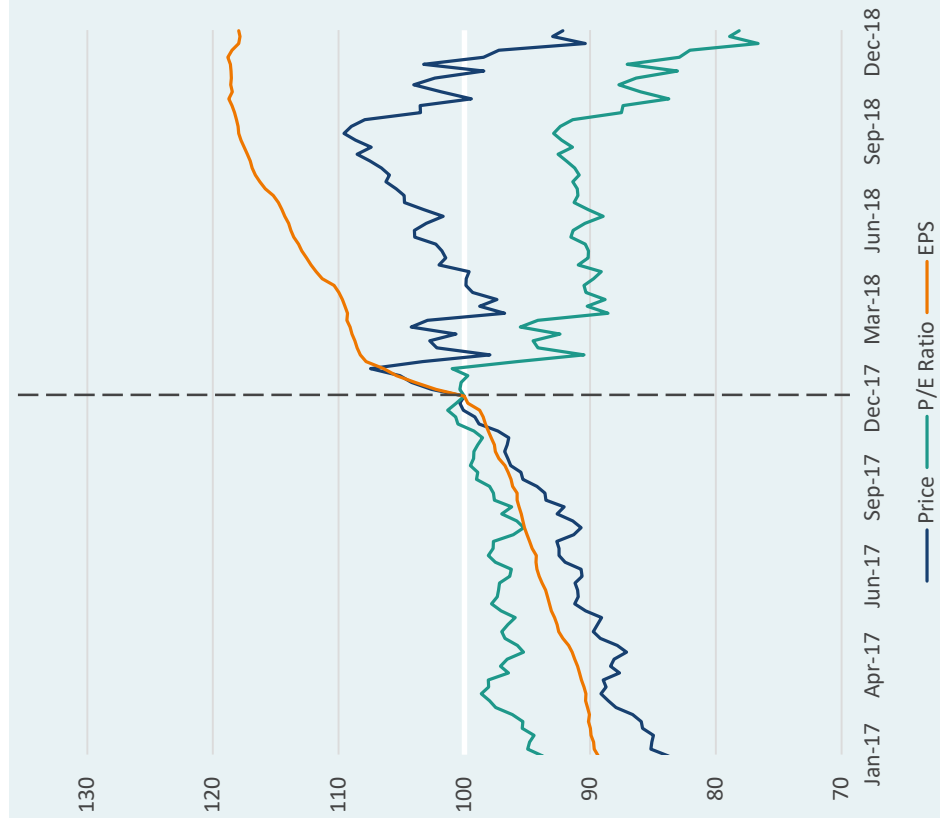
**EARNINGS PER SHARE**



3.5

# Equity return behavior

U.S. (INDEXED TO START OF 2018)



U.S. and international equity prices failed to keep up with earnings growth during 2018

This has resulted in much cheaper equity valuations

# Emerging market equity

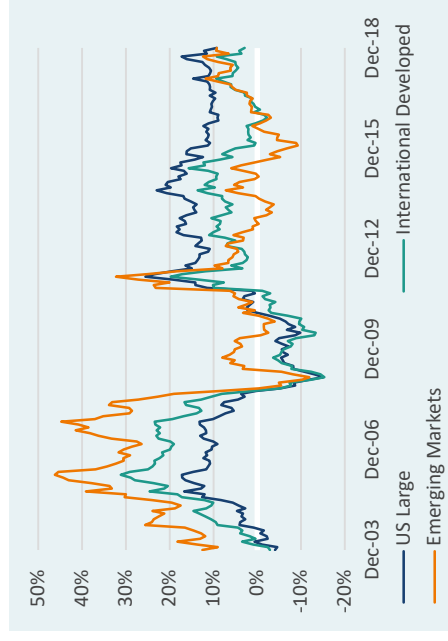
Emerging market equities were the top performer in Q4, as these markets (MSCI EM -7.5%) experienced much less pain than developed (S&P 500 -13.5%, MSCI EAFE -12.5%) during the equity sell-off. Currency depreciation stabilized in Q4 (JP Morgan EM Currency Index +0.2%) and emerging market crises concerns faded from the news headlines.

Valuations are near their long-term average, but remain much cheaper than developed market equities. Sentiment around emerging markets seems to be improving as the extreme negativity of 2018 dissipates, which creates possible

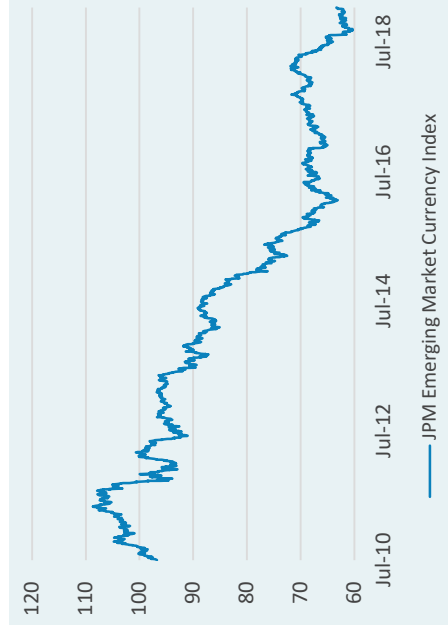
upside surprise if investors decide these fears were overblown. Very depressed currencies may also provide a performance tailwind in the event of mean reversion. Overall, we maintain our preference for the asset class.

Decelerating global growth and rising probability of recession do present unique risks to emerging markets, however, as these market typically exhibit a higher beta during market downside and upside moves. We will be watching global developments closely and will update our emerging market views as appropriate.

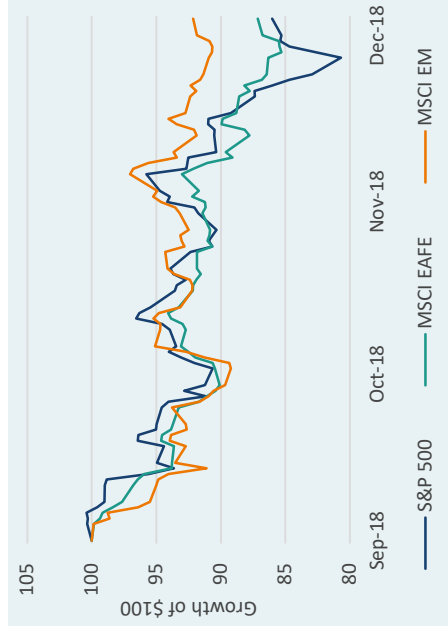
**EQUITY PERFORMANCE (3-YR ROLLING)**



**EMERGING MARKET CURRENCY MOVEMENT**



**Q4 CUMULATIVE PERFORMANCE**



3.5



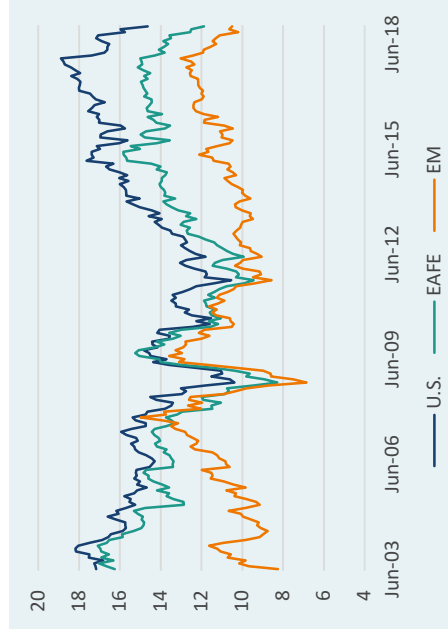
# Equity valuations

The sharp drop in global equity prices overwhelmed small downward adjustments to earnings expectations, resulting in materially lower forward P/E multiples. In the U.S., EAFE, and EM regions, forward P/E ratios declined by 13.1%, 12.4%, and 5.5%, respectively in Q4. Depending on the period of analysis, many equity markets could now be considered fairly valued relative to their own history (U.S., EM) and others could be considered outright cheap (EAFE). In the U.S., the 12-month forward P/E ratio was 14.6x at the end of December, placing it below the median value of the past 15 years.

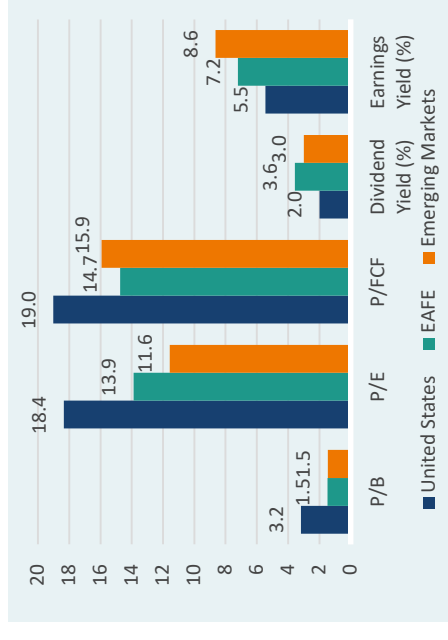
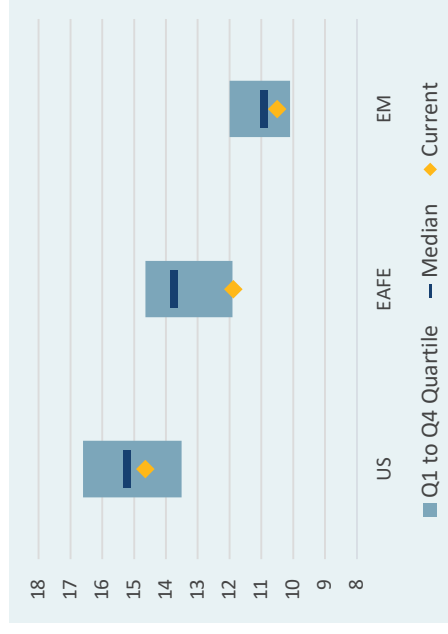
Assessing whether or not an equity market is cheap or

expensive is not a straightforward exercise. For one, as we have noted in the past, the broader macro environment (namely real interest rates and inflation) can strongly influence value. Higher (lower) real interest rates and inflation demand (higher) lower equity valuations, all else equal. Further, conclusions on the cheapness/richness of equities at any point in time depend on this metric. For example, trailing earnings may suffer from being backward-looking, while forward earnings are subject to forecast error and analyst bias. Particularly when looking at the forward P/E ratio, we caution against naively extrapolating recent earnings growth into the future.

**FORWARD P/E RATIOS**



**FORWARD P/E RATIO DISTRIBUTION (15-YR)**



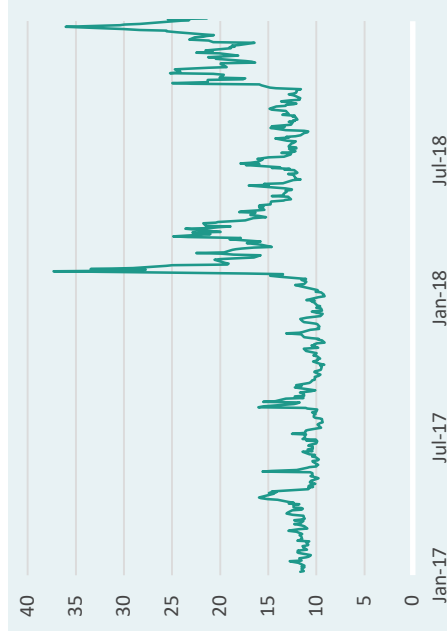
# Equity volatility

Equity volatility jumped in October, and remained elevated throughout the rest of the year. The VIX Index of implied volatility for the S&P 500 Index averaged 21 in the fourth quarter, above its long-term average of around 18, and hit a high of 36 on December 24<sup>th</sup>. Equities also experienced frequent large intra-day swings, particularly in December, that are not captured by daily volatility measures. Extremely low liquidity during the end of the year likely exacerbated market movements and augmented volatility. The increase in volatility was more acute in the U.S. than other equity markets – the trailing

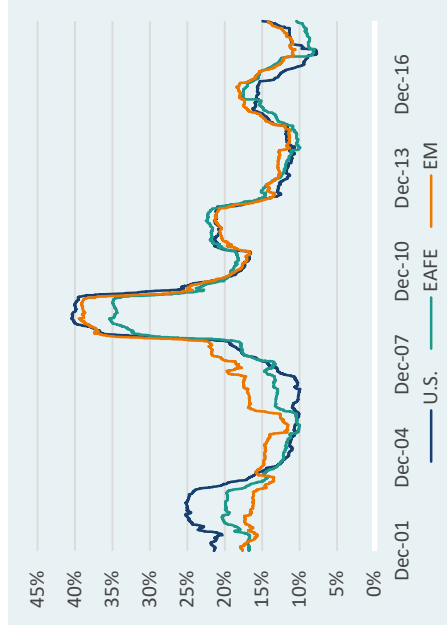
one-year volatility for the S&P 500 Index was higher than both the MSCI EAFE and EM Indices for the first time since 2008.

While volatility has certainly been extreme relative to the recent past, it has been much more normal when compared to a longer history. We believe investors should expect higher volatility moving forward as we continue to progress into the later stages of the cycle.

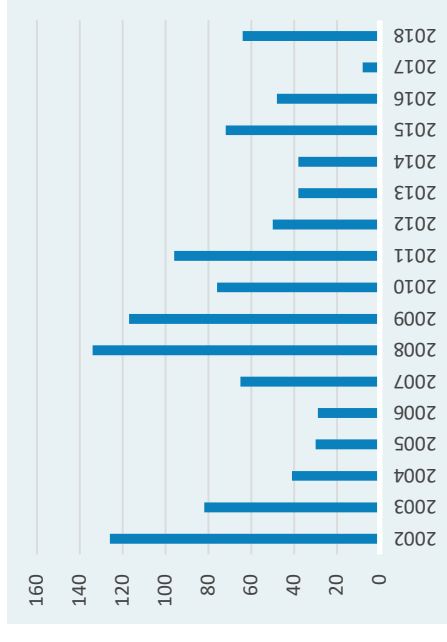
**U.S. IMPLIED VOLATILITY (VIX)**



**REALIZED 1-YEAR ROLLING VOLATILITY**



**S&P 500 – NUMBER OF >1% DAILY MOVES**

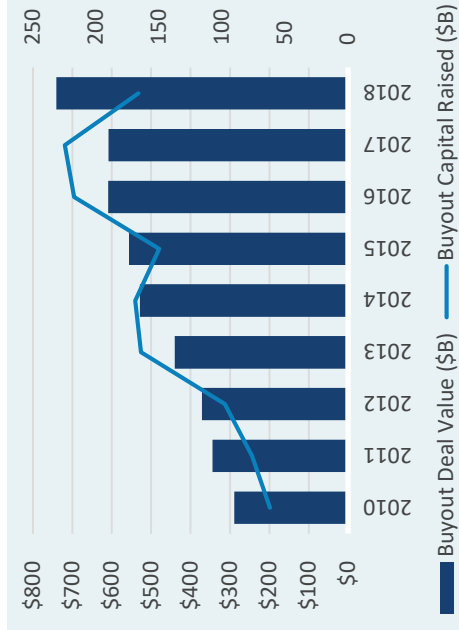


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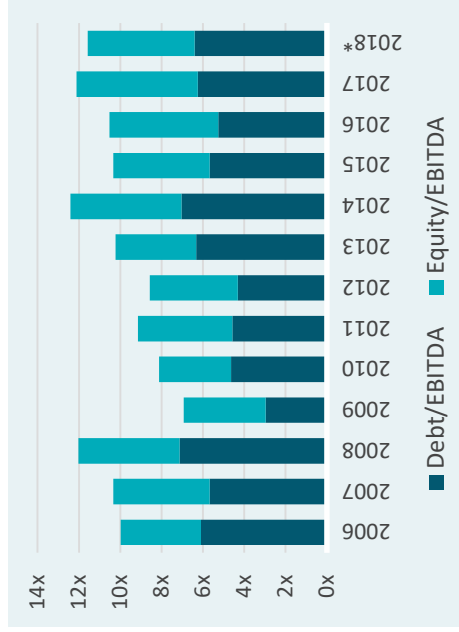
# Private equity

- Buyout activity has continued to increase in 2018. Through the fourth quarter buyouts are up 21.8% and 4.7% when measured by dollar value and number of transactions, respectively. The size of the average buyout, \$155.43, has increased from 2017, \$133.63. Unlike deal flow, fund capital raising has slowed from the peaks of 2017. Only 186 buyout funds representing \$166 billion closed so far this year, down from 235 funds representing a record \$225 billion in 2017.
- Buyout multiples slightly decreased from 2017. Average EV/EBITDA is 11.6x through December 31, 2018 (down from 11.9x in 2017) with debt multiples averaging 6.2x through the third quarter. Debt as a percentage of transaction value hovers around 54%.
- Venture capital fundraising and deal volumes continue to set records. \$55 billion of venture capital has been raised in the U.S. in 2018, an increase of 63% over the same period last year. Similarly, the amount of venture deals are up 57.8%. In fact, 2018 venture deal volume (\$131 billion) exceeds the record of \$82 billion that was set in 2017.
- Balancing high deal multiples and a growing number of deals against a slowdown in fundraising, we advocate selectivity in fund investments.

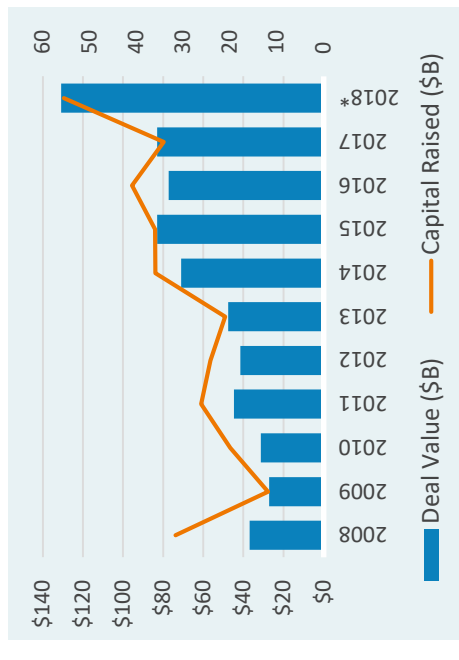
## BUYOUTS DEAL VOLUME & CAPITAL RAISED



## TRANSACTION MULTIPLES

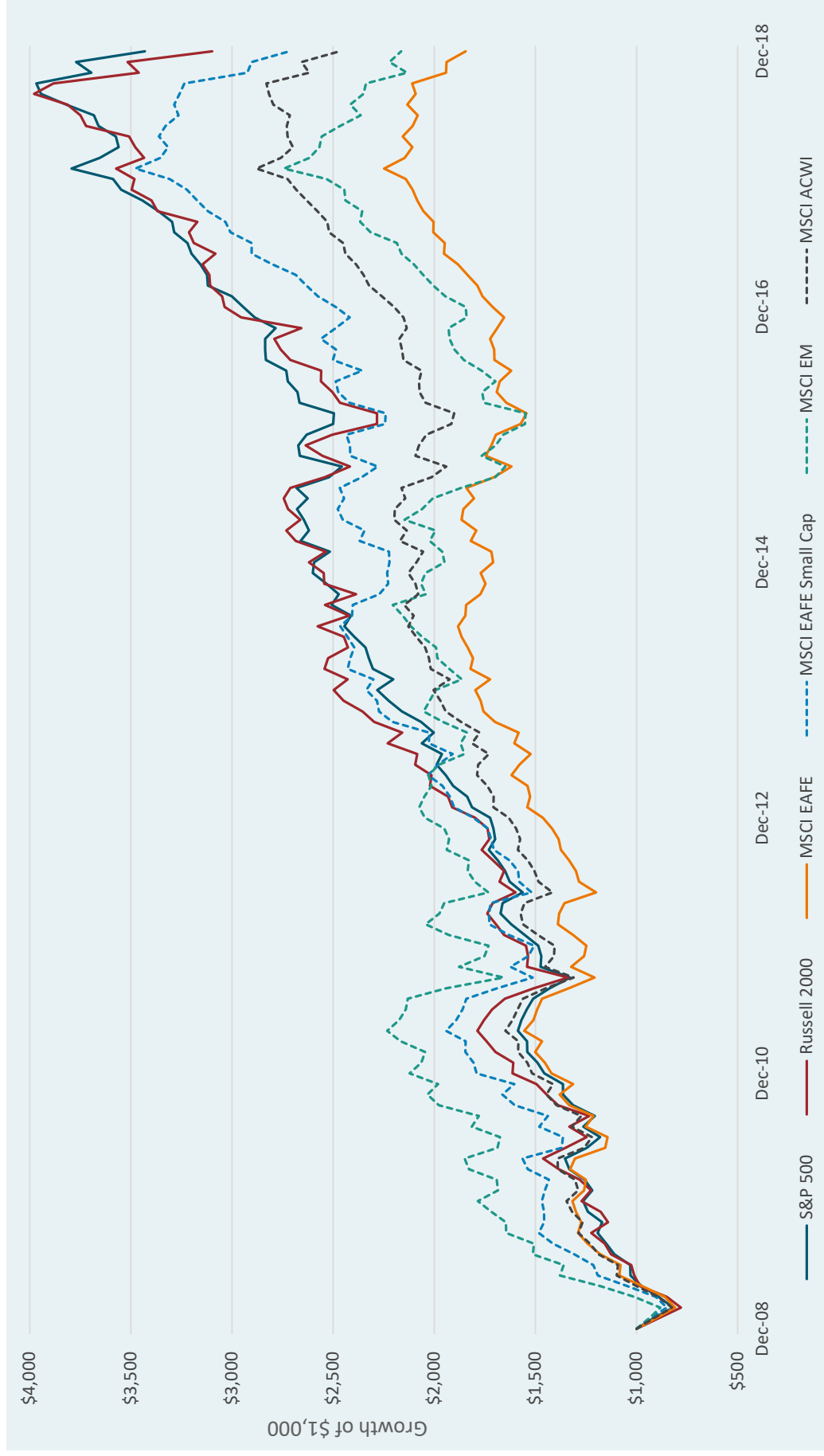


## VENTURE DEAL VOLUME & FUNDRAISING



3.5

# Long-term equity performance



# Other assets

3.5

# Currency

The U.S. dollar appreciated by 1.8% during the quarter, and 7.2% in 2018 based on the Broad Trade Weighted Dollar Index. The strong appreciation of the dollar last year was influenced by a number of factors, including stronger relative U.S. economic growth, higher relative interest rates, and weakness in other currencies such as the euro and British pound. The recent dollar strength in Q4 was due in part to safe haven demand amid equity market turbulence as these moves came despite the market pricing considerably less tightening from the Fed.

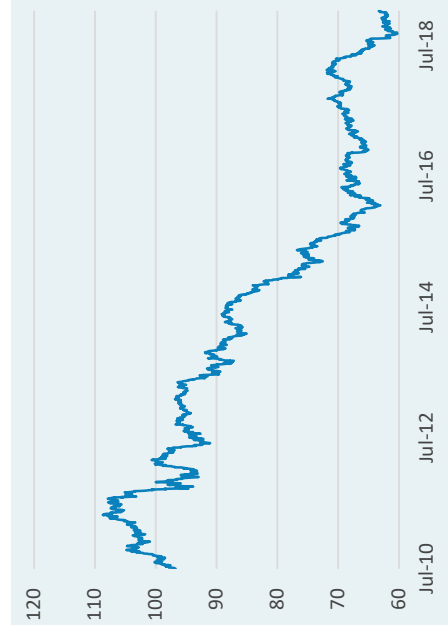
Emerging market currencies stabilized over the quarter, and recovered slightly from the recent drawdown in Q3. The JPMorgan Emerging Market Currency Index appreciated by 0.2% in Q4.

From a value perspective (based on purchasing power parity), the U.S. dollar remains expensive, particularly versus the euro, yen, and British pound.

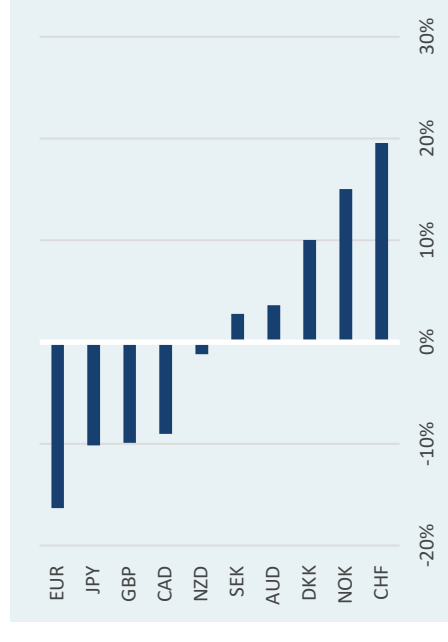
U.S. DOLLAR TRADE WEIGHTED INDEX



JPM EMERGING MARKET CURRENCY INDEX



U.S. DOLLAR VALUE (PPP)



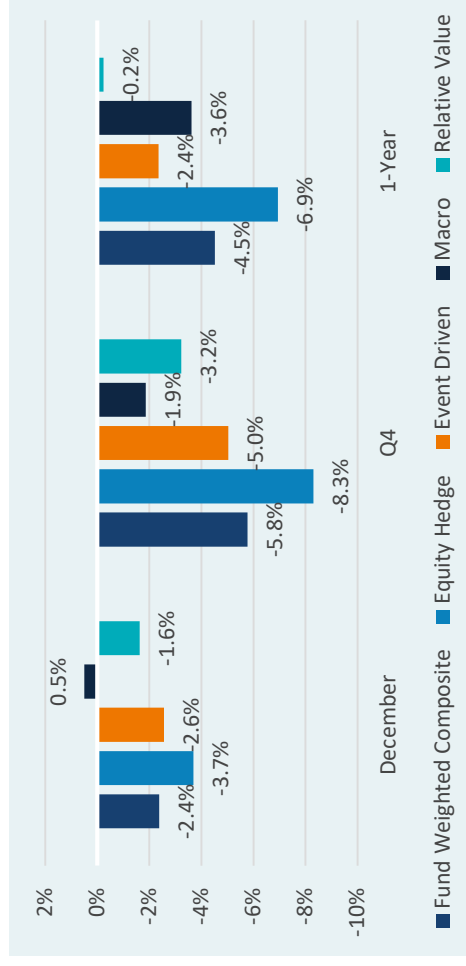
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# Hedge funds

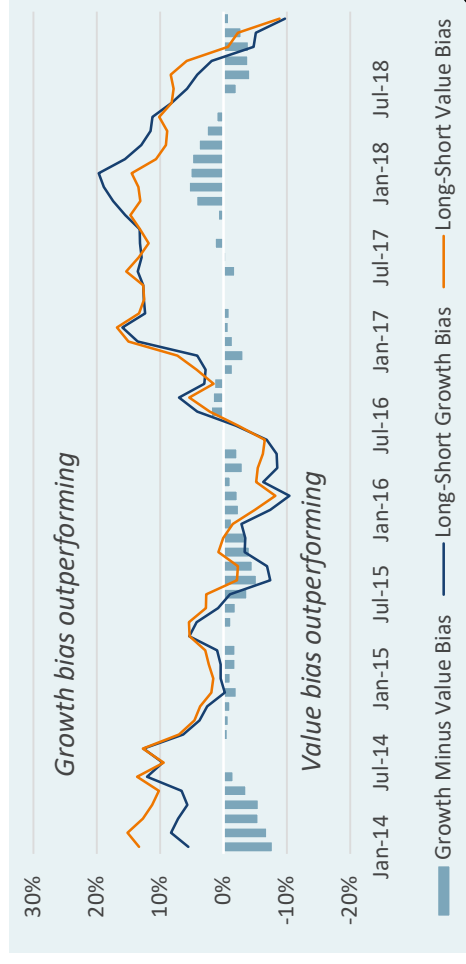
Hedge funds Q4 losses pushed full-year 2018 results into negative territory (HFRI Fund Weighted Composite -5.8% in Q4; -4.5% in 2018). Most hedge funds stumbled in October as equity markets experienced a painful reversal ranging from -5% to -10%. The industry fared relatively better in December with hedge funds down -2.4% while the S&P 500 Index lost -9.0%. The approximate 6.6% performance differential was the largest observed since February 2009. As a group, macro strategies performed best in December and for the quarter. Defensively oriented discretionary macro strategies and currency strategies stood out with strong

relative performance. Equity hedge strategies lagged the universe, and products with higher beta and value exposures were hit the hardest as equity markets fell.

For managers trading fixed income securities, strategies focused on sovereign (-1.2%) and asset backed bonds (-1.7%) preserved capital relatively well during the market turbulence. Convertible arbitrage managers fared worse (-5.1%) due in part to greater relative sensitivity to equity market volatility.



**GROWTH VS VALUE BIAS IN LONG-SHORT EQUITY MANAGERS (1-YR ROLLING PERFORMANCE)**



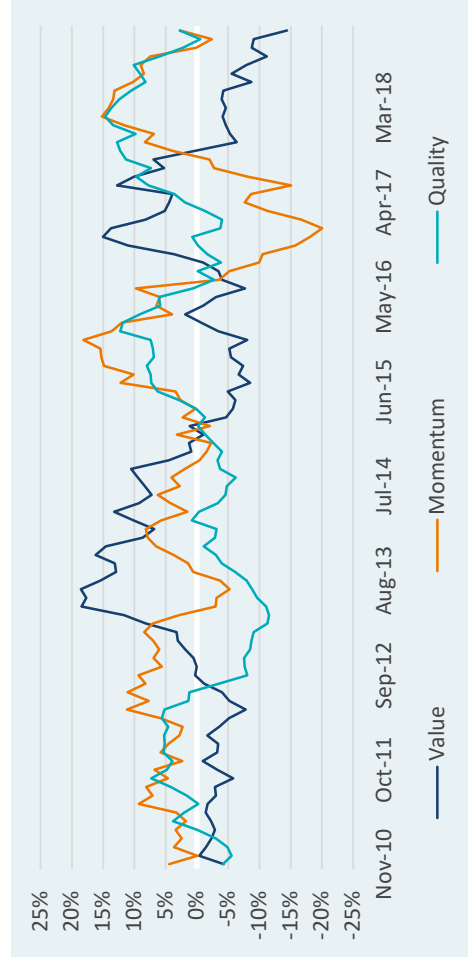
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# Alternative beta

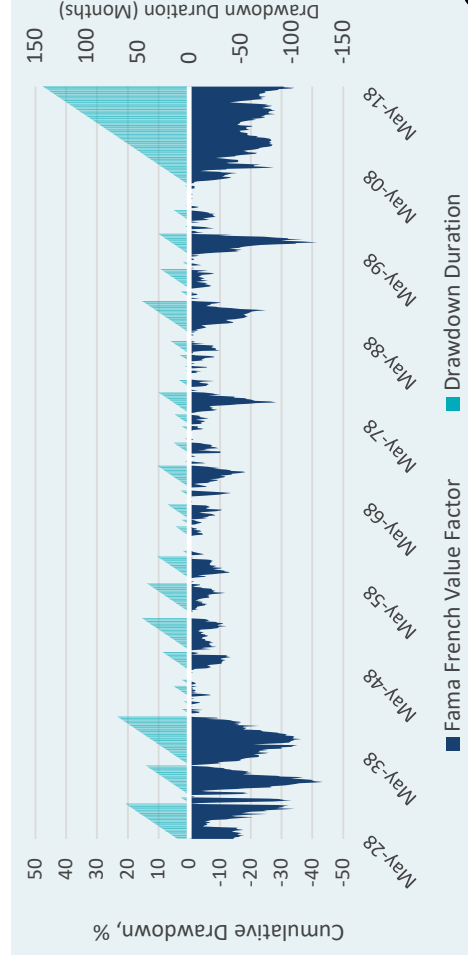
Alternative beta strategy investors endured a difficult year, with many strategies performing one or two standard deviations below their historical average. While the median strategy we follow delivered negative returns during the fourth quarter, we noted dispersion across the space as a few products posted positive results. Factor exposures, particularly in the equity markets, continue to account for a meaningful portion of poor outcomes. While traditional value factors earned modestly positive results

during the quarter, this performance was offset by losses in momentum and size-related factors.

We continue to believe that alternative beta strategies are not “broken” per se, but instead have reflected extreme drawdowns in some factors and muted returns in others. We will continue to closely monitor these strategies and discuss the situation with managers in 2019.



VALUE FACTOR DRAWDOWN MAGNITUDE AND DURATION



3.5



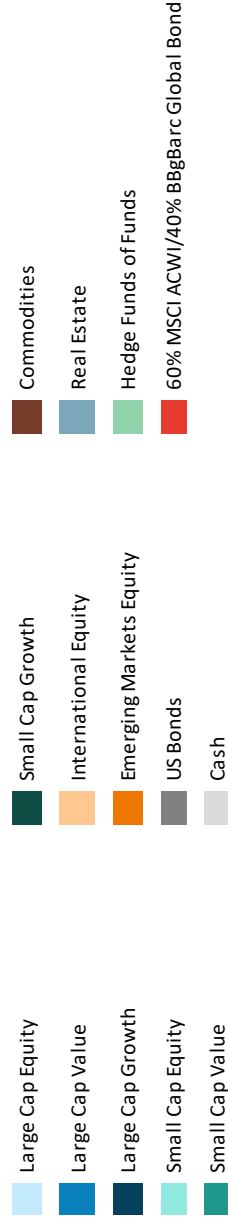
# Appendix

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# Periodic table of returns

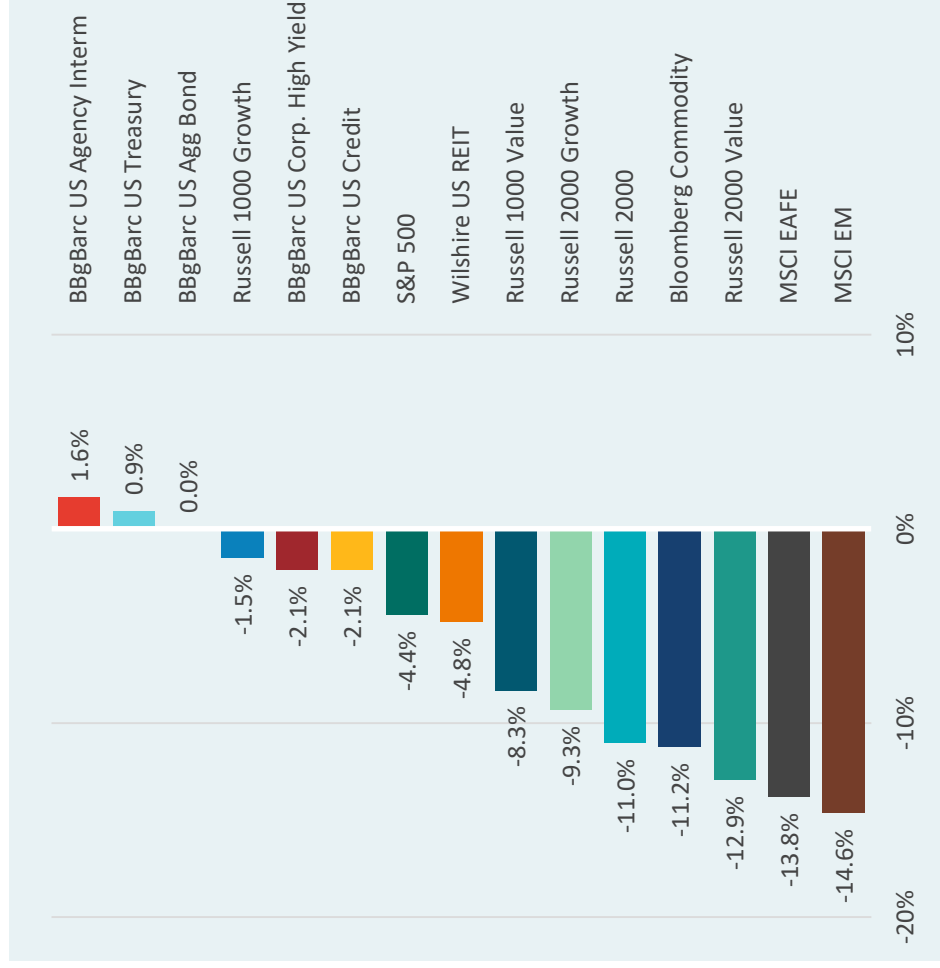
Best ← →

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5-Year 10-Year
Real Estate	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	5.3	10.4	15.3
Cash	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	9.0	13.5
US Bonds	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	8.2	13.3
Large Cap Growth	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	5.9	12.0
Hedge Funds of Funds	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	5.1	11.2
Large Cap Equity	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	4.4	10.4
60/40 Global Portfolio	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	3.6	8.0
Large Cap Value	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	3.1	7.3
Small Cap Growth	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	2.5	6.8
Small Cap Equity	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	1.6	6.3
Commodities	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	1.5	3.5
Small Cap Value	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	0.6	3.2
International Equity	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	0.5	0.4
Emerging Markets Equity	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	-8.8	-3.8

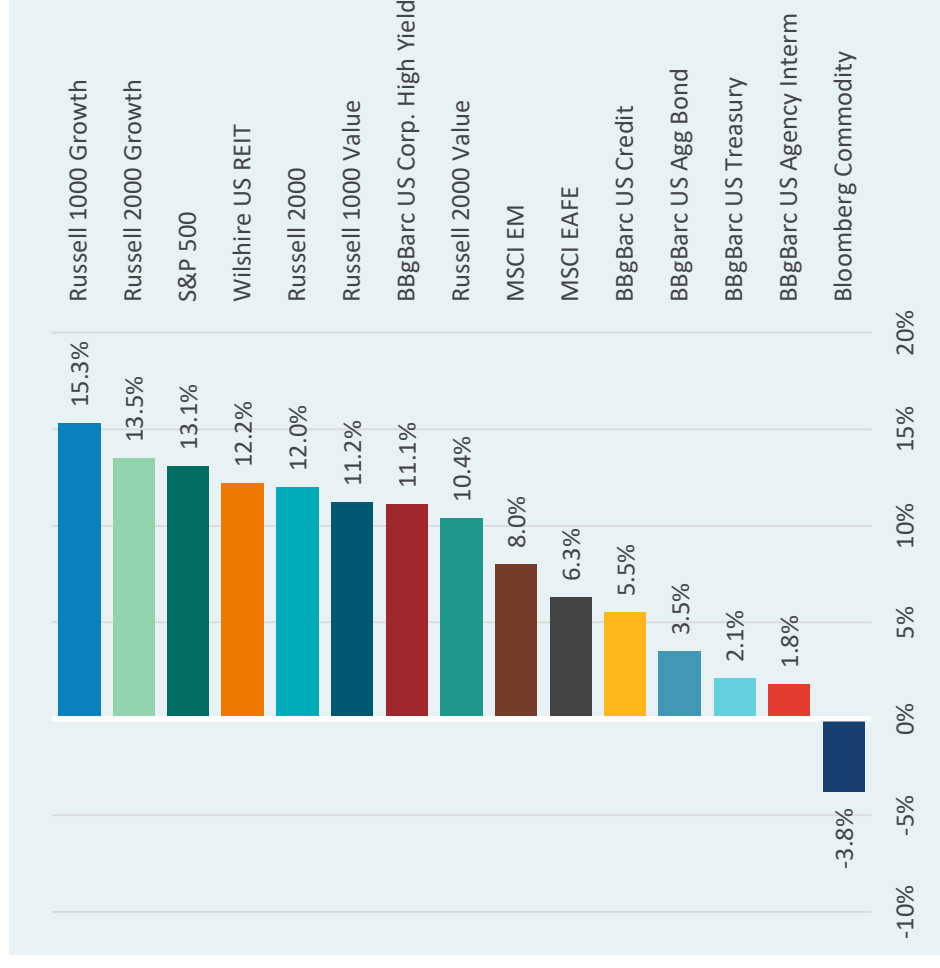


# Major asset class returns

ONE YEAR ENDING DECEMBER



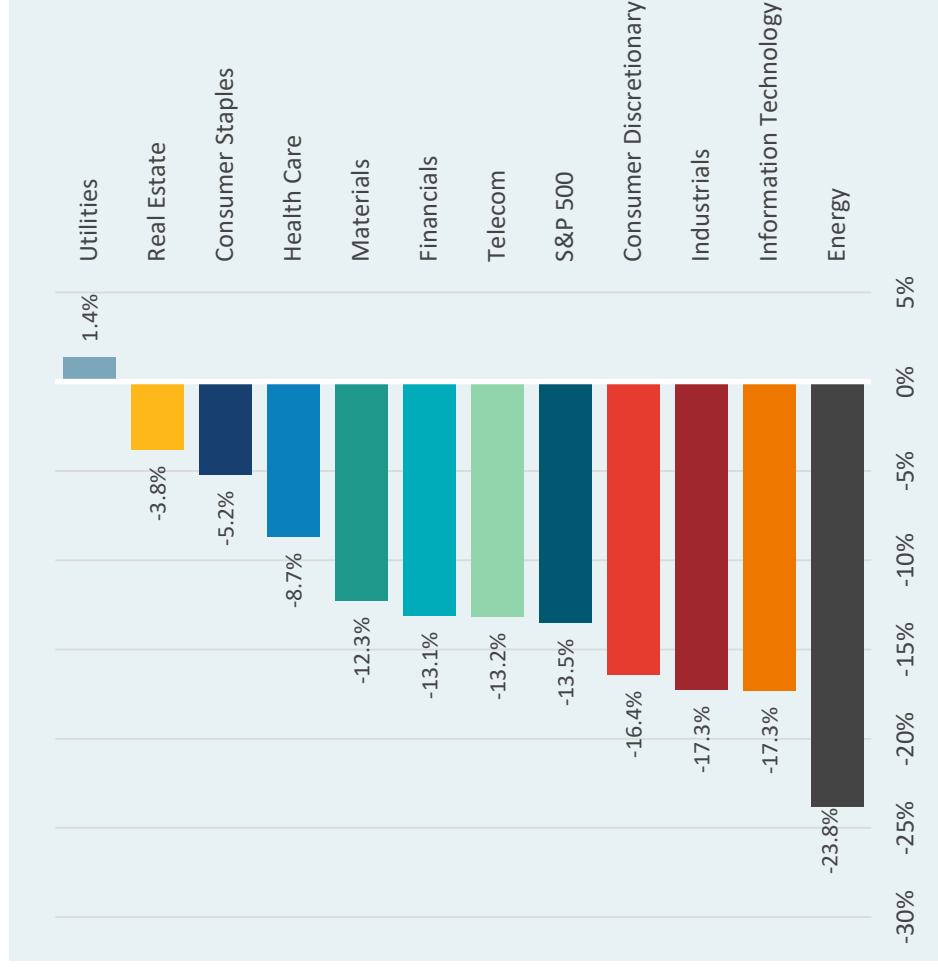
TEN YEARS ENDING DECEMBER



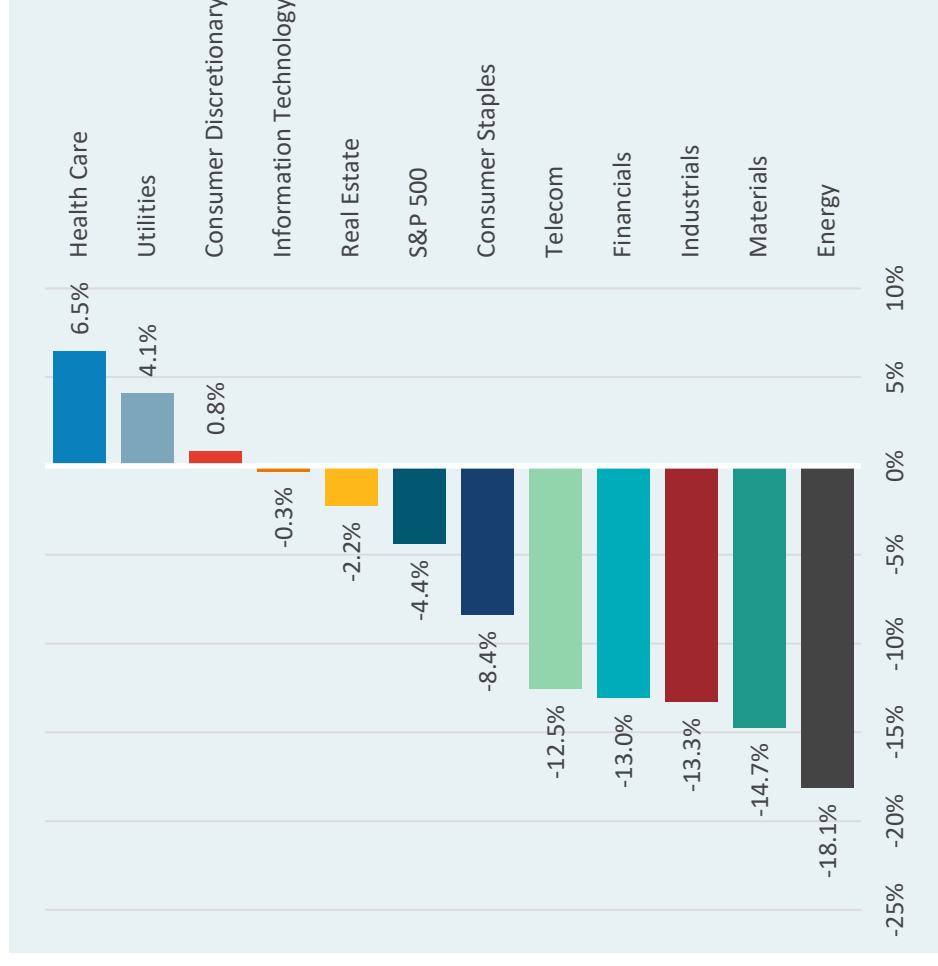
3.5

# S&P 500 sector returns

Q4



ONE YEAR ENDING DECEMBER



3.5

# Detailed index returns

## DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	(9.0)	(13.5)	(4.4)	(4.4)	9.3	8.5	13.1
S&P 500 Equal Weighted	(9.7)	(13.9)	(7.6)	(7.6)	8.0	7.1	15.0
DJ Industrial Average	(8.6)	(11.3)	(3.5)	(3.5)	12.9	9.7	13.2
Russell Top 200	(8.8)	(13.2)	(3.1)	(3.1)	9.9	9.0	13.0
Russell 1000	(9.1)	(13.8)	(4.8)	(4.8)	9.1	8.2	13.3
Russell 2000	(11.9)	(20.2)	(11.0)	(11.0)	7.4	4.4	12.0
Russell 3000	(9.3)	(14.3)	(5.2)	(5.2)	9.0	7.9	13.2
Russell Mid Cap	(9.9)	(15.4)	(9.1)	(9.1)	7.0	6.3	14.0
<b>Style Index</b>							
Russell 1000 Growth	(8.6)	(15.9)	(1.5)	(1.5)	11.1	10.4	15.3
Russell 1000 Value	(9.6)	(11.7)	(8.3)	(8.3)	7.0	5.9	11.2
Russell 2000 Growth	(11.7)	(21.7)	(9.3)	(9.3)	7.2	5.1	13.5
Russell 2000 Value	(12.1)	(18.7)	(12.9)	(12.9)	7.4	3.6	10.4

## FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
BbgBarc US TIPS	0.5	(0.4)	(1.3)	(1.3)	2.1	1.7	3.6
BbgBarc US Treasury Bills	0.2	0.6	1.9	1.9	1.0	0.6	0.4
BbgBarc US Agg Bond	1.8	1.6	0.0	0.0	2.1	2.5	3.5
<b>Duration</b>							
BbgBarc US Treasury 1-3 Yr	0.8	1.3	1.6	1.6	0.9	0.8	1.0
BbgBarc US Treasury Long	5.5	4.2	(1.8)	(1.8)	2.6	5.9	4.1
BbgBarc US Treasury	2.2	2.6	0.9	0.9	1.4	2.0	2.1
<b>Issuer</b>							
BbgBarc US MBS	1.8	2.1	1.0	1.0	1.7	2.5	3.1
BbgBarc US Corp. High Yield	(2.1)	(4.5)	(2.1)	(2.1)	7.2	3.8	11.1
BbgBarc US Agency Interm	1.0	1.6	1.6	1.6	1.3	1.4	1.8
BbgBarc US Credit	1.5	0.0	(2.1)	(2.1)	3.2	3.2	5.5

## INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
MSCI ACWI	(7.0)	(12.8)	(9.4)	(9.4)	6.6	4.3	9.5
MSCI ACWI ex US	(4.5)	(11.5)	(14.2)	(14.2)	4.5	0.7	6.6
MSCI EAFE	(4.9)	(12.5)	(13.8)	(13.8)	2.9	0.5	6.3
MSCI EM	(2.7)	(7.5)	(14.6)	(14.6)	9.2	1.6	8.0
MSCI EAFE Small Cap	(6.4)	(16.0)	(17.9)	(17.9)	3.7	3.1	10.5
<b>Style Index</b>							
MSCI EAFE Growth	(4.8)	(13.3)	(12.8)	(12.8)	2.9	1.6	7.1
MSCI EAFE Value	(4.9)	(11.7)	(14.8)	(14.8)	2.8	(0.6)	5.5
<b>Regional Index</b>							
MSCI UK	(3.8)	(11.8)	(14.2)	(14.2)	1.6	(1.7)	6.8
MSCI Japan	(6.7)	(14.2)	(12.9)	(12.9)	3.4	3.1	5.3
MSCI Euro	(4.8)	(13.2)	(16.4)	(16.4)	2.4	(0.9)	4.4
MSCI EM Asia	(3.2)	(9.3)	(15.5)	(15.5)	8.6	3.9	9.8
MSCI EM Latin American	(0.8)	0.4	(6.6)	(6.6)	14.9	(1.7)	5.0

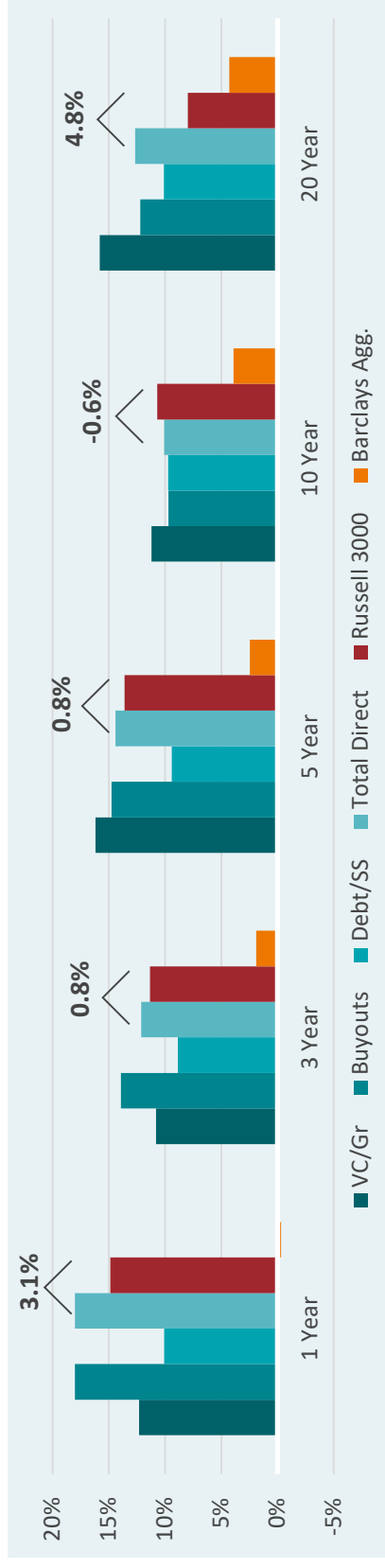
## OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Index</b>							
Bloomberg Commodity	(6.9)	(9.4)	(11.2)	(11.2)	0.3	(8.8)	(3.8)
Wilshire US REIT	(8.4)	(6.9)	(4.8)	(4.8)	2.1	7.9	12.2
CS Leveraged Loans	(2.3)	(3.1)	1.1	1.1	5.0	3.3	8.3
Alerian MLP	(8.3)	(16.3)	(11.9)	(11.9)	(1.6)	(6.9)	10.7
<b>Regional Index</b>							
JPM EMBI Global Div	1.3	(1.3)	(4.3)	(4.3)	5.2	4.8	8.2
JPM GBI-EM Global Div	1.3	2.1	(6.2)	(6.2)	5.9	(1.0)	3.5
<b>Hedge Funds</b>							
HFRI Composite	(2.0)	(5.4)	(4.1)	(4.1)	3.2	2.3	5.0
HFRI FOF Composite	(1.2)	(4.4)	(3.5)	(3.5)	1.5	1.5	3.2
<b>Currency (Spot)</b>							
Euro	1.0	(1.6)	(4.8)	(4.8)	1.7	(3.7)	(1.9)
Pound	(0.2)	(2.3)	(5.9)	(5.9)	(4.8)	(5.1)	(1.2)
Yen	3.5	3.5	2.7	2.7	3.1	(0.9)	(1.9)

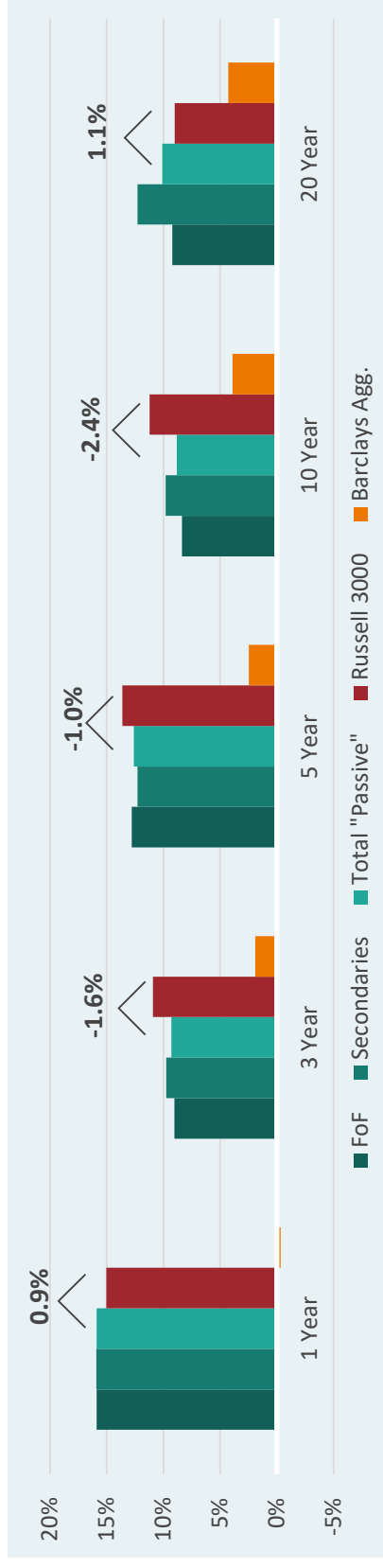
# Private vs. public performance

As of 6/30/2018

## DIRECT PRIVATE EQUITY FUND INVESTMENTS



## "PASSIVE" STRATEGIES

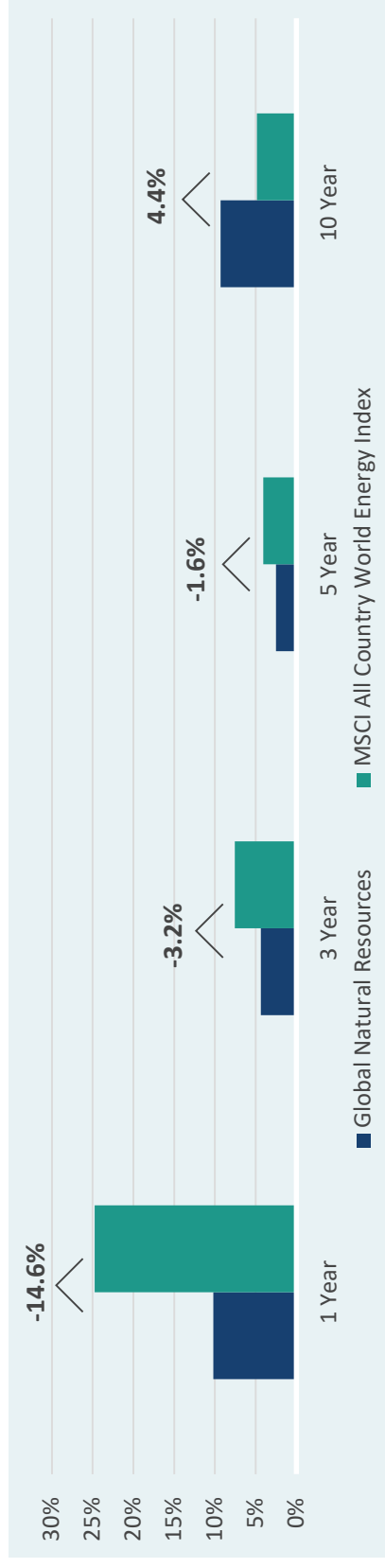


Sources: Thomson Reuters Cambridge Universe's PME Module; U.S. Private Equity Funds sub asset classes as of June 30, 2018. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

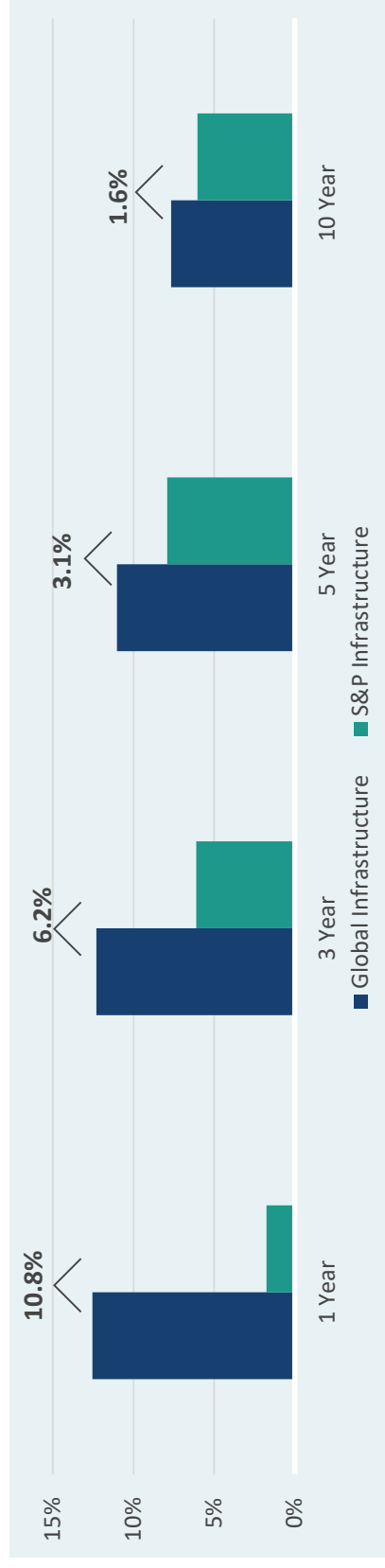
# Private vs. liquid real assets performance

As of 6/30/2018

## GLOBAL NATURAL RESOURCES FUNDS



## GLOBAL INFRASTRUCTURE FUNDS

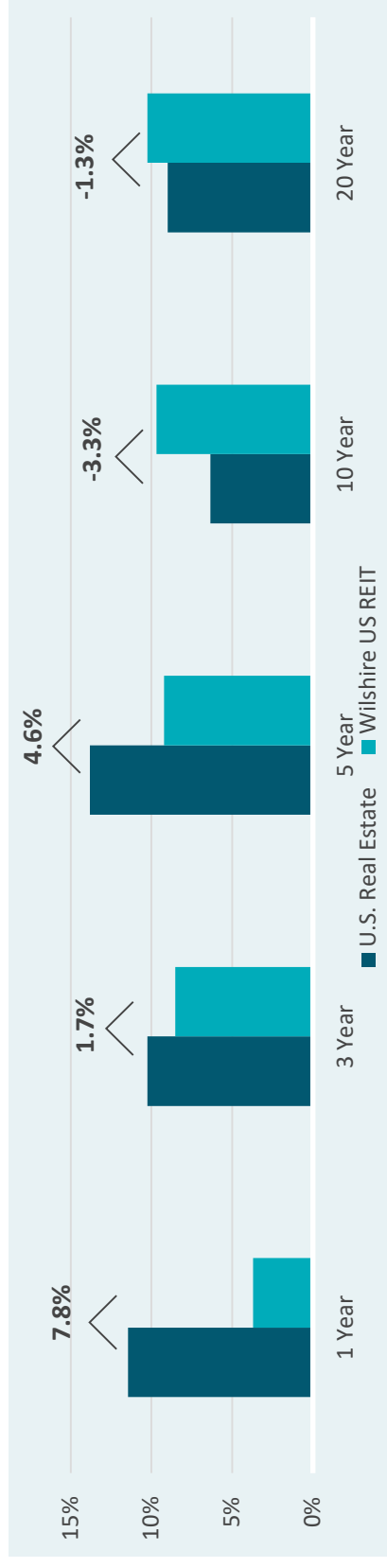


Sources: Thomson Reuters C/A PME: Global Natural Resources (vintage 2003 and later, inception of MSCI ACWI Energy benchmark) and Global Infrastructure (vintage 1996 and later, inception of S&P Infrastructure benchmark) universes as of June 30, 2018. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

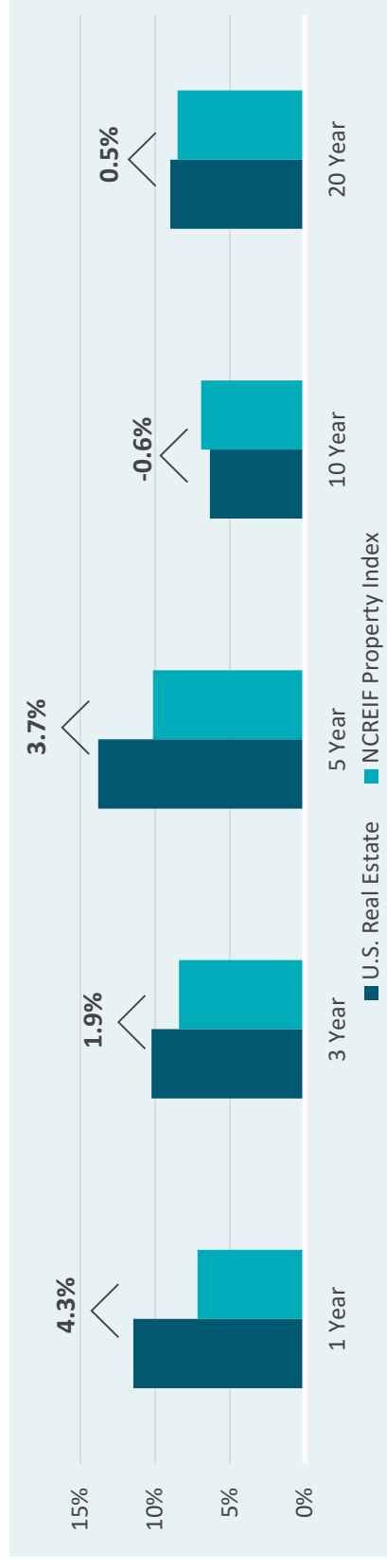
# Private vs. liquid & core real estate performance

As of 6/30/2018

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



Sources: Thomson Reuters C/IA PME: Global and U.S. Real Estate universes as of June 30, 2018. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.



# Definitions

[www.langerresearch.com](http://www.langerresearch.com)

[www.Bloomberg.com](http://www.Bloomberg.com)

<http://www.nfb-sbet.org/about/>

# Contra Costa County Employees' Retirement Association

Investment Performance Review

Period Ending: December 31, 2018



VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

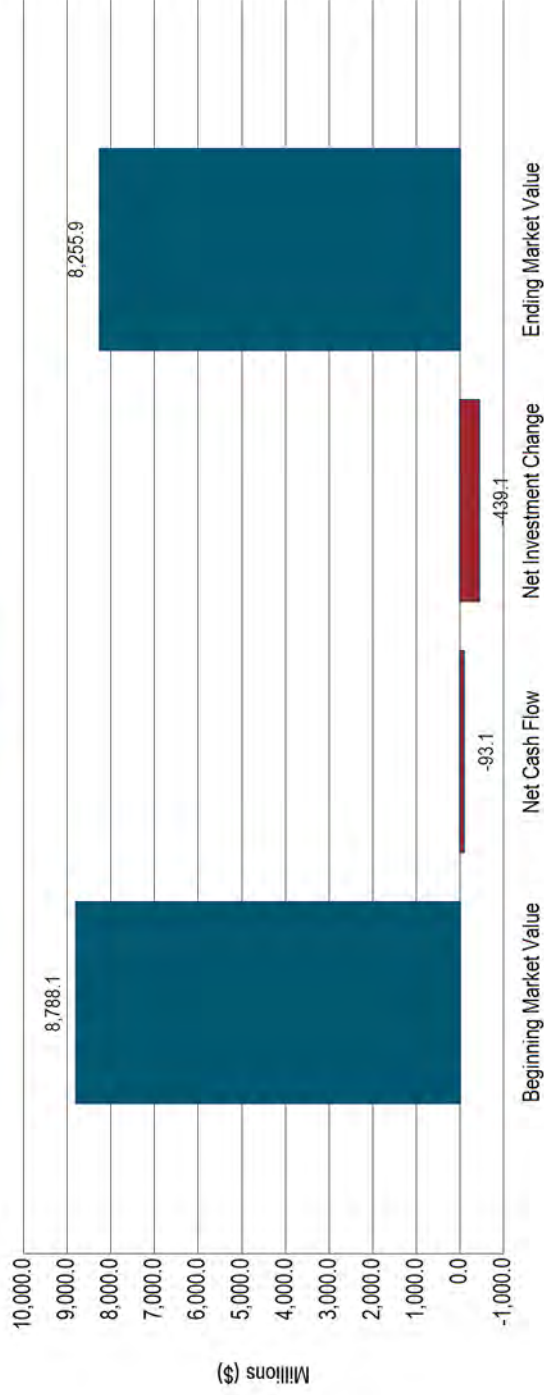
LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

### Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	\$8,788,140,564	\$8,532,697,023
Net Cash Flow	-\$93,142,541	-\$74,283,353
Net Investment Change	-\$439,124,716	-\$202,540,363
<b>Ending Market Value</b>	<b>\$8,255,873,307</b>	<b>\$8,255,873,307</b>

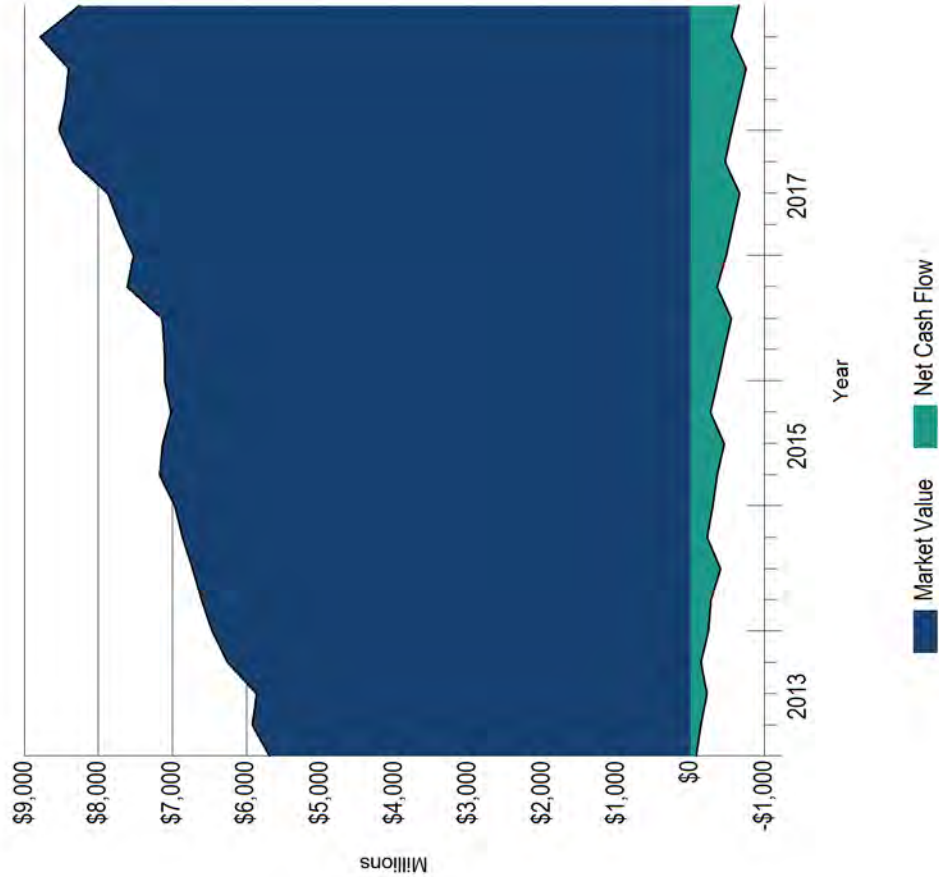
Change in Market Value Last Three Months



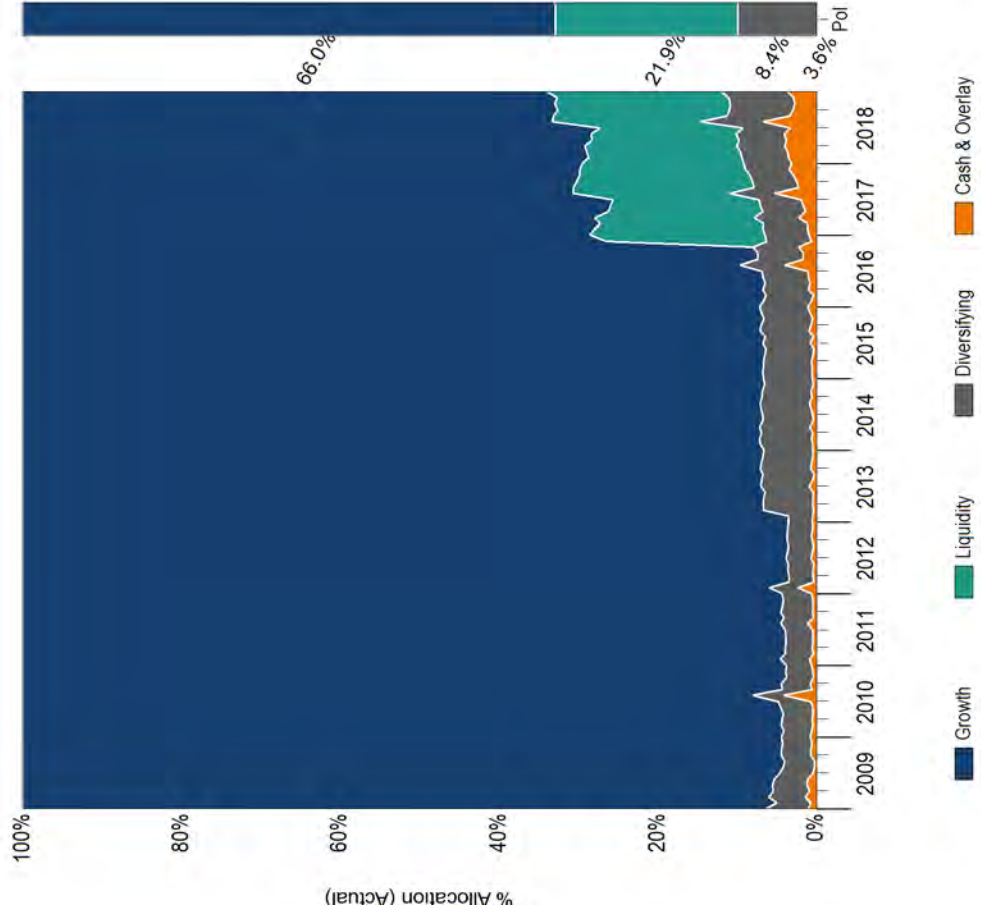
3.5

*Contributions and withdrawals may include intra-account transfers between managers/funds.*

Market Value History  
Cumulative Cash Flows

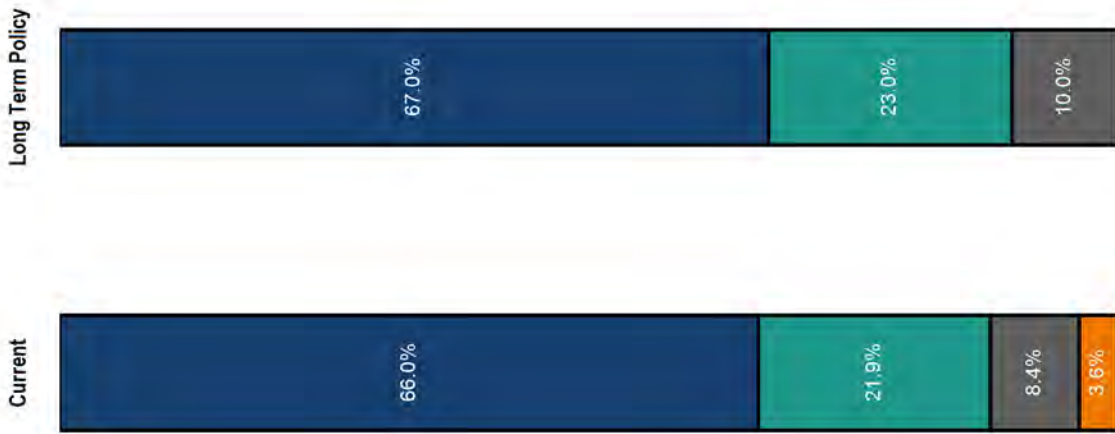


Asset Allocation History



Policy reflects FFP 4-Yr allocations approved in March 2018.

Total Fund  
 Asset Allocation vs. Long Term Target Policy Period Ending: December 31, 2018



**Allocation vs. Long Term Target**

	Current Balance	Current Allocation	Long Term Target	Difference
Growth	\$5,451,581,055	66.0%	67.0%	-\$79,854,061
Liquidity	\$1,810,918,374	21.9%	23.0%	-\$87,932,486
Diversifying	\$693,574,093	8.4%	10.0%	-\$132,013,237
Cash & Overlay	\$299,799,785	3.6%	--	\$299,799,785
<b>Total</b>	<b>\$8,255,873,307</b>	<b>100.0%</b>	<b>100.0%</b>	

**Allocation vs. Current Targets**

	Current Balance	Current Allocation	Current Target	Difference
Growth	\$5,451,581,055	66.0%	69.0%	-\$244,971,527
Liquidity	\$1,810,918,374	21.9%	23.0%	-\$87,932,486
Diversifying	\$693,574,093	8.4%	8.0%	\$33,104,229
Cash & Overlay	\$299,799,785	3.6%	--	\$299,799,785
<b>Total</b>	<b>\$8,255,873,307</b>	<b>100.0%</b>	<b>100.0%</b>	

Long Term Targets reflect FFP 4-Yr allocations approved in March 2018.  
 Current Targets reflect Phase 3 Targets approved in June 2018.

**Total Fund**  
**Executive Summary (Net of Fees)** Period Ending: December 31, 2018

	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>100.0</b>	<b>-5.2</b>	<b>-2.7</b>	<b>5.8</b>	<b>5.4</b>	<b>9.1</b>	<b>-2.7</b>	<b>13.9</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>
Policy Index		-4.3	-0.9	7.1	6.1	--	-0.9	13.7	8.9	0.6	9.0
<b>Growth</b>	<b>66.0</b>	<b>-7.4</b>	<b>-3.9</b>	<b>7.0</b>	<b>6.3</b>	<b>--</b>	<b>-3.9</b>	<b>18.7</b>	<b>7.6</b>	<b>2.3</b>	<b>8.1</b>
Custom Growth Benchmark		-6.6	-2.1	8.7	6.9	--	-2.1	19.3	10.1	0.3	8.4
<b>Diversifying</b>	<b>8.4</b>	<b>-0.9</b>	<b>-2.3</b>	<b>0.3</b>	<b>0.2</b>	<b>2.3</b>	<b>-2.3</b>	<b>2.6</b>	<b>0.8</b>	<b>-1.8</b>	<b>1.7</b>
Custom Diversifying Benchmark		0.3	1.5	3.4	3.6	4.1	1.5	4.7	4.1	2.5	5.4
<b>Liquidity</b>	<b>21.9</b>	<b>1.2</b>	<b>1.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.7</b>	<b>1.4</b>	<b>--</b>	<b>--</b>	<b>--</b>
BBgBarc US Govt/Credit 1-3 Yr: TR		1.2	1.6	--	--	--	1.6	0.8	--	--	--

*\*Correlation between the Growth and Diversifying composites is .13, .11 and .29 over the previous 1, 3 and 5 year periods respectively.*

Policy Index (7/1/2018-Present): 11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 23% BBgBarc 1-3 Yr Govt/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2.0% CPI +4%, 10% S&P 500 +4%(Lagged), 2.5% HFRI EH Equity Market Neutral, Policy Index (10/1/2017-6/30/2018): 16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 25% BBgBarc 1-3 Yr Govt/Credit, 3.5% BBgBarc US Aggregate, 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI +4%, 10.1% S&P 500 +4%(Lagged), Policy Index (1/1/2017-9/30/2017): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Govt/Credit, 3.2% BBgBarc US Aggregate, 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%(Lagged), 1.6% 90-day T-Bills, Policy Index (4/1/2012-12/31/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 1.35% FTSE/EPRA NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills, Policy Index (4/1/2011-3/31/2012): 31% Russell 3000, 10.4% MSCI/EAFE (Gross), 9.6% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% Wilshire REIT, 3.1% NCREIF Property Index, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills, Policy Index (4/1/2010-3/31/2011): 35.6% Russell 3000, 10.4% MSCI/EAFE (Gross), 5% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% Wilshire REIT, 3.1% NCREIF Property Index, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills, Policy Index (7/1/2009-3/31/2010): 40.6% Russell 3000, 10.4% MSCI/EAFE (Gross), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% Wilshire REIT, 3.1% NCREIF Property Index, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.

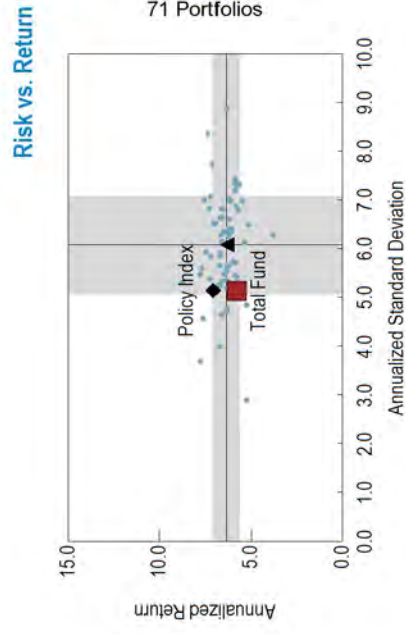
3.5



Total Fund  
 Executive Summary (Net of Fees) Period Ending: December 31, 2018

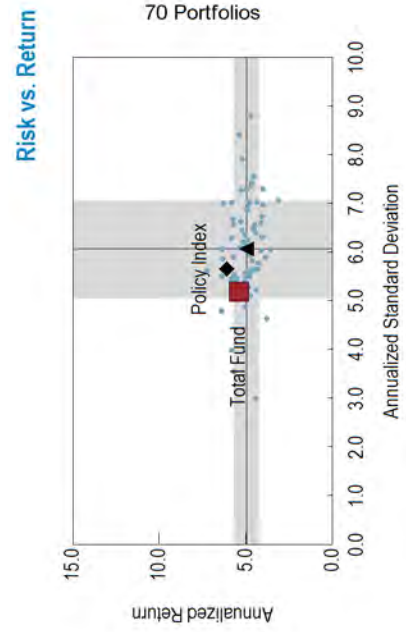
3 Years

Total Fund	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
	5.81%	-1.24%	5.14%	-0.96%	0.96	1.44%	0.92	0.93	-0.87	91.11%	108.37%



5 Years

Total Fund	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
	5.42%	-0.69%	5.19%	0.04%	0.88	1.64%	0.92	0.92	-0.42	85.96%	89.92%



3.5



# Total Fund Performance Summary (Gross of Fees) Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>8,255,873,307</b>	<b>100.0</b>	<b>-5.1</b>	<b>-2.5</b>	<b>6.2</b>	<b>5.9</b>	<b>9.7</b>	<b>-2.5</b>	<b>14.2</b>	<b>7.4</b>	<b>2.7</b>	<b>8.4</b>
<i>Policy Index</i>			-4.3	-0.9	7.1	6.1	--	-0.9	13.7	8.9	0.6	9.0
<i>InvestorForce Public DB &gt; \$1B Gross Rank</i>			10	25	70	9	10	25	83	74	5	6
<b>Total Fund ex Overlay &amp; Cash</b>	<b>7,956,073,522</b>	<b>96.4</b>	<b>-5.0</b>	<b>-2.1</b>	<b>6.3</b>	<b>6.0</b>	<b>9.8</b>	<b>-2.1</b>	<b>14.1</b>	<b>7.4</b>	<b>2.7</b>	<b>8.4</b>
<i>Policy Index</i>			-4.3	-0.9	7.1	6.1	--	-0.9	13.7	8.9	0.6	9.0
<i>InvestorForce Public DB &gt; \$1B Gross Rank</i>			9	20	60	9	9	20	84	74	5	6
<b>Growth</b>	<b>5,451,581,055</b>	<b>66.0</b>	<b>-7.4</b>	<b>-3.6</b>	<b>7.4</b>	<b>6.8</b>	<b>--</b>	<b>-3.6</b>	<b>19.1</b>	<b>8.1</b>	<b>3.0</b>	<b>8.8</b>
<i>Custom Growth Benchmark</i>			-6.6	-2.1	8.7	6.9	--	-2.1	19.3	10.1	0.3	8.4
<b>Total Domestic Equity</b>	<b>1,040,209,174</b>	<b>12.6</b>	<b>-16.0</b>	<b>-7.2</b>	<b>8.6</b>	<b>7.6</b>	<b>13.7</b>	<b>-7.2</b>	<b>23.9</b>	<b>11.5</b>	<b>1.1</b>	<b>11.4</b>
<i>Russell 3000</i>			-14.3	-5.2	9.0	7.9	13.2	-5.2	21.1	12.7	0.5	12.6
<i>InvestorForce Public DB US Eq Gross Rank</i>			88	78	56	36	14	78	6	77	21	50
<i>BlackRock Russell 1000 Index</i>		1.4	-13.8	-4.8	--	--	--	-4.8	--	--	--	--
<i>Russell 1000</i>			-13.8	-4.8	--	--	--	-4.8	--	--	--	--
<i>eV US Large Cap Equity Gross Rank</i>			49	47	--	--	--	47	--	--	--	--
<i>Jackson Square Partners</i>		3.6	-13.7	-2.0	6.6	7.9	15.3	-2.0	29.3	-4.4	6.1	13.9
<i>Russell 1000 Growth</i>			-15.9	-1.5	11.1	10.4	15.3	-1.5	30.2	7.1	5.7	13.0
<i>eV US Large Cap Growth Equity Gross Rank</i>			25	59	96	82	35	59	47	98	37	31
<i>Robeco Boston Partners</i>		3.2	-13.8	-8.7	8.1	6.3	12.7	-8.7	20.1	15.1	-3.9	12.0
<i>Russell 1000 Value</i>			-11.7	-8.3	7.0	5.9	11.2	-8.3	13.7	17.3	-3.8	13.5
<i>eV US Large Cap Value Equity Gross Rank</i>			59	55	36	50	28	55	23	50	65	55
<i>Emerald Advisers</i>		2.4	-22.3	-10.1	8.4	7.3	15.9	-10.1	28.8	10.1	4.1	7.3
<i>Russell 2000 Growth</i>			-21.7	-9.3	7.2	5.1	13.5	-9.3	22.2	11.3	-1.4	5.6
<i>eV US Small Cap Growth Equity Gross Rank</i>			72	85	69	38	34	85	26	54	19	21
<i>Ceredex</i>		2.1	-16.6	-11.3	8.6	4.8	--	-11.3	11.4	29.8	-4.4	3.3
<i>Russell 2000 Value</i>			-18.7	-12.9	7.4	3.6	--	-12.9	7.8	31.7	-7.5	4.2
<i>eV US Small Cap Value Equity Gross Rank</i>			22	25	23	33	--	25	48	32	52	74

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. Goldman Sachs has \$223 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39,637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.



**Total Fund  
Performance Summary (Gross of Fees)** Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Total International Equity</b>	<b>1,442,678,741</b>	<b>17.5</b>	<b>-10.3</b>	<b>-14.3</b>	<b>2.9</b>	<b>1.5</b>	<b>5.9</b>	<b>-14.3</b>	<b>25.5</b>	<b>1.2</b>	<b>-1.2</b>	<b>0.3</b>
MSCI ACWI ex USA Gross			-11.4	-13.8	5.0	1.1	7.1	-13.8	27.8	5.0	-5.3	-3.4
MSCI EAFE Gross			-12.5	-13.4	3.4	1.0	6.8	-13.4	25.6	1.5	-0.4	-4.5
InvestorForce Public DB ex-US Eq Gross Rank			9	44	91	39	79	44	90	89	28	5
<b>International Equity</b>	<b>827,656,847</b>	<b>10.0</b>	<b>-12.8</b>	<b>-13.6</b>	<b>3.1</b>	<b>1.7</b>	<b>6.0</b>	<b>-13.6</b>	<b>25.3</b>	<b>1.2</b>	<b>-1.2</b>	<b>0.3</b>
MSCI ACWI ex USA Gross			-11.4	-13.8	5.0	1.1	7.1	-13.8	27.8	5.0	-5.3	-3.4
InvestorForce Public DB ex-US Eq Gross Rank			66	21	89	35	79	21	93	89	28	5
Pyrford			-9.5	-10.1	3.6	--	--	-10.1	19.8	3.4	-2.9	--
MSCI ACWI ex USA Value		5.0	-10.7	-14.0	4.7	--	--	-14.0	22.7	8.9	-10.1	--
eV ACWI ex-US Value Equity Gross Rank			12	5	55	--	--	5	84	74	59	--
William Blair			-15.9	-16.8	2.4	1.3	--	-16.8	30.9	-1.4	0.5	-1.2
MSCI ACWI ex USA Growth		5.0	-12.2	-14.4	4.2	1.7	--	-14.4	32.0	0.1	-1.3	-2.6
eV ACWI ex-US Growth Equity Gross Rank			59	69	83	83	--	69	81	55	69	37
<b>Emerging Markets Equity</b>	<b>615,021,894</b>	<b>7.4</b>	<b>-6.7</b>	<b>-15.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-15.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
MSCI Emerging Markets			-7.5	-14.6	--	--	--	-14.6	--	--	--	--
InvestorForce Public DB Emg Mkt Eq Gross Rank			49	51	--	--	--	51	--	--	--	--
PIMCO RAE Emerging Markets		3.9	-6.9	-12.3	--	--	--	-12.3	--	--	--	--
MSCI Emerging Markets			-7.5	-14.6	--	--	--	-14.6	--	--	--	--
eV Emg Mkts Equity Gross Rank			41	19	--	--	--	19	--	--	--	--
TT Emerging Markets		3.5	-6.4	-18.4	--	--	--	-18.4	--	--	--	--
MSCI Emerging Markets			-7.5	-14.6	--	--	--	-14.6	--	--	--	--
eV Emg Mkts Equity Gross Rank			36	83	--	--	--	83	--	--	--	--
<b>Total Global Equity</b>	<b>681,154,924</b>	<b>8.3</b>	<b>-11.9</b>	<b>-7.8</b>	<b>7.1</b>	<b>5.7</b>	<b>7.9</b>	<b>-7.8</b>	<b>23.7</b>	<b>7.6</b>	<b>2.2</b>	<b>5.2</b>
MSCI ACWI			-12.8	-9.4	6.6	4.3	9.5	-9.4	24.0	7.9	-2.4	4.2
InvestorForce Public DB Gbl Eq Gross Rank			60	60	58	34	16	60	79	40	16	41
Artisan Partners		4.2	-15.2	-7.9	8.9	8.0	--	-7.9	32.9	5.6	9.2	3.9
MSCI ACWI			-12.8	-9.4	6.6	4.3	--	-9.4	24.0	7.9	-2.4	4.2
eV All Global Equity Gross Rank			76	40	16	11	--	40	11	61	4	56
First Eagle		4.0	-8.1	-7.6	5.9	4.4	--	-7.6	15.1	11.7	0.2	4.5
MSCI ACWI			-12.8	-9.4	6.6	4.3	--	-9.4	24.0	7.9	-2.4	4.2
eV All Global Equity Gross Rank			13	38	63	62	--	38	89	19	49	51

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. Goldman Sachs has \$223 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39,637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

**Total Fund Performance Summary (Gross of Fees) Period Ending: December 31, 2018**

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Private Credit</b>	<b>307,928,386</b>	<b>3.7</b>	<b>3.8</b>	<b>8.3</b>	<b>8.9</b>	<b>11.0</b>	<b>15.4</b>	<b>8.3</b>	<b>10.4</b>	<b>8.2</b>	<b>12.9</b>	<b>15.4</b>
ICE BofAML High Yield Master II +2%			-4.2	-0.3	9.4	5.9	13.2	-0.3	9.6	19.8	-2.7	4.5
<b>Total High Yield</b>	<b>327,878,586</b>	<b>4.0</b>	<b>-4.8</b>	<b>-3.2</b>	<b>5.6</b>	<b>2.8</b>	<b>9.9</b>	<b>-3.2</b>	<b>6.5</b>	<b>14.3</b>	<b>-3.5</b>	<b>1.2</b>
ICE BofAML High Yield Master II			-4.7	-2.3	7.3	3.8	11.0	-2.3	7.5	17.5	-4.6	2.5
eV US High Yield Fixed Inc Gross Rank			73	88	71	87	64	88	74	47	68	83
Allianz Global Investors	327,878,586	4.0	-4.8	-3.2	5.6	2.8	9.9	-3.2	6.5	14.3	-3.5	1.2
ICE BofAML High Yield Master II			-4.7	-2.3	7.3	3.8	11.0	-2.3	7.5	17.5	-4.6	2.5
eV US High Yield Fixed Inc Gross Rank			73	88	71	87	64	88	74	47	68	83
<b>Total Real Estate</b>	<b>699,299,265</b>	<b>8.5</b>	<b>0.5</b>	<b>7.4</b>	<b>8.0</b>	<b>11.5</b>	<b>11.4</b>	<b>7.4</b>	<b>11.1</b>	<b>5.5</b>	<b>13.5</b>	<b>20.6</b>
Real Estate Benchmark			0.8	6.7	6.8	9.4	9.3	6.7	7.1	6.7	8.3	18.8
NCREIF-ODCE			1.8	8.3	8.2	10.4	7.0	8.3	7.6	8.8	15.0	12.5
NCREIF Property Index			1.4	6.7	7.2	9.3	7.5	6.7	7.0	8.0	13.3	11.8
Adelante	62,941,501	0.8	-6.3	-5.0	2.1	8.3	12.9	-5.0	7.8	4.1	5.1	33.4
Wilshire REIT			-6.9	-4.8	2.1	7.9	12.2	-4.8	4.2	7.2	4.2	31.8
<b>Private Equity</b>	<b>952,102,813</b>	<b>11.5</b>	<b>2.2</b>	<b>12.1</b>	<b>11.1</b>	<b>12.4</b>	<b>10.9</b>	<b>12.1</b>	<b>11.9</b>	<b>9.4</b>	<b>11.6</b>	<b>17.3</b>
S&P 500 Index +4% (Lagged)			8.7	22.6	21.9	18.5	16.4	22.6	23.3	20.0	3.4	24.5
<b>Diversifying</b>	<b>693,574,093</b>	<b>8.4</b>	<b>-0.9</b>	<b>-2.0</b>	<b>0.7</b>	<b>0.6</b>	<b>2.7</b>	<b>-2.0</b>	<b>2.8</b>	<b>1.3</b>	<b>-1.4</b>	<b>2.2</b>
Custom Diversifying Benchmark			0.3	1.5	3.4	3.6	4.1	1.5	4.7	4.1	2.5	5.4
<b>Diversifying Fixed Income</b>	<b>495,702,114</b>	<b>6.0</b>	<b>-0.2</b>	<b>-1.7</b>	<b>1.3</b>	<b>2.4</b>	<b>3.5</b>	<b>-1.7</b>	<b>2.8</b>	<b>2.8</b>	<b>1.6</b>	<b>6.6</b>
eV US Core Fixed Inc Gross Rank			99	99	99	95	90	99	96	72	15	25
AFL-CIO	318,502,545	3.9	2.1	0.6	2.2	2.9	3.9	0.6	3.6	2.4	1.6	6.6
BBGBarc US Aggregate TR			1.6	0.0	2.1	2.5	3.5	0.0	3.5	2.6	0.6	6.0
eV US Core Fixed Inc Gross Rank			6	16	70	39	79	16	76	87	15	25
Wellington Real Total Return	177,199,569	2.1	-3.9	-5.6	-1.3	-2.3	--	-5.6	1.9	-0.1	-4.9	-2.5
CPI + 4%			0.5	6.0	6.1	5.6	--	6.0	6.2	6.2	4.8	4.8
<b>Diversifying Equity</b>	<b>197,871,979</b>	<b>2.4</b>	<b>-2.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Parametric Defensive Equity	197,871,979	2.4	-2.6	--	--	--	--	--	--	--	--	--
91 Day T-Bill +4%			1.5	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39,637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

**Total Fund Performance Summary (Gross of Fees) Period Ending: December 31, 2018**

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Liquidity</b>	<b>1,810,918,374</b>	<b>21.9</b>	<b>1.2</b>	<b>1.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.8</b>	<b>1.5</b>	<b>--</b>	<b>--</b>	<b>--</b>
BBgBarc US Govt/Credit 1-3 Yr. TR			1.2	1.6	--	--	--	1.6	0.8	--	--	--
eV US Short Duration Fixed Inc Gross Rank			18	24	--	--	--	24	50	--	--	--
DFA Short Credit	407,716,214	4.9	1.2	1.2	--	--	--	1.2	1.9	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt. TR			1.4	1.4	--	--	--	1.4	1.3	--	--	--
eV US Short Duration Fixed Inc Gross Rank			22	93	--	--	--	93	26	--	--	--
Insight Short Duration	874,572,034	10.6	0.8	1.7	--	--	--	1.7	1.5	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			1.2	1.6	--	--	--	1.6	0.8	--	--	--
eV US Short Duration Fixed Inc Gross Rank			71	38	--	--	--	38	50	--	--	--
Sit Short Duration	528,630,126	6.4	2.0	2.5	--	--	--	2.5	1.3	--	--	--
BBgBarc US Govt 1-3 Yr TR			1.3	1.6	--	--	--	1.6	0.4	--	--	--
eV US Short Duration Fixed Inc Gross Rank			1	1	--	--	--	1	68	--	--	--
<b>Total Cash</b>	<b>266,783,799</b>	<b>3.2</b>	<b>0.6</b>	<b>1.7</b>	<b>1.2</b>	<b>0.1</b>	<b>--</b>	<b>1.7</b>	<b>0.9</b>	<b>0.9</b>	<b>0.1</b>	<b>-3.0</b>
91 Day T-Bills			0.6	1.9	1.1	0.6	--	1.9	0.9	0.3	0.0	0.0
Cash	266,783,799	3.2	0.6	1.7	1.2	1.0	3.2	1.7	0.9	0.9	0.1	1.4

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. Goldman Sachs has \$223 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39,637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

# Total Fund Performance Summary (Net of Fees)

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>8,255,873,307</b>	<b>100.0</b>	<b>-5.2</b>	<b>-2.7</b>	<b>5.8</b>	<b>5.4</b>	<b>9.1</b>	<b>-2.7</b>	<b>13.9</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>
Policy Index			-4.3	-0.9	7.1	6.1	--	-0.9	13.7	8.9	0.6	9.0
<b>Total Fund ex Overlay &amp; Cash</b>	<b>7,956,073,522</b>	<b>96.4</b>	<b>-5.0</b>	<b>-2.4</b>	<b>5.9</b>	<b>5.5</b>	<b>9.2</b>	<b>-2.4</b>	<b>13.8</b>	<b>6.9</b>	<b>2.1</b>	<b>7.7</b>
Policy Index			-4.3	-0.9	7.1	6.1	--	-0.9	13.7	8.9	0.6	9.0
<b>Growth</b>	<b>5,451,581,055</b>	<b>66.0</b>	<b>-7.4</b>	<b>-3.9</b>	<b>7.0</b>	<b>6.3</b>	<b>--</b>	<b>-3.9</b>	<b>18.7</b>	<b>7.6</b>	<b>2.3</b>	<b>8.1</b>
Custom Growth Benchmark			-6.6	-2.1	8.7	6.9	--	-2.1	19.3	10.1	0.3	8.4
<b>Total Domestic Equity</b>	<b>1,040,209,174</b>	<b>12.6</b>	<b>-16.0</b>	<b>-7.6</b>	<b>8.2</b>	<b>7.2</b>	<b>13.3</b>	<b>-7.6</b>	<b>23.5</b>	<b>11.1</b>	<b>0.6</b>	<b>11.0</b>
Russell 3000			-14.3	-5.2	9.0	7.9	13.2	-5.2	21.1	12.7	0.5	12.6
BlackRock Russell 1000 Index		1.4	-13.8	-4.8	--	--	--	-4.8	--	--	--	--
Russell 1000			-13.8	-4.8	--	--	--	-4.8	--	--	--	--
Jackson Square Partners		3.6	-13.8	-2.4	6.1	7.4	14.9	-2.4	28.7	-4.8	5.6	13.4
Russell 1000 Growth			-15.9	-1.5	11.1	10.4	15.3	-1.5	30.2	7.1	5.7	13.0
Robeco Boston Partners		3.2	-13.8	-8.9	7.7	6.0	12.3	-8.9	19.7	14.7	-4.2	11.6
Russell 1000 Value			-11.7	-8.3	7.0	5.9	11.2	-8.3	13.7	17.3	-3.8	13.5
Emerald Advisers		2.4	-22.4	-10.7	7.7	6.7	15.2	-10.7	28.0	9.4	3.5	6.6
Russell 2000 Growth			-21.7	-9.3	7.2	5.1	13.5	-9.3	22.2	11.3	-1.4	5.6
Ceredex		2.1	-16.7	-11.8	8.0	4.2	--	-11.8	10.7	29.1	-5.0	2.7
Russell 2000 Value			-18.7	-12.9	7.4	3.6	--	-12.9	7.8	31.7	-7.5	4.2
<b>Total International Equity</b>	<b>1,442,678,741</b>	<b>17.5</b>	<b>-10.4</b>	<b>-14.7</b>	<b>2.4</b>	<b>1.1</b>	<b>5.5</b>	<b>-14.7</b>	<b>25.0</b>	<b>0.8</b>	<b>-1.6</b>	<b>0.0</b>
MSCI ACWI ex USA Gross			-11.4	-13.8	5.0	1.1	7.1	-13.8	27.8	5.0	-5.3	-3.4
MSCI EAFE Gross			-12.5	-13.4	3.4	1.0	6.8	-13.4	25.6	1.5	-0.4	-4.5
<b>International Equity</b>	<b>827,656,847</b>	<b>10.0</b>	<b>-12.9</b>	<b>-13.9</b>	<b>2.7</b>	<b>1.3</b>	<b>5.6</b>	<b>-13.9</b>	<b>24.8</b>	<b>0.8</b>	<b>-1.6</b>	<b>0.0</b>
MSCI ACWI ex USA Gross			-11.4	-13.8	5.0	1.1	7.1	-13.8	27.8	5.0	-5.3	-3.4
Plyford		5.0	-9.6	-10.5	3.2	--	--	-10.5	19.3	3.0	-3.3	--
MSCI ACWI ex USA Value			-10.7	-14.0	4.7	--	--	-14.0	22.7	8.9	-10.1	--
William Blair		5.0	-16.0	-17.1	2.0	0.9	--	-17.1	30.4	-1.8	0.0	-1.7
MSCI ACWI ex USA Growth			-12.2	-14.4	4.2	1.7	--	-14.4	32.0	0.1	-1.3	-2.6
<b>Emerging Markets Equity</b>	<b>615,021,894</b>	<b>7.4</b>	<b>-6.8</b>	<b>-15.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-15.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
MSCI Emerging Markets			-7.5	-14.6	--	--	--	-14.6	--	--	--	--
PIMCO RAE Emerging Markets		3.9	-7.0	-12.6	--	--	--	-12.6	--	--	--	--
MSCI Emerging Markets			-7.5	-14.6	--	--	--	-14.6	--	--	--	--
TT Emerging Markets		3.5	-6.6	-18.9	--	--	--	-18.9	--	--	--	--
MSCI Emerging Markets			-7.5	-14.6	--	--	--	-14.6	--	--	--	--

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. Goldman Sachs has \$223 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39,637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 7/1/2018. Private Credit and Private Equity data provided by StepStone Group.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Total Global Equity</b>	<b>681,154,924</b>	<b>8.3</b>	<b>-12.0</b>	<b>-8.5</b>	<b>6.3</b>	<b>5.0</b>	<b>7.3</b>	<b>-8.5</b>	<b>22.8</b>	<b>6.9</b>	<b>1.6</b>	<b>4.5</b>
MSCI ACWI			-12.8	-9.4	6.6	4.3	9.5	-9.4	24.0	7.9	-2.4	4.2
Artisan Partners	347,975,016	4.2	-15.4	-8.6	8.1	7.2	--	-8.6	31.9	4.8	8.4	3.1
MSCI ACWI			-12.8	-9.4	6.6	4.3	--	-9.4	24.0	7.9	-2.4	4.2
First Eagle	333,004,273	4.0	-8.3	-8.3	5.1	3.7	--	-8.3	14.3	10.9	-0.6	3.7
MSCI ACWI			-12.8	-9.4	6.6	4.3	--	-9.4	24.0	7.9	-2.4	4.2
<b>Private Credit</b>	<b>307,928,386</b>	<b>3.7</b>	<b>3.8</b>	<b>8.3</b>	<b>8.5</b>	<b>9.9</b>	<b>13.0</b>	<b>8.3</b>	<b>10.4</b>	<b>6.9</b>	<b>11.6</b>	<b>12.3</b>
ICE BofAML High Yield Master II +2%			-4.2	-0.3	9.4	5.9	13.2	-0.3	9.6	19.8	-2.7	4.5
<b>Total High Yield</b>	<b>327,878,586</b>	<b>4.0</b>	<b>-4.9</b>	<b>-3.6</b>	<b>5.2</b>	<b>2.5</b>	<b>9.6</b>	<b>-3.6</b>	<b>6.1</b>	<b>13.9</b>	<b>-3.9</b>	<b>0.8</b>
ICE BofAML High Yield Master II			-4.7	-2.3	7.3	3.8	11.0	-2.3	7.5	17.5	-4.6	2.5
Allianz Global Investors	327,878,586	4.0	-4.9	-3.6	5.2	2.5	9.5	-3.6	6.1	13.9	-3.9	0.8
ICE BofAML High Yield Master II			-4.7	-2.3	7.3	3.8	11.0	-2.3	7.5	17.5	-4.6	2.5
<b>Total Real Estate</b>	<b>699,299,265</b>	<b>8.5</b>	<b>0.5</b>	<b>7.4</b>	<b>7.7</b>	<b>10.8</b>	<b>10.5</b>	<b>7.4</b>	<b>11.0</b>	<b>4.8</b>	<b>12.4</b>	<b>19.1</b>
Real Estate Benchmark			0.8	6.7	6.8	9.4	9.3	6.7	7.1	6.7	8.3	18.8
NCREIF-ODCE			1.8	8.3	8.2	10.4	7.0	8.3	7.6	8.8	15.0	12.5
NCREIF Property Index			1.4	6.7	7.2	9.3	7.5	6.7	7.0	8.0	13.3	11.8
Adelante	62,941,501	0.8	-6.4	-5.5	1.6	7.8	12.4	-5.5	7.2	3.6	4.6	32.7
Wilshire REIT			-6.9	-4.8	2.1	7.9	12.2	-4.8	4.2	7.2	4.2	31.8
<b>Private Equity</b>	<b>952,102,813</b>	<b>11.5</b>	<b>2.2</b>	<b>12.1</b>	<b>10.9</b>	<b>11.6</b>	<b>9.1</b>	<b>12.1</b>	<b>11.9</b>	<b>8.9</b>	<b>9.9</b>	<b>15.2</b>
S&P 500 Index +4% (Lagged)			8.7	22.6	21.9	18.5	16.4	22.6	23.3	20.0	3.4	24.5
<b>Diversifying</b>	<b>693,574,093</b>	<b>8.4</b>	<b>-0.9</b>	<b>-2.3</b>	<b>0.3</b>	<b>0.2</b>	<b>2.3</b>	<b>-2.3</b>	<b>2.6</b>	<b>0.8</b>	<b>-1.8</b>	<b>1.7</b>
Custom Diversifying Benchmark			0.3	1.5	3.4	3.6	4.1	1.5	4.7	4.1	2.5	5.4
<b>Diversifying Fixed Income</b>	<b>495,702,114</b>	<b>6.0</b>	<b>-0.2</b>	<b>-2.0</b>	<b>1.0</b>	<b>2.0</b>	<b>3.2</b>	<b>-2.0</b>	<b>2.6</b>	<b>2.3</b>	<b>1.1</b>	<b>6.1</b>
AFL-CIO	318,502,545	3.9	1.9	0.2	1.7	2.5	3.4	0.2	3.2	1.9	1.1	6.1
BBGBarc US Aggregate TR			1.6	0.0	2.1	2.5	3.5	0.0	3.5	2.6	0.6	6.0
Wellington Real Total Return	177,199,569	2.1	-3.9	-5.6	-1.5	-2.6	--	-5.6	1.9	-0.6	-5.4	-3.1
CPI + 4%			0.5	6.0	6.1	5.6	--	6.0	6.2	6.2	4.8	4.8

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. Goldman Sachs has \$223 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39.637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 7/1/2018. Private Credit and Private Equity data provided by StepStone Group.

**Total Fund  
Performance Summary (Net of Fees)** Period Ending: December 31, 2018

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
<b>Diversifying Equity</b>	<b>197,871,979</b>	<b>2.4</b>	<b>-2.6</b>	--	--	--	--	--	--	--	--	--
Parametric Defensive Equity	197,871,979	2.4	-2.6	--	--	--	--	--	--	--	--	--
91 Day T-Bill +4%			1.5	--	--	--	--	--	--	--	--	--
<b>Liquidity</b>	<b>1,810,918,374</b>	<b>21.9</b>	<b>1.2</b>	<b>1.7</b>	--	--	--	<b>1.7</b>	<b>1.4</b>	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			1.2	1.6	--	--	--	1.6	0.8	--	--	--
DFA Short Credit	407,716,214	4.9	1.2	1.1	--	--	--	1.1	1.8	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			1.4	1.4	--	--	--	1.4	1.3	--	--	--
Insight Short Duration	874,572,034	10.6	0.8	1.7	--	--	--	1.7	1.5	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			1.2	1.6	--	--	--	1.6	0.8	--	--	--
Sit Short Duration	528,630,126	6.4	2.0	2.3	--	--	--	2.3	1.1	--	--	--
BBgBarc US Govt 1-3 Yr TR			1.3	1.6	--	--	--	1.6	0.4	--	--	--
<b>Total Cash</b>	<b>266,783,799</b>	<b>3.2</b>	<b>0.6</b>	<b>1.7</b>	<b>1.2</b>	<b>0.1</b>	--	<b>1.7</b>	<b>0.9</b>	<b>0.9</b>	<b>0.1</b>	<b>-3.0</b>
91 Day T-Bills			0.6	1.9	1.1	0.6	--	1.9	0.9	0.3	0.0	0.0
Cash	266,783,799	3.2	0.6	1.7	1.2	1.0	2.9	1.7	0.9	0.9	0.1	1.4

Individual closed end funds are not shown in performance summary table. Transition account has \$289,305 of residual cash. Goldman Sachs has \$223 of residual cash. JPM Global has \$158,190 of residual cash. Lazard has \$39,637 of residual cash. Intech Large Cap has \$8,665 of residual cash. Intech Global Low Vol has \$17,444 of residual cash. Parametric Defensive Equity funded 7/23/2018. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.





Total Fund  
Closed End Funds - Investment Summary

Period Ending: December 31, 2018

Verus Internal Analysis

Inception Date	Manager Name/Fund Name	Estimated Market Value as of 12/31/2018 <sup>3</sup>	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions <sup>5</sup>	Remaining Commitment	Distrib./ Paid-in (DPI) <sup>1</sup>	Tot. Value/ Paid-in (TVPI) <sup>2</sup>	Latest Valuation
<b>Real Estate</b>												
1/23/2012	Angelo Gordon Realty Fund VIII	\$26,122,480	\$80,000,000	94%	\$75,401,855	\$0	\$3,200,000	\$94,978,501	\$12,334,302	1.26	1.61	9/30/2018
12/8/2014	Angelo Gordon Realty Fund IX	\$57,621,141	\$85,000,000	86%	\$55,575,000	\$4,875,000	\$3,575,000	\$8,775,000	\$12,122,500	0.16	1.19	9/30/2018
6/23/2005	DLJ RECP III	\$23,199,008	\$75,000,000	95%	\$70,968,662	\$0	\$0	\$72,565,242	\$4,031,338	1.02	1.35	9/30/2018
2/11/2008	DLJ RECP IV	\$90,413,218	\$100,000,000	95%	\$95,460,264	\$0	\$0	\$67,629,710	\$4,539,736	0.71	1.66	9/30/2018
7/1/2014	DLJ RECP V	\$47,833,399	\$75,000,000	107%	\$79,931,685	\$7,709,903	\$0	\$50,780,984	\$24,803,276	0.64	1.23	9/30/2018
6/17/1998	Hearthstone II <sup>4</sup>	-\$3,484	\$25,000,000	80%	\$19,932,386	\$0	\$0	\$19,952,734	\$2,520,348	1.00	1.00	9/30/2018
11/26/2007	Invesco Real Estate II	\$425,670	\$85,000,000	92%	\$78,202,813	\$0	\$0	\$100,620,489	\$6,797,187	1.29	1.29	12/31/2018
6/30/2013	Invesco Real Estate III	\$12,774,765	\$35,000,000	93%	\$32,386,423	\$0	\$0	\$32,987,218	\$2,613,577	1.02	1.41	12/31/2018
6/30/2014	Invesco Real Estate IV	\$26,805,973	\$35,000,000	85%	\$29,808,739	\$2,448,117	\$1,798,052	\$9,376,527	\$5,191,261	0.31	1.21	12/31/2018
7/16/2013	LaSalle Income & Growth VI	\$29,017,358	\$75,000,000	95%	\$71,428,571	\$0	\$8,033,126	\$78,272,483	\$3,571,429	1.10	1.50	9/30/2018
2/28/2017	LaSalle Income & Growth VII	\$51,653,639	\$75,000,000	72%	\$54,224,861	\$7,635,483	\$13,273,864	\$13,273,864	\$20,775,139	0.24	1.20	9/30/2018
7/3/2013	Long Wharf Fund IV	\$12,101,592	\$25,000,000	100%	\$25,000,000	\$0	\$1,627,540	\$23,485,895	\$0	0.94	1.42	12/31/2018
9/30/2016	Long Wharf Fund V	\$49,447,742	\$50,000,000	100%	\$50,000,000	\$6,215,012	\$2,627,670	\$6,969,039	\$0	0.14	1.13	12/31/2018
12/31/2011	Oaktree REOF V	\$5,216,833	\$50,000,000	100%	\$50,000,000	\$0	\$400,000	\$80,116,587	\$25,750,000	1.60	1.71	12/31/2018
9/30/2013	Oaktree REOF VI	\$39,385,683	\$80,000,000	100%	\$80,000,000	\$0	\$3,888,703	\$73,678,405	\$18,400,000	0.92	1.41	12/31/2018
4/1/2015	Oaktree REOF VII	\$34,158,375	\$85,000,000	47%	\$30,745,623	\$6,500,000	\$0	\$4,615,000	\$38,870,000	0.15	1.26	12/31/2018
11/10/2013	Paulson Real Estate Fund II	\$24,739,053	\$20,000,000	97%	\$19,345,623	\$0	\$0	\$4,594,996	\$654,377	0.24	1.52	9/30/2018
1/25/2012	Siguler Guiff DREOF	\$31,764,566	\$75,000,000	93%	\$69,375,000	\$0	\$15,697,719	\$89,705,668	\$5,625,000	1.29	1.75	9/30/2018
8/31/2013	Siguler Guiff DREOF II	\$50,069,029	\$70,000,000	82%	\$57,120,000	\$0	\$3,710,338	\$29,608,106	\$12,880,000	0.52	1.39	9/30/2018
1/27/2016	Siguler Guiff DREOF II Co-Inv	\$23,611,725	\$25,000,000	82%	\$20,537,862	\$687,500	\$972,301	\$972,301	\$4,462,138	0.05	1.20	9/30/2018
<b>Total Closed End Real Estate</b>		<b>\$636,357,764</b>	<b>\$1,185,000,000</b>	<b>90%</b>	<b>\$1,065,444,746</b>	<b>\$36,071,015</b>	<b>\$58,804,314</b>	<b>\$862,958,749</b>	<b>\$205,941,607</b>	<b>0.81</b>	<b>1.41</b>	
										<b>% of Portfolio (Market Value)</b>		
										<b>7.7%</b>		

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

<sup>2</sup>(TVPI) is equal to (market value + capital returned) / capital called

<sup>3</sup>Latest valuation + capital calls - distributions

<sup>4</sup>No further capital to be called

<sup>5</sup>Total distributions may include recallable distributions



# Total Fund Closed End Funds - Investment Summary

## Period Ending: December 31, 2018

### StepStone Group Analysis (\*)

Closing Date	Manager Name/Fund Name	Estimated Market Value as of 12/31/18 <sup>1</sup>	Total Commitment	Total Called	Contributed Capital	Current Qtr. Change in Contributed Capital	Current Qtr. Change in Distributed Capital	Total Distributions	Remaining Commitment	Distrib./Paid-In (DPI)	Tot. Value/Paid-In (TVPI)	Latest Valuation
<b>Private Equity &amp; Venture Capital</b>												
2/11/2004	Adams Street Partners	\$149,976,465	\$210,000,000	84%	\$175,403,125	\$3,500,000	\$5,674,744	\$121,161,543	\$34,596,875	0.69	1.55	9/30/2018
12/31/2008	Adams Street Partners II	\$8,878,568	\$30,000,000	95%	\$28,365,000	\$0	\$1,509,720	\$0	\$1,635,000	1.38	1.70	9/30/2018
12/31/2008	Adams Street Partners - Fund 5	\$2,521,424	\$40,000,000	77%	\$30,611,900	\$0	\$1,002,150	\$0	\$9,388,100	0.46	1.20	9/30/2018
1/18/1996	Adams Street Partners - BPF	\$2,456,860	\$59,565,614	108%	\$64,307,595	\$0	\$209,461	\$2,103,276	\$2,048,205	1.59	1.62	6/30/2018
3/31/2016	Adams Street Venture Innovation	\$24,907,754	\$75,000,000	34%	\$25,162,500	\$5,250,000	\$0	\$3,885,504	\$49,837,500	0.00	0.99	9/30/2018
11/27/2013	Aether Real Assets III	\$22,942,562	\$25,000,000	84%	\$20,975,964	\$434,041	\$158,687	\$1,529,981	\$5,788,713	0.10	1.19	9/30/2018
11/30/2013	Aether Real Assets III Surplus	\$56,216,534	\$50,000,000	94%	\$46,891,321	\$1,624,967	\$1,073,361	\$6,175,954	\$5,727,835	0.08	1.28	9/30/2018
1/30/2016	Aether Real Assets IV	\$28,874,312	\$50,000,000	50%	\$25,189,265	\$981,108	\$687,976	\$36,331,243	\$26,328,058	0.06	1.21	9/30/2018
11/26/2003	Bay Area Equity Fund	\$2,890,434	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$2,026,313	\$0	3.63	3.92	9/30/2018
11/26/2003	Bay Area Equity Fund II	\$11,158,188	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$49,128,304	\$0	0.20	1.32	9/30/2018
1/16/2008	Carpenter Bancfund	\$0	\$30,000,000	98%	\$29,314,657	\$0	\$0	\$7,107,576	\$904,309	1.68	1.68	9/30/2018
6/30/2013	Commonfund	\$48,010,389	\$50,000,000	86%	\$43,071,846	\$374,998	\$1,118,878	\$25,225,856	\$7,225,005	0.17	1.28	9/30/2018
11/26/2003	EIF US Power Fund I	-\$9,042	\$30,000,000	130%	\$38,960,280	\$0	\$64,348	\$13,844,471	\$0	1.65	1.65	9/30/2018
7/15/2005	EIF US Power Fund II	\$20,221,097	\$50,000,000	130%	\$65,029,556	\$0	\$919,034	\$39,187,764	\$1	1.00	1.31	9/30/2018
5/31/2007	EIF US Power Fund III	\$23,187,413	\$65,000,000	110%	\$71,430,128	\$21,031	\$21,031	\$10,040,744	\$0	1.00	1.33	9/30/2018
8/31/2010	EIF US Power Fund IV	\$45,299,312	\$50,000,000	120%	\$59,968,849	\$343,261	\$0	\$5,500,000	\$3,777,443	0.42	1.18	9/30/2018
11/28/2016	EIF US Power Fund V	\$39,759,201	\$50,000,000	89%	\$44,299,203	\$6,869,298	\$12,500	\$23,594,952	\$9,891,068	0.14	1.04	9/30/2018
2/12/2004	Nogales	\$0	\$15,000,000	120%	\$18,026,408	\$0	\$0	\$24,699,218	\$1,291,060	0.77	0.77	9/30/2017
2/28/2010	Oaktree PIF 2009	\$9,436,522	\$40,000,000	87%	\$34,812,448	\$0	\$0	\$18,678,543	\$6,308,961	1.13	1.40	9/30/2018
8/15/2013	Ocean Avenue Fund II	\$26,472,694	\$30,000,000	82%	\$24,600,000	\$2,400,000	\$3,750,000	\$13,948,271	\$4,800,000	0.41	1.48	9/30/2018
4/15/2016	Ocean Avenue Fund III	\$31,387,958	\$50,000,000	56%	\$28,000,000	\$0	\$0	\$3,658,641	\$22,000,000	0.20	1.32	9/30/2018
11/30/2007	Paladin III	\$25,141,407	\$25,000,000	132%	\$33,058,868	\$304,691	\$33,215	\$166,966,622	\$538,351	0.71	1.47	9/30/2018
8/22/2011	Pathway 6	\$35,749,111	\$40,000,000	92%	\$36,930,846	\$777,916	\$4,016,884	\$20,993,394	\$5,066,589	0.51	1.47	6/30/2018
7/10/2013	Pathway 7	\$63,231,506	\$70,000,000	87%	\$60,663,445	\$2,629,535	\$2,725,665	\$41,905,281	\$11,763,038	0.23	1.27	6/30/2018
11/23/2015	Pathway 8	\$35,100,660	\$50,000,000	64%	\$32,083,722	\$3,415,158	\$767,128	\$29,158,659	\$19,347,637	0.11	1.21	6/30/2018
1/19/1999	Pathway	\$21,505,882	\$125,000,000	100%	\$124,513,501	\$71,000	\$2,355,823	\$0	\$11,156,115	1.34	1.51	6/30/2018
7/31/2009	Pathway 2008	\$21,179,039	\$30,000,000	96%	\$28,664,294	\$228,214	\$2,715,862	\$64,468,378	\$3,670,543	0.86	1.60	6/30/2018
6/30/2014	Siguler Gulf CCCERA Opportunities	\$143,655,665	\$200,000,000	68%	\$135,702,500	\$3,450,000	\$22,482,384	\$71,776,773	\$72,156,609	0.31	1.37	6/30/2018
8/31/2013	Siguler Gulf Secondary Opportunities	\$19,511,832	\$50,000,000	60%	\$29,999,802	\$0	\$18,332,343	\$65,018,668	\$42,440,738	0.97	1.62	9/30/2018
12/8/2015	Wastewater Opportunity Fund	\$12,439,068	\$25,000,000	72%	\$17,974,369	\$4,536,304	\$3,596,436	\$3,611,308	\$7,047,858	0.20	0.89	9/30/2018
<b>Total Private Equity and Venture Capital</b>		<b>\$952,102,813</b>	<b>\$1,634,565,614</b>	<b>85%</b>	<b>\$1,394,011,393</b>	<b>\$37,211,522</b>	<b>\$75,727,631</b>	<b>\$871,727,238</b>	<b>\$364,735,589</b>	<b>0.63</b>	<b>1.31</b>	
				<b>% of Portfolio (Market Value)</b>								
												<b>11.5%</b>

\* All Data provided by StepStone Group  
<sup>1</sup> Latest valuation + capital calls - distributions

Total Fund

Closed End Funds - IRR Summary

Period Ending: December 31, 2018

Private Credit	Inception	Fund Level(G)	CCCERA(G)	Fund Level(N)	CCCERA(N)	IRR Date
Angelo Gordon Energy Cred Opp.	09/24/2015	-	-	-	14.5%	09/30/2018
Stepstone CC Opportunities Fund <sup>1</sup>	02/02/2018	-	-	-	-	-
Torchlight II	07/01/2006	0.0%	0.2%	-1.2%	-1.0%	12/31/2018
Torchlight III	12/12/2008	18.3%	16.3%	13.7%	13.8%	06/30/2018
Torchlight IV	08/01/2012	13.6%	14.0%	10.5%	11.2%	12/31/2018
Torchlight V	03/12/2015	24.2%	24.0%	15.9%	15.7%	09/30/2018
Real Estate	Inception	Fund Level(G)	CCCERA(G)	Fund Level(N)	CCCERA(N)	IRR Date
Angelo Gordon VIII	01/23/2012	-	-	-	15.9%	09/30/2018
Angelo Gordon IX	12/08/2014	-	-	-	11.8%	09/30/2018
DLJ RECP III	06/23/2005	1.0%	1.0%	-2.0%	-2.0%	06/30/2018
DLJ RECP IV	02/11/2008	7.0%	7.0%	4.0%	5.0%	06/30/2018
DLJ RECP V	07/01/2014	26.0%	26.0%	14.0%	14.0%	06/30/2018
Hearthstone II	06/17/1998	-	30.1%	-	30.1%	09/30/2018
Invesco Fund III	06/30/2013	17.2%	-	13.6%	-	12/31/2018
Invesco Fund IV	06/30/2014	18.1%	-	12.7%	-	09/30/2018
LaSalle Income & Growth VI	07/16/2013	16.3%	16.3%	13.5%	13.5%	09/30/2018
LaSalle Income & Growth VII	02/28/2017	15.8%	16.4%	13.7%	14.1%	09/30/2018
Long Wharf IV	07/03/2013	17.2%	17.3%	12.4%	12.4%	12/31/2018
Long Wharf V	09/30/2016	16.1%	18.2%	10.2%	11.4%	12/31/2018
Oaktree REOF V	12/31/2011	17.0%	-	12.6%	-	12/31/2018
Oaktree REOF VI	09/30/2013	14.9%	-	10.0%	-	12/31/2018
Oaktree REOF VII	04/01/2015	73.7%	-	39.7%	-	12/31/2018
Paulson	11/10/2013	-	-	14.9%	-	12/31/2017
Siguler Guff I	01/25/2012	14.8%	17.3%	13.3%	14.1%	09/30/2018
Siguler Guff II	08/31/2013	14.2%	13.8%	12.7%	11.4%	09/30/2018
Siguler Guff DREOF II Co-Inv	01/27/2016	13.0%	13.1%	11.9%	10.0%	09/30/2018

<sup>1</sup> Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

<sup>2</sup> Fund level data includes CCCERA and all other fund investors.

<sup>3</sup> Net IRR calculated after deductions of management fees and carried interest to the General Partner.



Total Fund  
Closed End Funds - IRR Summary

Period Ending: December 31, 2018

Private Equity & Venture Capital	Inception	Fund Level (G)	CCCERA (G)	Fund Level (N)	CCCERA (N)	IRR Date
Adams Street Partners	3/18/1996	11.5%	12.9%	-	10.4%	9/30/2018
Adams Street Partners II	1/16/2009	17.4%	17.3%	-	14.8%	9/30/2018
Adams Street Partners - Fund 5	9/21/2012	9.7%	9.6%	-	6.8%	9/30/2018
Adams Street Partners Venture	4/28/2017	9.5%	9.5%	-	-2.6%	9/30/2018
Adams Street Partners - BPF	1/18/1996	10.7%	14.3%	-	11.6%	9/30/2018
Aether Real Assets III	11/27/2013	10.4%	-	7.6%	-	9/30/2018
Aether Real Assets III Surplus	11/27/2013	11.5%	-	9.8%	-	9/30/2018
Aether Real Assets IV	1/1/2016	23.5%	-	17.3%	-	9/30/2018
Bay Area Equity Fund I	6/14/2004	25.8%	25.8%	23.2%	23.2%	9/30/2018
Bay Area Equity Fund II	12/7/2009	6.0%	6.0%	5.0%	5.0%	9/30/2018
CommonFund	6/28/2013	-	-	-	10.3%	9/30/2018
Energy Investor Fund	11/26/2003	33.5%	34.7%	28.5%	28.3%	9/30/2018
Energy Investor Fund II	8/16/2005	6.8%	6.4%	4.2%	3.8%	9/30/2018
Energy Investor Fund III	5/30/2007	8.2%	8.2%	5.7%	5.7%	9/30/2018
Energy Investor Fund IV	11/28/2011	10.6%	10.8%	6.4%	6.2%	9/30/2018
Energy Investor Fund V	11/26/2016	20.5%	17.9%	8.3%	6.8%	9/30/2018
Oaktree PIF 2009	2/18/2010	7.2%	-	7.0%	-	12/31/2018
Ocean Avenue II	6/11/2014	-	-	15.9%	-	12/31/2018
Ocean Avenue III	4/15/2016	-	-	35.9%	-	12/31/2018
Paladin III	11/30/2007	16.6%	-	8.6%	-	9/30/2018
Pathway 6	5/24/2011	17.0%	17.0%	14.3%	14.3%	9/30/2018
Benchmark <sup>4</sup>		15.0%	-	-	-	9/30/2018
Pathway 7	2/7/2013	15.8%	15.8%	12.7%	12.7%	9/30/2018
Benchmark <sup>5</sup>		14.6%	-	-	-	9/30/2018
Pathway 8 <sup>1</sup>	11/6/2015	22.7%	23.3%	20.2%	21.1%	9/30/2018
Benchmark <sup>6</sup>		14.4%	-	-	-	9/30/2018
Pathway Private Equity Fund	11/9/1998	10.4%	10.4%	8.6%	8.6%	9/30/2018
Benchmark <sup>7</sup>		10.5%	-	-	-	9/30/2018
Pathway Private Equity Fund 2008	12/26/2008	15.4%	15.4%	12.7%	12.7%	9/30/2018
Benchmark <sup>8</sup>		13.6%	-	-	-	9/30/2018
Siguler Guff CCCERA Opportunities	6/3/2014	19.2%	19.8%	18.6%	16.5%	9/30/2018
Siguler Guff Secondary Opportunities <sup>8</sup>	11/30/2016	76.0%	550.2%	70.4%	291.8%	9/30/2018
Wastewater Opportunity Fund	12/8/2015	-1.3%	-	-14.8%	-	9/30/2018

<sup>1</sup>Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

<sup>2</sup>Fund level data includes CCCERA and all other fund investors.

<sup>3</sup>Net IRR calculated after deductions of management fees and carried interest to the General Partner.

<sup>4</sup>Private IQ global all private equity median pooled return for vintage years 2011-2014, as of September 30, 2018.

<sup>5</sup>Private IQ global all private equity median pooled return for vintage years 2012-2016, as of September 30, 2018.

<sup>6</sup>Private IQ global all private equity median pooled return for vintage years 2015-2018, as of September 30, 2018.

<sup>7</sup>Private IQ global all private equity median pooled return for vintage years 1999-2011, as of September 30, 2018.

<sup>8</sup>Private IQ global all private equity median pooled return for vintage years 2008-2014, as of September 30, 2018.

**Total Fund Performance Analysis - 3 Years (Net of Fees) Period Ending: December 31, 2018**

**3 Years**

	Ann Excess BM Return	Anlzd Ret	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Jackson Square Partners	-5.02%	6.13%	12.61%	-4.14%	0.92	5.62%	0.81	0.40	-0.89	83.97%	113.93%
Robeco Boston Partners	0.77%	7.72%	12.31%	0.16%	1.09	3.15%	0.94	0.54	0.24	106.83%	101.55%
Emerald Advisers	0.51%	7.75%	17.14%	0.54%	1.00	4.21%	0.94	0.39	0.12	95.60%	94.37%
Ceredex	0.65%	8.02%	13.90%	2.05%	0.81	5.92%	0.87	0.50	0.11	87.86%	86.43%
Pyrford	-1.53%	3.22%	9.42%	-0.04%	0.69	5.84%	0.78	0.23	-0.26	57.61%	68.04%
William Blair	-2.19%	2.01%	12.44%	-2.33%	1.03	2.87%	0.95	0.08	-0.76	91.06%	105.06%
Artisan Partners	1.51%	8.10%	13.34%	0.54%	1.15	5.67%	0.83	0.53	0.27	126.12%	114.92%
First Eagle	-1.49%	5.10%	7.32%	0.86%	0.64	4.61%	0.87	0.55	-0.32	57.69%	58.75%
Allianz Global Investors	-2.03%	5.23%	4.40%	-1.36%	0.91	1.17%	0.94	0.95	-1.74	82.02%	110.58%
Adelante	-0.43%	1.63%	12.95%	-0.31%	0.94	1.88%	0.98	0.05	-0.23	87.40%	93.34%
AFL-CIO	-0.31%	1.74%	2.55%	0.00%	0.85	0.84%	0.92	0.27	-0.37	81.06%	80.82%
Wellington Real Total Return	-7.57%	-1.46%	4.62%	-3.26%	0.29	4.65%	0.00	-0.54	-1.63	-13.47%	23,204.41%

3.5

Performance Analysis excludes closed end funds and those funds without 3 years of performance.



**Total Fund Performance Analysis - 5 Years (Net of Fees) Period Ending: December 31, 2018**

	5 Years										
	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Jackson Square Partners	7.44%	-2.96%	12.63%	-2.67%	0.97	4.95%	0.85	0.54	-0.60	90.69%	109.25%
Robeco Boston Partners	5.97%	0.03%	12.01%	-0.41%	1.07	3.02%	0.94	0.44	0.01	103.97%	102.71%
Emerald Advisers	6.66%	1.53%	17.40%	1.47%	1.01	5.60%	0.90	0.35	0.27	105.52%	97.90%
Ceredex	4.23%	0.63%	13.91%	1.16%	0.85	5.53%	0.87	0.26	0.11	87.04%	91.49%
William Blair	0.87%	-0.82%	11.62%	-0.75%	0.96	2.79%	0.94	0.02	-0.29	85.12%	95.63%
Artisan Partners	7.15%	2.89%	12.70%	2.68%	1.05	5.58%	0.81	0.51	0.52	113.23%	91.94%
First Eagle	3.67%	-0.59%	7.67%	0.85%	0.66	4.57%	0.88	0.39	-0.13	56.66%	66.35%
Allianz Global Investors	2.45%	-1.37%	4.79%	-1.04%	0.91	1.06%	0.96	0.38	-1.29	82.91%	100.75%
Adelante	7.83%	-0.04%	13.35%	0.40%	0.94	1.76%	0.99	0.54	-0.02	89.83%	93.88%
AFL-CIO	2.48%	-0.04%	2.50%	0.29%	0.87	0.74%	0.94	0.73	-0.06	87.61%	80.91%
Wellington Real Total Return	-2.58%	-8.15%	5.34%	-10.27%	1.38	5.16%	0.07	-0.60	-1.58	-18.79%	1,080.85%

3.5

*Performance Analysis excludes closed end funds and those funds without 5 years of performance.*

**Total Fund Investment Fund Fee Analysis** **Period Ending: December 31, 2018**

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Growth	0.03% of Assets	\$114,251,251	\$34,275	0.03%
Jackson Square Partners	Growth	0.50% of First 100.0 Mil, 0.40% of Next 150.0 Mil, 0.35% Thereafter	\$294,082,588	\$1,254,289	0.43%
Robeco Boston Partners	Growth	0.50% of First 25.0 Mil, 0.30% Thereafter	\$265,438,078	\$846,314	0.32%
Emerald Advisers	Growth	0.75% of First 10.0 Mil, 0.60% Thereafter	\$194,396,033	\$1,181,376	0.61%
Ceredex	Growth	0.85% of First 10.0 Mil, 0.68% of Next 40.0 Mil, 0.51% Thereafter	\$172,032,560	\$979,366	0.57%
Pyrford	Growth	0.70% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.35% Thereafter	\$415,515,408	\$1,704,304	0.41%
William Blair	Growth	0.80% of First 20.0 Mil, 0.60% of Next 30.0 Mil, 0.50% of Next 50.0 Mil, 0.45% of Next 50.0 Mil, 0.40% of Next 50.0 Mil, 0.30% Thereafter	\$412,141,439	\$1,651,424	0.40%
PIMCO RAE Emerging Markets	Growth	0.75% of First 50.0 Mil, 0.68% of Next 50.0 Mil, 0.50% of Next 100.0 Mil, 0.45% Thereafter	\$323,920,700	\$1,770,143	0.55%
TT Emerging Markets	Growth	0.70% of First 100.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$291,101,194	\$1,896,607	0.65%
Artisan Partners	Growth	0.75% of Assets	\$347,975,016	\$2,609,813	0.75%
First Eagle	Growth	0.75% of Assets	\$333,004,273	\$2,497,532	0.75%
Allianz Global Investors	Growth	0.50% of First 50.0 Mil, 0.40% of Next 50.0 Mil, 0.35% Thereafter	\$327,878,586	\$1,247,575	0.38%
AFL-CIO	Diversifying	0.43% of Assets	\$318,502,545	\$1,369,561	0.43%

**3.5**

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

**Total Fund  
Investment Fund Fee Analysis** **Period Ending: December 31, 2018**

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Wellington Real Total Return	Diversifying	0.35% of Assets	\$177,199,569	\$620,198	0.35%
Parametric Defensive Equity	Diversifying	0.42% of First 200.0 Mil, 0.39% Thereafter	\$197,871,979	\$831,062	0.42%
DFA Short Credit	Liquidity	0.20% of First 25.0 Mil, 0.10% Thereafter	\$407,716,214	\$432,716	0.11%
Insight Short Duration	Liquidity	0.06% of First 500.0 Mil, 0.05% of Next 500.0 Mil, 0.04% Thereafter	\$874,572,034	\$487,286	0.06%
Sit Short Duration	Liquidity	0.15% of Assets	\$528,630,126	\$792,945	0.15%

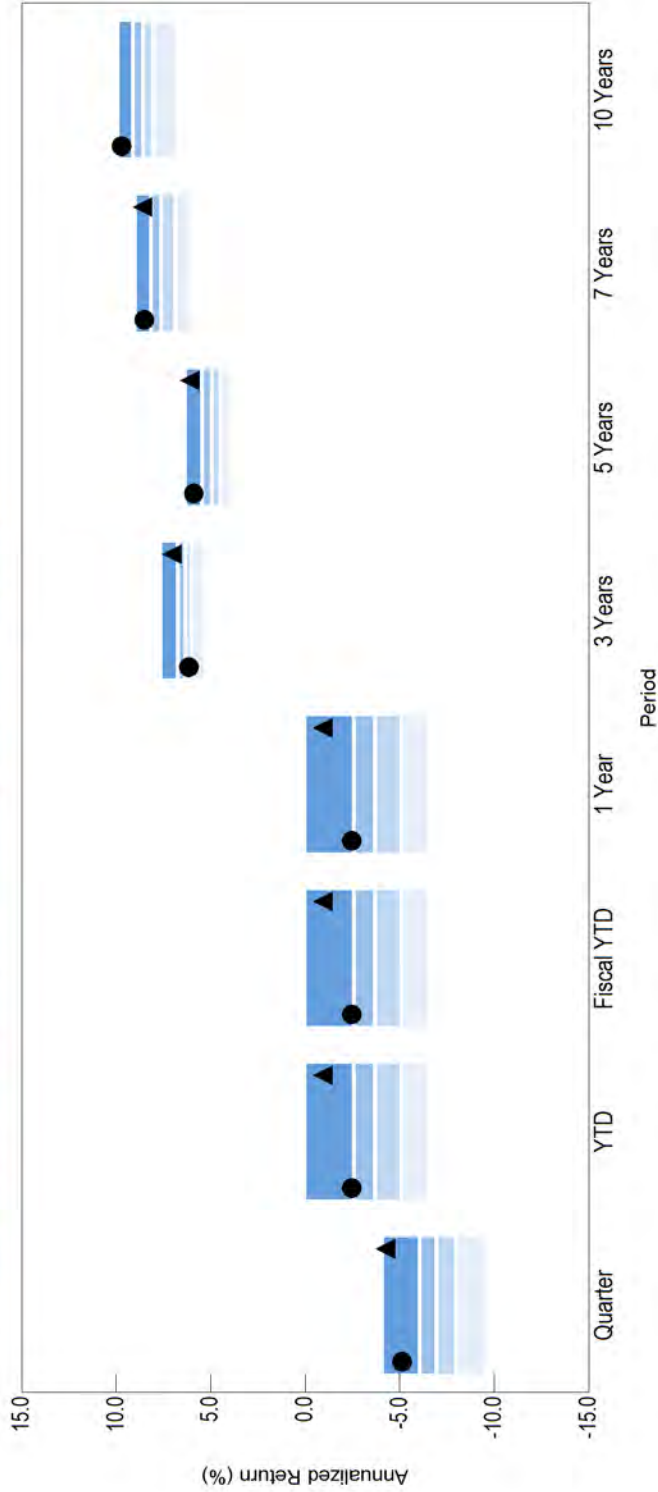
3.5

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.



Total Fund  
Peer Universe Comparison: Cumulative Performance (Gross of Fees)      Period Ending: December 31, 2018

Total Fund Cumulative Performance vs. InvestorForce Public DB > \$1B Gross



	Quarter	YTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
5th Percentile	-4.1	0.0	0.0	0.0	7.6	6.4	9.0	9.9
25th Percentile	-6.0	-2.6	-2.6	-2.6	6.7	5.5	8.2	9.1
Median	-6.9	-3.7	-3.7	-3.7	6.3	5.0	7.6	8.6
75th Percentile	-8.0	-5.1	-5.1	-5.1	6.0	4.5	6.9	8.1
95th Percentile	-9.6	-6.6	-6.6	-6.6	5.3	3.9	6.0	6.8
# of Portfolios	73	71	71	71	71	70	69	67
● Total Fund	-5.1 (10)	-2.5 (25)	-2.5 (25)	-2.5 (25)	6.2 (70)	5.9 (9)	8.5 (17)	9.7 (10)
▲ Policy Index	-4.3 (6)	-0.9 (8)	-0.9 (8)	-0.9 (8)	7.1 (20)	6.1 (8)	8.6 (16)	-- (-)

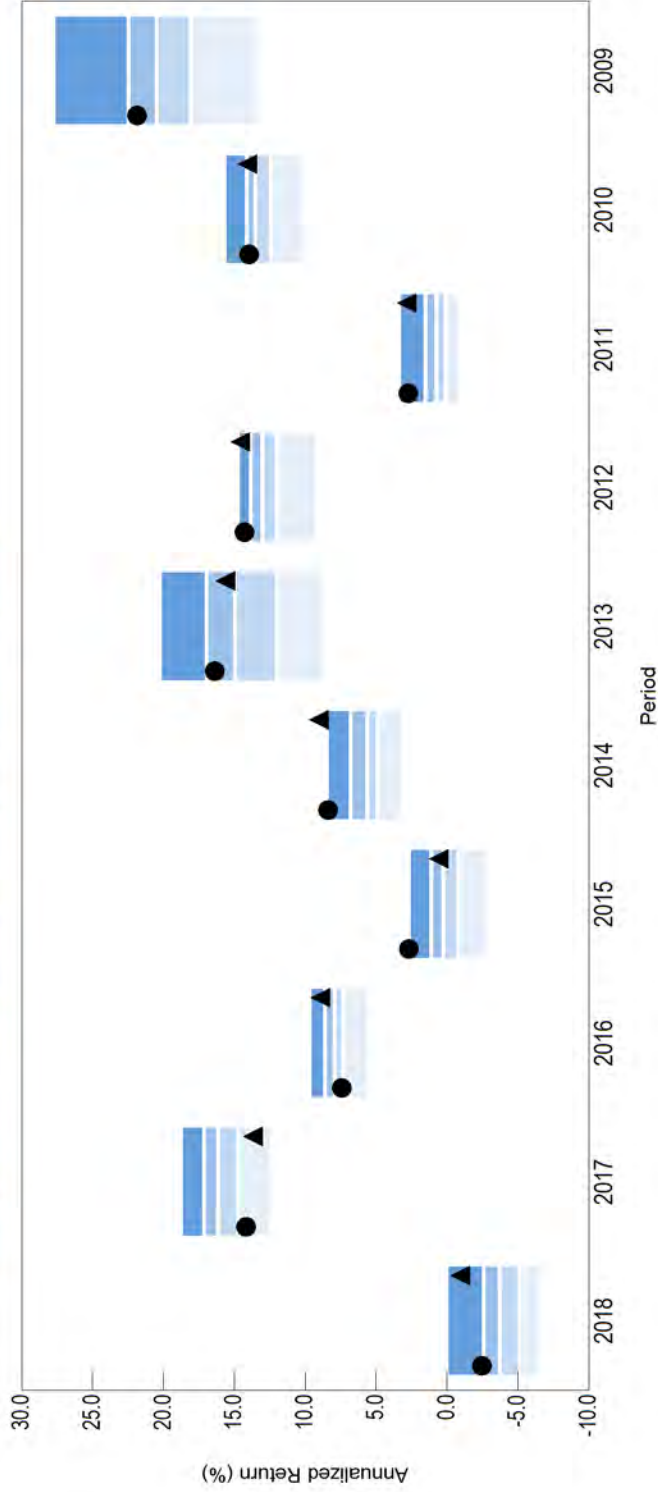
3.5

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.



Total Fund  
Peer Universe Comparison: Consecutive Periods (Gross of Fees) Period Ending: December 31, 2018

Total Fund Consecutive Periods vs. InvestorForce Public DB > \$1B Gross



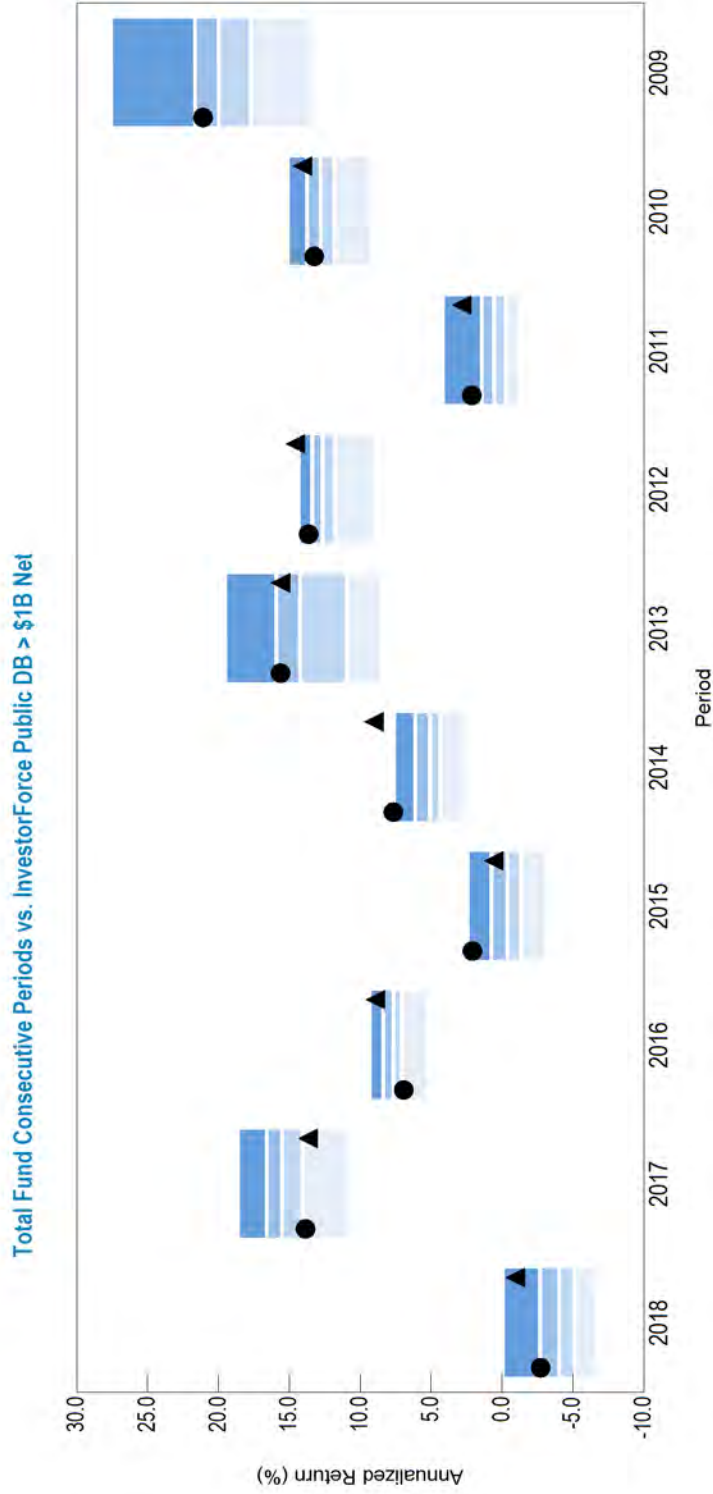
Return (Rank)

5th Percentile	0.0	18.8	9.7	2.7	8.5	20.2	14.7	3.3	15.7	27.7
25th Percentile	-2.6	17.2	8.6	1.1	6.8	17.0	13.9	1.6	14.2	22.5
Median	-3.7	16.2	8.0	0.3	5.7	15.0	13.0	0.8	13.5	20.5
75th Percentile	-5.1	14.8	7.4	-0.7	4.9	12.0	12.1	0.1	12.5	18.1
95th Percentile	-6.6	12.4	5.5	-2.8	3.1	8.7	9.2	-0.9	10.2	13.4
# of Portfolios	71	98	92	98	79	67	74	68	66	66
● Total Fund	-2.5 (25)	14.2 (83)	7.4 (74)	2.7 (5)	8.4 (6)	16.4 (33)	14.3 (13)	2.7 (9)	14.0 (29)	21.9 (34)
▲ Policy Index	-0.9 (8)	13.7 (89)	8.9 (15)	0.6 (40)	9.0 (2)	15.6 (43)	14.6 (8)	2.8 (9)	14.1 (27)	-- (--)

3.5

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

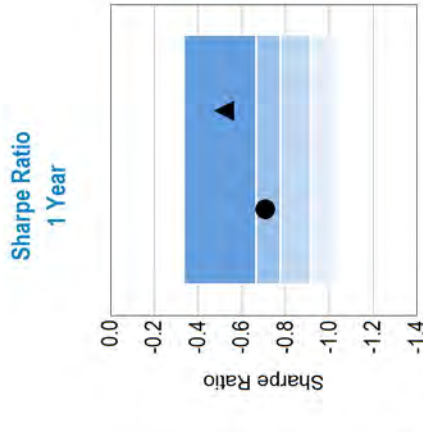
Total Fund  
Peer Universe Comparison: Consecutive Periods (Net of Fees) Period Ending: December 31, 2018



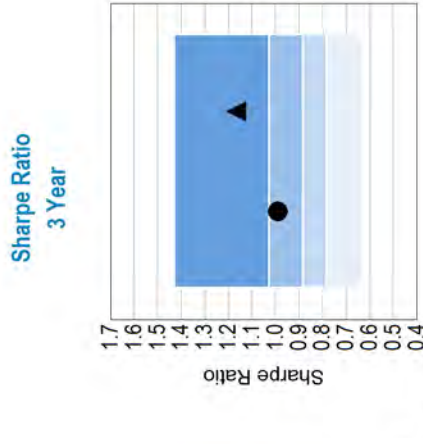
Year	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios	Total Fund	Policy Index
2018	-0.1	-2.7	-4.0	-5.1	-6.6	63	-2.7 (27)	-0.9 (8)
2017	18.6	16.6	15.6	14.1	10.7	61	13.9 (81)	13.7 (85)
2016	9.3	8.4	7.7	7.1	5.3	62	6.9 (78)	8.9 (13)
2015	2.4	0.8	-0.4	-1.3	-3.2	57	2.1 (12)	0.6 (29)
2014	7.6	6.1	5.1	4.4	2.6	55	7.7 (5)	9.0 (2)
2013	19.5	16.0	14.3	11.0	8.5	48	15.6 (33)	15.6 (33)
2012	14.3	13.4	12.7	11.8	9.0	44	13.6 (21)	14.6 (1)
2011	4.2	1.5	0.6	-0.3	-1.2	42	2.1 (12)	2.8 (11)
2010	15.1	13.8	12.8	11.8	9.3	41	13.3 (34)	14.1 (15)
2009	27.5	21.7	20.0	17.7	13.4	40	21.1 (33)	-- (--)

3.5

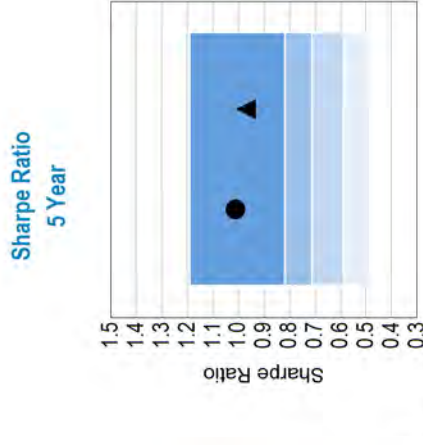
Total Fund  
 Sharpe Ratio Ranking (Gross of Fees) Period Ending: December 31, 2018



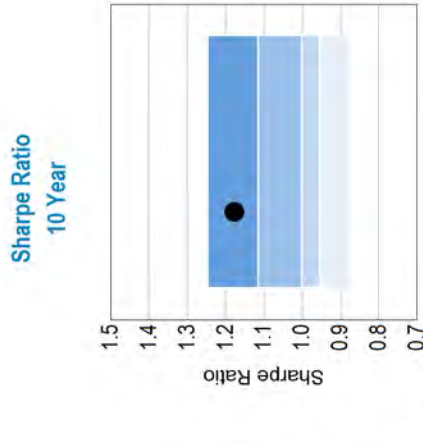
● Total Fund Value	-0.7	35
▲ Policy Index Value	-0.5	10
Universe 5th %tile	-0.3	
Universe 25th %tile	-0.7	
Universe Median	-0.8	
Universe 75th %tile	-0.9	
Universe 95th %tile	-1.0	



● Total Fund Value	1.0	31
▲ Policy Index Value	1.2	13
Universe 5th %tile	1.4	
Universe 25th %tile	1.0	
Universe Median	0.9	
Universe 75th %tile	0.8	
Universe 95th %tile	0.6	



● Total Fund Value	1.0	9
▲ Policy Index Value	1.0	10
Universe 5th %tile	1.2	
Universe 25th %tile	0.8	
Universe Median	0.7	
Universe 75th %tile	0.6	
Universe 95th %tile	0.5	



● Total Fund Value	1.2	7
▲ Policy Index Value	--	--
Universe 5th %tile	1.2	
Universe 25th %tile	1.1	
Universe Median	1.0	
Universe 75th %tile	1.0	
Universe 95th %tile	0.9	

3.5

## **Domestic Equity Managers**

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# Jackson Square Partners Manager Portfolio Overview

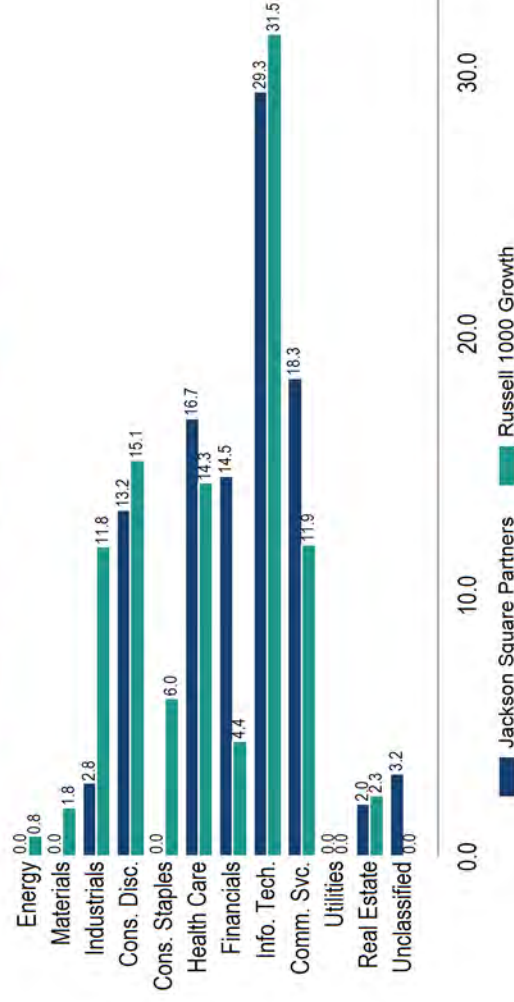
Period Ending: December 31, 2018

Domestic equity large cap growth portfolio concentrated in companies with sustainable long-term growth characteristics. Primary personnel include Jeffrey Van Harte, Christopher Bonavico, Christopher Ericksen, and Daniel Prislín.

## Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	29	546
Weighted Avg. Market Cap. (\$B)	144.27	222.12
Median Market Cap. (\$B)	43.50	10.28
Price To Earnings	29.15	23.28
Price To Book	6.65	8.63
Price To Sales	6.30	5.46
Return on Equity (%)	23.80	32.72
Yield (%)	0.93	1.45
Beta	0.92	1.00

Sector Allocation (%) vs Russell 1000 Growth



## Largest Holdings

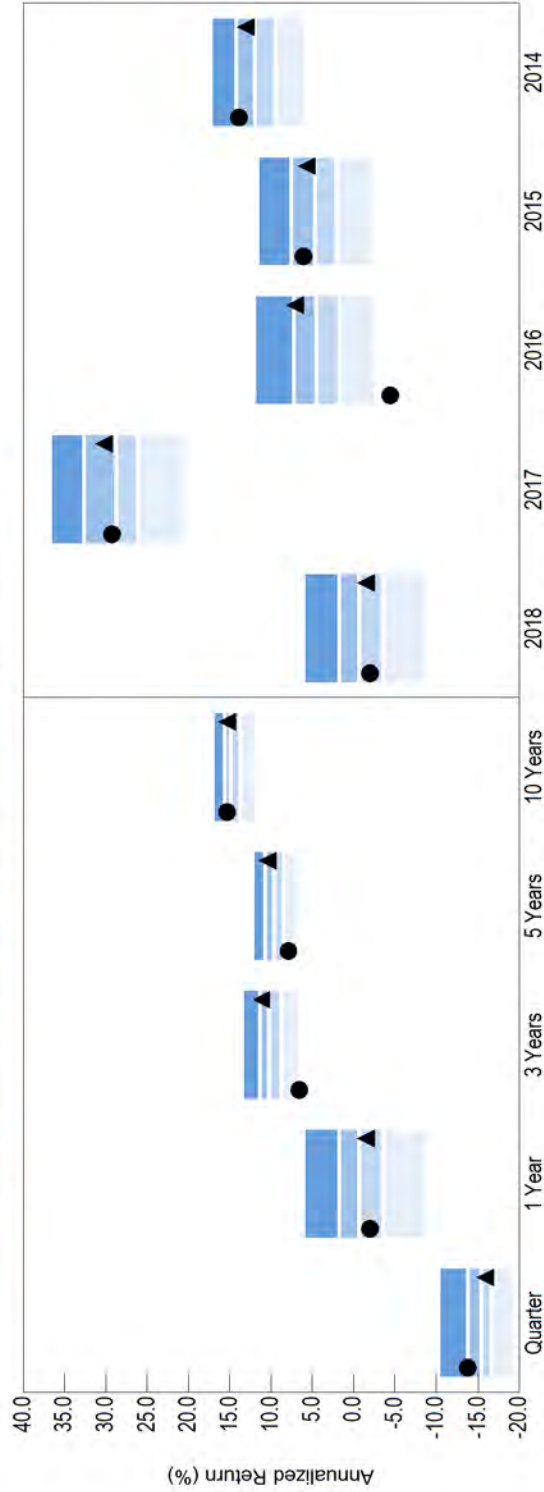
	End Weight	Return	Top Contributors		Bottom Contributors			
			Avg Wgt	Return	Contribution	Avg Wgt	Return	Contribution
MICROSOFT	9.10	-10.80	2.54	11.99	0.30	3.93	-32.78	-1.29
IQVIA HOLDINGS	5.28	-10.46	3.93	5.62	0.22	4.32	-27.64	-1.20
KKR AND A	4.35	-27.64	1.15	10.75	0.12	8.95	-10.80	-0.97
BIOGEN	4.35	-14.83	3.58	0.90	0.03	3.72	-25.40	-0.95
DOLLAR GENERAL	4.20	-0.84	3.82	-0.84	-0.03	3.80	-22.18	-0.84
TRIPADVISOR 'A'	4.18	5.62	2.83	-1.47	-0.04	2.43	-34.51	-0.84
HASBRO	4.18	-22.18	0.54	-14.99	-0.08	3.14	-26.70	-0.84
TAKE TWO INTACT.SFTW.	4.01	-25.40	0.64	-26.24	-0.17	4.93	-14.83	-0.73
UNITEDHEALTH GROUP	3.98	-6.06	4.07	-4.27	-0.17	4.11	-15.16	-0.62
INTERCONTINENTAL EX.	3.87	0.90	1.53	-13.23	-0.20	3.44	-17.62	-0.61

Unclassified sector allocation includes cash allocations.



Jackson Square Partners  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

Jackson Square Partners vs. eV US Large Cap Growth Equity Gross Universe

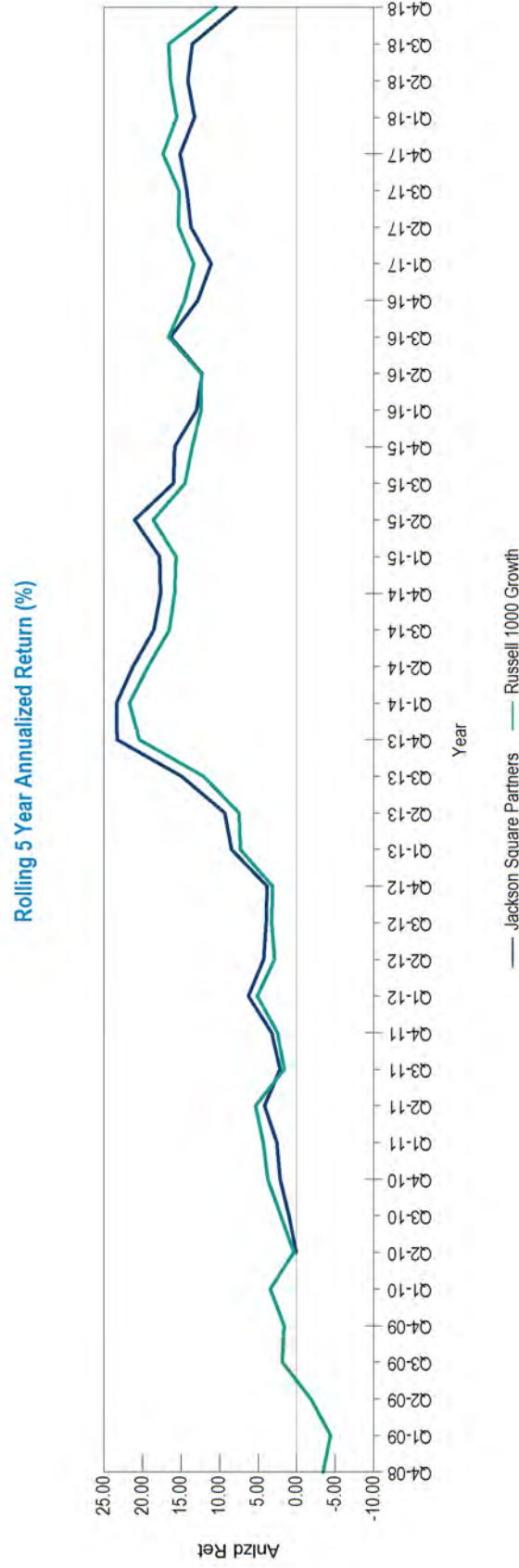
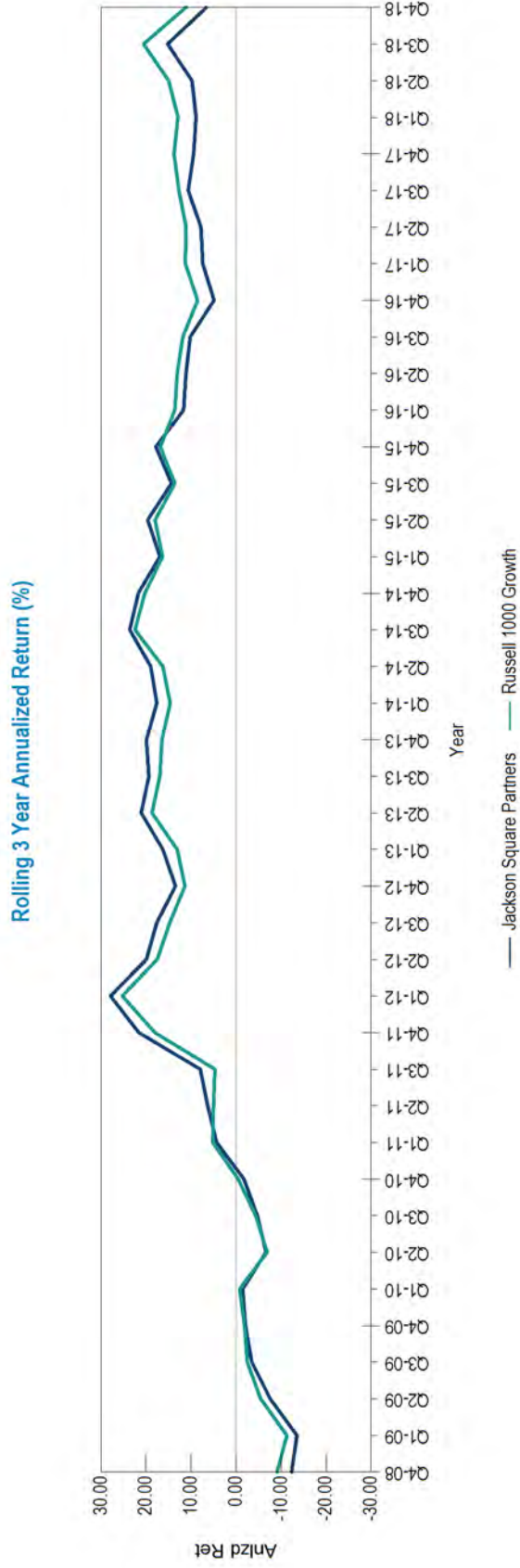


Return (Rank)

5th Percentile	-10.3	6.1	13.5	12.2	17.0	36.7	12.0	11.6	17.3
25th Percentile	-13.8	1.7	11.4	10.8	15.7	32.7	7.3	7.6	14.3
Median	-15.3	-0.6	10.3	9.6	14.9	28.8	4.6	4.7	12.0
75th Percentile	-16.6	-3.5	8.8	8.5	13.8	26.2	1.8	2.1	9.5
95th Percentile	-19.2	-8.8	6.6	6.8	11.6	20.5	-2.7	-2.4	5.8
# of Portfolios	255	255	248	244	217	265	282	270	291
● Jackson Square Partners	-13.7 (25)	-2.0 (59)	6.6 (96)	7.9 (82)	15.3 (35)	29.3 (47)	-4.4 (98)	6.1 (37)	13.9 (31)
▲ Russell 1000 Growth	-15.9 (60)	-1.5 (57)	11.1 (29)	10.4 (32)	15.3 (36)	30.2 (42)	7.1 (26)	5.7 (42)	13.0 (38)

3.5

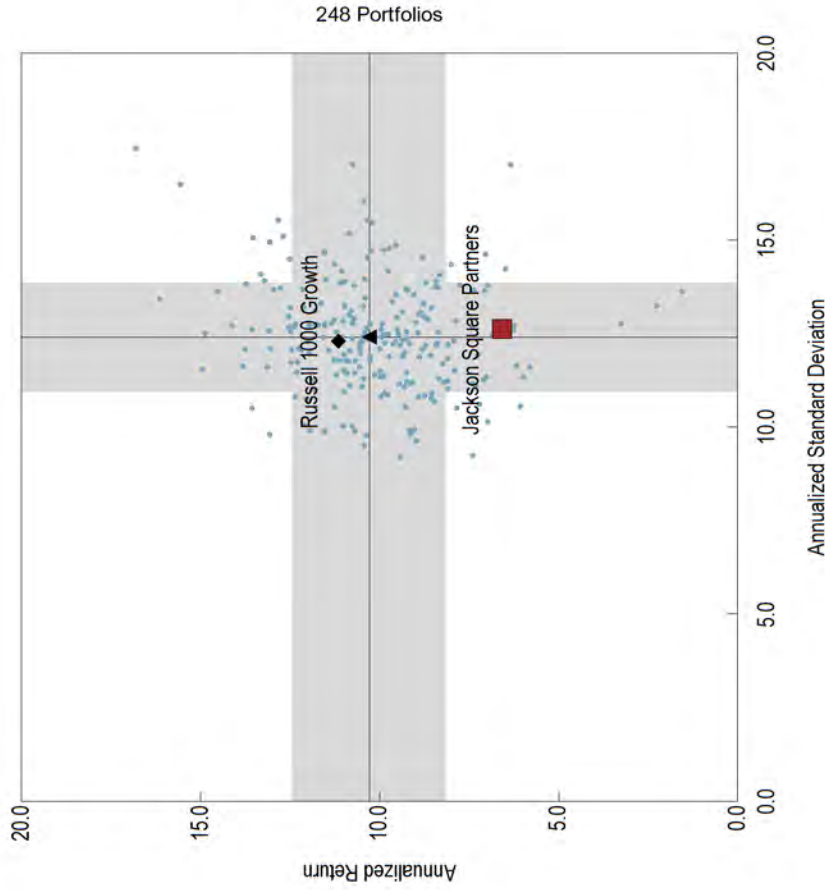
Jackson Square Partners  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018



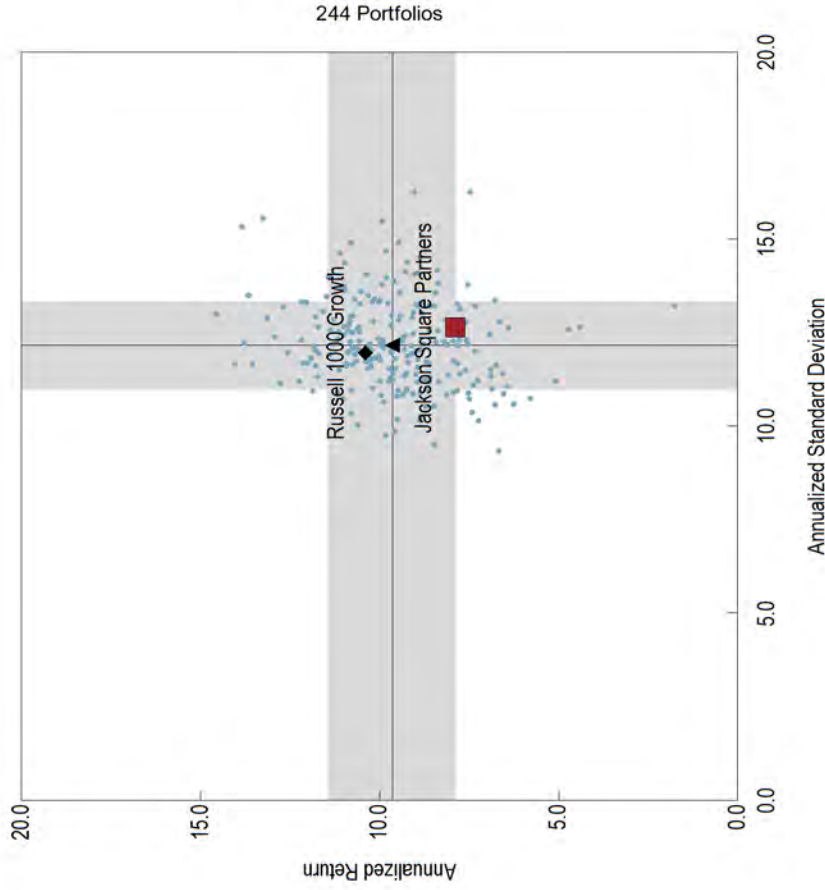
3.5

Jackson Square Partners  
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018

3 Years



5 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Jackson Square Partners	11.1%	12.3%	0.8
Russell 1000 Growth	6.6%	12.6%	0.4
eV US Large Cap Growth Equity Gross Median	10.3%	12.4%	0.7

5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Jackson Square Partners	10.4%	12.2%	0.8
Russell 1000 Growth	7.9%	12.6%	0.6
eV US Large Cap Growth Equity Gross Median	9.6%	12.2%	0.7

3.5



# Robeco Boston Partners Manager Portfolio Overview

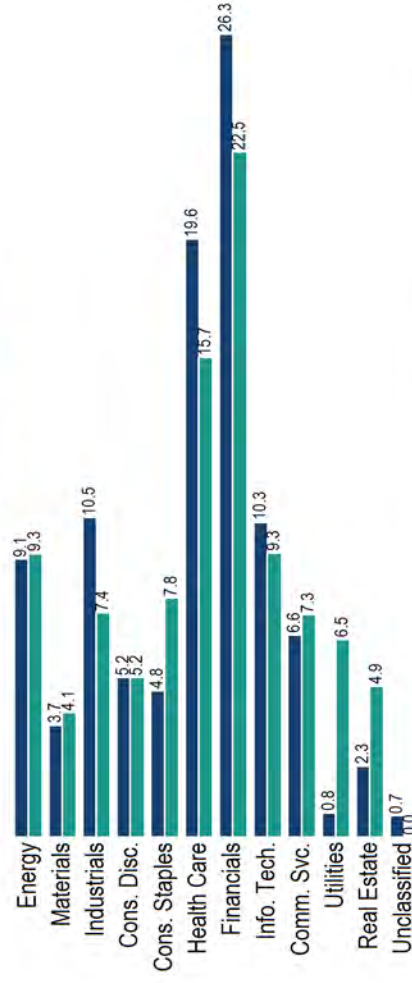
Period Ending: December 31, 2018

Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

## Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	84	725
Weighted Avg. Market Cap. (\$B)	143.70	111.52
Median Market Cap. (\$B)	34.86	8.19
Price To Earnings	16.43	18.10
Price To Book	2.88	2.57
Price To Sales	2.69	3.05
Return on Equity (%)	17.65	14.22
Yield (%)	2.76	2.83
Beta	1.15	1.00

Sector Allocation (%) vs Russell 1000 Value



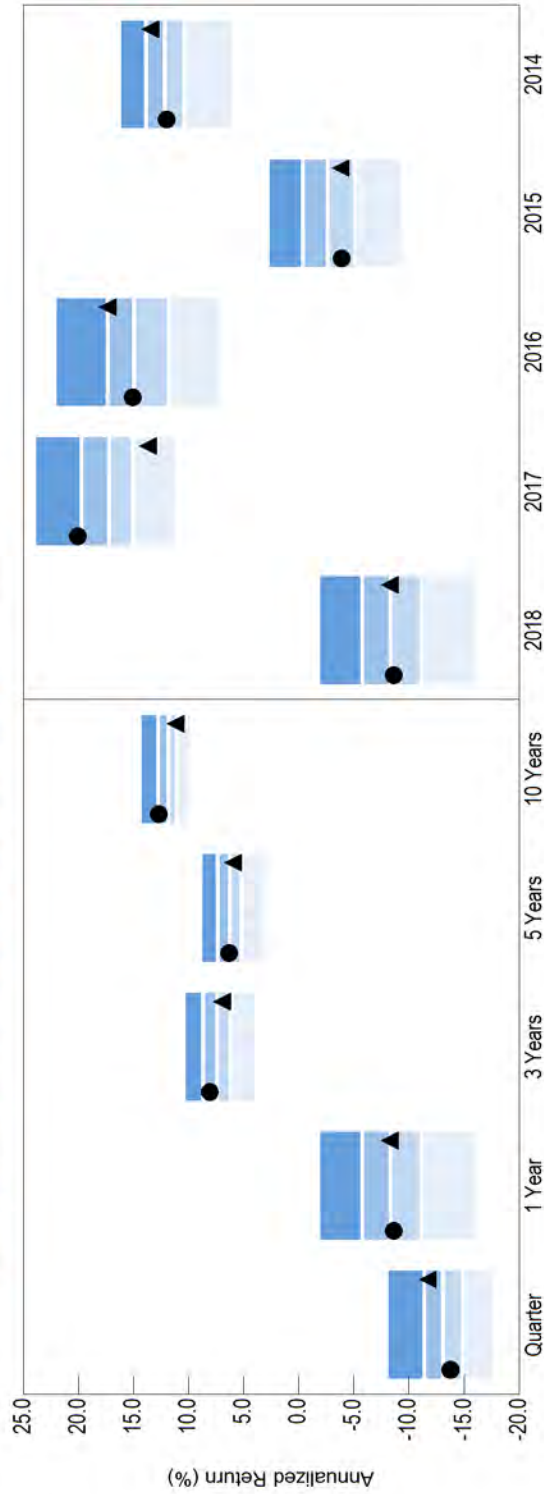
## Largest Holdings

	End Weight	Return	Top Contributors		Bottom Contributors	
			Avg Wgt	Return	Avg Wgt	Return
BERKSHIRE HATHAWAY 'B'	4.55	-4.64	2.29	6.45	3.07	-26.94
JOHNSON & JOHNSON	4.55	-6.01			3.75	-15.88
CISCO SYSTEMS	3.53	-10.33	1.15	8.49	1.30	-42.97
JP MORGAN CHASE & CO.	3.39	-12.89	0.77	11.43	3.75	-12.89
PFIZER	3.29	-0.19	0.54	10.75		
COMCAST A	3.16	-2.79	0.73	1.52	1.70	-25.66
BANK OF AMERICA	2.92	-15.88	0.17	5.38	1.80	-23.41
PROCTER & GAMBLE	2.86	11.43	0.74	0.44	3.24	-11.62
CHEVRON	2.73	-10.18	0.17	0.05	3.42	-10.33
WELLS FARGO & CO	2.63	-11.62	0.26	0.15	2.15	-16.19
			0.17	0.05	1.73	-19.11
			1.04	-0.41		
				0.00		

Unclassified sector allocation includes cash allocations.

Robeco Boston Partners  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

Robeco Boston Partners vs. eV US Large Cap Value Equity Gross Universe

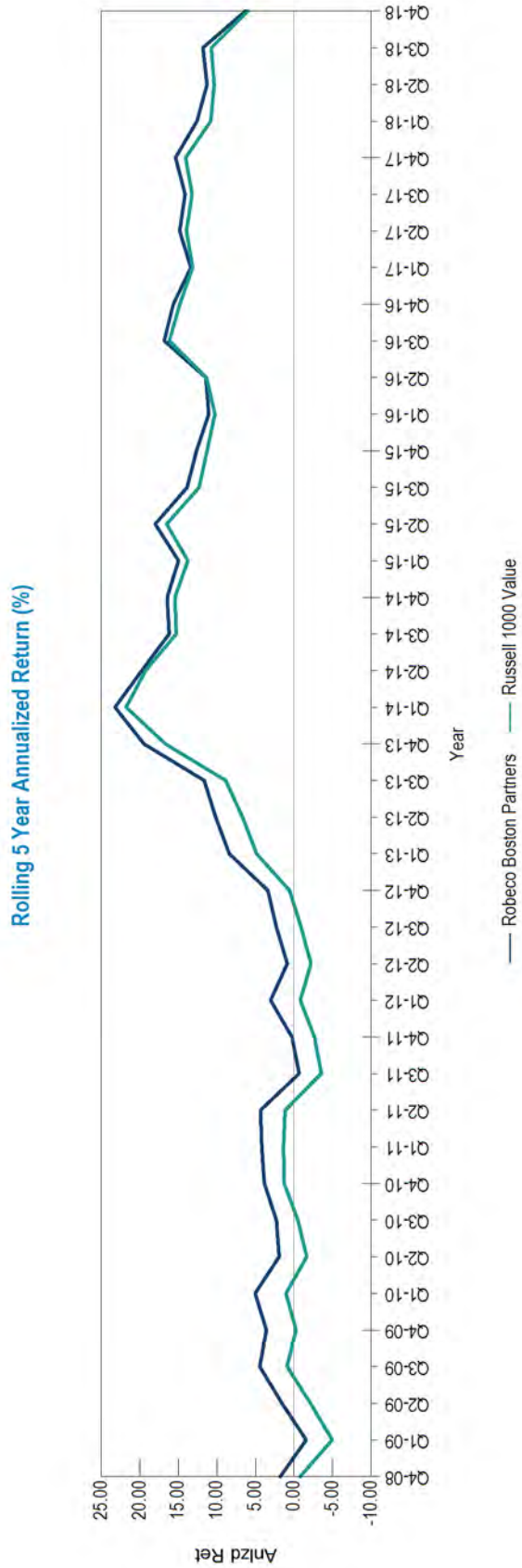
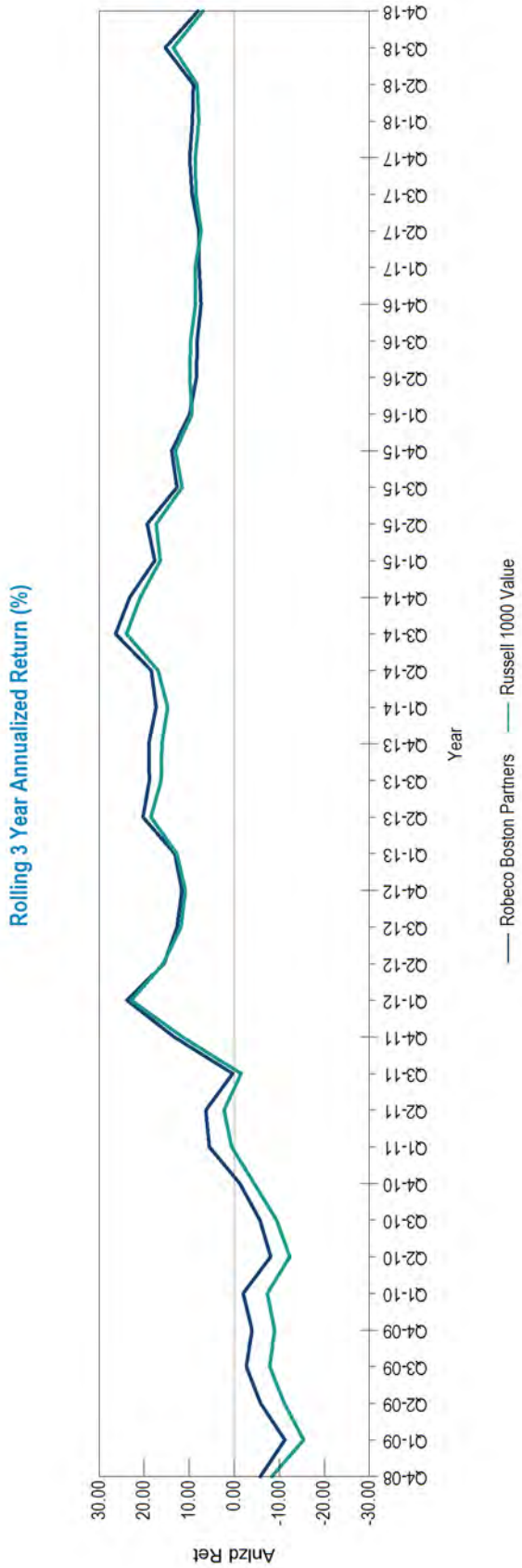


Return (Rank)

5th Percentile	-8.1	10.4	8.9	14.4	14.4	24.0	22.1	2.8	16.3
25th Percentile	-11.4	8.7	7.3	12.8	12.8	19.8	17.4	-0.4	13.9
Median	-13.1	7.4	6.3	11.9	11.9	17.2	15.0	-2.6	12.2
75th Percentile	-14.8	6.2	5.2	11.1	11.1	15.1	11.8	-5.1	10.4
95th Percentile	-17.6	3.8	3.0	9.8	9.8	11.2	7.0	-9.4	5.9
# of Portfolios	336	333	326	272	272	342	346	312	307
● Robeco Boston Partners	-13.8 (59)	8.1 (36)	6.3 (50)	12.7 (28)	12.7 (28)	20.1 (23)	15.1 (50)	-3.9 (65)	12.0 (55)
▲ Russell 1000 Value	-11.7 (30)	7.0 (59)	5.9 (60)	11.2 (74)	11.2 (74)	13.7 (87)	17.3 (26)	-3.8 (64)	13.5 (33)

3.5

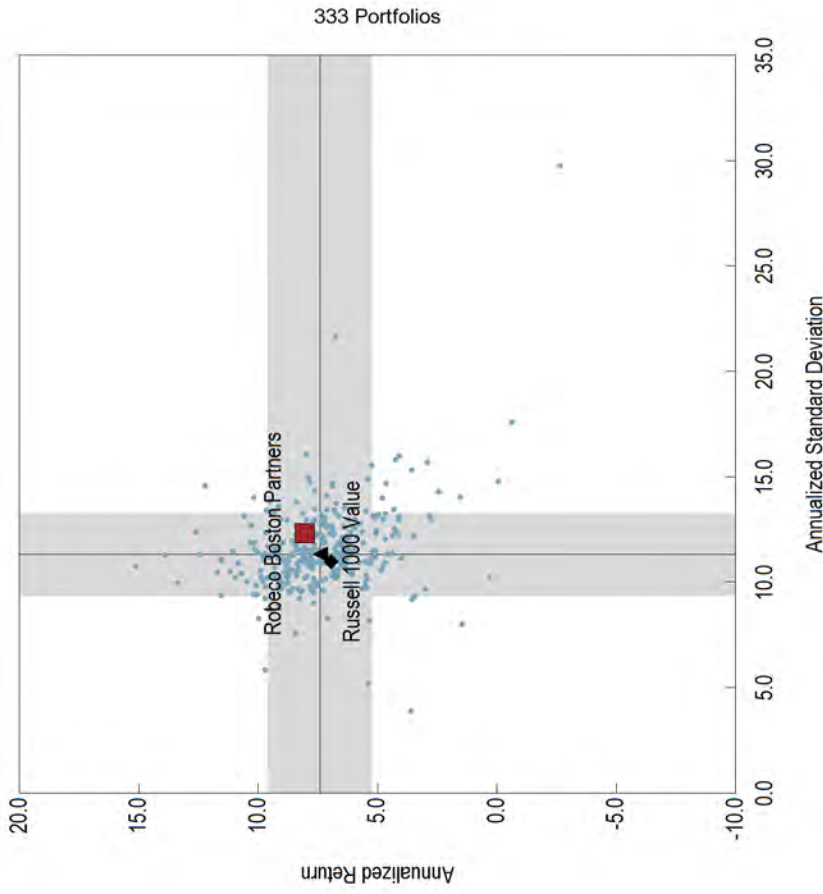
Robeco Boston Partners  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018



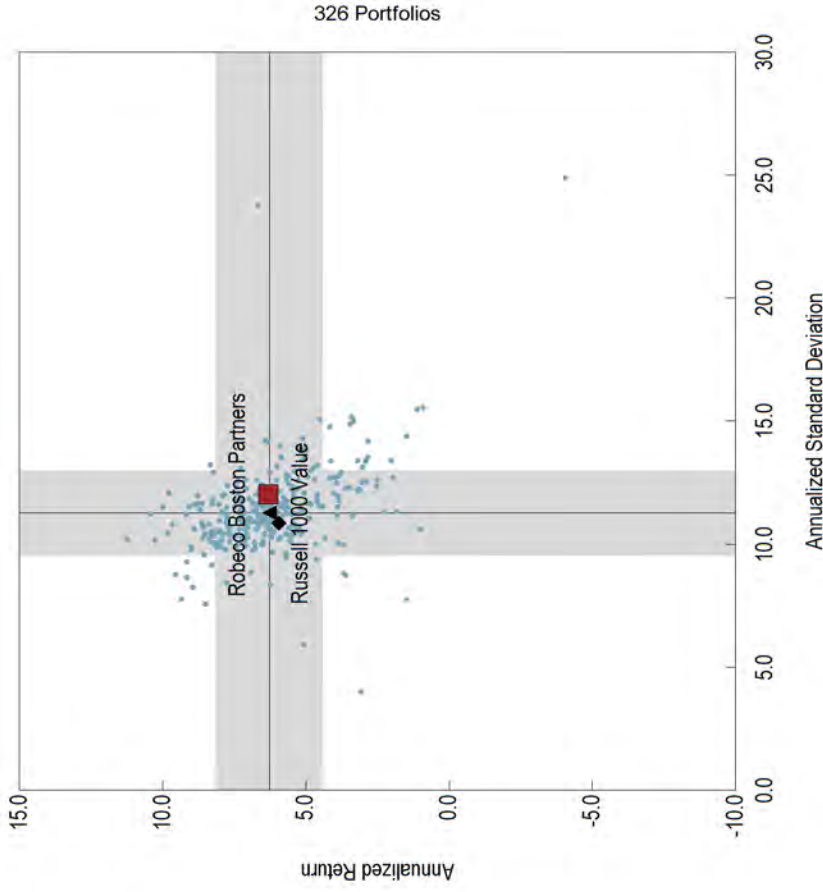
3.5

Robeco Boston Partners  
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018

3 Years



5 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Robeco Boston Partners	8.1%	12.3%	0.6
Russell 1000 Value	7.0%	11.0%	0.5
eV US Large Cap Value Equity Gross Median	7.4%	11.3%	0.5

5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Robeco Boston Partners	6.3%	12.0%	0.5
Russell 1000 Value	5.9%	10.9%	0.5
eV US Large Cap Value Equity Gross Median	6.3%	11.3%	0.5

3.5

# Emerald Advisers Manager Portfolio Overview

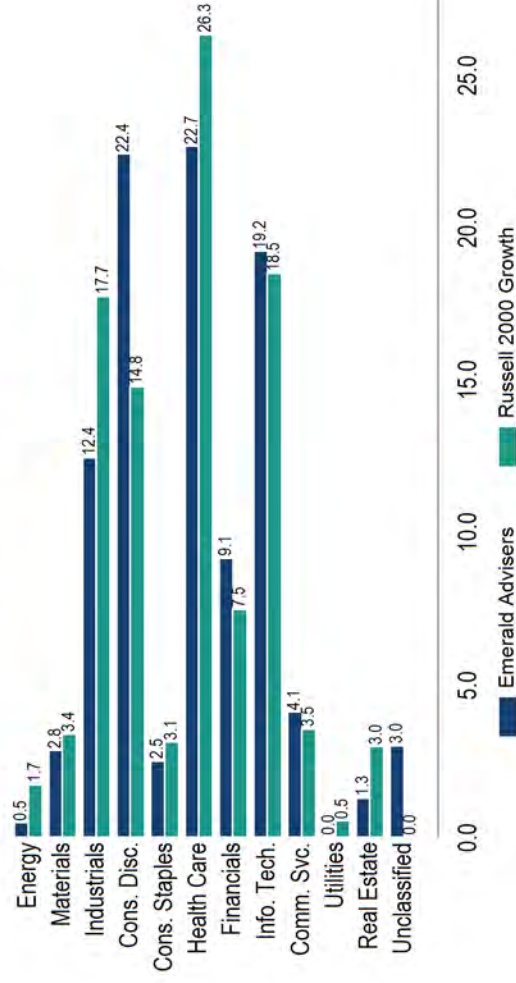
## Period Ending: December 31, 2018

Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

### Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	118	1,257
Weighted Avg. Market Cap. (\$B)	2.41	2.17
Median Market Cap. (\$B)	1.53	0.78
Price To Earnings	5.89	14.61
Price To Book	5.91	4.90
Price To Sales	3.86	3.66
Return on Equity (%)	-2.95	7.00
Yield (%)	0.52	0.60
Beta	1.08	1.00

Sector Allocation (%) vs Russell 2000 Growth

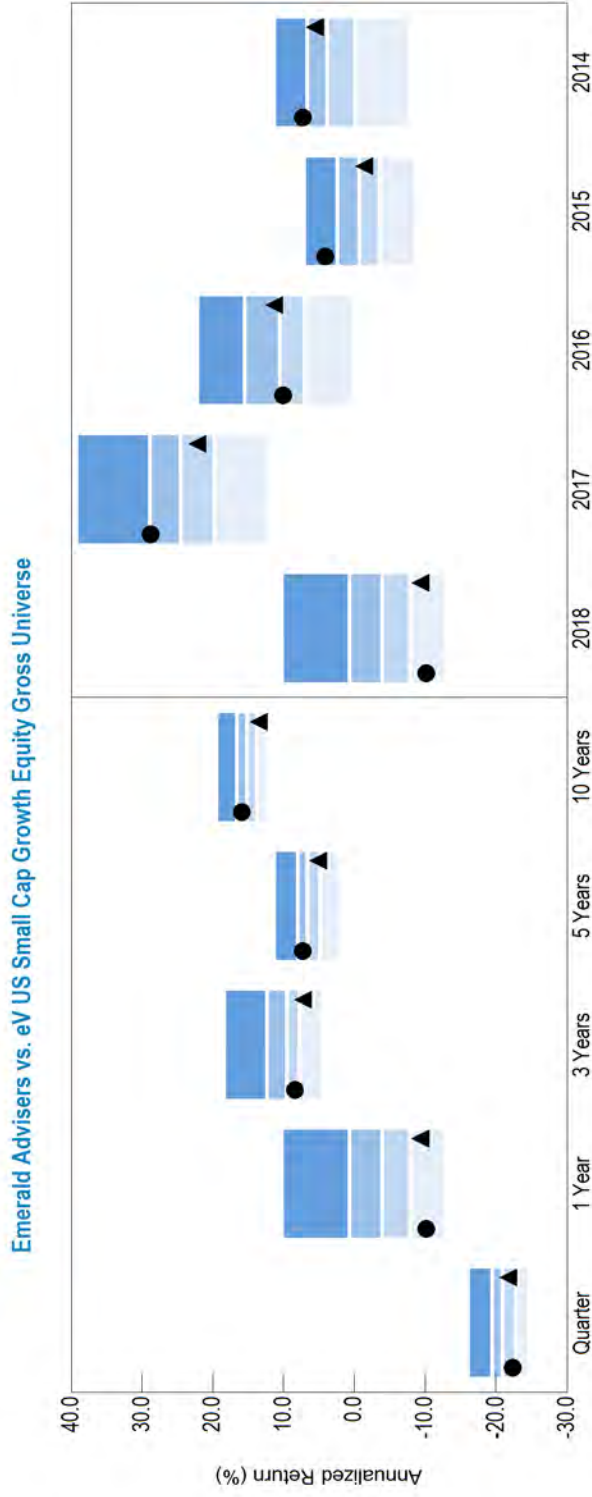


### Largest Holdings

	End Weight	Return	Top Contributors				Bottom Contributors				
			Avg Wgt	Return	Contribution	Avg Wgt	Return	Contribution			
CHEGG	3.29	-0.04	1.04	19.23	0.20	2.20	-38.35	-0.84	NUTRISYSTEM		
CIENA	2.20	8.55	1.77	8.55	0.15	1.77	-35.29	-0.62	VONAGE HOLDINGS		
PLANET FITNESS CLA	2.15	-0.76	0.73	19.89	0.14	0.80	-63.38	-0.51	CADENCE BANCORP.'A'		
TREX	2.03	-22.89	0.85	7.57	0.06	1.18	-42.59	-0.50	G1 THERAPEUTICS		
EPAM SYSTEMS	2.02	-15.75	0.89	5.96	0.05	1.75	-27.78	-0.49	TELADOC HEALTH		
FIVE BELOW	2.00	-21.33	0.89	5.96	0.05	0.69	-67.90	-0.47	VARONIS SYSTEMS		
VONAGE HOLDINGS	1.75	-38.35	0.55	8.32	0.05	1.51	-30.79	-0.47	AVROBIO		
VARONIS SYSTEMS	1.74	-27.78	0.72	6.24	0.04	1.57	-29.13	-0.46	OLLIES BARGAIN OUTLET HLDG.		
CADENCE BANCORP.'A'	1.54	-35.29	0.83	3.02	0.03	2.00	-21.33	-0.43	CHILDRENS PLACE		
TELADOC HEALTH	1.53	-42.59	0.21	0.42	0.00	1.34	-31.38	-0.42	FIVE BELOW		
			0.24	-0.20	0.00				REATA PHARMS.CLA		
									HORIZON PHARMA		

Unclassified sector allocation includes cash allocations.

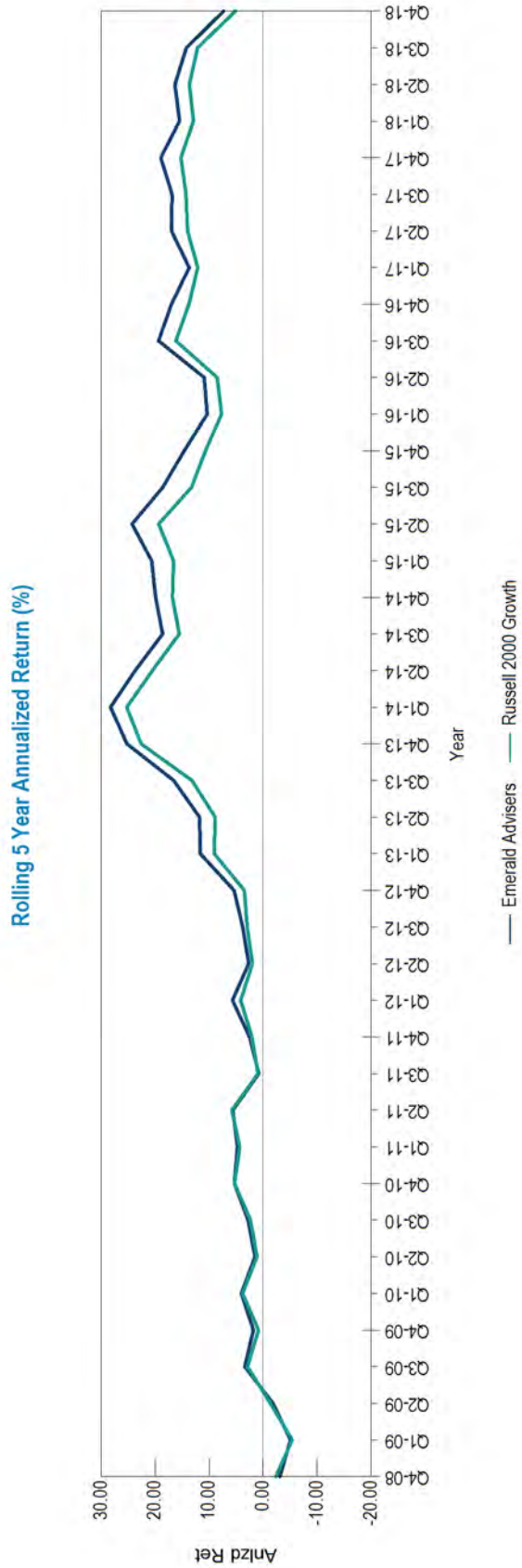
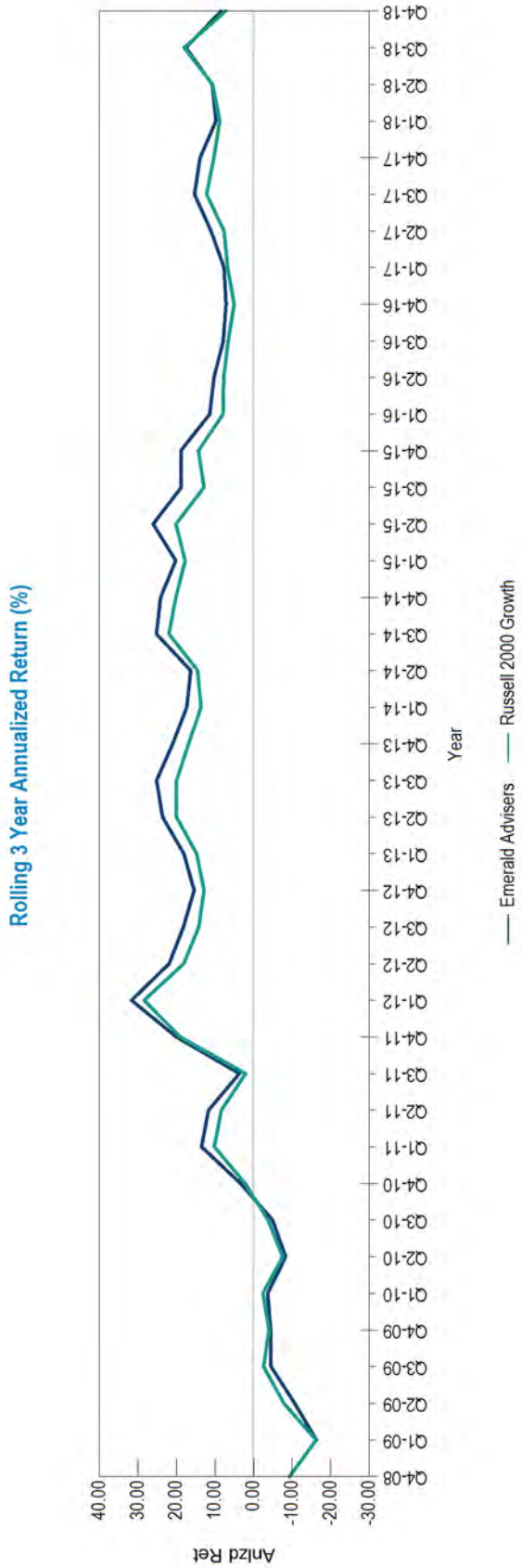




Return (Rank)

5th Percentile	-16.1	10.2	18.3	11.3	19.4	10.2	39.2	22.2	7.1	11.3
25th Percentile	-19.4	0.7	12.4	8.1	16.6	0.7	28.9	15.5	2.5	6.7
Median	-20.8	-3.9	9.6	6.7	15.2	-3.9	24.6	10.6	-0.6	3.9
75th Percentile	-22.7	-7.9	7.8	4.9	13.9	-7.9	19.8	7.1	-3.5	-0.1
95th Percentile	-24.6	-12.8	4.6	2.1	12.4	-12.8	12.1	0.2	-8.7	-7.6
# of Portfolios	164	164	160	155	140	164	174	170	154	161
● Emerald Advisers	-22.3 (72)	-10.1 (85)	8.4 (69)	7.3 (38)	15.9 (34)	-10.1 (85)	28.8 (26)	10.1 (54)	4.1 (19)	7.3 (21)
▲ Russell 2000 Growth	-21.7 (65)	-9.3 (80)	7.2 (80)	5.1 (73)	13.5 (81)	-9.3 (80)	22.2 (62)	11.3 (49)	-1.4 (59)	5.6 (32)

Emerald Advisers  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018

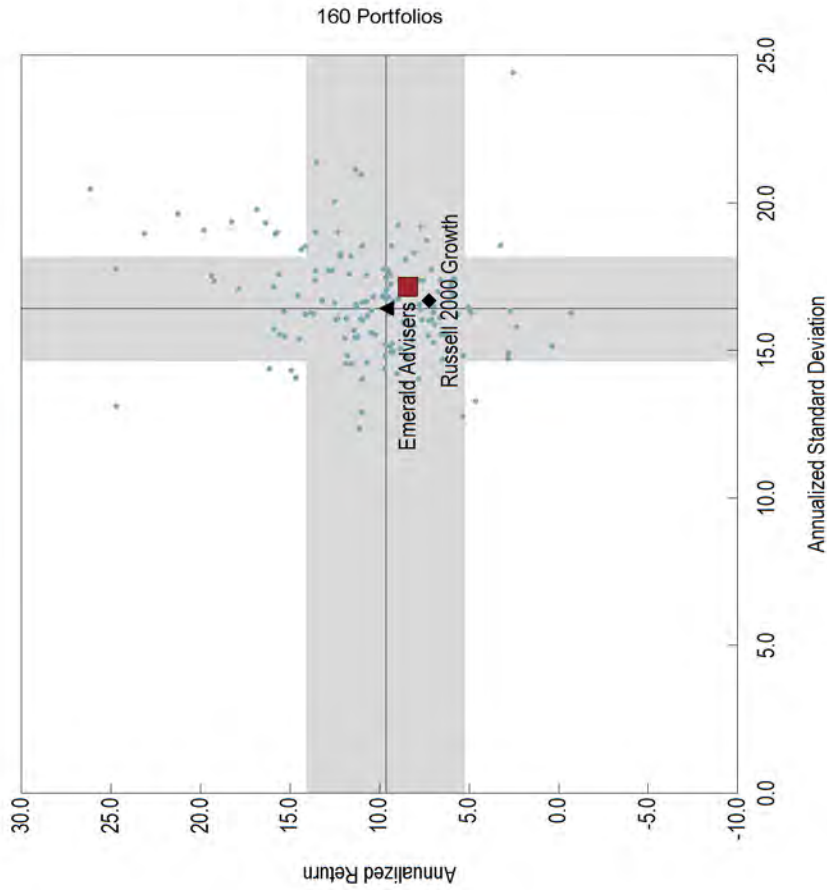


3.5

**Emerald Advisers** Period Ending: December 31, 2018  
**Risk vs. Return 3 & 5 Year (Gross of Fees)**

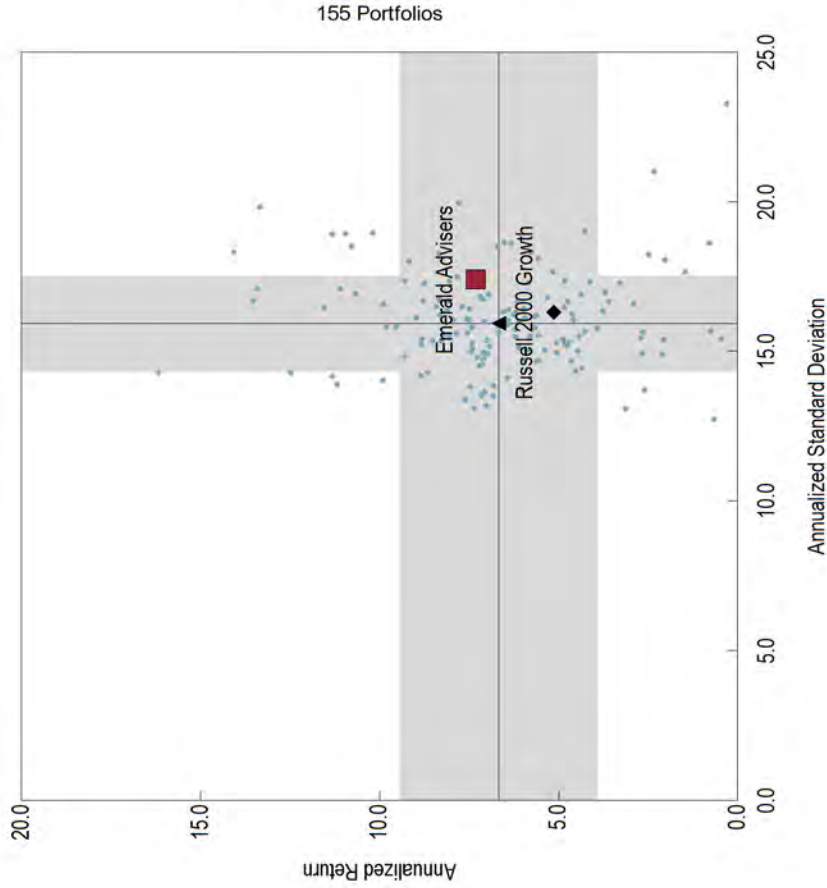
3 Years

5 Years



3 Years

5 Years



Emerald Advisers  
 Russell 2000 Growth  
 eV US Small Cap Growth Equity Gross Median

Emerald Advisers  
 Russell 2000 Growth  
 eV US Small Cap Growth Equity Gross Median

3 Years	5 Years
Annualized Return	Annualized Return
Annualized Standard Deviation	Annualized Standard Deviation
Sharpe Ratio	Sharpe Ratio

3 Years	5 Years
Annualized Return	Annualized Return
Annualized Standard Deviation	Annualized Standard Deviation
Sharpe Ratio	Sharpe Ratio

3.5



# Ceredex Manager Portfolio Overview

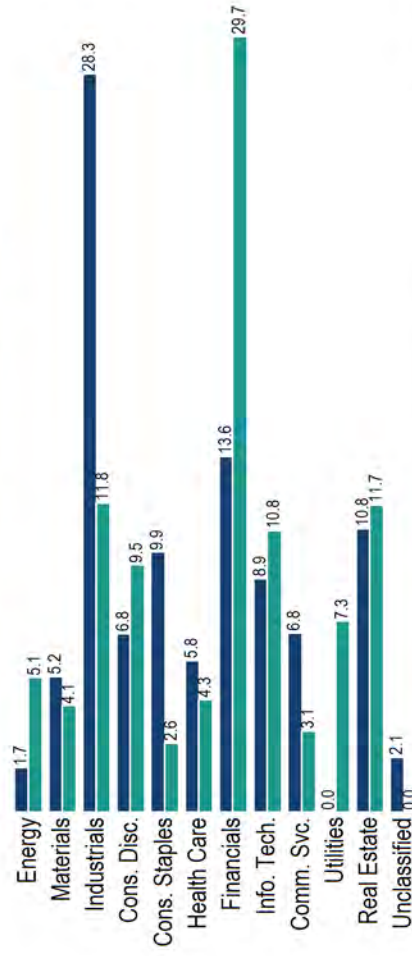
## Period Ending: December 31, 2018

Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

### Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	81	1,387
Weighted Avg. Market Cap. (\$B)	2.22	1.81
Median Market Cap. (\$B)	1.57	0.59
Price To Earnings	19.07	13.15
Price To Book	2.44	1.53
Price To Sales	2.30	2.65
Return on Equity (%)	15.23	7.78
Yield (%)	2.94	2.22
Beta	0.79	1.00

### Sector Allocation (%) vs Russell 2000 Value



### Top Contributors

	End Weight	Return	Avg Wgt	Contribution
B & G FOODS	4.96	6.99	4.08	0.29
POWER INTEGRATIONS	4.81	-3.26	1.28	0.25
MEREDITH	4.77	2.68	4.63	0.12
ENERGIZER HOLDINGS	4.60	-22.51	0.02	0.00
HILL-ROM HOLDINGS	4.34	-6.00	0.22	-0.16
KEMPER	4.00	-17.23	0.02	-14.00
TETRA TECH	3.36	-24.05	0.02	-20.16
PHYSICIANS REALTY TST.	3.33	-3.59	0.02	-15.42
TANGER FAC.OUTLET CNTRS.	2.84	-10.28	0.41	-1.22
OUTFRONT MEDIA	2.80	-7.61	0.03	-21.90
B & G FOODS			4.38	-22.51
ENERGIZER HOLDINGS			3.73	-24.05
TETRA TECH			2.72	-28.40
EVERCORE A			4.09	-17.23
KEMPER			2.43	-26.43
CUBIC			1.45	-39.26
AMC ENTERTAINMENT			1.23	-45.64
HDG. CL.A			1.07	-50.81
US SILICA HOLDINGS			2.36	-20.76
SM ENERGY			1.71	-27.46
HERMAN MILLER			0.01	-0.01
APOGEE ENTERPRISES			0.01	-0.01

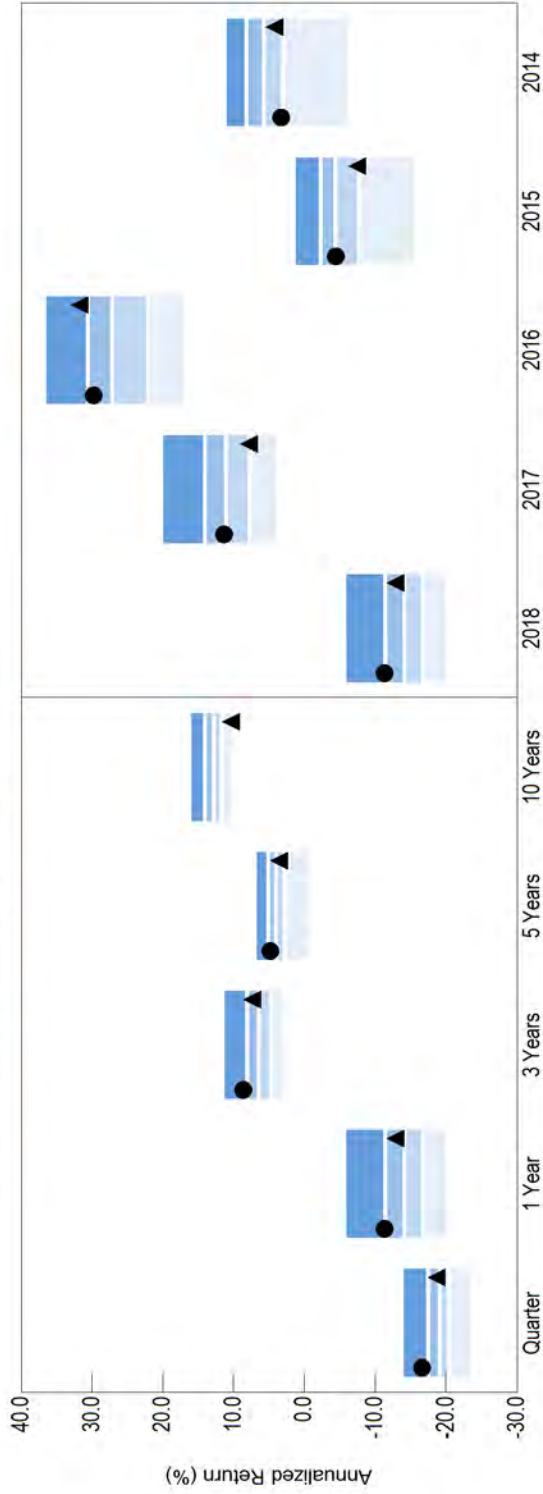
### Bottom Contributors

	End Weight	Return	Avg Wgt	Contribution
B & G FOODS	4.96	6.99	4.08	0.29
POWER INTEGRATIONS	4.81	-3.26	1.28	0.25
MEREDITH	4.77	2.68	4.63	0.12
ENERGIZER HOLDINGS	4.60	-22.51	0.02	0.00
HILL-ROM HOLDINGS	4.34	-6.00	0.22	-0.16
KEMPER	4.00	-17.23	0.02	-14.00
TETRA TECH	3.36	-24.05	0.02	-20.16
PHYSICIANS REALTY TST.	3.33	-3.59	0.02	-15.42
TANGER FAC.OUTLET CNTRS.	2.84	-10.28	0.41	-1.22
OUTFRONT MEDIA	2.80	-7.61	0.03	-21.90
B & G FOODS			4.38	-22.51
ENERGIZER HOLDINGS			3.73	-24.05
TETRA TECH			2.72	-28.40
EVERCORE A			4.09	-17.23
KEMPER			2.43	-26.43
CUBIC			1.45	-39.26
AMC ENTERTAINMENT			1.23	-45.64
HDG. CL.A			1.07	-50.81
US SILICA HOLDINGS			2.36	-20.76
SM ENERGY			1.71	-27.46
HERMAN MILLER			0.01	-0.01
APOGEE ENTERPRISES			0.01	-0.01

Unclassified sector allocation includes cash allocations.

Ceredex  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

Ceredex vs. eV US Small Cap Value Equity Gross Universe

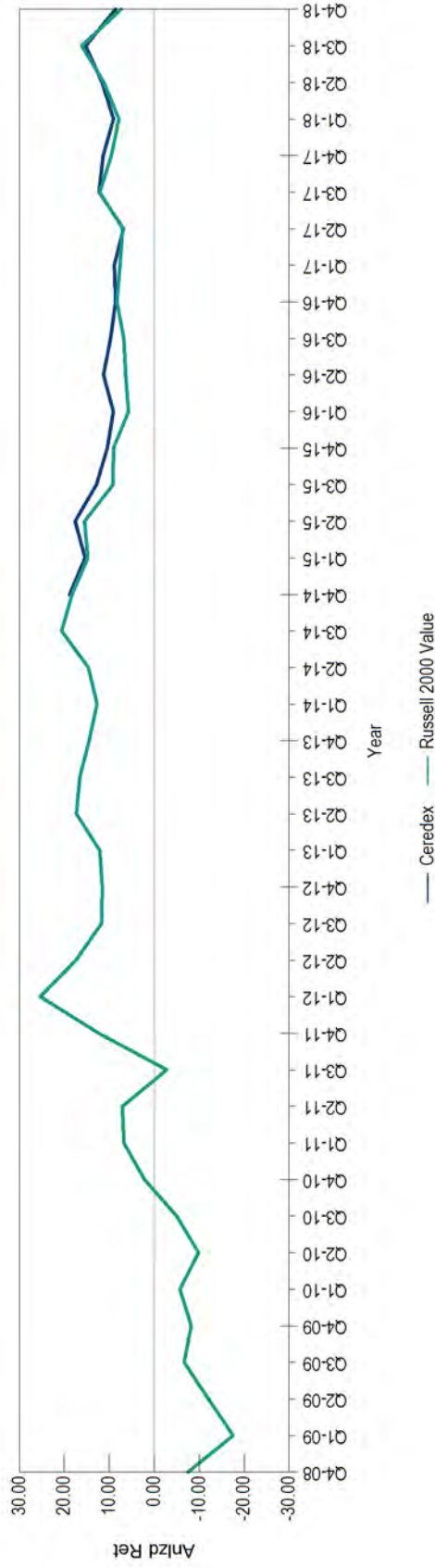


Return (Rank)

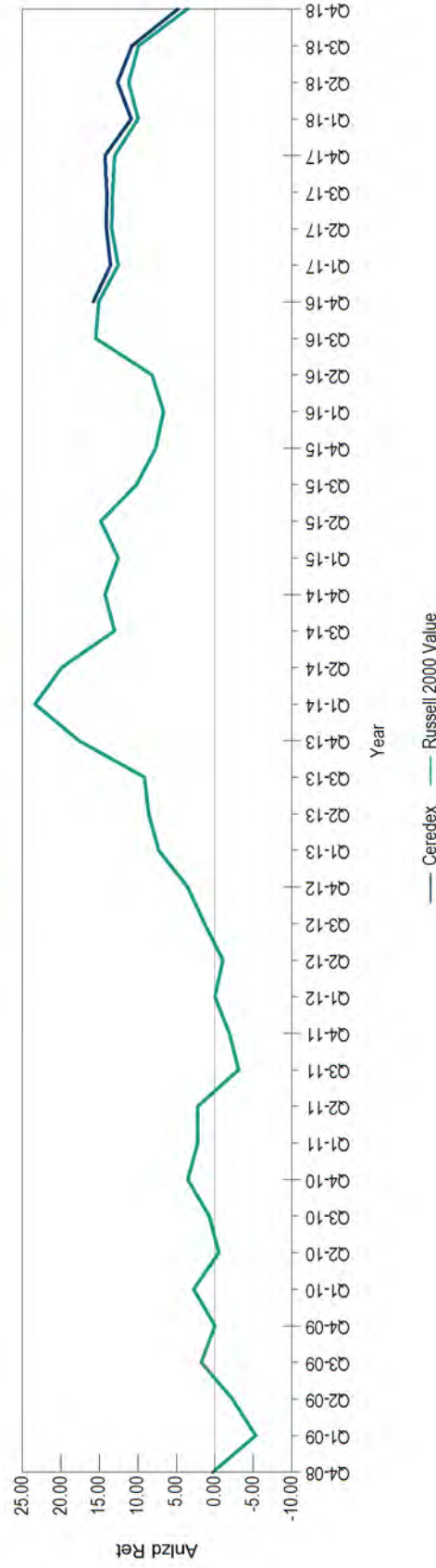
5th Percentile	-13.8	-5.7	11.4	7.0	16.2	-5.7	20.2	36.7	1.5	11.2
25th Percentile	-17.5	-11.4	8.2	5.2	14.1	-11.4	14.1	30.7	-2.2	8.2
Median	-19.0	-14.0	6.5	4.1	12.9	-14.0	11.1	27.2	-4.3	5.8
75th Percentile	-20.3	-16.7	4.8	2.9	11.7	-16.7	7.8	22.2	-7.7	3.1
95th Percentile	-23.5	-20.2	2.7	-0.8	10.0	-20.2	3.7	16.8	-15.8	-6.3
# of Portfolios	220	220	214	205	177	220	224	222	212	206
● Ceredex	-16.6 (22)	-11.3 (25)	8.6 (23)	4.8 (33)	--	-11.3 (25)	11.4 (48)	29.8 (32)	-4.4 (52)	3.3 (74)
▲ Russell 2000 Value	-18.7 (45)	-12.9 (39)	7.4 (36)	3.6 (63)	10.4 (94)	-12.9 (39)	7.8 (75)	31.7 (17)	-7.5 (74)	4.2 (68)

3.5

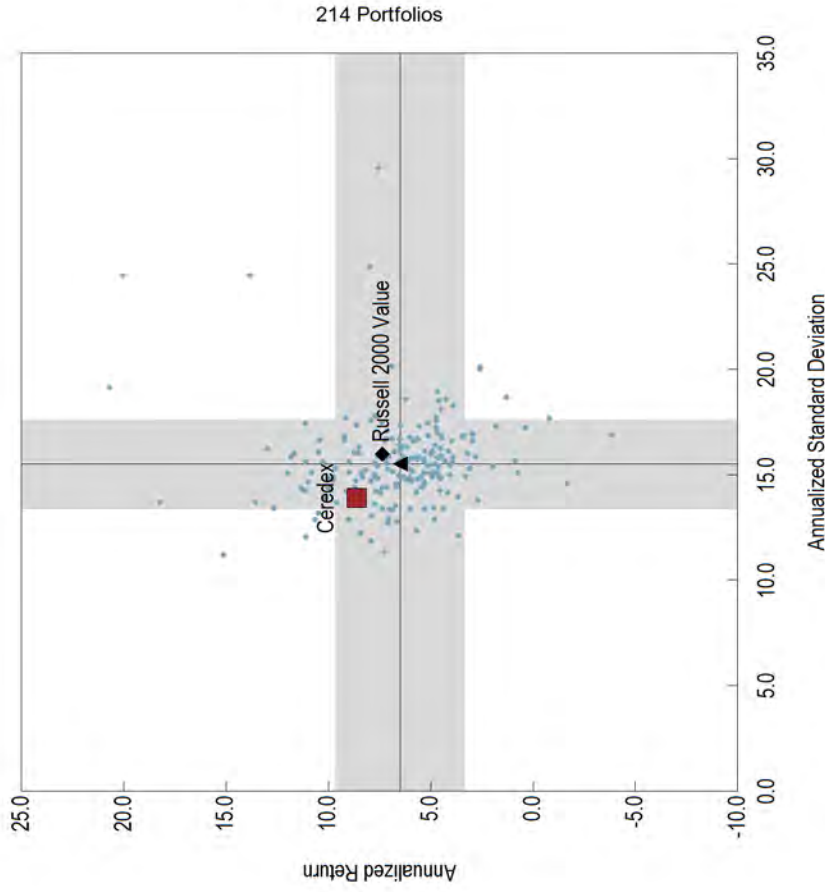
Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)



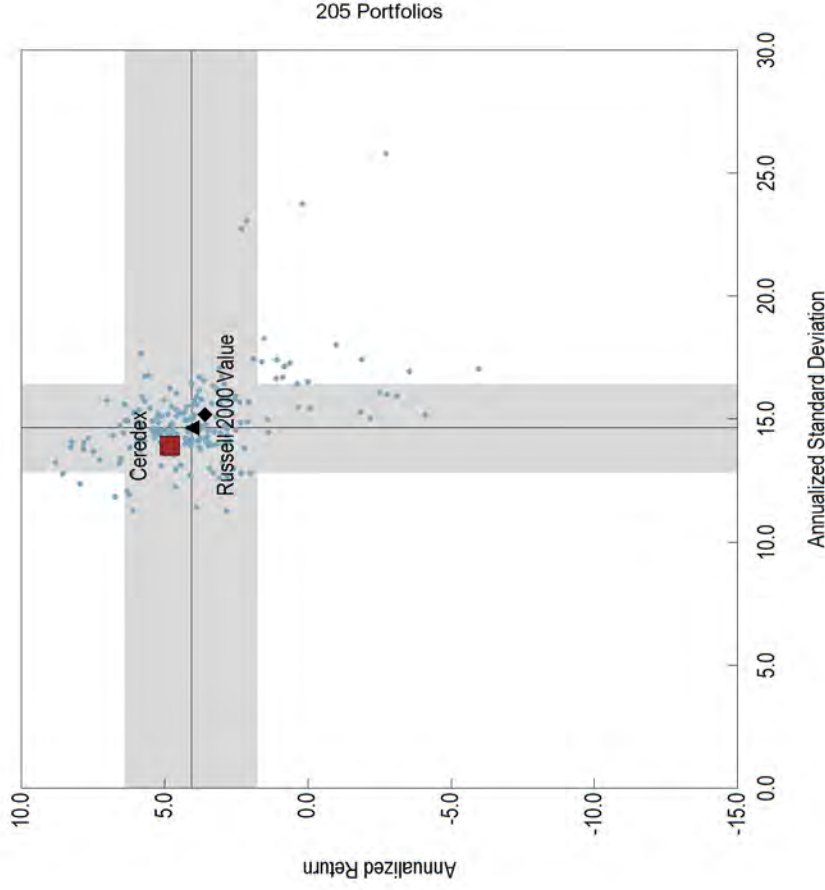
3 Years



3 Years

Ceredex	8.6%	13.9%	0.5
Russell 2000 Value	7.4%	16.0%	0.4
eV US Small Cap Value Equity Gross Median	6.5%	15.5%	0.3

5 Years



5 Years

Ceredex	4.8%	13.9%	0.3
Russell 2000 Value	3.6%	15.2%	0.2
eV US Small Cap Value Equity Gross Median	4.1%	14.6%	0.2

## **International Equity Managers**

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# Pyrford Manager Portfolio Overview

## Period Ending: December 31, 2018

International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

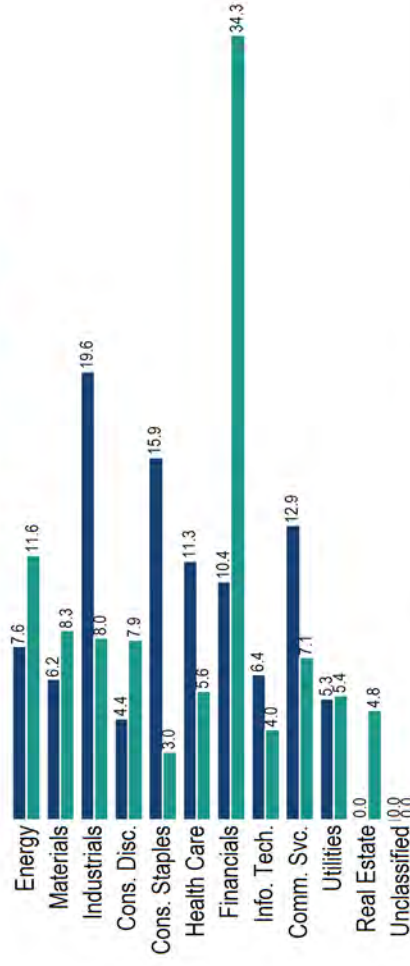
### Characteristics

	Portfolio	MSCI ACWI ex USA Value
Number of Holdings	74	1,277
Weighted Avg. Market Cap. (\$B)	56.86	47.74
Median Market Cap. (\$B)	20.64	6.43
Price To Earnings	17.88	11.78
Price To Book	3.09	1.37
Price To Sales	2.37	1.72
Return on Equity (%)	17.41	12.01
Yield (%)	4.09	4.67
Beta	0.72	1.00

### Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	92.4%	73.9%
Emerging*	7.6%	26.1%
Cash	0.0%	
<b>Top 10 Largest Countries</b>		
Switzerland	14.3%	3.2%
United Kingdom	13.0%	15.2%
Australia	11.5%	4.8%
Japan	10.8%	16.7%
France	8.7%	7.0%
Germany	8.0%	5.8%
Hong Kong	5.2%	2.6%
Singapore	5.2%	0.9%
Netherlands	4.7%	1.2%
Sweden	4.6%	1.5%
<b>Total-Top 10 Largest Countries</b>	<b>86.0%</b>	<b>59.0%</b>

### Sector Allocation (%) vs MSCI ACWI ex USA Value



### Top Contributors

	Avg Wgt	Return	Contribution
NEWCREST MINING	0.77	9.28	0.07
ROCHE HOLDING	3.08	1.44	0.04
WOOLWORTHS GROUP	2.00	1.94	0.04
NIHON KOHDEN	1.39	2.66	0.04
FIELMANN	1.20	2.77	0.03
TELENOR	1.78	1.58	0.03
CHUNGHWA TELECOM	1.34	2.05	0.03
POWER ASSETS HOLDINGS	0.77	-0.06	0.00
ABC-MART	1.04	-0.40	0.00
RUBIS	0.76	-1.03	-0.01

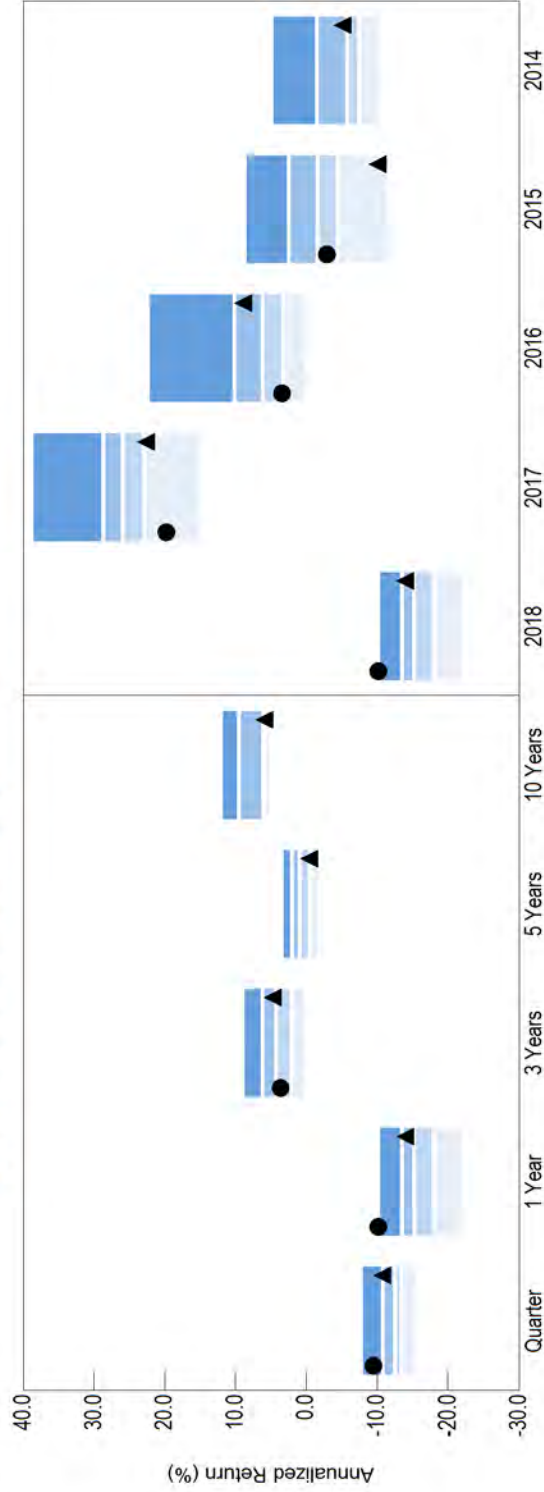
### Bottom Contributors

	Avg Wgt	Return	Contribution
BRITISH AMERICAN TOBACCO	1.49	-29.55	-0.44
WOODSIDE PETROLEUM	1.87	-21.01	-0.39
GEA GROUP	1.18	-28.49	-0.34
BUREAU VERITAS	1.47	-21.21	-0.31
FUCHS PETROLUB	1.72	-17.59	-0.30
SAP	1.56	-19.09	-0.30
ROYAL DUTCH SHELL A	2.20	-13.31	-0.29
SUMITOMO RUBBER INDS.	1.45	-19.17	-0.28
LEGRAND	1.21	-22.71	-0.28
COMPUTERSHARE	1.70	-16.16	-0.27

Unclassified sector allocation includes cash allocations.

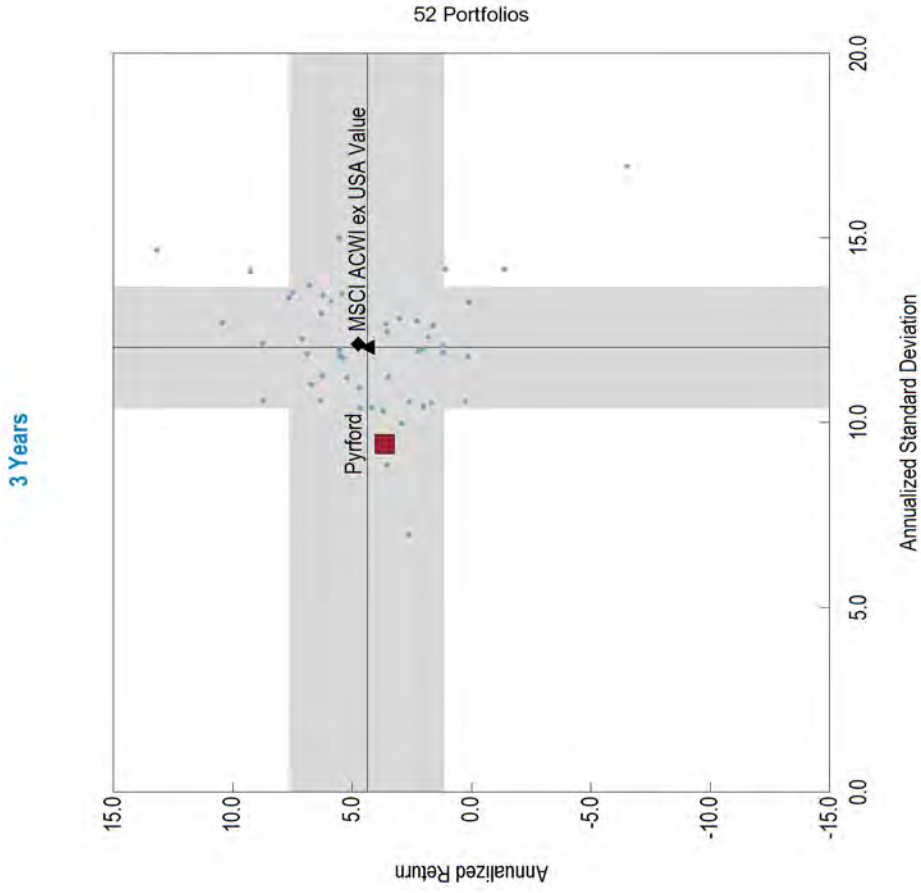


Pyrford vs. eV ACWI ex-US Value Equity Gross Universe



Return (Rank)

5th Percentile	-7.8	-10.2	9.0	3.5	12.1	-10.2	38.8	22.3	8.7	4.9
25th Percentile	-10.8	-13.4	6.3	2.1	9.6	-13.4	28.8	10.2	2.5	-1.4
Median	-12.5	-15.2	4.4	1.0	6.2	-15.2	26.0	6.2	-1.6	-5.7
75th Percentile	-13.4	-17.9	2.2	-0.4	5.8	-17.9	23.0	3.3	-4.3	-7.4
95th Percentile	-15.7	-21.9	0.1	-1.8	5.0	-21.9	15.0	-0.1	-11.6	-10.4
# of Portfolios	54	54	52	44	27	54	56	55	45	37
● Pyrford	-9.5 (12)	-10.1 (5)	3.6 (55)	-- (-)	-- (-)	-10.1 (5)	19.8 (84)	3.4 (74)	-2.9 (59)	-- (-)
▲ MSCI ACWI ex USA Value	-10.7 (22)	-14.0 (32)	4.7 (43)	-0.4 (75)	6.0 (66)	-14.0 (32)	22.7 (77)	8.9 (35)	-10.1 (93)	-5.1 (49)



	3 Years	3 Years	3 Years
	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Pyrford	3.6%	9.4%	0.3
MSCI ACWI ex USA Value	4.7%	12.1%	0.3
eV ACWI ex-US Value Equity Gross Median	4.4%	12.0%	0.3

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# William Blair Manager Portfolio Overview

Period Ending: December 31, 2018

International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Jeffrey Urbina.

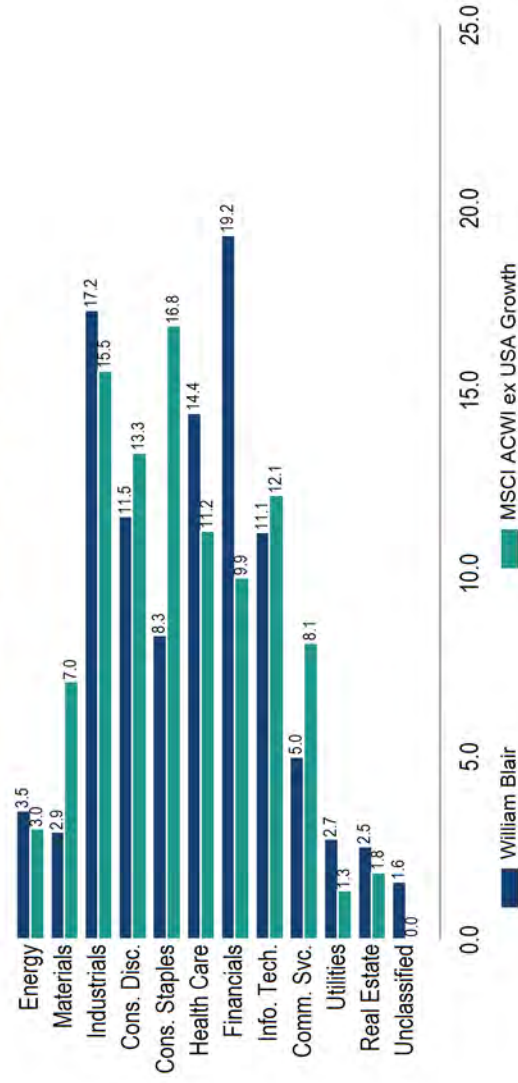
## Characteristics

	Portfolio	MSCI ACWI ex USA Growth
Number of Holdings	185	1,133
Weighted Avg. Market Cap. (\$B)	51.18	64.60
Median Market Cap. (\$B)	8.97	7.49
Price To Earnings	23.07	21.68
Price To Book	4.81	3.78
Price To Sales	4.26	3.42
Return on Equity (%)	23.36	19.26
Yield (%)	2.19	2.19
Beta	1.07	1.00

## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	84.5%	74.0%
Emerging*	13.9%	26.0%
<b>Top 10 Largest Countries</b>		
United Kingdom	15.3%	7.6%
Japan	14.0%	16.5%
France	12.1%	7.9%
Canada	5.9%	6.5%
Netherlands	5.5%	3.4%
Hong Kong	5.1%	2.6%
Germany	4.9%	6.1%
Switzerland	4.3%	8.6%
Australia	4.1%	4.6%
China*	4.0%	7.7%
<b>Total-Top 10 Largest Countries</b>	<b>75.3%</b>	<b>71.6%</b>

## Sector Allocation (%) vs MSCI ACWI ex USA Growth



## Top Contributors

	Avg Wgt	Return	Contribution	Avg Wgt	Return	Contribution
BANK CENTRAL ASIA	0.88	11.93	0.10	TOTAL	2.33	-17.49
HDFC BANK	0.49	9.82	0.05	SUNCOR ENERGY	1.50	-27.19
INTERGLOBE AVIATION	0.08	46.43	0.04	LONZA GROUP	1.62	-24.66
GREGGS	0.19	17.20	0.03	DSV 'B'	1.41	-27.72
TITAN COMPANY	0.16	19.99	0.03	AIRBUS	1.63	-23.61
LI NING	0.17	13.45	0.02	PHILIPS	1.62	-22.41
MARUTI SUZUKI INDIA	0.42	5.49	0.02	ELTN.KONINKLUKE	1.11	-30.13
M DIAS BRANCO INDUSTRIA ON	0.16	13.03	0.02	WIRECARD	1.80	-17.46
MR PRICE GROUP	0.25	7.46	0.02	TORONTO-DOMINION BANK	1.01	-30.86
BRITANNIA INDS.	0.15	11.09	0.02	ARKEMA	0.90	-34.40
			0.02	ASSTEAD GROUP		-0.31

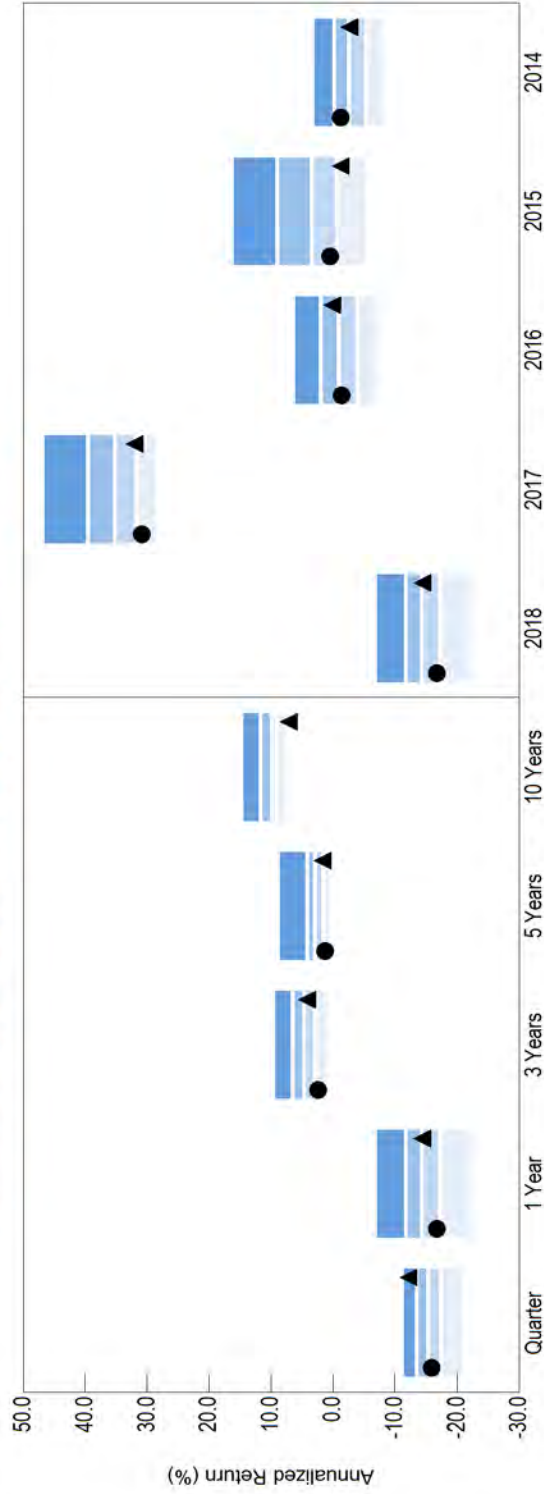
## Bottom Contributors

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Unclassified sector allocation includes cash allocations.

William Blair  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

William Blair vs. eV ACWI ex-US Growth Equity Gross Universe

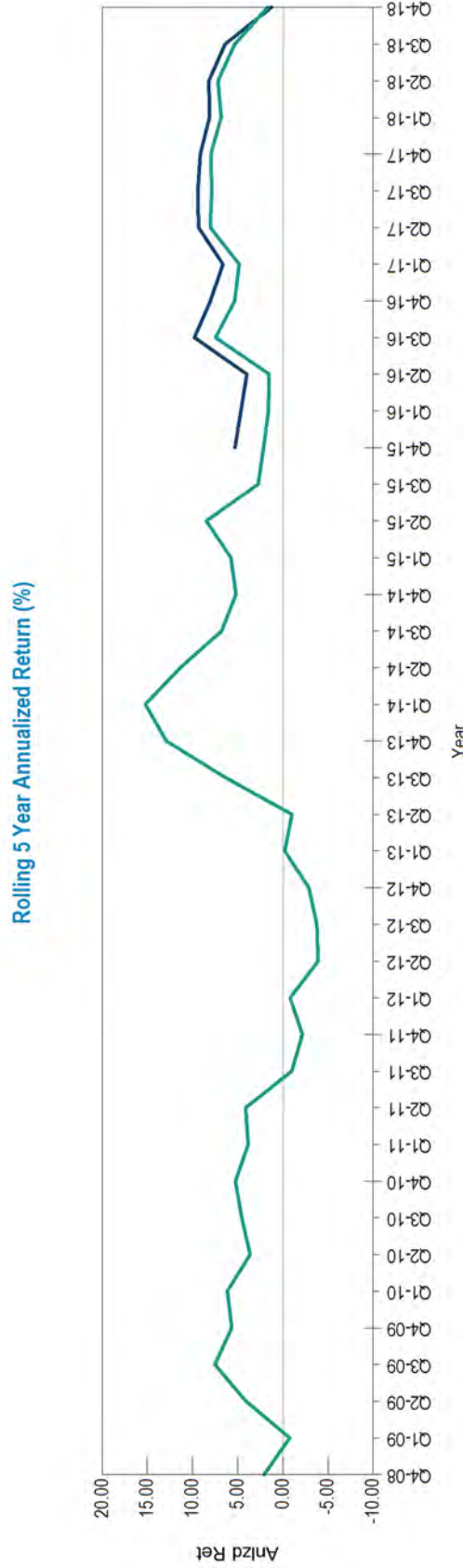
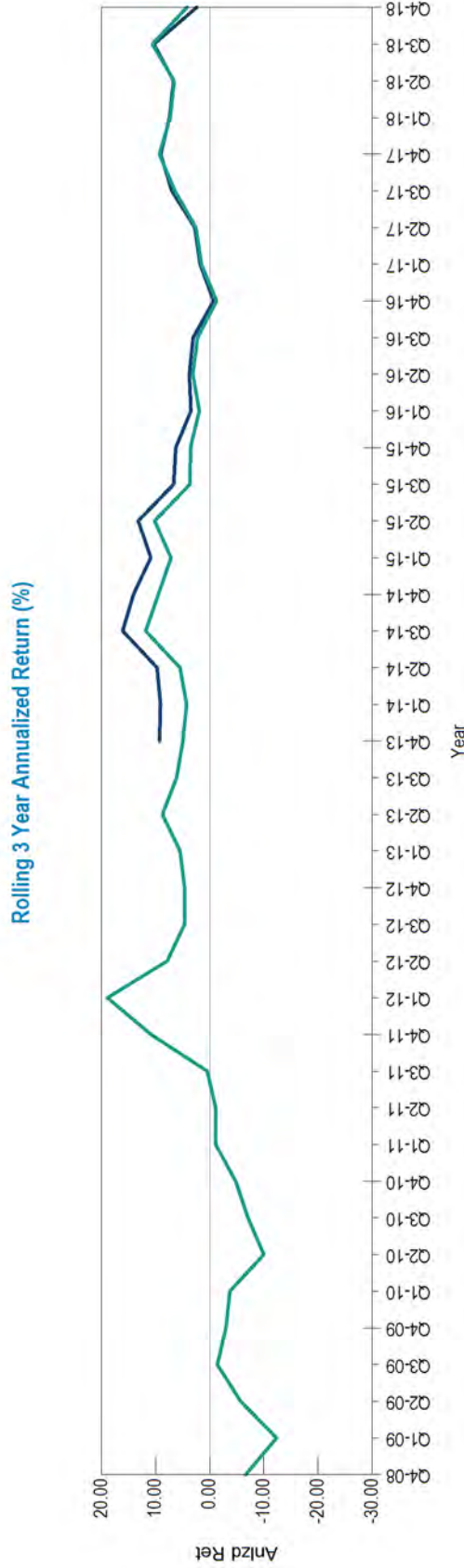


Return (Rank)

5th Percentile	-11.2	9.6	8.9	14.7	46.8	6.3	16.3	3.2
25th Percentile	-13.5	6.5	4.2	11.7	39.6	2.0	9.0	-0.1
Median	-15.3	4.7	3.0	9.9	35.3	-0.9	3.5	-2.5
75th Percentile	-17.4	2.9	1.6	9.1	31.8	-3.9	-0.5	-5.3
95th Percentile	-21.0	0.7	0.4	7.4	28.3	-7.4	-5.4	-8.2
# of Portfolios	82	82	71	51	94	90	70	50
● William Blair	-15.9 (59)	2.4 (83)	1.3 (83)	--	30.9 (81)	-1.4 (55)	0.5 (69)	-1.2 (37)
▲ MSCI ACWI ex USA Growth	-12.2 (19)	4.2 (64)	1.7 (74)	7.1 (96)	32.0 (75)	0.1 (45)	-1.3 (83)	-2.6 (53)

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William Blair  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018



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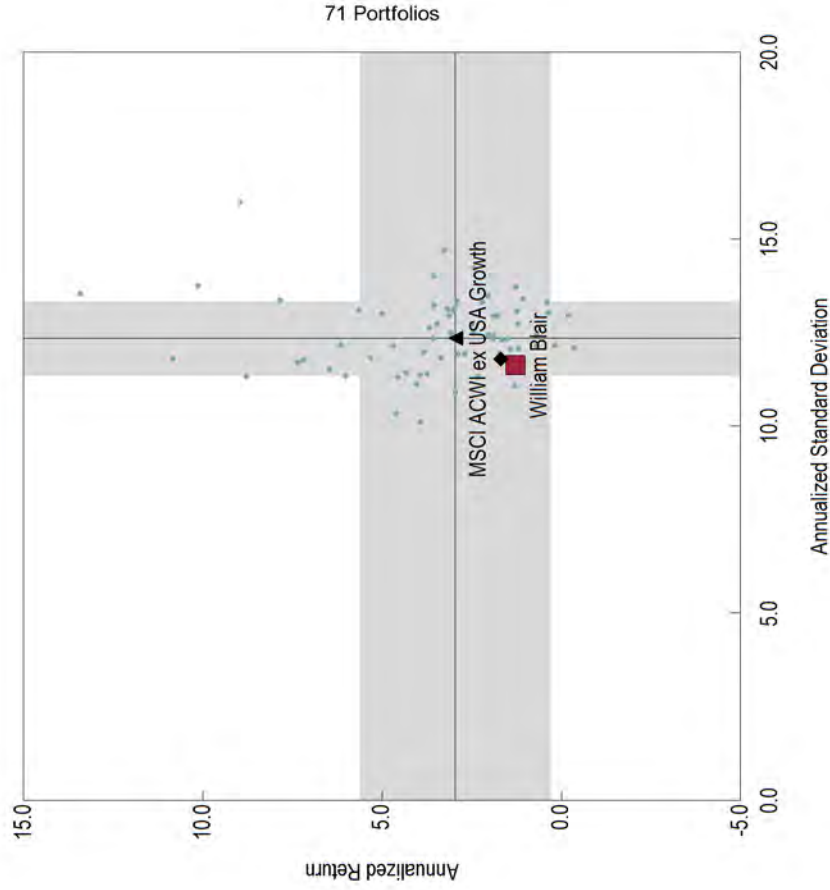
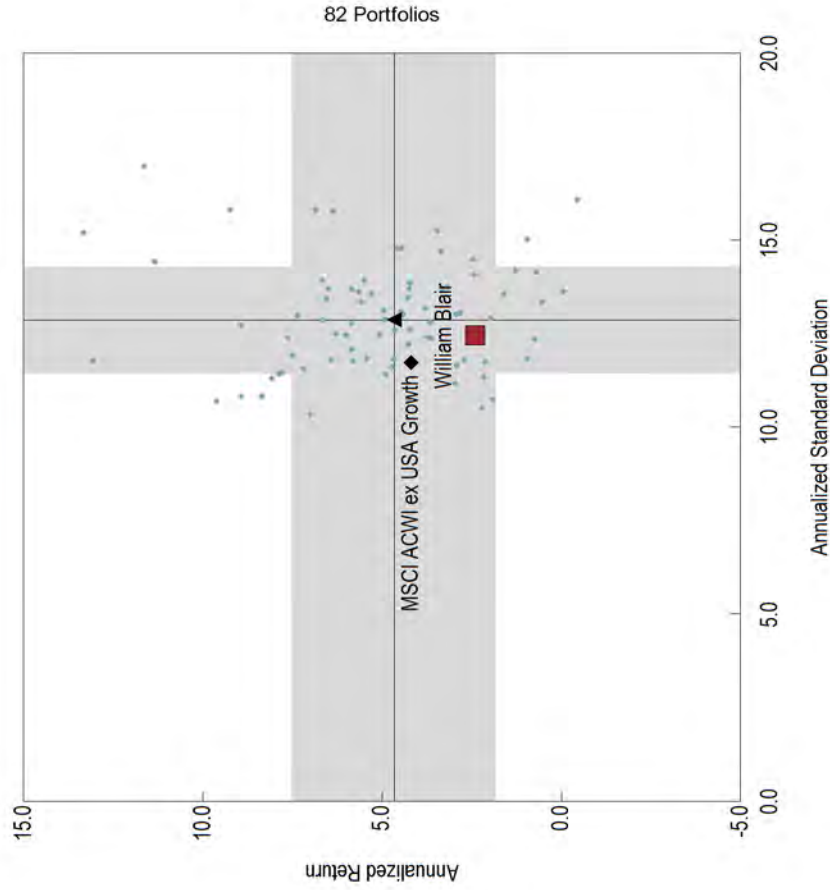
William Blair

Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2018

3 Years

5 Years



3 Years

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	2.4%	12.4%	0.1
MSCI ACWI ex USA Growth	4.2%	11.7%	0.3
eV ACWI ex-US Growth Equity Gross Median	4.7%	12.9%	0.3

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	1.3%	11.6%	0.1
MSCI ACWI ex USA Growth	1.7%	11.8%	0.1
eV ACWI ex-US Growth Equity Gross Median	3.0%	12.3%	0.2

# PIMCO RAE Emerging Markets Manager Portfolio Overview

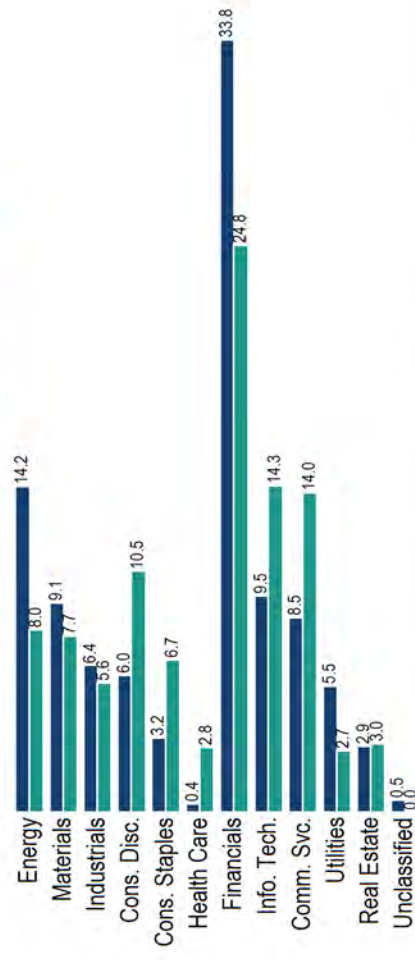
Period Ending: December 31, 2018

The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

## Characteristics

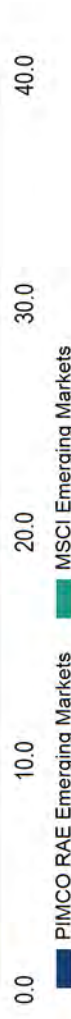
	Portfolio	MSCI Emerging Markets
Number of Holdings	573	1,125
Weighted Avg. Market Cap. (\$B)	34.55	69.96
Median Market Cap. (\$B)	3.64	4.95
Price To Earnings	10.74	16.63
Price To Book	1.17	2.89
Price To Sales	1.20	2.58
Return on Equity (%)	10.79	17.46
Yield (%)	4.30	2.94
Beta		1.00

Sector Allocation (%) vs MSCI Emerging Markets



## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	10.5%	0.0%
Emerging*	89.0%	100.0%
<b>Top 10 Largest Countries</b>		
China*	20.1%	30.3%
Korea*	19.9%	13.8%
Hong Kong	10.1%	0.0%
Taiwan*	10.0%	11.4%
Russia*	9.9%	3.6%
Brazil*	5.4%	7.5%
India*	5.2%	9.4%
South Africa*	4.5%	6.2%
Thailand*	3.0%	2.4%
Turkey*	2.6%	0.6%
<b>Total-Top 10 Largest Countries</b>	<b>90.7%</b>	<b>85.4%</b>



## Bottom Contributors

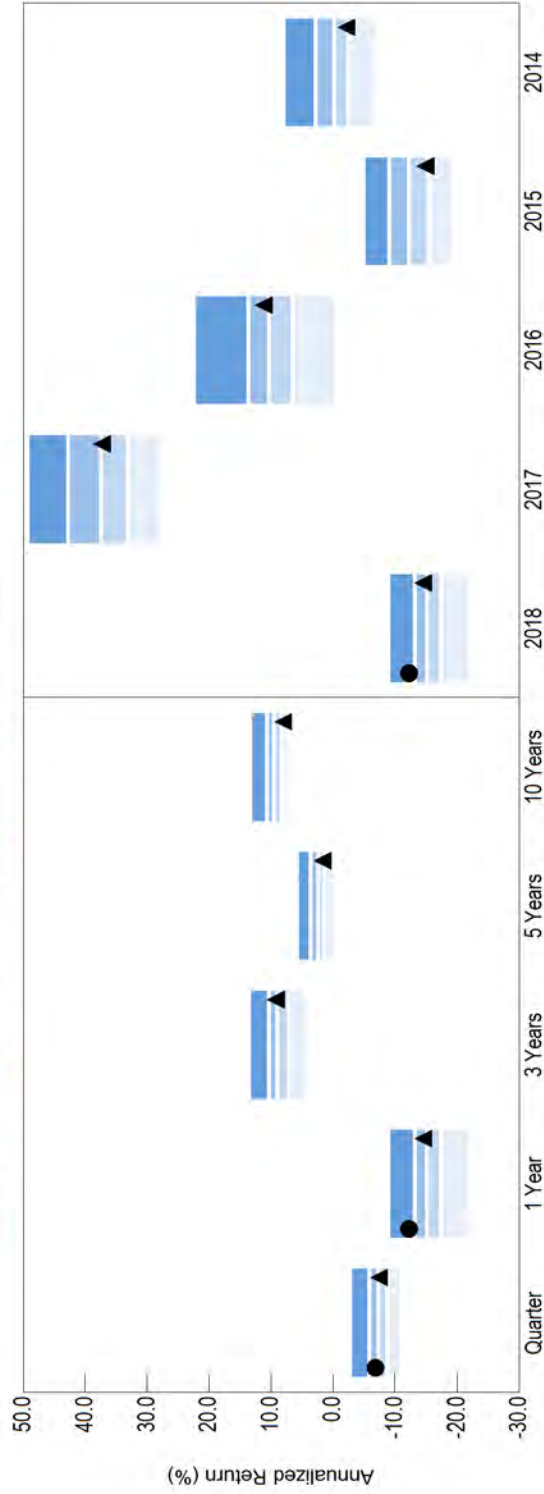
	End Weight	Return	Contribution	End Weight	Return	Contribution
CIA.ENG.T.DE	0.36	110.39	0.40	2.83	-17.17	-0.49
MINASGR.ADR 1:1	0.55	64.66	0.35	3.91	-11.42	-0.45
BANCO DO BRASIL ON	0.42	42.73	0.18	1.39	-21.98	-0.31
BNC.BRADESCO	0.13	122.28	0.15	0.99	-28.74	-0.28
PF.SPN.ADR 1:1	1.21	12.11	0.15	3.93	-5.61	-0.22
ADANI POWER	0.53	25.03	0.13	0.87	-23.64	-0.20
KOREA ELECTRIC POWER	0.27	45.45	0.12	0.57	-26.81	-0.15
ITAU UNIBANCO BANCO HLDG.ADR 1:1	0.39	27.32	0.11	0.65	-22.92	-0.15
GOLD FIELDS SPN.ADR 1:1	0.16	61.94	0.10	0.41	-31.53	-0.13
BANCO DO ESTADO DO RIO GRANDE DO SUL B PN	0.19	46.47	0.09	0.47	-25.44	-0.12
POWER FINANCE	0.09	0.09	0.00			

Unclassified sector allocation includes cash allocations.



PIMCO RAE Emerging Markets  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

PIMCO RAE Emerging Markets vs. eV Emg Mkts Equity Gross Universe



Return (Rank)

5th Percentile	-2.8	-9.0	13.5	5.7	13.2	49.2	22.4	-5.0	8.0
25th Percentile	-5.8	-13.2	10.4	3.6	10.7	42.8	13.7	-9.0	2.9
Median	-7.3	-15.2	9.1	2.4	9.5	37.6	10.4	-12.2	-0.1
75th Percentile	-8.7	-17.4	7.2	1.5	8.4	33.2	6.6	-15.3	-2.4
95th Percentile	-11.0	-21.8	4.1	-0.3	7.2	27.8	-0.6	-19.2	-7.0
# of Portfolios	356	355	336	294	150	343	337	273	251
● PIMCO RAE Emerging Markets	-6.9 (41)	-12.3 (19)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)
▲ MSCI Emerging Markets	-7.5 (55)	-14.6 (43)	9.2 (47)	1.6 (72)	8.0 (86)	37.3 (53)	11.2 (45)	-14.9 (70)	-2.2 (74)

3.5

# TT Emerging Markets Manager Portfolio Overview

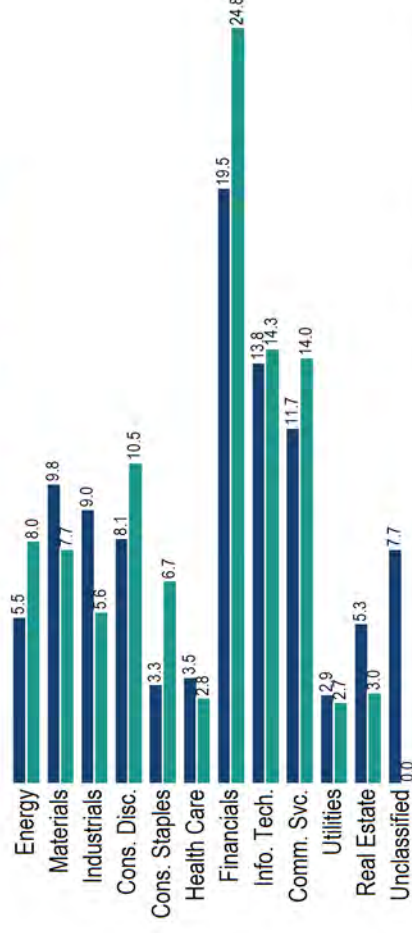
Period Ending: December 31, 2018

The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded in the Emerging Markets.

## Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	63	1,125
Weighted Avg. Market Cap. (\$B)	40.97	69.96
Median Market Cap. (\$B)	8.59	4.95
Price To Earnings	14.37	16.63
Price To Book	2.91	2.89
Price To Sales	3.84	2.58
Return on Equity (%)	21.74	17.46
Yield (%)	2.08	2.94
Beta		1.00

## Sector Allocation (%) vs MSCI Emerging Markets



## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	15.5%	0.0%
Emerging*	78.4%	100.0%
Frontier**	1.7%	0.0%
<b>Top 10 Largest Countries</b>		
India*	16.2%	9.4%
Korea*	15.4%	13.8%
China*	15.2%	30.3%
Brazil*	9.8%	7.5%
South Africa*	8.1%	6.2%
United Kingdom	6.1%	0.0%
Russia*	5.8%	3.6%
United States	4.4%	0.0%
Cash	4.4%	0.0%
Taiwan*	3.2%	11.4%
<b>Total-Top 10 Largest Countries</b>	<b>88.7%</b>	<b>82.4%</b>

## Country Allocation

	TT Emerging Markets	MSCI Emerging Markets	
<b>Top Contributors</b>			
	End Weight	Return	Contribution
CIA SANEAMENTO DO PARANA UNITS	1.23	52.92	0.65
ICICI BANK	2.56	22.39	0.57
LOMA NEGRA SPN.ADR	1.85	25.91	0.48
BB SEGURIDADE ON	1.92	23.83	0.46
ATACADAO DISTRIBUICAO	1.55	27.39	0.42
PUBLIC JOINT STOCK POLYUS GDR	1.11	28.05	0.31
OBEROI REALTY	1.81	12.86	0.23
PAKUWON JATI	0.79	24.75	0.19
LONGFOR GROUP HOLDINGS	1.21	15.78	0.19
FUTURE RETAIL	1.54	11.79	0.18
	End Weight	Return	Contribution
<b>Bottom Contributors</b>			
BAIDU 'A' ADR 10:1	3.12	-30.65	-0.96
ALIBABA GROUP HLDG.SPN.ADR 1:1	4.35	-16.81	-0.73
CHINA PACIFIC INSURANCE (GROUP) 'H'	4.17	-16.11	-0.67
HANA FINANCIAL GROUP	3.19	-19.11	-0.61
SAMSUNG ELTN.PREF.	3.25	-16.61	-0.54
SASOL	2.13	-23.64	-0.50
NASPERS	5.94	-6.76	-0.40
GENTING	1.69	-21.78	-0.37
SUZANO PAPEL E CELULOSE ON	1.90	-18.39	-0.35
SUNNY OPTICAL TECH.(GP.)	1.51	-22.97	-0.35

Unclassified sector allocation includes cash allocations.



## Global Equity Managers

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# Artisan Partners Manager Portfolio Overview

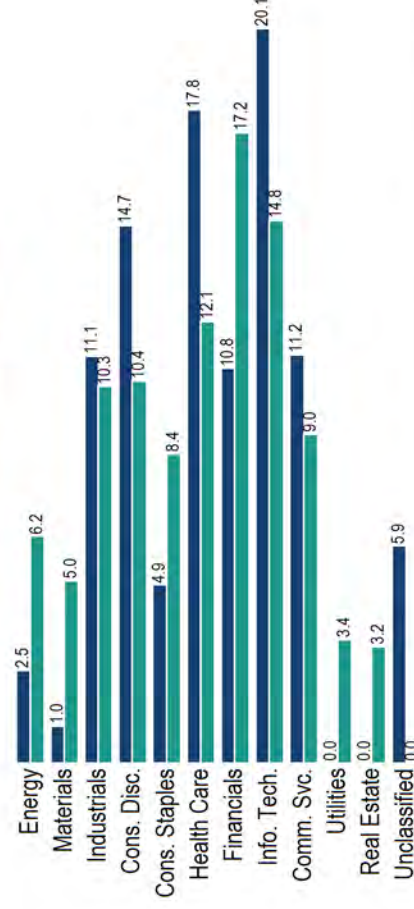
Period Ending: December 31, 2018

Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craig Cepukenas, and Matthew Kamm.

## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	47	2,758
Weighted Avg. Market Cap. (\$B)	75.46	120.64
Median Market Cap. (\$B)	22.83	8.52
Price To Earnings	23.15	18.55
Price To Book	6.92	3.40
Price To Sales	6.38	3.22
Return on Equity (%)	20.04	18.75
Yield (%)	1.10	2.76
Beta	1.25	1.00

## Sector Allocation (%) vs MSCI ACWI



## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	91.5%	88.1%
Emerging*	2.6%	11.9%
<b>Top 10 Largest Countries</b>		
United States	50.9%	54.3%
United Kingdom	8.2%	5.2%
Hong Kong	7.4%	1.2%
Cash	5.9%	0.0%
Japan	5.7%	7.6%
Switzerland	4.9%	2.7%
Denmark	3.0%	0.5%
India*	2.6%	1.1%
Netherlands	2.4%	1.1%
France	2.2%	3.4%
<b>Total-Top 10 Largest Countries</b>	<b>93.4%</b>	<b>77.1%</b>

## Top Contributors

	Avg Wgt	Return	Contribution
HDFC BANK ADR 1:3	1.95	10.08	0.20
GENMAB	2.05	3.95	0.08
CREE	0.48	12.95	0.06
SANDS CHINA	1.56	-3.30	-0.05
TENCENT HOLDINGS	1.99	-2.89	-0.06
S&P GLOBAL	0.48	-12.78	-0.06
BURBERRY GROUP	0.45	-15.34	-0.07
STATE STREET	0.32	-24.16	-0.08
XIAOMI-W ORD	0.48	-16.69	-0.08
ASTRAZENECA	2.51	-3.81	-0.10

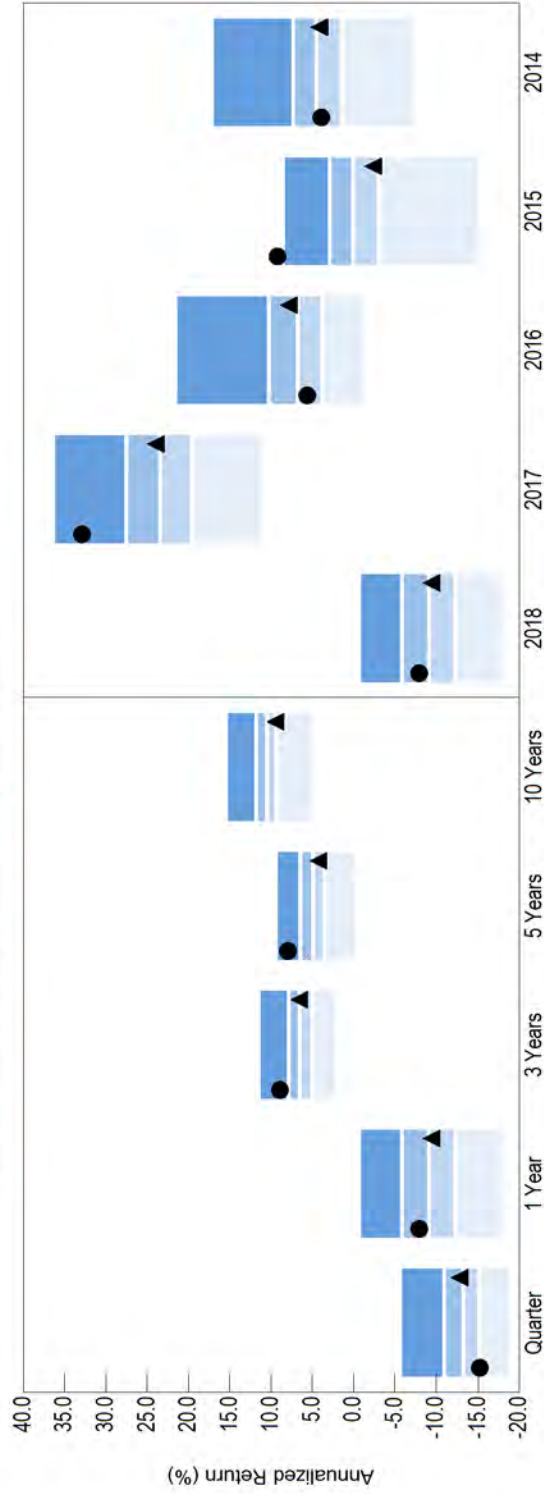
## Bottom Contributors

	Avg Wgt	Return	Contribution
FEVERTREE DRINKS	2.51	-40.48	-1.02
NOBLE ENERGY	2.40	-39.60	-0.95
VISA 'A'	6.76	-11.94	-0.81
TEMENOS N	2.84	-26.62	-0.75
IHS MARKIT	6.59	-11.10	-0.73
NINTENDO	2.59	-26.87	-0.70
PIONEER NTRL.RES.	2.82	-24.50	-0.69
AMADEUS IT GROUP	2.65	-25.17	-0.67
APTIV	2.45	-26.40	-0.65
LONZA GROUP	2.48	-24.66	-0.61

Unclassified sector allocation includes cash allocations.

Artisan Partners  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

Artisan Partners vs. eV All Global Equity Gross Universe

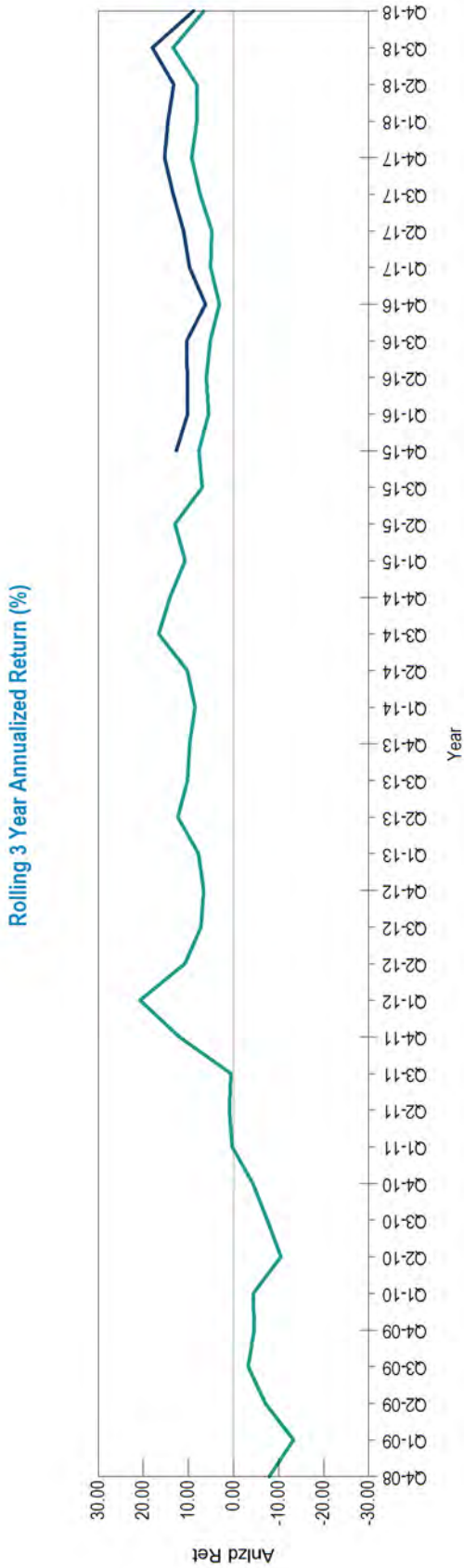


Return (Rank)

5th Percentile	-5.7	11.5	9.4	15.4	36.3	21.5	8.5	17.1
25th Percentile	-11.0	7.9	6.5	11.8	27.6	10.3	3.0	7.4
Median	-13.2	6.6	5.0	10.5	23.5	6.8	0.1	4.6
75th Percentile	-15.2	5.0	3.6	9.4	19.6	3.9	-2.9	1.5
95th Percentile	-18.9	2.0	-0.3	4.8	11.0	-1.4	-15.1	-7.4
# of Portfolios	920	861	743	480	880	842	692	609
● Artisan Partners	-15.2 (76)	8.9 (16)	8.0 (11)	--	32.9 (11)	5.6 (61)	9.2 (4)	3.9 (56)
▲ MSCIACWI	-12.8 (45)	6.6 (51)	4.3 (66)	9.5 (75)	24.0 (47)	7.9 (42)	-2.4 (73)	4.2 (54)

3.5

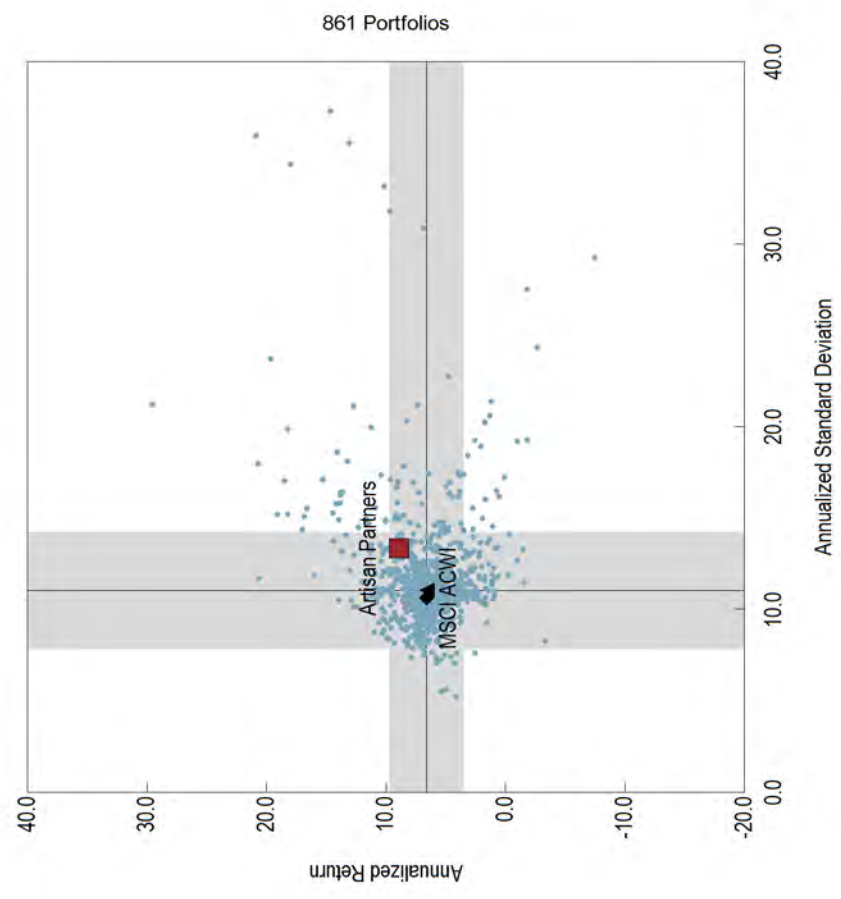
Artisan Partners  
 Manager Performance - Rolling 3 Year (Gross of Fees) Period Ending: December 31, 2018



3.5

Artisan Partners  
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018

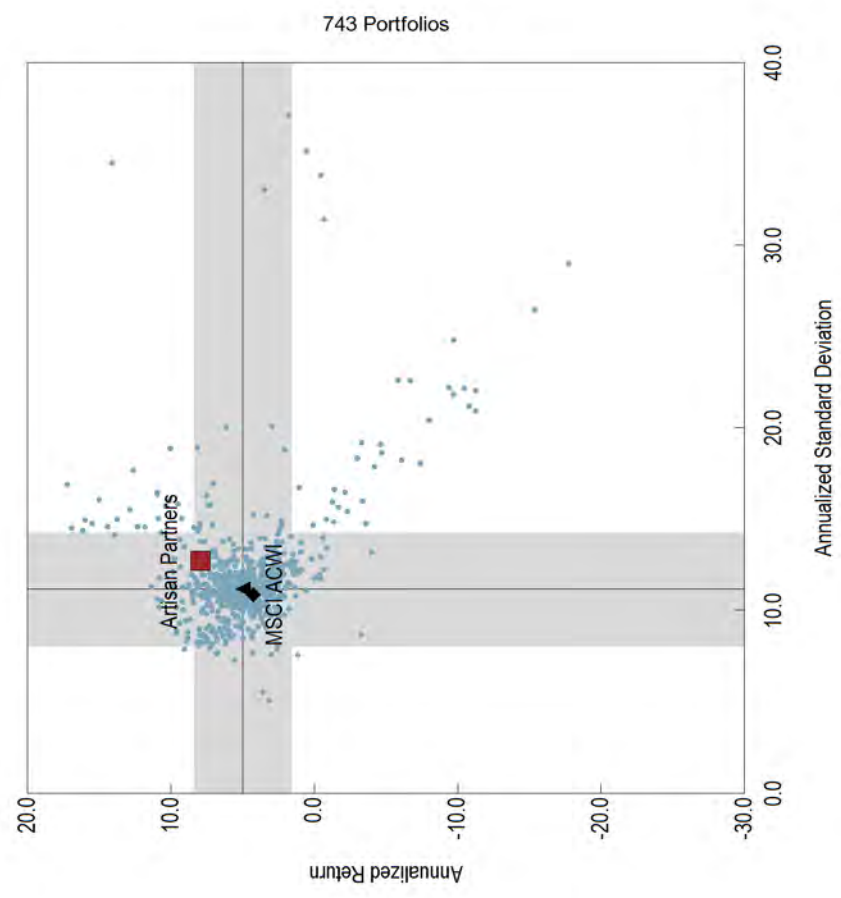
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	8.9%	13.3%	0.6
MSCI ACWI	6.6%	10.6%	0.5
eV All Global Equity Gross Median	6.6%	11.0%	0.5

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Artisan Partners	8.0%	12.7%	0.6
MSCI ACWI	4.3%	10.9%	0.3
eV All Global Equity Gross Median	5.0%	11.2%	0.4

3.5

# First Eagle Manager Portfolio Overview

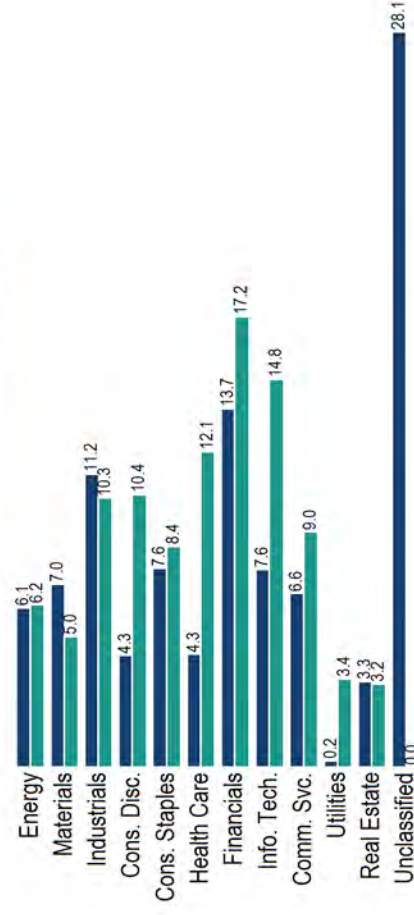
Period Ending: December 31, 2018

Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	167	2,758
Weighted Avg. Market Cap. (\$B)	65.89	120.64
Median Market Cap. (\$B)	16.49	8.52
Price To Earnings	16.39	18.55
Price To Book	2.73	3.40
Price To Sales	3.29	3.22
Return on Equity (%)	16.39	18.75
Yield (%)	2.87	2.76
Beta	0.64	1.00

## Sector Allocation (%) vs MSCI ACWI



## Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
<b>Totals</b>		
Developed	80.7%	88.1%
Emerging*	4.1%	11.9%
Cash	15.2%	
<b>Top 10 Largest Countries</b>		
United States	47.7%	54.3%
Cash	15.2%	0.0%
Japan	11.0%	7.6%
France	5.2%	3.4%
United Kingdom	4.9%	5.2%
Canada	3.4%	3.0%
Switzerland	2.0%	2.7%
Korea*	1.9%	1.6%
Singapore	1.4%	0.4%
Hong Kong	1.3%	1.2%
<b>Total-Top 10 Largest Countries</b>	<b>94.0%</b>	<b>79.4%</b>

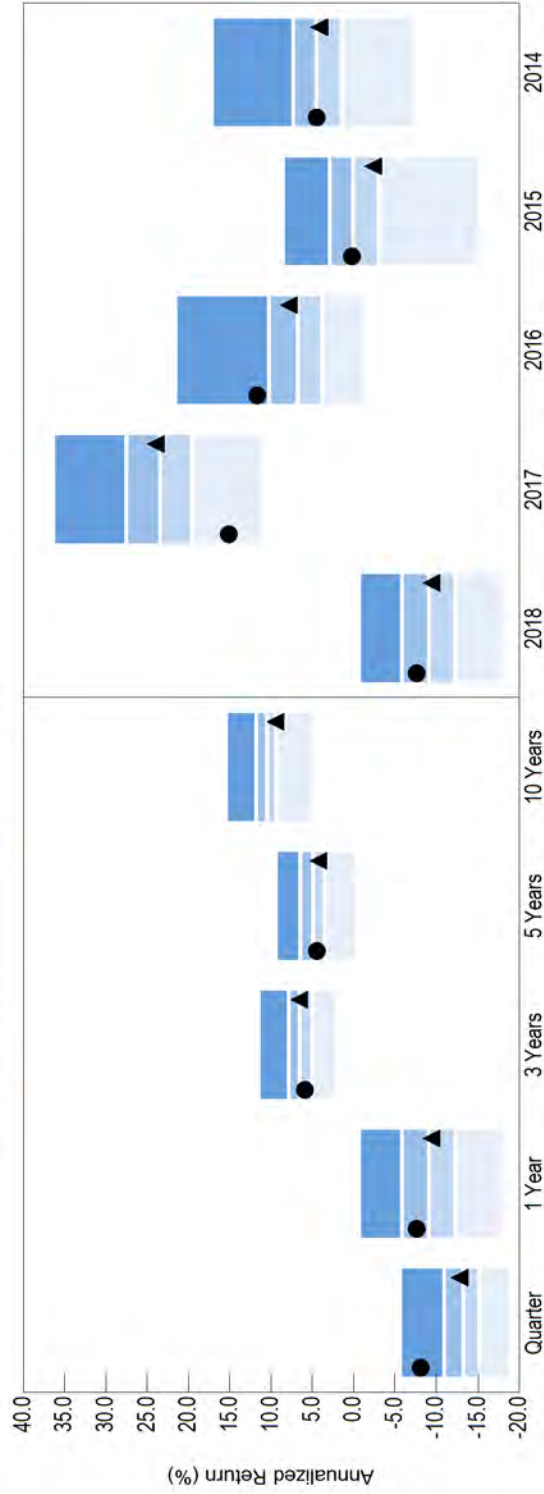
Top Contributors				Bottom Contributors			
	Avg Wgt	Return	Contribution		Avg Wgt	Return	Contribution
BARRICK GOLD (NYS)	0.46	23.11	0.11	SCHLUMBERGER	1.41	-40.10	-0.56
OMNICOM GROUP	1.19	8.57	0.10	NATIONAL OILWELL VARCO	1.20	-40.24	-0.48
JARDINE MATHESON HDG.	0.83	10.88	0.09	WEYERHAEUSER	1.31	-31.40	-0.41
AGNICO EAGLE MINES	0.37	18.56	0.07	EXXON MOBIL	1.66	-18.98	-0.31
WHEATON PRMTL. (NYS)	0.43	12.24	0.05	BRITISH AMERICAN	1.01	-29.55	-0.30
NEWCREST MINING	0.55	9.28	0.05	TOBACCO			
NEWMONT MINING	0.34	15.23	0.05	FANUC	1.48	-19.43	-0.29
WILLIS TOWERS WATSON	0.56	8.18	0.05	ORACLE	2.23	-12.08	-0.27
FRANCO-NEVADA	0.28	12.51	0.03	TECHNIPFMC	0.72	-37.01	-0.27
XILINX	0.49	6.68	0.03	SOMPO HOLDINGS	1.27	-20.16	-0.26
				FLOWSERVE	0.72	-30.48	-0.22

Unclassified sector allocation includes cash allocations and Gold allocations (9.1% as of 12/31/2018).



First Eagle  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

First Eagle vs. eV All Global Equity Gross Universe



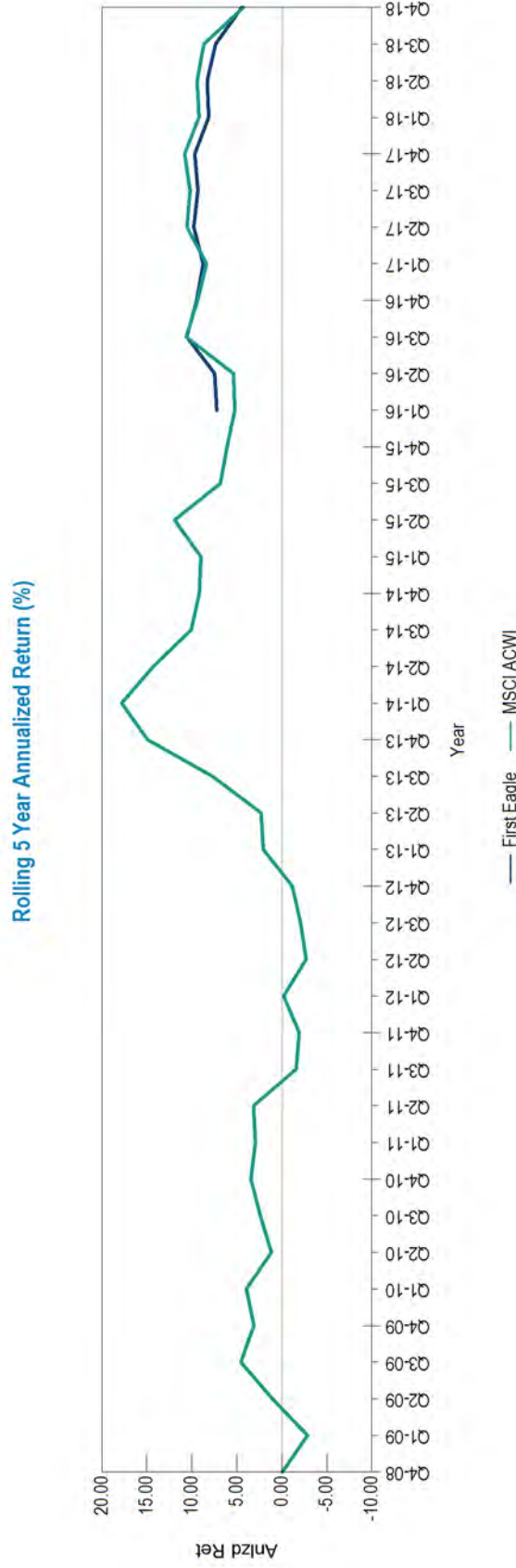
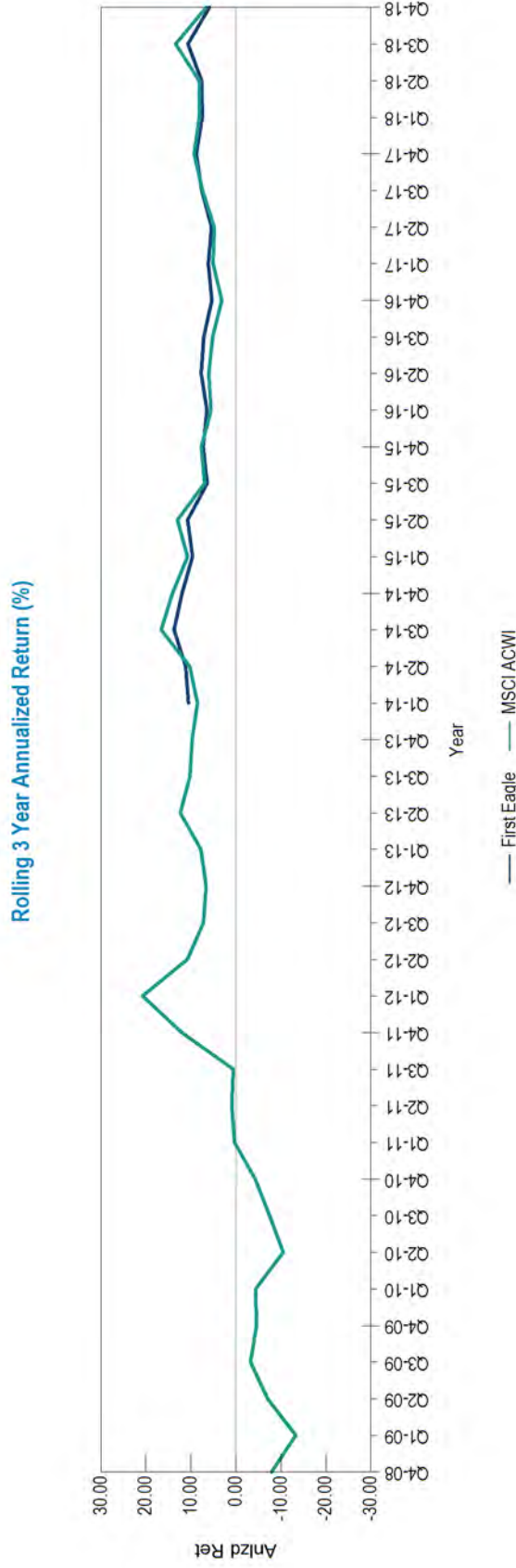
Return (Rank)

	Quarter	1 Year	3 Years	5 Years	10 Years	2014	2015	2016	2017	2018
5th Percentile	-5.7	-0.7	11.5	9.4	15.4	36.3	8.5	21.5	36.3	-0.7
25th Percentile	-11.0	-5.8	7.9	6.5	11.8	27.6	3.0	10.3	27.6	-5.8
Median	-13.2	-9.1	6.6	5.0	10.5	23.5	0.1	6.8	23.5	-9.1
75th Percentile	-15.2	-12.2	5.0	3.6	9.4	19.6	-2.9	3.9	19.6	-12.2
95th Percentile	-18.9	-18.1	2.0	-0.3	4.8	11.0	-15.1	-1.4	11.0	-18.1
# of Portfolios	920	920	861	743	480	880	692	842	880	920
● First Eagle	-8.1 (13)	-7.6 (38)	5.9 (63)	4.4 (62)	-- (-)	15.1 (89)	0.2 (49)	11.7 (19)	15.1 (89)	-7.6 (38)
▲ MSCIACWI	-12.8 (45)	-9.4 (53)	6.6 (51)	4.3 (66)	9.5 (75)	24.0 (47)	-2.4 (73)	7.9 (42)	24.0 (47)	-9.4 (53)

3.5



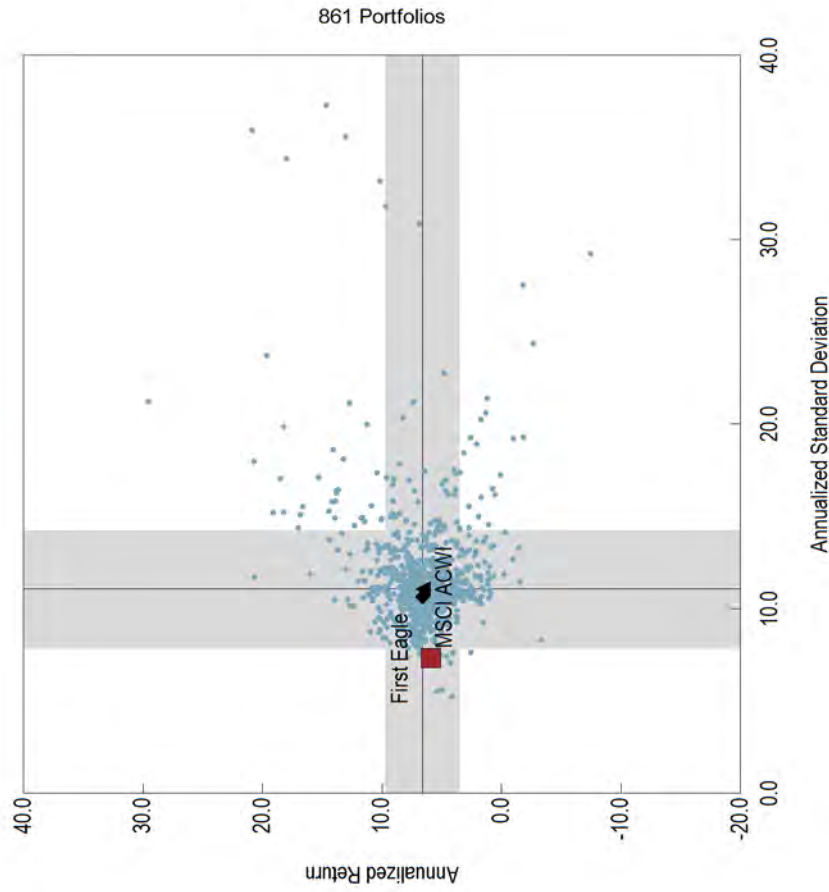
First Eagle  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018



3.5

First Eagle  
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018

3 Years



3 Years

First Eagle  
 MSCI ACWI  
 eV All Global Equity Gross Median

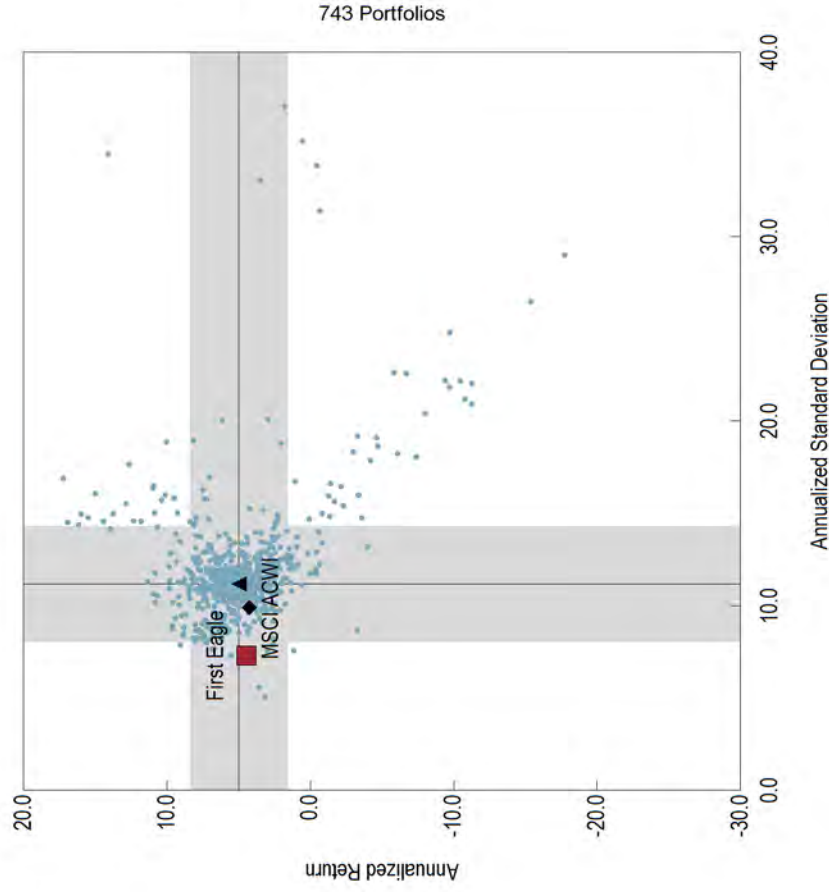
5.9%  
 6.6%  
 6.6%

7.3%  
 10.6%  
 11.0%

0.7  
 0.5  
 0.5

Sharpe Ratio

5 Years



5 Years

4.4%  
 4.3%  
 5.0%

7.7%  
 10.9%  
 11.2%

0.5  
 0.3  
 0.4

Sharpe Ratio

## High Yield Managers

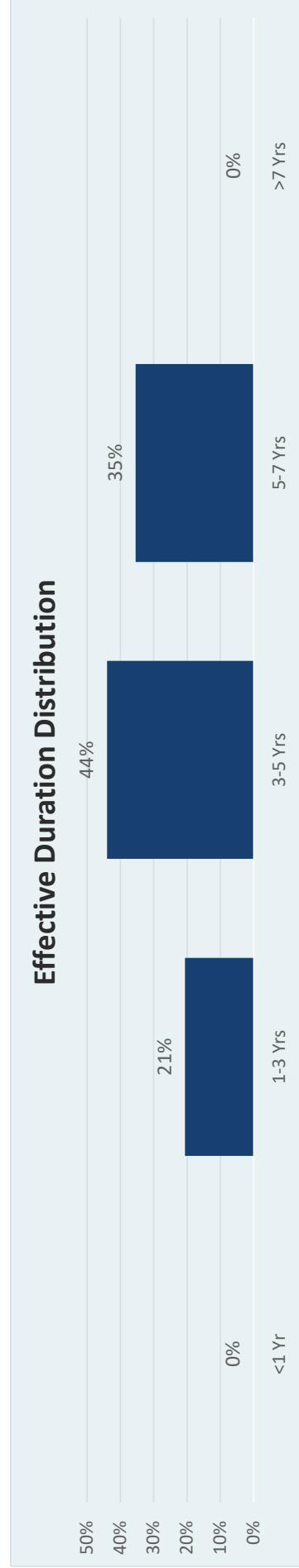
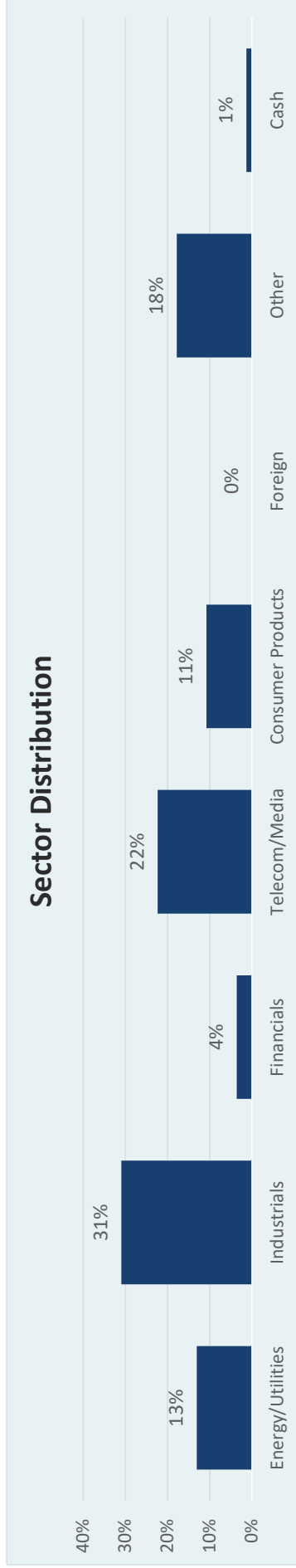
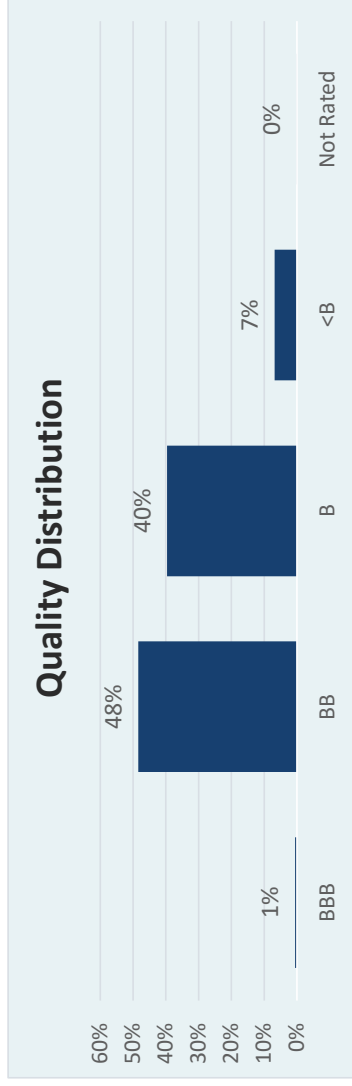
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# Allianz Global Investors Manager Portfolio Overview

Period Ending: December 31, 2018

Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Allianz	ICE BofAML HY Master II
Effective Duration	4.40	4.20
Yield to Maturity	7.60	8.00
Average Quality	B1	B1
Average Coupon	6.4%	6.4%

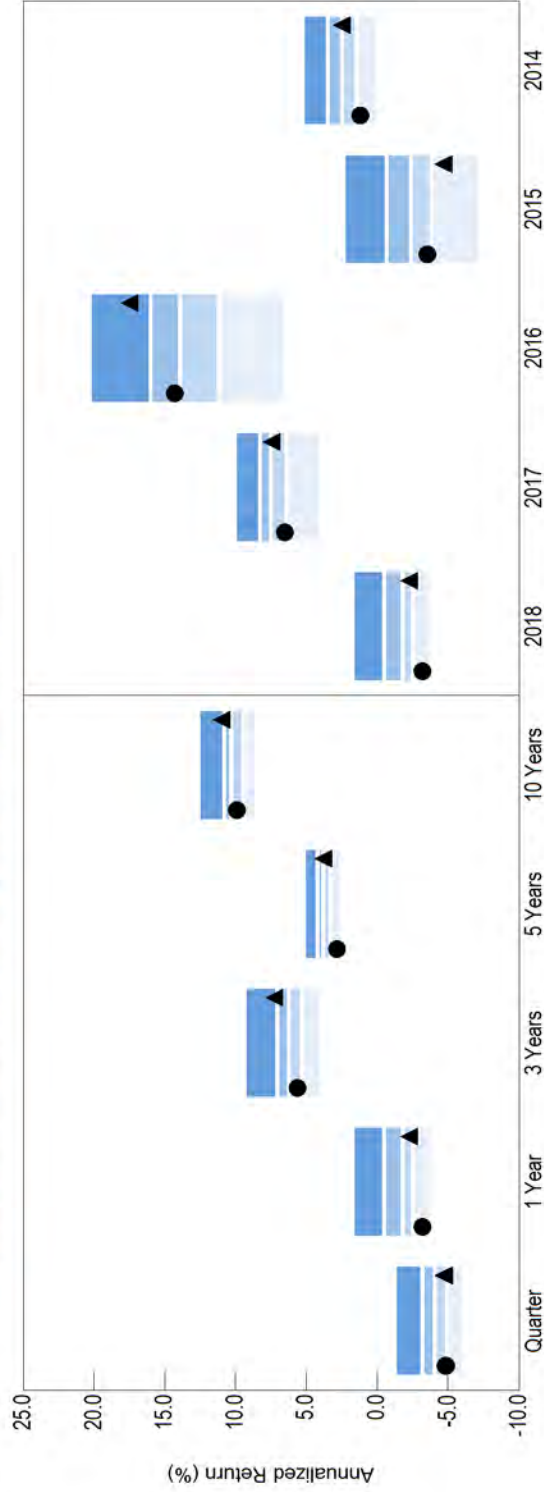


Quality distribution excludes cash.



Allianz Global Investors  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

Allianz Global Investors vs. eV US High Yield Fixed Inc Gross Universe

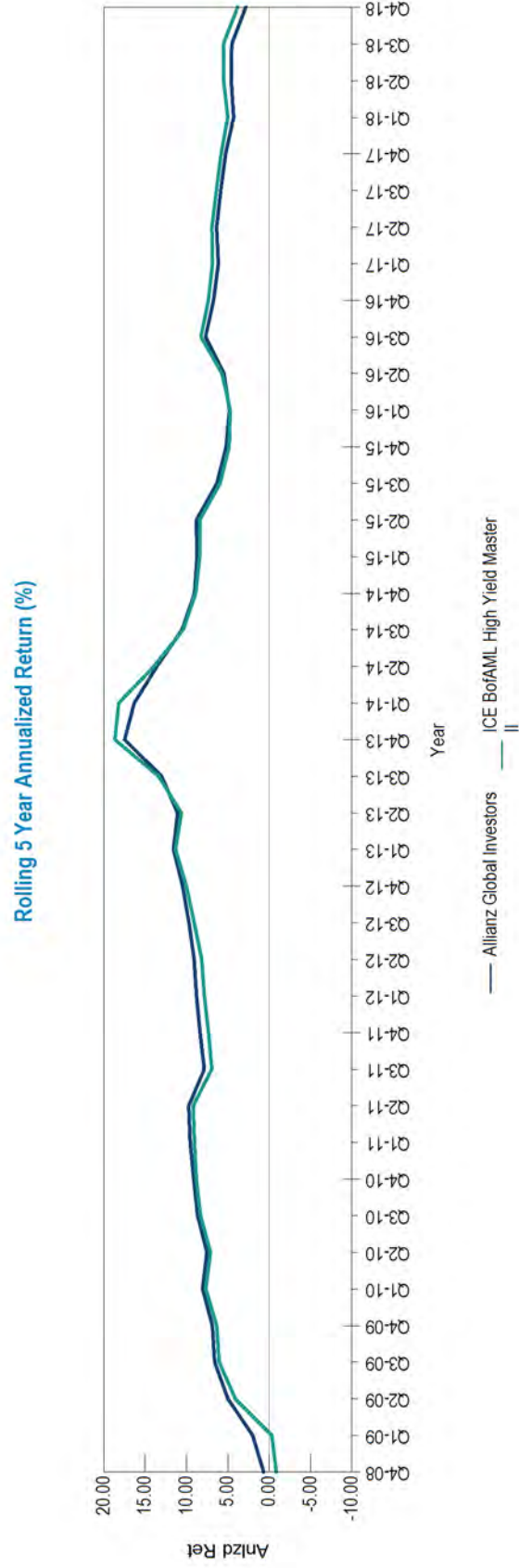
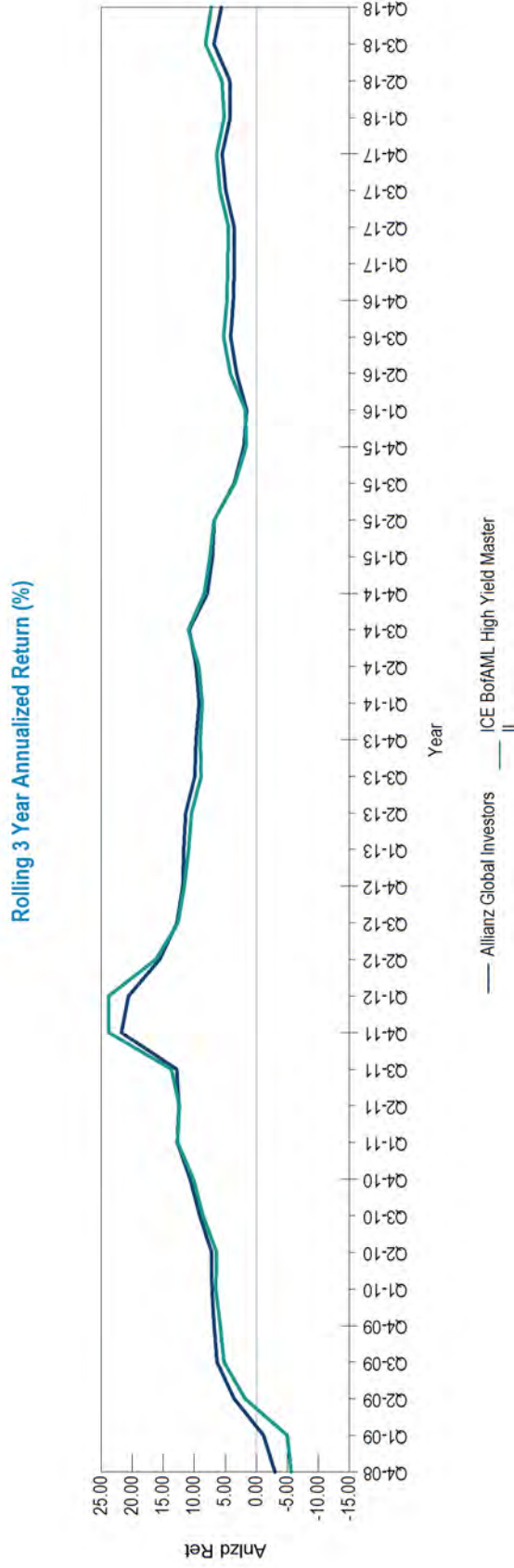


Return (Rank)

5th Percentile	-1.3	9.3	5.2	12.6	10.0	20.3	2.3	5.2
25th Percentile	-3.2	7.1	4.3	10.9	8.3	16.0	-0.7	3.5
Median	-4.0	6.3	3.8	10.3	7.5	14.0	-2.4	2.5
75th Percentile	-4.9	5.4	3.3	9.5	6.5	11.3	-3.8	1.5
95th Percentile	-6.0	4.0	2.5	8.5	4.0	6.6	-7.2	0.0
# of Portfolios	210	197	179	126	198	183	155	141
● Allianz Global Investors	-4.8 (73)	5.6 (71)	2.8 (87)	9.9 (64)	6.5 (74)	14.3 (47)	-3.5 (68)	1.2 (83)
▲ ICE BofAML High Yield Master II	-4.7 (68)	7.3 (23)	3.8 (49)	11.0 (21)	7.5 (53)	17.5 (14)	-4.6 (83)	2.5 (50)

3.5

Allianz Global Investors  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018

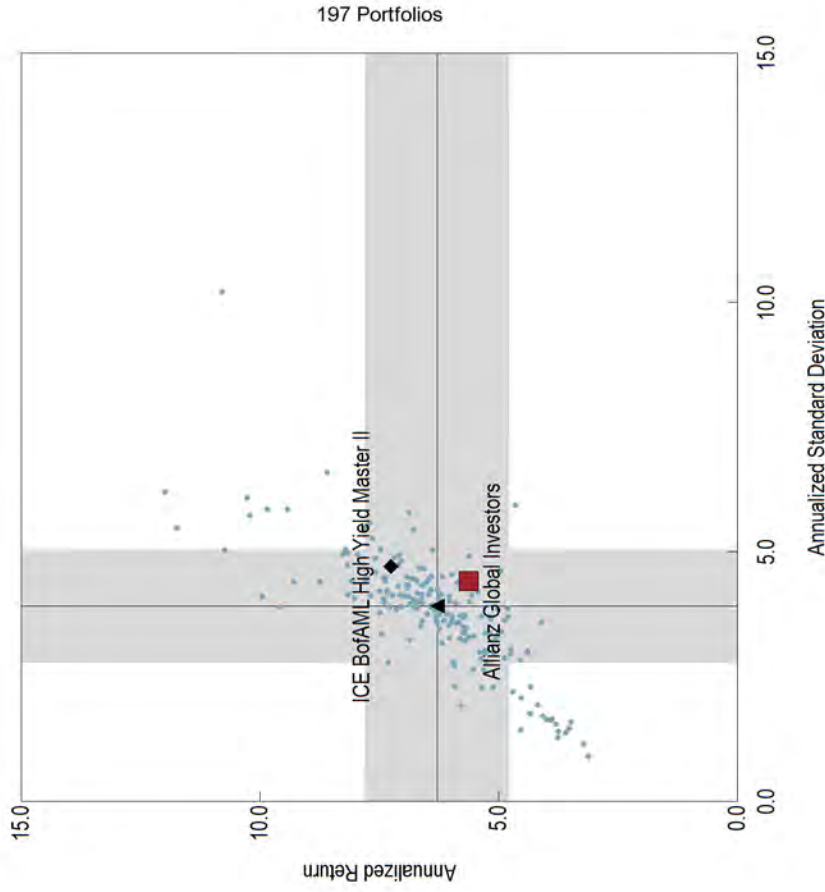


3.5

Allianz Global Investors  
 Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2018

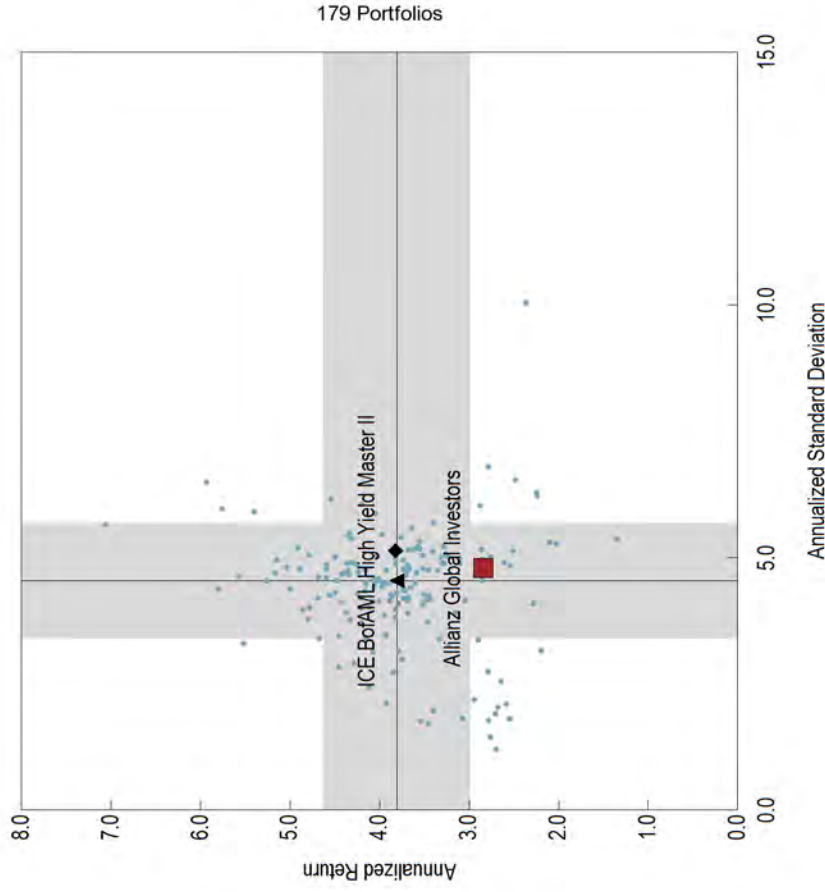
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	5.6%	4.4%	1.0
ICE BofAML High Yield Master II	7.3%	4.7%	1.3
eV US High Yield Fixed Inc Gross Median	6.3%	3.9%	1.4

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	2.8%	4.8%	0.5
ICE BofAML High Yield Master II	3.8%	5.1%	0.6
eV US High Yield Fixed Inc Gross Median	3.8%	4.5%	0.7



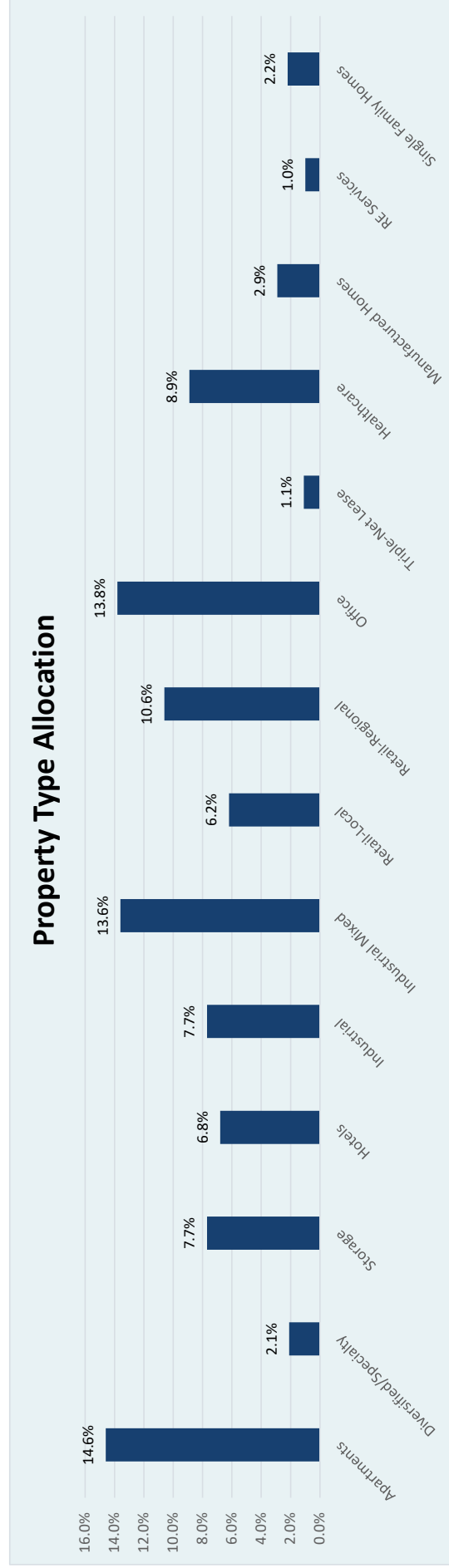
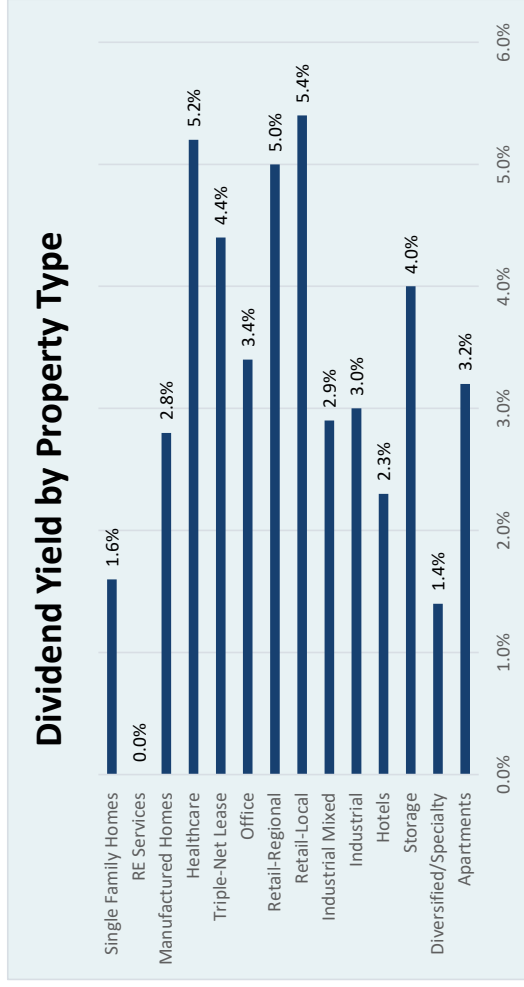
## **Real Estate Managers**

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Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

**Top Five Holdings**

Company	Property Type	Allocation
Simon Property Group	Retail-Regional	9.1%
Pologis Inc.	Industrial	6.4%
Equity Residential	Apartments	5.7%
Equinix Inc	Industrial Mixed	5.4%
Ventas, inc	Healthcare	4.9%



0.8% is allocated to Cash and Cash Equivalents

## **Diversifying Fixed Income Managers**

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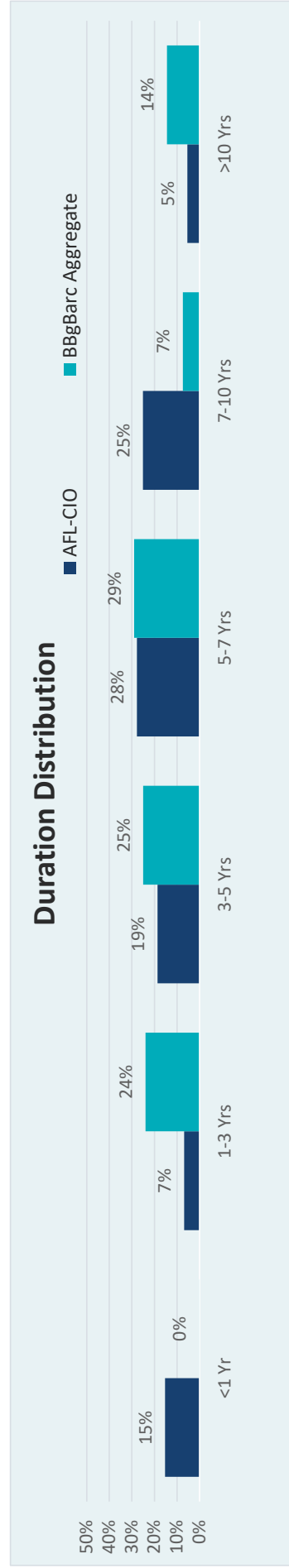
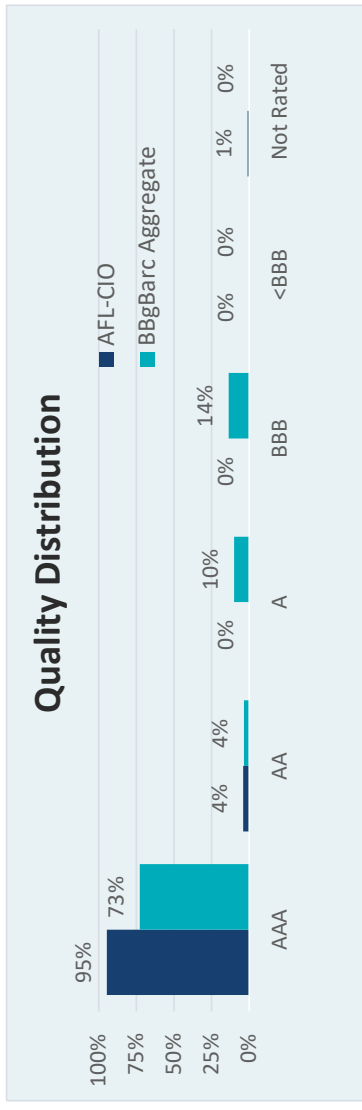
# AFL-CIO

## Manager Portfolio Overview

Period Ending: December 31, 2018

Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	BBgBarc Aggregate
Effective Duration	5.57	5.93
Yield to Maturity	3.42	3.19
Average Quality	AAA	AA
Average Coupon	3.4%	3.2%

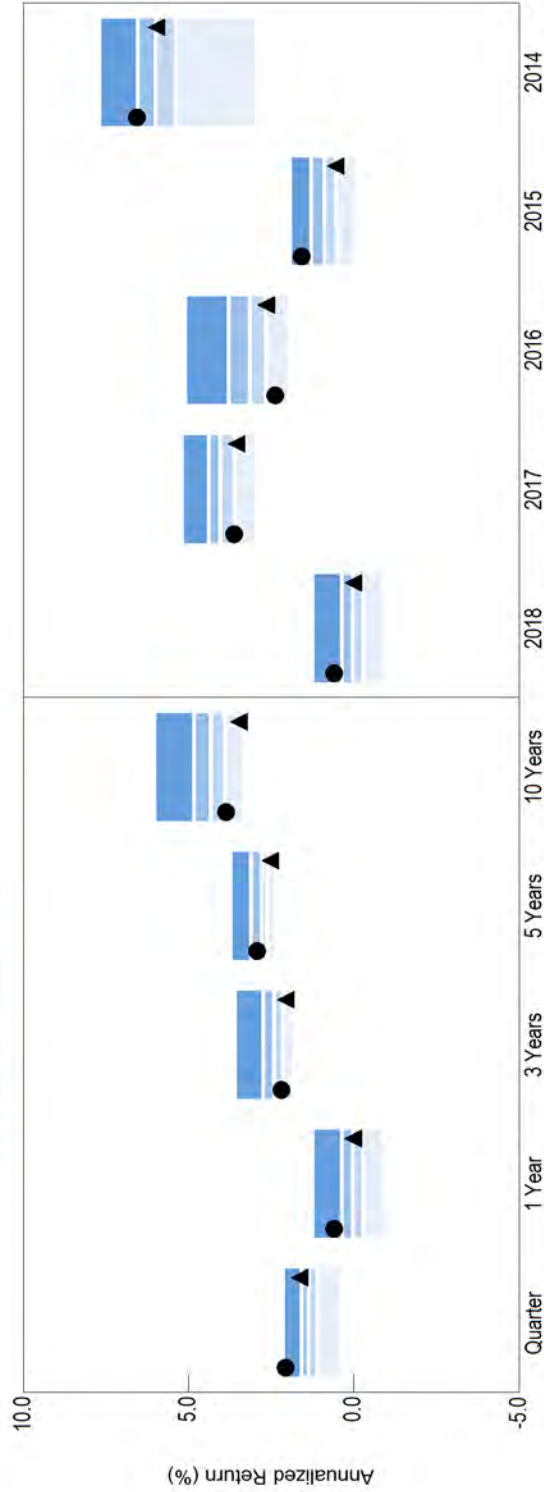


Duration and Quality distributions exclude cash.



AFL-CIO  
 Manager Performance Comparisons (Gross of Fees) Period Ending: December 31, 2018

AFL-CIO vs. eV US Core Fixed Inc Gross Universe

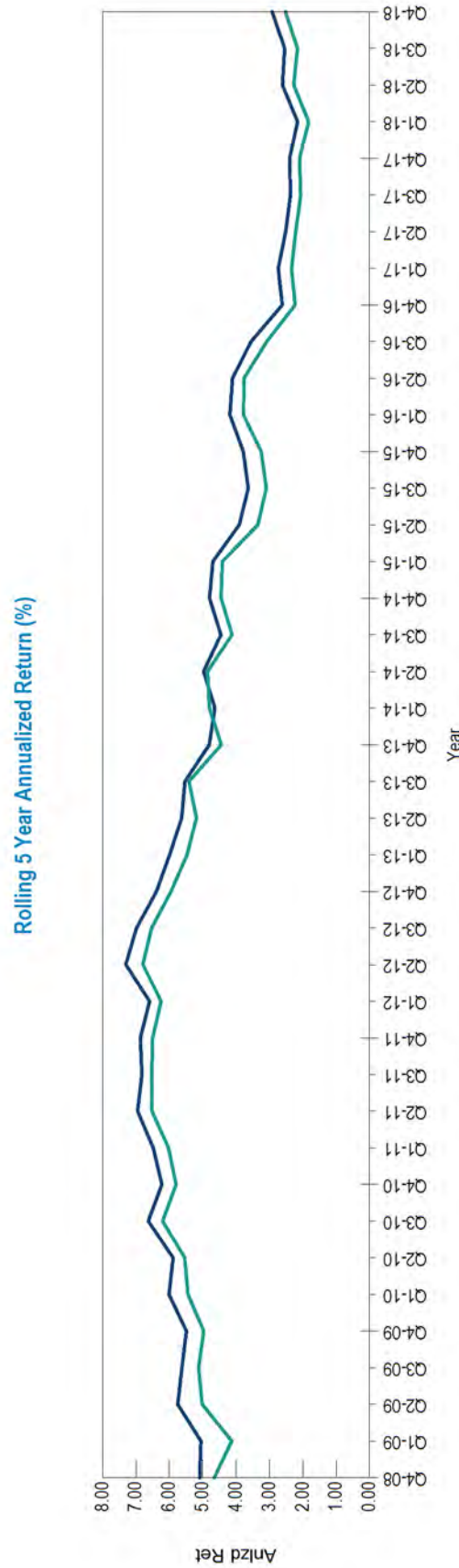
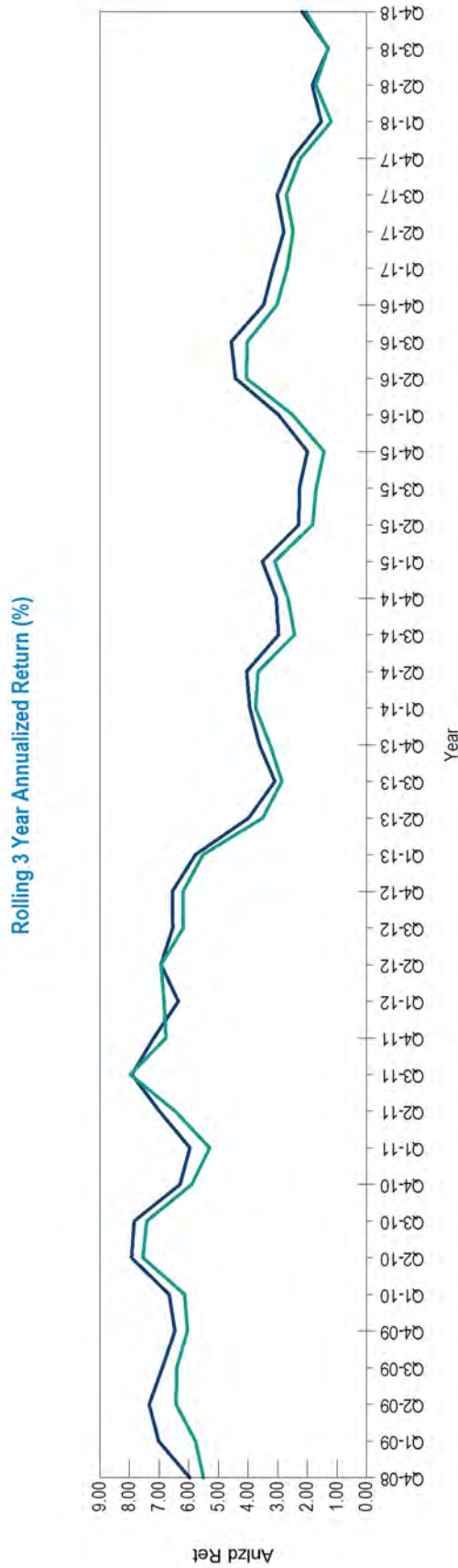


Return (Rank)

5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios	Quarter	1 Year	3 Years	5 Years	10 Years	2014	2015	2016	2017	2018
2.1	1.6	1.4	1.1	0.4	240		1.2	3.6	3.7	6.0	1.2	5.2	5.1	4.4	1.2
							0.4	2.8	3.1	4.8	0.4	4.4	3.8	4.0	0.4
							0.0	2.4	2.8	4.3	0.0	4.0	3.2	3.6	0.0
							-0.3	2.1	2.6	3.9	-0.3	2.9	2.7	2.9	-0.3
							-0.9	1.8	2.4	3.3	-0.9	2.9	2.0	2.9	-0.9
							240	237	232	210	240	233	223	233	240
							0.6 (16)	2.2 (70)	2.9 (39)	3.9 (79)	0.6 (16)	3.6 (76)	2.4 (87)	3.6 (76)	0.6 (16)
							1.6 (19)	2.1 (84)	2.5 (84)	3.5 (93)	0.0 (54)	3.5 (79)	2.6 (77)	3.5 (79)	0.0 (54)
												1.9	2.4 (87)	2.6 (77)	
												1.3	0.6 (75)	0.6 (75)	
												0.9	1.6 (15)	0.6 (75)	
												0.5	0.6 (75)	6.0 (52)	
												-0.1	2.9	2.9	
												196	213	213	
													6.6 (25)	6.6 (25)	
													6.0 (52)	6.0 (52)	

● AFL-CIO  
 ▲ BbgBarc US Aggregate TR

AFL-CIO  
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: December 31, 2018



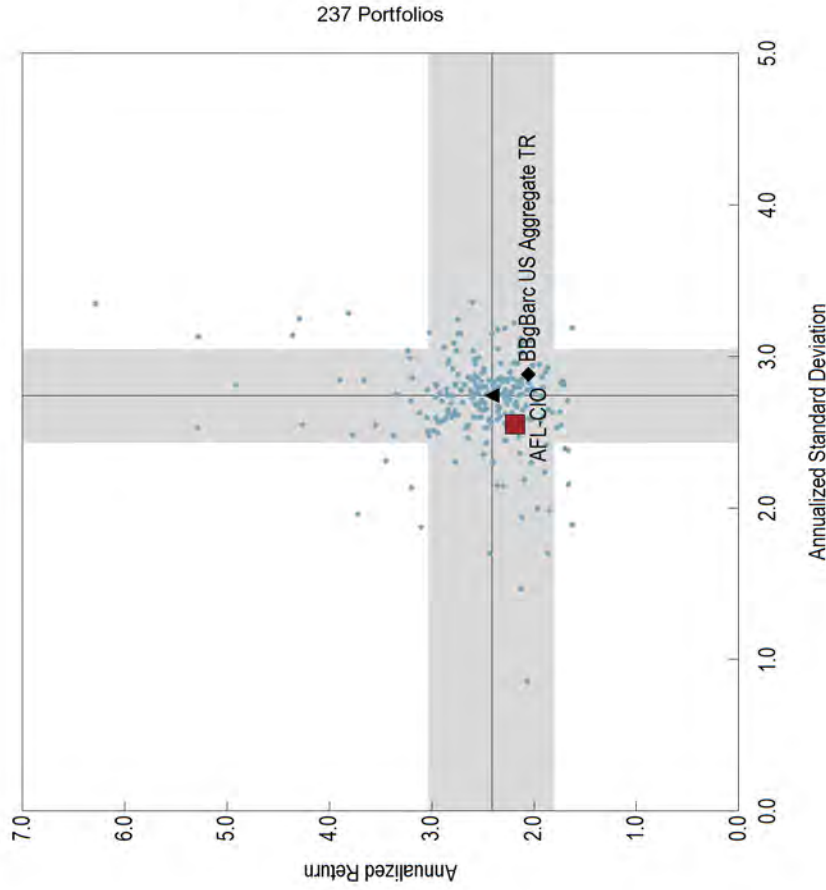
3.5

AFL-CIO

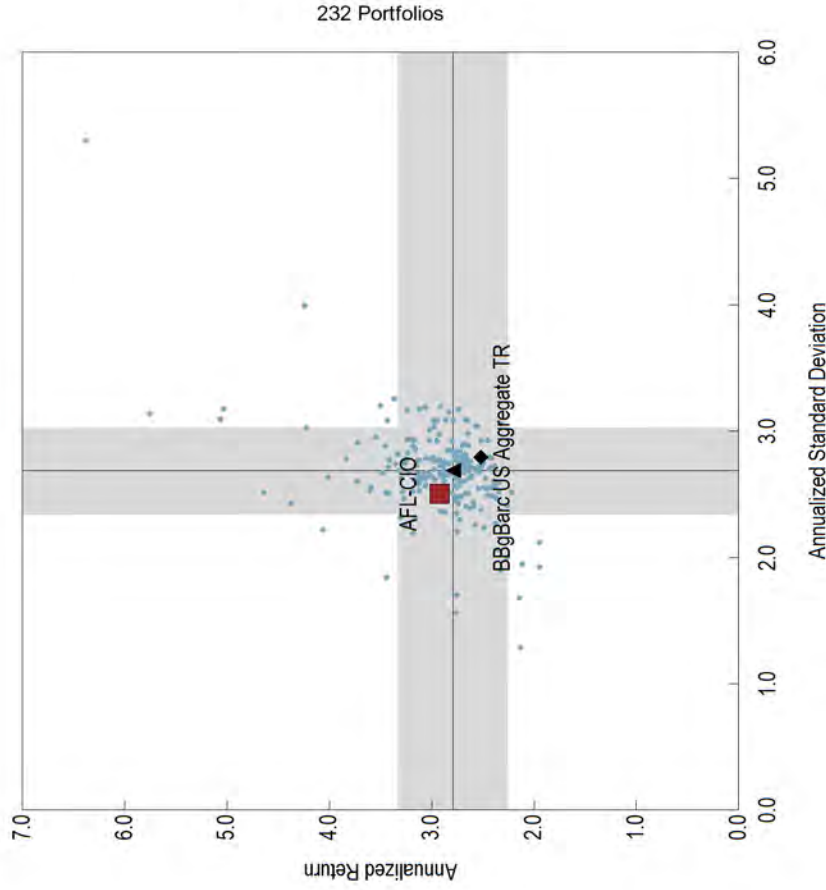
Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: December 31, 2018

3 Years



5 Years



AFL-CIO  
BBgBarc US Aggregate TR  
eV US Core Fixed Inc Gross Median

3 Years

5 Years

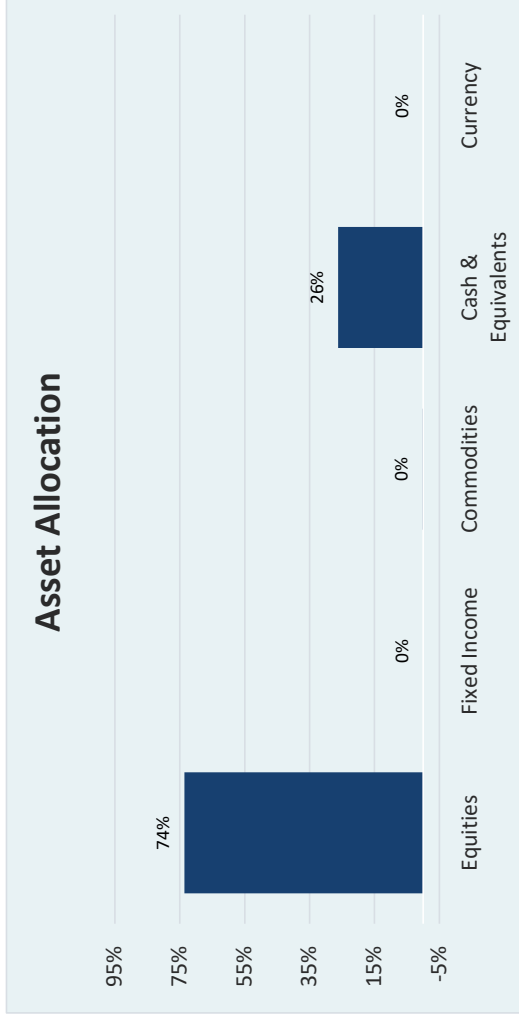


## Wellington Total Return Manager Portfolio Overview

Period Ending: December 31, 2018

Tactical multi-asset class real return strategy with a focus on managing risk of active strategies used to gain exposure to attractive assets of markets.

Wellington Total Return	
Number of Equity Holdings	1099
Number of Commodity Holdings	151
Effective Duration (Years)	3.80
Average Quality	n/a



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## Liquidity Managers

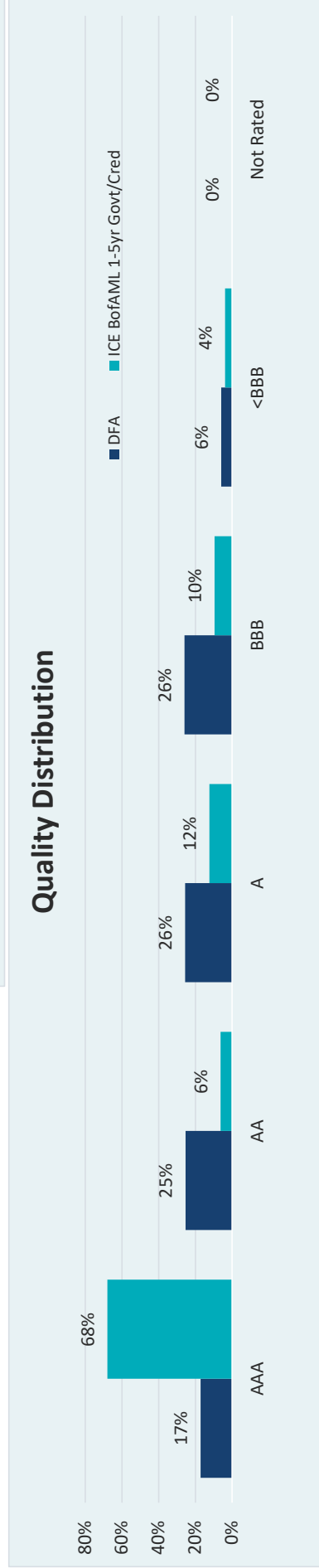
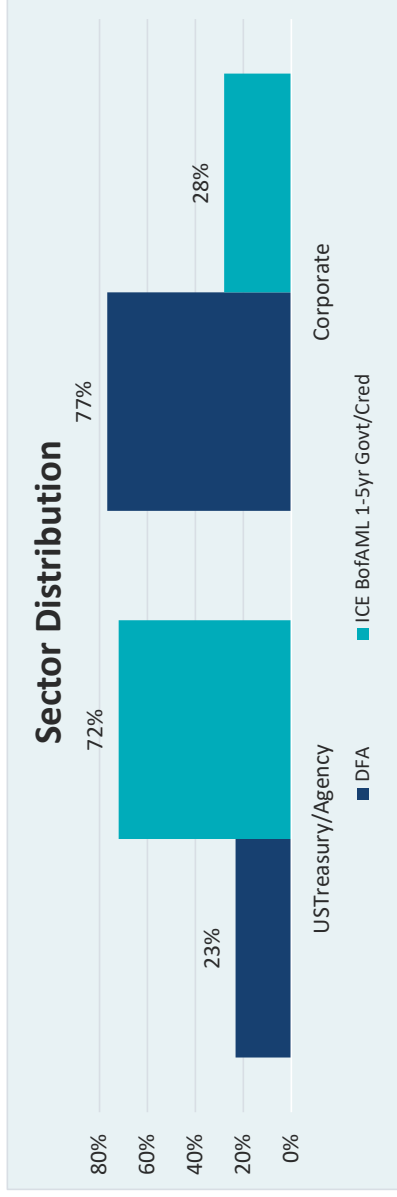
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# DFA Short Credit Manager Portfolio Overview

Period Ending: December 31, 2018

Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

	DFA	ICE BofAML 1-5yr Govt/Cred
Effective Duration	2.51	2.61
Yield to Maturity	3.25	2.87
Average Quality	A+	Aa1
Average Coupon	2.77%	2.63%



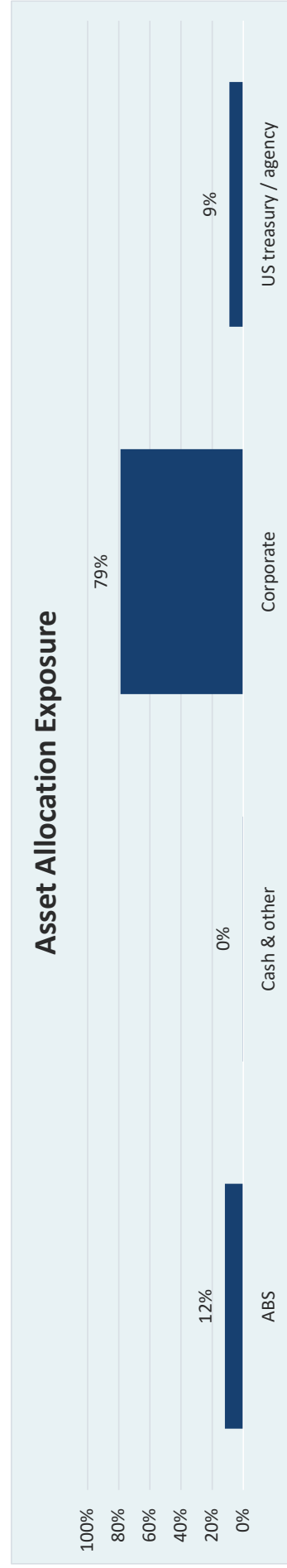
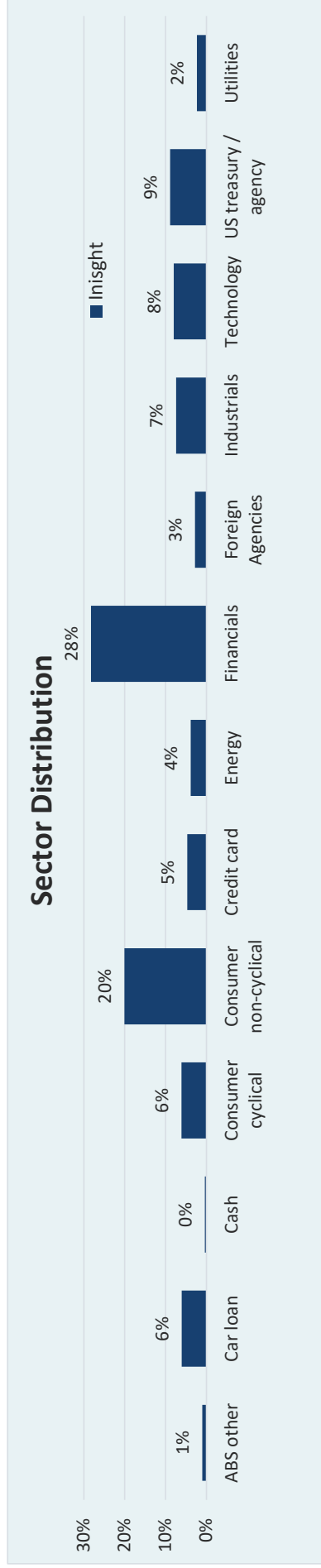
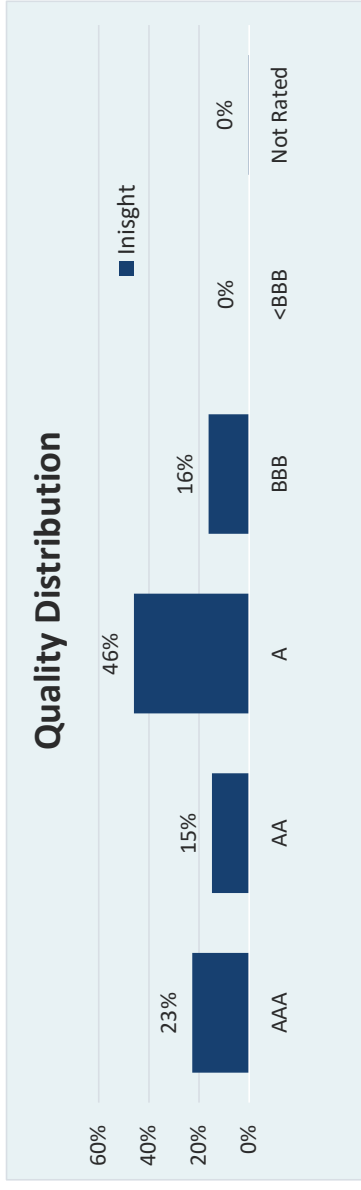
3.5

## Insight Short Duration Manager Portfolio Overview

Period Ending: December 31, 2018

High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

	Insight	BBgBarc 1-3yr Govt
Effective Duration	1.54	1.91
Yield to Maturity	3.18	2.53
Average Quality	A+	AAA
Average Coupon	2.5%	2.1%



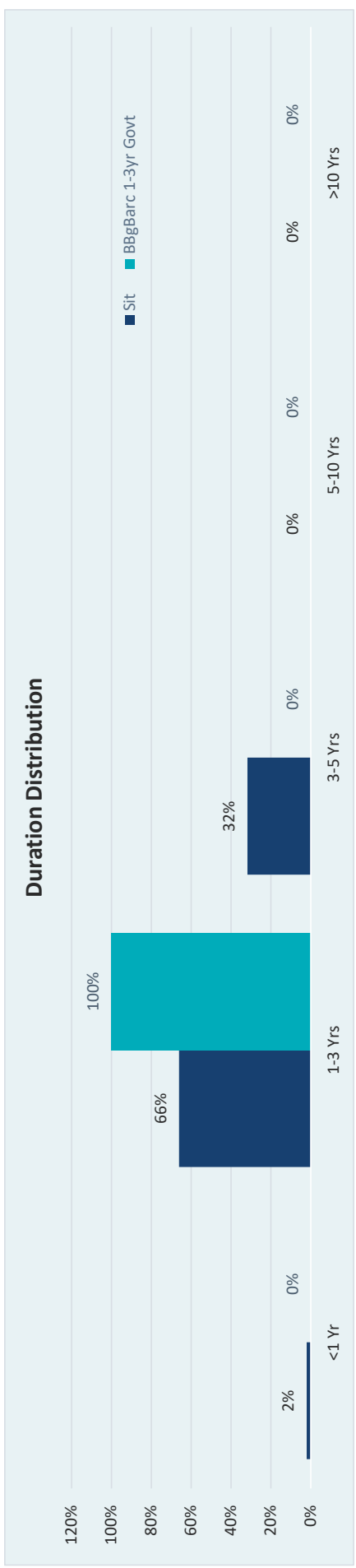
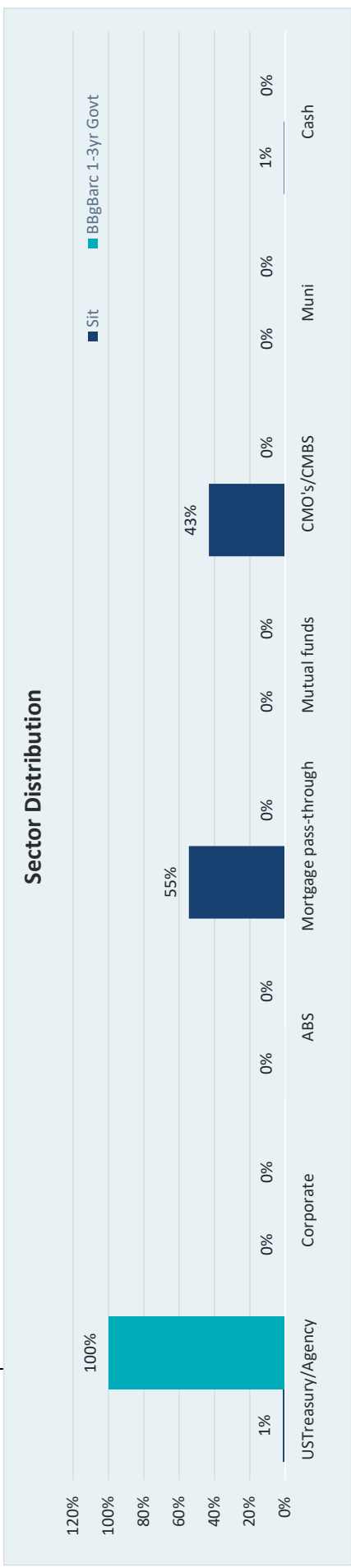
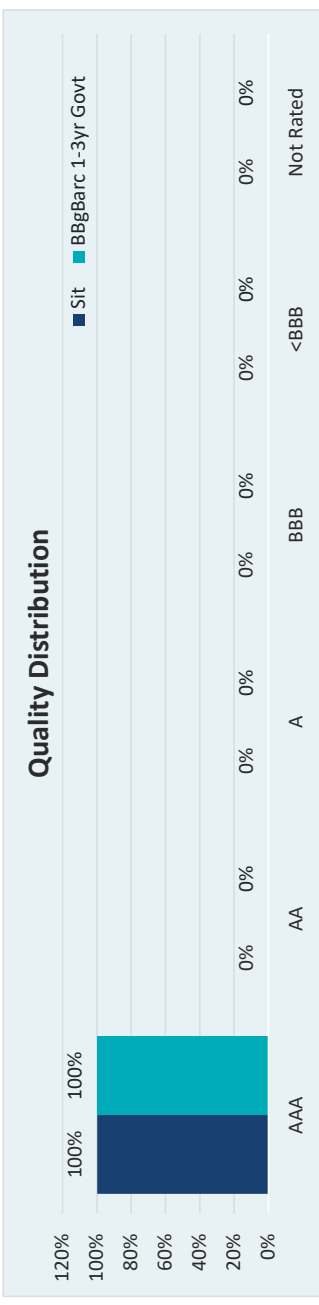
3.5

# Sit Short Duration Manager Portfolio Overview

Period Ending: December 31, 2018

Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

	Sit	BBgBarc 1-3yr Govt
<b>Adjusted Duration</b>	2.60	1.9
<b>Yield to Maturity</b>	3.10	2.5
<b>Average Quality</b>	AAA	AAA
<b>Average Coupon</b>	6.5%	2.0%



3.5



**Performance Return Calculations**

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

**Data Source**

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

**Illiquid Alternatives**

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

**Manager Line Up**

Manager	Inception Date	Data Source	Manager	Inception Date	Data Source
BlackRock Russell 1000 Index	4/20/2017	BlackRock	Long Wharf Fund IV	7/3/2013	Long Wharf
Jackson Square Partners	5/1/2005	State Street	Long Wharf Fund V	9/30/2016	Long Wharf
Robeco Boston Partners	6/1/1995	State Street	Invesco Real Estate II	11/26/2007	Invesco
Emerald Advisors	4/7/2003	State Street	Invesco Real Estate III	6/30/2013	Invesco
Ceredex	11/6/2011	State Street	Invesco Real Estate IV	6/30/2014	Invesco
Plyford	4/25/2014	State Street	Oaktree REOF V	12/31/2011	Oaktree
William Blair	10/29/2010	William Blair	Oaktree REOF VI	9/30/2013	Oaktree
Artisan Partners	10/1/2012	SEI Trust	Oaktree REOF VII	4/1/2015	Oaktree
First Eagle	1/18/2011	State Street	Siguler Guff DREOF	1/25/2012	Siguler Guff
PIMCO RAE Emerging Markets	2/28/2017	State Street	Siguler Guff DREOF II	8/31/2013	Siguler Guff
TT Emerging Markets	7/27/2017	TT	Siguler Guff DREOF II Co-Inv	1/27/2016	Siguler Guff
AFL-CIO	6/30/1991	AFL-CIO	Paulson Real Estate Fund II	11/10/2013	State Street
Sit Short Duration	1/2/2016	State Street	Adams Street Partners	3/18/1996	StepStone Group
DFA Short Credit	11/21/2016	State Street	Adams Street Partners II	1/16/2009	StepStone Group
Insight Short Duration	11/18/2016	State Street	Adams Street Partners Venture	4/28/2017	StepStone Group
BlackRock	4/20/2017	BlackRock	Adams Street Partners - BFP	1/18/1996	StepStone Group
Torchlight II	9/30/2006	StepStone Group	Adams Street Partners - Fund 5	9/21/2012	StepStone Group
Torchlight III	12/31/2008	StepStone Group	Bay Area Equity Fund	6/14/2004	StepStone Group
Torchlight IV	7/1/2012	StepStone Group	Bay Area Equity Fund II	12/7/2009	StepStone Group
Torchlight V	7/1/2012	StepStone Group	Carpenter Bancfund	1/31/2008	StepStone Group
Allianz Global Investors	4/25/2000	State Street	EIF US Power Fund I	11/26/2003	StepStone Group
BlackRock Transition	1/1/2016	State Street	EIF US Power Fund II	8/16/2005	StepStone Group
Wellington Real Total Return	2/26/2013	State Street	EIF US Power Fund III	5/30/2007	StepStone Group
Aether Real Assets III	11/27/2013	StepStone Group	EIF US Power Fund IV	11/28/2011	StepStone Group
Commonfund	6/28/2013	StepStone Group	EIF US Power Fund V	11/28/2016	StepStone Group
Adelante	9/30/2001	State Street	Nogales	2/15/2004	StepStone Group
Cash	-	State Street	Paladin III	11/30/2007	StepStone Group
Angelo Gordon Realty Fund VIII	1/23/2012	Angelo Gordon	Ocean Avenue Fund II	6/11/2014	StepStone Group
Angelo Gordon Realty Fund IX	12/8/2014	Angelo Gordon	Ocean Avenue Fund III	4/15/2016	StepStone Group
Angelo Gordon Energy Credit Opp	9/24/2015	StepStone Group	Pathway	1/19/1998	StepStone Group
DLJ RECP III	6/23/2005	DLJ	Pathway 2008	12/26/2008	StepStone Group
DLJ RECP IV	2/11/2008	DLJ	Pathway 6	5/24/2011	StepStone Group



DLJ RECP V	7/1/2014	DLJ	Pathway 7	2/7/2013	StepStone Group
Wastewater Opp. Fund	12/8/2015	StepStone Group	Siguler Guff CCCERA Opps	6/3/2014	StepStone Group
LaSalle Income & Growth VI	7/16/2013	LaSalle	Siguler Guff Secondary Opps	11/30/2016	StepStone Group
LaSalle Income & Growth VII	2/28/2017	LaSalle	Aether Real Assets IV	3/16/2016	StepStone Group
Hearststone II	6/17/1998	Hearststone	StepStone CC Opportunities Fund	2/1/2018	StepStone Group
Parametric Overlay	3/29/2017	State Street	Parametric Defensive Equity	7/23/2018	State Street

**Policy & Custom Index Composition**

Policy Index (7/1/2018 - present)	11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2% CPI + 4%, 10% S&P 500 +4% (Lagged), 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 23% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (10/1/2017 - 6/30/2018)	16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI + 4%, 10.1% S&P 500 +4% (Lagged), 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 25% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate.
Policy Index (1/1/2017 - 9/30/2017)	22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI + 4%, 8.1% S&P 500 +4% (Lagged), 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.6% 91-Day T-Bills.
Policy Index (4/1/2012-12/31/2016)	27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 13.5% Real Estate Benchmark, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2011-3/31/2012)	31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2010-3/31/2011)	35.6% Russell 3000, 10.4% MSCI EAFE (Gross), 5% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (7/1/2009-3/31/2010)	40.6% Russell 3000, 10.4% MSCI EAFE (Gross), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Custom Growth Benchmark (7/1/2018 - present)	16.0% Russell 3000, 27.5% MSCI ACWI ex-US (Gross), 15.9% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.6% NCREIF Property Index, 10.4% NCREIF ODCE Index, 14.5% S&P 500 +4% (Lagged), 5.8% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% BBgBarc Global Bond
Custom Growth Benchmark (9/30/2017-6/30/2018)	23.6% Russell 3000, 27.2% MSCI ACWI ex-US (Gross), 12.5% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.3% NCREIF Property Index, 9.3% NCREIF ODCE Index, 14.6% S&P 500 +4% (Lagged), 2.8% ICE BofAML High Yield Master II +2%, 6.2% ICE BofAML High Yield Master II
Custom Growth Benchmark (1/1/2017-9/30/2017)	32.6% Russell 3000, 15.7% MSCI ACWI ex-US (Gross), 15.5% MSCI ACWI (Net), 1.4% Wilshire REIT, 2.4% NCREIF Property Index, 9.6% NCREIF ODCE Index, 1.6% CPI +4%, 11.5% S&P 500 +4% (Lagged), 2.4% ICE BofAML High Yield Master II +2%, 7.3% ICE BofAML High Yield Master II
Custom Growth Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Custom Diversifying Benchmark (7/1/2018 - present)	43.75% BBgBarc US Aggregate, 25% CPI + 4%, 31.25% HFRI EH Equity Market Neutral.
Custom Diversifying Benchmark (10/1/2017 - 6/30/2018)	58.33% BBgBarc US Aggregate, 41.67% CPI + 4%.
Custom Diversifying Benchmark (1/1/2017 - 9/30/2017)	56.1% BBgBarc US Aggregate, 43.9% CPI + 4%.
Custom Diversifying Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Real Estate Benchmark (current)	11% Wilshire REIT, 18% NCREIF Property Index, 71% NCREIF ODCE Index.
Real Estate Benchmark (4/1/2012-11/30/2016)	40% Wilshire REIT, 50% NCREIF Property Index, 10% FTSE/EPRA NAREIT Developed ex-US.

**Other Disclosures**

All data prior to 12/31/2014 was provided by previous consultant. As of 7/1/2018 all Private Equity and Private Credit data is provided by StepStone Group.



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## Glossary

**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

**Benchmark R-squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book-to-Market:** The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price-to-Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

**Sortino Ratio:** Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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## Disclaimer

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# Moraga-Orinda Fire District

**TO:** Board of Directors  
**FROM:** Gloriann Sasser, Administrative Services Director  
**DATE:** March 20, 2019  
**SUBJECT:** Item 3.6 – Authorize Contract with Delta Dental of California for the Period April 1, 2019 through March 31, 2020

## **Background**

The District provides dental insurance to employees and retirees. The District has contracted with Delta Dental of California since 1998. The current contract expires March 31, 2019.

Delta Dental provided renewal information that reflects no rate change as follows:

Total Monthly Cost	Current Rates 2018-2019	New Rates 2019-2020
One party	\$55.96	\$55.96
Two party	\$98.76	\$98.76
Three +	\$150.74	\$150.74

The District pays a fixed amount per employee and retiree for dental insurance. Employer and employee monthly costs are as follows:

	Employer Cost	Employee Cost
One party	\$51.20	\$4.76
Two party	\$90.12	\$8.64
3+	\$136.35	\$14.39

Total annual cost is projected to be \$200,000. Staff recommends the Board authorize a contract with Delta Dental of California.

## **Staff Recommendation**

- 1) Authorize a contract with Delta Dental of California for the period April 1, 2019 through March 31, 2020.



# Moraga-Orinda Fire District

**TO:** Board of Directors

**FROM:** David Winnacker, Fire Chief

**DATE:** March 20, 2019

**SUBJECT:** Item 3.7 – Declare Temporary Station 43 Surplus and Authorize Staff to Dispose of the Mobile Trailer

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## **BACKGROUND**

In 2016 the District purchased a mobile trailer to serve as temporary Station 43 while the permanent Station 43 was constructed. The mobile trailer is located in the St. Stephens Episcopal Church parking lot and the District pays rent of \$2,000 per month to St. Stephens Episcopal Church. Once the new fire station is complete, personnel will move out of the temporary fire station and into the permanent fire station. The District will then no longer have a need for the mobile trailer.

The trailer is a 1999 model that is capable of housing a maximum of three firefighters and is at the end of its public safety service life. Further, following the displacement from the current location, the District does not have a suitable location to store the trailer for any length of time.

District Policy requires Board approval for the disposal of capital assets. The following capital asset has been determined to be surplus:

- Temporary Station 43 mobile trailer

## **RECOMMENDATION**

Declare the temporary Station 43 mobile trailer surplus and authorize staff to dispose of the mobile trailer.



# Moraga-Orinda Fire District

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**TO:** Board of Directors  
**FROM:** Dave Winnacker, Fire Chief  
**DATE:** March 20, 2019  
**SUBJECT:** Item 4.1 – General Fund Expenditure Increase Budget Adjustment for Board of Directors Meetings and Travel in the amount of \$2,500

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## **BACKGROUND**

The FY2019 Budget includes expenditure appropriations for Board of Directors meetings and travel expenses in the amount of \$375. To date, \$507 has been spent.

The Board President would like to attend the Fire District's Association of California annual conference. The Board President is requesting that the District pay the annual conference registration fee of \$395 for any directors who would like to attend. Attending directors would be responsible for other costs.

The Board President has requested approval of a General Fund Expenditure Increase Budget Adjustment in the amount of \$2,500 for Board of Directors meetings and travel expenses.

Per Resolution No. 18-07 Moraga-Orinda Fire District Board of Directors Expenditure and Expense Reimbursement Policy (Attachment A), attending educational seminars designed to improve officials' skills and information levels generally constitute authorized expenses.

## **RECOMMENDATION**

- 1) Discuss; 2) Deliberate; 3) Authorize General Fund Expenditure Budget Adjustment Increase in the amount of \$2,500.

## **ATTACHMENTS**

Attachment A - Resolution No. 18-07 Moraga-Orinda Fire District Board of Directors Expenditure and Expense Reimbursement Policy

**RESOLUTION NO. 18-07**

**MORAGA-ORINDA FIRE DISTRICT  
BOARD OF DIRECTORS EXPENDITURE AND EXPENSE  
REIMBURSEMENT POLICY**

**WHEREAS**, the Moraga-Orinda Fire District (District) takes its stewardship over the use of its limited public resources seriously;

**WHEREAS**, public resources should only be used when there is a substantial benefit to the District that serves a public purpose;

**WHEREAS**, such benefits include the opportunity to discuss the community's concerns with local, state, and federal officials; participating in regional, state and national organizations whose activities affect the District; attending educational seminars designed to improve officials' skill and information levels; and, promoting public service and morale by recognizing service to the District;

**WHEREAS**, District business is occasionally conducted over meals to facilitate a more extensive, focused and uninterrupted communication about the District's policy concerns, and all meal expenditures must comply with the limits and reporting requirements of local, state and federal law;

**WHEREAS**, this policy provides guidance to members of the District Board of Directors on the use and expenditure of District resources, as well as the standards against which those expenditures will be measured;

**WHEREAS**, this policy supplements the definition of actual and necessary expenses for purposes of state laws relating to permissible uses of public resources;

**WHEREAS**, this policy also supplements the definition of necessary and reasonable expenses for purposes of federal and state income tax laws;

**WHEREAS**, AB 1234, adopted in 2005 and codified as Government Code sections 53232, *et. seq.*, requires that all local agencies, including special districts, adopt an expense reimbursement policy;

**WHEREAS**, this policy satisfies the requirements of Government Code sections 53232, *et. seq.*, and supersedes District Administrative Policy A 2.03.02 with respect to the District's Board of Directors; and

**BE IT FURTHER RESOLVED** that the policy concerning the Moraga-Orinda Fire District Board of Directors Expenditures and Expense Reimbursement is hereby adopted to read as follows:

**Moraga-Orinda Fire District Board of Directors  
Expenditure and Expense Reimbursement Policy**

**I. AUTHORIZED EXPENSES**

District funds, equipment, supplies (including letterhead), titles, and staff time must only be used for authorized District business.

Travel, meals, lodging and other expenses incurred in connection with the following types of activities generally constitute authorized expenses, as long as the other requirements of this policy are met:

- a. Communicating with representatives of regional, state and national government on District adopted policy positions;
- b. Attending conferences, educational seminars, or meetings designed to improve officials' skill and information levels, provided that a brief report of such meetings shall be made by the Board member(s) at a subsequent Board meeting;
- c. Participating in regional, state and national organizations whose activities or meetings affect the District's interest, provided that a brief report of such meetings shall be made by the Board member(s) at a subsequent Board meeting;
- d. Recognizing service to the District (for example, thanking a longtime employee with a retirement gift or celebration of nominal value and cost);
- e. Attending District-sponsored events;
- f. Meals where the primary purpose of the meal is to conduct District-related business (other than simply meeting constituents) as long as the amount of such meal does not exceed the applicable federal meals and incidental expenses per diem rate by location and meets applicable federal and state standards as to when meal reimbursement may be allowed; and
- g. Authorized expenses specifically defined in Section III of this policy.

Expenditures for all other activities require prior approval by the Board of Directors. The report proposing the expenditure must include an articulated public purpose justifying the expenditure. The resolution authorizing the expenditure shall also state the articulated public purpose.

**II. UNAUTHORIZED EXPENSES**

The District will not reimburse the following expenses:

- a. Alcohol;
- b. Internet service charges or telephone charges not required for District business;
- c. Room service;
- d. Travel insurance;
- e. Damages to official's vehicle;
- f. Excess baggage fees, unless required for District business;



- g. Family expenses, including cost of partner, children, other family members, or pets accompanying Board member on District business;
- h. Entertainment expenses, including theater, movies (either in-room or at the theater), sporting events (including gym, massage and/or golf related expenses), newspapers, magazines, or other entertainment;
- i. Non-mileage personal automobile expenses, including repairs, traffic citations and fines, insurance or gasoline; and
- j. The personal portion of any trip;
- k. Personal losses incurred while on District business.
- l. Political or charitable contributions or events; and
- m. Expenses which are deemed excessive or unreasonable by the Board of Directors.

Any questions regarding the propriety of a particular type of expense should be resolved by the Board of Directors at a duly noticed public meeting before the expense is incurred.

### **III. PARTICULAR TYPES OF AUTHORIZED EXPENSES DEFINED**

To conserve District resources and keep expenses within community standards for public officials, expenditures should adhere to the following guidelines. In the event that expenses are incurred which exceed these guidelines, the cost borne or reimbursed by the District will be limited to the costs that fall within the guidelines.

#### **a. Registration**

Registration fee charged for any authorized convention, conference, seminar or meeting is reimbursable.

#### **b. Transportation**

The most economical mode and class of transportation reasonably consistent with scheduling needs, cargo space requirements, and the most direct and time-efficient route must be used.

Automobile. Mileage is reimbursed at Internal Revenue Service rates presently in effect (see [www.irs.gov](http://www.irs.gov)) at the time of travel. These rates are designed to compensate the driver for gasoline, insurance, maintenance, and other expenses associated with operating the vehicle. This amount does not include bridge and road tolls, which are also reimbursable. The Internal Revenue Service rates will not be paid for rental vehicles; only receipted fuel expenses will be reimbursed. Mileage will be reimbursed to the event or hotel location only. Board members shall maintain a valid California driver's license and auto liability insurance as required by the California Vehicle Code.

Taxis/Ride Shares/Shuttles. Taxis, ride shares, or shuttle fares may be reimbursed, including a 15 percent gratuity per fare, when the cost of such fares is equal or less than the cost of car rentals, gasoline and parking combined, or when such transportation is necessary for time efficiency.

Rental Vehicle. Charges for rental-vehicles may be reimbursed if more than one Board member is attending an out of town conference, and it is determined that sharing a rental vehicle is more economical than other forms of transportation. In making such determination, the cost of the rental vehicle, parking and gasoline will be compared to the combined cost of such other forms of transportation. Government and group rates must be used when available. Rental rates that are equal or less than those published by the California Department of General Services (DGS) Statewide Travel Program, shall be considered the most economical and reasonable for purposes of reimbursement under this policy. If DGS rates are not available, reimbursement for car rental must not exceed 110% of either the state DGS rates or the Federal GSA rates, whichever is greater. Any exceptions to these rates must be approved at a public Board meeting before the expense is incurred.

Airfare. Airfares that are equal or less than those available through the DGS Statewide Travel Program are presumed to be the most economical and reasonable for purposes of reimbursement under this policy. If DGS rates are not available, reimbursement for airfare must not exceed 110% of either the state DGS rates or the Federal the rates published by the U.S. General Services Administration (GSA) rates, whichever is greater. Any exceptions to these rates must be approved at a public Board meeting before the expense is incurred.

**c. Lodging**

Lodging expenses will be reimbursed or paid for in advance when travel on official District business reasonably requires an overnight stay. Government rates must be used when available.

Conferences/Meetings. If such lodging is in connection with a conference, lodging expenses must not exceed the group rates published by the conference or activity sponsor, provided that lodging at the group rate is available to the Board member at the time of bookings. If lodging at the conference group rate is not available, or if travel is not in connection with a conference, rates that are equal to or less than those available through the DGS Statewide Travel Program are presumed to be the most economical and reasonable for purposes of reimbursement under this policy. If DGS rates are not available, reimbursement for lodging must not exceed 120% of the state DGS rates or 100% of the Federal rates published by the GSA, whichever is greater. Any exceptions to these rates must be approved at a public Board meeting before the expense is incurred.

**d. Meals**

The District will reimburse meals for Board members required to travel outside of the District for District business up to the applicable federal meals and incidental expenses per diem rate by location (<https://www.gsa.gov/travel/plan-book/per-diem-rates>). Board members shall attach itemized meal receipts to any Expense Report requesting reimbursement for meal costs. Board members are not required to submit receipts for meals that are included in conference registration fees and provided by the conference.

**e. Airport Parking**

Short-term parking may not be used for travel exceeding 24-hours.

## **V. PROCEDURES**

### **a. Expense Report Content and Submission Deadline**

For reimbursement of authorized expenses: submit a completed and signed Expense Report to the District Secretary/District Clerk within 30 days of incurring the expense. The following receipts documenting the expense must be attached, as applicable:

- i. Original itemized receipts for registration, airfare, ground transportation, lodging and other travel expenses;
- ii. Itemized meal and restaurant receipts, including number of individuals served and food/beverages ordered;
- iii. Computerized maps for mileage reimbursement;
- iv. Receipts for tolls;
- v. Certificates of completion or attendance.

Inability to provide such documentation in a timely fashion may result in the expense being borne by the Board member.

Authorized expenses incurred no more than four months prior to the effective date of this policy that have not yet been reimbursed by the District shall be submitted in accordance with this policy, and either approved or rejected by the Board.

### **b. Cash Advance Policy**

From time to time, it may be necessary for an official to request a cash advance to cover anticipated expenses while traveling or doing business on the District's behalf. Such request for an advance should be submitted to the District Secretary/District Clerk at least ten (10) days prior to the need for the advance with the following information:

- i. The purpose of the expenditure(s);
- ii. The benefits of such expenditure to the residents of District;
- iii. The anticipated amount of the expenditure(s) (for example, hotel rates, meal costs, and transportation expenses); and
- iv. The dates of the expenditure(s).

Any unused advance must be returned to the District within two (2) business days of the Board member's return, along with an Expense Report and receipts documenting how the advance was used in compliance with this expense policy.

In the event the District Secretary/District Clerk is uncertain as to whether a request complies with this policy, such individual must seek resolution from the District Board of Directors.

**c. Audits of Expense Reports**

All expenses are subject to verification by audit for compliance with this policy.

**d. Reports**

At the following Board of Directors meeting, each Board member shall briefly report on meetings attended at the District's expense. If multiple officials attended, a joint report may be made.

**e. Compliance with Laws**

Board members should keep in mind that some expenditures may be subject to reporting under the Political Reform Act and other laws. All District expenditures are public records subject to disclosure under the Public Records Act.

**f. Violation of This Policy**

Use of public resources or falsifying expense reports in violation of this policy may result in any or all of the following: loss of reimbursement privileges; a demand for restitution to the District; the District's reporting the expenses as income to the official to state and federal tax authorities; civil penalties; and, prosecution for misuse of public resources.

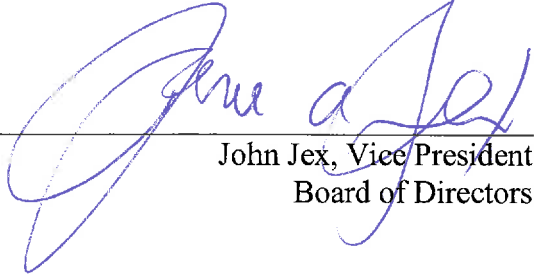
The foregoing Resolution was adopted by the Moraga-Orinda Fire District Board of Directors on April 18, 2018 by the following vote:

**AYES: DIRECTORS ANDERSON, BARBER, FAMULENER, JEX,  
AND JORGENS**

**NOES: NONE**

**ABSENT: NONE**

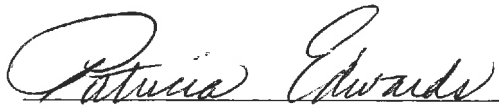
**ABSTAIN: NONE**



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John Jex, Vice President  
Board of Directors

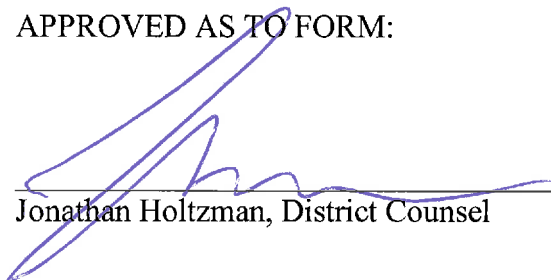
ATTEST:



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Patricia Edwards  
Interim District Secretary/District Clerk

APPROVED AS TO FORM:



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Jonathan Holtzman, District Counsel



# Moraga-Orinda Fire District

**TO:** President, MOFD Board of Directors

**FROM:** David Winnacker, Fire Chief

**DATE:** 3/20/2019

**SUBJECT:** Item 4.2 – North Orinda Fuel Break Grant

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## **BACKGROUND**

Due to topography, fuel loads, and Diablo Wind events, the wilderness areas North of the district represent a significant regional threat of wildfire. To address this threat, in November 2018, MOFD applied for a CalFire Prevention grant to construct a shaded fuel break in North Orinda. In December, 2018, CalFire SCU selected this project as one of three priorities for state wide consideration and expanded the project to include areas in Lafayette.

In March, 2019 this project was included as one of 35 prioritized projects in the CalFire 45 Day Report issued in response to Governor Newsom's Executive Order N-05-19. The full report is available here: <http://www.fire.ca.gov/downloads/45-Day%20Report-FINAL.pdf>

In February, 2019, MOFD published the Wildfire Strategic Plan identifying seven lines of effort (LOE) to systematically reduce the threat of wildfire while establishing mechanisms to address the potential damage of fires that exceed mitigation and suppression capacity. The plan is available here: <http://www.mofd.org/LiteratureRetrieve.aspx?ID=247807> The LOEs are:

1. External fuels mitigation projects
2. Internal fuels mitigation projects
3. Wildfire preplanning
4. Evacuation planning
5. Building code updates
6. Community outreach and education
7. Early detection and notification systems

The North Orinda Fuel Break Grant is in alignment with LOE #1 External Fuels Mitigation Projects.

## **GRANT SCOPE**

Of note, while the proposed project was included on the 45 Day Report list, it has not been approved and no grant funds have been released. Updates to this proposal status will be provided as they are available.

Initial indications from CALFIRE SCU are that all projects included in the 45 Day Report will require completion during CY2019. Pre-award planning is underway to align resources with requirements and staff is confident the project can be completed within this timeframe.

The proposed project is intended to create a shaded fuel break running along an East-West axis from Inspiration Point on the West end of the EBMUD Briones Watershed to the Eastern termination of Lafayette Ridge on EBRPD lands near the intersection Hwy 24/Pleasant Hill Road. The route will generally follow Wildcat Canyon Road, Bear Creek Road, and Happy Valley Road before moving onto EBRPD land following Lafayette Ridge. The proposal includes mitigation activities in the areas immediately surrounding Wagner Ranch and Sleepy Hollow Elementary Schools to reduce the threat to these high value sites.

Shaded fuel breaks are designed to produce the greatest benefit with the least environmental impact by leaving the existing tree canopy intact and focusing on the reduction of understory vegetation and ladder fuels. This method also discourages future regrowth of brush and other understory fuels which benefit from the reduction of tree canopy.

A shaded fuel break is very effective at slowing the spread of the ground component of a wildfire, but is not effective against three dimensional fire spread via embercast. To defend against this component, the district will continue the outreach, education, and enforcement activities outlined in LOE #2.

The project will be carried out in accordance with environmental best practices and consistent with applicable stewardship and conservation requirements. Maintenance of the project in out years will be planned and executed in accordance with the Wildfire Strategic Plan and partner agency fire management plans.

### **Partners**

The project is a partnership of the following agencies:

Moraga-Orinda Fire District  
Contra Costa County Fire Protection District  
East Bay Municipal Utility District  
East Bay Regional Park District

Additionally, CalFire Santa Clara Unit was instrumental in the refinement and submission of the proposal and will continue to be involved in a supporting role. Specifically, Unit Chief Jake Hess and Unit Forester Ed Orre championed the project and guided it through the state review process.

### **RECOMMENDATION**

1) Information Only