

RESOURCE MANAGEMENT COMMITTEE
 Dan Ahuna, Chairperson
 Robert K. Lindsey, Jr., Vice Chairperson
 Leina'ala Ahu Isa, At-Large
 Kalei Akaka, O'ahu
 Keli'i Akina, At-Large
 Brendon Kalei'aina Lee, At-Large
 Carmen Hulu Lindsey, Maui
 Colette Y. Machado, Moloka'i/Lāna'i
 John Waihe'e IV, At-Large



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS

MEETING OF THE COMMITTEE ON RESOURCE MANAGEMENT

DATE: Wednesday, March 13, 2019
TIME: 10:00 am
PLACE: OHA Board Room, Nā Lama Kukui
 560 N. Nimitz Hwy., Suite 200
 Honolulu, HI 96817

AGENDA

- I. Call to Order
- II. Public Testimony*
- III. Approval of Minutes†
 - A. February 13, 2019
- IV. New Business
 - A. NHTF 4th Quarter Performance Review with Investment Consultant Segal Marco
 - B. JP Morgan portfolio update and outlook
 - C. Workshop: Conducted by SPIRE (Certified Public Accountants for Fiscal Sustainability) on structure, organization and decision points related to OHA financial policies and rules.
- V. Executive Session‡
 - A. Approval of Minutes – February 13, 2019
 - B. Consultation with attorneys William Yuen, Esq., Judy Tanaka, Esq. and Robert Klein, Esq. on OHA's powers, privileges and liabilities regarding OHA's role as member of Hi'ilei Aloha LLC and Ho'okele Pono LLC and management options for those LLC's. Pursuant to HRS section 92-5(a)(4).
- VI. Announcements
- VII. Adjournment

If you require an auxiliary aid or accommodation due to a disability, please contact Albert Tiberi at telephone number 594-1754 or by email at: albertt@oha.org no later than three (3) business days prior to the date of the meeting.

*Notice: Persons wishing to provide testimony are requested to submit 13 copies of their testimony to the Chief Executive Officer at 560 N. Nimitz, Suite 200, Honolulu, HI, 96817 or fax to 594-1868, or email BOTmeetings@oha.org 48 hours prior to the scheduled meeting. Persons wishing to testify orally may do so at the meeting, provided that oral testimony shall be limited to five minutes.

† Notice: The 72 Hour rule, pursuant to OHA BOT Operations Manual, Section 49, shall be waived for distribution of new committee materials.

‡ Notice: This portion of the meeting will be closed pursuant to HRS § 92-5.

Trustee Dan Ahuna
 Chairperson, Committee on Resource Management

03-07-2019

Date

DRAFT

**STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
560 N. Nimitz Hwy, Suite 200
HONOLULU, HI 96817**

**Minutes of the Office of Hawaiian Affairs Committee on Resource Management
February 13, 2019
10:00 am**

ATTENDANCE:

Trustee Dan Ahuna, Chairperson
Trustee Robert Lindsey, Vice-Chair
Trustee Leina'ala Ahu Isa
Trustee Kalei Akaka
Trustee Keli'i Akina
Trustee Brendon Kalei'aina Lee

Trustee Carmen Hulu Lindsey
Trustee Colette Machado
Trustee John Waihe'e

STAFF PRESENT:

Albert Tiberi
Davis Price
Dylan Zheng
Kamana'opono Crabbe, CEO
Lisa Victor
Miles Nishijima
Raymond Matsuura
Scott Hayashi
Sterling Wong
Sylvia Hussey, COO
Lehua Itokazu
Carol Ho'omanawanui
Lopaka Baptiste
Claudine Calpito
Ron Porter

Maria Calderon
Paul Harleman
Melissa Wennihan
Kauikeaolani Wailehua
Zuri Aki
Lei Ann Durant

Guest and Community:

Rodney Lee – SPIRE Hawaii
Lucas Sayin – SPIRE Hawaii

I. CALL TO ORDER

Chair Ahuna – Calls the Committee on Resource Management to order at 10:00 am, noting for the record the following Trustees present:

	Present	Excused	Comments
TRUSTEE LEI AHU ISA	X		
TRUSTEE KALEI AKAKA	X		
TRUSTEE KELI 'I AKINA	X		
TRUSTEE BRENDON KALEI 'AINA LEE	X		
TRUSTEE HULU LINDSEY	X		
TRUSTEE ROBERT LINDSEY	X		
TRUSTEE JOHN WAIHE'E			10:06 arrived
CHAIRPERSON DAN AHUNA	X		
TOTAL	8		
At the Call to Order, there are eight (8) Trustees present.			

Chair Ahuna announced a 72-hour waiver for materials under agenda item IV. A. Discussion of OHA baseline spending vs. investment – SPIRE Hawaii (Certified Public Accountants for Fiscal Sustainability) and item V.C. Action Item RM 19-01: Member approval of procedures to change the management structure of Hi'iilei Aloha LLC and Ho'okele Pono LLC.

II. PUBLIC TESTIMONY

None.

III. APPROVAL OF MINUTES

A. January 9, 2019

Chair Ahuna deferred the January 9, 2019 minutes and executive session minutes for January 9, 2019 to the next RM meeting.

IV. UNFINISHED BUSINESS

A. Discussion of OHA baseline spending vs. investment – SPIRE Hawaii (Certified Public Accountants for Fiscal Sustainability)

Chair Ahuna calls Rodney Lee and Lucas Sayin of SPIRE Hawaii to present.

Rodney Lee greets and thanks Trustees to be able to provide a presentation to the Board. They will clarify and answer questions or otherwise if needed. He said he will not go through every slide, but all Trustees has them in front of them.

Chair Ahuna calls Rodney Lee and Lucas Sayin of SPIRE Hawaii to present.

Chair Ahuna asks if someone is on the phone. He finds out Segal Marco Investment staff and State Street advisors are on the phone.

Ray Matsuura says I have someone on the phone. Inaudible

Trustee Lee says it doesn't mute us, **they** need to mute. They can't hear us. Then, they cannot, *inaudible*.

Rodney Lee were on mute. They can't hear us.

Kamana'opono Crabbe asks Ray to contact them, to tell them we are in meeting and if they can call in at the appropriate time.

Trustee Lee says or tell them to mute their phone.

Rodney Lee greets Trustees, provides presentation to the Board on OHA Fiscal Efforts. Discussed FSP and how it relates to spending investments in the fact that it discussed many of the terms of spending or investment concerns. At the point of liability of the pension benefits. We are also looking at protecting the parts of the trust and looking at legal and taxable structures to protect it against risk, mainly in land. We're looking at the obligation that OHA had with DHHL and to the extent that OHA's obligation to DHHL is something that it's proving valuable to the trust itself. As well as the obligations and total financially. With respect to real estate investment how to activate the commercial assets as well as understanding the nature of real estate, the types of real estate from programmatic lands, legacy lands and commercial real estate. Looking at how spending over all impacts OHA. Where are we now? Critical fiscal matters that need to be discussed. To the left are not necessarily policies but they refer to polices. Topics within spending itself. How those are related to a policy and you notice that each one has its own you know the relationship to multiple policies that have impacted overall. Currently all of OHA's finances especially with related to expenditures are all within one

bucket. Basically look through entirety of the budget it's every year, each one of those whether it's investment-related, debt-related, operating related are all combined itself and some of that is where the uncertainty of how to manage it comes from. The second is understanding that spending right also looks at, how do you integrate that with other types of state agencies. As part of their chapter 10 mandate 10B, OHA supposed to coordinate and collaborate within the agency's itself, is how does it look at and how does that affect overall net spending. OHA's obligation to pay debt effects of increased fringe rate and DHHL commitment and how it affects overall spending, currently right now all of those come from your operating your core operating expenses. On the investment side things to look at in the real estate and financial assets have been a long discussion around these two and how they should not be managed in the same way. They are not the same type however, it should be some collective goals. In other trusts and endowments, it's a blended rate and a blended goal. Those things help to support one another whether the market is up or down. Or real estate is actually returning even more so to look at that. As was mentioned previously by Trustee Akina the market volatility right we looking or looking at it we see the volatility it's there we know that the reports are not necessarily that favorable, so we got to consider what the overall net effect on what that means on investment. How to adjust to that is going to be of great concern. That means OHA needs to set some benchmarks and find solutions for greater returns on those commercial assets, those need to be considered overall. While that's not a policy of real estate asset strategy itself. OHA should consider whether programs are expenditure related or investment related, and some of yours are what you choose to do and what is mandated for what you do. Those mandates are given to you by proviso's those that are established with in the bill and the others are what you choose to do and those should be treated differently and considered differently as you go along. Obviously the big topic that has been on the table for several years is how to raise capital for the development of Kakaako Makai (KM). Are you in the position to do that in the right condition? Is it the right structure to be able to entertain that? Does OHA have a plan for the repayment of all its debts? Do you have right now the ability to draw on some type of resource or dedicate from resources to get it done? Does the policy from the board explain how and when it can be used. Right now much of the OHA's debt is tied to mostly real estate assets that can be converted to something, some solution. You can see that it involves a discussion around the investment policy. How debt is being used. The real estate asset strategy as well as a legal structure in the way of protecting it, because the one thing you have, which I'll go back to real estate itself is, right now you are at 100% exposure. I know we said this before; your one hundred percent spoils are all real estate assets because it is under the trust. Something to think about this other topic you know it's the state auditor brought up within the calculation of overall spending in the fiscal reserve. When I say

the (*inaudible*) use of the fiscal reserve is, what's the objective around it, what are you trying to achieve. Is it people have an operating reserve but you don't necessarily fall in that bracket. Operating resources are where there is risk to revenue and because you don't really have necessary revenue where's the risk. What is it going to be you know there's some proposals around that. It's a time and a place to place risk at the very top, if not the very top of it, as one of the most important aspects to be covering. OHA's land assets as I said is 100% at risk for the entirety of the trust. We think OHA needs to adopt an enterprise risk management framework. To help inform most decisions, so you understand how to make those decisions going forward. OHA needs to resolve and respond to all audit findings. That is also a risk factor when you look at overall ability to finance, overall ability to be partners and overall perception of fiscal matters. I wanted to take this into a more practical discussion of how all this stuff folds together and use one example, related to debt and land, that can kind of take you through how this whole thing kind folds to. We take into consideration this building, Na Lama Kukui (NLK) and the debt that's attached to this building. It's a commercial loan, 24 million, appraised value 48 million, that's great, wonderful things. Currently the commercial loan is liened against the property and collateralized by the trust fund, again you know it's exposed overall. There is no explicit way to establish payment of the balloon payment. All the interest payments have been through the core operating budget and there are balloon payments that are going to be looming as a result of that. An asset of the trust, it is vulnerable over the plane of the against the assets as well as the trust fund. I keep repeating that sentence because the risk is in this case more than the actual debt. Think about it. The value of the trust fund. OHA needs to determine how much debt can be used as leverage against the assets and what assets it will take it against. What are the options? It can refinance the existing commercial loan using the appraisal value, however banks will still place lien on property as well as some amount of trust fund to meet financing terms. Which still puts the Native Hawaiian Trust Fund (NHTF) at risk against the direct assets of the fund. Any claims against building would be placed against its entirety of the assets. OHA will have to dedicate some revenue to allocate to be used for repayment of the financing. Right now, not sure exactly how that it structured. We discussed at length with work groups of placing it an LLC. The reason for that is to minimize the risk, that's why an LLC is important. It's to shelter the asset, so that the limitation of the liability cannot exceed beyond the actual entity itself. You need to seek legal opinion and placing it in an LLC and how to do that and we strongly recommend that you seek that. Then once you establish the need to establish it, based on the legal opinion itself. OHA itself would maintain the controlling interest and that is how the linkage is to the trust, in the controlling interest, within the equity of it. The LLC wouldn't have to maintain its own financials; the LLC wouldn't have to shop for the refinancing of NLK, which require additional seed funds to satisfy the financier. And

would have to use the profits from the lease revenues used to pay for the note. I'm taking you down a course, please forgive me if it's a long and it's a little bit arduous, by just how this all applies and how this all intersects. So what needs to get done, that is the topic, everyone wants to get something done. As I mentioned before in the investment policy and it's determining that the segmentation between financial assets and real assets. Real assets being in this case land. Setting allocation, setting benchmarks are our targets as well, if money's would be transferred in some way or form. Right now you have a spending policy that dictates what the financial (*inaudible*) how would it be in a real asset. Developing a real asset strategy, you need a strategy to understand what is the plan for these real assets has going forward. Discussed financing, seeking financing deals, review, how to negotiate and close. Any financier will ask these questions as you seek them. This is the type of work the board needs to be able to get done. The board has a lot to contribute, is to resolve the financial consideration and finance value versus risk. What's the benefit risk kind of assessment and then overall management of assets. How do you overall balance this out and understand how each one works, especially in the consideration of the market market volatility. Having a blended goal between financial and real estate will actually help as another buffer against earnings itself, so you can actually use highest and best use to make sure the decisions are made in that way. You are probably going to hear from your money manager is that the next two years are going to be something to watch. The overall net earnings are going to be still positive but how are you going to do that, to manage overall. Real assets becomes a part of the conversation I know Trustee Hulu was trying to get that going for a long time. I mentioned before in the other slide, how to pay for the other obligations and this is just a graph of estimates, based on information that we had available, against core operating budget. Percentiles from DHHL Grant, Fringe benefit, debt payment, Grants, all other OPEX. We have to figure out solutions, quickly. This dichotomy exists and why that's so difficult. OHA must find a way to reconcile its own identity. Revise fiscal reserve guidelines, to clarify allowable and unallowable uses. To maximize the return of assets you also have that charge right it's also an investment you believe are important are going to drive value-added improvement. How do you do that? One-way or think about this idea of (*inaudible*) says social return on investment that means that it does not sacrifice financial, economic, or social. To make the best decisions on what programs to be put forth and how to find those programs as a trust fund. It also talks about the relationship of money and how what should be under scrutiny as public money and what issues should be under your private money. That's important because of the even though the viewpoint within many of the community of OHA's money is public and that's not entirely true and you guys know it. Its how do you present that. One way to present that is to look at what is at the core of what you need to do, legally required versus the non-core of what

you want to do, that's mission-related. This is important on several factors not just the way of how you make decisions that is what you are making decision for. Are you legally required under the state obligations? Are you meeting the state obligations itself, are you within the compliance measures that the state requires and does it cover the aspects of services that are supposed to be delivered by the state through OHA. So we have examples of those general admitted services are generally operating it overall advocacy which is covered by the state and the state mandate. Research which is mandated again in the chapter 10. Grants and programs administered and included in within the bill that you put through the stat for the general funding as well as others that you also administer yourself. General investment management and community outreach. These are all components within that. Outside of that, how do you think about mission-related things, which is capacity-building? How do you improve the net the net gain of the native Hawaiian condition? Is it mission related Investments or programmatic investments, is it asset growth and development, are there new ventures or innovation that you're going to be looking at to be able to further the cause and to be able to improve the conditions of native Hawaiians. What can OHA do? Reference the state audit report and the recommendations that are there. Ensure compliance with HRS Chapter 10-17. Consider implementing the solicitation process again. You want the metrics and that's something I know, Trustee Akina had championed, is what do we want, what do you want from this thing and have that discussion now, so that there's real value to it. I think it's the right time, to see all of the minds meet. Adopt information system from improving administration of grants that isn't deliverable, to understand how OHA can be even more transparent. Number two, I review the spending policy in light of the spending challenges as we discussed in the previous slides. Does the policy allow the challenges to be met. Where does it exist? Is it a debt against and asset or the debt on overall general operations and how does that fit on either side of the spectrum. Revise fiscal reserve guidelines to clarify allowable and unallowable uses, that's probably the easiest way to update it, but you know what I said before, to understand the use of it. What is the use and stay within the use, so that it doesn't get reported. Revise definitions within trustee allowances and sponsorships. That's an exercise in minimizing risk. So the risk of perception of the trust and prove it all over all and then create guidelines that is not going to be a significant factor going forward. On the opposite end what can I do to address investment challenges. It's already adopted best practices for asset allocation within financial securities but it needs to do so for land. It needs to accept that business plan for land management which is recommended last year and recommended by the state auditor recommended by us. So that you can make good judgement on land itself. Revise, adopt and assess all his investment policies and strategies and make the changes as necessary, as you start to develop this understanding around your asset allocation. How is it related to spending

and investment. I know for the those trustees that have been here in the last several years, you've heard this before, so forgive me if I repeat this again. It's really managing the balance sheet, in this case referencing a government agency, the statement of net position. Boards dive into the overall operating expenses and income statement management, statement of activities. In the statement here, when the pressure builds to improve performance most (inaudible) business leaders adopt measures that affect the income statement. They cut discretionary spending, centralize support functions, lop off unnecessary layers of management, eliminate low value projects and so on. All with an eye to right sizing the cost structure and of course they do what they can to increase profitable sales. While all these efforts can boost results, they overlook one of the largest sources of value: the balance sheet. Companies often hold far more working capital than they need to. They make ill-timed or ill-advised capital investments. They own unnecessary or unproductive fixed assets. When management teams focus disproportionately on the P&L, they often miss those issues. In fact, some measures designed to manage costs can actually inflate the balance sheet, consuming cash and destroying value. Right-sizing the balance sheet offers most companies an enormous opportunity to create shareholder value, in both good times and bad. Granular measures show where capital is currently being deployed. Aggressive management of both working and fixed capital frees up large amounts of cash. New ownership models enable once capital-intensive businesses to prosper with fewer assets. And processes and incentives that encourage careful balance sheet management help ensure sustainable gains. Over time, right-sizing the balance sheet becomes part of a company's culture—a culture where managers at every level of the company see the importance of carefully managing assets and liabilities and act accordingly. What is a balance sheet? For those who haven't heard it it's the simple process of planning and coordinating and directing business activities that directly determine assets liabilities and equity of a company or organization. In this case your statement of net position I just referred to in the audit. When you do that looking at assets liabilities equity, what are you concerned with. Obviously the treasury function a drawdown of your current assets, your liquidity base related to maximizing your investment returns. With an investment what you're doing today monitoring earnings related to financial, you need to that with real estate assets. You need to understand what they are performing and how they are contributing more importantly to the overall goal of building OHA's endowment or trust assets. Asset protection which is part of the enterprise risk management, protection of the native Hawaiian trust assets against various types of claims and in other senses other types of conditions. Understanding that there are risks and are going to be measured and each time you go through a decision process how do you measure them overall. As we said OHA needs to look for new sources of revenue, it cannot be at the whim of the state at all times. It can do a lot more, had it had its own

money and managed its own way. Within liabilities, debt management, monitoring debt and leveraging activity, so understanding what those are. One thing to consider when you're balancing two different types of assets between financial real estate is real estate is not liquid. The profits from it can contribute, but the actual asset is not liquid. The overall goal, is this intergenerational wealth. How do you pass on from generation to generation and create the sustained effort to become an organization that can deliver and help and support the native Hawaiian condition. It says mission-related funding that maximizes the overall benefits and I know in the past other trustees have talked about that, it's not just about the money, it's about the effect, the outcome over all. That equity although it's not necessary as recorded on a financial balance sheet, that equity is what other companies call brand equity, the goodwill that you build, that gives you the reputation of what you are and obviously the sustainability into intergenerational equity. This sustainable effort over time and that's the charge of the board. That's your responsibility to lead the organization forward, to be that for not just yourself and not just for the state as it's mandated in chapter 10, but to all those beneficiaries that are there. You know it's part of a process, when you do this and you do this as an approach, it considers the process itself but also considers all of the outcomes. We hope that this effort will then turn OHA into what it should be. That's what we have today. Any questions?

Chair Ahuna says I do. We have been talking about investments and it's all about planning. For me I think it's very important that we accomplish and get this done now. Does three months sound too quick or too long, because I just want to put a timeline on how we accomplish.

Rodney Lee says I don't believe so. I think every trustee that i've spoken to so far has wanted to move forward and showing results. It's about a will and what we're going to require, if that's the case of the three months. It's the will to decide and make a decision and its decisions are not necessary hurtful if made in an educated way, what will promise to do is to provide as much educated information, to make that decision and will work alongside Administration, obviously to come up with recommendations to do so. But to get it in place we have the structures of it, you guys did a lot of work in 2017 through the work groups. We just got to finish it. Just got to take it over the line and just finish it.

Chair Ahuna says with that Rodney, I just like to acknowledge the past leaders who have taking the responsibility. I just want to finish what they began. They have done great work and I want to make sure that we can accomplish what we set out to accomplish. Three months is our goal.

Trustee Akina says let me address the same point you're making and reinforce that and Rodney good presentation. I do have some comments and questions for later on, but in terms of getting process completed and actually implementing new policies. I think not only do we need the will, as Rodney points out, we need to clarify specifically who is responsible for the completion of the policies and implementation. Much of what was presented today resonates because we've agreed with what Rodney has said and since 2016 from the audits, as well as our own discussions, our own fiscal sustainability process, we've come up with a general consensus around the points that Rodney has made. On the other side, that means that most of what is presented today wasn't new. In fact we were getting ready to have a completed fiscal sustainability implementation plan when I came on board in 2016. If you'll recall RM 1608 assigned to our CEO, the completion of the FSP, by July 1st 2017. Now this is not to place any blame because of the plate has been very full and there's been many conversations, but we came to the point at which we realized we needed to implement many of these recommendations prior to 2017 July. Yet we have not implemented and so your call for a three-month implementation and it resonates and yet I'm trying to understand why we didn't? Part of it maybe because it's not clear who's going to do this. At the same time that we had that assignment to KP we have a contract with Spire in which we've engaged in for \$1,000,000 for 2 years to go through this process with us, but yet we haven't delivered. We haven't delivered completely the actual final product. So I'm going to recommend that we make it clear who's going to deliver the actual policy package whether it would be Spire or Administration or perhaps the PIG group that has actually been started with Trustee Lee that would help us.

Chair Ahuna says thank you. I think all of our value on this table is very very important and it's not about one person telling us how to proceed. How we affect the outcome overall is even more important, so this is about how we do this and we all have ideas and opinions, but again this has to be solved with on this board table. It's not about who for me, it's not about who did what. It's about what we do going forward.

Trustee Bob Lindsey says I just want to see when it comes to policy formulation and development that kuleana rests at this table.

Chair Ahuna thanks Trustee Lindsey. Asks if there any more questions.

Trustee Machado asks for clarification. On the policies from page 3. I outlined here there is six policies you looking at spending investment. I'm surprised at the land, debt, real estate assets strategy and legal structure. The question I think I'm trying to get framework on how you begin to look at setting up these priorities and how will this get rolled out into the decision making to the BOT. Because we come to the RM then the BOT that needs a little bit more sequencing I've used those words.

Rodney Lee says I have been in discussion with Trustee Ahuna's staff as well as him and we intend to put together a workshop, to go over it. We've actually been working on a framework to consider it. How they are considered and mesh together. The land policy relates the fact you have different types of land and they have different types of purposes.

Trustee Machado says ok, I got it now.

Rodney Lee says you have a bunch of 25,000 acres in Big Island and they are handled differently, funded differently, managed differently, insured differently. One has a significant issue happening with it so it's to understand the purpose of it. When will you accept and receive purchase or acquire different types of land How does that make sense? What does legacy mean to this organization? Why do you have programmatic and commercial real estate? I think for me I don't know and you guys know better. What's the significance culturally? What is the significance overall and as an organization as an identity? Those kinds of things need to be put in so its clarity. You do from time to time, we witnessed over the last five years, people that want to offer OHA, to please take the land. You need to have clear understanding because some of them come with risk. One of the properties was at risk, some have more risk than others, and some don't have. What is the reward taking on? The big rain in Maui that affected the Maui land and you know the runoff itself and who's responsible. Who's going to clean it up, that kind of thing. Those kinds of things have to be considered. Where does the money come from to do that? Do you have a maintenance budget? The land policy clears that up. Thank you.

Trustee Hulu Lindsey asks where do we start.

Chair Ahuna says he wanted SPIRE to draft policies, so we start working with that.

Rodney Lee says we are proposing a workshop for the next RM. Workshop will be on all policies. So we are going to propose a lot. We got to do it because you can see on the chart.

Trustee Ahu Isa says in page 6, mitigate risk, held as part of a trust, NLK presents a risk to the entirety of all assets. Yet we have it appraised by City & County at \$48 million. One suggestion I was reading was to put it in an LLC or is that the only way we can leverage this building, to create more revenue for OHA. Seems like this is the biggest asset.

Rodney Lee says those are two questions. So how do you mitigate risk? You put it in a structure like an LLC, to reduce the risk for OHA, because it's a limited liability corporation. It does not pass into OHA and its overall asset. How do you increase the

overall revenue, is the overall business plan of how you think this building is going to be optimized. What is its highest best use? If that's considered a commercial real estate asset. Or is it part of programmatic? Programmatic mean this is your operational base and you accept the return the way it is and part of that, you take the cost of the financing of this building as part of that programmatic cost of doing business. It's the discussion.

Chair Ahuna says on Feb. 27th there will be RM workshop.

Trustee Lee asks for point of clarification. Is the workshop on the 27th or you are proposing a workshop on the 27th?

Rodney Lee says we are proposing a workshop on the 27th.

Trustee Bob Lindsey says we have a lot of work to do. In the policy development, area and then when we take it beyond that, I know Rodney you use NLK as your example this morning. When we look at assets like KM, will the policies we develop now be generic enough to cover everything that needs to be covered with KM?

Rodney Lee says yes, but the discussion within that, I would have to clarify is the intent of overall KM, because there were certain trustees at the time of that discussion that had other ideas of education and there is a kind of a mixture of all into one property and whether that is realistically achievable or takes advantage of the opportunities presented to itself. There are many, from what we are aware of, many opportunities with KM, Trustee Hulu who I know was trying to work through them all. Which is really difficult but it was because people have different ideas of what was going on. And what we need to do is come together as a board and understand, here's what we think, as a vision and then be clear and take advantage and get moving and you know, act quickly. Because some of those involved, other state and local government agencies that are interested in the properties themselves of activating it and that has an impact. Could be positive? If they get aggressive, like they sometimes do. I mean I'm aware of one that didn't realize that it was OHA land. Their making making plans.

Trustee Akina says he appreciates the focus on balance sheet management as the practice of the board. I would like to point out that, in order for us as a board to do good balance sheet management we need two things. Number one, we need accurate information on financials going into the balance sheet and number two, we need to look at the balance sheet overtime. Balance sheet can't simply be something that we receive as a static document, we have to look at 6 years, 10 years and so forth. What's going to happen. That's the concern I had about the presentation we made to the legislature recently and I shared this in my communication with KP. He's copied all of

you on that and I gave you the most recent January 25th memo with regard to that. Couple of things were missing, one was mention of our 19 million-dollar balloon payment with respect to the native Hawaiian and NLK.

Chair Ahuna says to Trustee Akina, you have so much value that you bring to this table and I appreciate it but right now I just want to move this conversation with Rodney forward. I understand your concerns, but I just want to move on.

Trustee Akina says well in that case Mr. Chair I will simply refer my colleagues to the Jan. 25th memo that I produced today.

Chair Ahuna thanks Trustee Akina. States on the 27th he will have a lot of opportunity to ask all the questions he wants at the RM workshop.

V. NEW BUSINESS

A. NHTF 3rd Quarter Portfolio Review with Investment Consultant Segal Marco and Investment Staff

Chair Dan Ahuna calls up Raymond Matsuura.

Ray Matsuura greets Trustees and gives brief review of the portfolio and the quarterly update. He points out to the OHA 2Q16 Flow Chart Asset Allocation as a review and provides insight on the Total Trust Fund Fees. On phone is from State Street is Sonya Park and Segal Marco Advisor Craig Chaikin.

Trustee Lee says Ray, you say you had a mandate for the way that they were hedging and then you said that mandate was given to the other managers. So is that mandate from JP Morgan or did we come up with that mandate and have JP follow that mandate and insure it down the line. Or are we sharing JP's mandate down the line.

Ray Matsuura answered no, we mandate to JP Morgan.

Trustee Lee thanks Ray.

Trustee Lee says my concern is Q4 on the market had a draw down, do did our hedges.

Ray Matsuura says I'm not sure what you're considering our hedge is, are you talking about fixed income,

Trustee Lee says you tell me. What was our hedge, I'm just looking (inaudible). Fixed income is up for 4%.

Ray Matsuura says no it was almost flat.

Trustee Lee states so our hedge was flat, our portfolios down. So our hedge didn't lose money.

Ray Matsuura says you can offset the hedge funds, PIMCO was up about.

Trustee Lee says I think it was like 4%.

Ray Matsuura says 4.8% for the year, but probably they may *inaudible*. Let's say that our hedges were flat versus a market that was down, we're talking maybe 30-40 percentage hedge, offsetting it down equity market.

Trustee Lee says our flat hedge, I won't get into the semantics, but a flat hedge isn't recovering anything, it's just not losing anything.

Ray Matsuura says exactly.

Trustee Lee says this trustee is not saying, that if we were a little more risk adverse than those Hedges would have made money, versus being flat. I won't go into it. Thank you.

Kamano 'pono Crabbe says in terms of Trustee Lee's comment about, part of our diverse portfolio is passive is because in 2015-16 based on the investment consultant in terms of recommendations to the board, we actually came up with new benchmarks for the board and the board chose to diversify the portfolio from active management, not all, but some were from active management into passive. So the SSG real estate is the passive strategy line and then JP Morgan is active as well as Commonfund, real estate is active management. So that that was more for what we understand that even with the passive strategy long-term, then we would have incremental increases, then what the current strategy was prior to 2015. When we look at the totality of developing a real estate policy, spending policy, what is the implications to possibly the NHTF and how we allocate revenue.

Chair Ahuna thanks Ray and moves to item V. C.

Trustee Hulu Lindsey asks that we defer the action item until we're done with discussing the subject matter with our attorneys in executive session.

Trustee Machado says we are going into executive session first. Yes, we would like to that we take out of order V. C. and go into executive session to consult with the attorneys that are here.

Chair Ahuna asks the reason why, is that you want to consult about the decisions that we made in the past or because.

Trustee Hulu Lindsey says our decision to be made today.

Chair Ahuna says yes, but I believe we accomplished the first part of that discussion which is yes or no to the management.

Trustee Lee states point of order Mr. Chair. I believe that there's a motion to defer this matter and it's been seconded.

Chair Ahuna asked she did.

Trustee Lee states yes she did, she said she wants to do the same thing, so we need to take a vote.

Chair Ahuna states we have to move into executive session.

Trustee Lee says Chair that is just a motion and a second. We need to vote on that.

Chair Ahuna says so we are going to vote on it.

Trustee Machado says the only reason why I would support this going into consultation the attorneys is the memo that they distributed to us, in confidential. They offer couple of options for our consideration. They outlined five possible considerations for us to amend the LLC documents to describe positions and the list goes on. We have not had that opportunity to dialogue.

Trustee Lee says point of clarification Mr. Chair, I am not disagreeing, I am just stating where we're at right now, there's a motion on the table so we need to vote on it.

Trustee Akina says in discussion.

Trustee Lee says we are.

Trustee Machado says I want to speak in support based on the memo we received this morning at the table and outlying the kind of recommendations that is coming out of the actual action item prepared by admin. Therefore, there is five areas I think they are looking for our review and our input.

Trustee Akina says I'm not clear as to what memo is being referred to, I have the action item I received but I did not receive any memo.

Trustee Hulu Lindsey says he was left out.

Trustee Machado says oh yeah, that's right, I'm sorry.

Trustee Hulu Lindsey says because it involves something that you recused yourself on, you did not get the memo.

Trustee Machado says everybody else got the confidential packet.

Trustee Akina says oh I see.

Chair Ahuna says just so we can move ahead, I'm going to defer to Albert to chime in and talk to us about the matter.

Trustee Ahu Isa says I want to say something.

Chair Ahuna says wait hang on. Ok, right now on the table we are going to be discussing the motion, that's it, just the motion. Trustee Akina you were first.

Trustee Akina says thank you, Board Chair Machado has referred to a memo that I did not receive this morning and I understand from comments made by trustees at the table here, that it's because there's content that pertains to Walden vs. Hi'ilei is that correct.

Chair Ahuna says yes.

Trustee Akina says in that case as you all know I have recused myself from discussing with you Walden vs. Hi'ilei. And I'll continue to recuse myself, but my only concern is I have not recused myself from discussing the action item that is before us today and if we move into executive session to discuss that action item I have a duty to participate in the discussion, to the extent that I can. Can we structure this so that I can participate in anything relevant to the action item concerning the LLC's and let you have your privacy with respect to Walden vs. Hi'ilei, would that be possible.

Chair Ahuna asks Albert to comment on this.

Trustee Lee says point of order Mr. Chair, I don't believe that's *inaudible* to the motion on the table.

Trustee Akina says the motion on the table is to whether to rearrange the agenda and go into executive session and its very relevant to me because if you come out of executive session having discussed the action item, I won't have been privy to

information that I need to make a good decision on the action item, so it affects my vote on this amendment.

Trustee Hulu Lindsey says I think that you can go into executive session with us and raise this question.

Chair Ahuna says the discussion on the table is about the motion.

Trustee Ahu Isa says I want to read the motion, point of clarification, action item member approval of procedures to change the management. So it's only approval to change the procedures, we didn't say which procedure and it was signed by Sylvia, Dan Ahuna. I just want to finish to say it's only to approve whatever of the five procedures that we got in the memo, that's all. Mahalo Chair.

Trustee Hulu Lindsey calls for the question.

Chair Ahuna calls questions, hearing none, calls for the vote.

Trustee Hulu Lindsey, MOVED, SECOND by Trustee Machado to defer to executive session and take agenda out of order.						
	1	2	'AE (YES)	'A'OLE (NO)	KANALUA (ABSTAIN)	EXCUSED
TRUSTEE LEI AHU ISA				X		
TRUSTEE KALEI AKAKA			X			
TRUSTEE KELI'I AKINA					X	
TRUSTEE BRENDON KALEI 'AINA LEE			X			
TRUSTEE HULU LINDSEY	X		X			
TRUSTEE ROBERT LINDSEY			X			
TRUSTEE COLETTE MACHADO		X	X			
TRUSTEE JOHN WAIHE'E			X			
CHAIRPERSON DAN AHUNA					X	
TOTAL VOTE COUNT			6	1	2	
MOTION: <input type="checkbox"/> UNANIMOUS <input checked="" type="checkbox"/> PASSED <input type="checkbox"/> DEFERRED <input type="checkbox"/> FAILED						
Motion passes with seven (6) YES votes, one (1) NO vote, two (2) ABSTAINED votes.						

Chair Ahuna states motion passes.

Trustee Machado says we have to take a motion to recuse into Executive Session.

Trustee Bob Lindsey moved.

Trustee Waihee second.

Chair Ahuna call for vote.

Trustee Hulu Lindsey, MOVED, SECOND by Trustee Waihee Motion approved to move into Executive Session.						
	1	2	'AE (YES)	'A'OLE (NO)	KANALUA (ABSTAIN)	EXCUSED
TRUSTEE LEI AHU ISA				X		
TRUSTEE KALEI AKAKA			X			
TRUSTEE KELI'I AKINA					X	
TRUSTEE BRENDON KALEI 'AINA LEE			X			
TRUSTEE HULU LINDSEY	X		X			
TRUSTEE ROBERT LINDSEY			X			
TRUSTEE COLETTE MACHADO			X			
TRUSTEE JOHN WAIHE'E		X	X			
CHAIRPERSON DAN AHUNA					X	
TOTAL VOTE COUNT			6	1	2	
MOTION: <input type="checkbox"/> UNANIMOUS <input checked="" type="checkbox"/> PASSED <input type="checkbox"/> DEFERRED <input type="checkbox"/> FAILED						
Motion passes with seven (6) YES votes, one (1) NO vote, two (2) ABSTAINED votes.						

Meeting resolved into executive session at 11:30 am for discussion.

VI. EXECUTIVE SESSION

A. Approval of Minutes – January 9, 2019

Chair Ahuna deferred the January 9, 2019 Executive Session minutes to the next RM meeting.

- B. Consultation with attorneys William Yuen, Esq., Judy Tanaka, Esq., and Robert Klein, Esq., on OHA's powers, privileges and liabilities regarding OHA's role as member of Hi'ilei Aloha LLC and Ho'okele Pono LLC and management options for those LLC's. Pursuant to HRS section 92-5(a)(4)**

Meeting reconvenes into open session at 12:10 pm.

V. NEW BUSINESS

- B. Action Item RM 19-01: Member approval of procedures to change the management structure of Hi 'ilei Aloha LLC and Ho 'okele Pono LLC.**

Chair Ahuna says we are now back in open session.

Trustee Machado states welcome back Trustee Akina. There is no decision made, we waited for you.

Trustee Lee states I move that we lay on the table action item RM 19-01.

Chair Ahuna states moved by Trustee Kalei'aina, second by Trustee Bob Lindsey.

Trustee Lee states to lay on the table. So point of information Mr. Chair, by laying this action item on the table it allows us to freely discuss such action item without taking any action because no motion has been made for action.

Chair Ahuna states its open for discussion.

Trustee Lee states I would like to speak in favor of the first proposal, on the action item for 3 managers and my reasonings are for the longevity of perpetuity and what I mean by that is, by having three managers although it could possibly be more costly, it significantly minimize the risk of malfeasance. With one manager, we run a very heavy risk of embezzlement and all kinds of other things. With a board of three, to keep things light as we all know it's hard to get three native hawaiians to agree on anything, so them agreeing on how to do something is going to be even harder. I'd like to speak in favor of going with three managers versus the one.

Trustee Bob Lindsey states with Trustee Lee's permission I would like to have Trustee Lee's words entered into the record as my own. "I would like to speak in favor of the first proposal, on the action item for 3 managers and my reasonings are for the longevity of perpetuity and what I mean by that is, by having three managers although it could possibly be more costly, it significantly minimize the risk of malfeasance. With one

manager, we run a very heavy risk of embezzlement and all kinds of other things. With a board of three, to keep things light as we all know it's hard to get three native hawaiians to agree on anything, so them agreeing on how to do something is going to be even harder. I'd like to speak in favor of going with three managers versus the one.”

Chair Ahuna asks for any other discussion.

Trustee Hulu Lindsey states I just want to say that I agree with you however I would like to see those those managers as part-timers, because I don't see the necessity of full-timers and that would be a consideration on the monies that we pay them.

Trustee Waihee states I want to see the volunteers.

Trustee Lee states this is germane to this discussion, outside of this board I sit on the board for the Moanalua Gardens foundation and as a board member of that foundation, I do not get compensated, we are all volunteers, we do have an executive director who is a full-time employee, who is paid, who manages everything. But all, I believe there are seven of us on that board and none of us are compensated.

Trustee Akina states will the proposed action require the administration to come back to the board to approve the new manager positions and the actual selection process.

Chair Ahuna states yes.

Trustee Akina states I see short term value and positive short term value in this proposal but I think that we really have a lot of work to do on the overall structure of subsidiary organizations that we launch as OHA and would hope that we'll follow up with some work in that area.

Trustee Lee states I move that we adopt RM action item number 19-01 moving forward with as written for the initial proposal of three managers.

Trustee Lee retracts statement and then moves to authorize an approve OHA Administration to develop position descriptions and selection process for new manager positions and to recruit three new managers to replace current Hi'ilei Aloha LLC and Ho'okele Pono LLC managers.

Chair Ahuna states moved by Trustee Lee, and second by Trustee Bob Lindsey.

Trustee Akina states he will vote kanalua, since he was not privy to the discussion related to this in executive session recently thank you.

Trustee Lee states point of clarification, any discussions that we had in regards to 1 or 3 managers all took place right here, right now in open session, there was no other discussion in executive session.

Trustee Akina states in that case my references to any legal matters that may be relevant to this decision making for that reason I will be voting kanalua, thank you.

Chair Ahuna calls for vote.

Trustee Lee moves to authorize an approve OHA Administration to develop position descriptions and selection process for new manager positions and to recruit three new managers to replace current Hi 'ilei Aloha LLC and Ho'okele Pono LLC managers. Trustee Bob Lindsey, SECOND.							
		1	2	'AE (YES)	'A'OLE (NO)	KANALUA (ABSTAIN)	EXCUSED
TRUSTEE LEI	AHU ISA			X			
TRUSTEE KALEI	AKAKA			X			
TRUSTEE KELI'I	AKINA					X	
TRUSTEE BRENDON KALEI 'AINA	LEE	X		X			
TRUSTEE HULU	LINDSEY			X			
TRUSTEE ROBERT	LINDSEY		X	X			
TRUSTEE COLETTE	MACHADO			X			
TRUSTEE JOHN	WAIHE'E			X			
CHAIRPERSON DAN	AHUNA			X			
TOTAL VOTE COUNT				8			
MOTION: [] UNANIMOUS [X] PASSED [] DEFERRED [] FAILED Motion passes with eight (8) YES votes, one (1) ABSTAINED vote.							

VII. ANNOUNCEMENTS

None.

VIII. ADJOURNMENT

Moved by Trustee Hulu Lindsey, second by Trustee Colette Machado to adjourn the meeting. Hearing no objections, the meeting adjourned at 12:19 pm.

Respectfully Submitted,

Claudine Calpito, Trustee Aide
Committee on Resource Management

Dan Ahuna, Chairperson
Committee on Resource Management

Approved: RM Committee meeting _____

ATTACHMENTS:

- OHA 2Q16 Flow Chart Asset Allocation
- NHTF 3rd Quarter Portfolio Review with Investment Consultant Segal Marco and Investment Staff.
- State Street Global Advisors Discussion of Funds and Market Environment.
- Action Item RM 19-01 Member approval of procedures to change the management structure of Hi'ilei Aloha LLC and Ho'okele Pono LLC.

Office of Hawaiian Affairs

ANALYSIS OF INVESTMENT PERFORMANCE

Native Hawaiian Trust Fund

December 2018

John Marco
Senior Vice President

Craig Chaikin, CFA
Vice President

Table of Contents

ANALYSIS OF INVESTMENT PERFORMANCE

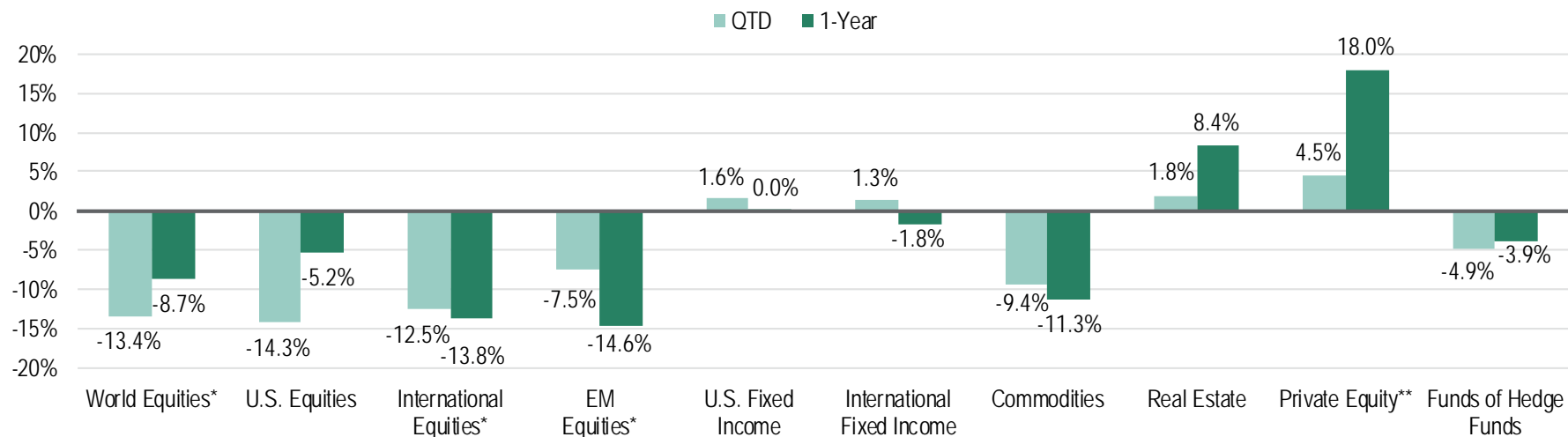
	Section
Financial Market Conditions.....	1
Total Traditional Assets.....	2
Investment Manager Performance.....	3
Appendix.....	4

This performance report ("Report") is based upon information obtained by Segal Marco Advisors ("SMA") from third parties over which SMA does not exercise any control. Although the information collected by SMA is believed to be reliable, SMA cannot verify or guarantee the accuracy or validity of such information or the uniformity of the manner in which such information was prepared. The rates of return reflected herein are time weighted and geometrically linked on a monthly basis using a modified Dietz method. Monthly valuations and returns are calculated based on the assumptions that all transactions and prices are accurate from the custodian and /or investment manager. The client to whom Segal Marco Advisors delivers this Report ("Client") agrees and acknowledges that this Report has been prepared solely for the benefit of Client. SMA disclaims any and all liability that may arise in connection with Client's conveyance (whether or not consented to by SMA) of the this Report (in whole or in part) to any third party. Client further agrees and acknowledges that SMA shall have no liability, whatsoever, resulting from, or with respect to, errors in, or incompleteness of, the information obtained from third parties. Client understands that the prior performance of an investment and /or investment manager is not indicative of such investment 's and/or investment manager's future performance. This Report does not constitute an offer or a solicitation of an offer for the purchase or sale of any security nor is it an endorsement of any custodian , investment and/or investment manager.

Financial Market Conditions

Q4 2018 In Review

Summary of Investment Returns



Quarterly Synopsis

- World equity markets fell in Q4. Concerns about slowing global economic growth and trade tension stung markets.
- U.S. equity declined in the quarter. Fears about weaker economic growth and future corporate earnings hurt stocks.
- International equities were lower due to nervousness about decelerating growth, trade disagreements and Brexit.
- Emerging market equity declined in Q4 with worries over slowing growth in China and global trade.
- U.S. fixed income rose in the quarter. Investors flocked to safe assets like U.S. Treasuries in a period of high market volatility.
- Non-U.S. fixed income also gained in Q4, reflecting investors' risk aversion.
- Hedge funds fell during the quarter. Equity hedge and macro strategies posted declines.

* Net of Dividends

** Performance as of Q2 2018 because Q3 2018 and Q4 2018 performance data is not yet available.

Sources: Investment Metrics, Thomson One, FactSet

Q4 2018 Index Returns

Asset Class	Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World Equity	MSCI World ¹	-13.42	-8.71	-8.71	6.30	4.56	9.67
U.S. Equity	Russell 3000	-14.30	-5.24	-5.24	8.97	7.91	13.18
Non-U.S. Equity	MSCI EAFE ¹	-12.54	-13.79	-13.79	2.87	0.53	6.32
Emerging Market Equity	MSCI EM ¹	-7.47	-14.58	-14.58	9.25	1.65	8.02
U.S. Fixed Income	Bloomberg Barclays U.S. Aggregate	1.64	0.01	0.01	2.06	2.52	3.48
Non-U.S. Fixed Income	FTSE ² Non-U.S. WGBI (Unhedged)	1.31	-1.82	-1.82	3.32	0.28	1.27
Commodities	Bloomberg Commodity Index	-9.41	-11.25	-11.25	0.30	-8.80	-3.78
Private Real Estate	NFI-ODCE ³	1.76	8.35	8.35	8.24	10.41	7.00
Private Equity	Thomson Reuters Private Equity ⁴	4.50	7.71	18.01	12.11	14.42	10.09
Hedge Funds	HFRI Fund of Funds Composite	-4.85	-3.92	-3.92	1.34	1.42	3.13

¹ Net of Dividends

² Formerly Citigroup Non-U.S. WGBI. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and were all rebranded to FTSE by July 31, 2018. FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

³ NCREIF Fund Index (NFI) – Open End Diversified Core Equity (ODCE)

⁴ Performance as of Q2 2018 because Q3 2018 and Q4 2018 performance data is not yet available.

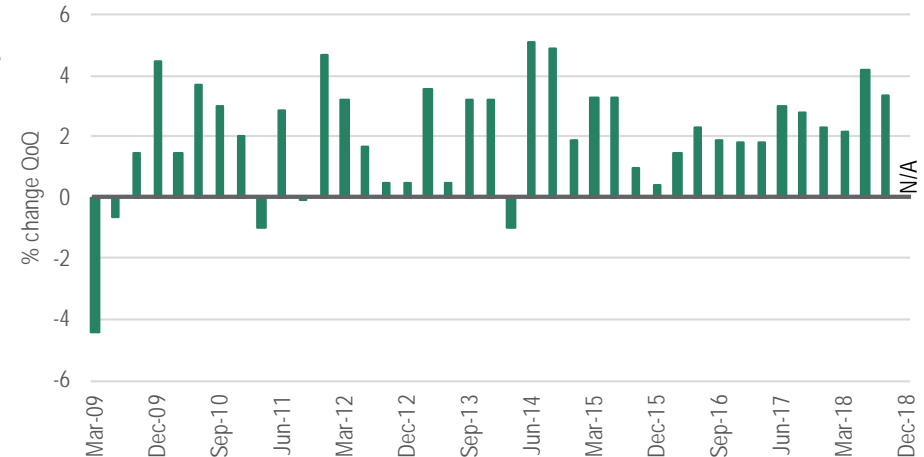
Sources: Investment Metrics, Thomson One, FactSet

Q4 2018 In Review: U.S. Economy

GDP Growth

- The release of Q4 2018 GDP data has been delayed due to the partial U.S. government shutdown. Although the government has reopened, the Bureau of Economic Analysis (BEA) is awaiting the underlying data it needs from other government agencies to assess GDP growth during the quarter.
- Real GDP grew at a rate of 3.4% in Q3 2018, which is 0.1% lower than previously reported, according to the BEA's third estimate of economic growth for that quarter.
- In the BEA's third revision to Q3 GDP, it noted that personal consumption expenditures and exports were revised down, and private inventory investment was revised up.

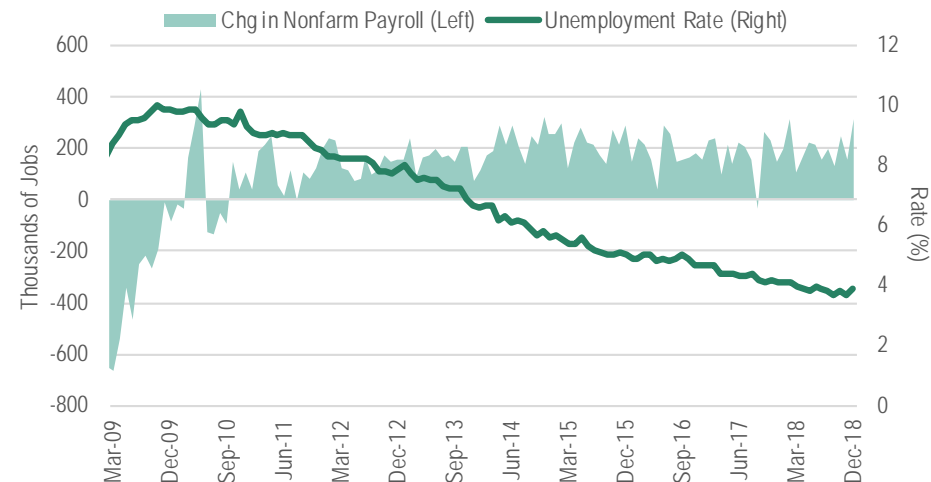
U.S. Real GDP Growth



Employment Picture

- The unemployment rate rose to 3.9% in December. Nonfarm payrolls rose by 762,000 over the quarter.
- Employment gains were led by health care, food services and drinking places, construction, manufacturing and retail.
- Employment in industries such as mining, wholesale trade, transportation and warehousing, information, financial activities, and government, showed little change.

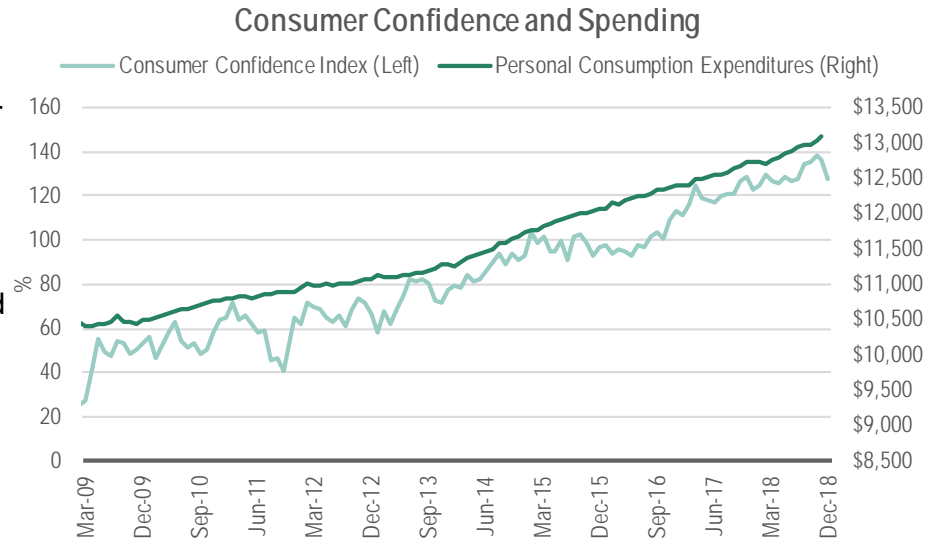
U.S. Nonfarm Payrolls and Unemployment Rate



Q4 2018 In Review: U.S. Economy

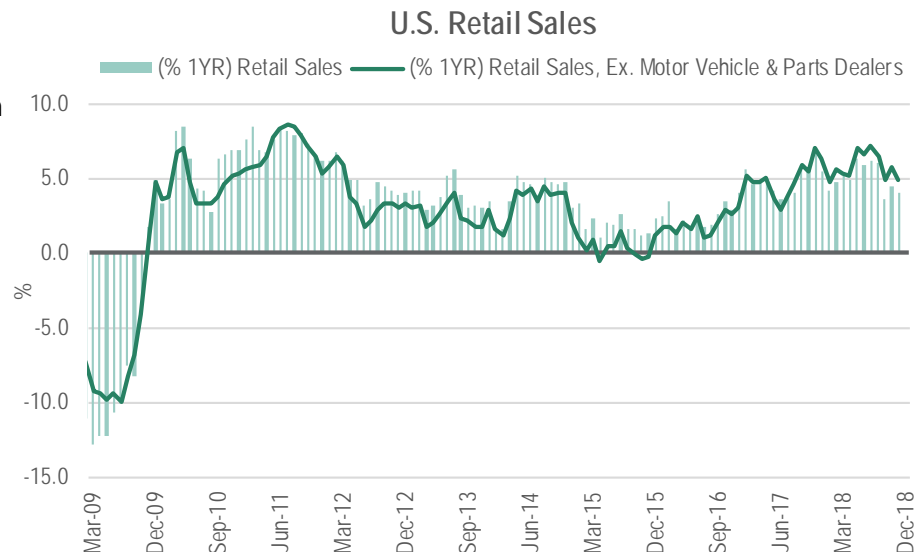
Consumer Confidence and Spending

- Sentiment declined in Q4, as the Conference Board's Consumer Confidence Index decreased from 135.3 at the end of September to 128.1 at the end of December.
- Personal consumption expenditures increased during the quarter.
- Consumer confidence fell as global trade tensions persisted and worries grew about the state of the global economy.



Retail Sales

- Retail sales ended November* up 4% from one year ago.
- Online retail sales, furniture and electronics sales gained most in November.
- November's relatively strong retail sales data followed a solid October, keeping expectations in place for strong results overall for Q4.

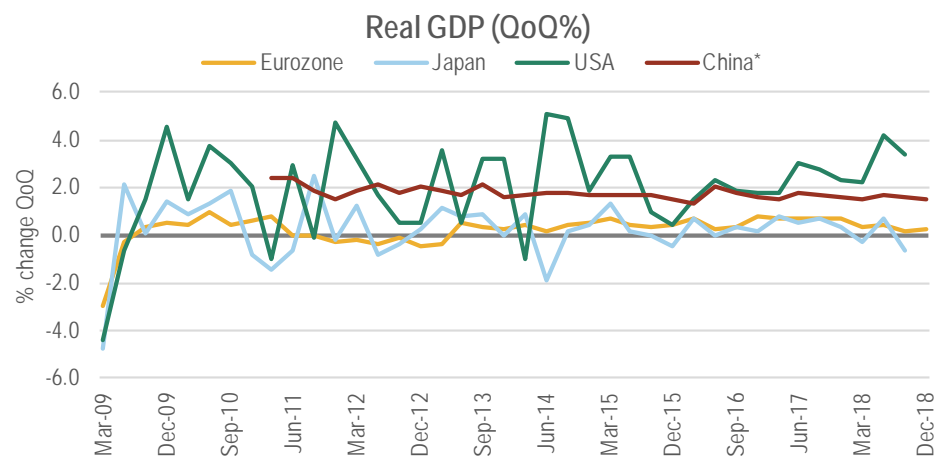


*The most recent data available.
Source this page: FactSet

Q4 2018 In Review: Global Economy

World GDP Growth

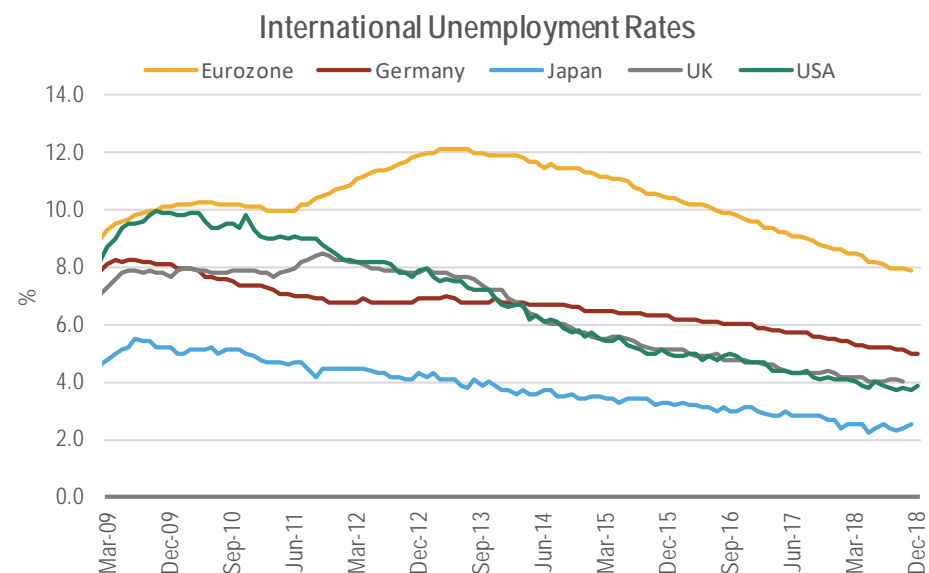
- Eurozone GDP growth remained weak in Q4, gaining 0.2% quarter over quarter (QoQ). The Eurozone's annual growth rate fell to 1.2% at the end of 2018.
- China's GDP growth declined by 0.1% QoQ to 1.5% in Q4. The country's annual growth rate slowed to 6.4%.
- Japan's GDP was negative QoQ in Q3**, coming in at -0.6%. The Japanese economy's annual growth rate is now flat at 0%.
- The U.S. Q4 GDP report from the BEA is delayed in the wake of the partial government shutdown.



Note that the figures in the graph above represent the percent change in real GDP from the previous quarter, not the annual growth rate of these economies.

Global Employment Picture

- Eurozone unemployment fell to 7.9% in November 2018**, the region's lowest-recorded rate since October 2008. The Eurozone's recent economic strength has led to this reduction in unemployment, although economic momentum has slowed there this year.
- Japan's unemployment rate ticked up to 2.5% in November. While higher than its earlier historic low of 2.2%, unemployment remained quite modest in Japan.



*Quarter over quarter data calculations began in 2011.

**Most recent data available.

Source this page: FactSet

Q4 2018 In Review: Global Equity Overview

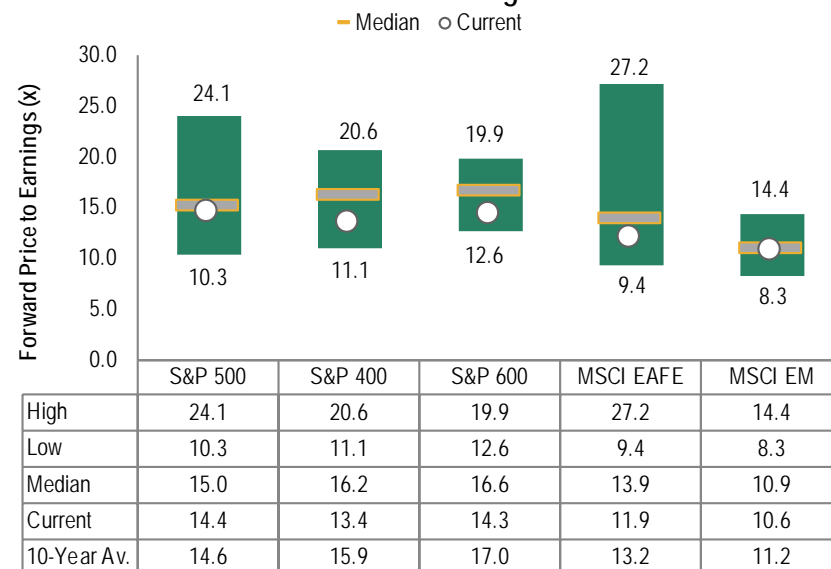
Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	-13.52	-4.38	-4.38	9.26	8.49	13.12
MSCI Europe, Australasia and Far East (EAFE)*	-12.54	-13.79	-13.79	2.87	0.53	6.32
MSCI Emerging Markets (EM)*	-7.47	-14.58	-14.58	9.25	1.65	8.02

All data in the table are percentages.
* Net of dividends

Global Equity Performance and Valuations

- Equity markets declined across the globe in Q4, but the U.S. fared the worst. Concerns about a slowing economy, weaker earnings growth and rising interest rates weighed heavily on returns. The strength of the U.S. dollar (USD) continued to be a headwind to international and emerging market (EM) equities, although USD appreciation moderated throughout the quarter.
- On a positive note, U.S., non-U.S. developed, and EM equities are all in positive territory over the 3-, 5-, and 10-year periods.
- The P/E multiple for U.S. large cap fell below median in Q4, indicating relative cheapness. U.S. small and mid caps now look very attractive versus their medians.
- The MSCI EAFE P/E multiple is 2x lower than its median. As such, international equities appear to be undervalued according to this measure.
- The MSCI EM P/E multiple ended Q4 just south of its median. EM equities appear close to fairly valued by this measure.

Price to Earnings



Data range is from 12/31/99-12/31/18. P/E ratios are forward 12 months.

Q4 2018 In Review: U.S. Equity

U.S. Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	-13.52	-4.38	-4.38	9.26	8.49	13.12
Russell 1000	-13.82	-4.78	-4.78	9.09	8.21	13.28
Russell 1000 Growth	-15.89	-1.51	-1.51	11.15	10.40	15.29
Russell 1000 Value	-11.72	-8.27	-8.27	6.95	5.95	11.18
Russell 2000	-20.20	-11.01	-11.01	7.36	4.41	11.97
Russell 2000 Growth	-21.65	-9.31	-9.31	7.24	5.13	13.52
Russell 2000 Value	-18.67	-12.86	-12.86	7.37	3.61	10.40
Russell 3000	-14.30	-5.24	-5.24	8.97	7.91	13.18

All data in the tables are percentages.

Performance

- U.S. equities fell sharply in Q4. The decline was largely driven by slowing economic growth and uncertainty surrounding Fed interest rate policy.
- Small cap stocks were more sensitive to weakening market sentiment and underperformed large cap stocks during Q4.
- The more defensive sectors of the S&P 500 offered some protection in Q4. Utilities posted the only positive return of the quarter. Consumer Staples and Healthcare experienced losses that were less steep than the more cyclical sectors of the index. Of those cyclical sectors, Energy, IT and Industrials fared the worst.
- In a reversal of the trend seen in previous quarters, value stocks performed better than growth stocks, as higher-priced growth companies sold off amid fears of a global slowdown in economic growth.

S&P 500 Sector Returns	QTD	1-Year
Consumer Discretionary	-16.50	0.43
Consumer Staples	-5.44	-9.22
Energy	-23.97	-18.82
Financials	-13.26	-13.52
Healthcare	-8.83	5.93
Industrials	-17.42	-13.81
Information Technology	-17.44	-0.69
Materials	-12.46	-15.23
Communications Services	-13.30	-13.72
Utilities	1.10	3.00

Q4 2018 In Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	-12.78	-14.09	-14.09	3.11	0.34	6.24
EAFE	-12.54	-13.79	-13.79	2.87	0.53	6.32
EAFE Local Currency	-12.20	-10.99	-10.99	2.62	3.81	7.50
Europe	-12.72	-14.86	-14.86	2.10	-0.61	6.15
Europe ex U.K.	-13.08	-15.14	-15.14	2.29	-0.13	5.79
U.K.	-11.78	-14.15	-14.15	1.60	-1.71	6.84
Pacific ex Japan	-7.94	-10.30	-10.30	6.79	2.10	9.89
Japan	-14.23	-12.88	-12.88	3.41	3.06	5.33

All data in the tables are percentages and net of dividends.

Performance

- Despite posting double-digit negative absolute returns in Q4, international equities fared better than the U.S. for the first time all year. The unresolved tariff dispute between the U.S. and China, the tightening Fed, Brexit concerns, Italian politics and the slowing global economy put pressure on developed markets.
- The ongoing uncertainty surrounding the Brexit negotiations weighed on UK market performance in addition to business and consumer confidence. Against this backdrop, the Bank of England maintained rates at 0.75%.
- Sector returns were all negative in Q4, with defensive stocks performing the best in a relative sense. Utilities, Telecom and Staples declined the least of all sectors as the market returned to a risk-off environment during the quarter. The best performers over the past 12-18 months (Tech and Energy) sold off despite solid earnings. Cyclical sectors such as Financials, Materials and Industrials struggled due to the impact of rising interest rates in the U.S. and tariffs.

MSCI EAFE Sector Returns	QTD	1-Year
Consumer Discretionary	-14.19	-16.11
Consumer Staples	-8.36	-10.83
Energy	-17.54	-7.18
Financials	-13.69	-20.10
Healthcare	-10.26	-4.32
Industrials	-14.63	-15.69
Information Technology	-16.72	-15.64
Materials	-15.22	-17.50
Telecommunications Services	-7.68	-12.08
Utilities	-0.08	1.10

Q4 2018 In Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	-7.47	-14.58	-14.58	9.25	1.65	8.02
EM Local Currency	-7.43	-10.08	-10.08	8.79	5.00	9.58
Asia	-9.29	-15.45	-15.45	8.63	3.94	9.81
EMEA	-4.14	-16.11	-16.11	7.81	-3.20	4.94
Latin America	0.36	-6.57	-6.57	14.85	-1.73	4.98

All data in the tables are percentages and net of dividends.

Performance

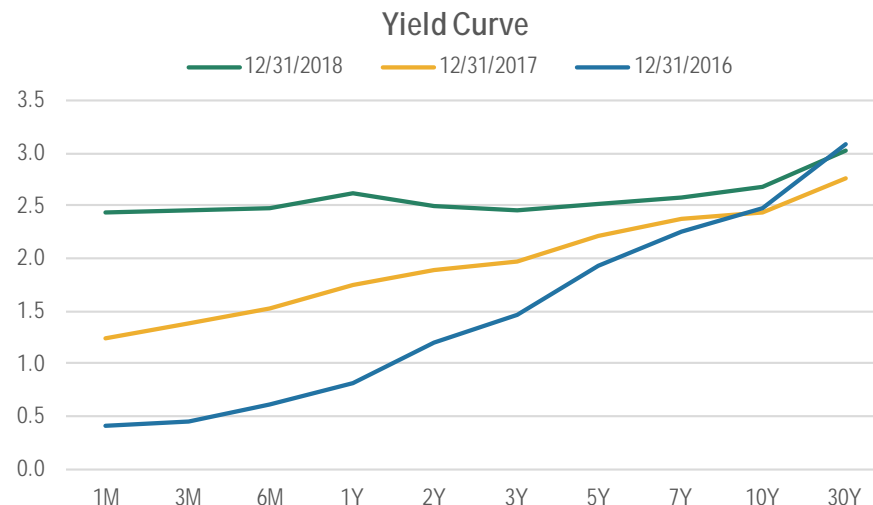
- Emerging markets, which suffered for much of 2018, dropped 7.5% in Q4. EM fell less than the U.S. and developed markets during the quarter.
- Fears of a slowdown in global growth and uncertainty around continuing trade tensions contributed to EM's Q4 decline.
- The standout performer in EM in Q4 was Brazil, which climbed nearly 14% on prospects for a more business-friendly government from newly elected president Jair Bolsonaro.
- Sector returns were primarily negative in Q4. Utilities posted the only gain while Healthcare, Consumer Discretionary, Tech, Energy and Materials fell sharply.

MSCI EM Sector Returns	QTD	1-Year
Consumer Discretionary	-13.52	-32.50
Consumer Staples	-4.59	-13.65
Energy	-10.60	4.67
Financials	-0.88	-8.68
Healthcare	-16.17	-20.89
Industrials	-3.78	-12.58
Information Technology	-12.71	-19.29
Materials	-10.75	-11.58
Telecommunications Services	-3.72	-14.93
Utilities	3.62	-3.79

Q4 2018 In Review: Fixed Income Overview

Yield Curve

- Treasury yields rose across the short end of the curve in Q4 with the Fed continuing to tighten its monetary policy. Yields compressed across maturities greater than 1 year.
- Global demand accentuated the yield curve's flattening trajectory, as long-term Treasury yields fell and the very front end of the curve moved up modestly.
- The 30-year Treasury ended the quarter yielding 3.02%, which was 17 basis points (bps) lower than it was at the end of Q3. The 2-year Treasury ended the quarter at 2.48%, which was 42 bps lower than the prior quarter.

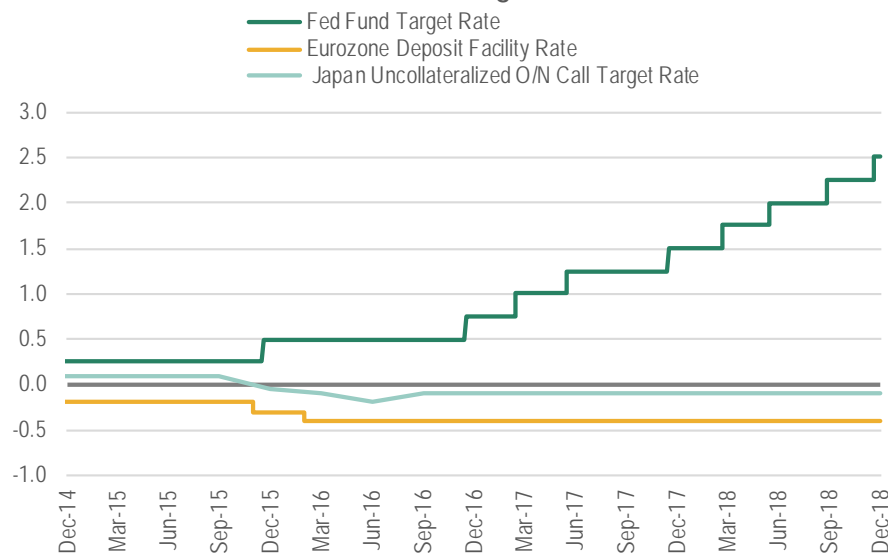


Monetary Policies/Global Interest Rates

- Central bank deposit rates remained negative in the Eurozone and Japan.
- The U.S. is the exception—the Federal Reserve (Fed) raised rates again in December, the fourth hike of 2018.
- The Fed indicated that its plans for future rate increases are less clear now than previously stated due to concerns about market volatility and economic growth.

Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	5.69% (1971-2018)	1.28% (1999-2018)
Max	20.0% (Mar. 1980)	3.75% (Oct. 2000)
Min	0.25% (Dec. 2008)	-0.40% (Mar. 2016)

Central Bank Target Rates



Q4 2018 In Review: U.S. Fixed Income

U.S. Fixed Income Indices*	QTD	YTD	1-Year	3-Year	5-Year	10-Year
U.S. Aggregate	1.64	0.01	0.01	2.06	2.52	3.48
Government/Credit	1.46	-0.42	-0.42	2.19	2.53	3.46
Government	2.54	0.88	0.88	1.41	1.99	2.12
Investment Grade Corporate	-0.18	-2.51	-2.51	3.26	3.28	5.92
Investment Grade CMBS	1.66	1.01	1.01	2.67	2.63	7.54
U.S. Corporate High Yield	-4.53	-2.08	-2.08	7.23	3.83	11.12
FTSE** 3-Month T-Bill	0.57	1.86	1.86	0.99	0.60	0.35
Hueler Stable Value	0.59	2.23	2.23	1.99	1.89	2.24

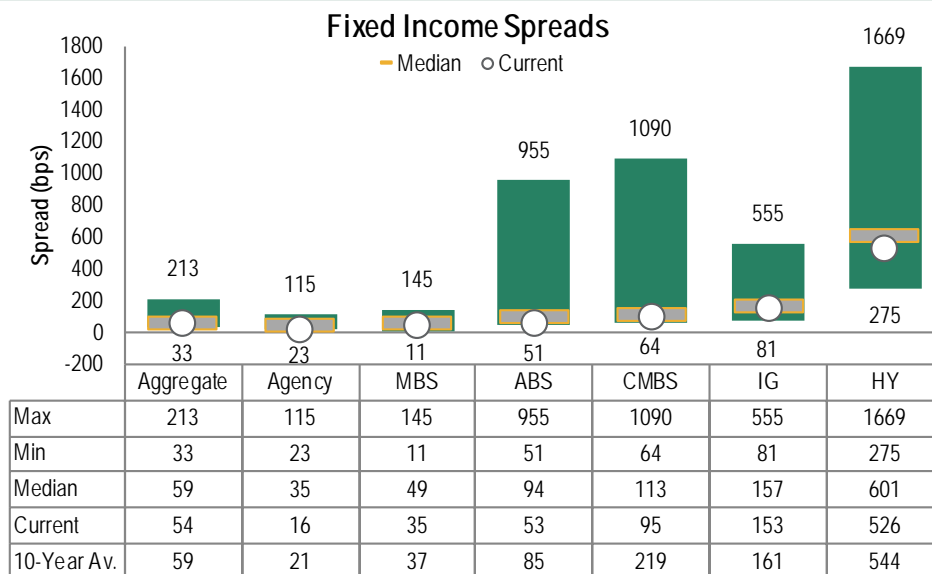
* Bloomberg Barclays Indices, unless otherwise noted.

** Formerly Citigroup. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and were rebranded to FTSE by July 31, 2018. FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

All data in the table are percentages.

Performance and Spreads

- The U.S. Aggregate Index was positive in Q4. Performance was driven by Treasuries and Agency MBS, which both returned over 2.0%.
- High yield experienced a -4.50% return in Q4 as market stress impacted higher yielding credits.
- Several domestic fixed income spreads are back near historical medians due to the broad credit market selloff.



Q4 2018 In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Barclays Global Aggregate	1.20	-1.19	-1.19	2.70	1.08	2.49
Bloomberg Barclays Global Aggregate (Hgd)	1.74	1.77	1.77	2.91	3.45	3.78
FTSE Non-U.S. WGBI*	1.31	-1.82	-1.82	3.32	0.28	1.27
FTSE Non-U.S. WGBI (Hgd)	2.29	3.49	3.49	3.55	4.36	3.76
JPM EMBI Global Diversified**	-1.26	-4.26	-4.26	5.15	4.80	8.20
JPM GBI-EM Global Diversified***	2.11	-6.21	-6.21	5.91	-0.96	3.45

All data in the table are percentages.

* Formerly Citigroup. The FTSE Non-U.S. World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment grade sovereign bonds excluding the U.S.

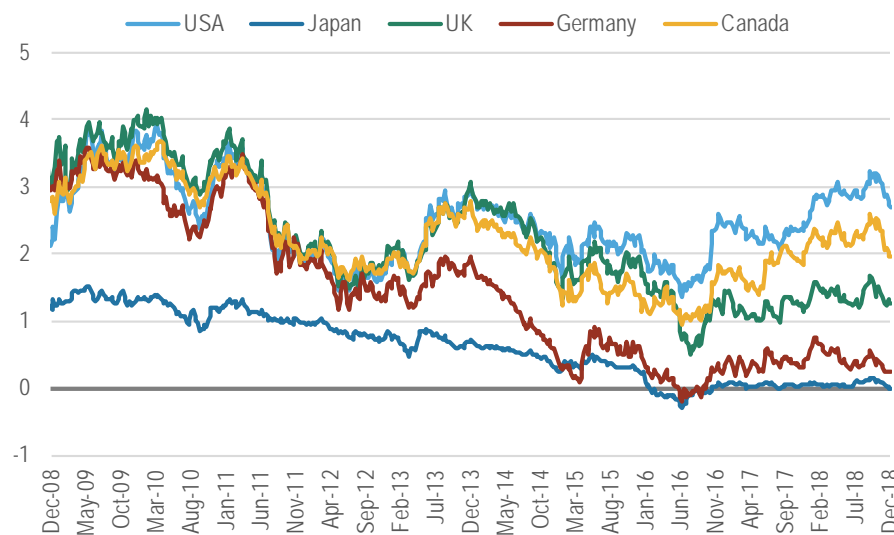
** The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

*** The JP Morgan Government Bond Index – Emerging Markets (GBI-EM) Global Diversified index measures government bonds in local currencies.

Global Performance and Yields

- Government yields fell in Q4 across developed markets.
- The euro and British pound depreciated relative to the U.S. dollar, while the Japanese yen appreciated. In emerging markets, currency depreciation was particularly pronounced in commodity exporting countries like Russia, as well as select Latin American countries such as Mexico and Colombia.
- In Q4, central banks continued to adjust policy away from accommodation. The ECB ended its bond purchase program in Q4 and the BoJ continued to reduce its bond buying as well. However, extreme market conditions caused the Fed to have a slightly more dovish tone at the end of the quarter.

Global 10-Year Treasury Yields



Q4 2018 In Review: Absolute Return Strategies

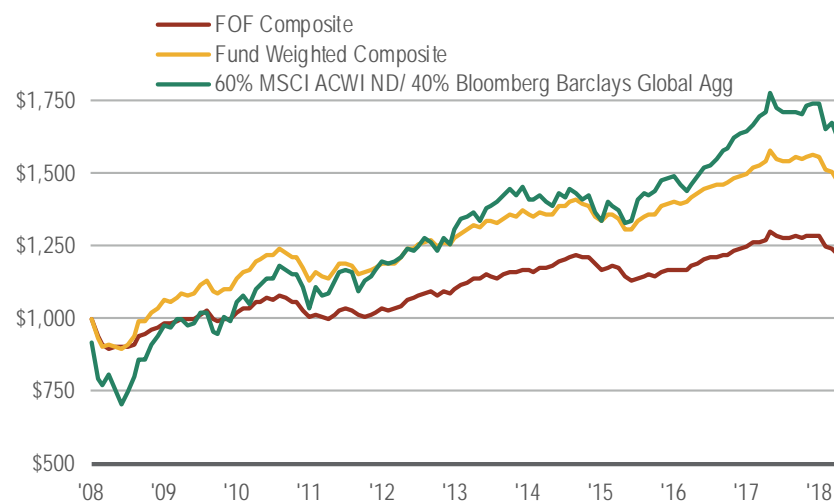
HFRI Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Fund of Funds Composite	-4.85	-3.92	-3.92	1.34	1.42	3.13
Fund Weighted Composite	-5.76	-4.49	-4.49	3.03	2.17	4.94
Event Driven	-5.03	-2.35	-2.35	5.12	2.52	6.50
Equity Hedge	-8.31	-6.94	-6.94	3.60	2.31	5.66
Macro	-1.86	-3.63	-3.63	-0.16	0.74	1.10
Emerging Markets	-4.28	-11.14	-11.14	4.32	1.36	5.29
Relative Value	-3.22	-0.24	-0.24	4.14	3.21	6.89

All data in the table are percentages.
Returns for periods greater than one year are annualized.

Hedge Fund Performance

- The HFRI Fund Weighted Composite declined 5.8% during Q4. All of the major hedge fund strategies fell during the quarter. Macro lost the least due to contributions from currency and discretionary thematic managers that were defensively positioned.
- Equity Hedge declined the most in Q4. Volatility spiked early in the quarter following sharp declines in crude oil. Managers with exposure to energy and basic materials were the most adversely affected, followed not too distantly by managers with significant positioning in the technology sector.
- The Fund Weighted Composite and Fund of Funds Composite indices also experienced losses in Q4, but they outperformed the 60/40 Balanced MSCI ACWI/Bloomberg Barclays Global Aggregate index, which decreased 7.2% during the quarter.

HFR Hedge Fund and Fund of Fund Weighted Composite Growth of \$1000

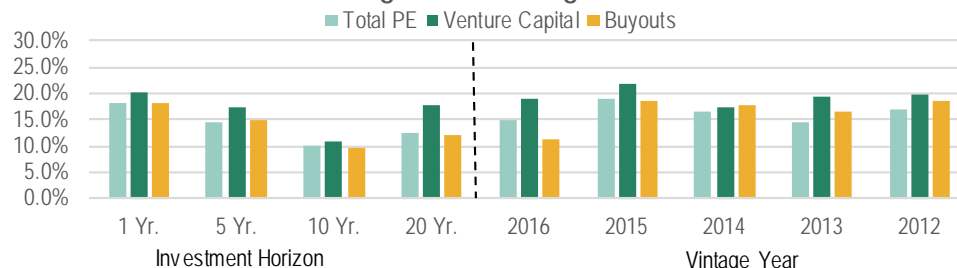


Q4 2018 In Review: Private Equity

Performance

- The total return for private equity funds, comprising performance across all regions and strategies, was 4.5% in Q2 2018* and 18.0% over the 1-year period ending Q2.
- The 5-, 10-, and 20-year returns for private equity funds were 14.4%, 10.1% and 12.7%, respectively, at the end of Q2.
- Fund performance has been strong across all recent vintage years.

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

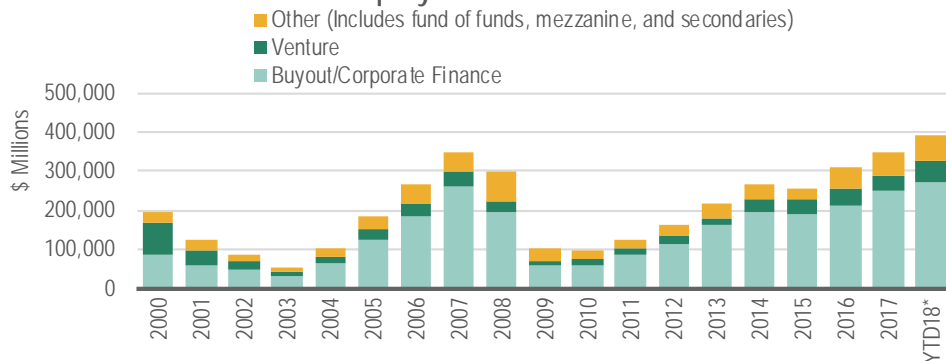


*Vintage year refers to the first year that capital was committed in a particular fund. Vintage-year performance is calculated as the median percentile returns of all funds reporting as pooled IRRs.

Fundraising

- U.S. private equity funds raised approximately \$392.1 billion across 1,136 funds through December 17, 2018*, which is on par with 2017's annual fundraising data.
- On a global basis, private equity fundraising dropped \$140 billion from 2017 to 2018. The 10 largest funds accounted for nearly one-quarter of the total capital raised in 2018 as many investors consolidated their investments with managers with proven track records.

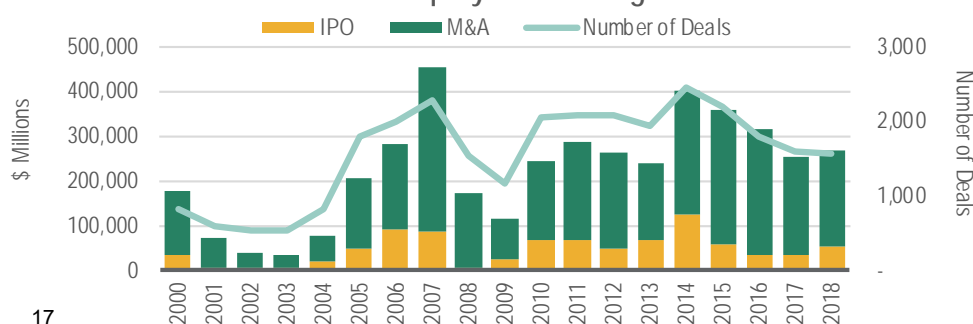
Private Equity Commitments: United States



Exit Activity

- There were 1,582 private equity-backed exit deals completed in 2018, roughly the same number as in 2017. Due to the active IPO windows in major markets globally, aggregate IPO deal value increased from \$33.8 billion in 2017 to \$52.9 billion in 2018.
- The largest private equity-backed exits in 2018 included Flipkart (\$16.0 billion), AveXis (\$8.7 billion), BMC Software (\$8.3 billion), Qualtrics (\$8.0 billion), Blue Buffalo (\$7.9 billion), and GitHub (\$7.5 billion).

Private Equity Exit: All Regions



*The most recent data available.

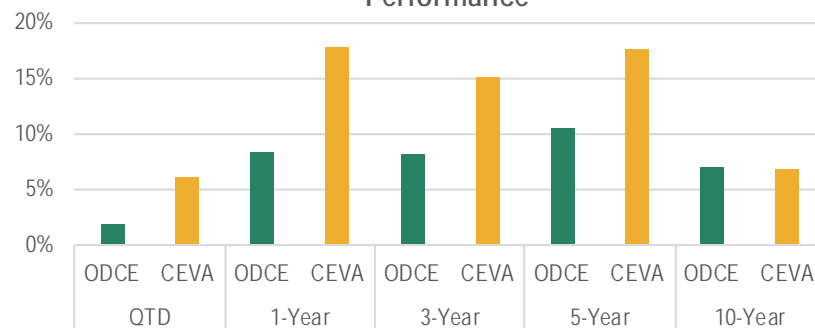
Sources this page: Thomson Reuters, *Private Equity Analyst*, Preqin

Q4 2018 In Review: Real Estate

Real Estate Performance

- Comparing the most recent performance of core real estate, as measured by the NFI-ODCE index (Q4 2018), and value add real estate, as measured by the CEVA index (Q3 2018), the CEVA outperformed the ODCE by 436 bps.
- With the exception of the 10-year rolling period, the CEVA has outperformed the ODCE by an average of 692 bps.
- Over the QTD, 1, 3, 5, and 10-year periods, the ODCE has had a gross rolling return standard deviation of 2.9% compared to the CEVA's at 5.1%.
- Public real estate, as measured by the FTSE EPRA/NAREIT Developed Real Estate Index*, returned -5.5% in Q4.

NCREIF Fund Index (NFI) Open-End Diversified Core (ODCE) and Closed End Value-Add (CEVA) Real Estate Performance



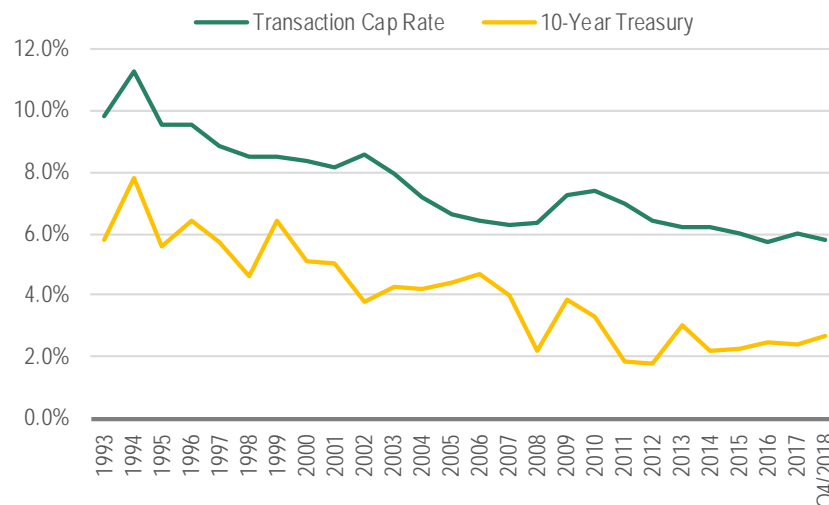
The NFI-ODCE (Open-end Diversified Core Equity) is defined by NCREIF as a fund-level cap-weighted, gross of fee, time-weighted return index with an inception date of December 31, 1977.

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

Real Estate Capitalization Rates* vs. Treasuries

- Prime assets have seen strong capital flow, which has kept investment values generally stable. However, there are concerns that values may have peaked or are even poised to fall due to significant appreciation and higher interest rates. Lower quality assets are at the greatest risk of price declines.
- Prevailing cap rates have been buoyed by historically wide spreads versus financing costs and persistent demand for real estate.
- Further compounding the cap rate spread issue, there is a record level of capital available to invest in real estate.

Capitalization Rates & 10-Year U.S. Treasury



* The FTSE EPRA Nareit Developed Index is designed to track the performance of listed real estate companies and REITs worldwide.

** A cap rate is the potential rate of return on a real estate investment. Assuming no change in net operating income, real estate valuations rise when cap rates fall. Comparing cap rates to the 10-year U.S. Treasury provides investors with an estimated spread for expected returns from real estate (higher risk) vs. fixed rate bond (lower risk) investments.

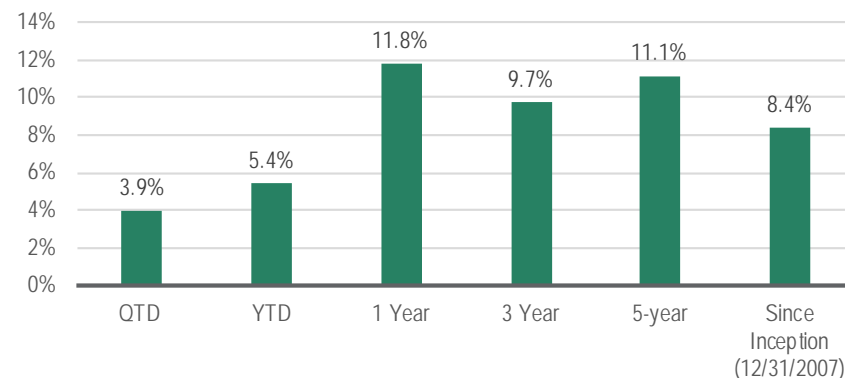
Sources this page: NCREIF, Bloomberg

Q4 2018 In Review: Infrastructure

Infrastructure Performance

- Private infrastructure gained 3.9% in Q2 2018* and 11.8% over the 1-year period ending June 30, 2018.
- The 1-, 3-, and 5-year results exceeded the since-inception return, indicating the asset class has recovered well from the global financial crisis. The strong Q2 2018 return is a good sign for investors after a weak Q1(1.4%).
- The average deal size in 2018 (\$412.7 million) was significantly higher relative to history (\$329.3 million), which could be a sign of elevated valuations.
- Public infrastructure registered a -2.4% return in Q4 2018, as per the FTSE Global Infrastructure 50/50 Index.

Preqin Infrastructure Annualized Return as of 6/30/2018*

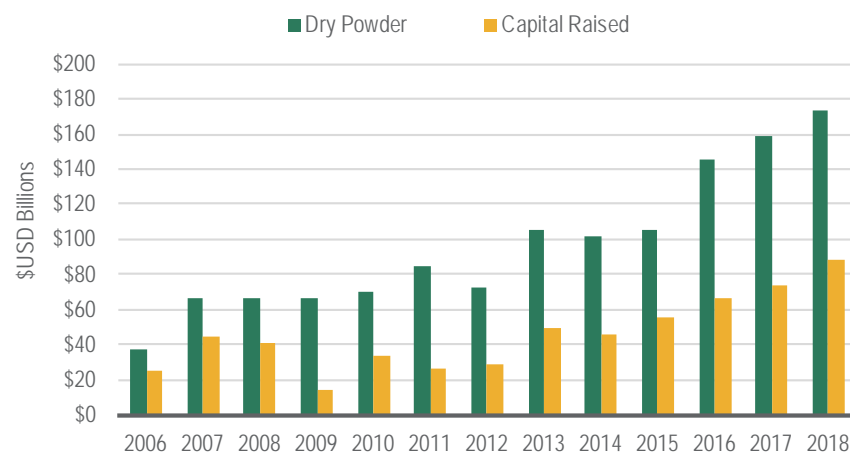


According to Preqin, the Preqin Infrastructure Index captures the average returns earned by investors in their infrastructure portfolios, based on the actual amount of money invested. The Preqin Infrastructure index is calculated on a quarterly basis using data from Preqin's Infrastructure Online services.

Dry Powder and Fundraising

- Infrastructure fundraising fell from a record high of \$43.9 billion in Q3 to \$13.2 billion in Q4. The average fund size on a quarterly basis was \$1.1 billion in Q4, which is greater than the historical average quarterly fund size of \$883.8 million.
- Dry powder** decreased slightly in Q4 as fundraising declined. Funds raised \$13.2 billion during the quarter and dry powder fell by \$3 billion.
- The average deal size increased from \$334.9 million in 2017 to \$412.7 million in 2018, which helped managers deploy more capital and offload dry powder. Despite this fact, dry powder stood at \$173 billion at the end of 2018.

Dry Powder and Fundraising



*The most recent data available.

**Dry powder is capital raised that hasn't yet been invested.

Sources this page: Preqin

Q4 2018 In Review: Commodities and Currencies

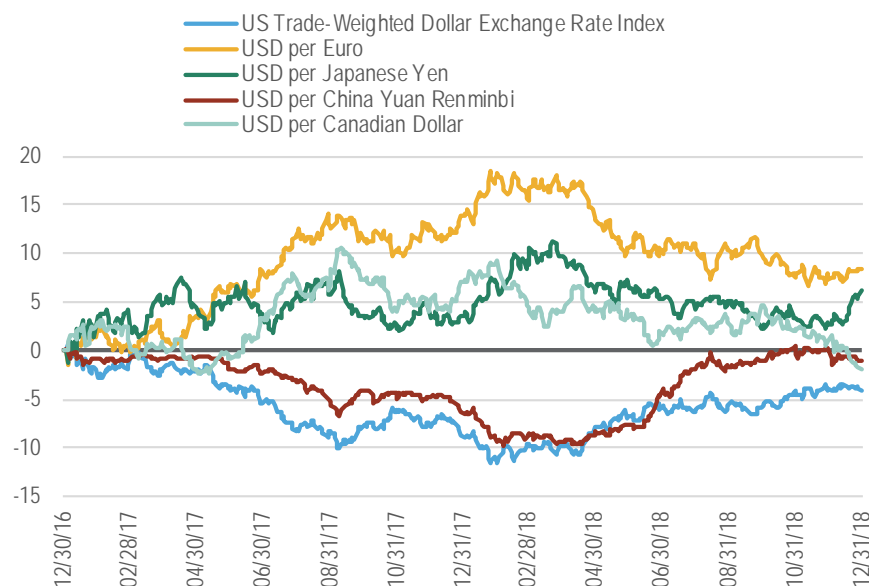
BCOM Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Commodity Index (BCOM)	-9.41	-11.25	-11.25	0.30	-8.80	-3.78
Energy	-25.78	-12.70	-12.70	-0.97	-18.47	-13.14
Agriculture	0.15	-10.79	-10.79	-6.78	-9.10	-2.88
Industrial Metals	-8.69	-19.48	-19.48	7.69	-3.19	1.60
Precious Metals	6.82	-4.57	-4.57	5.05	-0.86	3.10
Livestock	0.69	-1.71	-1.71	-0.45	-2.23	-2.79

Commodity and Currency Highlights

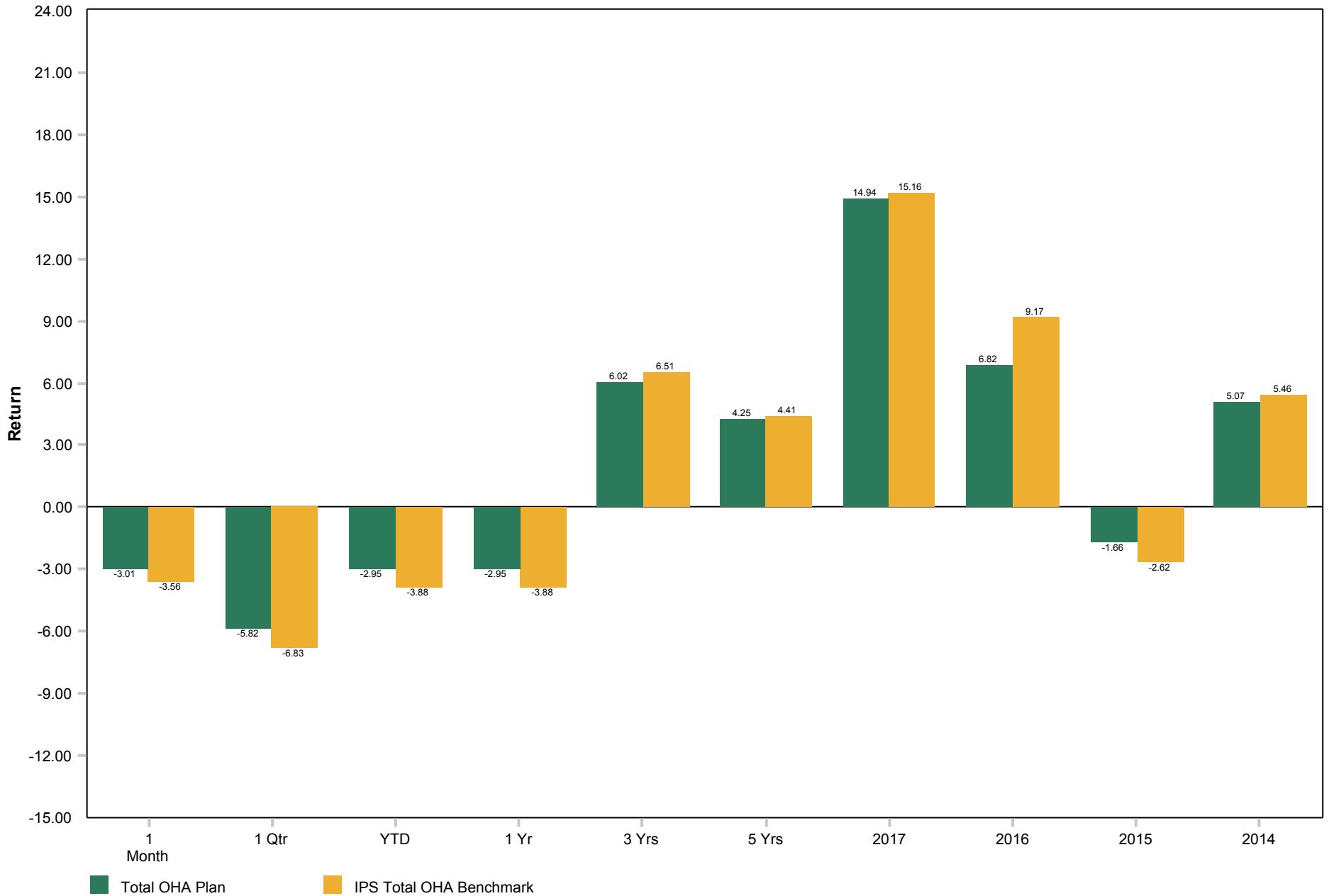
- The Bloomberg Commodity Index fell during Q4. Performance across the underlying sectors varied significantly.
- Energy fell 25.8% in Q4, erasing a 17.6% YTD gain through Q3. West Texas Intermediate crude oil, gasoline, and Brent crude oil prices all declined more than 30% during the quarter. Concerns about oversupply entered the market with stronger-than-expected oil exports from Saudi Arabia and OPEC, coupled with decreased demand expectations amid a weakening global economy.
- Precious metals gained in Q4. Gold and silver rose amid worries of continuing global trade tensions and slowing growth in China, a major consumer of gold.
- The USD continued to rise against most major currencies in Q4, though its strength moderated.
- The euro decreased slightly versus the USD, while the yen appreciated.
- The yen's appreciation may hurt exports, which could continue to drag on Japan's GDP growth.

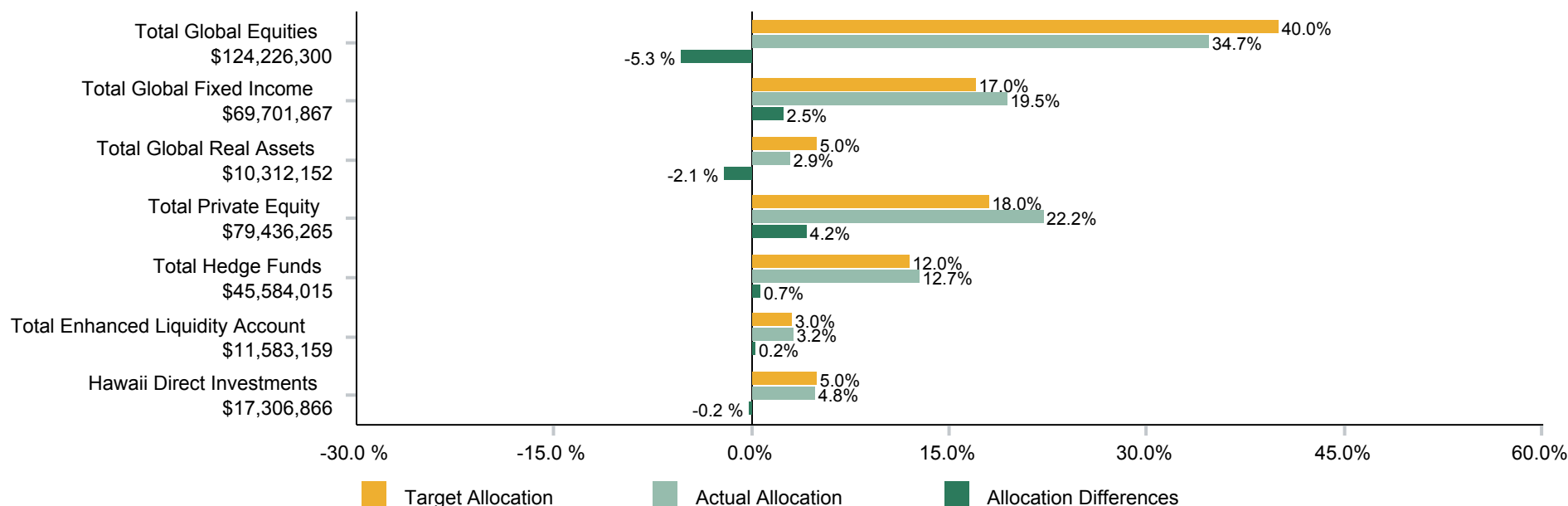
20

Major World Currencies Indexed to Zero



Total Traditional Assets





	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total OHA Plan	358,150,624	100.00	100.00	0.00	N/A	N/A
Total Global Equities	124,226,300	34.69	40.00	-5.31	22.00	55.00
Total Global Fixed Income	69,701,867	19.46	17.00	2.46	11.00	22.00
Total Global Real Assets	10,312,152	2.88	5.00	-2.12	0.00	11.00
Total Private Equity	79,436,265	22.18	18.00	4.18	0.00	25.60
Total Hedge Funds	45,584,015	12.73	12.00	0.73	6.40	19.20
Total Enhanced Liquidity Account	11,583,159	3.23	3.00	0.23	0.00	10.00
Hawaii Direct Investments	17,306,866	4.83	5.00	-0.17	0.00	10.00

As of December 31, 2018

	Total Fund	
	(\$)	%
Total OHA Plan	358,150,624	100.00
Total Global Equities	124,226,300	34.69
SS Money Market (SALXX)	1,171	0.00
Commonfund Open Cash	794,603	0.22
State Street S&P 500 Index Strategy	28,216,189	7.88
JP Morgan US Large Cap Core Plus (JLPSX)	11,943,889	3.33
JP Morgan Disciplined Equity R6 (JDEUX)	8,097,907	2.26
JP Morgan Value Advantage Instl (JVAIX)	8,098,410	2.26
JP Morgan Growth Advantage (JGVVX)	7,836,630	2.19
JP Morgan Mid Cap Equity Select (VSNGX)	2,385,280	0.67
JP Morgan US Small Company Instl (JUSSF)	1,006,405	0.28
State Street Global Equity	24,104,134	6.73
Strategic Solutions Global Equity	10,406,093	2.91
JP Morgan Intl Research (OIEAX)	6,911,343	1.93
JP Morgan Intrepid International (JIFFX)	4,688,849	1.31
JP Morgan International Equity R6 (JNEMX)	4,697,820	1.31
JP Morgan Emerging Markets Equity (JMIEX)	3,005,372	0.84
JP Morgan Emerging Economies Select (JEEEX)	2,032,205	0.57
Total Global Fixed Income	69,701,867	19.46
SSGA Funds	128,931	0.04
JPM Open Cash	286,881	0.08
iShares TIPS Bond (TIP)	2,643,243	0.74
JP Morgan Inflation Managed (JRBSX)	2,288,821	0.64
State Street Aggregate Bond IN	29,469,244	8.23
JP Morgan ULTRA Short Income (JPST)	5,673,914	1.58
JP Morgan Core Bond (JCBUX)	7,238,408	2.02
JP Morgan Core Plus (HLIPX)	3,210,438	0.90
WAMCO Short Dated High Yield Portfolio	5,552,787	1.55
JP Morgan High Yield R6 (JHYUX)	5,434,038	1.52
JP Morgan Floating Rate Income (JPHSX)	7,654,303	2.14
JP Morgan Emerging Mkt Strategic Debt (JECSX)	120,858	0.03

As of December 31, 2018

	Total Fund	
	(\$)	%
Total Global Real Assets	10,312,152	2.88
JPM Realty Income Inst (JPINX)	3,881,757	1.08
State Street Real Asset NL CTF (HWA5)	2,131,678	0.60
SSGA S&P Global Natural Resources Index	1,313,772	0.37
SSGA Tuckerman U.S. REIT Index	2,222,488	0.62
Harvest MLP Income	762,457	0.21
Total Private Equity	79,436,265	22.18
Total Diversified Private Equity	54,624,467	15.25
Total Private Equity Fund of Funds	41,423,238	11.57
Pantheon Europe Fund IV LP	547,879	0.15
Pantheon USA Fund VI LP	1,422,021	0.40
Pantheon Europe Fund VI LP	2,718,022	0.76
Pantheon USA Fund VIII LP	5,338,848	1.49
GS PEP 2004 Offshore	713,498	0.20
GS PEP 2005 Offshore	436,149	0.12
GS PEP Asia Offshore	296,511	0.08
GS PEP IX Offshore	264,529	0.07
GS PEP X Offshore	1,250,739	0.35
Commonfund International Partners VII	2,313,143	0.65
Commonfund Venture Partners X	7,250,385	2.02
Pantheon Emerging Asia Fund VI LP	2,316,283	0.65
Commonfund Private Equity Partners VIII	1,665,102	0.46
GS GEM PEM Off	2,308,731	0.64
Commonfund Emerging Markets Partners 2013	5,061,077	1.41
Commonfund Private Equity Partners IX	1,495,724	0.42
Commonfund International Partners VIII	1,568,657	0.44
Commonfund Venture Partners XI	4,455,940	1.24
Total Private Equity Multi-Strategy	13,201,229	3.69
Pantheon Global Co-Investment Opps II	990,348	0.28
Pantheon Global Secondary Fund II LP	111,903	0.03
GS Vintage V Offshore	586,077	0.16
Pantheon Global Secondary Fund IV LP	1,114,282	0.31
GS Vintage VI Offshore	2,020,981	0.56
GS Vintage VII Offshore	3,023,390	0.84

As of December 31, 2018

	Total Fund	
	(\$)	%
Pantheon Global Secondary Fund V	5,110,401	1.43
GS Co-Investment Partners II Offshore	243,847	0.07
Total Private Debt	6,668,870	1.86
GS Mezzanine V	132,712	0.04
Highbridge Offshore Mezzanine Partners II LP	2,020,959	0.56
Highbridge Irish Specialty Loan Fund III	930,926	0.26
GS Broad Street Senior Credit Partners	1,184,344	0.33
Highbridge European Asset Value Offshore	2,399,929	0.67
Total Private Real Assets	18,142,929	5.07
Commonfund Natural Resources Partners IX	9,602,075	2.68
JP Morgan Asian I&R Res Opp Fund II	581,044	0.16
GS Broad Street Real Estate Credit Partners II GP, L.L.C.	406,558	0.11
Pantheon Global Infrastructure Fund II	1,678,797	0.47
Commonfund Natural Resources Partners X	5,874,455	1.64
Total Hedge Funds	45,584,015	12.73
Global Absolute Alpha Company	24,669,475	6.89
PIMCO Tactical Opportunities Fund	20,914,540	5.84
Total Enhanced Liquidity Account	11,583,159	3.23
SSGA 1-3 Year U.S. Credit Index (CM2WNON)	11,583,159	3.23
Hawaii Direct Investments	17,306,866	4.83
SSGA Real Asset NL Strategy (HWA4)	17,306,866	4.83
Cash Awaiting Transfer	-	0.00

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
Total OHA Plan	358,151	100.00	-3.01	-5.82	-2.95	-4.04	-2.95	6.02	4.25	6.53	6.37	03/01/2003	
IPS Total OHA Benchmark			-3.56	-6.83	-3.88	-4.21	-3.88	6.51	4.41	6.55	7.01		
All Endowments-Total Fund Median			-4.05	-7.59	-4.85	-5.36	-4.85	5.60	4.05	6.72	7.44		
Total OHA Plan Rank			30	30	28	34	28	34	44	57	81		
Population			305	302	293	300	293	262	234	199	94		
Total Global Equities	124,226	34.69	-7.39	-13.28	-9.99	-9.56	-9.99	6.50	4.20	8.70	7.66	03/01/2003	
IPS Global Equities Benchmark			-7.04	-12.75	-9.42	-9.02	-9.42	6.74	4.31	8.55	8.24		
SS Money Market (SALXX)	1	0.00	0.15	0.47	1.36	0.87	1.36	N/A	N/A	N/A	0.92	12/01/2016	0.37
90 Day U.S. Treasury Bill			0.18	0.56	1.87	1.06	1.87	0.99	0.61	0.45	1.33		
IM U.S. Taxable Money Market (MF) Median			0.17	0.48	1.54	0.90	1.54	0.70	0.43	0.31	1.01		0.48
SS Money Market (SALXX) Rank			71	57	69	56	69	N/A	N/A	N/A	59		
Population			832	831	815	822	815	705	649	630	786		
Commonfund Open Cash	795	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	07/01/2012	
90 Day U.S. Treasury Bill			0.18	0.56	1.87	1.06	1.87	0.99	0.61	0.45	0.48		
IM U.S. Cash Fixed Income (SA+CF) Median			0.21	0.56	2.00	1.15	2.00	1.48	1.12	1.20	1.10		
Commonfund Open Cash Rank			92	94	100	100	100	100	100	N/A	100		
Population			53	53	52	53	52	50	46	41	42		
State Street S&P 500 Index Strategy (SSSYX)	28,216	7.88	-9.09	-13.54	-4.43	-6.92	-4.43	N/A	N/A	N/A	10.95	11/01/2016	0.02
S&P 500			-9.03	-13.52	-4.38	-6.85	-4.38	9.26	8.49	12.70	10.11		
IM U.S. Large Cap Core Equity (MF) Median			-8.98	-13.78	-5.61	-7.57	-5.61	8.00	7.13	11.61	9.21		0.92
State Street S&P 500 Index Strategy (SSSYX) Rank			57	46	31	39	31	N/A	N/A	N/A	13		
Population			778	770	736	755	736	634	565	514	661		
JP Morgan US Large Cap Core Plus (JLPSX)	11,944	3.33	-9.24	-16.11	-7.15	-8.88	-7.15	7.39	N/A	N/A	7.45	05/01/2014	0.85
S&P 500			-9.03	-13.52	-4.38	-6.85	-4.38	9.26	8.49	12.70	8.54		
IM U.S. Large Cap Core Equity (MF) Median			-8.98	-13.78	-5.61	-7.57	-5.61	8.00	7.13	11.61	7.26		0.92
JP Morgan US Large Cap Core Plus (JLPSX) Rank			66	90	75	79	75	65	N/A	N/A	46		
Population			778	770	736	755	736	634	565	514	572		
JP Morgan Disciplined Equity R6 (JDEUX)	8,098	2.26	-9.15	-13.92	-5.48	-7.07	-5.48	8.09	7.44	N/A	11.02	05/01/2012	0.25
S&P 500			-9.03	-13.52	-4.38	-6.85	-4.38	9.26	8.49	12.70	11.48		
IM U.S. Large Cap Core Equity (MF) Median			-8.98	-13.78	-5.61	-7.57	-5.61	8.00	7.13	11.61	10.38		0.92
JP Morgan Disciplined Equity R6 (JDEUX) Rank			62	55	48	42	48	49	41	N/A	27		
Population			778	770	736	755	736	634	565	514	530		
JP Morgan Value Advantage Instl (JVAIX)	8,098	2.26	-10.04	-12.28	-8.98	-7.99	-8.98	6.76	5.82	N/A	9.79	05/01/2012	0.75
Russell 3000 Value Index			-9.78	-12.24	-8.58	-7.51	-8.58	7.01	5.77	10.91	9.91		
IM U.S. Multi-Cap Value Equity (MF) Median			-10.23	-14.26	-10.94	-9.99	-10.94	5.72	4.46	9.93	8.75		0.96
JP Morgan Value Advantage Instl (JVAIX) Rank			39	18	28	26	28	27	17	N/A	18		
Population			416	413	409	411	409	345	290	267	272		

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
JP Morgan Growth Advantage (JGVVX)	7,837	2.19	-9.04	-17.76	-1.12	-10.71	-1.12	10.90	10.34	N/A	13.41	05/01/2012	0.64
Russell 3000 Growth Index			-8.83	-16.33	-2.12	-8.90	-2.12	10.85	9.99	13.92	12.39		
IM U.S. Multi-Cap Growth Equity (MF) Median			-8.73	-16.29	-3.73	-10.11	-3.73	8.60	7.34	12.27	10.51		1.12
JP Morgan Growth Advantage (JGVVX) Rank			63	75	30	59	30	17	13	N/A	10		
Population			560	557	538	549	538	482	418	359	366		
JP Morgan Mid Cap Equity Select (VSNEX)	2,385	0.67	-9.51	-15.79	-8.29	-10.90	-8.29	6.12	6.19	N/A	11.38	06/01/2012	0.89
Russell Midcap Index			-9.92	-15.37	-9.06	-11.14	-9.06	7.04	6.26	11.49	11.43		
IM U.S. Multi-Cap Growth Equity (MF) Median			-8.73	-16.29	-3.73	-10.11	-3.73	8.60	7.34	12.27	11.95		1.12
JP Morgan Mid Cap Equity Select (VSNEX) Rank			84	44	95	62	95	79	68	N/A	60		
Population			560	557	538	549	538	482	418	359	368		
JP Morgan US Small Company Instl (JUSSX)	1,006	0.28	-11.52	-18.82	-12.08	-18.01	-12.08	4.97	4.01	N/A	11.01	06/01/2012	0.81
Russell 2000 Index			-11.88	-20.20	-11.01	-17.35	-11.01	7.36	4.41	10.44	10.58		
IM U.S. Small Cap Core Equity (MF) Median			-12.00	-20.15	-11.94	-17.05	-11.94	6.93	3.74	10.51	10.48		1.15
JP Morgan US Small Company Instl (JUSSX) Rank			32	25	53	58	53	74	47	N/A	41		
Population			151	151	147	148	147	123	97	88	91		
State Street Global Equity (SSGLX)	24,104	6.73	-4.56	-11.46	-14.03	-10.78	-14.03	N/A	N/A	N/A	5.13	11/01/2016	0.06
MSCI AC World ex USA			-4.49	-11.41	-13.78	-10.70	-13.78	4.98	1.14	5.33	4.68		
IM International Large Cap Core Equity (MF) Median			-5.58	-13.68	-14.90	-13.00	-14.90	1.60	-0.49	5.11	3.05		0.99
State Street Global Equity (SSGLX) Rank			7	5	34	14	34	N/A	N/A	N/A	3		
Population			87	87	82	84	82	63	55	52	72		
Strategic Solutions Global Equity	10,406	2.91	-7.39	-13.11	-10.06	-9.30	-10.06	5.95	N/A	N/A	3.54	07/01/2014	
MSCI AC World Index (Net)			-7.04	-12.75	-9.42	-9.02	-9.42	6.60	4.26	8.38	3.36		
IM Global Equity (SA+CF) Median			-7.14	-12.85	-8.70	-9.65	-8.70	6.55	4.98	9.69	4.04		
Strategic Solutions Global Equity Rank			56	53	62	47	62	62	N/A	N/A	60		
Population			482	482	478	481	478	453	408	351	419		
JP Morgan Intl Research (OIEAX)	6,911	1.93	-5.28	-12.57	-14.70	-12.13	-14.70	N/A	N/A	N/A	-9.62	10/01/2017	0.35
MSCI EAFE (Net)			-4.85	-12.54	-13.79	-11.35	-13.79	2.87	0.53	5.75	-8.20		
IM International Large Cap Core Equity (MF) Median			-5.58	-13.68	-14.90	-13.00	-14.90	1.60	-0.49	5.11	-10.17		0.99
JP Morgan Intl Research (OIEAX) Rank			33	27	45	40	45	N/A	N/A	N/A	37		
Population			87	87	82	84	82	63	55	52	75		
JP Morgan Intrepid International (JIFFX)	4,689	1.31	-5.03	-14.59	-17.25	-13.72	-17.25	1.00	-0.44	N/A	4.07	05/01/2012	0.55
MSCI EAFE (Net)			-4.85	-12.54	-13.79	-11.35	-13.79	2.87	0.53	5.75	4.73		
IM International Equity (MF) Median			-4.80	-12.23	-16.01	-12.34	-16.01	3.52	0.50	5.03	3.69		1.16
JP Morgan Intrepid International (JIFFX) Rank			55	76	63	66	63	80	70	N/A	42		
Population			3,285	3,249	3,094	3,193	3,094	2,655	2,092	1,732	1,785		

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
JP Morgan International Equity R6 (JNEMX)	4,698	1.31	-5.58	-12.69	-17.66	-13.39	-17.66	2.94	-0.01	N/A	3.54	05/01/2012	0.50
MSCI EAFE (Net)			-4.85	-12.54	-13.79	-11.35	-13.79	2.87	0.53	5.75	4.73		
IM International Large Cap Core Equity (MF) Median			-5.58	-13.68	-14.90	-13.00	-14.90	1.60	-0.49	5.11	3.83		0.99
JP Morgan International Equity R6 (JNEMX) Rank			51	32	76	58	76	22	24	N/A	63		
Population			87	87	82	84	82	63	55	52	52		
JP Morgan Emerging Markets Equity (JMIEX)	3,005	0.84	-3.63	-6.32	-15.84	-9.26	-15.84	10.84	2.83	3.77	1.04	07/01/2011	0.95
MSCI EM (net)			-2.66	-7.47	-14.58	-8.49	-14.58	9.25	1.65	3.23	0.14		
IM Emerging Markets Equity (MF) Median			-3.02	-7.62	-16.41	-10.04	-16.41	6.87	0.87	2.96	-0.26		1.32
JP Morgan Emerging Markets Equity (JMIEX) Rank			74	33	45	41	45	7	8	33	22		
Population			904	886	840	872	840	721	541	397	350		
JP Morgan Emerging Economies Select (JEESX)	2,032	0.57	-3.79	-8.13	-19.52	-10.52	-19.52	6.46	-0.62	1.60	-1.57	07/01/2011	0.89
MSCI EM (net)			-2.66	-7.47	-14.58	-8.49	-14.58	9.25	1.65	3.23	0.14		
IM Emerging Markets Equity (MF) Median			-3.02	-7.62	-16.41	-10.04	-16.41	6.87	0.87	2.96	-0.26		1.32
JP Morgan Emerging Economies Select (JEESX) Rank			82	61	78	55	78	58	78	79	82		
Population			904	886	840	872	840	721	541	397	350		
Total Global Fixed Income	69,702	19.46	0.42	-0.09	-0.69	0.56	-0.69	3.97	2.08	2.62	4.38	03/01/2003	
IPS Global Fixed Income Benchmark			1.84	1.64	0.01	1.66	0.01	5.06	3.23	2.95	4.16		
SSGA Funds	129	0.04	0.12	0.37	1.37	0.76	1.37	0.64	0.39	N/A	0.37	11/01/2013	
90 Day U.S. Treasury Bill			0.18	0.56	1.87	1.06	1.87	0.99	0.61	0.45	0.59		
IM U.S. Cash Fixed Income (SA+CF) Median			0.21	0.56	2.00	1.15	2.00	1.48	1.12	1.20	1.08		
SSGA Funds Rank			76	75	95	92	95	100	100	N/A	100		
Population			53	53	52	53	52	50	46	41	45		
JPM Open Cash	287	0.08	0.00	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00	07/01/2011	
90 Day U.S. Treasury Bill			0.18	0.56	1.87	1.06	1.87	0.99	0.61	0.45	0.42		
IM U.S. Cash Fixed Income (SA+CF) Median			0.21	0.56	2.00	1.15	2.00	1.48	1.12	1.20	1.08		
JPM Open Cash Rank			92	94	100	100	100	100	100	100	100		
Population			53	53	52	53	52	50	46	41	40		
iShares TIPS Bond (TIP)	2,643	0.74	0.53	-0.53	-1.46	-1.40	-1.46	N/A	N/A	N/A	-0.39	11/01/2017	0.20
Bimbg. Barc. U.S. TIPS			0.55	-0.42	-1.26	-1.24	-1.26	2.11	1.69	0.88	-0.20		
IM U.S. TIPS (MF) Median			0.29	-0.84	-1.59	-1.54	-1.59	1.68	0.91	0.44	-0.71		0.69
iShares TIPS Bond (TIP) Rank			14	33	45	44	45	N/A	N/A	N/A	31		
Population			239	238	227	236	227	201	162	139	227		
JP Morgan Inflation Managed (JRBSX)	2,289	0.64	-0.17	-1.18	-1.15	-0.91	-1.15	N/A	N/A	N/A	-0.73	11/01/2017	0.60
Bimbg. Barc. U.S. TIPS 1-10 Year			0.41	-0.05	-0.25	-0.47	-0.25	1.87	1.20	0.73	0.10		
IM U.S. TIPS (MF) Median			0.29	-0.84	-1.59	-1.54	-1.59	1.68	0.91	0.44	-0.71		0.69
JP Morgan Inflation Managed (JRBSX) Rank			86	76	32	26	32	N/A	N/A	N/A	51		
Population			239	238	227	236	227	201	162	139	227		

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
State Street Aggregate Bond Index (SSFEX)	29,469	8.23	1.90	1.65	-0.09	1.61	-0.09	N/A	N/A	N/A	0.26	11/01/2016	0.03
Blmbg. Barc. U.S. Aggregate			1.84	1.64	0.01	1.66	0.01	2.06	2.52	2.10	0.57		
IM U.S. Broad Market Core Fixed Income (MF) Median			1.46	0.99	-0.63	1.08	-0.63	1.99	2.26	2.18	0.40		0.70
State Street Aggregate Bond Index (SSFEX) Rank			4	9	22	14	22	N/A	N/A	N/A	62		
Population			531	525	506	519	506	442	378	338	463		
JP Morgan ULTRA Short Income (JPST)	5,674	1.58	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	11/01/2018	0.18
ICE BofAML 3 Month U.S. T-Bill			0.18	0.56	1.87	1.06	1.87	1.02	0.63	0.47	0.39		
IM U.S. Cash Fixed Income (SA+CF) Median			0.21	0.56	2.00	1.15	2.00	1.48	1.12	1.20	0.40		
JP Morgan ULTRA Short Income (JPST) Rank			68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	82		
Population			53	53	52	53	52	50	46	41	53		
JP Morgan Core Bond (JCBUX)	7,238	2.02	1.70	1.68	0.34	1.71	0.34	N/A	N/A	N/A	0.60	11/01/2017	0.35
Blmbg. Barc. U.S. Aggregate			1.84	1.64	0.01	1.66	0.01	2.06	2.52	2.10	0.29		
IM U.S. Broad Market Core Fixed Income (MF) Median			1.46	0.99	-0.63	1.08	-0.63	1.99	2.26	2.18	-0.30		0.70
JP Morgan Core Bond (JCBUX) Rank			20	8	8	7	8	N/A	N/A	N/A	5		
Population			531	525	506	519	506	442	378	338	498		
JP Morgan Core Plus (HLIPX)	3,210	0.90	1.46	1.24	0.02	1.39	0.02	N/A	N/A	N/A	0.22	11/01/2017	0.46
Blmbg. Barc. U.S. Aggregate			1.84	1.64	0.01	1.66	0.01	2.06	2.52	2.10	0.29		
IM U.S. Broad Market Core+ Fixed Income (MF) Median			1.15	0.59	-0.95	0.81	-0.95	2.57	2.40	2.76	-0.67		0.79
JP Morgan Core Plus (HLIPX) Rank			24	25	19	20	19	N/A	N/A	N/A	17		
Population			318	312	282	306	282	227	197	168	275		
WAMCO Short Dated High Yield Portfolio	5,553	1.55	-2.08	-3.50	0.00	-1.02	0.00	4.68	0.50	N/A	0.58	12/01/2013	
Blmbg. Barc. U.S. High Yield Ba/B 2% Issuer Cap			-1.74	-3.61	-1.88	-1.39	-1.88	6.18	3.79	5.67	3.82		
IM U.S. High Yield Bonds (SA+CF) Median			-2.13	-4.12	-1.69	-1.85	-1.69	6.39	3.73	5.81	3.79		
WAMCO Short Dated High Yield Portfolio Rank			45	29	24	25	24	86	100	N/A	100		
Population			170	170	170	170	170	161	148	129	147		
JP Morgan High Yield R6 (JHYUX)	5,434	1.52	-2.36	-5.01	-2.74	-2.82	-2.74	5.80	3.03	N/A	4.54	05/01/2012	0.60
Blmbg. Barc. U.S. High Yield - 2% Issuer Cap			-2.14	-4.54	-2.08	-2.24	-2.08	7.23	3.84	5.98	5.30		
IM U.S. High Yield Bonds (MF) Median			-2.23	-4.76	-2.91	-2.62	-2.91	5.52	2.71	4.97	4.23		1.01
JP Morgan High Yield R6 (JHYUX) Rank			61	62	44	59	44	40	34	N/A	34		
Population			697	695	672	687	672	582	487	391	407		
JP Morgan Floating Rate Income (JPHSX)	7,654	2.14	-2.37	-3.50	-0.30	-1.79	-0.30	N/A	N/A	N/A	-0.11	10/01/2017	0.75
Credit Suisse Leveraged Loan Index			-2.29	-3.08	1.14	-1.21	1.14	5.03	3.33	4.58	1.86		
IM U.S. Bank Loans (MF) Median			-2.47	-3.64	-0.29	-1.95	-0.29	4.09	2.28	3.54	0.54		1.07
JP Morgan Floating Rate Income (JPHSX) Rank			35	41	51	35	51	N/A	N/A	N/A	84		
Population			247	245	238	244	238	210	192	147	230		

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
JP Morgan Emerging Mkt Strategic Debt (JECSX)	121	0.03	0.65	-2.53	-6.13	-0.79	-6.13	4.12	-2.26	N/A	-3.71	01/01/2013	0.95
JPM GBI-EM Global Diversified			1.31	2.11	-6.21	0.25	-6.21	5.91	-0.96	0.18	-2.34		
IM Emerging Markets Debt (MF) Median			1.03	-1.29	-5.91	-0.01	-5.91	4.71	2.86	3.61	1.19		1.04
JP Morgan Emerging Mkt Strategic Debt (JECSX) Rank			79	91	56	78	56	68	95	N/A	94		
Population			287	282	275	279	275	222	172	95	133		
Total Global Real Assets	10,312	2.88	-6.89	-8.80	-7.33	-8.86	-7.33	1.72	3.80	6.78	7.29	11/01/2003	
IPS Real Asset Benchmark			-5.56	-5.69	-5.63	-5.97	-5.63	2.72	4.34	7.30	7.17		
JPM Realty Income Inst (JPINX)	3,882	1.08	-7.80	-7.24	-6.92	-7.02	-6.92	0.46	6.06	6.40	6.40	07/01/2011	0.68
Wilshire US REIT Index			-8.37	-6.93	-4.84	-6.26	-4.84	2.06	7.87	8.32	7.53		
IM Real Estate Sector (MF) Median			-7.95	-6.76	-5.67	-6.05	-5.67	1.86	6.93	7.52	6.74		1.14
JPM Realty Income Inst (JPINX) Rank			39	61	69	71	69	82	76	91	64		
Population			264	262	248	257	248	220	194	171	162		
State Street Real Asset NL CTF	2,132	0.60	-3.74	-7.12	-7.06	-7.70	-7.06	N/A	N/A	N/A	1.45	12/01/2016	
FTSE EPRA/NAREIT Developed Index (Net)			-5.56	-5.69	-5.63	-5.97	-5.63	2.72	4.34	7.30	3.38		
Global Real Assets (MF) Median			-7.58	-15.86	-14.79	-14.38	-14.79	0.55	-6.68	-3.97	-4.97		
State Street Real Asset NL CTF Rank			18	23	11	23	11	N/A	N/A	N/A	23		
Population			732	726	675	715	675	592	503	397	624		
SSGA S&P Global Natural Resources Index	1,314	0.37	-3.42	-12.58	-9.18	-11.60	-9.18	11.99	-1.76	N/A	1.64	01/01/2013	
S&P Global Natural Resources Sector Index			-5.08	-16.79	-12.57	-15.69	-12.57	12.36	-0.53	0.83	-0.18		
IM Global Natural Resources (MF) Median			-8.58	-20.79	-19.13	-20.36	-19.13	0.76	-7.00	-3.25	-3.50		
SSGA S&P Global Natural Resources Index Rank			4	21	6	19	6	5	21	N/A	19		
Population			116	112	110	112	110	104	96	90	95		
SSGA Tuckerman U.S. REIT Index	2,222	0.62	-8.54	-6.55	-4.19	-5.86	-4.19	1.67	7.48	N/A	6.34	01/01/2013	
FTSE NAREIT All REITs Index			-7.73	-6.11	-4.10	-5.15	-4.10	4.62	8.29	9.16	7.43		
IM U.S. REIT (SA+CF) Median			-7.92	-6.32	-4.15	-5.40	-4.15	3.17	8.49	8.93	7.45		
SSGA Tuckerman U.S. REIT Index Rank			79	62	55	63	55	91	82	N/A	89		
Population			49	49	49	49	49	48	46	45	45		
Harvest MLP Income	762	0.21	-10.90	-19.43	N/A	-16.49	N/A	N/A	N/A	N/A	-10.11	03/01/2018	
Alerian MLP Index			-9.36	-17.30	-12.42	-11.86	-12.42	-1.06	-7.31	-1.26	-8.30		

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

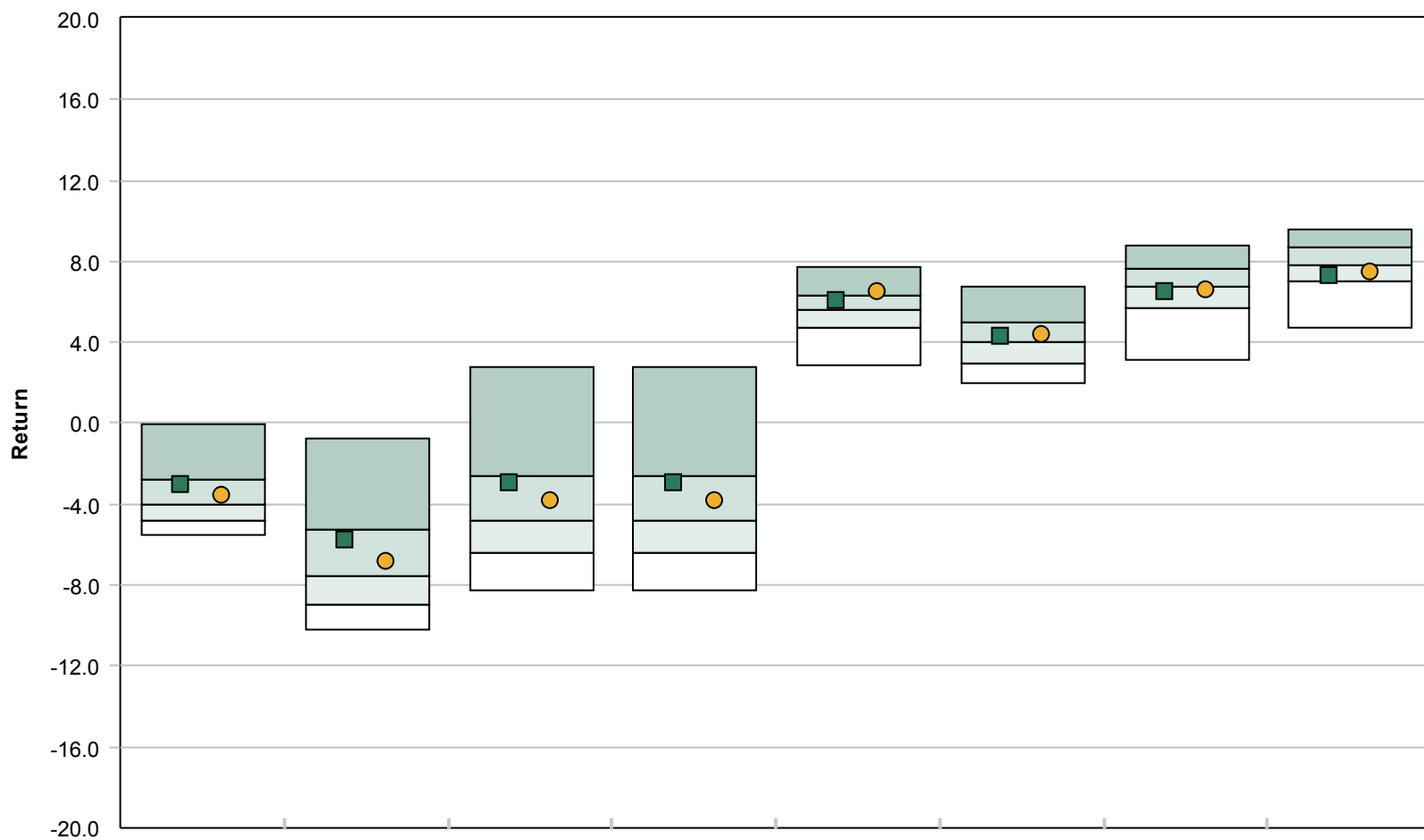
	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
Total Hedge Funds	45,584	12.73	-0.35	-0.60	3.73	0.48	3.73	2.09	2.16	3.35	2.87	05/01/2017	
IPS Hedge Fund Benchmark			0.51	1.55	5.95	3.06	5.95	5.04	4.63	5.32	5.59		
Global Absolute Alpha Company	24,669	6.89	-0.10	-0.51	2.42	0.76	2.42	1.61	1.43	3.59	2.37	08/01/2011	
90 Day T-Bills +4%			0.51	1.55	5.95	3.06	5.95	5.06	4.65	4.49	4.47		
Fund of Funds Hedge Funds Median			-0.50	-4.73	-8.10	-4.97	-8.10	0.69	-0.89	0.71	N/A		
Global Absolute Alpha Company Rank			40	22	5	18	5	40	24	17	N/A		
Population			958	956	938	952	938	879	783	693	N/A		
PIMCO Tactical Opportunities Fund	20,915	5.84	-0.65	-0.71	N/A	0.15	N/A	N/A	N/A	N/A	4.45	02/01/2018	
Blmbg. Barc. U.S. Aggregate			1.84	1.64	0.01	1.66	0.01	2.06	2.52	2.10	1.18		
Multi-Strategy Hedge Funds-[TASS] Median			0.01	4.74	-8.14	2.33	-8.14	10.59	0.61	-0.01	N/A		
PIMCO Tactical Opportunities Fund Rank			69	68	N/A	63	N/A	N/A	N/A	N/A	N/A		
Population			648	647	638	647	638	615	586	512	N/A		
Total Enhanced Liquidity Account	11,583	3.23	0.71	0.92	1.68	1.56	1.68	1.35	2.01	2.86	4.03	07/01/2010	
IPS Enhanced Liquidity Account Benchmark			0.81	1.31	1.56	1.51	1.56	1.44	2.34	2.75	3.52		
SSGA 1-3 Year U.S. Credit Index (CM2WNON)	11,583	3.23	0.71	0.92	1.68	1.56	1.68	N/A	N/A	N/A	1.33	02/01/2017	
Blmbg. Barc. 1-3 Year Credit			0.72	0.89	1.64	1.52	1.64	1.80	1.47	1.78	1.57		
IM U.S. Short Duration Fixed Income (SA+CF) Median			0.63	0.97	1.68	1.45	1.68	1.58	1.45	1.49	1.54		
SSGA 1-3 Year U.S. Credit Index (CM2WNON) Rank			30	57	51	27	51	N/A	N/A	N/A	83		
Population			115	115	115	115	115	110	106	100	113		
Hawaii Direct Investments	17,307	4.83	-3.74	-7.12	-7.06	-7.70	-7.06	4.81	-0.49	-0.06	1.19	07/01/2010	
IPS Hawaii Direct Investment Benchmark			0.79	0.32	1.70	0.23	1.70	7.54	1.10	1.19	1.63		
SSGA Real Asset NL Strategy	17,307	4.83	-3.74	-7.12	-7.06	-7.70	-7.06	4.91	-0.33	N/A	-0.61	06/01/2013	
FTSE EPRA/NAREIT Developed Index (Net)			-5.56	-5.69	-5.63	-5.97	-5.63	2.72	4.34	7.30	3.66		
Global Real Assets (MF) Median			-7.58	-15.86	-14.79	-14.38	-14.79	0.55	-6.68	-3.97	-5.45		
SSGA Real Asset NL Strategy Rank			18	23	11	23	11	25	23	N/A	24		
Population			732	726	675	715	675	592	503	397	459		

Native Hawaiian Trust Fund

Comparative Performance

As of December 31, 2018

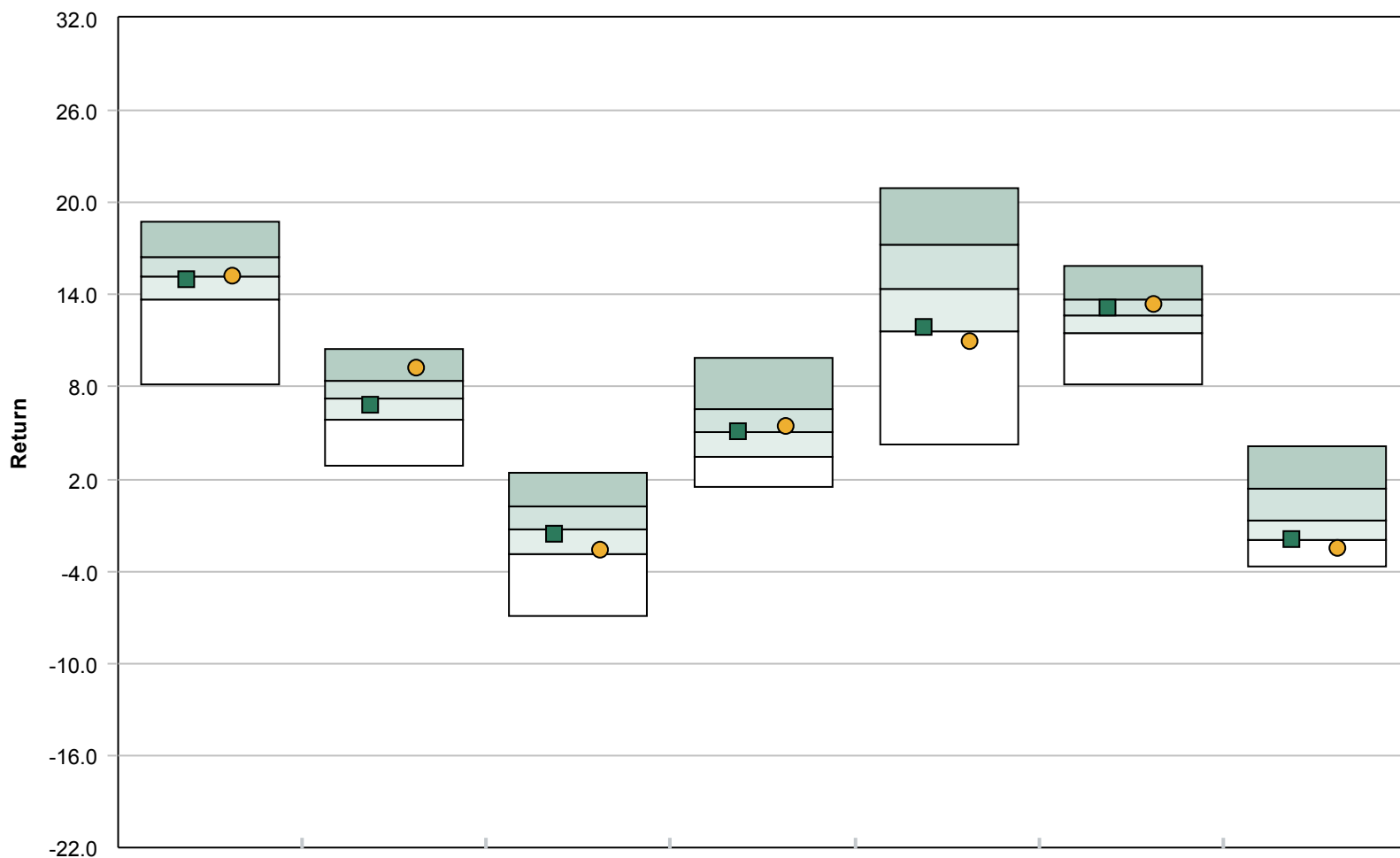
	Allocation		Performance (%)										Expense Ratio
	Market Value (\$000)	%	1 Month	1 Quarter	Year To Date	Jul-2018 To Dec-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date	
Total Private Equity	79,436	22.18	0.01	0.19	6.77	0.37	6.77	7.65	7.74	9.08	9.75	07/01/2004	
Total Fund of Funds	41,423	11.57	0.00	0.05	5.75	0.10	5.75	10.26	10.06	11.44	7.52	08/01/2004	
Pantheon Europe Fund IV LP			1.11	-1.46	8.33	9.88	8.33	11.35	2.52	6.45	N/A		
Pantheon USA Fund VI LP			0.00	0.00	9.92	1.00	9.92	7.05	5.75	8.31	5.33		
Pantheon Europe Fund VI LP			0.00	0.00	13.97	3.89	13.97	13.17	9.99	11.36	N/A		
Pantheon USA Fund VIII LP			0.00	0.00	14.67	3.74	14.67	14.41	12.89	13.87	N/A		
GS PEP 2004 Offshore			0.00	2.36	20.79	7.27	20.79	10.67	8.13	10.23	N/A		
GS PEP 2005 Offshore			0.00	0.00	12.45	5.60	12.45	11.53	8.22	10.50	N/A		
GS PEP Asia Offshore			0.00	0.00	2.70	-1.56	2.70	8.40	10.93	14.27	N/A		
GS PEP IX Offshore			0.00	0.62	11.45	2.79	11.45	15.29	13.41	13.84	N/A		
GS PEP X Offshore			0.00	0.25	12.70	5.45	12.70	17.24	14.86	15.92	N/A		
Commonfund International Partners VII			0.00	0.00	0.40	0.52	0.40	7.56	10.97	7.67	N/A		
Commonfund Venture Partners X			0.00	0.00	14.68	3.88	14.68	11.61	17.43	N/A	N/A		
Pantheon Emerging Asia Fund VI LP			0.00	0.00	6.29	0.41	6.29	13.60	13.71	N/A	N/A		
Commonfund Private Equity Partners VIII			0.00	0.00	16.25	8.17	16.25	16.96	16.10	N/A	N/A		
GS GEM PEM Off			0.00	0.00	4.36	1.30	4.36	7.90	7.88	N/A	N/A		
Commonfund Emerging Markets Partners 2013			0.00	0.00	7.26	5.78	7.26	13.44	11.04	N/A	N/A		
Commonfund Private Equity Partners IX			0.00	0.00	15.91	5.97	15.91	15.92	N/A	N/A	N/A		
Commonfund International Partners VIII			0.00	0.00	5.91	6.75	5.91	10.83	N/A	N/A	N/A		
Commonfund Venture Partners XI			0.00	0.00	27.88	11.63	27.88	16.29	N/A	N/A	N/A		
Total Multi-Strategy	13,201	3.69	0.07	0.61	8.35	1.13	8.35	16.45	12.71	13.18	12.10	08/01/2004	
Pantheon Global Co-Investment Opps II			0.00	0.00	11.28	1.44	11.28	17.85	13.96	N/A	N/A		
Pantheon Global Secondary Fund II LP			0.00	0.00	-4.18	-1.31	-4.18	-5.46	-2.83	-1.57	2.73		
GS Vintage V Offshore			0.00	1.51	33.55	7.02	33.55	28.95	21.66	19.56	N/A		
Pantheon Global Secondary Fund IV LP			0.00	0.00	4.88	-0.34	4.88	8.00	6.96	11.65	N/A		
GS Vintage VI Offshore			0.43	0.43	5.80	4.53	5.80	12.28	16.70	N/A	N/A		
GS Vintage VII Offshore			0.00	2.23	37.80	5.87	37.80	N/A	N/A	N/A	N/A		
Pantheon Global Secondary Fund V			0.00	0.00	17.09	3.30	17.09	30.04	N/A	N/A	N/A		
Total Debt	6,669	1.86	-0.06	0.70	11.18	1.36	11.18	12.09	12.43	13.52	10.56	11/01/2007	
GS Mezzanine V			0.00	0.40	27.49	5.56	27.49	4.91	-1.29	3.14	N/A		
Highbridge Offshore Mezzanine Partners II LP			0.15	1.57	14.41	-4.41	14.41	18.07	18.54	N/A	N/A		
Highbridge Irish Specialty Loan Fund III			-0.68	1.15	6.34	2.84	6.34	8.11	8.70	N/A	N/A		
GS Broad Street Senior Credit Partners			0.00	0.00	5.79	3.37	5.79	9.43	N/A	N/A	N/A		
Highbridge European Asset Value Offshore			0.00	0.00	13.77	6.17	13.77	N/A	N/A	N/A	N/A		
Total Real Assets	18,143	5.07	0.00	0.00	5.97	0.02	5.97	16.94	6.04	N/A	-2.25	10/01/2012	
Commonfund Natural Resources Partners IX			0.00	0.00	7.31	0.54	7.31	17.62	4.88	N/A	-6.44		
JP Morgan Asian I&R Res Opp Fund II			0.00	0.00	4.60	0.00	4.60	0.04	N/A	N/A	N/A		
GS Broad Street Real Estate Credit Partners II GP, L.L.C.			0.00	0.00	11.58	4.52	11.58	13.13	14.05	N/A	N/A		
Pantheon Global Infrastructure Fund II			0.00	0.00	3.91	1.27	3.91	13.11	N/A	N/A	N/A		
Commonfund Natural Resources Partners X			0.00	0.00	14.93	0.98	14.93	96.65	N/A	N/A	N/A		



	1 Month	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total OHA Plan	-3.01 (30)	-5.82 (30)	-2.95 (28)	-2.95 (28)	6.02 (34)	4.25 (44)	6.53 (57)	7.25 (68)
● IPS Total OHA Benchmark	-3.56 (39)	-6.83 (40)	-3.88 (39)	-3.88 (39)	6.51 (20)	4.41 (38)	6.55 (55)	7.46 (65)
5th Percentile	-0.04	-0.72	2.74	2.74	7.75	6.72	8.80	9.56
1st Quartile	-2.78	-5.26	-2.65	-2.65	6.32	4.97	7.67	8.68
Median	-4.05	-7.59	-4.85	-4.85	5.60	4.05	6.72	7.83
3rd Quartile	-4.78	-8.98	-6.41	-6.41	4.76	3.00	5.65	6.98
95th Percentile	-5.54	-10.21	-8.28	-8.28	2.87	1.95	3.10	4.74

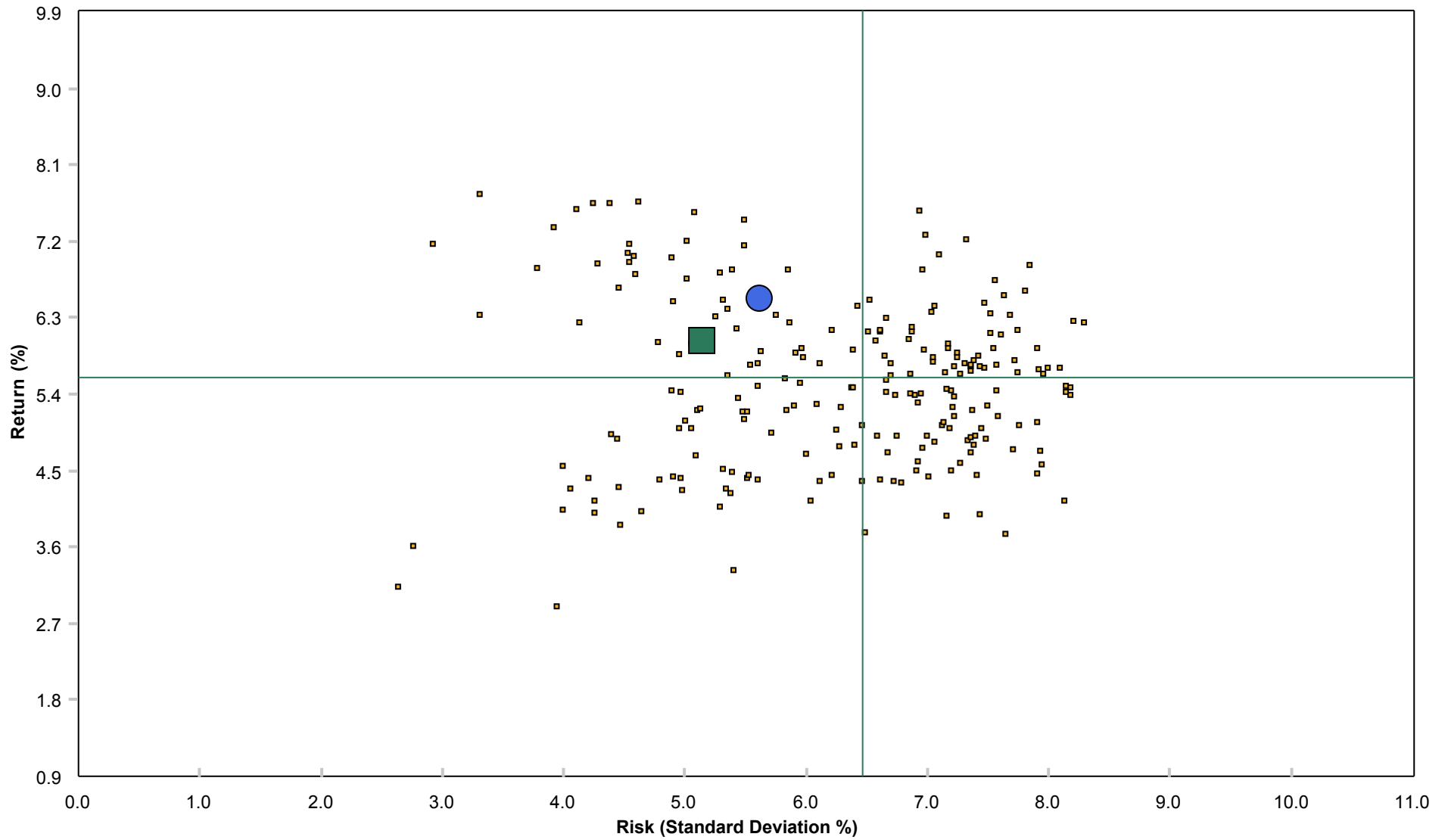
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018



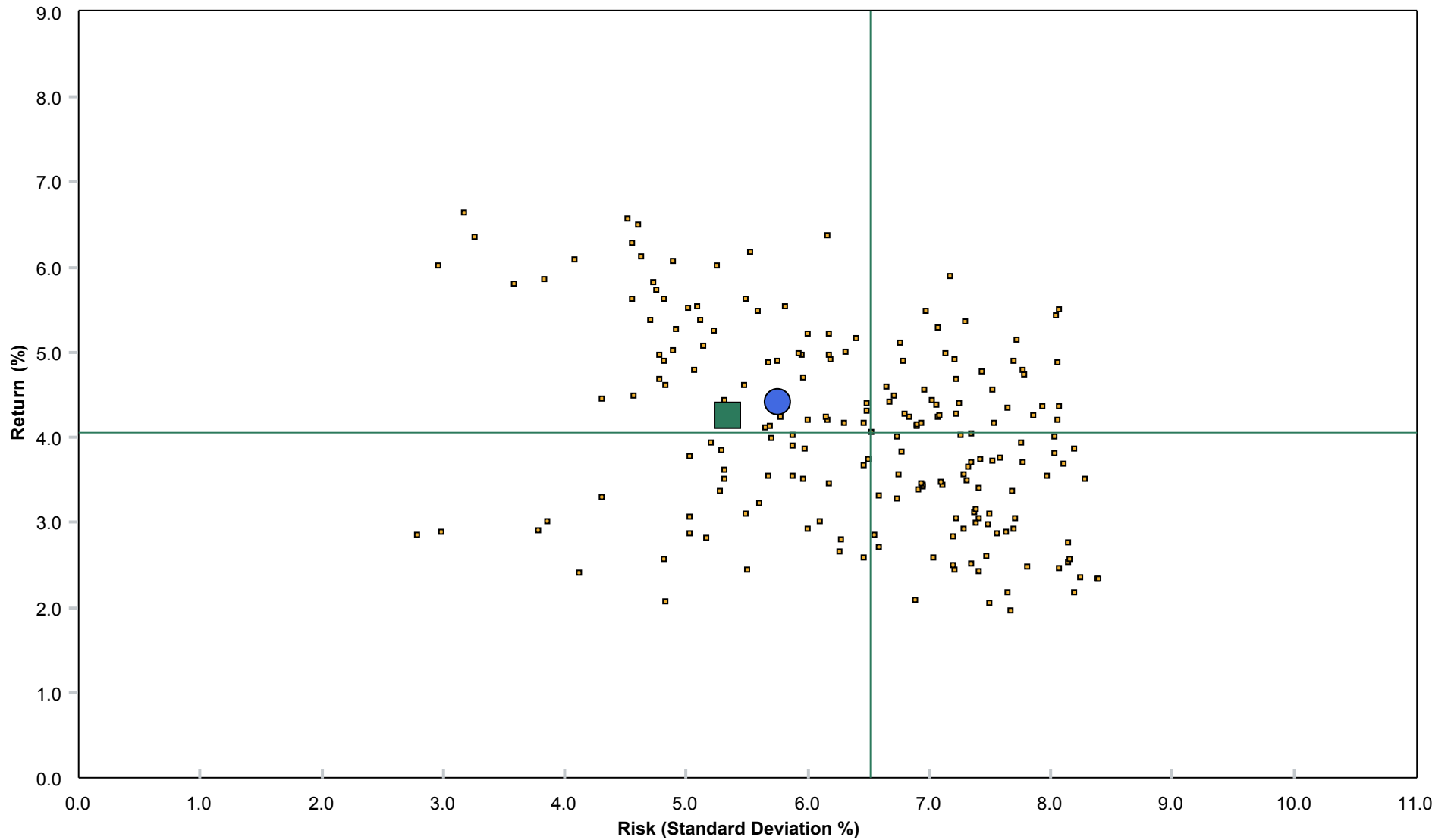
	2017	2016	2015	2014	2013	2012	2011
■ Total OHA Plan	14.94 (55)	6.82 (58)	-1.66 (57)	5.07 (50)	11.81 (72)	13.08 (38)	-2.00 (76)
● IPS Total OHA Benchmark	15.16 (52)	9.17 (15)	-2.62 (73)	5.46 (44)	10.92 (78)	13.29 (34)	-2.54 (84)
5th Percentile	18.79	10.49	2.37	9.90	20.94	15.84	4.14
1st Quartile	16.44	8.35	0.20	6.53	17.23	13.71	1.42
Median	15.24	7.23	-1.24	5.04	14.34	12.63	-0.73
3rd Quartile	13.67	5.85	-2.90	3.44	11.58	11.48	-1.99
95th Percentile	8.22	2.90	-6.94	1.47	4.26	8.16	-3.69

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Total OHA Plan	6.02	5.15
● IPS Total OHA Benchmark	6.51	5.62
— Median	5.60	6.47

Calculation based on monthly periodicity.

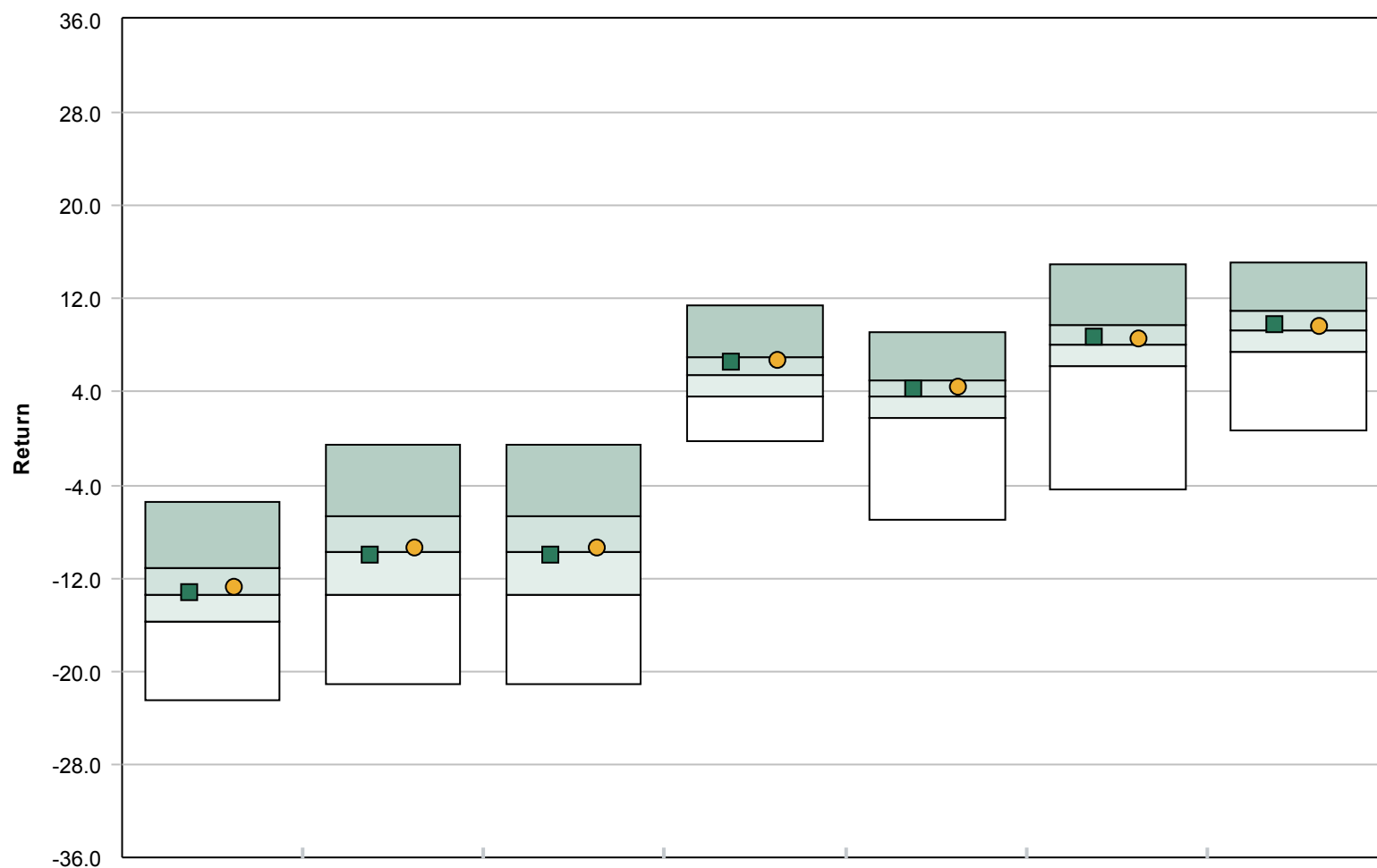


	Return	Standard Deviation
■ Total OHA Plan	4.25	5.35
● IPS Total OHA Benchmark	4.41	5.76
— Median	4.05	6.52

Calculation based on monthly periodicity.

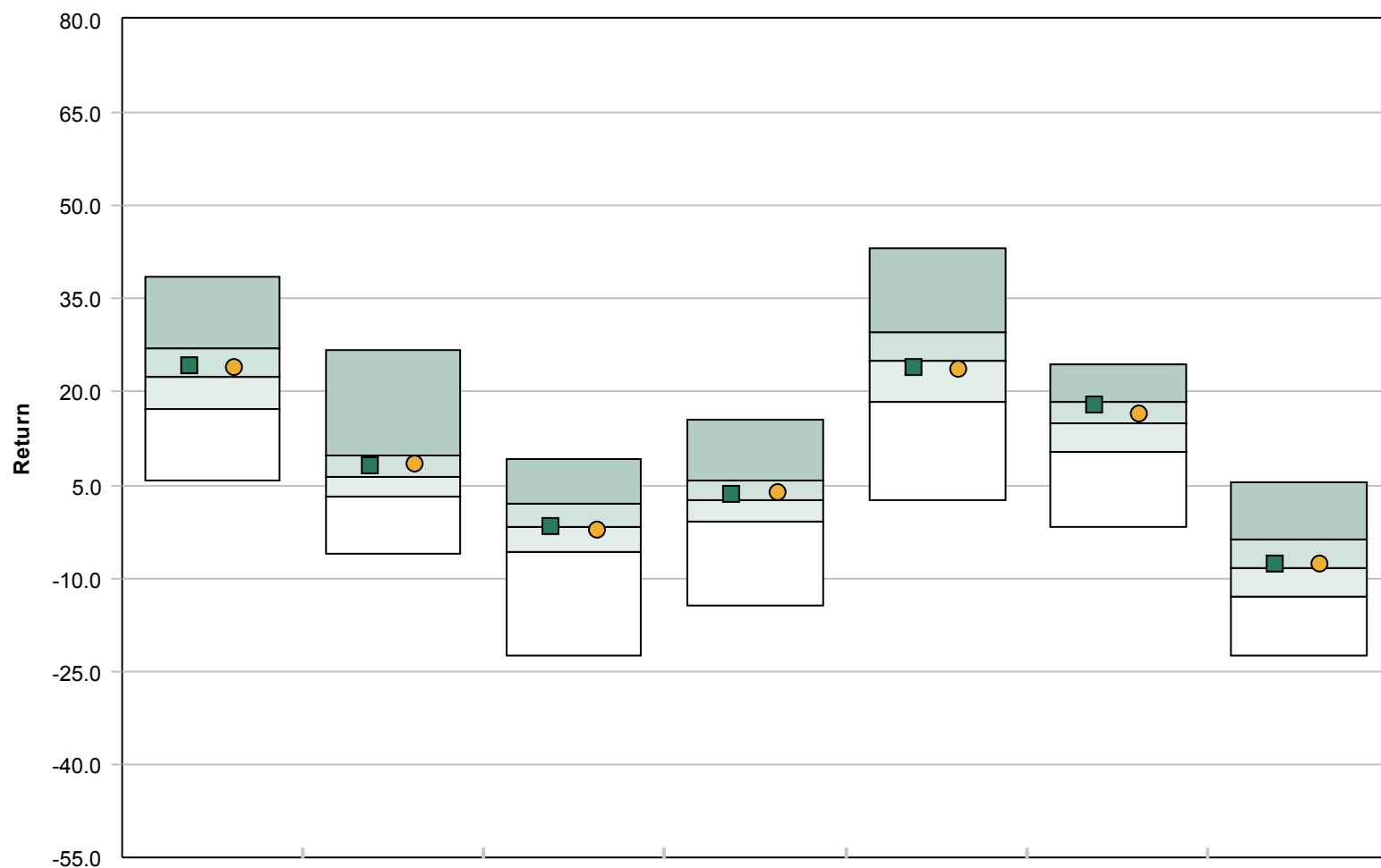
Investment Manager Performance

Total Global Equities



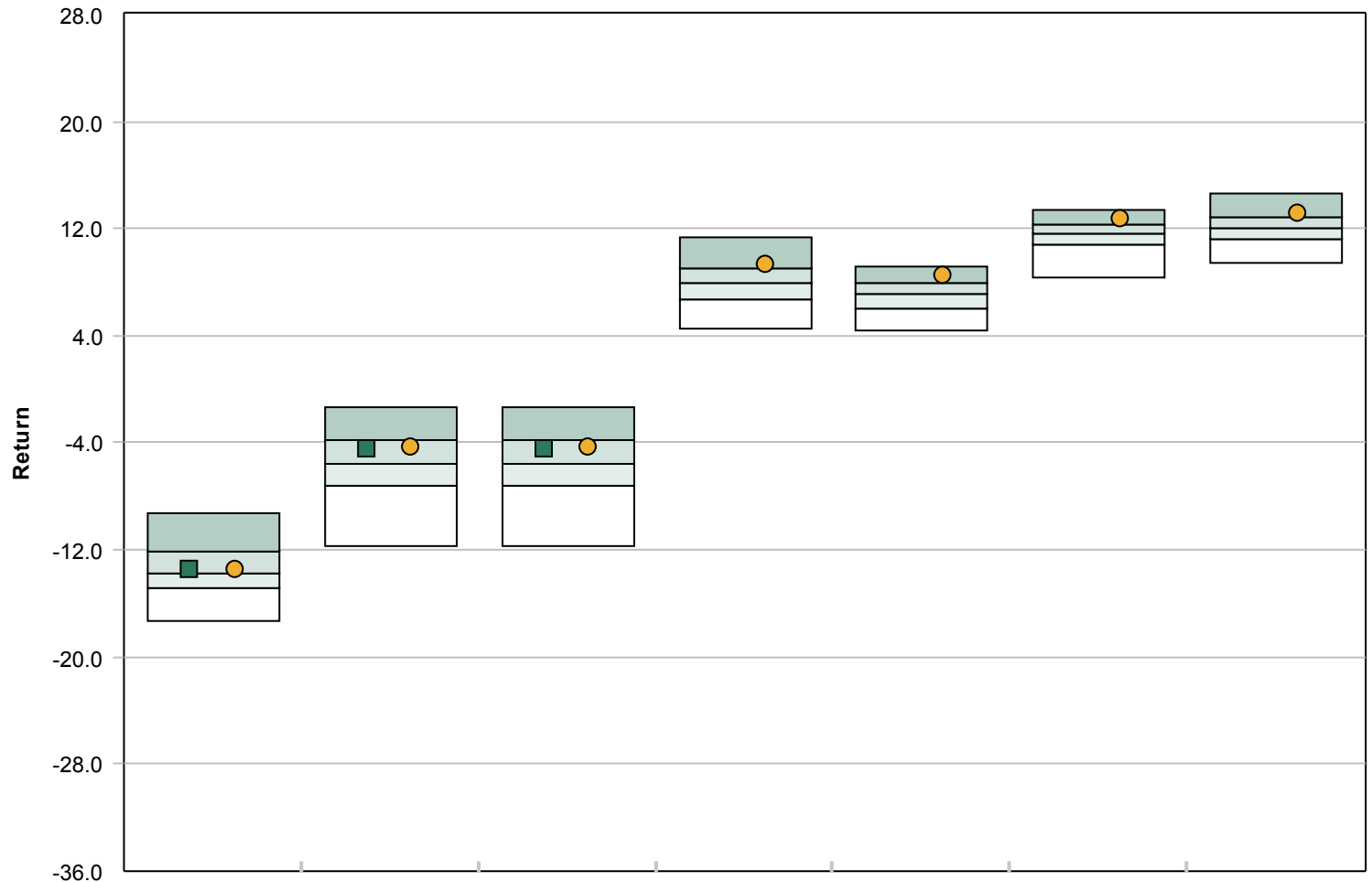
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Global Equities	-13.28 (48)	-9.99 (54)	-9.99 (54)	6.50 (33)	4.20 (39)	8.70 (43)	9.74 (44)
● IPS Global Equities Benchmark	-12.75 (43)	-9.42 (46)	-9.42 (46)	6.74 (29)	4.31 (38)	8.55 (45)	9.59 (46)
5th Percentile	-5.52	-0.59	-0.59	11.38	9.19	15.04	15.18
1st Quartile	-11.06	-6.73	-6.73	6.96	5.04	9.73	10.91
Median	-13.46	-9.71	-9.71	5.48	3.61	8.13	9.35
3rd Quartile	-15.79	-13.41	-13.41	3.58	1.83	6.23	7.37
95th Percentile	-22.44	-21.07	-21.07	-0.30	-6.91	-4.39	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



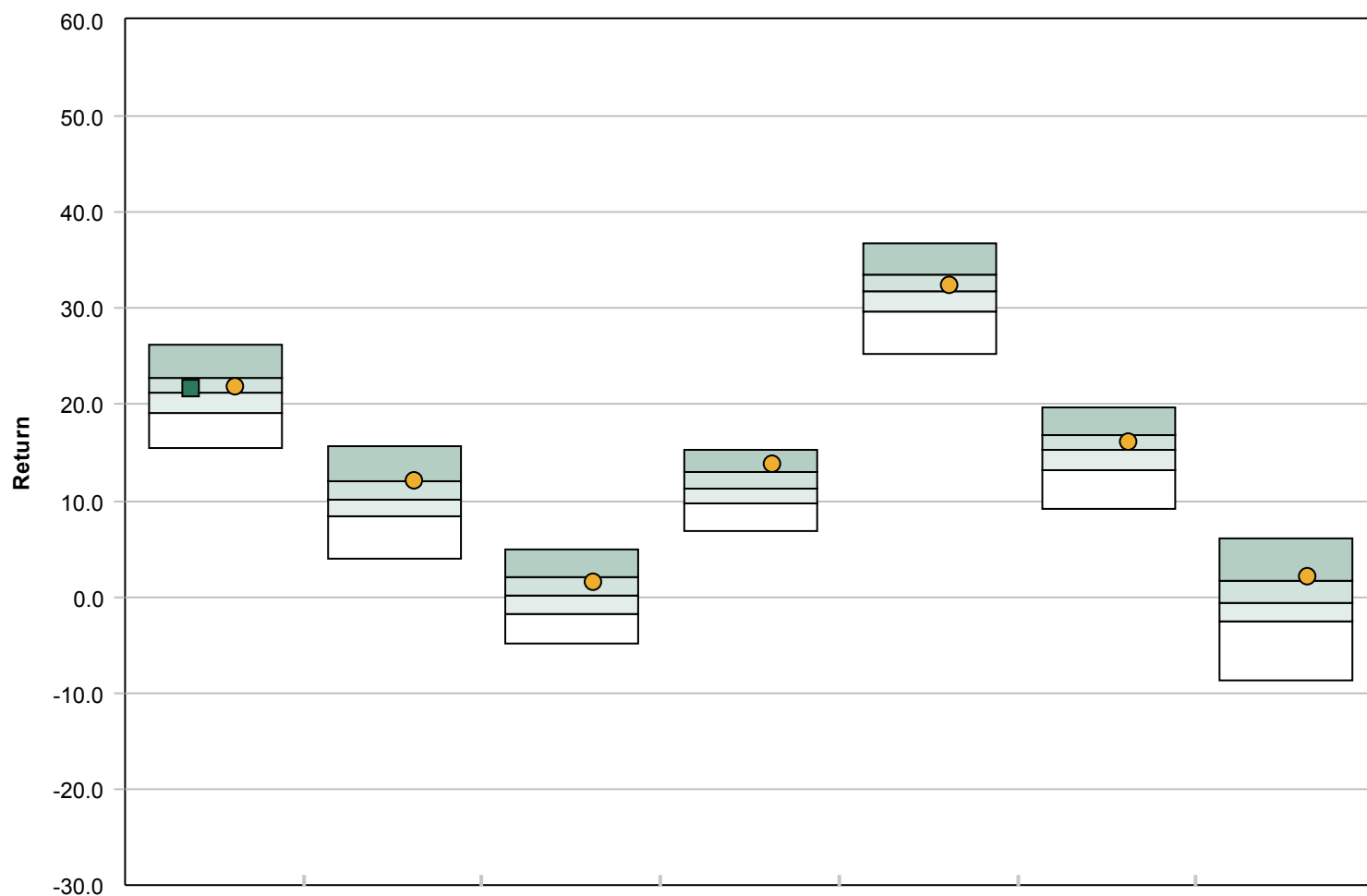
	2017	2016	2015	2014	2013	2012	2011
■ Total Global Equities	24.24 (39)	8.02 (36)	-1.75 (52)	3.50 (44)	23.91 (56)	17.83 (30)	-7.91 (49)
● IPS Global Equities Benchmark	23.89 (42)	8.36 (33)	-2.19 (57)	3.84 (41)	23.55 (58)	16.38 (40)	-7.89 (48)
5th Percentile	38.43	26.70	9.06	15.54	43.08	24.32	5.33
1st Quartile	27.05	9.86	2.02	5.83	29.70	18.53	-3.72
Median	22.31	6.34	-1.64	2.58	25.01	14.88	-8.24
3rd Quartile	17.18	3.18	-5.80	-0.76	18.35	10.48	-12.90
95th Percentile	5.79	-6.09	-22.57	-14.35	2.60	-1.71	-22.44

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



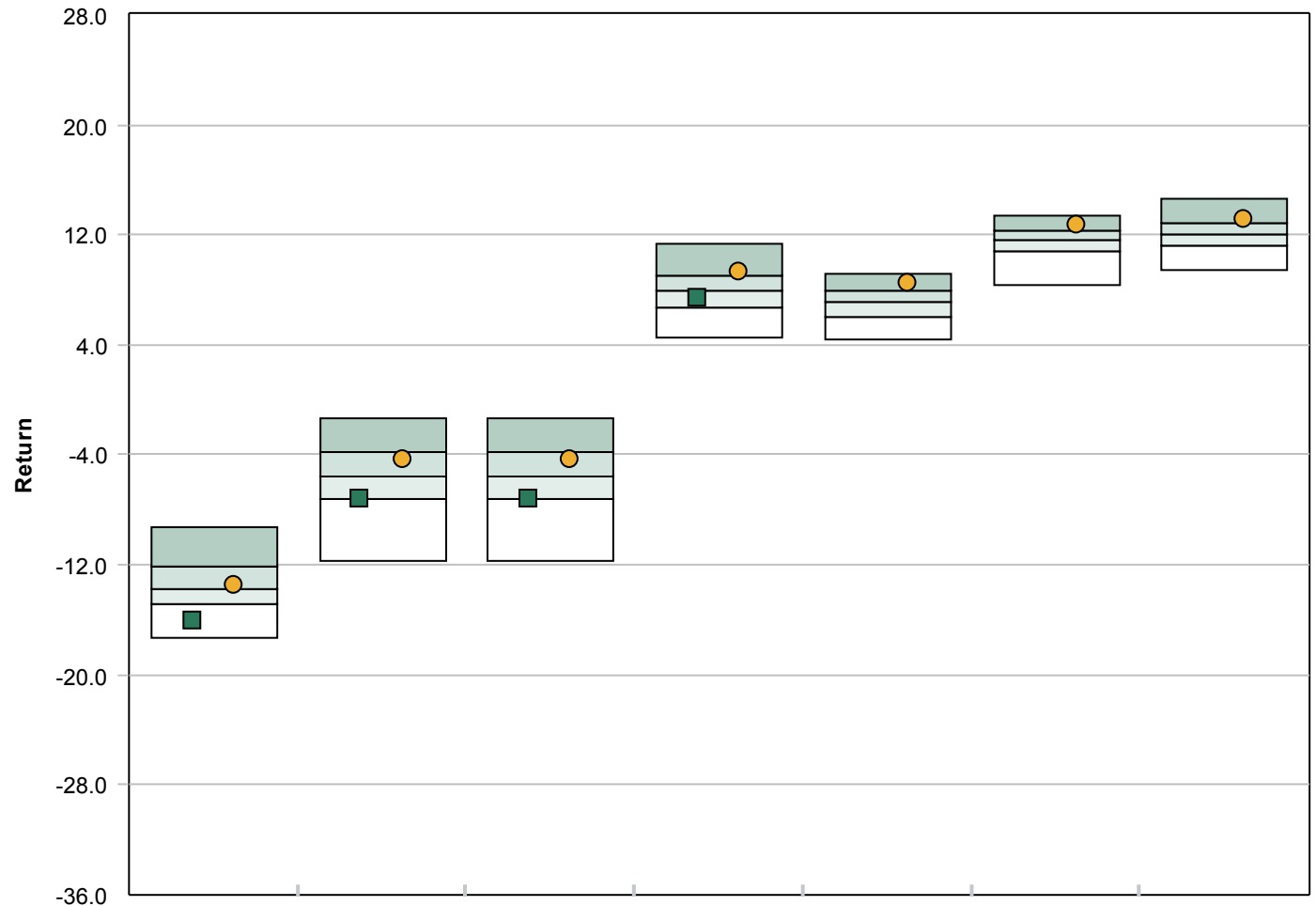
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
State Street S&P 500 Index Strategy	-13.54 (46)	-4.43 (31)	-4.43 (31)	N/A	N/A	N/A	N/A
S&P 500	-13.52 (45)	-4.38 (31)	-4.38 (31)	9.26 (19)	8.49 (12)	12.70 (16)	13.12 (20)
5th Percentile	-9.27	-1.35	-1.35	11.28	9.20	13.39	14.60
1st Quartile	-12.17	-3.75	-3.75	9.00	7.92	12.36	12.91
Median	-13.78	-5.61	-5.61	8.00	7.13	11.61	12.02
3rd Quartile	-14.79	-7.18	-7.18	6.77	6.08	10.78	11.19
95th Percentile	-17.29	-11.67	-11.67	4.48	4.36	8.35	9.48

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



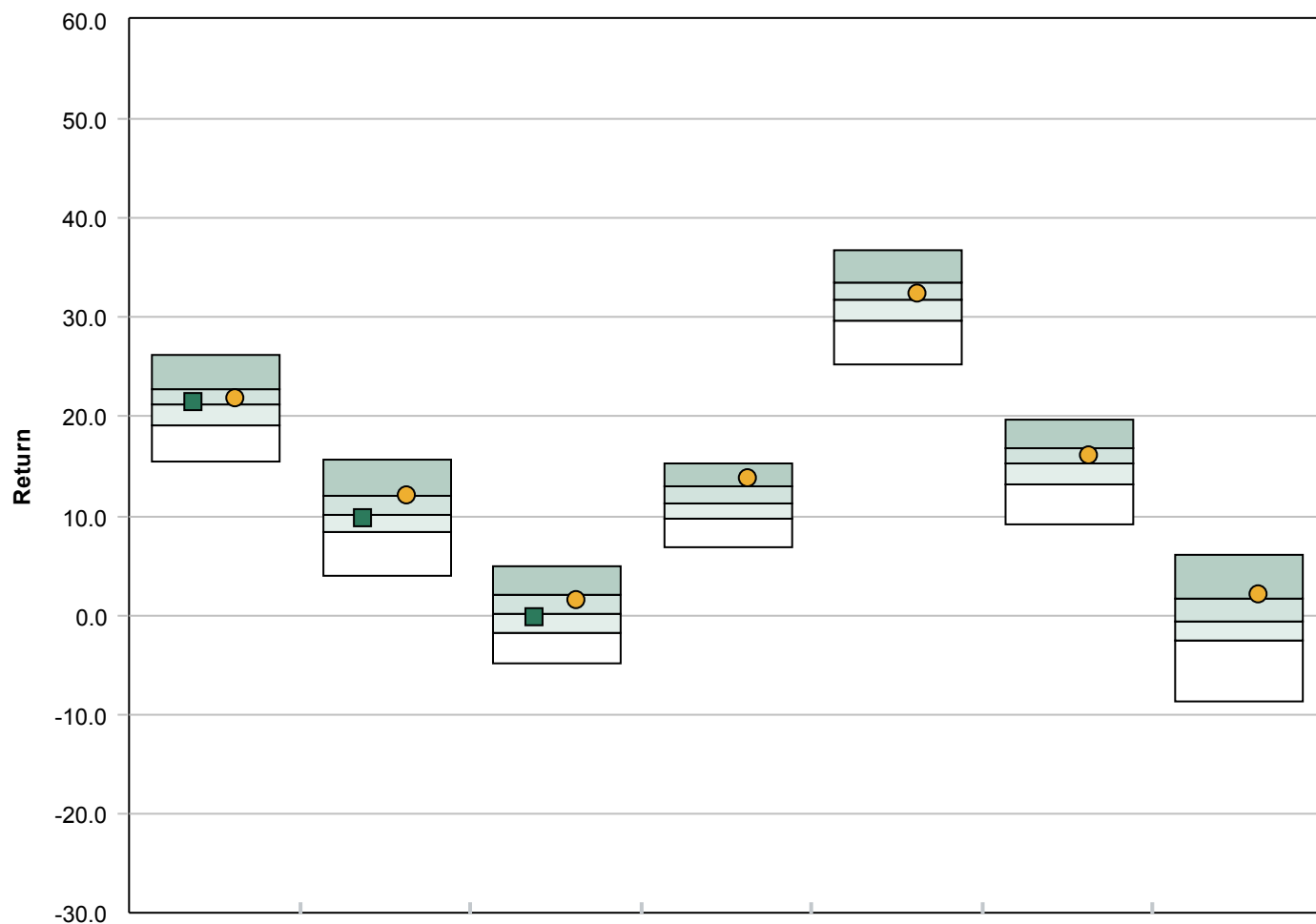
	2017	2016	2015	2014	2013	2012	2011
State Street S&P 500 Index Strategy	21.61 (42)	N/A	N/A	N/A	N/A	N/A	N/A
S&P 500	21.83 (38)	11.96 (26)	1.38 (32)	13.69 (16)	32.39 (38)	16.00 (39)	2.11 (22)
5th Percentile	26.24	15.65	4.93	15.29	36.86	19.65	6.11
1st Quartile	22.81	12.01	2.08	12.93	33.53	16.90	1.63
Median	21.16	10.07	0.11	11.35	31.77	15.34	-0.59
3rd Quartile	19.19	8.30	-1.76	9.70	29.74	13.15	-2.64
95th Percentile	15.40	3.92	-4.84	6.85	25.28	9.20	-8.68

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



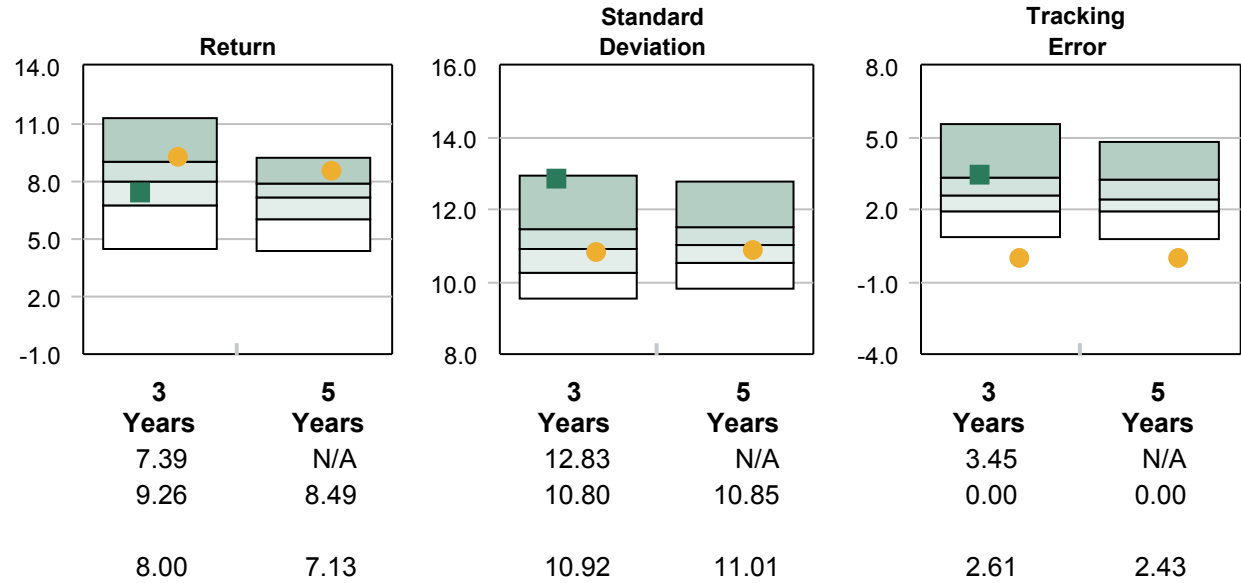
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan US Large Cap Core Plus (JLPSX)	-16.11 (90)	-7.15 (75)	-7.15 (75)	7.39 (65)	N/A	N/A	N/A
● S&P 500	-13.52 (45)	-4.38 (31)	-4.38 (31)	9.26 (19)	8.49 (12)	12.70 (16)	13.12 (20)
5th Percentile	-9.27	-1.35	-1.35	11.28	9.20	13.39	14.60
1st Quartile	-12.17	-3.75	-3.75	9.00	7.92	12.36	12.91
Median	-13.78	-5.61	-5.61	8.00	7.13	11.61	12.02
3rd Quartile	-14.79	-7.18	-7.18	6.77	6.08	10.78	11.19
95th Percentile	-17.29	-11.67	-11.67	4.48	4.36	8.35	9.48

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

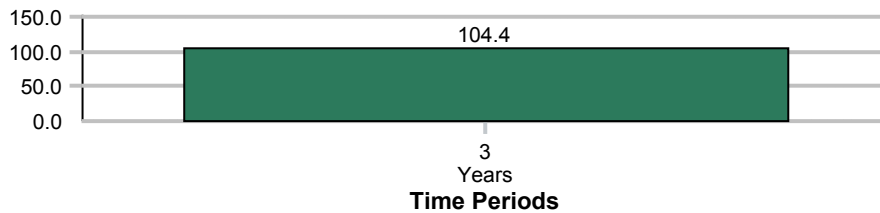


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan US Large Cap Core Plus (JLPSX)	21.48 (44)	9.80 (55)	-0.27 (57)	N/A	N/A	N/A	N/A
● S&P 500	21.83 (38)	11.96 (26)	1.38 (32)	13.69 (16)	32.39 (38)	16.00 (39)	2.11 (22)
5th Percentile	26.24	15.65	4.93	15.29	36.86	19.65	6.11
1st Quartile	22.81	12.01	2.08	12.93	33.53	16.90	1.63
Median	21.16	10.07	0.11	11.35	31.77	15.34	-0.59
3rd Quartile	19.19	8.30	-1.76	9.70	29.74	13.15	-2.64
95th Percentile	15.40	3.92	-4.84	6.85	25.28	9.20	-8.68

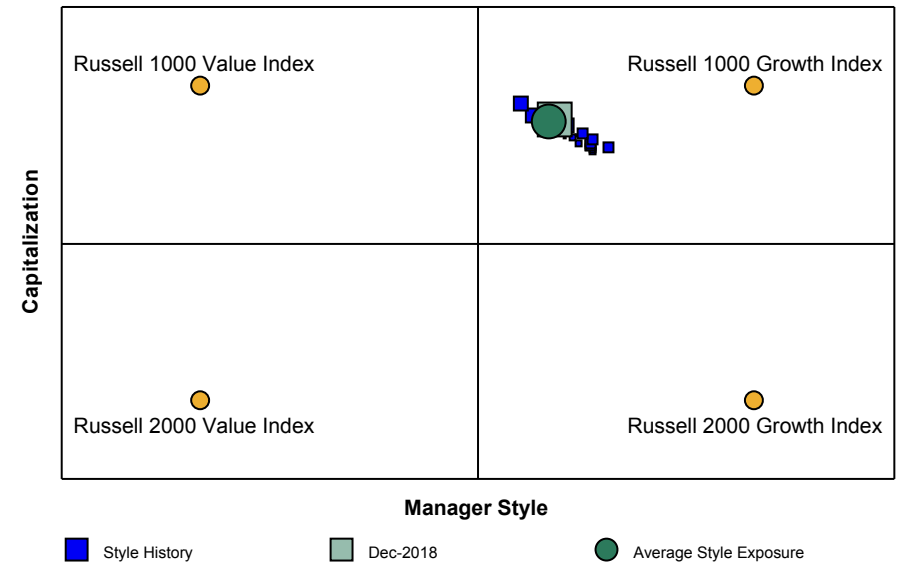
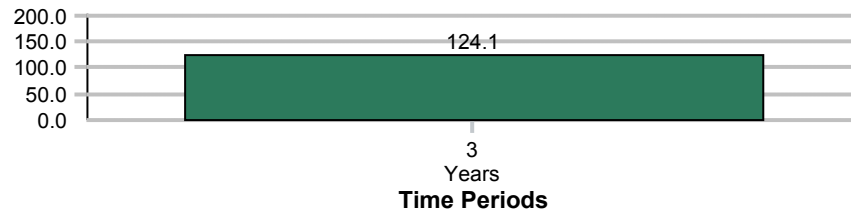
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

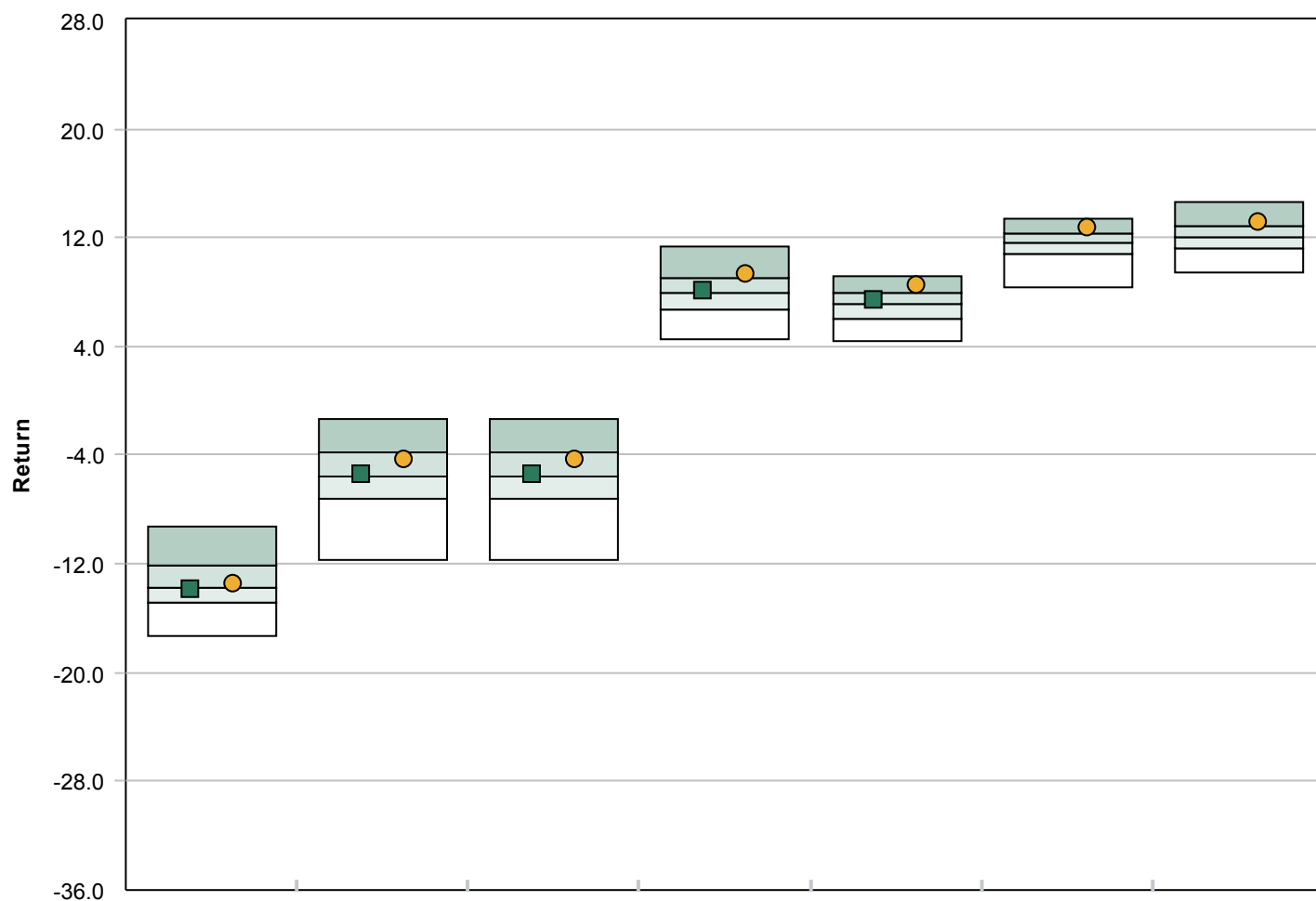


Up Market Capture



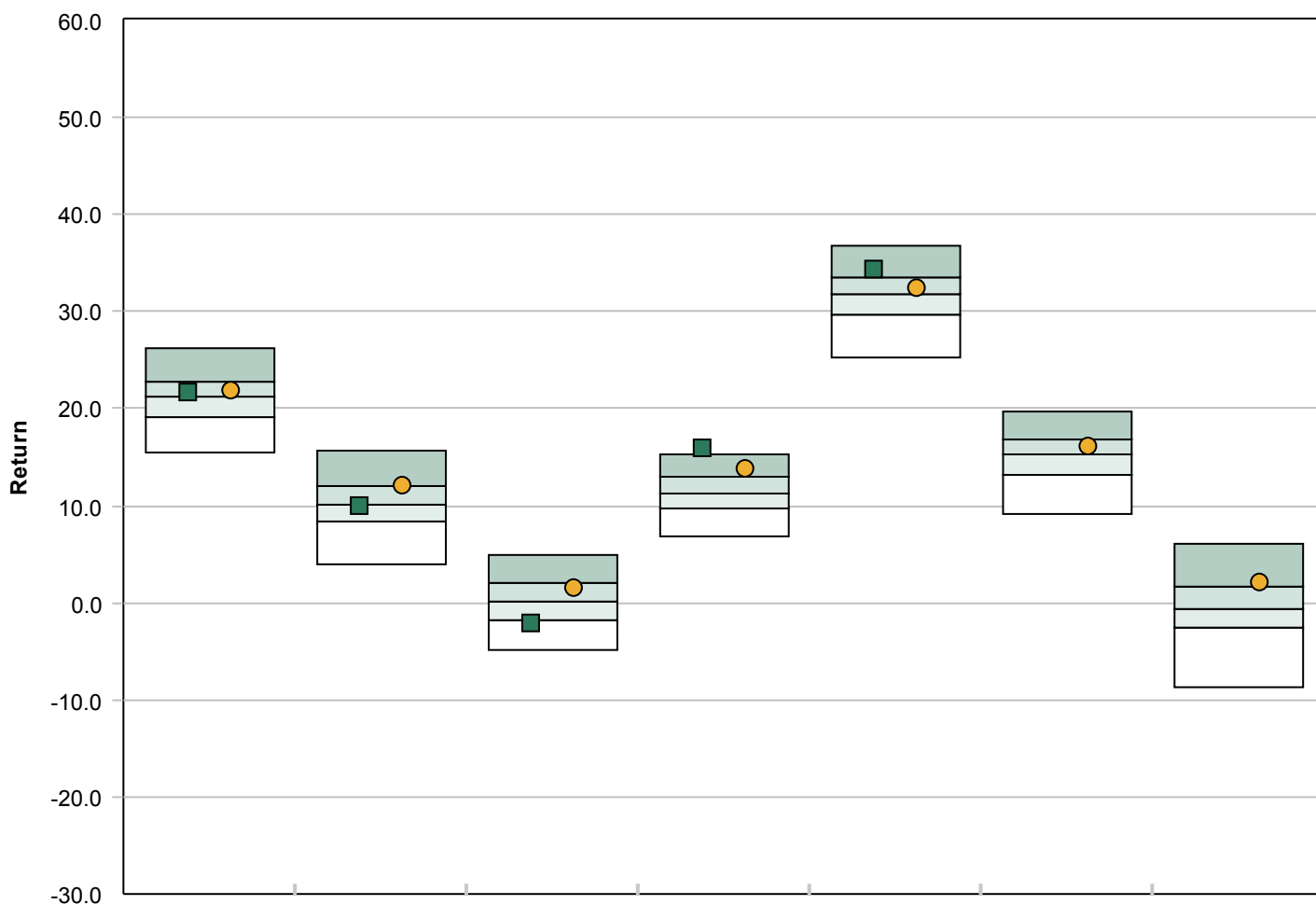
Down Market Capture





	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Disciplined Equity R6 (JDEUX)	-13.92 (55)	-5.48 (48)	-5.48 (48)	8.09 (49)	7.44 (41)	N/A	N/A
● S&P 500	-13.52 (45)	-4.38 (31)	-4.38 (31)	9.26 (19)	8.49 (12)	12.70 (16)	13.12 (20)
5th Percentile	-9.27	-1.35	-1.35	11.28	9.20	13.39	14.60
1st Quartile	-12.17	-3.75	-3.75	9.00	7.92	12.36	12.91
Median	-13.78	-5.61	-5.61	8.00	7.13	11.61	12.02
3rd Quartile	-14.79	-7.18	-7.18	6.77	6.08	10.78	11.19
95th Percentile	-17.29	-11.67	-11.67	4.48	4.36	8.35	9.48

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

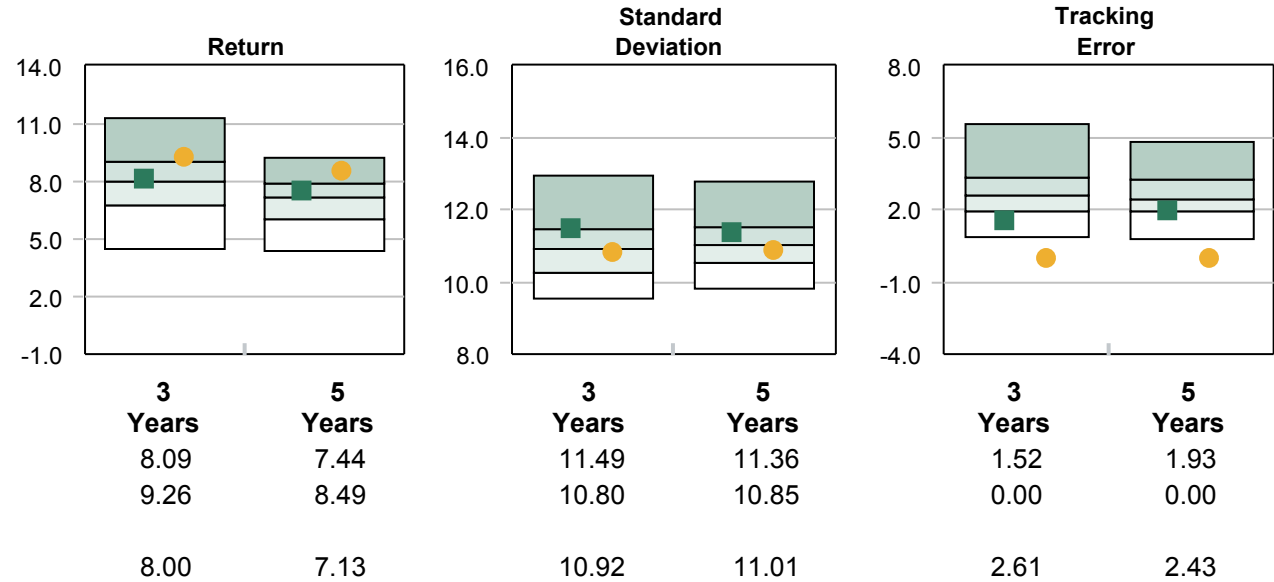


■ JP Morgan Disciplined Equity R6 (JDEUX)

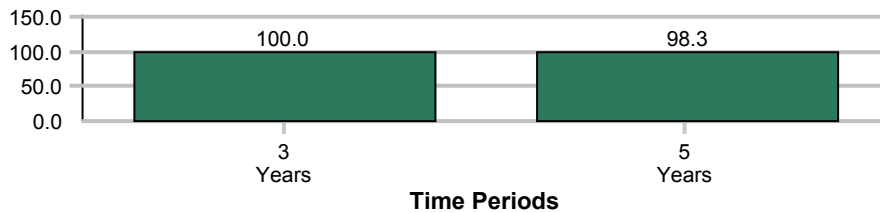
● S&P 500

	2017	2016	2015	2014	2013	2012	2011
5th Percentile	26.24	15.65	4.93	15.29	36.86	19.65	6.11
1st Quartile	22.81	12.01	2.08	12.93	33.53	16.90	1.63
Median	21.16	10.07	0.11	11.35	31.77	15.34	-0.59
3rd Quartile	19.19	8.30	-1.76	9.70	29.74	13.15	-2.64
95th Percentile	15.40	3.92	-4.84	6.85	25.28	9.20	-8.68

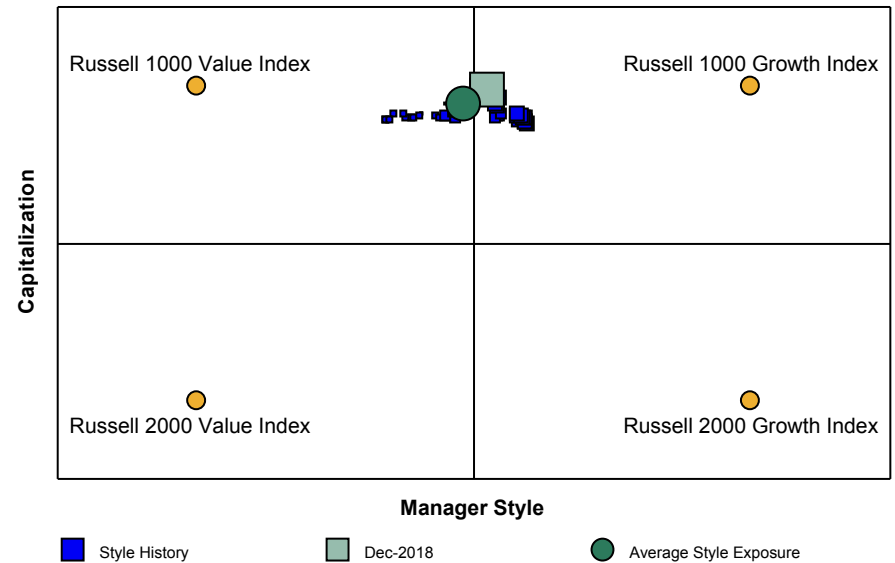
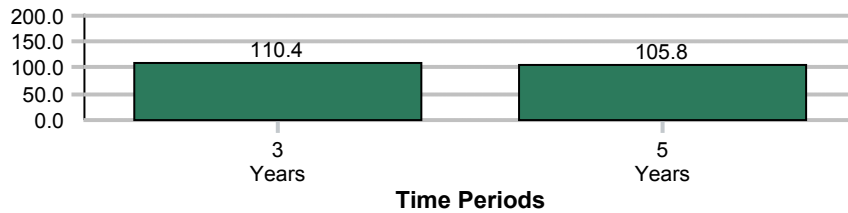
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

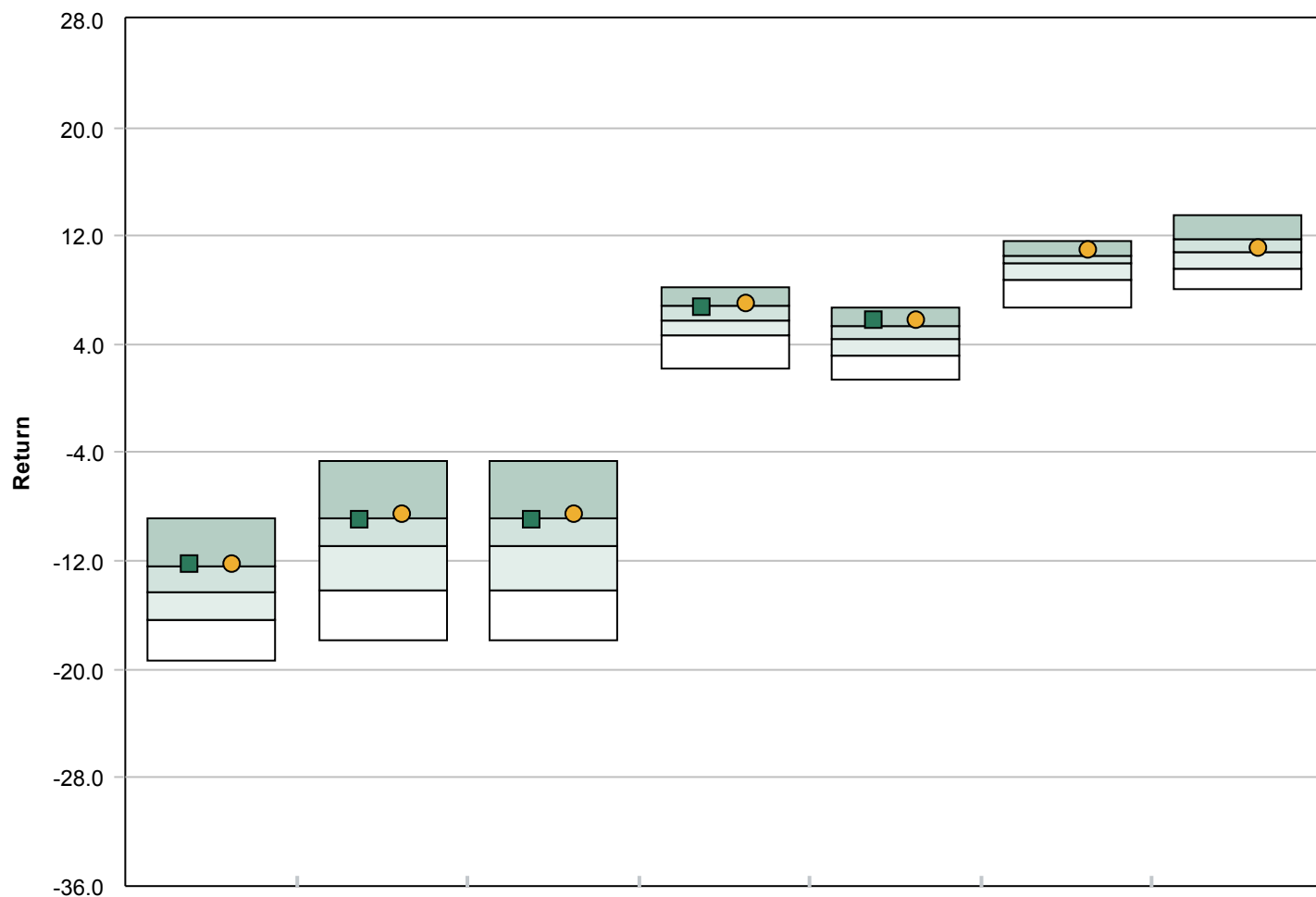


Up Market Capture



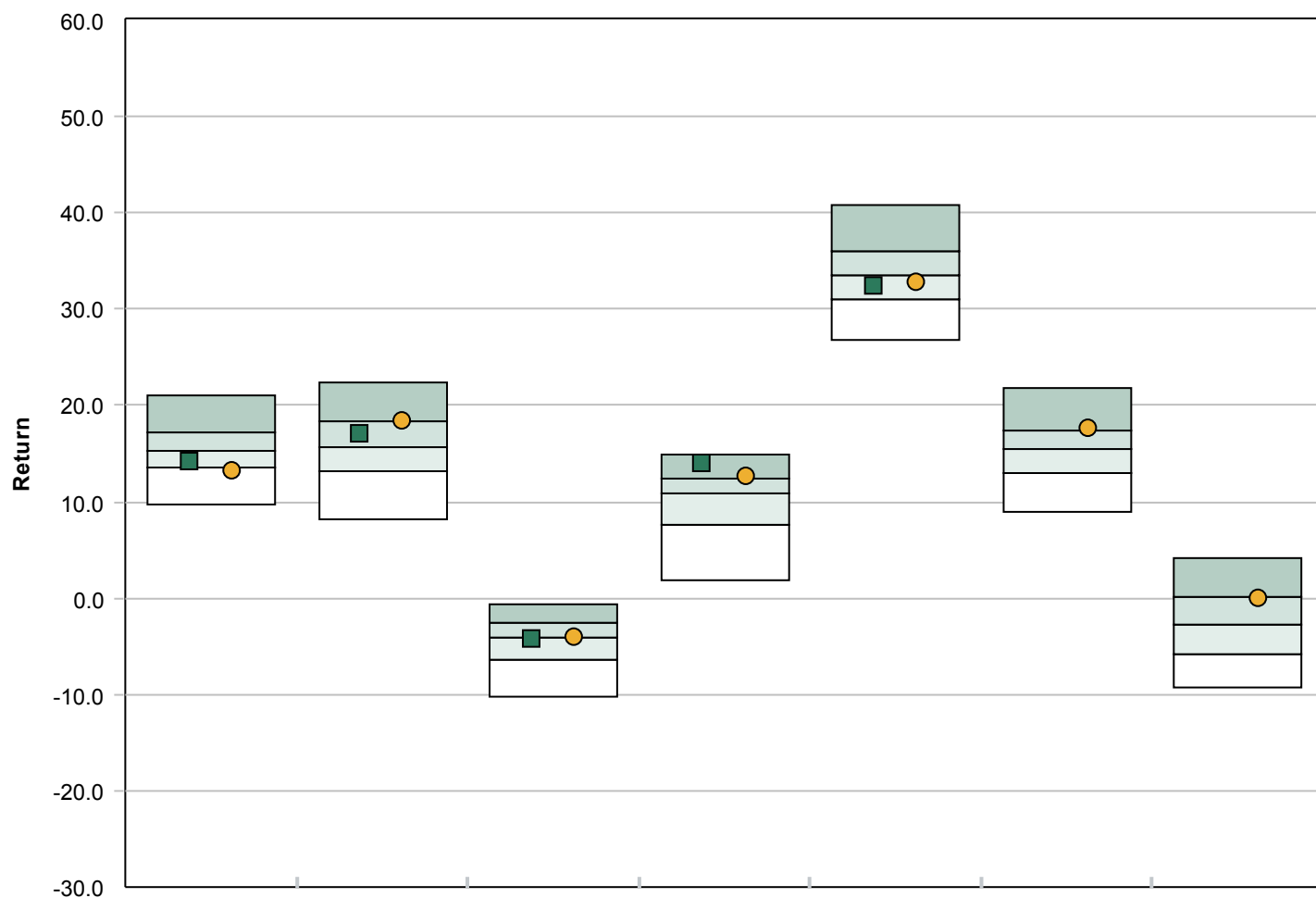
Down Market Capture





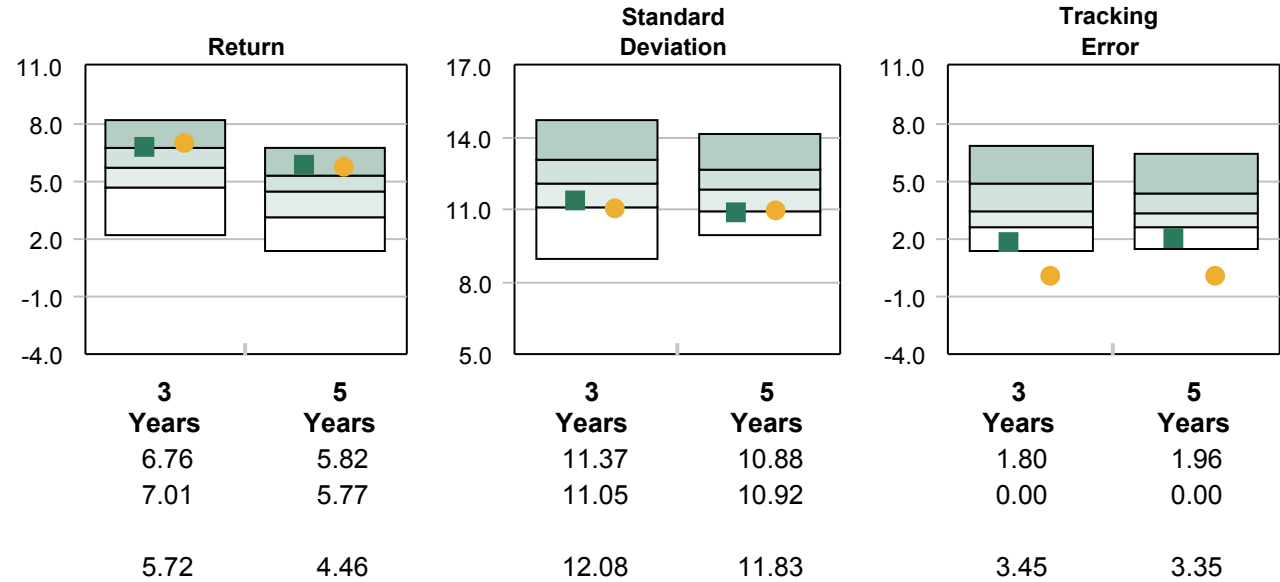
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Value Advantage Instl (JVAIX)	-12.28 (18)	-8.98 (28)	-8.98 (28)	6.76 (27)	5.82 (17)	N/A	N/A
● Russell 3000 Value Index	-12.24 (18)	-8.58 (23)	-8.58 (23)	7.01 (22)	5.77 (18)	10.91 (19)	11.12 (40)
5th Percentile	-8.82	-4.64	-4.64	8.23	6.73	11.57	13.50
1st Quartile	-12.43	-8.81	-8.81	6.80	5.36	10.58	11.82
Median	-14.26	-10.94	-10.94	5.72	4.46	9.93	10.84
3rd Quartile	-16.36	-14.20	-14.20	4.66	3.15	8.82	9.61
95th Percentile	-19.40	-17.86	-17.86	2.18	1.33	6.70	8.06

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

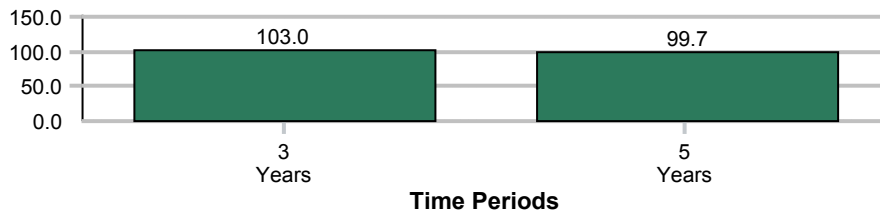


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Value Advantage Instl (JVAIX)	14.23 (65)	17.03 (37)	-4.24 (53)	13.87 (14)	32.27 (63)	N/A	N/A
● Russell 3000 Value Index	13.19 (78)	18.40 (26)	-4.13 (50)	12.70 (25)	32.69 (58)	17.55 (25)	-0.10 (27)
5th Percentile	21.08	22.41	-0.61	14.83	40.73	21.86	4.10
1st Quartile	17.11	18.42	-2.65	12.44	36.10	17.46	0.08
Median	15.27	15.61	-4.16	10.79	33.46	15.57	-2.72
3rd Quartile	13.52	13.13	-6.41	7.60	31.01	12.91	-5.86
95th Percentile	9.77	8.28	-10.14	1.85	26.74	8.90	-9.20

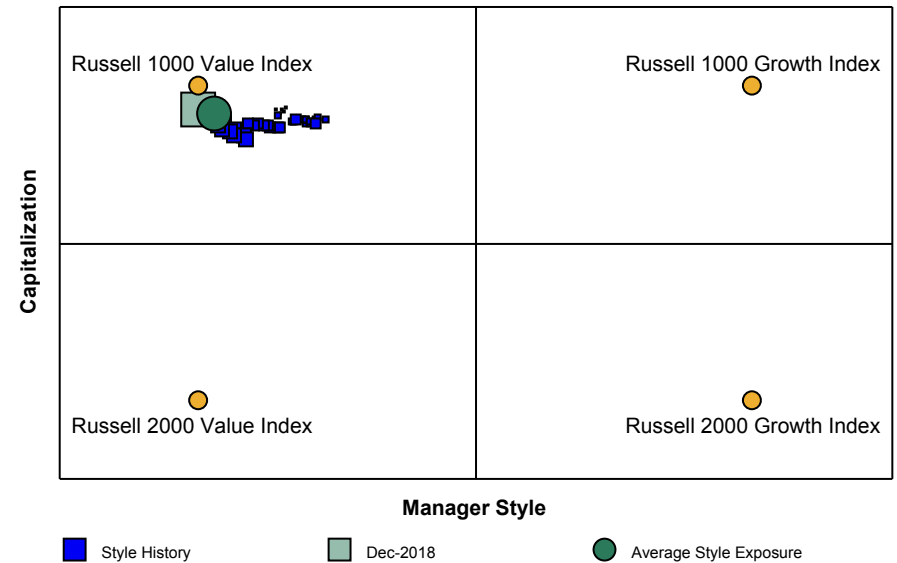
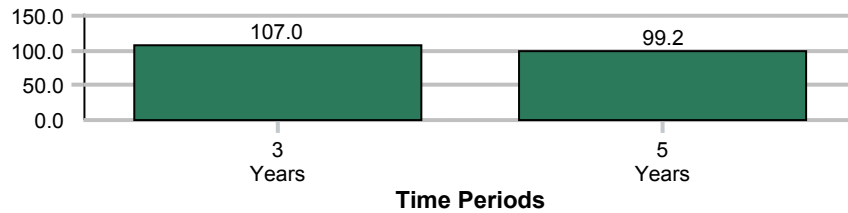
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

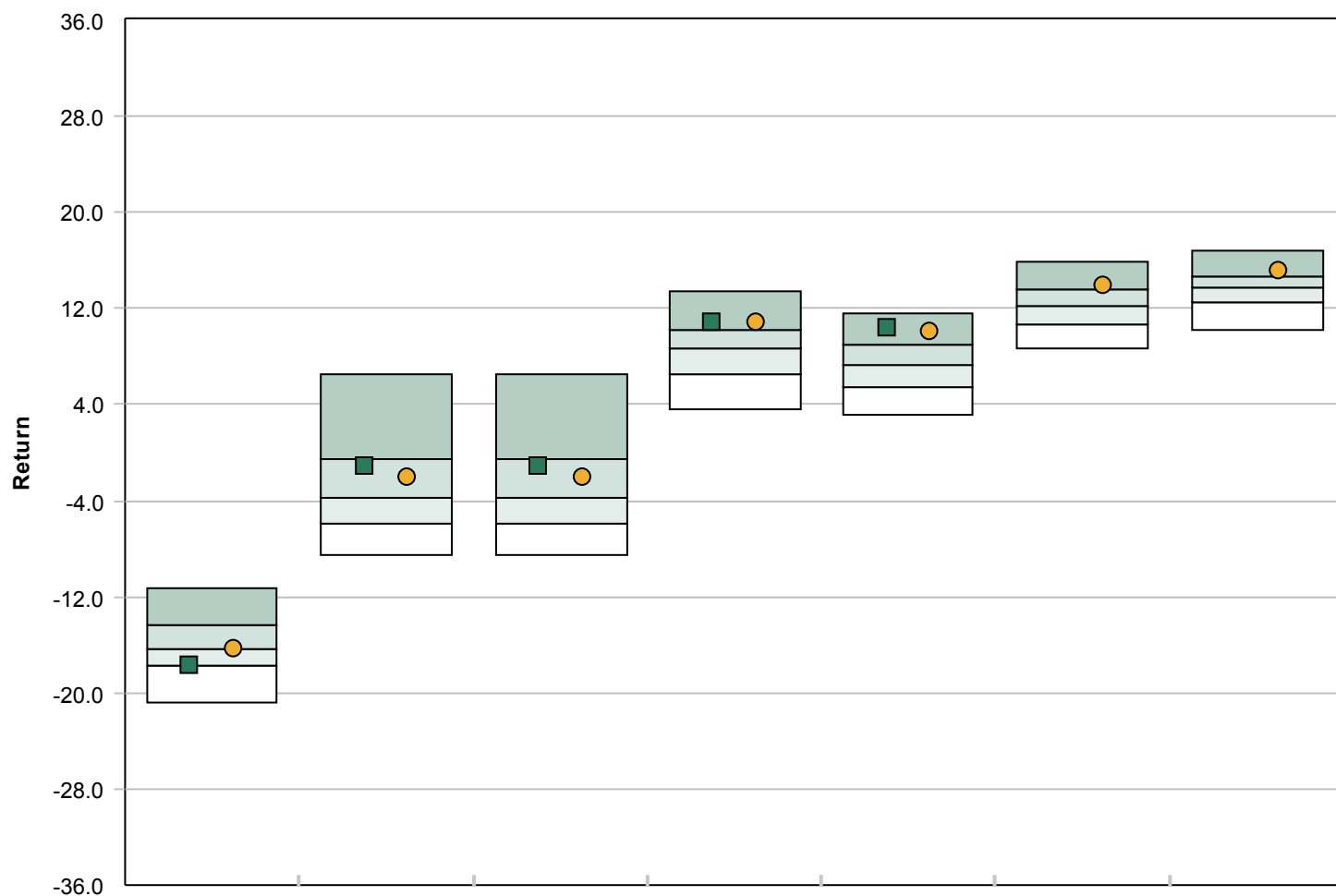


Up Market Capture



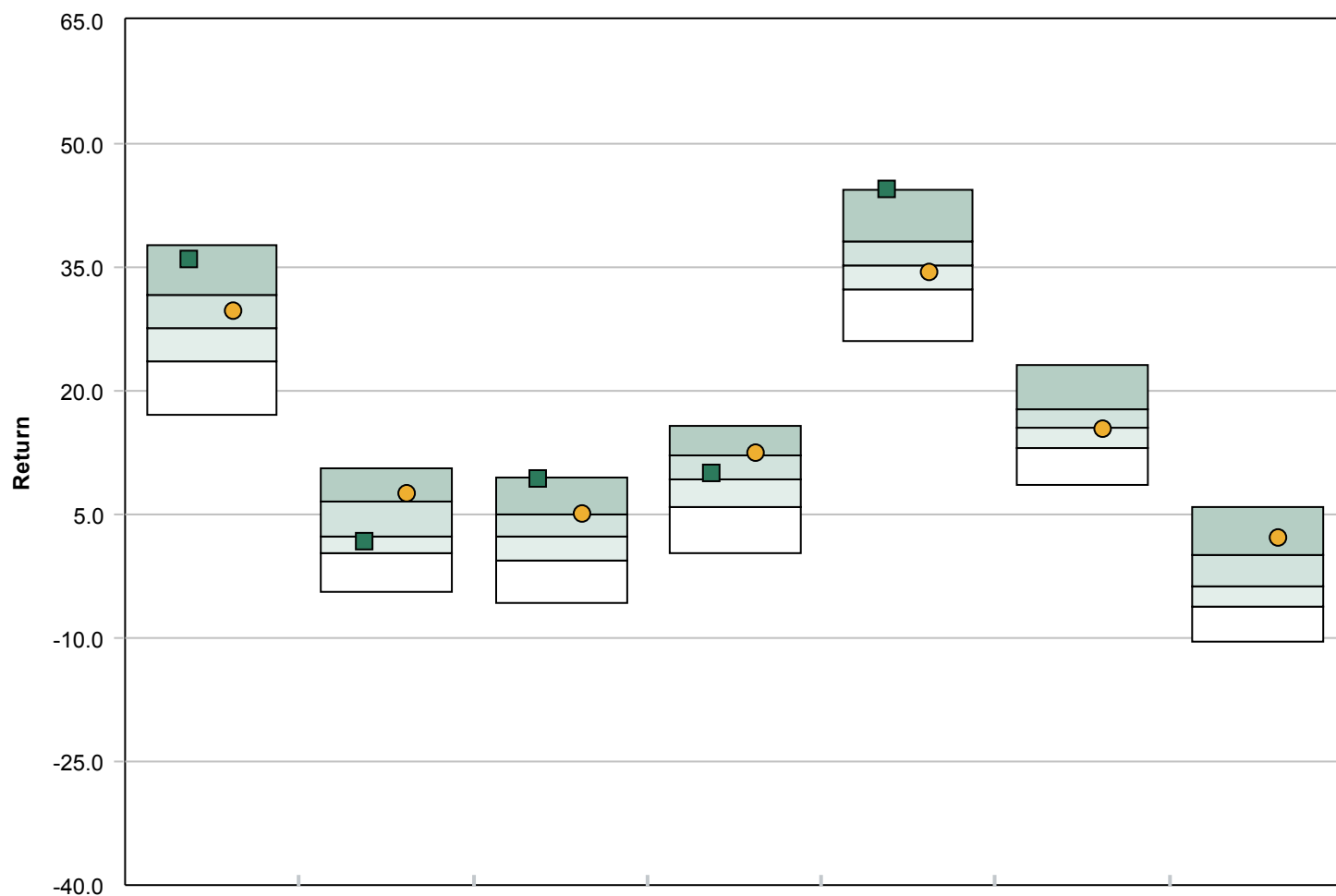
Down Market Capture





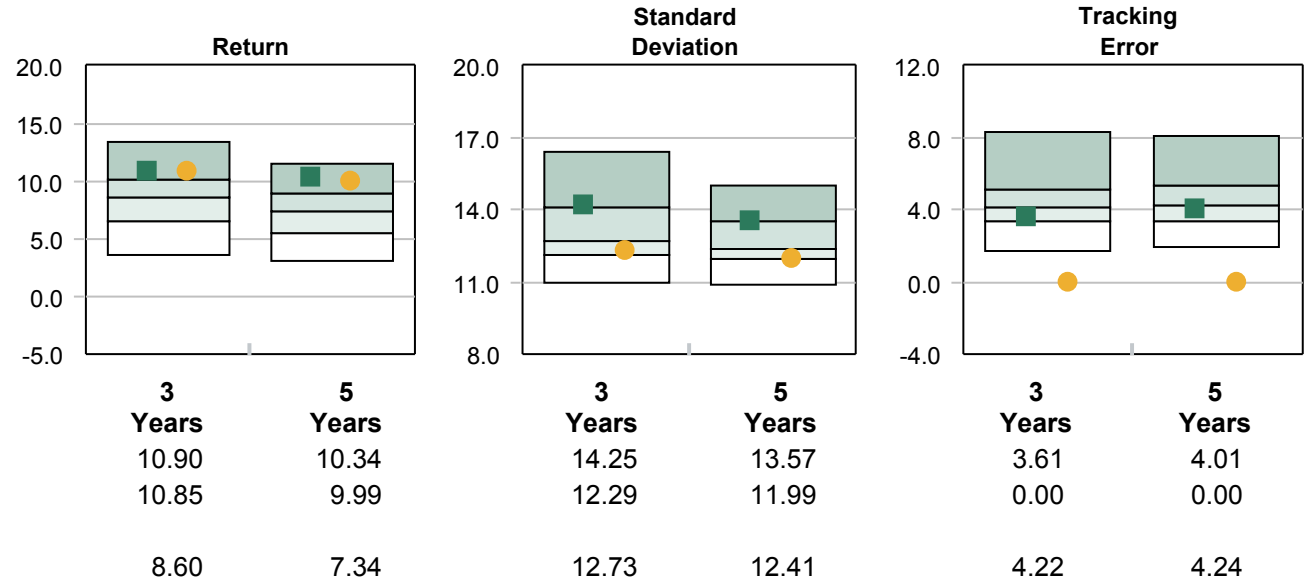
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Growth Advantage (JGVVX)	-17.76 (75)	-1.12 (30)	-1.12 (30)	10.90 (17)	10.34 (13)	N/A	N/A
● Russell 3000 Growth Index	-16.33 (51)	-2.12 (36)	-2.12 (36)	10.85 (18)	9.99 (17)	13.92 (22)	15.15 (18)
5th Percentile	-11.27	6.57	6.57	13.44	11.57	15.85	16.89
1st Quartile	-14.40	-0.55	-0.55	10.18	9.02	13.66	14.71
Median	-16.29	-3.73	-3.73	8.60	7.34	12.27	13.70
3rd Quartile	-17.80	-5.89	-5.89	6.50	5.51	10.74	12.48
95th Percentile	-20.85	-8.46	-8.46	3.61	3.16	8.73	10.18

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

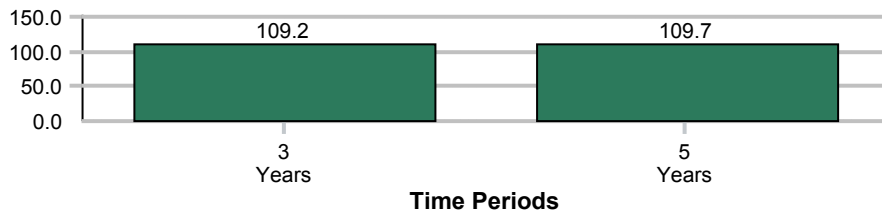


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Growth Advantage (JGVVX)	35.83 (7)	1.54 (58)	9.16 (6)	9.88 (45)	44.39 (5)	N/A	N/A
● Russell 3000 Growth Index	29.59 (37)	7.39 (18)	5.09 (25)	12.44 (23)	34.23 (59)	15.21 (55)	2.18 (13)
5th Percentile	37.78	10.62	9.38	15.75	44.38	23.05	5.85
1st Quartile	31.75	6.58	4.99	12.17	38.18	17.77	0.02
Median	27.67	2.32	2.34	9.25	35.25	15.50	-3.84
3rd Quartile	23.63	0.37	-0.64	5.99	32.34	13.02	-6.18
95th Percentile	17.06	-4.46	-5.75	0.37	26.02	8.61	-10.34

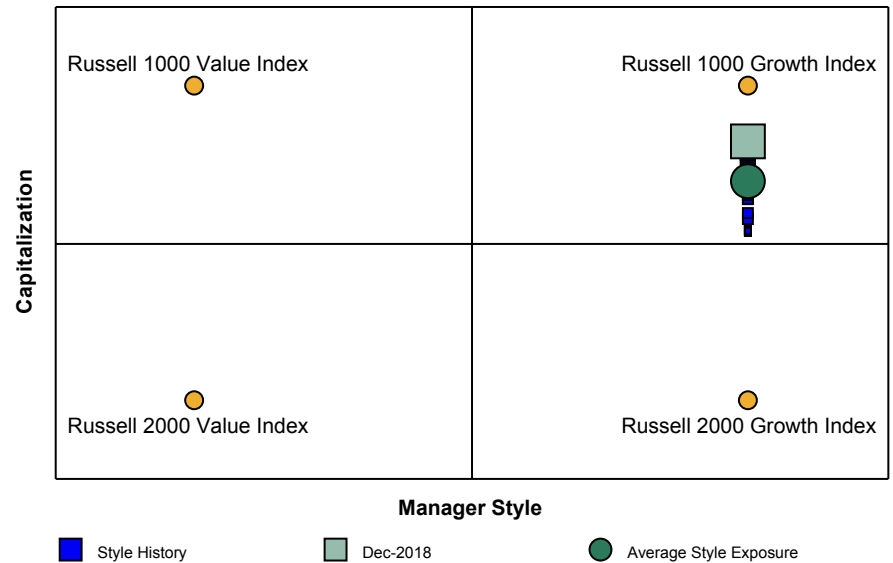
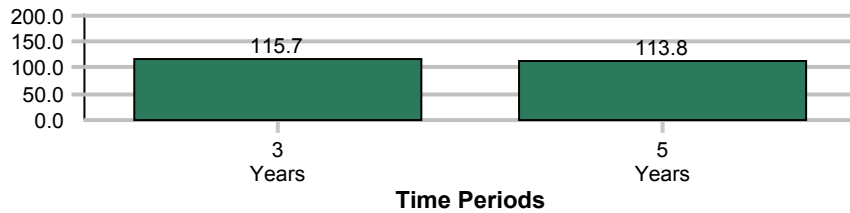
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

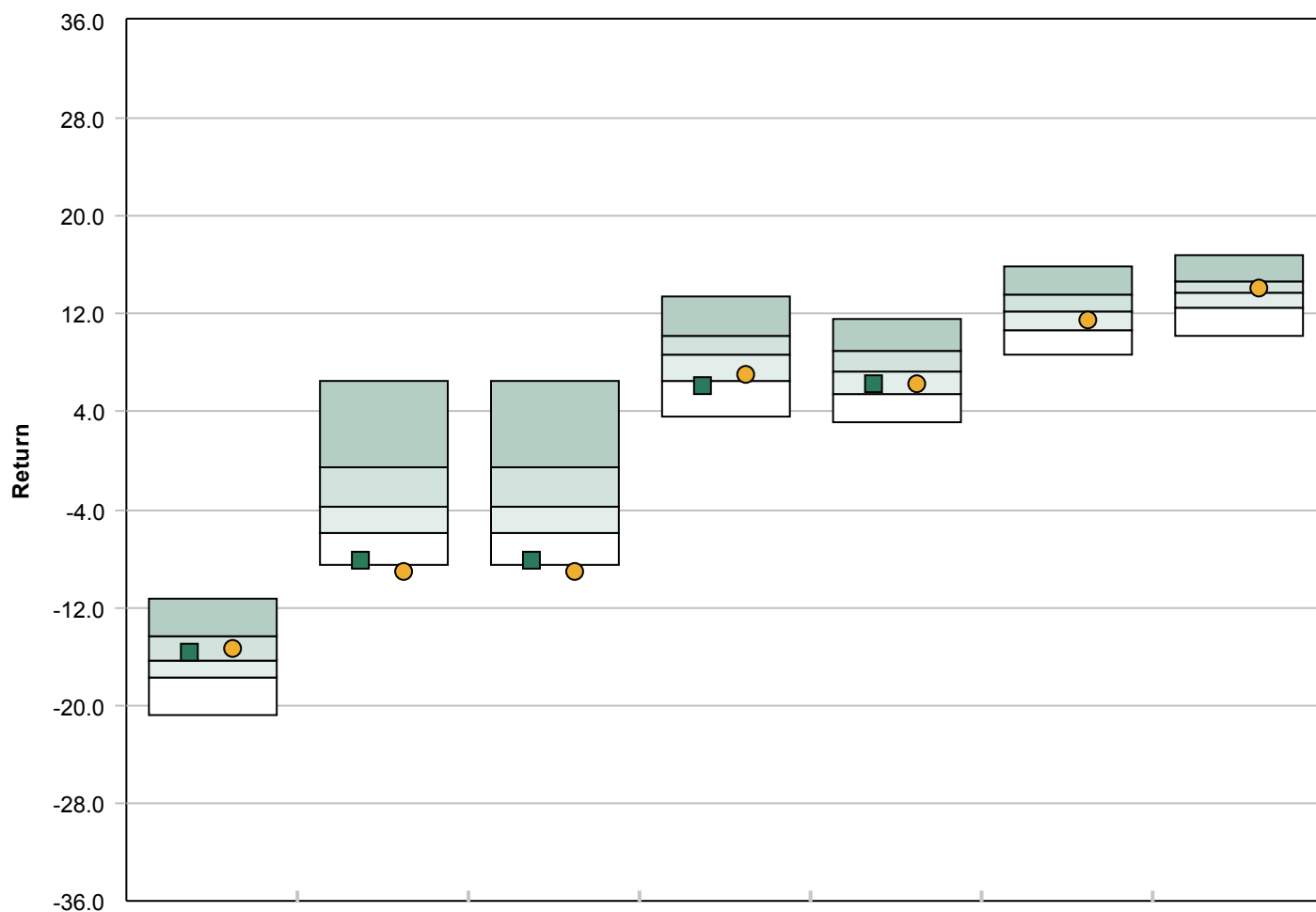


Up Market Capture



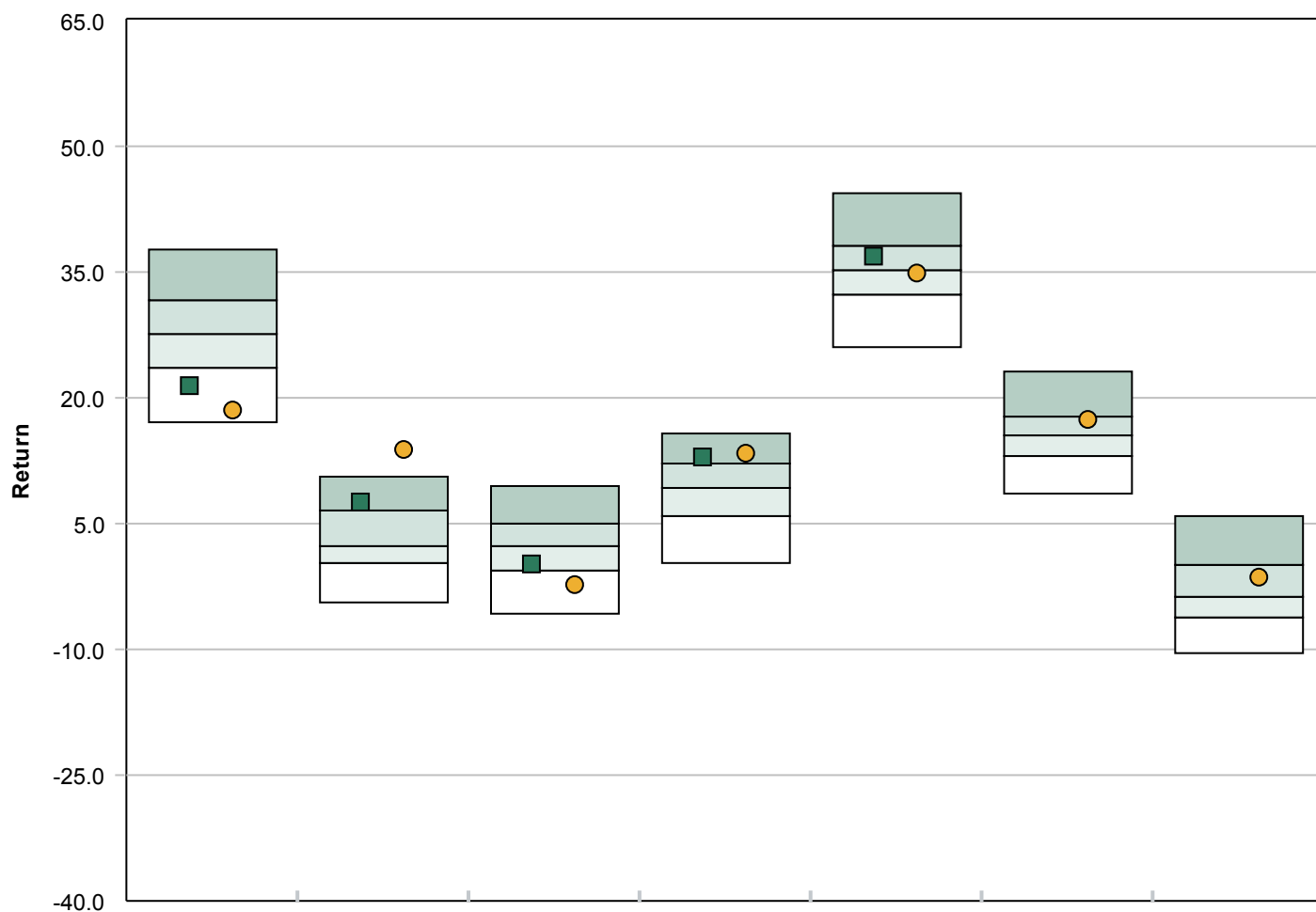
Down Market Capture





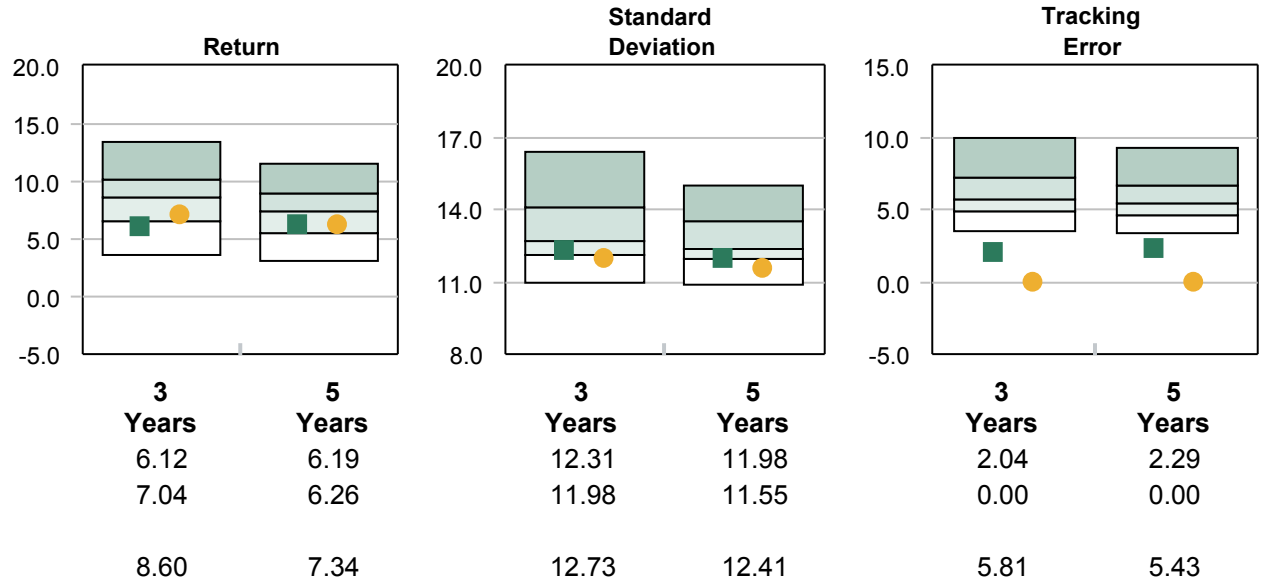
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Mid Cap Equity Select (VSNGX)	-15.79 (44)	-8.29 (95)	-8.29 (95)	6.12 (79)	6.19 (68)	N/A	N/A
● Russell Midcap Index	-15.37 (38)	-9.06 (97)	-9.06 (97)	7.04 (69)	6.26 (68)	11.49 (62)	14.03 (43)
5th Percentile	-11.27	6.57	6.57	13.44	11.57	15.85	16.89
1st Quartile	-14.40	-0.55	-0.55	10.18	9.02	13.66	14.71
Median	-16.29	-3.73	-3.73	8.60	7.34	12.27	13.70
3rd Quartile	-17.80	-5.89	-5.89	6.50	5.51	10.74	12.48
95th Percentile	-20.85	-8.46	-8.46	3.61	3.16	8.73	10.18

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

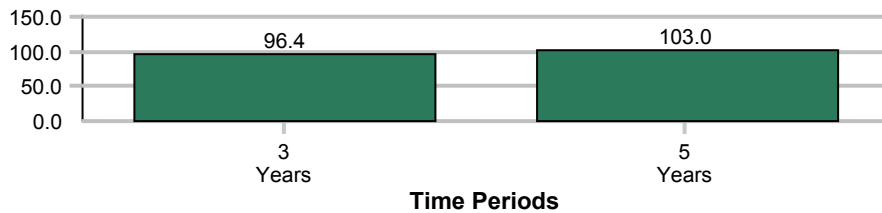


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Mid Cap Equity Select (VSNGX)	21.35 (88)	7.36 (18)	0.15 (72)	12.86 (20)	36.74 (36)	N/A	N/A
● Russell Midcap Index	18.52 (93)	13.80 (1)	-2.44 (85)	13.22 (17)	34.76 (55)	17.28 (30)	-1.55 (38)
5th Percentile	37.78	10.62	9.38	15.75	44.38	23.05	5.85
1st Quartile	31.75	6.58	4.99	12.17	38.18	17.77	0.02
Median	27.67	2.32	2.34	9.25	35.25	15.50	-3.84
3rd Quartile	23.63	0.37	-0.64	5.99	32.34	13.02	-6.18
95th Percentile	17.06	-4.46	-5.75	0.37	26.02	8.61	-10.34

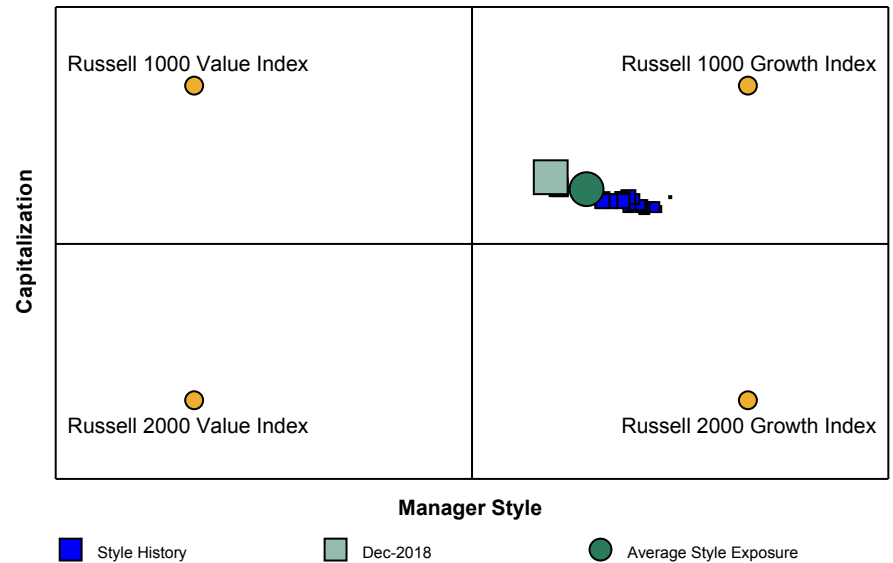
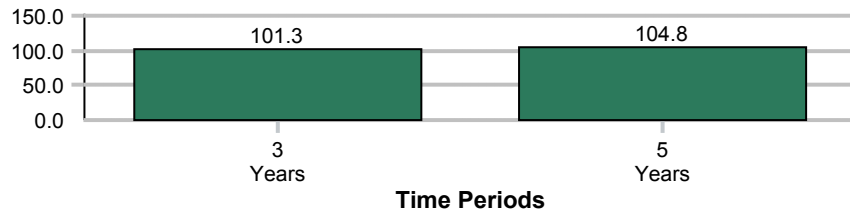
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

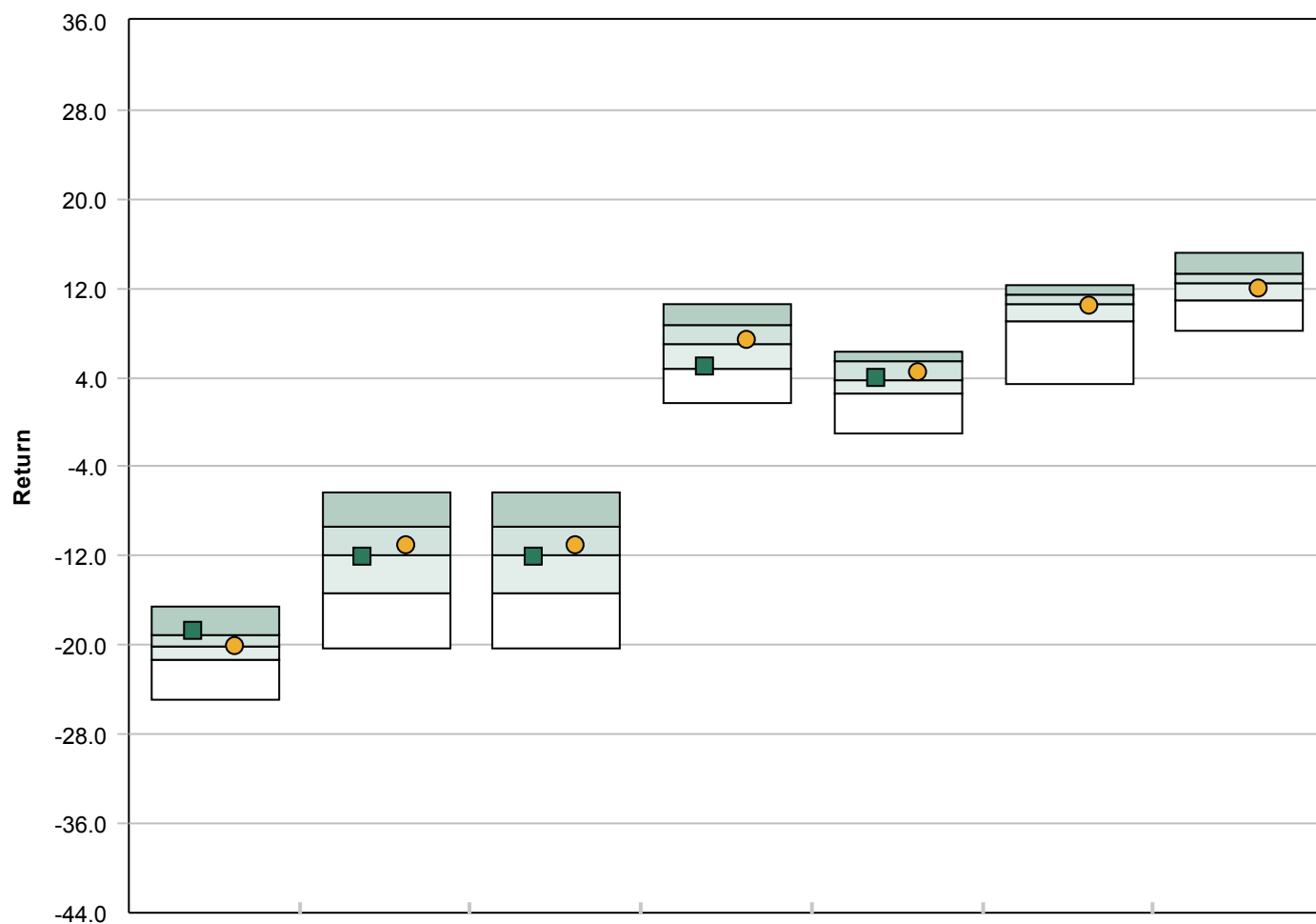


Up Market Capture



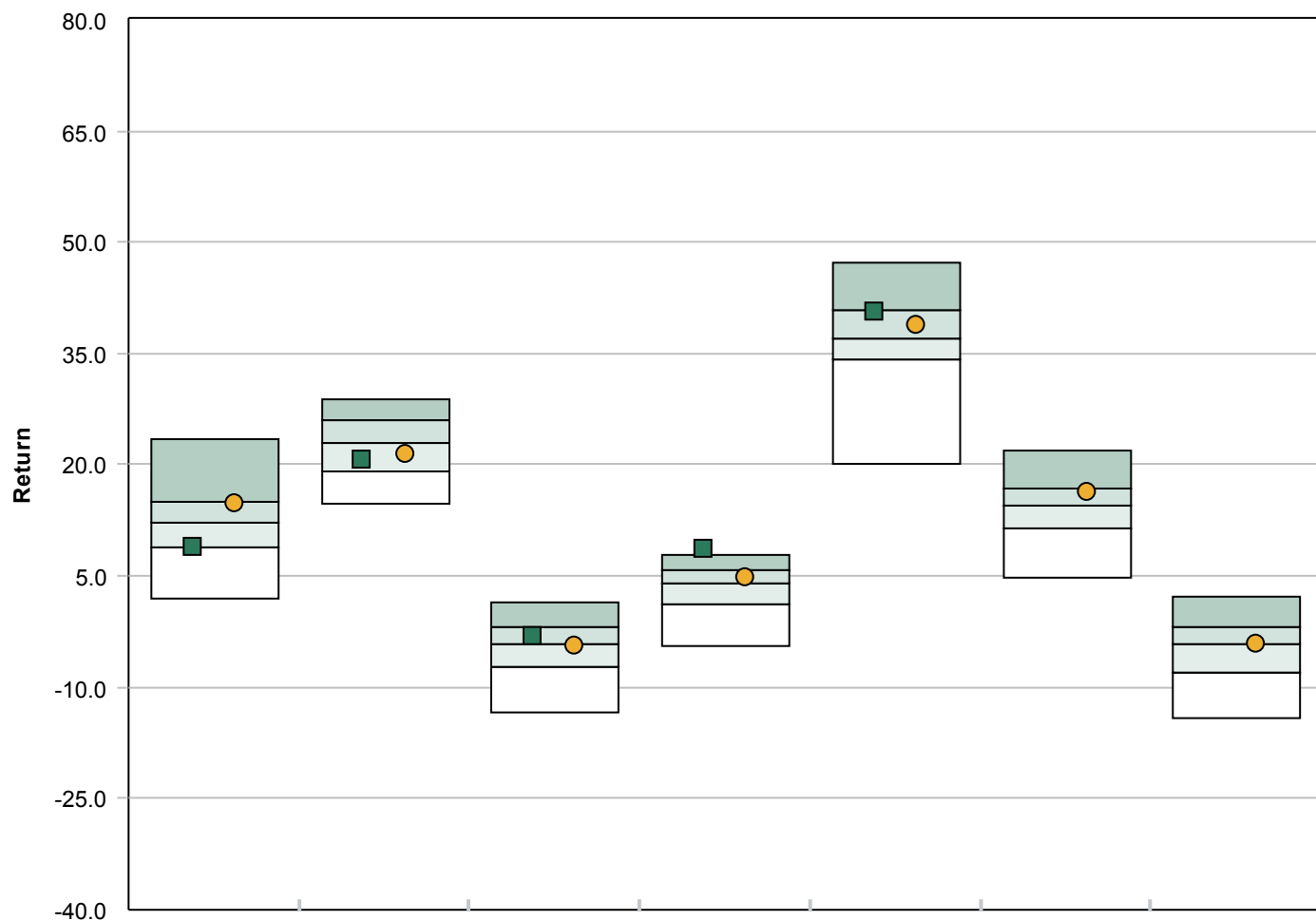
Down Market Capture





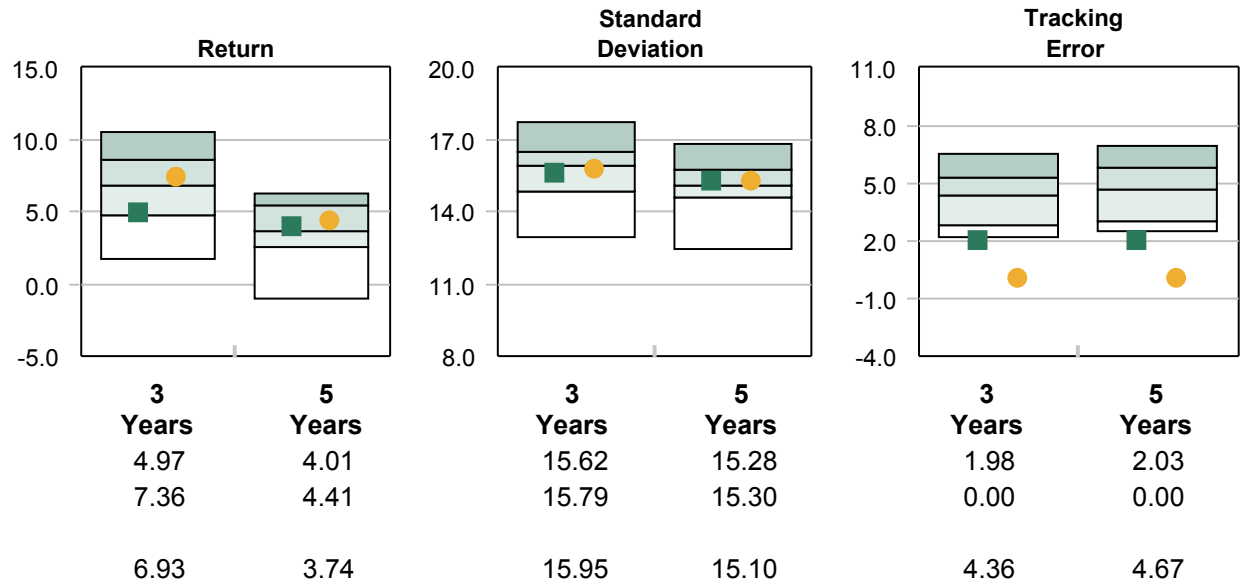
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan US Small Company Instl (JUSSX)	-18.82 (25)	-12.08 (53)	-12.08 (53)	4.97 (74)	4.01 (47)	N/A	N/A
● Russell 2000 Index	-20.20 (54)	-11.01 (45)	-11.01 (45)	7.36 (46)	4.41 (44)	10.44 (52)	11.97 (56)
5th Percentile	-16.49	-6.36	-6.36	10.55	6.31	12.35	15.20
1st Quartile	-19.02	-9.30	-9.30	8.72	5.42	11.51	13.38
Median	-20.15	-11.94	-11.94	6.93	3.74	10.51	12.43
3rd Quartile	-21.36	-15.37	-15.37	4.82	2.54	9.08	10.86
95th Percentile	-24.82	-20.37	-20.37	1.75	-0.93	3.35	8.23

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

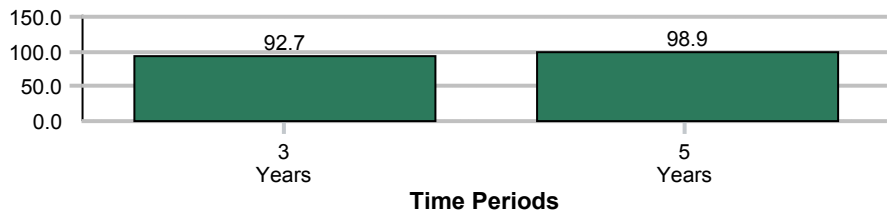


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan US Small Company Instl (JUSSX)	8.97 (74)	20.71 (63)	-3.14 (38)	8.66 (2)	40.61 (28)	N/A	N/A
● Russell 2000 Index	14.65 (29)	21.31 (60)	-4.41 (54)	4.89 (42)	38.82 (39)	16.35 (29)	-4.18 (50)
5th Percentile	23.38	28.73	1.38	7.78	47.36	22.05	2.21
1st Quartile	15.09	25.96	-2.00	5.69	40.90	16.93	-1.79
Median	12.19	22.95	-4.26	3.99	36.91	14.44	-4.24
3rd Quartile	8.75	19.21	-7.36	1.15	34.29	11.51	-8.00
95th Percentile	2.07	14.82	-13.33	-4.54	20.06	4.69	-14.25

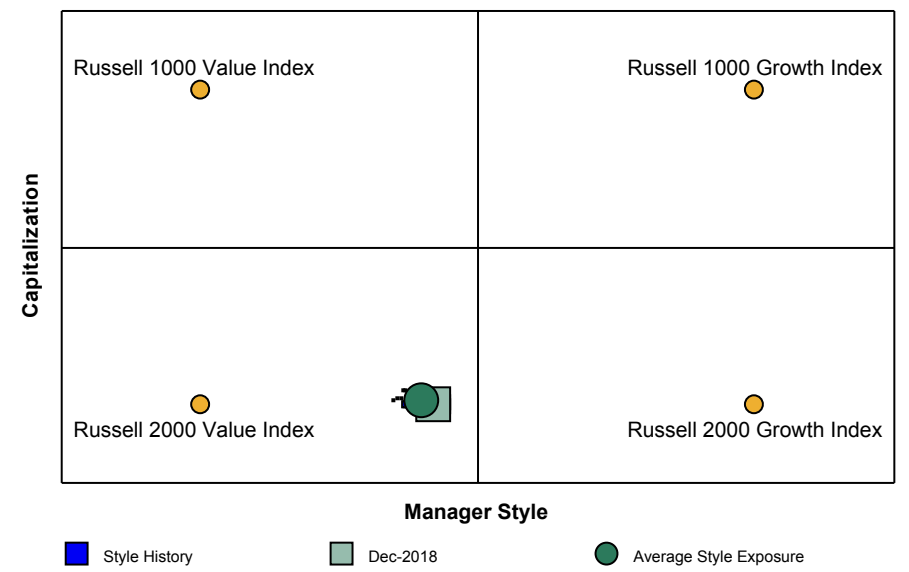
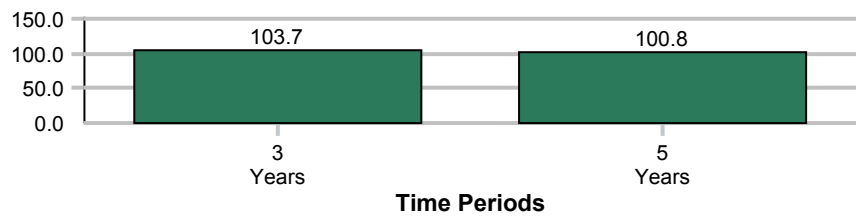
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

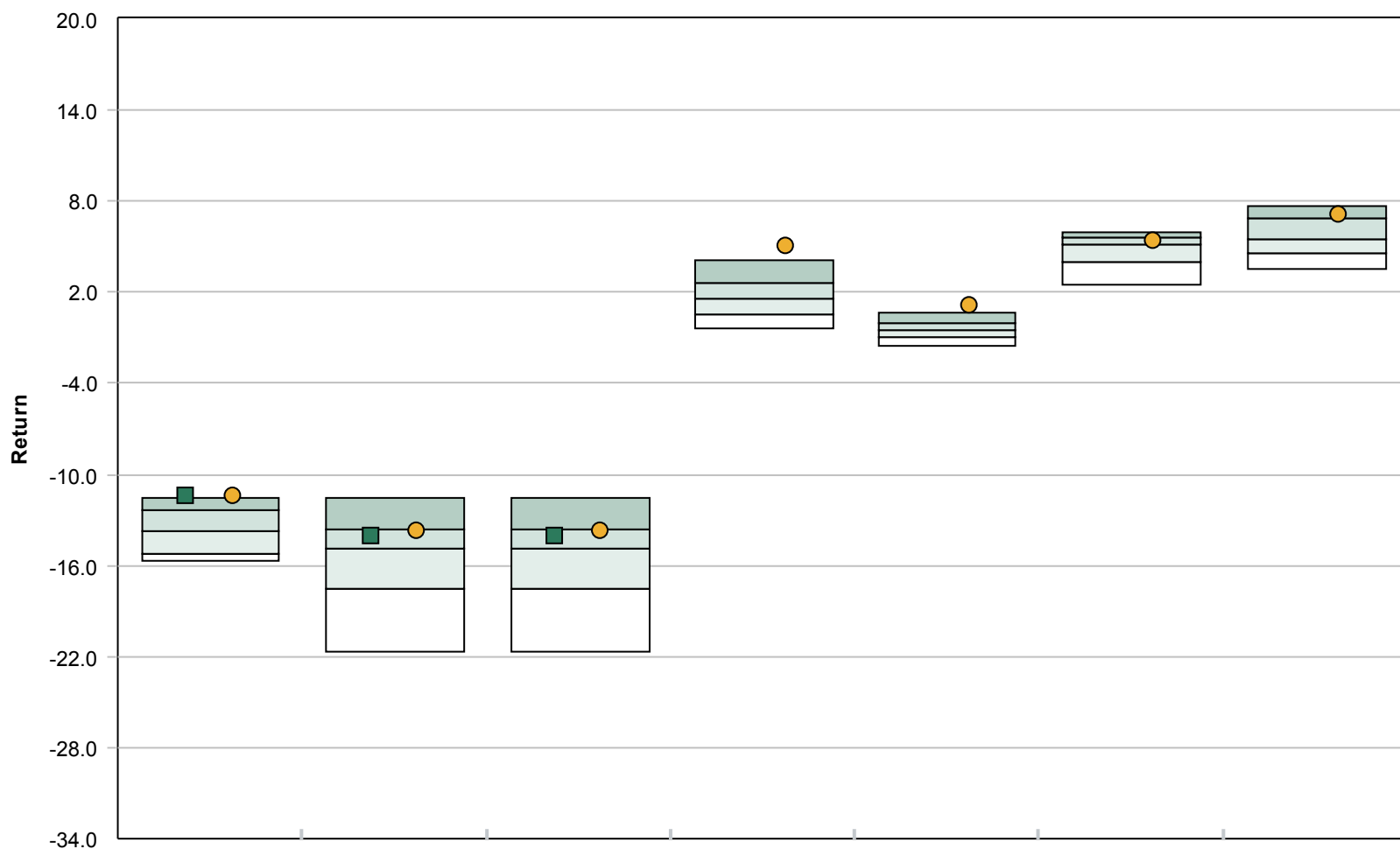


Up Market Capture



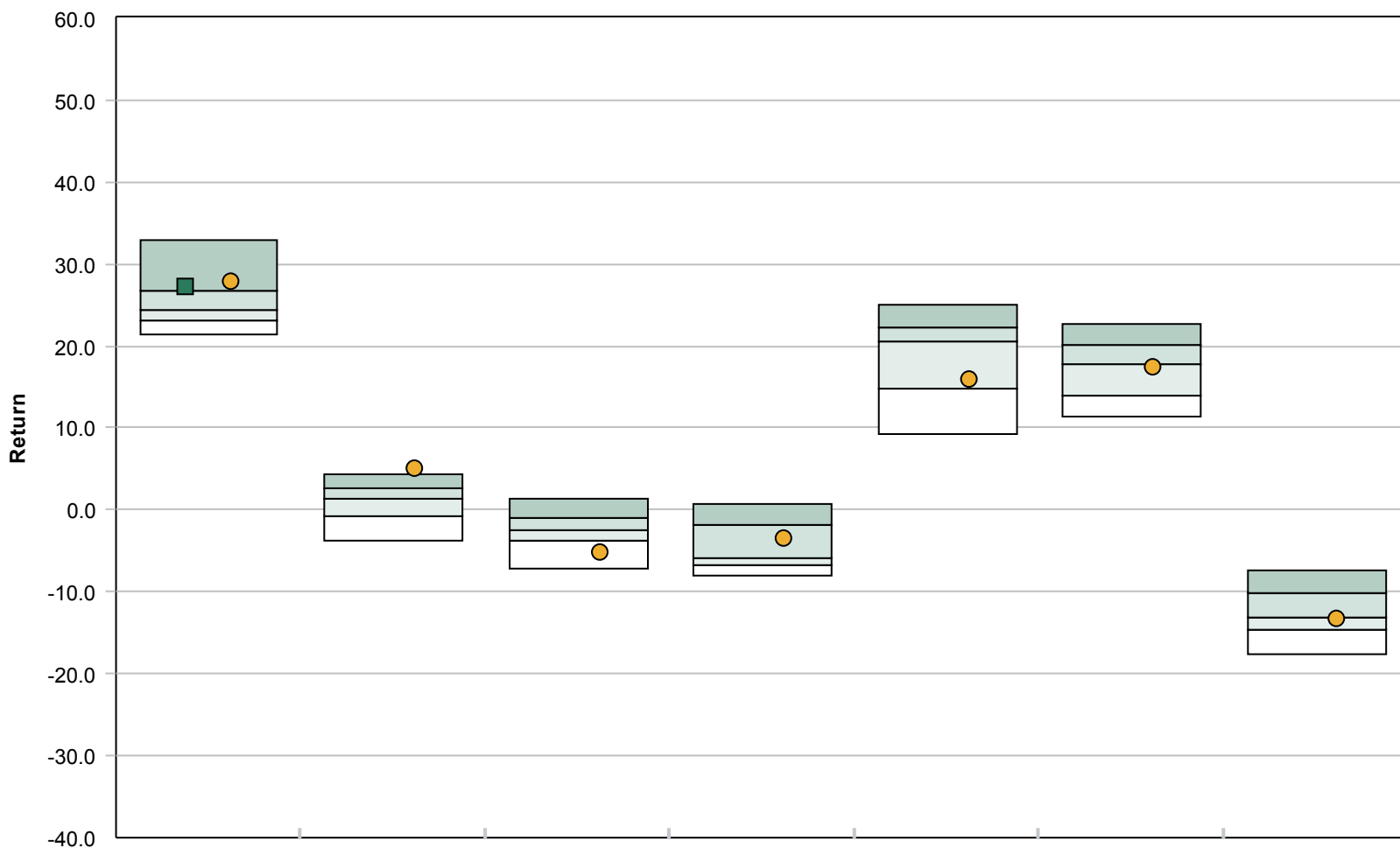
Down Market Capture





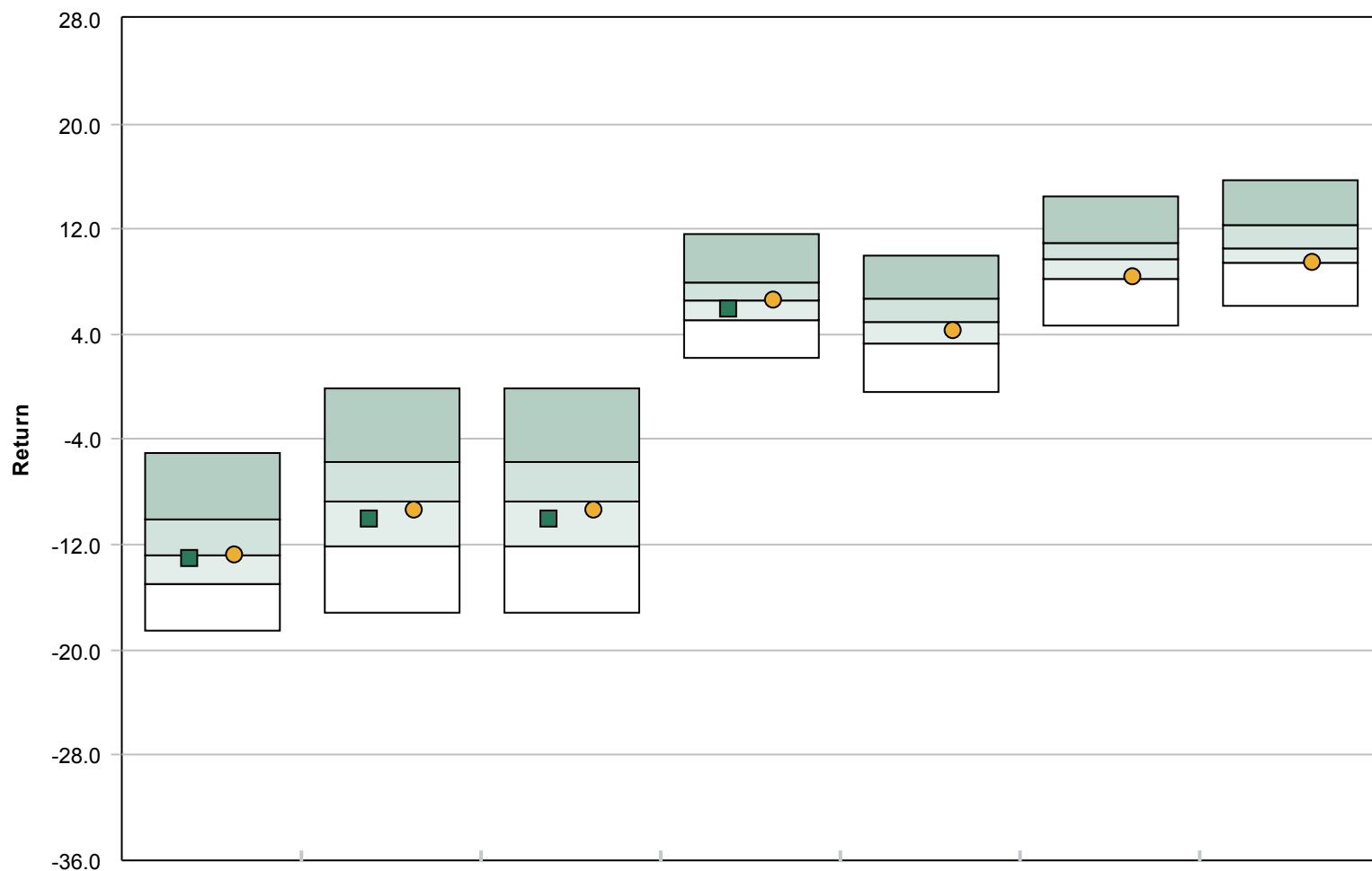
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ State Street Global Equity	-11.46 (5)	-14.03 (34)	-14.03 (34)	N/A	N/A	N/A	N/A
● MSCI AC World ex USA	-11.41 (5)	-13.78 (29)	-13.78 (29)	4.98 (1)	1.14 (1)	5.33 (38)	7.06 (24)
5th Percentile	-11.58	-11.57	-11.57	4.08	0.63	5.97	7.69
1st Quartile	-12.34	-13.61	-13.61	2.66	-0.05	5.60	6.87
Median	-13.68	-14.90	-14.90	1.60	-0.49	5.11	5.54
3rd Quartile	-15.25	-17.57	-17.57	0.56	-1.00	4.02	4.58
95th Percentile	-15.74	-21.66	-21.66	-0.42	-1.48	2.45	3.48

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



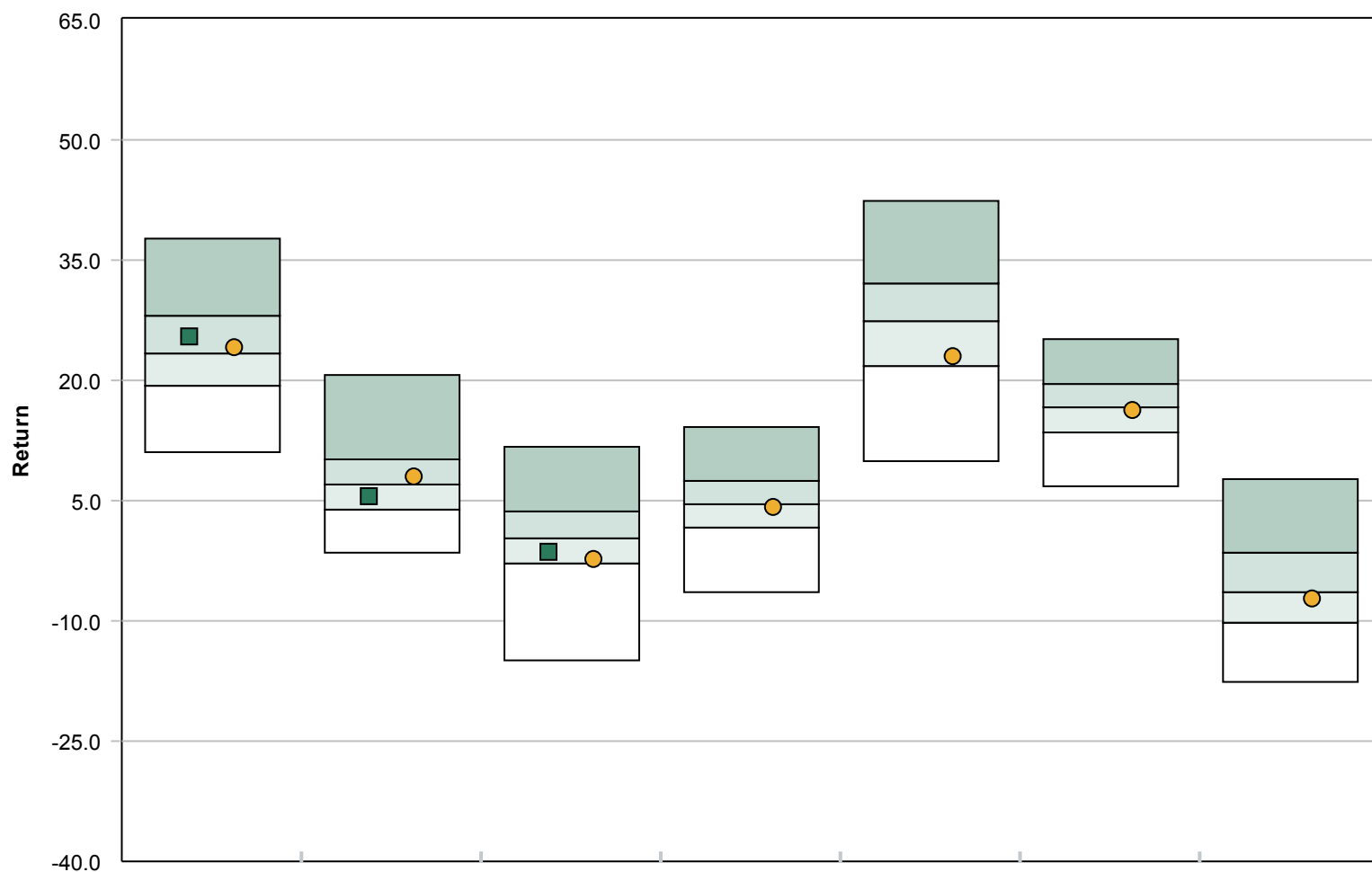
	2017	2016	2015	2014	2013	2012	2011
State Street Global Equity	27.11 (18)	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA	27.77 (15)	5.01 (5)	-5.25 (87)	-3.44 (27)	15.78 (75)	17.39 (54)	-13.33 (55)
5th Percentile	33.02	4.34	1.40	0.82	24.93	22.75	-7.42
1st Quartile	26.71	2.61	-1.05	-1.73	22.26	20.12	-10.04
Median	24.46	1.43	-2.38	-5.89	20.47	17.70	-13.09
3rd Quartile	23.09	-0.81	-3.66	-6.70	14.73	13.92	-14.58
95th Percentile	21.33	-3.83	-7.18	-7.96	9.20	11.32	-17.71

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



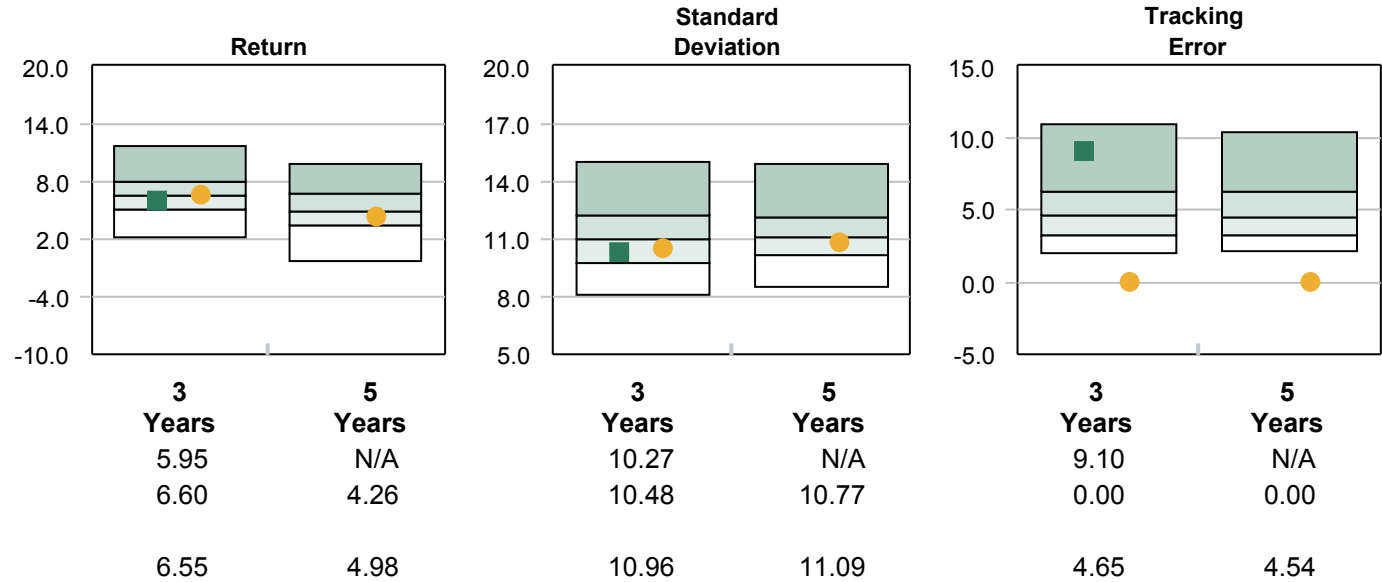
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Strategic Solutions Global Equity	-13.11 (53)	-10.06 (62)	-10.06 (62)	5.95 (62)	N/A	N/A	N/A
● MSCI AC World Index (Net)	-12.75 (49)	-9.42 (57)	-9.42 (57)	6.60 (49)	4.26 (64)	8.38 (74)	9.46 (77)
5th Percentile	-5.03	-0.16	-0.16	11.62	9.96	14.43	15.73
1st Quartile	-10.03	-5.69	-5.69	7.92	6.66	10.92	12.37
Median	-12.85	-8.70	-8.70	6.55	4.98	9.69	10.59
3rd Quartile	-15.05	-12.14	-12.14	5.14	3.35	8.22	9.49
95th Percentile	-18.49	-17.14	-17.14	2.21	-0.34	4.71	6.19

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

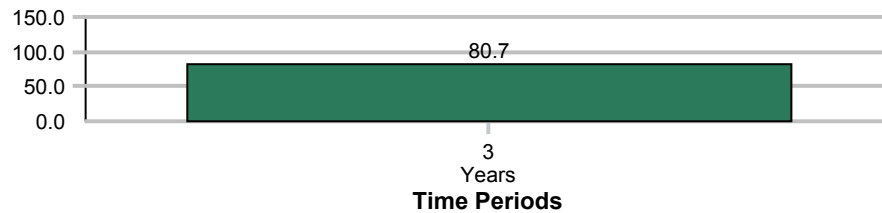


	2017	2016	2015	2014	2013	2012	2011
Strategic Solutions Global Equity	25.40 (39)	5.44 (64)	-1.41 (66)	N/A	N/A	N/A	N/A
MSCI AC World Index (Net)	23.97 (47)	7.86 (44)	-2.36 (73)	4.16 (54)	22.80 (72)	16.13 (57)	-7.35 (58)
5th Percentile	37.60	20.63	11.79	14.19	42.36	25.23	7.58
1st Quartile	27.96	10.18	3.77	7.55	32.08	19.54	-1.55
Median	23.25	7.11	0.24	4.53	27.43	16.73	-6.35
3rd Quartile	19.37	3.86	-2.92	1.66	21.75	13.55	-10.21
95th Percentile	11.02	-1.44	-14.97	-6.46	9.95	6.70	-17.56

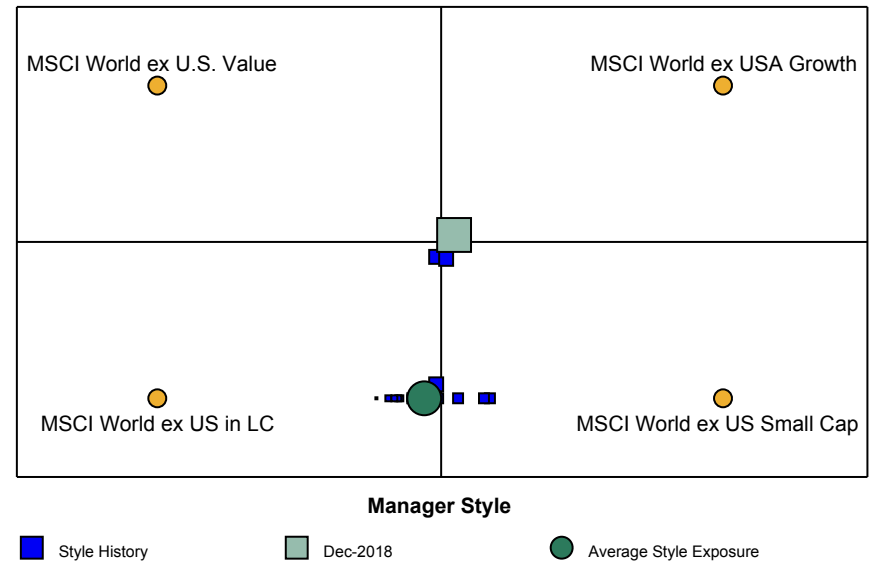
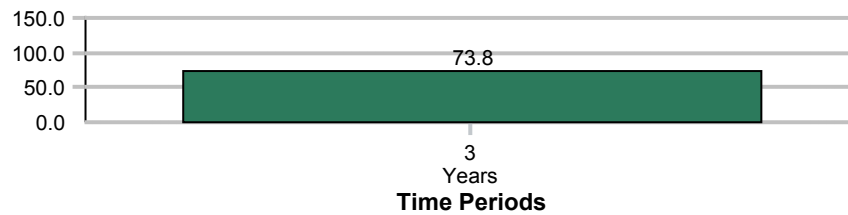
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

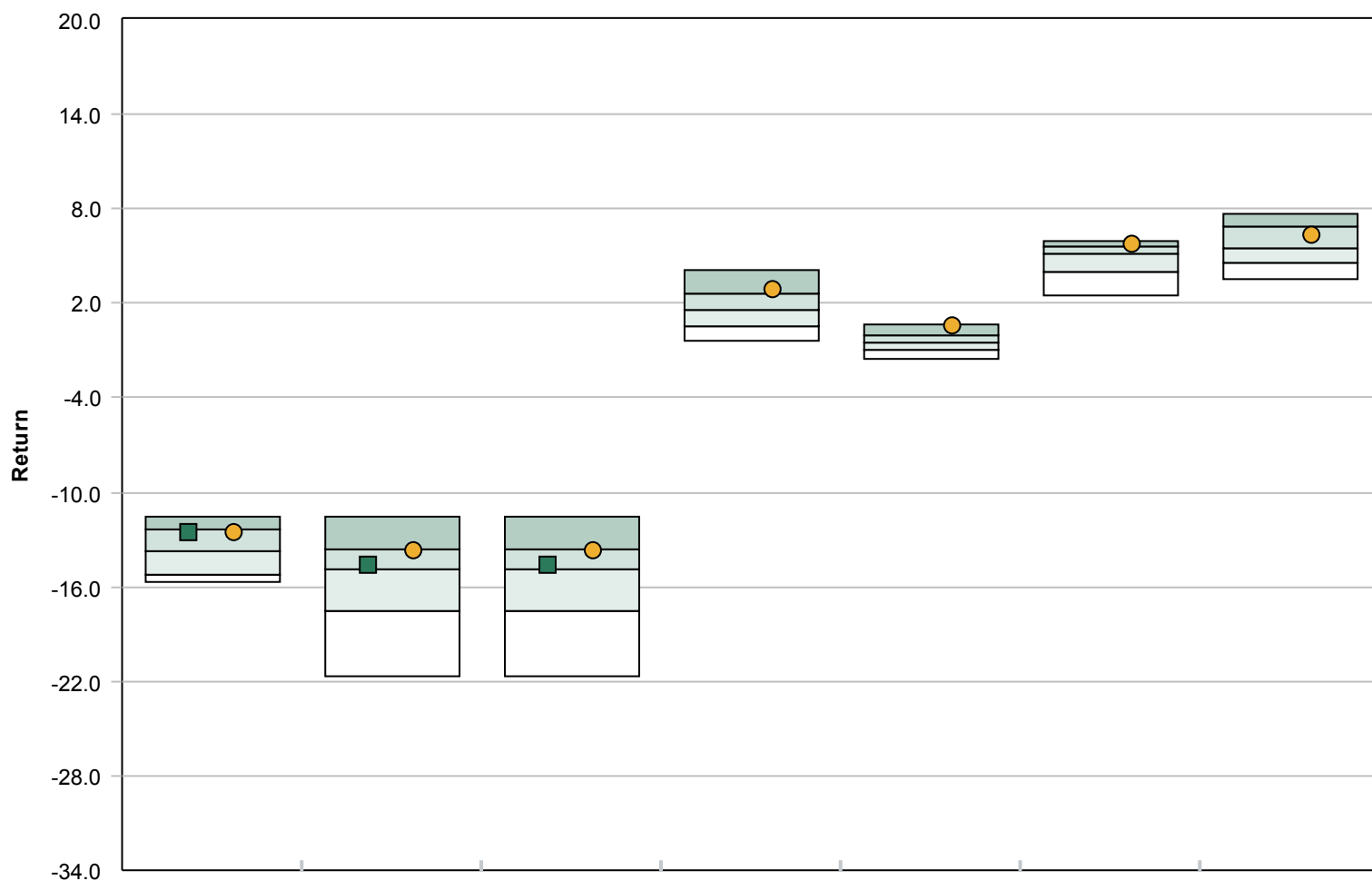


Up Market Capture



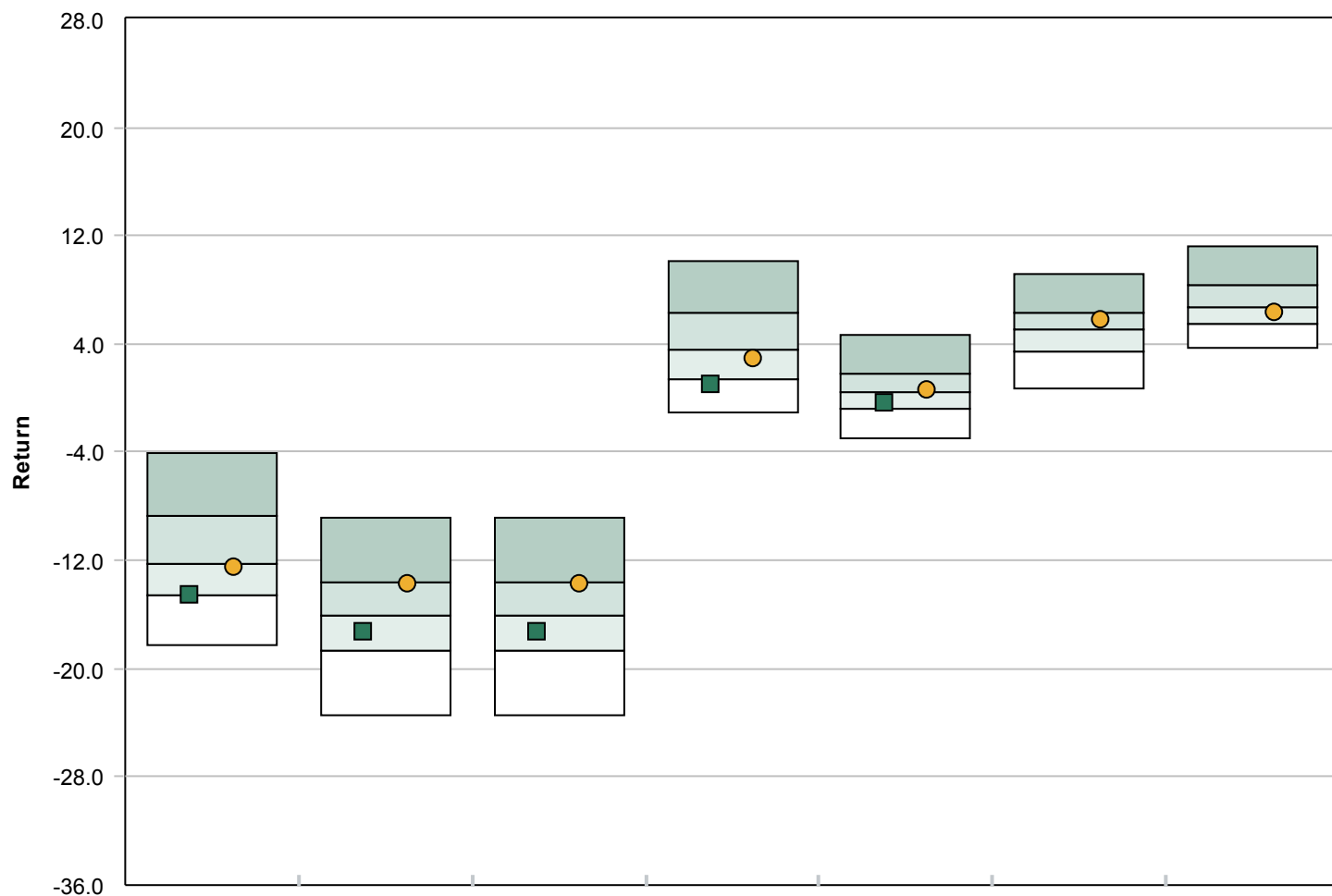
Down Market Capture





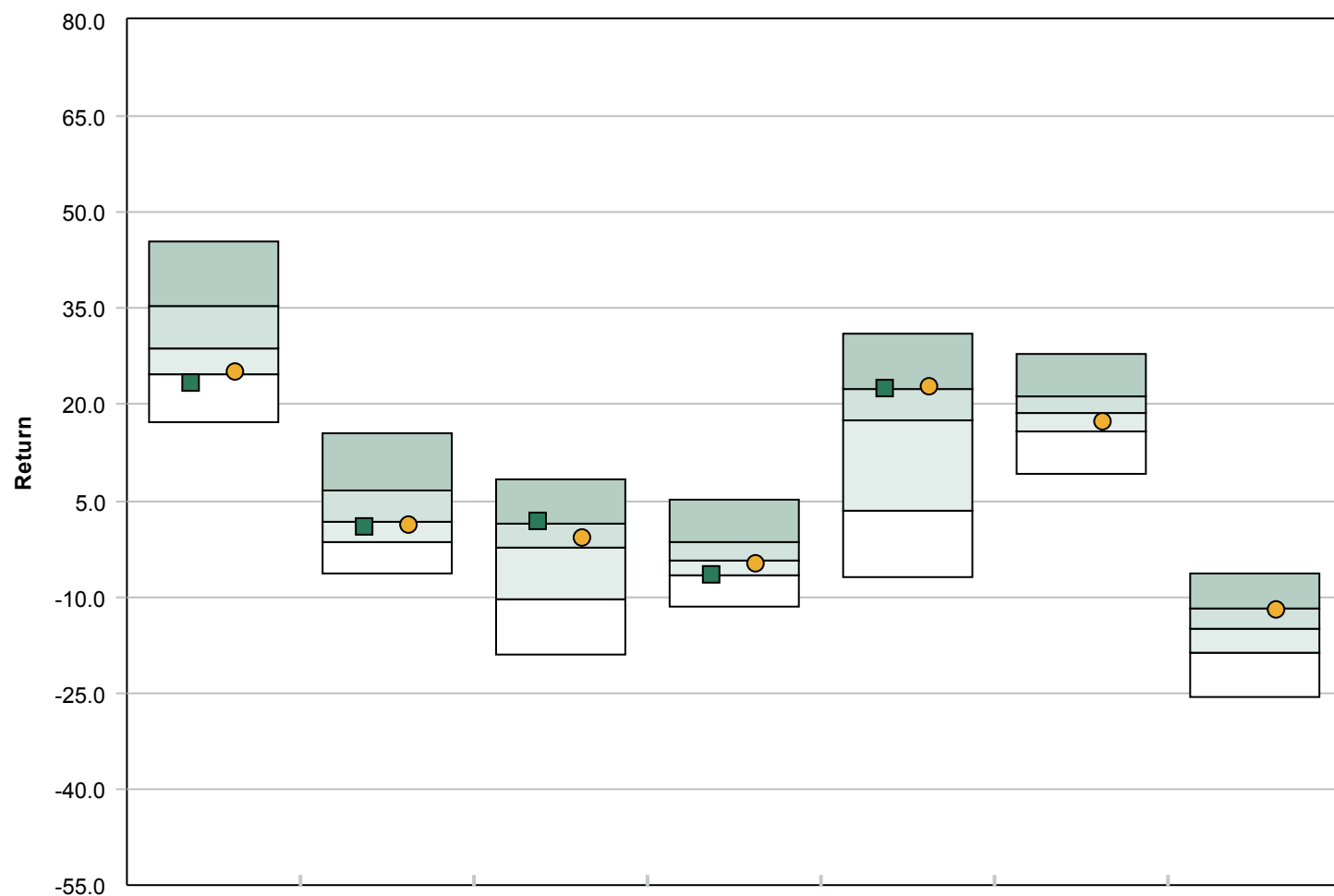
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Intl Research (OIEAX)	-12.57 (27)	-14.70 (45)	-14.70 (45)	N/A	N/A	N/A	N/A
● MSCI EAFE (Net)	-12.54 (27)	-13.79 (29)	-13.79 (29)	2.87 (23)	0.53 (8)	5.75 (14)	6.32 (33)
5th Percentile	-11.58	-11.57	-11.57	4.08	0.63	5.97	7.69
1st Quartile	-12.34	-13.61	-13.61	2.66	-0.05	5.60	6.87
Median	-13.68	-14.90	-14.90	1.60	-0.49	5.11	5.54
3rd Quartile	-15.25	-17.57	-17.57	0.56	-1.00	4.02	4.58
95th Percentile	-15.74	-21.66	-21.66	-0.42	-1.48	2.45	3.48

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



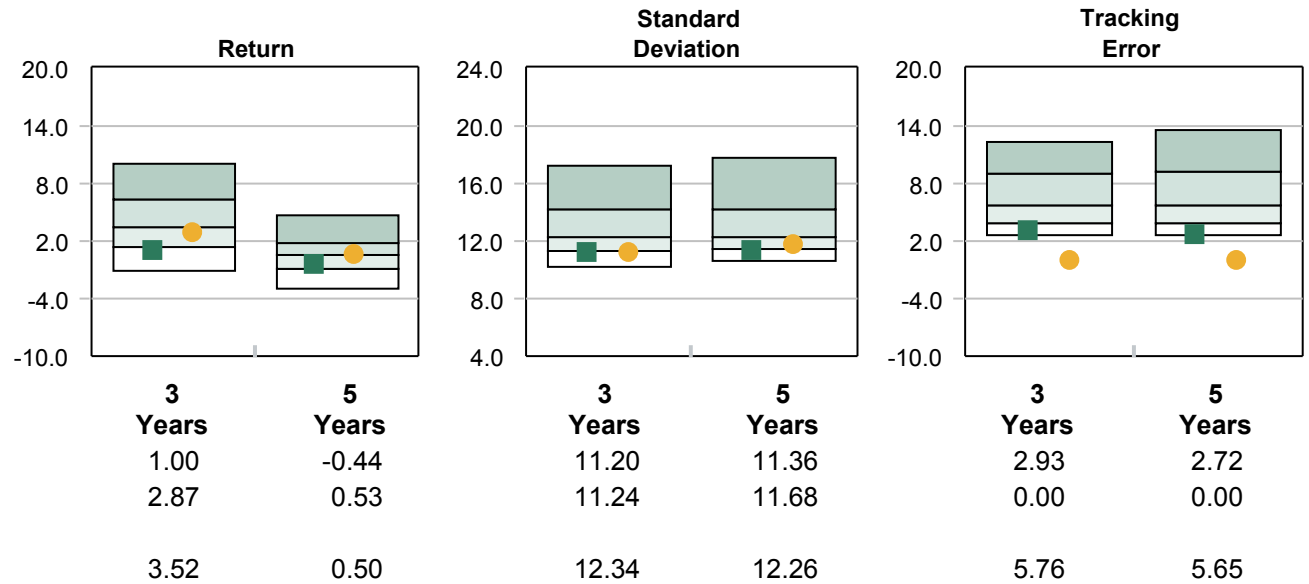
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Intrepid International (JIFFX)	-14.59 (76)	-17.25 (63)	-17.25 (63)	1.00 (80)	-0.44 (70)	N/A	N/A
● MSCI EAFE (Net)	-12.54 (54)	-13.79 (27)	-13.79 (27)	2.87 (58)	0.53 (50)	5.75 (35)	6.32 (58)
5th Percentile	-4.10	-8.79	-8.79	10.08	4.68	9.14	11.17
1st Quartile	-8.76	-13.55	-13.55	6.31	1.84	6.34	8.31
Median	-12.23	-16.01	-16.01	3.52	0.50	5.03	6.71
3rd Quartile	-14.52	-18.61	-18.61	1.45	-0.80	3.49	5.53
95th Percentile	-18.27	-23.43	-23.43	-1.13	-2.92	0.74	3.74

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

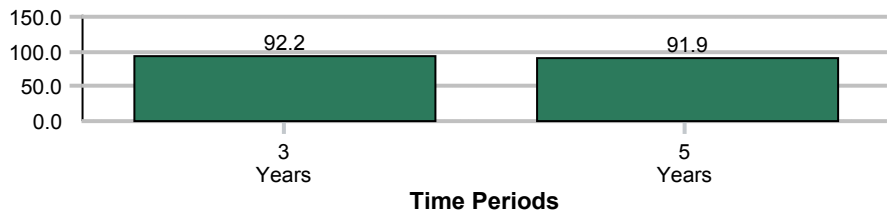


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Intrepid International (JIFFX)	23.40 (82)	0.89 (59)	1.63 (23)	-6.57 (73)	22.48 (26)	N/A	N/A
● MSCI EAFE (Net)	25.03 (73)	1.00 (58)	-0.81 (40)	-4.90 (55)	22.78 (24)	17.32 (64)	-12.14 (27)
5th Percentile	45.51	15.52	8.27	5.28	30.97	27.81	-6.44
1st Quartile	35.34	6.47	1.30	-1.46	22.51	21.31	-11.94
Median	28.78	1.79	-2.35	-4.47	17.51	18.59	-14.88
3rd Quartile	24.76	-1.33	-10.32	-6.78	3.31	15.81	-18.63
95th Percentile	17.22	-6.45	-19.13	-11.59	-6.86	9.16	-25.63

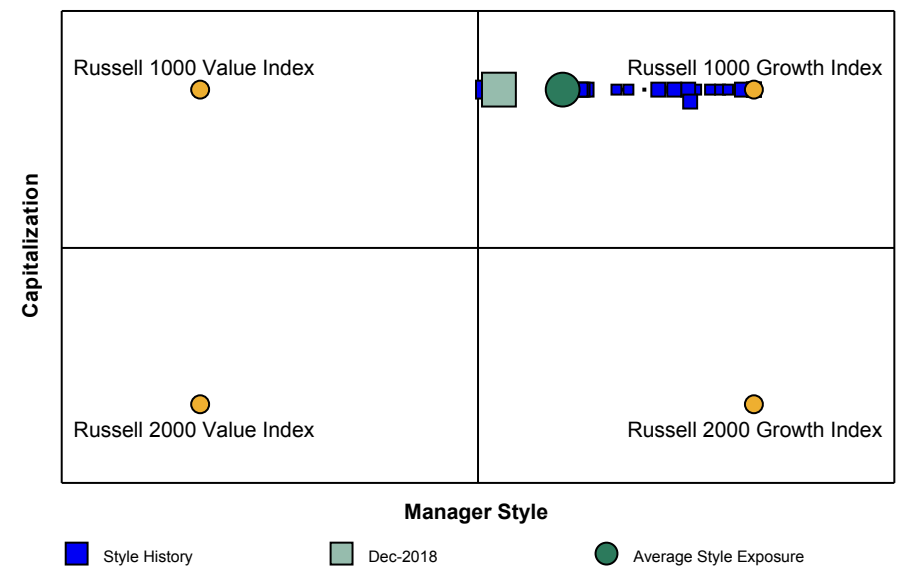
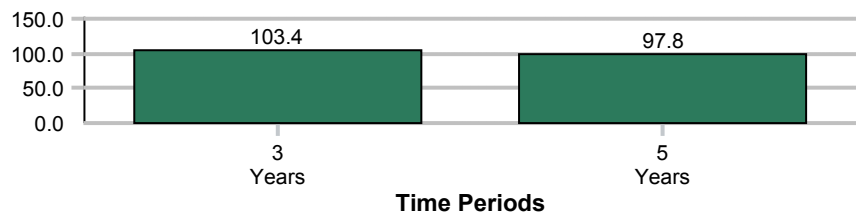
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

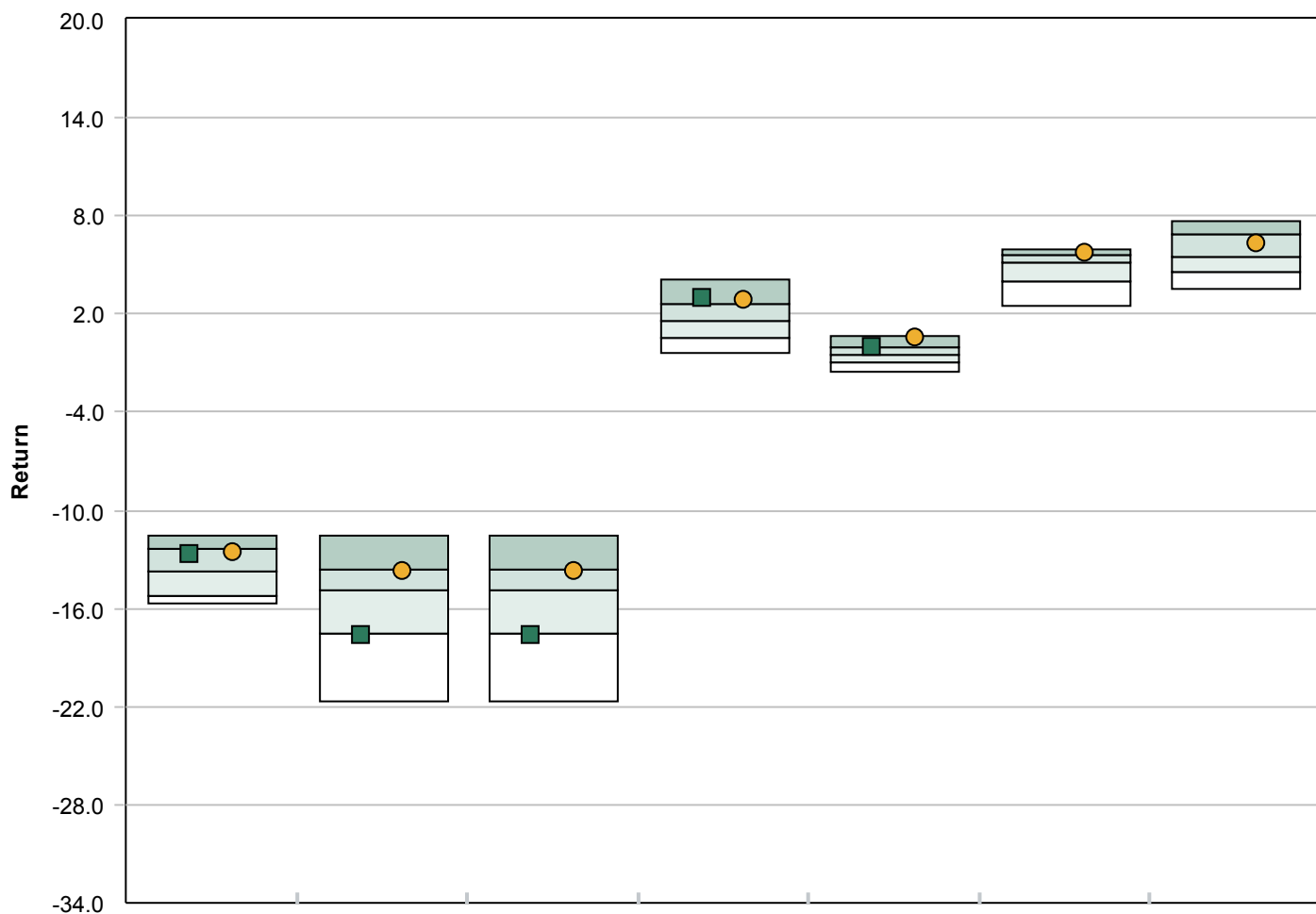


Up Market Capture



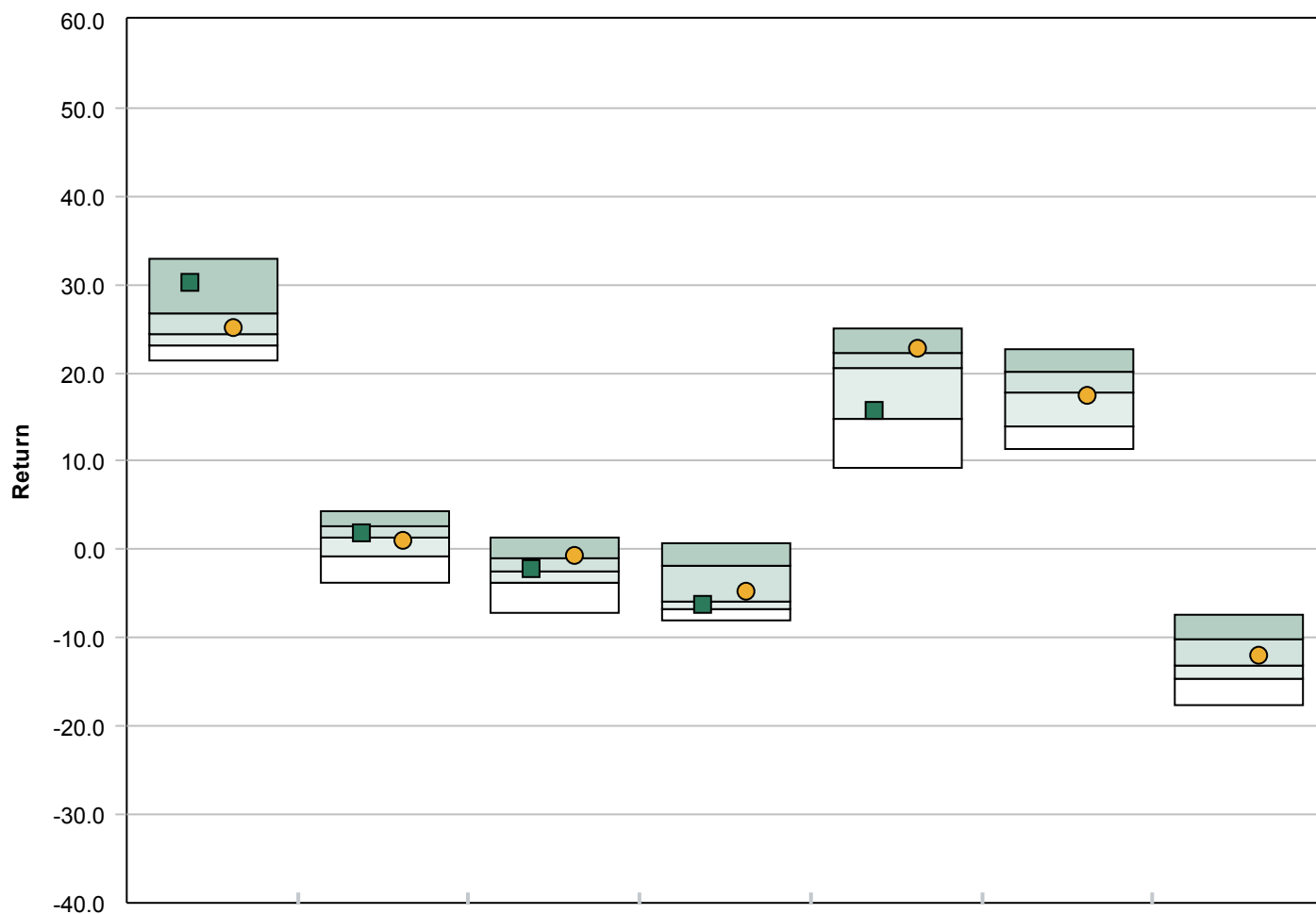
Down Market Capture





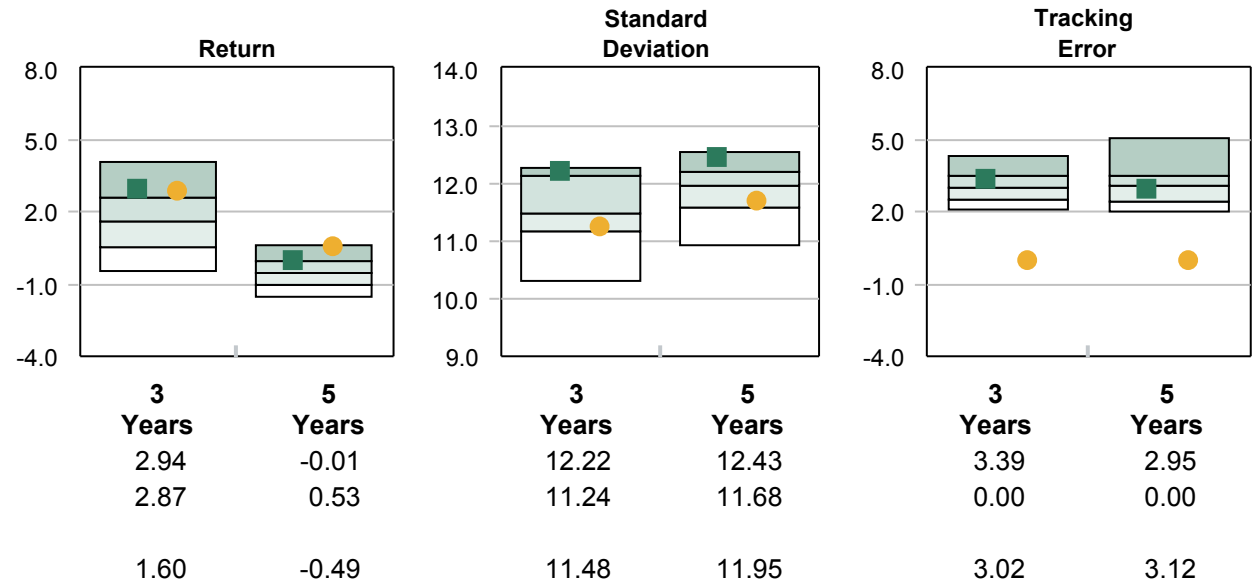
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan International Equity R6 (JNEMX)	-12.69 (32)	-17.66 (76)	-17.66 (76)	2.94 (22)	-0.01 (24)	N/A	N/A
● MSCI EAFE (Net)	-12.54 (27)	-13.79 (29)	-13.79 (29)	2.87 (23)	0.53 (8)	5.75 (14)	6.32 (33)
5th Percentile	-11.58	-11.57	-11.57	4.08	0.63	5.97	7.69
1st Quartile	-12.34	-13.61	-13.61	2.66	-0.05	5.60	6.87
Median	-13.68	-14.90	-14.90	1.60	-0.49	5.11	5.54
3rd Quartile	-15.25	-17.57	-17.57	0.56	-1.00	4.02	4.58
95th Percentile	-15.74	-21.66	-21.66	-0.42	-1.48	2.45	3.48

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

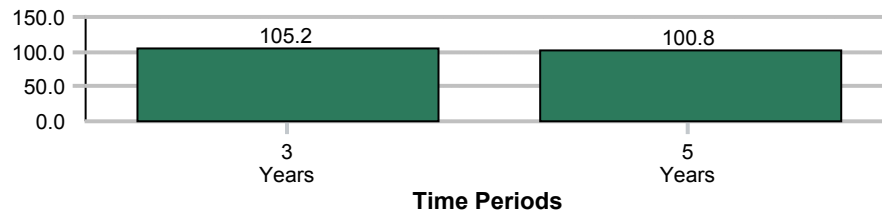


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan International Equity R6 (JNEMX)	30.05 (10)	1.88 (42)	-2.27 (45)	-6.23 (64)	15.57 (75)	N/A	N/A
● MSCI EAFE (Net)	25.03 (38)	1.00 (58)	-0.81 (21)	-4.90 (35)	22.78 (22)	17.32 (55)	-12.14 (38)
5th Percentile	33.02	4.34	1.40	0.82	24.93	22.75	-7.42
1st Quartile	26.71	2.61	-1.05	-1.73	22.26	20.12	-10.04
Median	24.46	1.43	-2.38	-5.89	20.47	17.70	-13.09
3rd Quartile	23.09	-0.81	-3.66	-6.70	14.73	13.92	-14.58
95th Percentile	21.33	-3.83	-7.18	-7.96	9.20	11.32	-17.71

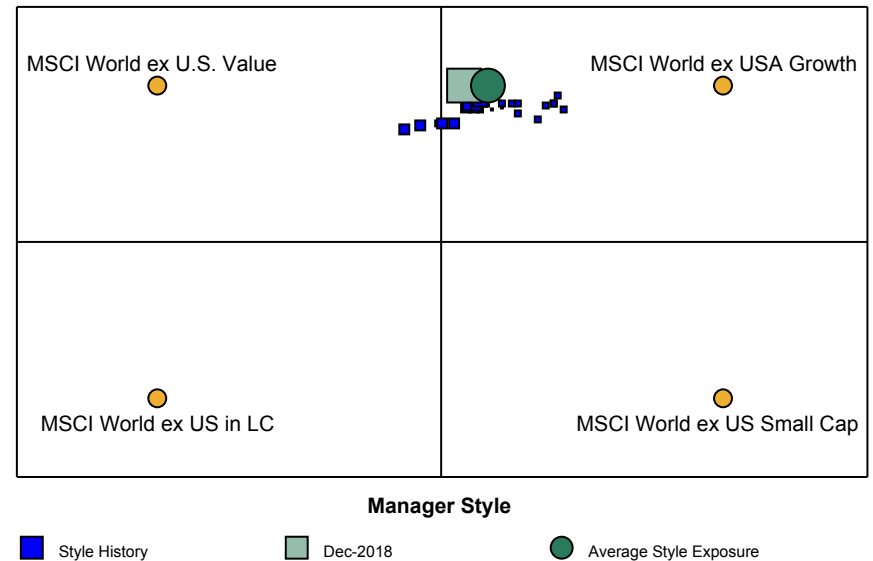
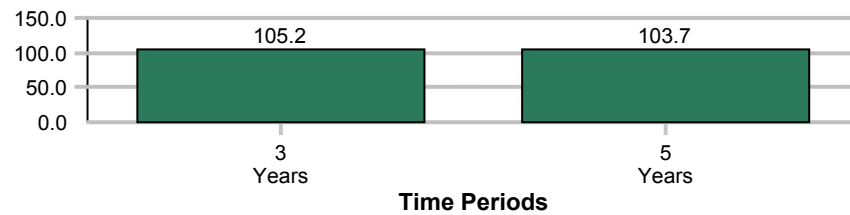
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

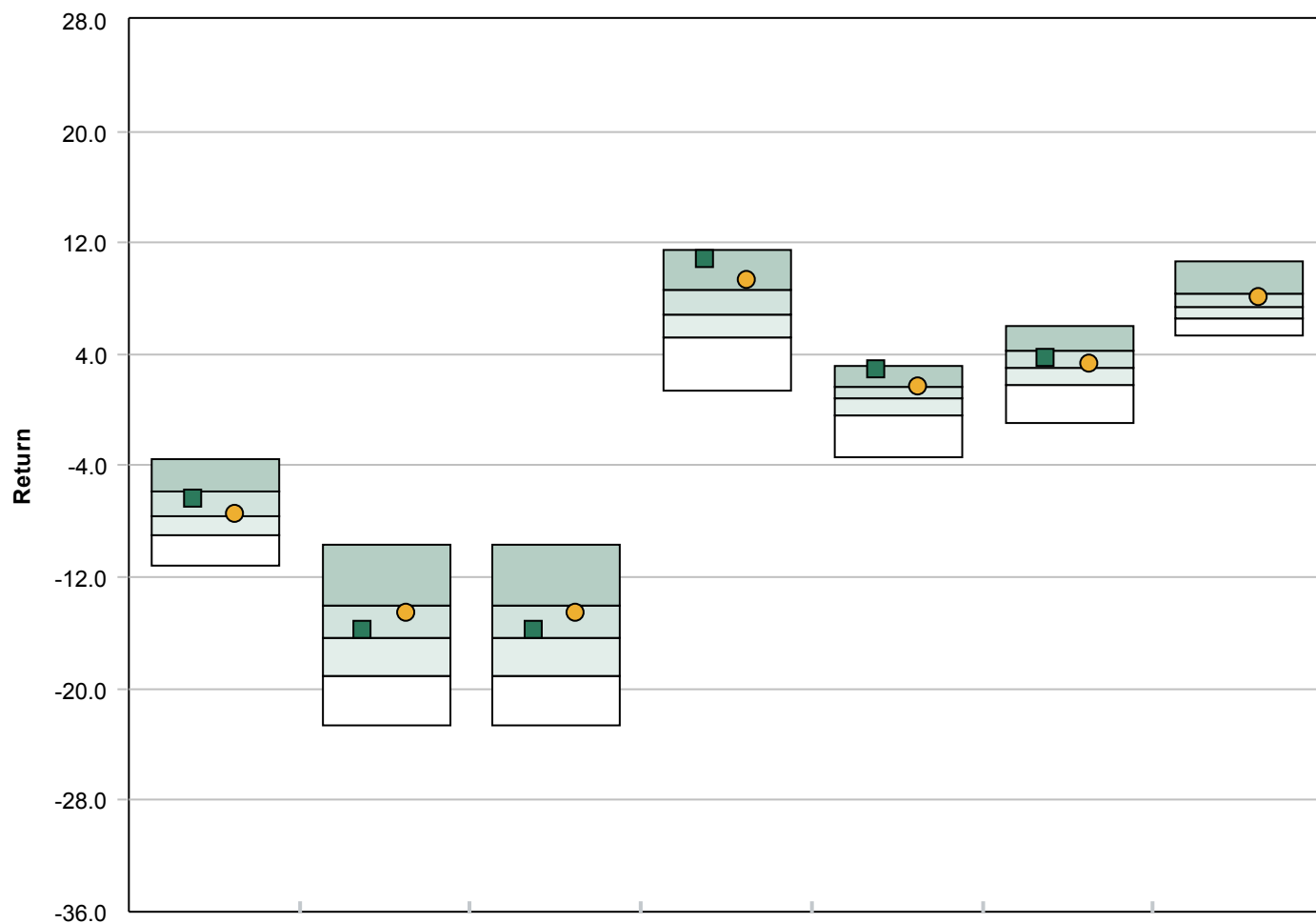


Up Market Capture



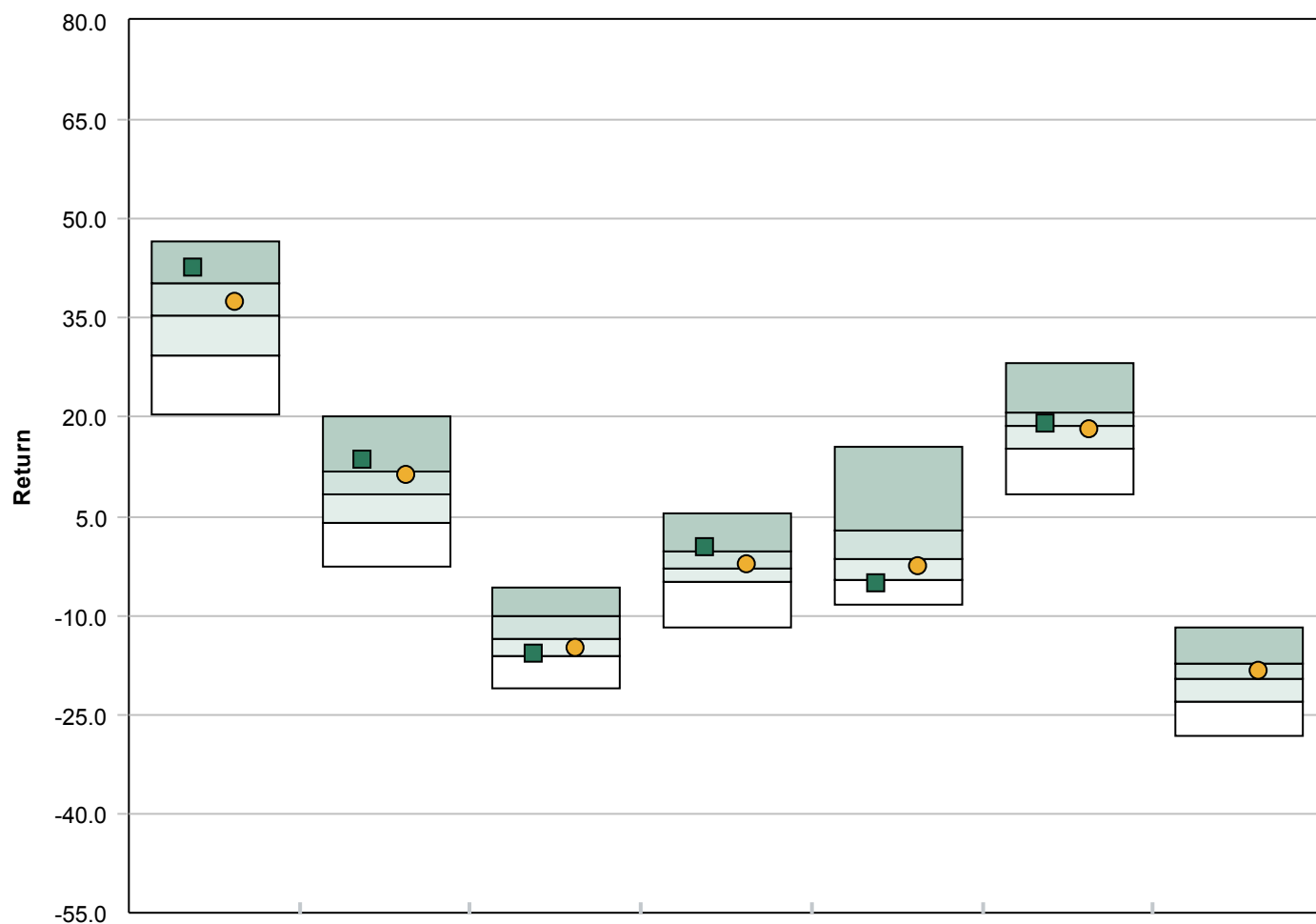
Down Market Capture





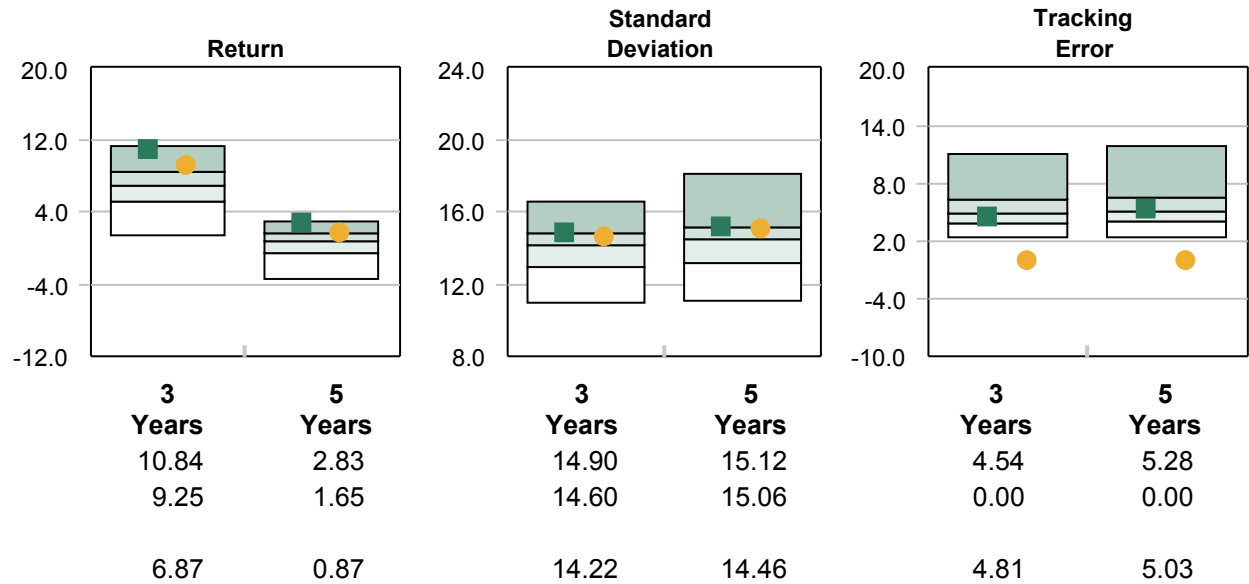
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Emerging Markets Equity (JMIEX)	-6.32 (33)	-15.84 (45)	-15.84 (45)	10.84 (7)	2.83 (8)	3.77 (33)	N/A
● MSCI EM (net)	-7.47 (48)	-14.58 (30)	-14.58 (30)	9.25 (17)	1.65 (27)	3.23 (45)	8.02 (36)
5th Percentile	-3.52	-9.70	-9.70	11.46	3.11	6.05	10.62
1st Quartile	-5.84	-14.02	-14.02	8.58	1.71	4.21	8.34
Median	-7.62	-16.41	-16.41	6.87	0.87	2.96	7.43
3rd Quartile	-9.01	-19.05	-19.05	5.24	-0.42	1.77	6.58
95th Percentile	-11.12	-22.63	-22.63	1.43	-3.39	-0.88	5.29

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

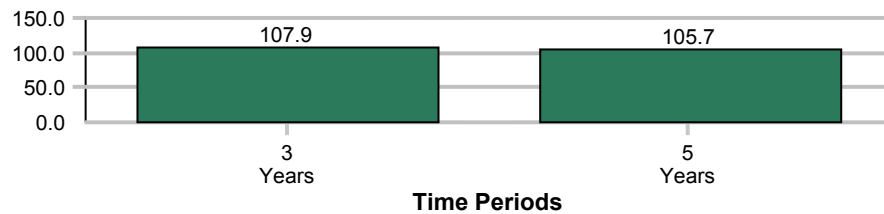


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Emerging Markets Equity (JMIEX)	42.70 (14)	13.39 (16)	-15.90 (72)	0.36 (21)	-5.24 (81)	18.93 (48)	N/A
● MSCI EM (net)	37.28 (42)	11.19 (30)	-14.92 (63)	-2.19 (43)	-2.60 (58)	18.23 (56)	-18.42 (36)
5th Percentile	46.64	20.18	-5.77	5.49	15.49	28.18	-11.88
1st Quartile	40.40	11.80	-9.95	-0.22	2.73	20.70	-17.42
Median	35.37	8.35	-13.66	-2.92	-1.42	18.78	-19.51
3rd Quartile	29.42	4.00	-16.19	-5.04	-4.73	15.35	-23.06
95th Percentile	20.51	-2.69	-20.93	-11.68	-8.28	8.26	-28.12

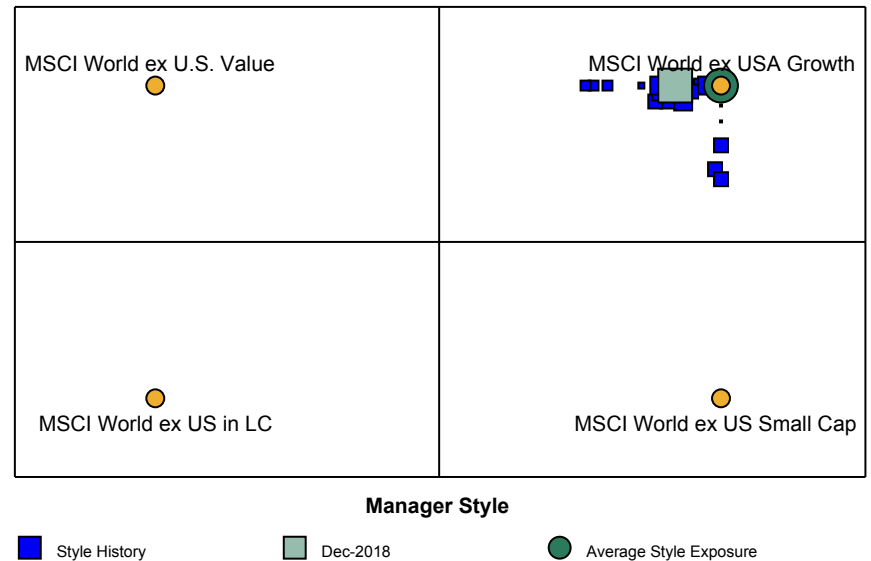
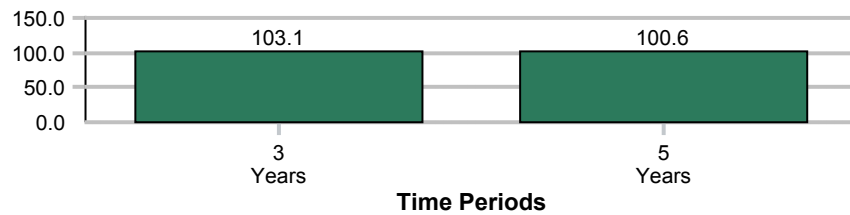
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

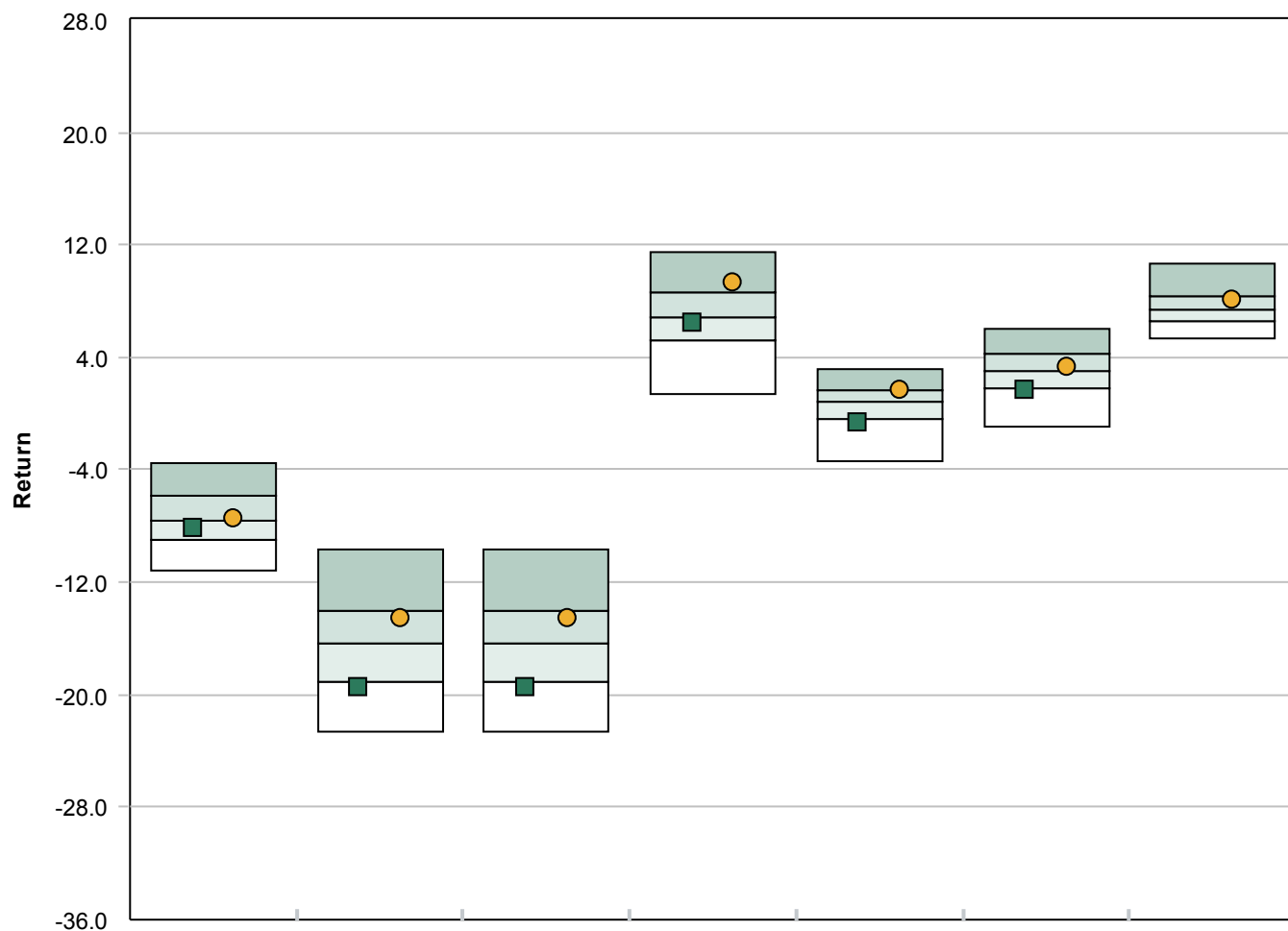


Up Market Capture



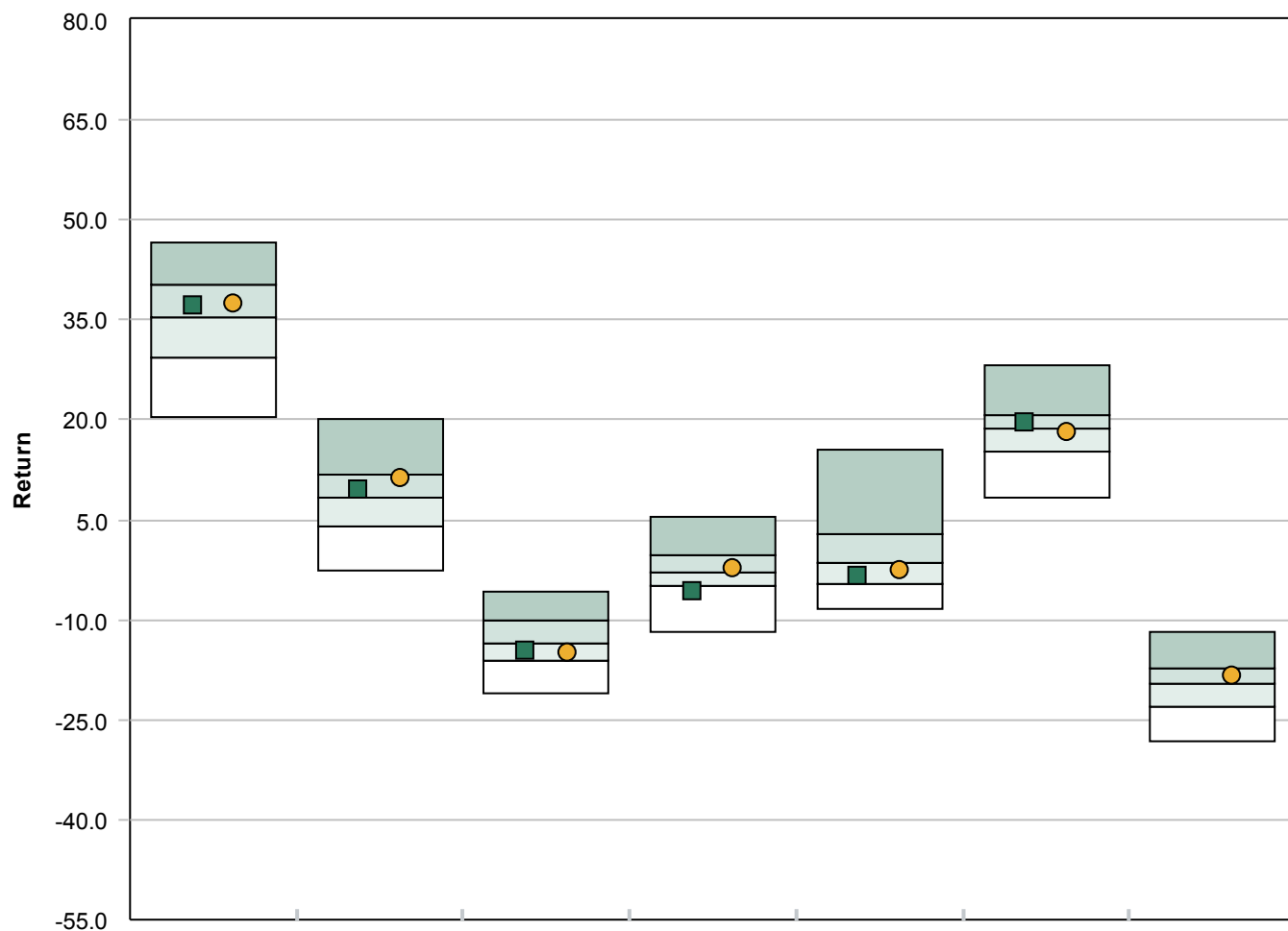
Down Market Capture





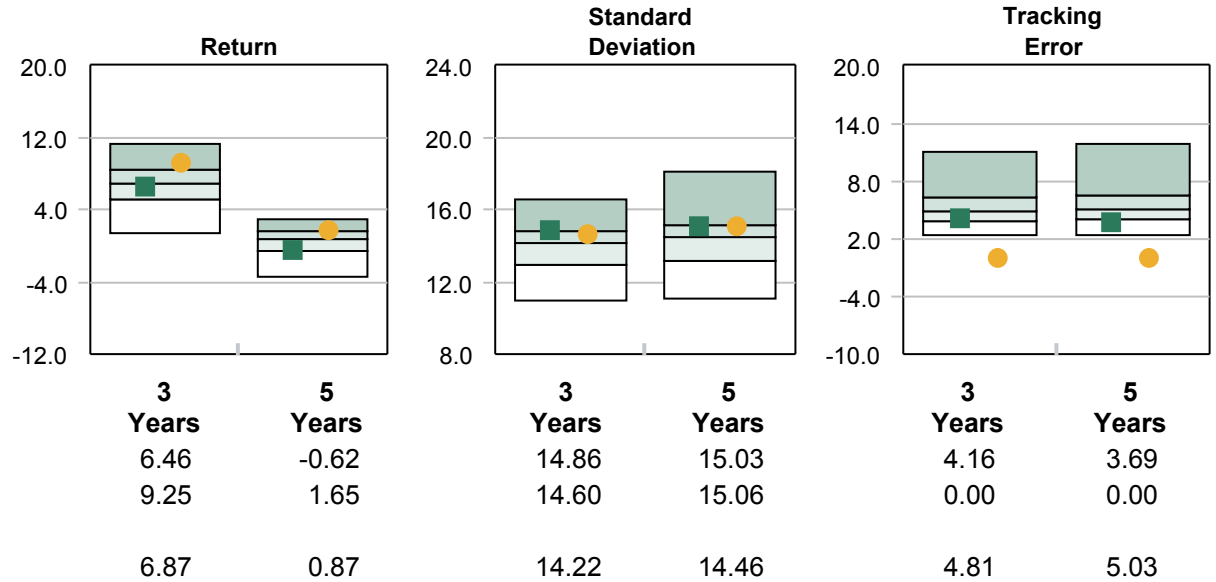
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Emerging Economies Select (JEEEX)	-8.13 (61)	-19.52 (78)	-19.52 (78)	6.46 (58)	-0.62 (78)	1.60 (79)	N/A
● MSCI EM (net)	-7.47 (48)	-14.58 (30)	-14.58 (30)	9.25 (17)	1.65 (27)	3.23 (45)	8.02 (36)
5th Percentile	-3.52	-9.70	-9.70	11.46	3.11	6.05	10.62
1st Quartile	-5.84	-14.02	-14.02	8.58	1.71	4.21	8.34
Median	-7.62	-16.41	-16.41	6.87	0.87	2.96	7.43
3rd Quartile	-9.01	-19.05	-19.05	5.24	-0.42	1.77	6.58
95th Percentile	-11.12	-22.63	-22.63	1.43	-3.39	-0.88	5.29

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

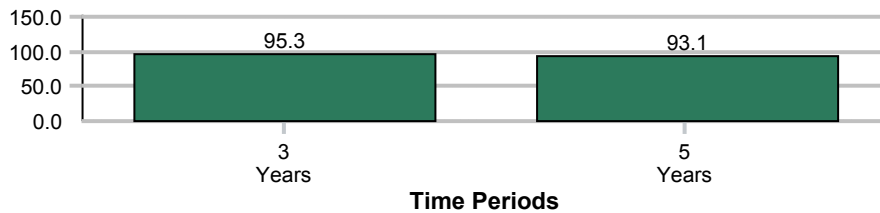


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Emerging Economies Select (JEEEX)	37.01 (44)	9.41 (43)	-14.67 (61)	-5.85 (79)	-3.55 (67)	19.55 (43)	N/A
● MSCI EM (net)	37.28 (42)	11.19 (30)	-14.92 (63)	-2.19 (43)	-2.60 (58)	18.23 (56)	-18.42 (36)
5th Percentile	46.64	20.18	-5.77	5.49	15.49	28.18	-11.88
1st Quartile	40.40	11.80	-9.95	-0.22	2.73	20.70	-17.42
Median	35.37	8.35	-13.66	-2.92	-1.42	18.78	-19.51
3rd Quartile	29.42	4.00	-16.19	-5.04	-4.73	15.35	-23.06
95th Percentile	20.51	-2.69	-20.93	-11.68	-8.28	8.26	-28.12

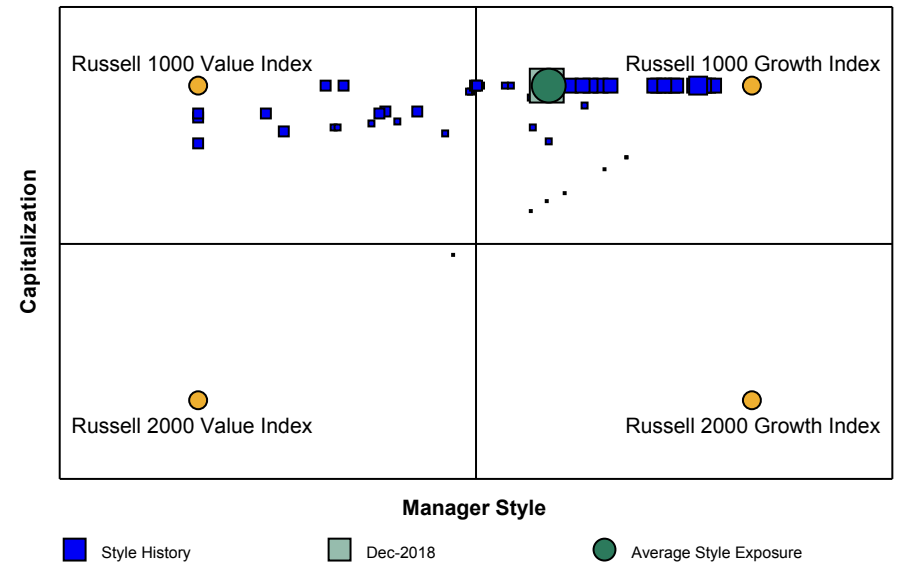
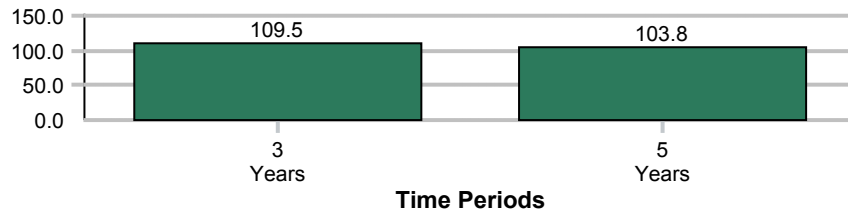
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



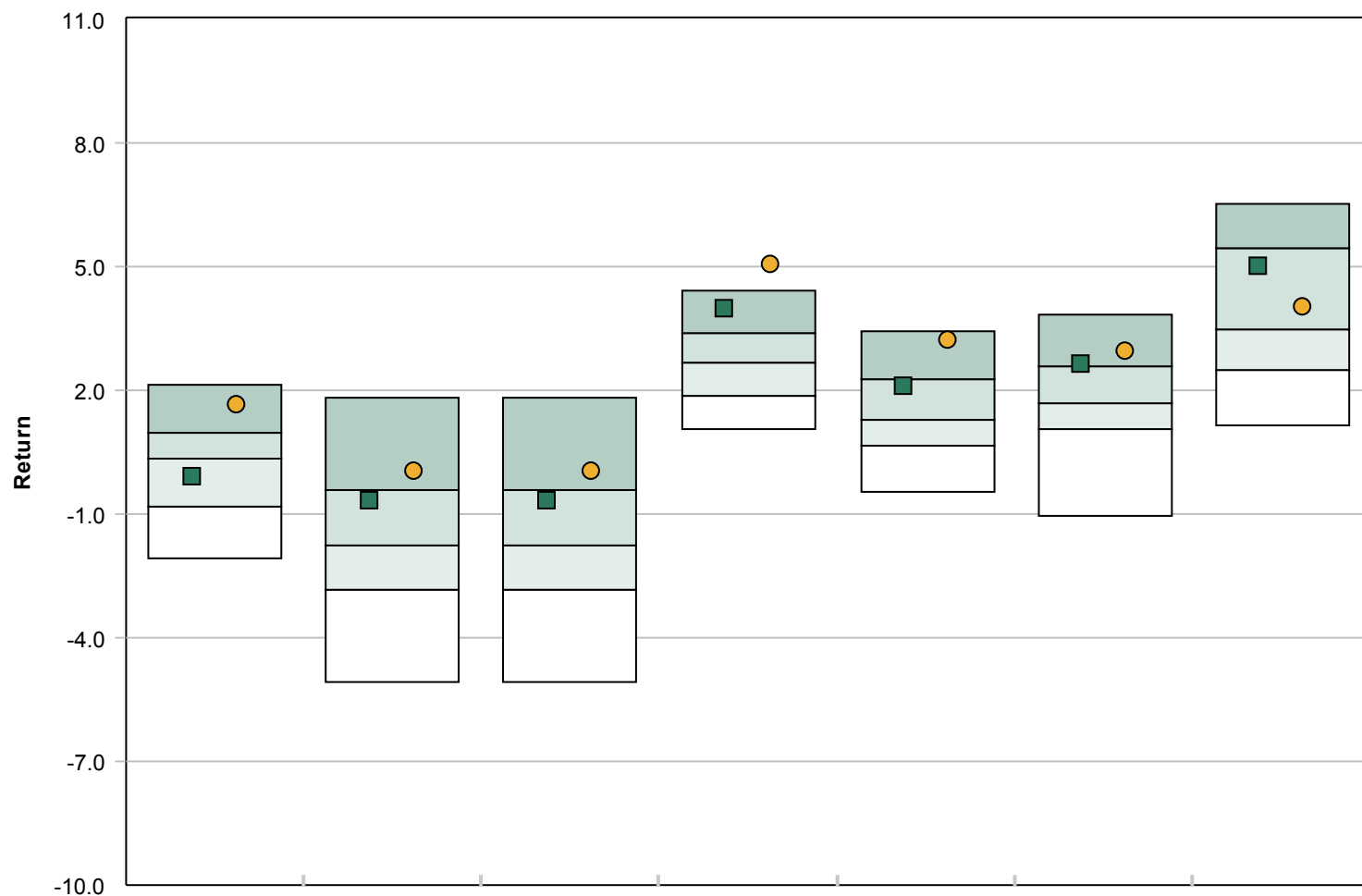
Up Market Capture



Down Market Capture

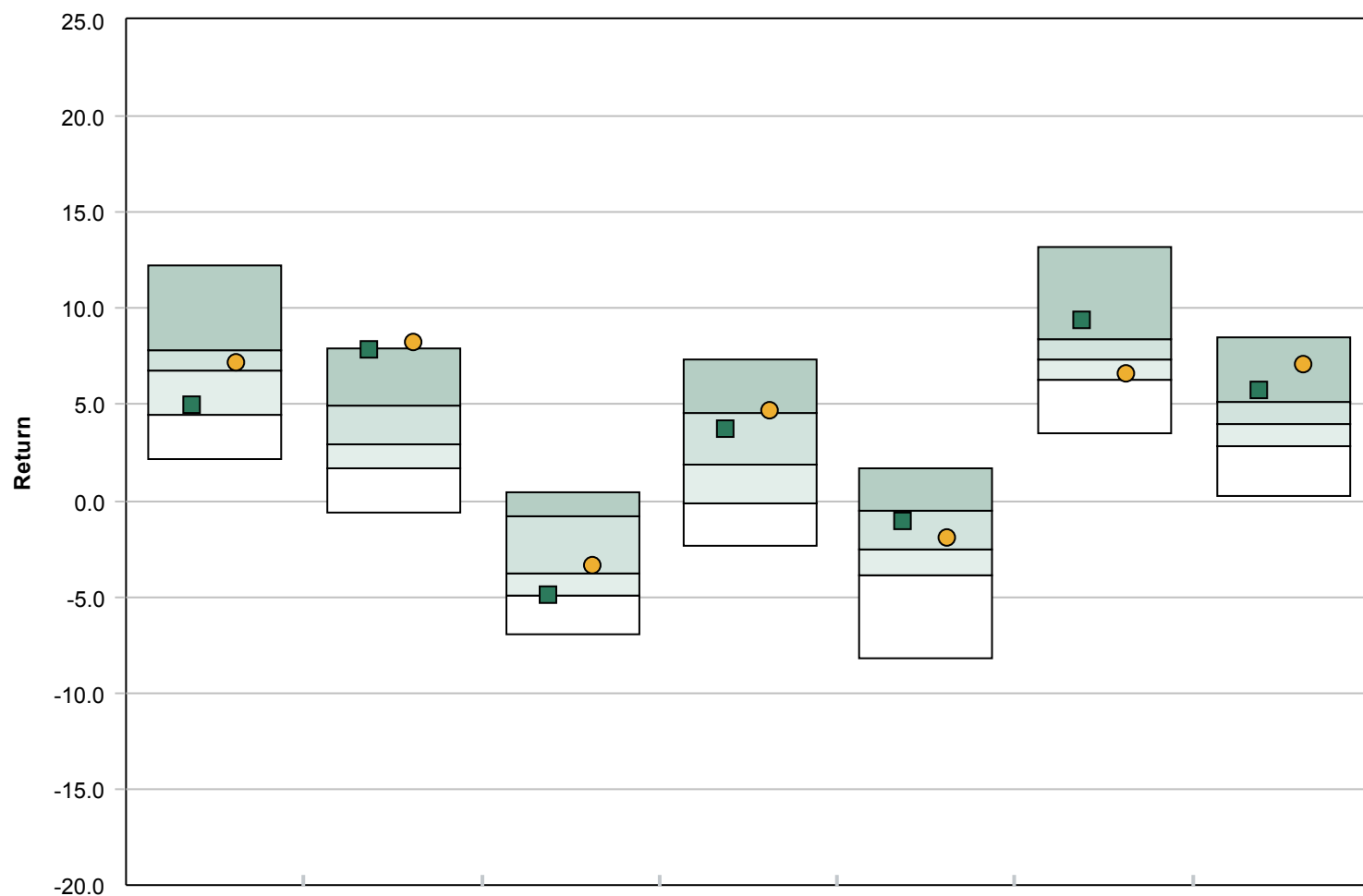


Total Global Fixed Income



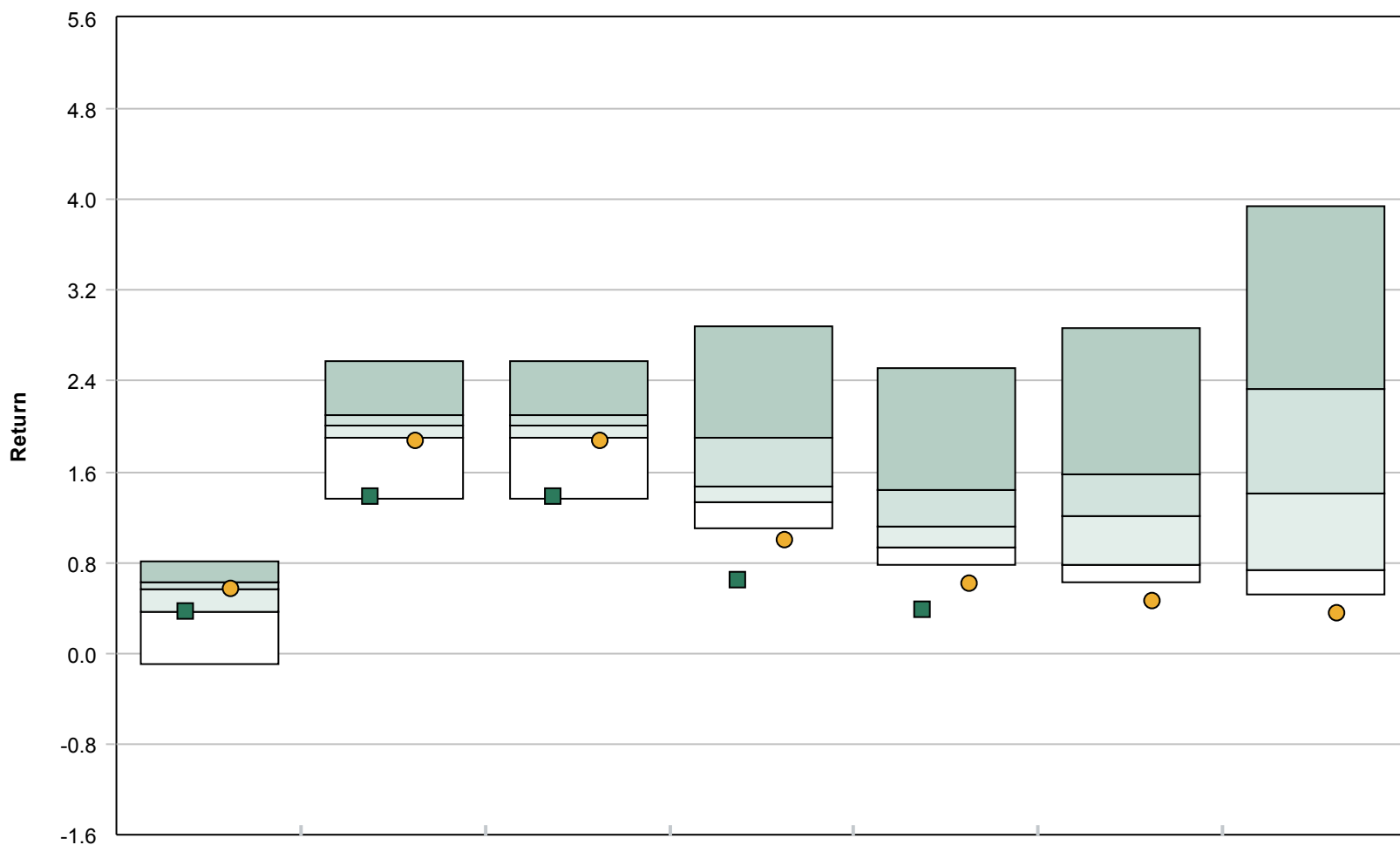
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Global Fixed Income	-0.09 (62)	-0.69 (29)	-0.69 (29)	3.97 (15)	2.08 (27)	2.62 (23)	4.99 (29)
● IPS Global Fixed Income Benchmark	1.64 (10)	0.01 (16)	0.01 (16)	5.06 (1)	3.23 (8)	2.95 (15)	4.00 (43)
5th Percentile	2.14	1.83	1.83	4.42	3.41	3.84	6.54
1st Quartile	0.97	-0.40	-0.40	3.37	2.29	2.57	5.44
Median	0.33	-1.76	-1.76	2.68	1.27	1.71	3.49
3rd Quartile	-0.83	-2.82	-2.82	1.85	0.67	1.08	2.49
95th Percentile	-2.06	-5.10	-5.10	1.06	-0.48	-1.04	1.15

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



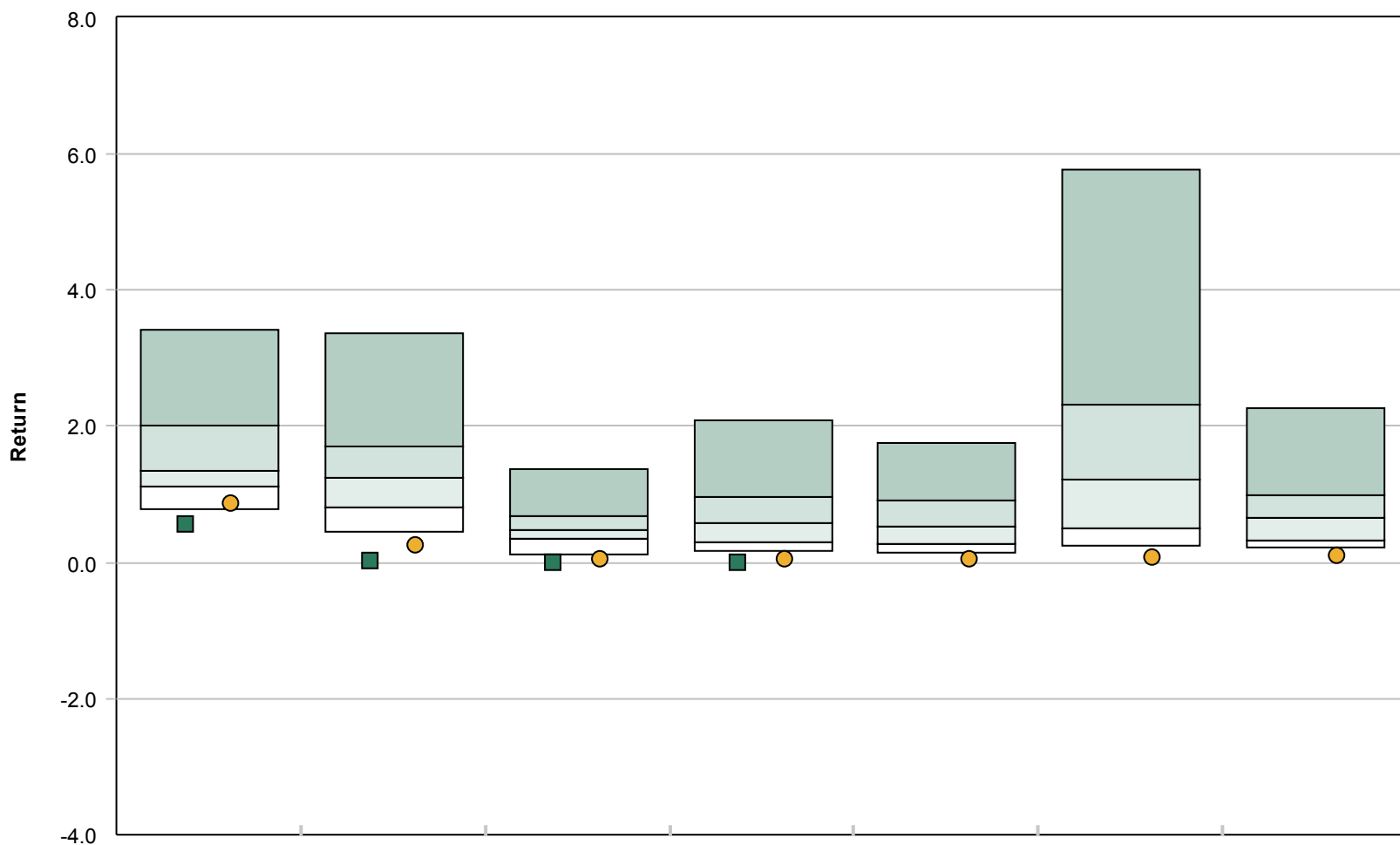
	2017	2016	2015	2014	2013	2012	2011
■ Total Global Fixed Income	4.93 (74)	7.85 (6)	-4.92 (75)	3.75 (30)	-1.10 (32)	9.31 (18)	5.75 (21)
● IPS Global Fixed Income Benchmark	7.11 (45)	8.25 (4)	-3.40 (44)	4.65 (24)	-1.93 (42)	6.59 (69)	7.06 (11)
5th Percentile	12.27	7.96	0.40	7.36	1.66	13.22	8.48
1st Quartile	7.86	4.95	-0.86	4.52	-0.49	8.43	5.14
Median	6.81	2.92	-3.83	1.91	-2.52	7.33	4.01
3rd Quartile	4.42	1.70	-4.94	-0.14	-3.90	6.27	2.81
95th Percentile	2.21	-0.62	-7.00	-2.35	-8.15	3.48	0.26

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



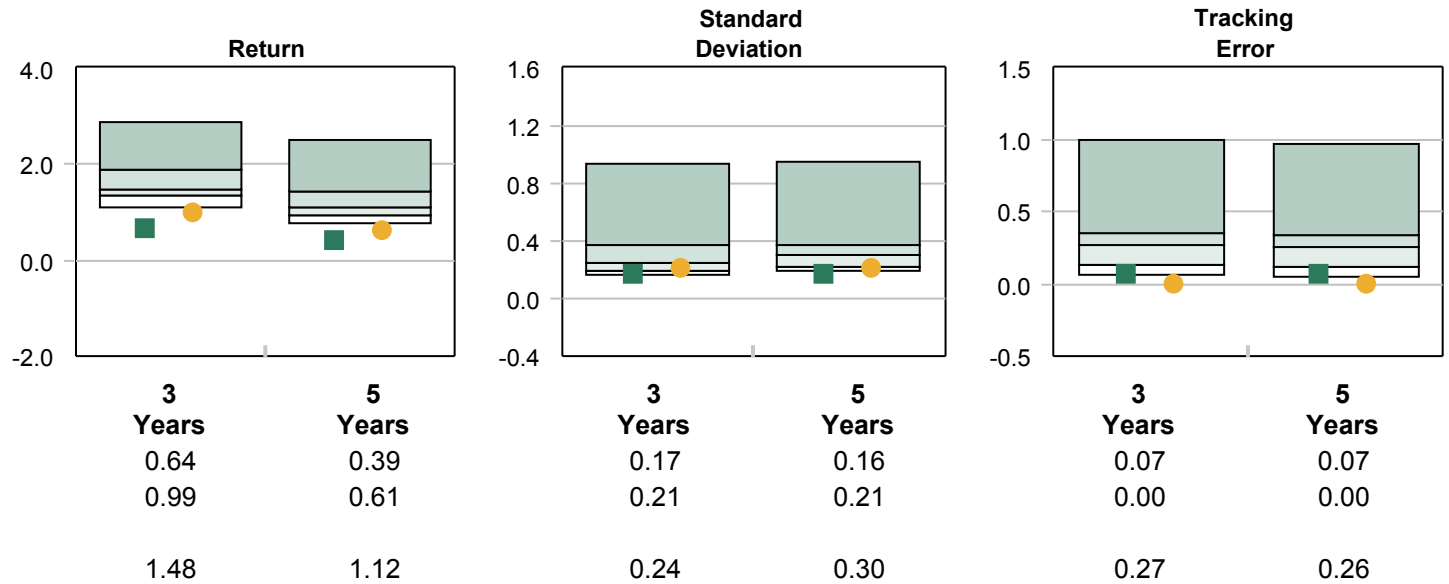
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ SSGA Funds	0.37 (75)	1.37 (95)	1.37 (95)	0.64 (100)	0.39 (100)	N/A	N/A
● 90 Day U.S. Treasury Bill	0.56 (50)	1.87 (81)	1.87 (81)	0.99 (98)	0.61 (100)	0.45 (100)	0.35 (100)
5th Percentile	0.81	2.57	2.57	2.88	2.51	2.87	3.94
1st Quartile	0.62	2.09	2.09	1.91	1.44	1.58	2.34
Median	0.56	2.00	2.00	1.48	1.12	1.20	1.41
3rd Quartile	0.37	1.90	1.90	1.33	0.93	0.77	0.73
95th Percentile	-0.10	1.36	1.36	1.10	0.78	0.62	0.52

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

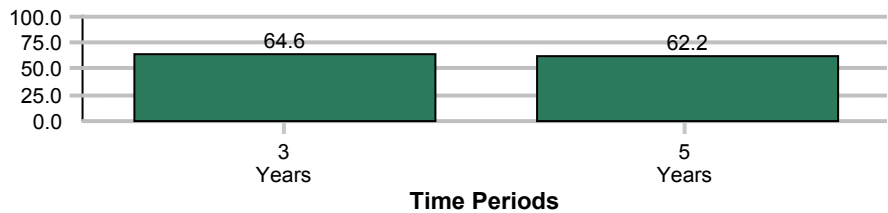


	2017	2016	2015	2014	2013	2012	2011
SSGA Funds	0.55 (100)	0.01 (100)	0.00 (100)	0.00 (100)	N/A	N/A	N/A
90 Day U.S. Treasury Bill	0.86 (93)	0.25 (100)	0.03 (100)	0.04 (100)	0.05 (99)	0.08 (100)	0.08 (98)
5th Percentile	3.43	3.37	1.37	2.08	1.75	5.77	2.27
1st Quartile	2.01	1.71	0.69	0.97	0.90	2.32	0.98
Median	1.34	1.25	0.49	0.58	0.52	1.23	0.66
3rd Quartile	1.12	0.80	0.34	0.31	0.27	0.49	0.31
95th Percentile	0.79	0.46	0.13	0.17	0.15	0.24	0.21

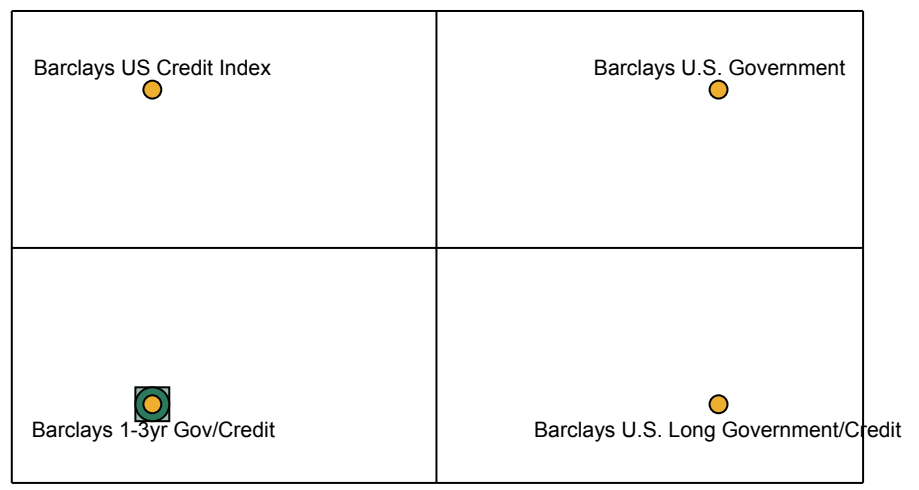
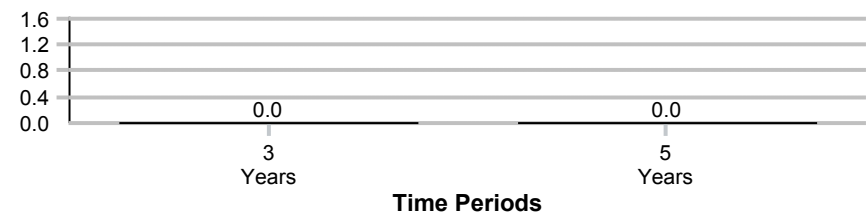
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



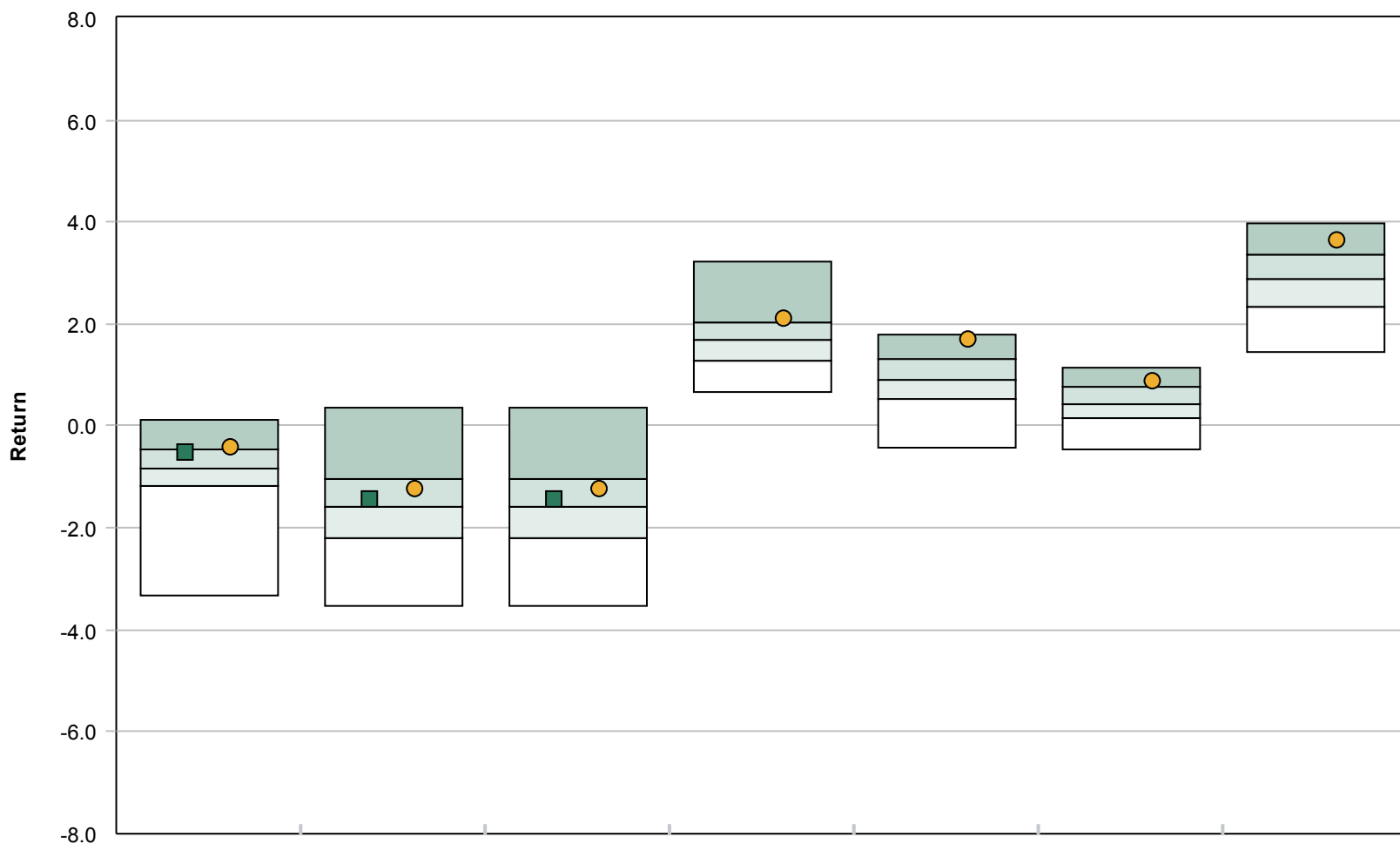
Up Market Capture



Down Market Capture

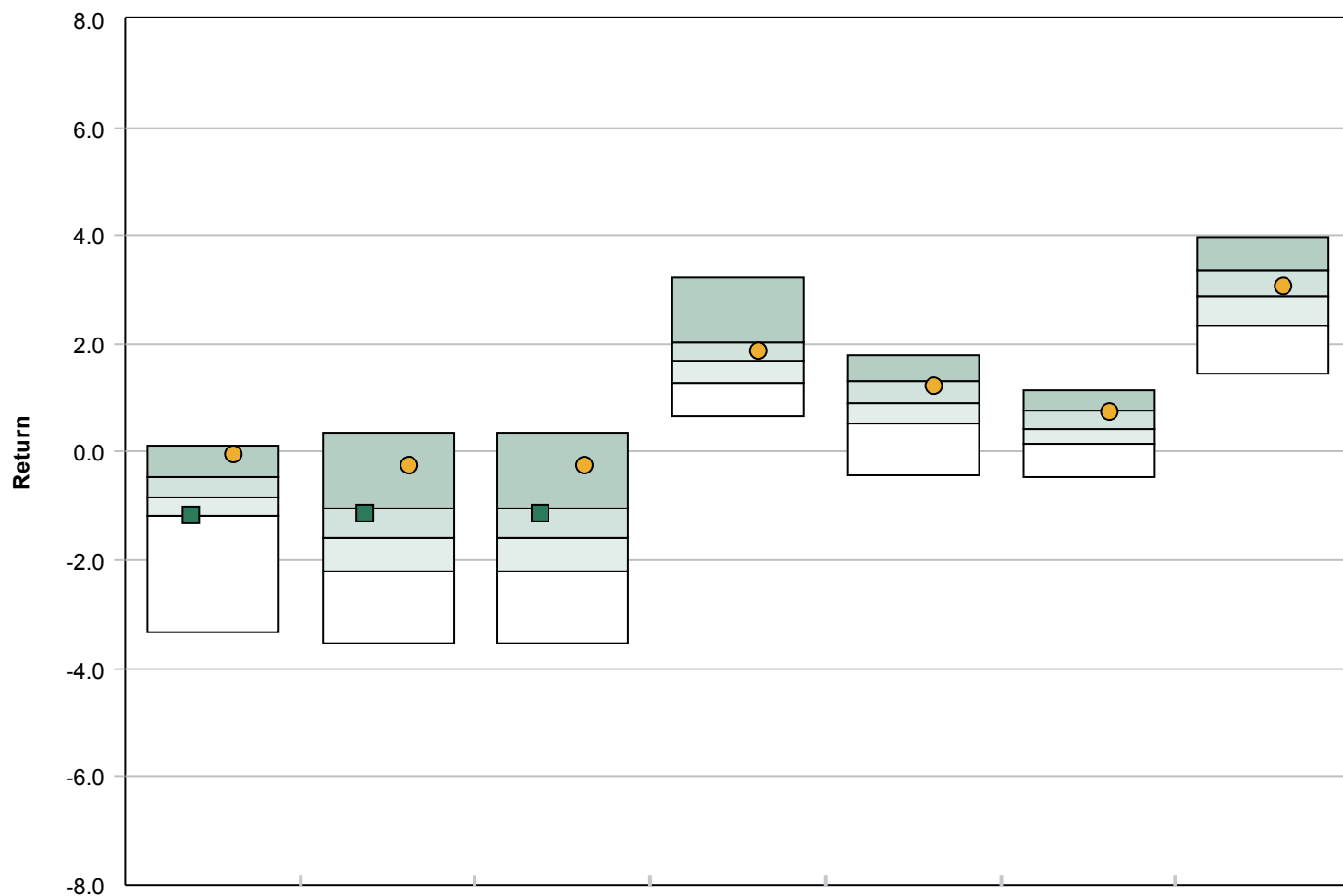


■ Style History
 Dec-2018
 ● Average Style Exposure



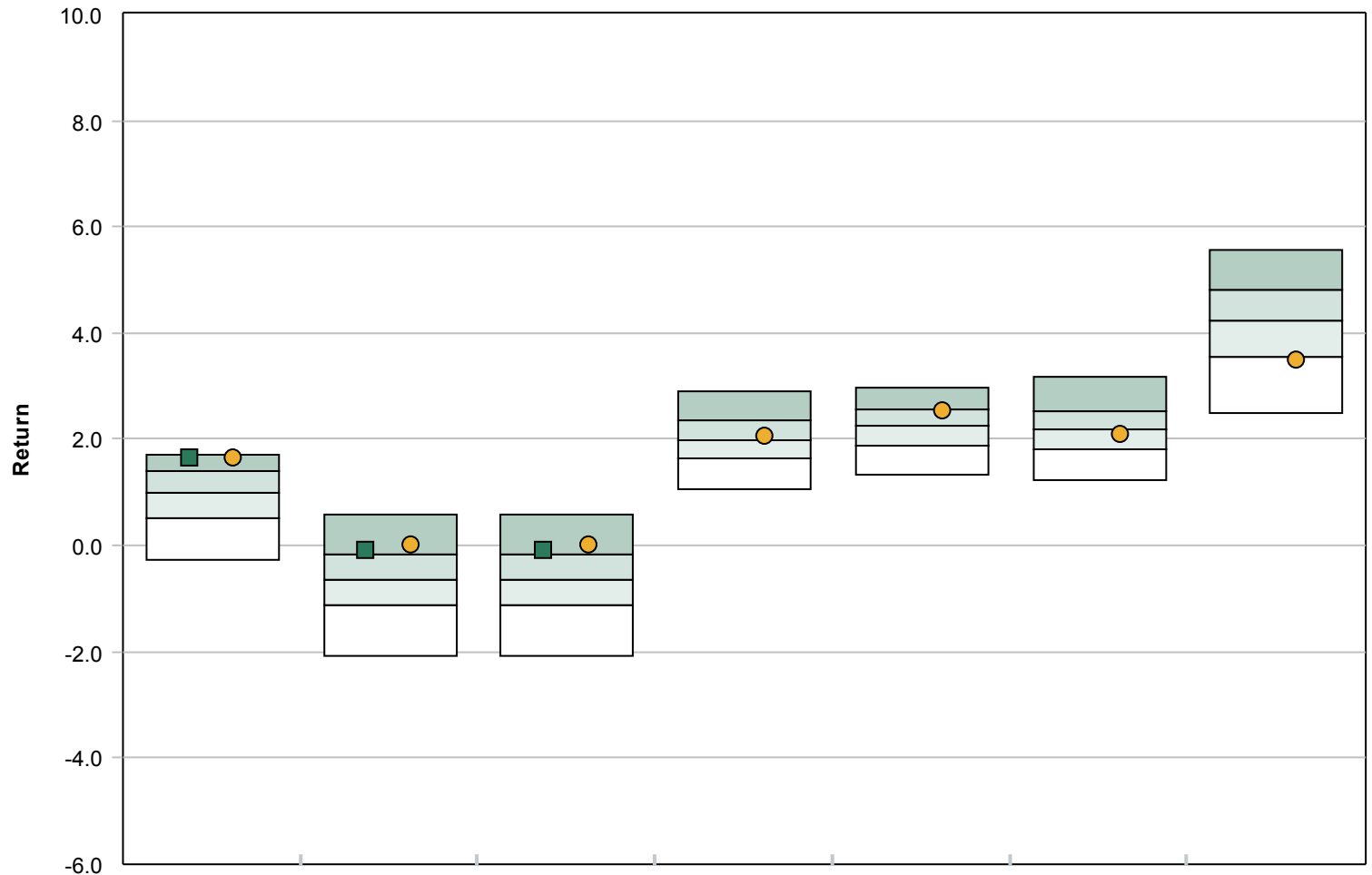
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ iShares TIPS Bond (TIP)	-0.53 (33)	-1.46 (45)	-1.46 (45)	N/A	N/A	N/A	N/A
● Blmbg. Barc. U.S. TIPS	-0.42 (24)	-1.26 (35)	-1.26 (35)	2.11 (23)	1.69 (7)	0.88 (15)	3.64 (12)
5th Percentile	0.12	0.35	0.35	3.21	1.79	1.13	3.99
1st Quartile	-0.46	-1.03	-1.03	2.03	1.32	0.75	3.37
Median	-0.84	-1.59	-1.59	1.68	0.91	0.44	2.90
3rd Quartile	-1.18	-2.21	-2.21	1.27	0.52	0.16	2.34
95th Percentile	-3.34	-3.52	-3.52	0.68	-0.44	-0.46	1.47

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



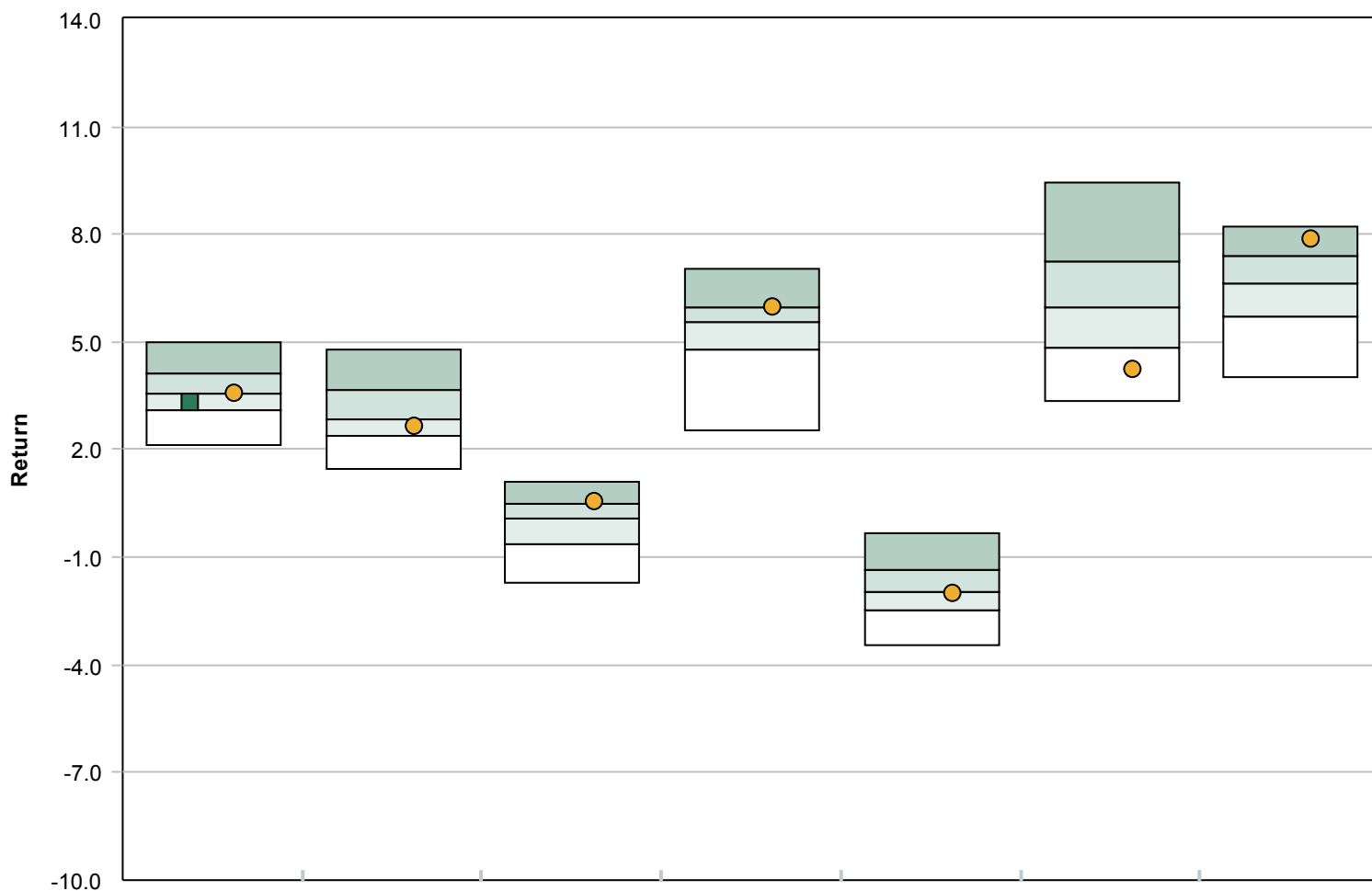
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Inflation Managed (JRBSX)	-1.18 (76)	-1.15 (32)	-1.15 (32)	N/A	N/A	N/A	N/A
● Blmbg. Barc. U.S. TIPS 1-10 Year	-0.05 (9)	-0.25 (13)	-0.25 (13)	1.87 (39)	1.20 (28)	0.73 (27)	3.06 (44)
5th Percentile	0.12	0.35	0.35	3.21	1.79	1.13	3.99
1st Quartile	-0.46	-1.03	-1.03	2.03	1.32	0.75	3.37
Median	-0.84	-1.59	-1.59	1.68	0.91	0.44	2.90
3rd Quartile	-1.18	-2.21	-2.21	1.27	0.52	0.16	2.34
95th Percentile	-3.34	-3.52	-3.52	0.68	-0.44	-0.46	1.47

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



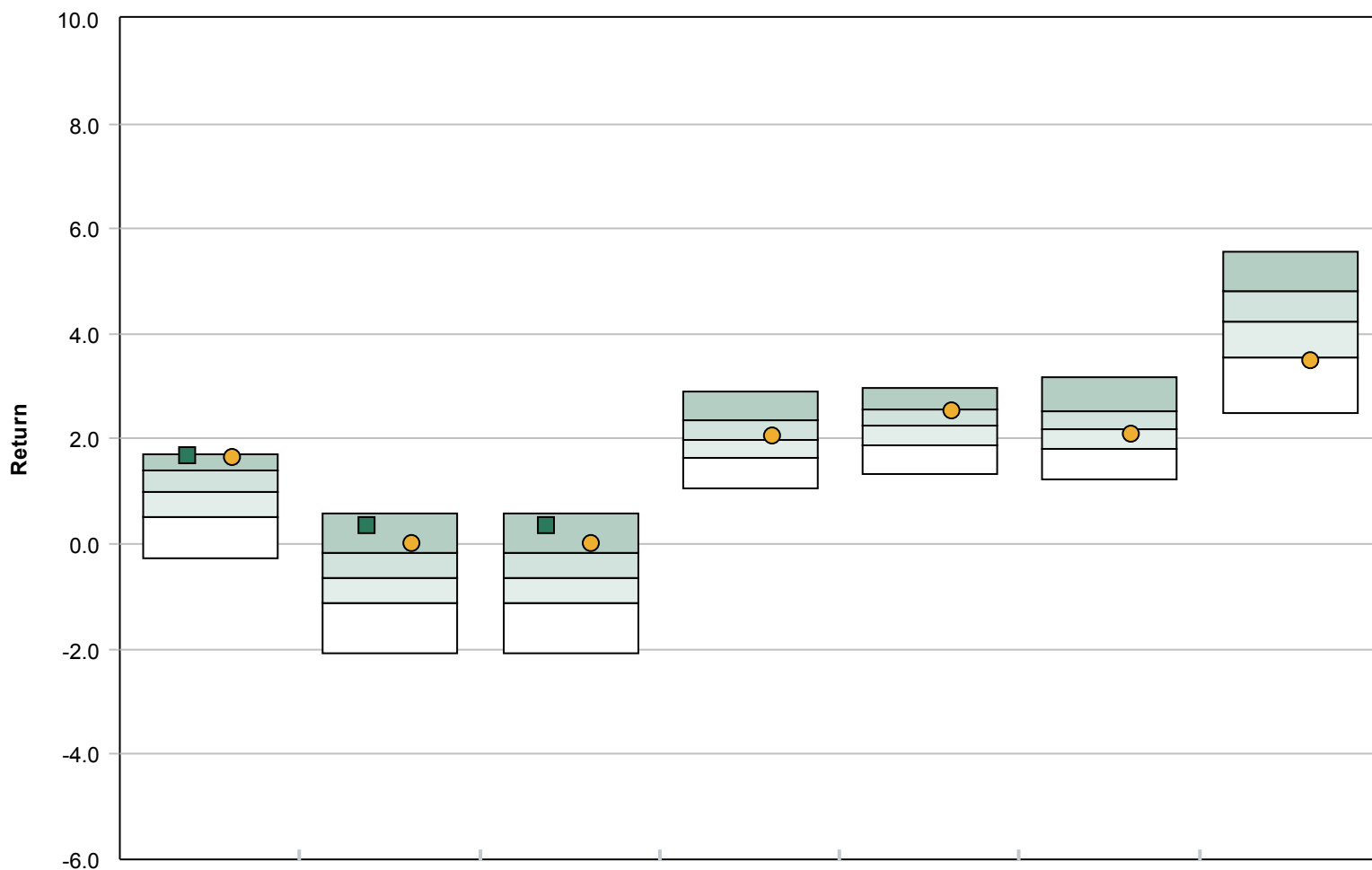
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
State Street Aggregate Bond Index	1.65 (9)	-0.09 (22)	-0.09 (22)	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Aggregate	1.64 (11)	0.01 (18)	0.01 (18)	2.06 (45)	2.52 (28)	2.10 (58)	3.48 (78)
5th Percentile	1.73	0.57	0.57	2.90	2.98	3.17	5.58
1st Quartile	1.41	-0.15	-0.15	2.35	2.55	2.53	4.80
Median	0.99	-0.63	-0.63	1.99	2.26	2.18	4.24
3rd Quartile	0.52	-1.11	-1.11	1.64	1.90	1.80	3.57
95th Percentile	-0.28	-2.09	-2.09	1.07	1.33	1.25	2.49

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



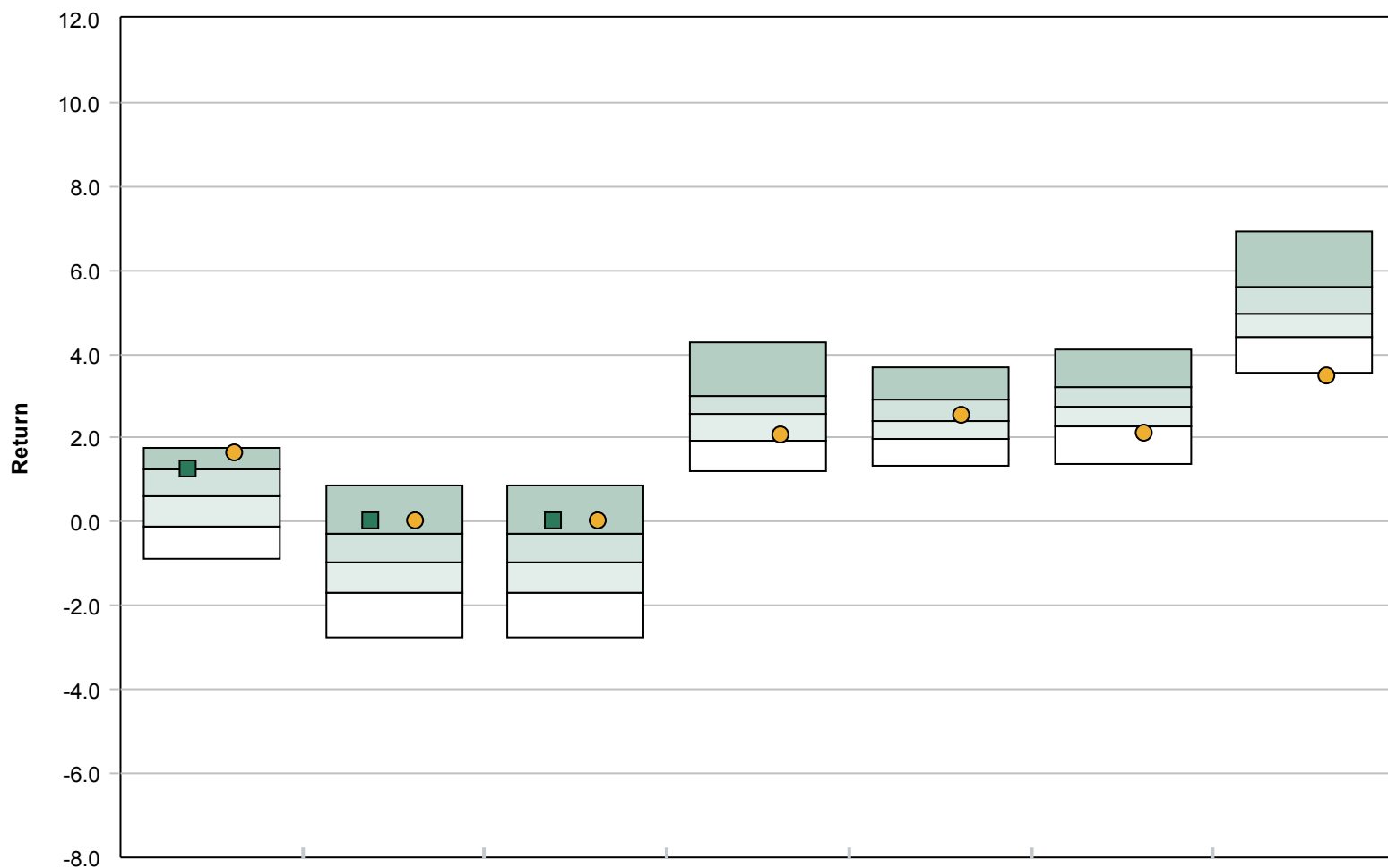
	2017	2016	2015	2014	2013	2012	2011
State Street Aggregate Bond Index	3.30 (66)	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Aggregate	3.54 (53)	2.65 (61)	0.55 (20)	5.97 (26)	-2.02 (53)	4.21 (81)	7.84 (11)
5th Percentile	5.02	4.78	1.10	7.06	-0.35	9.43	8.20
1st Quartile	4.14	3.67	0.48	5.98	-1.34	7.24	7.37
Median	3.58	2.86	0.09	5.55	-1.98	5.99	6.65
3rd Quartile	3.10	2.37	-0.61	4.76	-2.48	4.82	5.72
95th Percentile	2.13	1.47	-1.71	2.53	-3.44	3.35	4.00

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



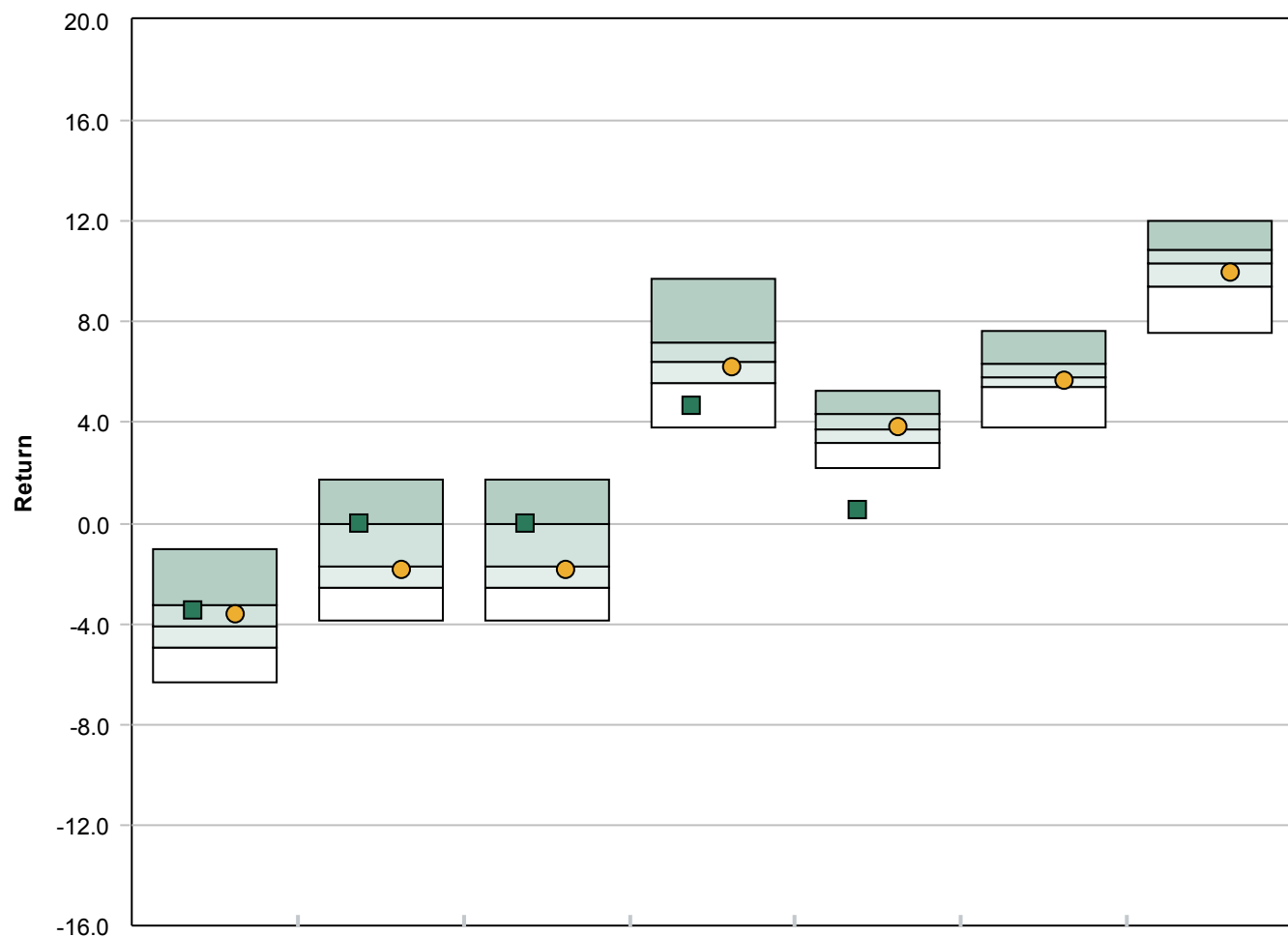
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Core Bond (JCBOX)	1.68 (8)	0.34 (8)	0.34 (8)	N/A	N/A	N/A	N/A
● Blmbg. Barc. U.S. Aggregate	1.64 (11)	0.01 (18)	0.01 (18)	2.06 (45)	2.52 (28)	2.10 (58)	3.48 (78)
5th Percentile	1.73	0.57	0.57	2.90	2.98	3.17	5.58
1st Quartile	1.41	-0.15	-0.15	2.35	2.55	2.53	4.80
Median	0.99	-0.63	-0.63	1.99	2.26	2.18	4.24
3rd Quartile	0.52	-1.11	-1.11	1.64	1.90	1.80	3.57
95th Percentile	-0.28	-2.09	-2.09	1.07	1.33	1.25	2.49

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



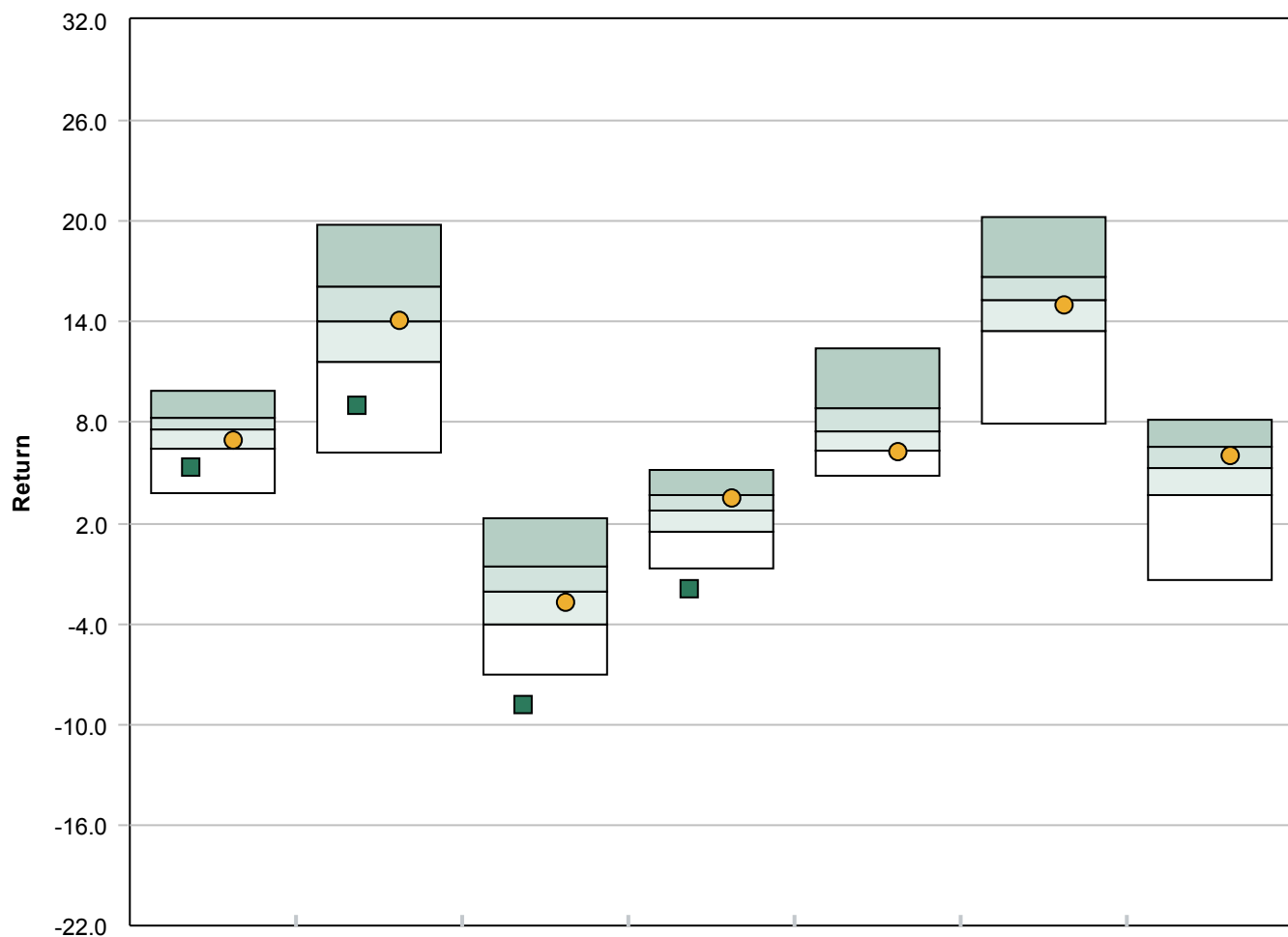
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Core Plus (HLIPX)	1.24 (25)	0.02 (19)	0.02 (19)	N/A	N/A	N/A	N/A
● Blmbg. Barc. U.S. Aggregate	1.64 (9)	0.01 (19)	0.01 (19)	2.06 (73)	2.52 (46)	2.10 (84)	3.48 (96)
5th Percentile	1.75	0.85	0.85	4.28	3.68	4.09	6.92
1st Quartile	1.24	-0.28	-0.28	3.02	2.90	3.22	5.59
Median	0.59	-0.95	-0.95	2.57	2.40	2.76	4.96
3rd Quartile	-0.10	-1.67	-1.67	1.95	1.96	2.29	4.41
95th Percentile	-0.86	-2.76	-2.76	1.20	1.34	1.37	3.54

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



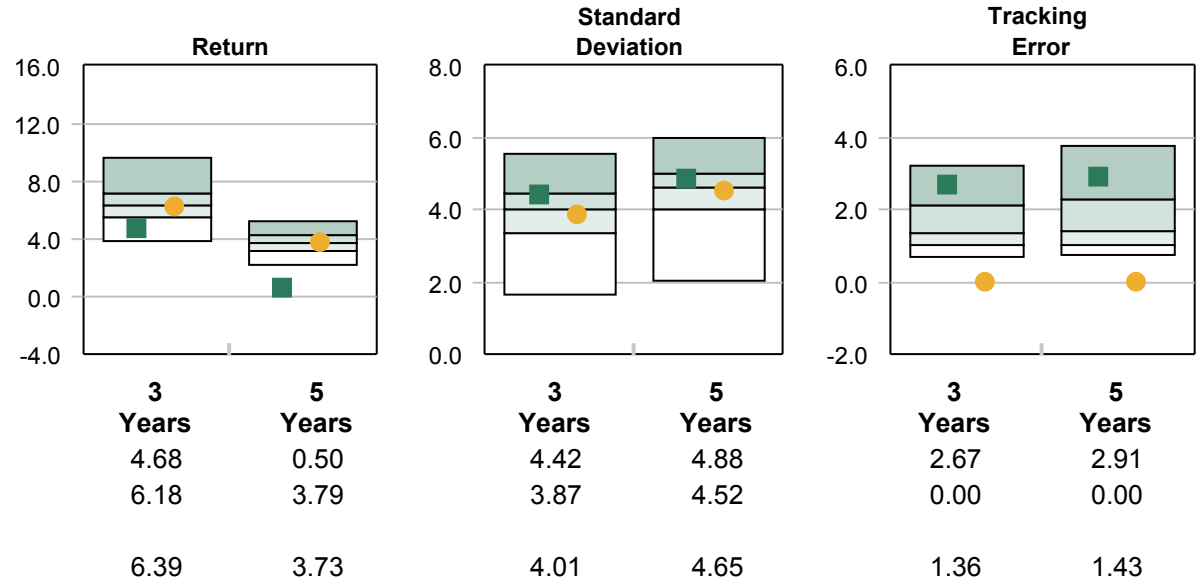
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ WAMCO Short Dated High Yield Portfolio	-3.50 (29)	0.00 (24)	0.00 (24)	4.68 (86)	0.50 (100)	N/A	N/A
● Blmbg. Barc. U.S. High Yield Ba/B 2% Issuer Cap	-3.61 (31)	-1.88 (55)	-1.88 (55)	6.18 (58)	3.79 (46)	5.67 (64)	9.95 (61)
5th Percentile	-1.01	1.71	1.71	9.70	5.23	7.63	11.99
1st Quartile	-3.29	-0.06	-0.06	7.19	4.32	6.37	10.85
Median	-4.12	-1.69	-1.69	6.39	3.73	5.81	10.33
3rd Quartile	-4.91	-2.53	-2.53	5.57	3.22	5.41	9.39
95th Percentile	-6.29	-3.88	-3.88	3.80	2.16	3.78	7.57

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

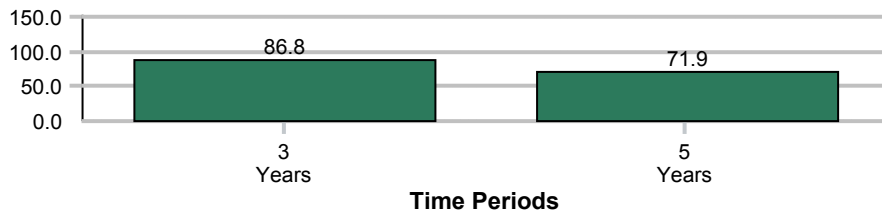


	2017	2016	2015	2014	2013	2012	2011
■ WAMCO Short Dated High Yield Portfolio	5.23 (87)	9.02 (86)	-8.83 (98)	-1.99 (97)	N/A	N/A	N/A
● Blmbg. Barc. U.S. High Yield Ba/B 2% Issuer Cap	6.92 (68)	14.09 (50)	-2.72 (56)	3.45 (30)	6.23 (82)	15.00 (58)	6.03 (35)
5th Percentile	9.87	19.77	2.31	5.16	12.42	20.29	8.21
1st Quartile	8.24	16.16	-0.62	3.67	8.85	16.64	6.52
Median	7.54	14.07	-2.13	2.72	7.52	15.32	5.25
3rd Quartile	6.47	11.65	-4.01	1.47	6.38	13.50	3.63
95th Percentile	3.75	6.20	-7.07	-0.70	4.80	7.93	-1.43

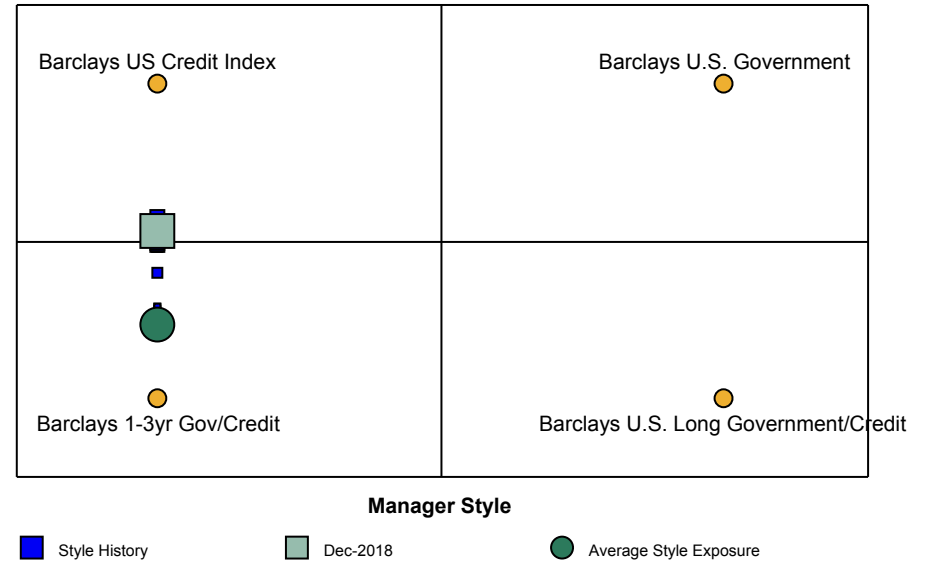
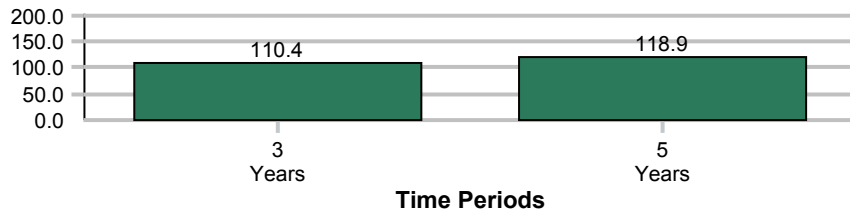
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

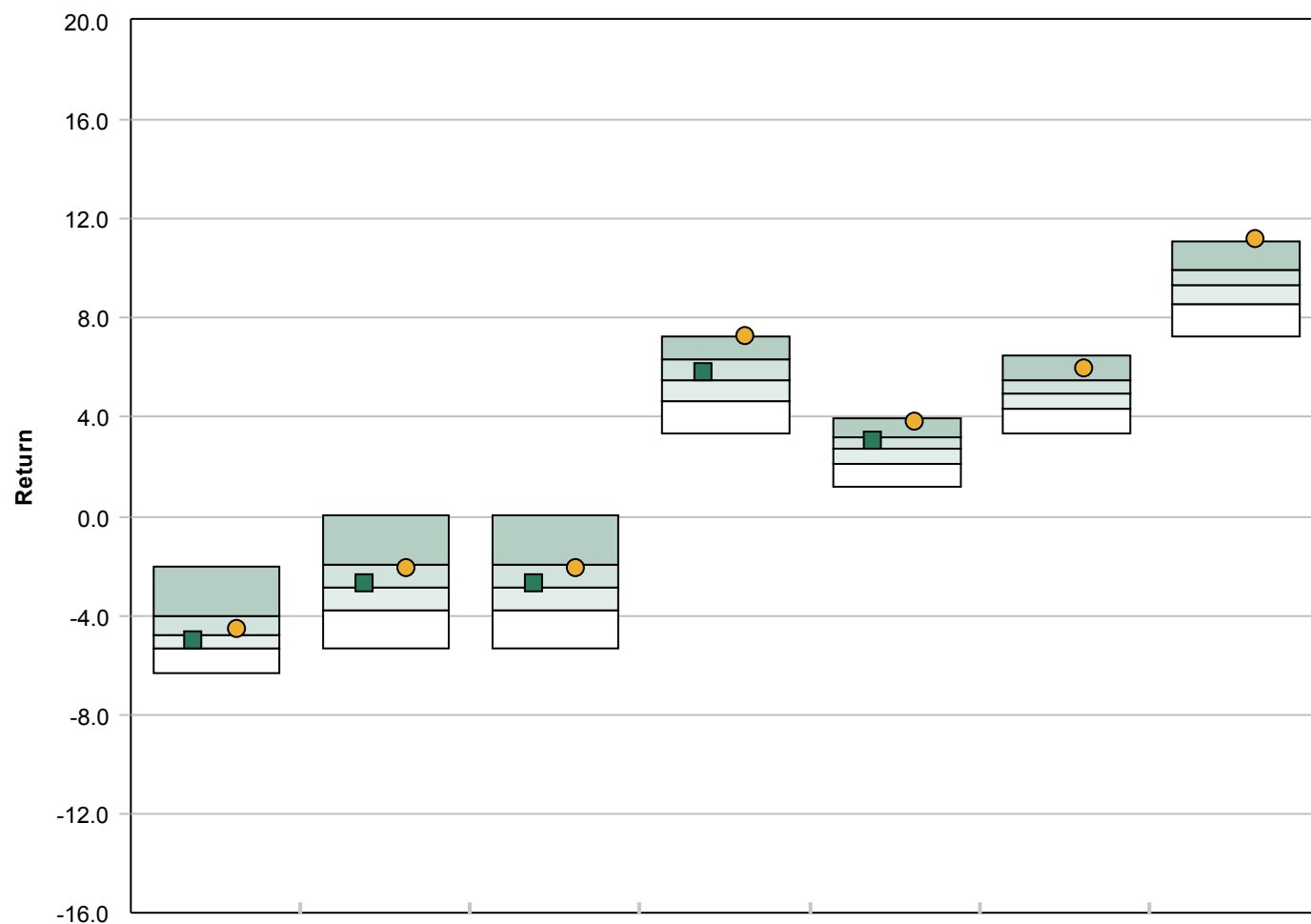


Up Market Capture



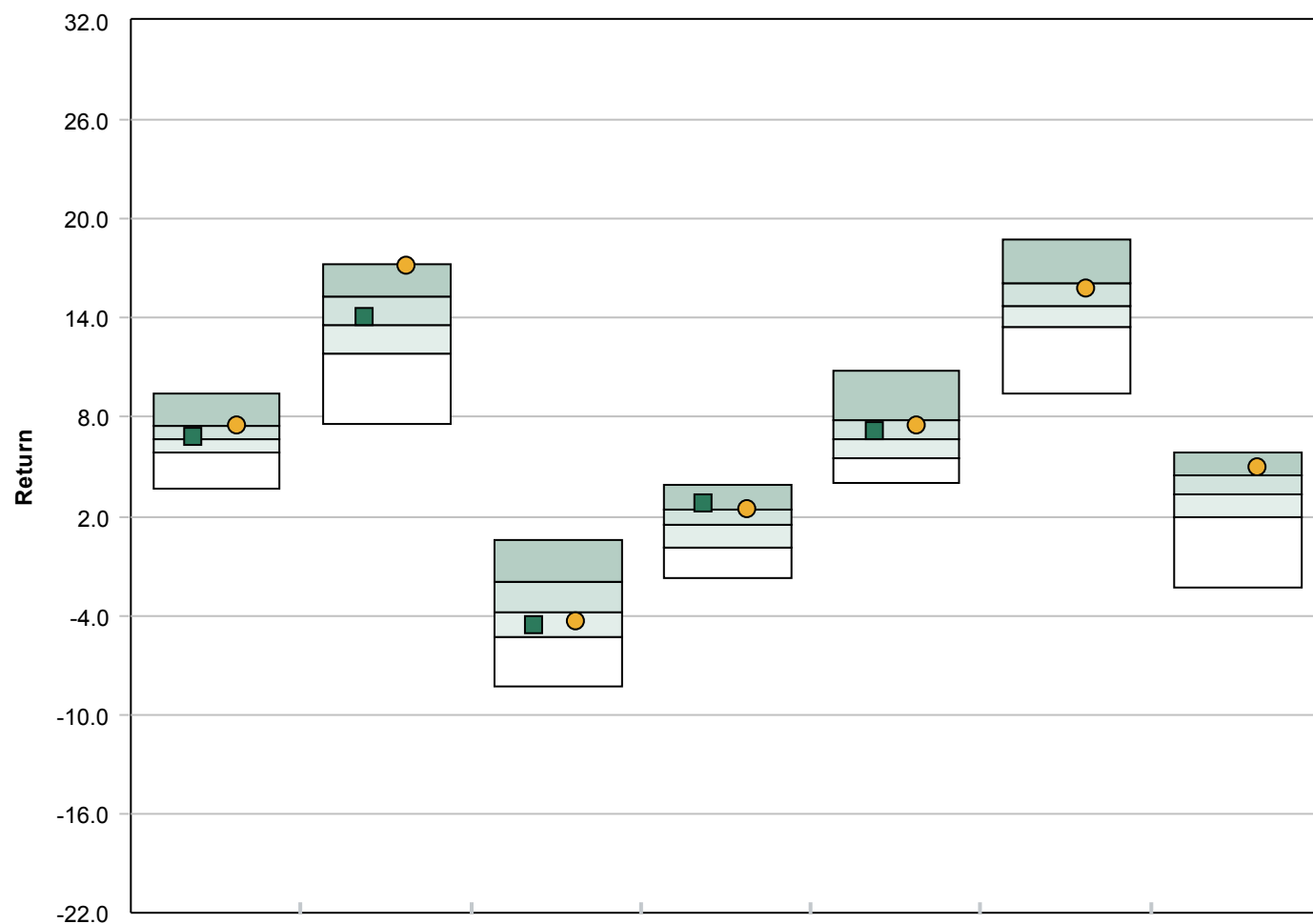
Down Market Capture





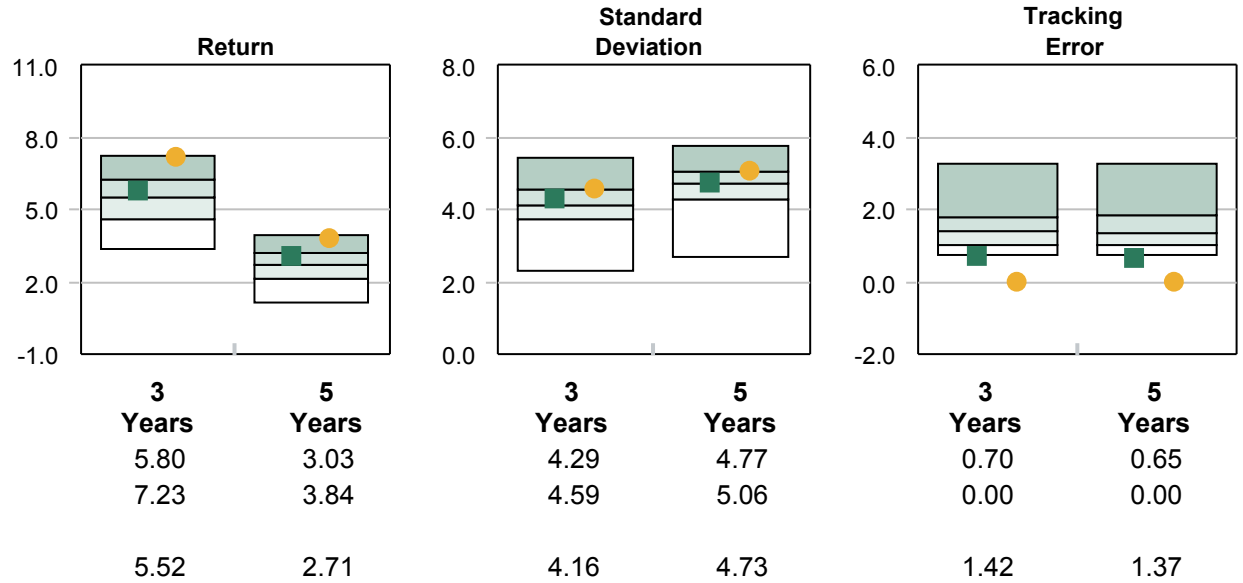
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan High Yield R6 (JHYUX)	-5.01 (62)	-2.74 (44)	-2.74 (44)	5.80 (40)	3.03 (34)	N/A	N/A
● Blmbg. Barc. U.S. High Yield - 2% Issuer Cap	-4.54 (44)	-2.08 (28)	-2.08 (28)	7.23 (6)	3.84 (8)	5.98 (11)	11.14 (5)
5th Percentile	-2.02	0.08	0.08	7.28	3.98	6.46	11.08
1st Quartile	-4.00	-1.95	-1.95	6.30	3.22	5.47	9.98
Median	-4.76	-2.91	-2.91	5.52	2.71	4.97	9.35
3rd Quartile	-5.33	-3.82	-3.82	4.66	2.12	4.34	8.59
95th Percentile	-6.36	-5.36	-5.36	3.36	1.16	3.33	7.24

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

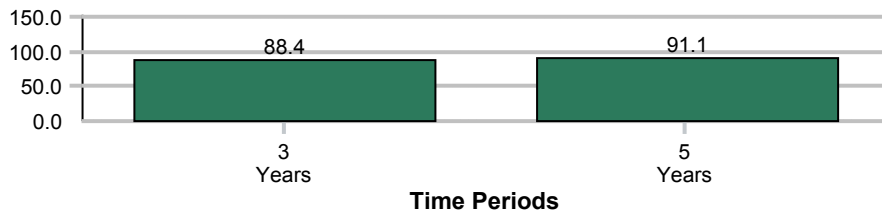


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan High Yield R6 (JHYUX)	6.82 (45)	14.00 (43)	-4.59 (63)	2.76 (18)	7.15 (36)	N/A	N/A
● Blmbg. Barc. U.S. High Yield - 2% Issuer Cap	7.50 (24)	17.13 (7)	-4.43 (61)	2.46 (23)	7.44 (30)	15.78 (30)	4.96 (17)
5th Percentile	9.41	17.27	0.54	3.86	10.81	18.81	5.88
1st Quartile	7.47	15.31	-1.92	2.38	7.77	16.17	4.49
Median	6.65	13.52	-3.85	1.48	6.61	14.72	3.32
3rd Quartile	5.82	11.86	-5.28	0.16	5.54	13.48	1.91
95th Percentile	3.71	7.62	-8.35	-1.71	3.99	9.47	-2.33

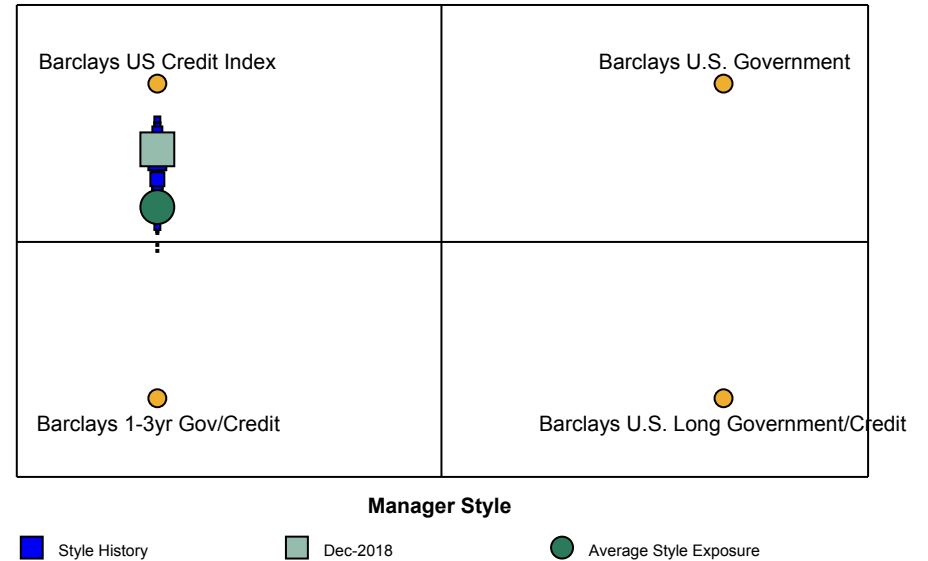
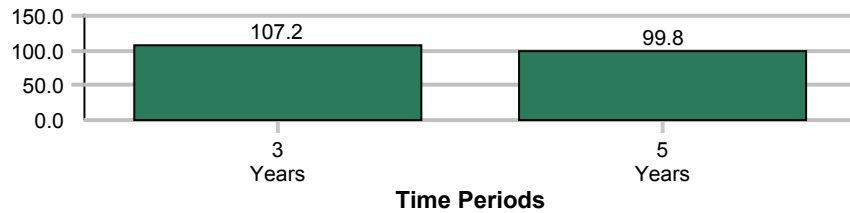
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

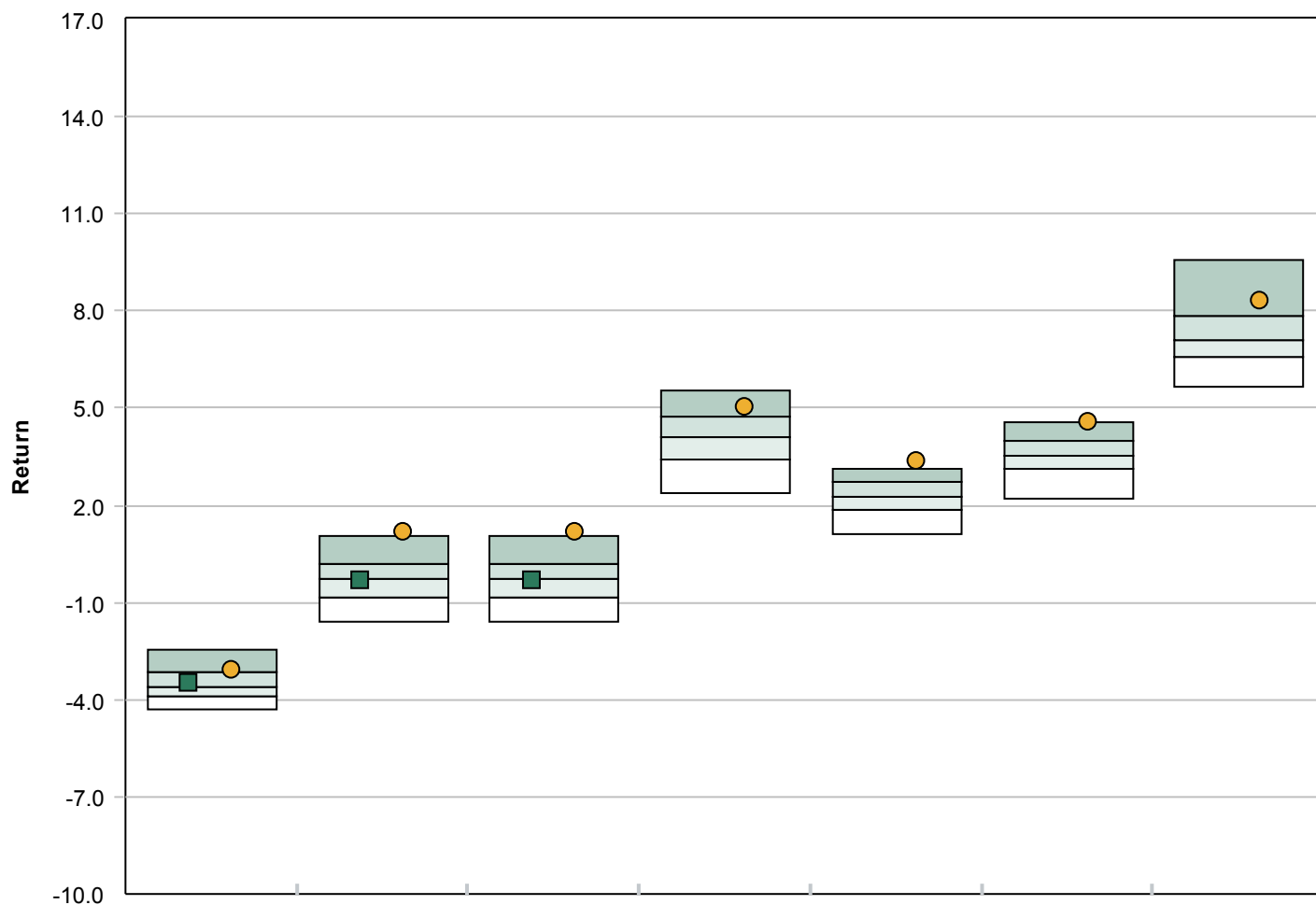


Up Market Capture



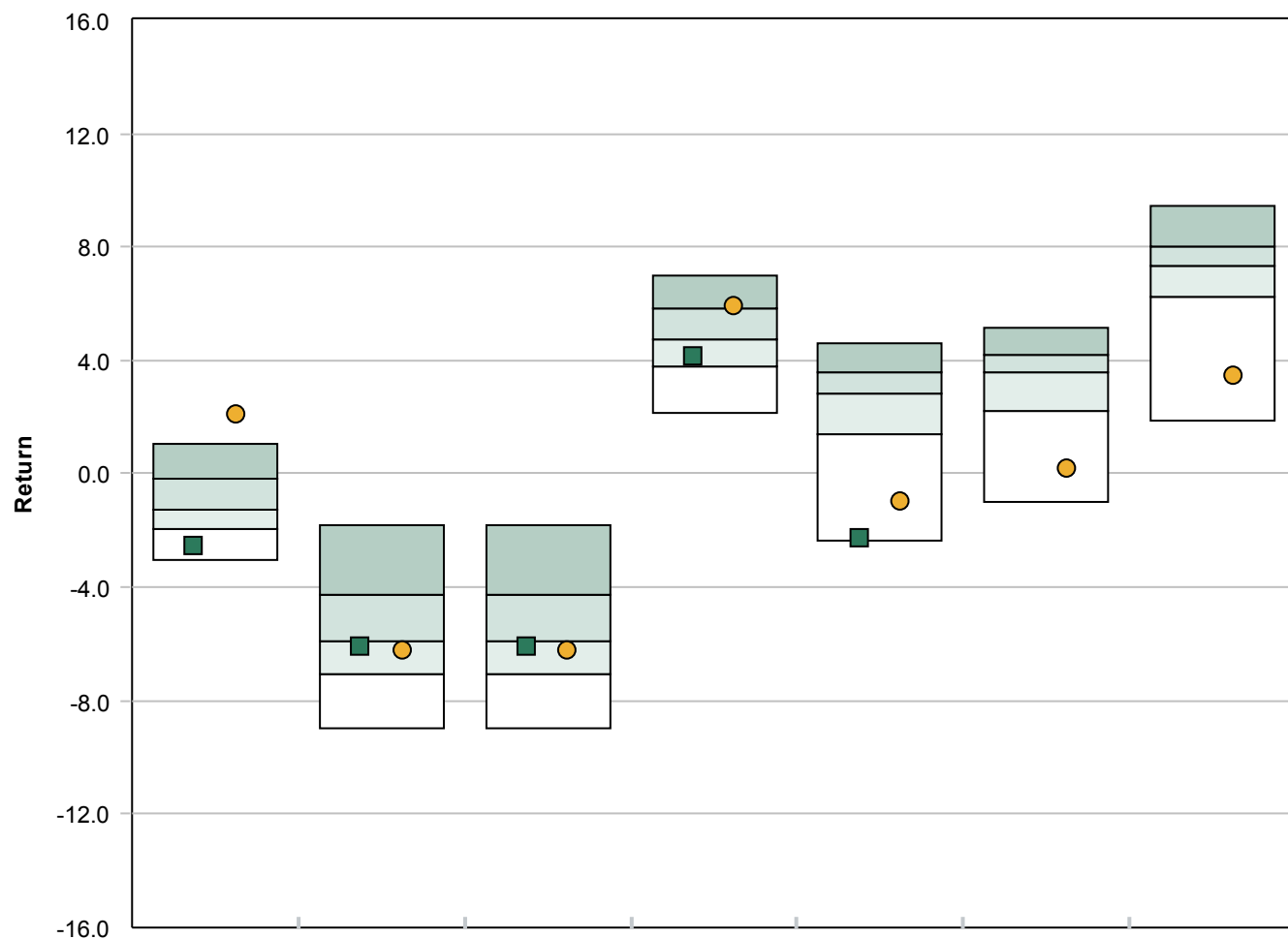
Down Market Capture





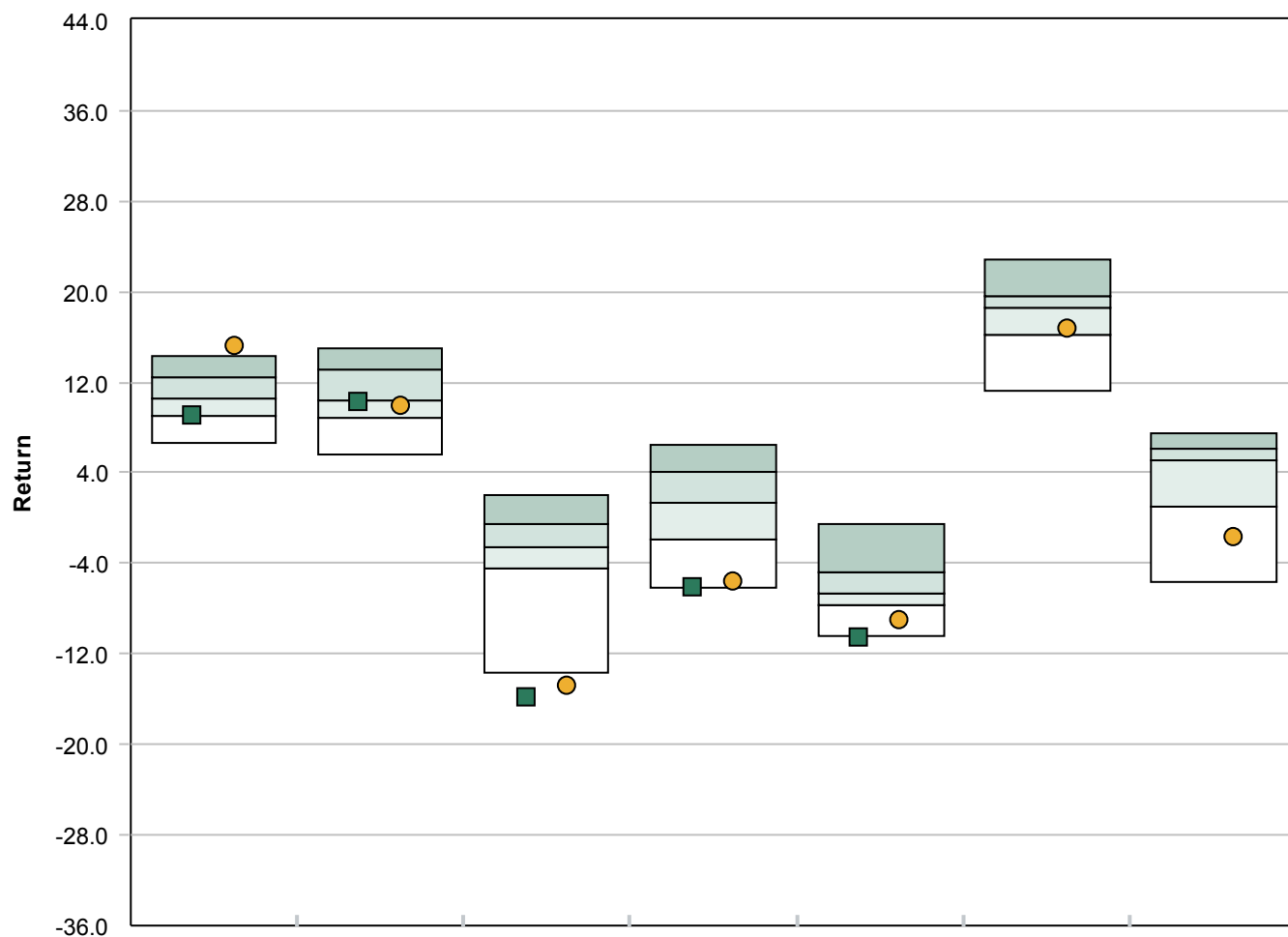
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Floating Rate Income (JPHSX)	-3.50 (41)	-0.30 (51)	-0.30 (51)	N/A	N/A	N/A	N/A
● Credit Suisse Leveraged Loan Index	-3.08 (22)	1.14 (5)	1.14 (5)	5.03 (19)	3.33 (2)	4.58 (5)	8.30 (13)
5th Percentile	-2.44	1.08	1.08	5.57	3.14	4.57	9.59
1st Quartile	-3.16	0.20	0.20	4.71	2.73	4.01	7.83
Median	-3.64	-0.29	-0.29	4.09	2.28	3.54	7.07
3rd Quartile	-3.89	-0.83	-0.83	3.41	1.85	3.14	6.57
95th Percentile	-4.28	-1.62	-1.62	2.40	1.12	2.23	5.63

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



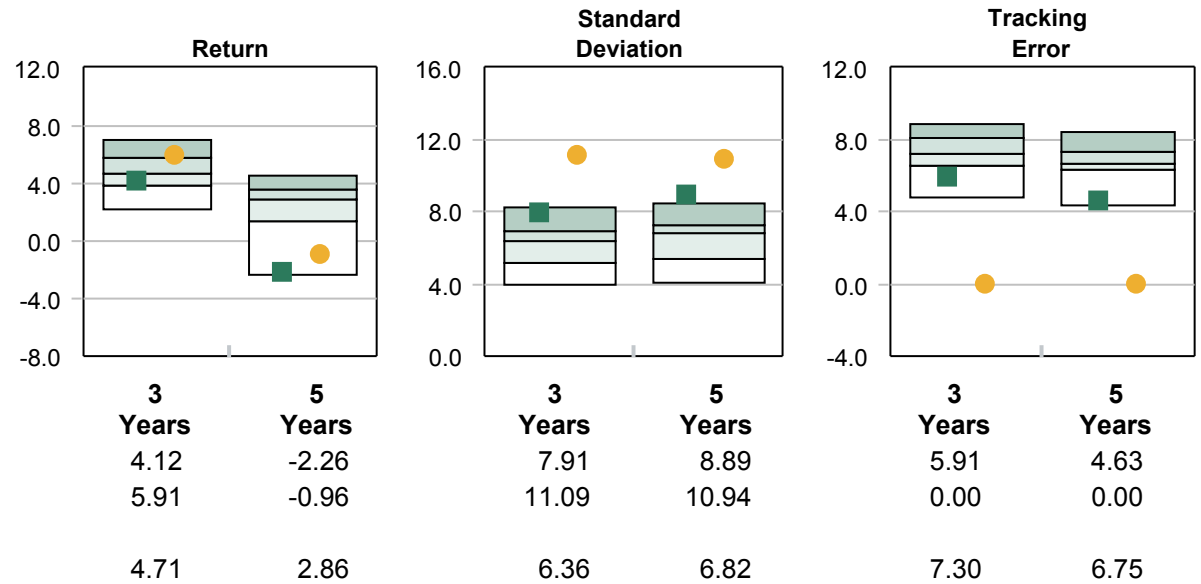
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JP Morgan Emerging Mkt Strategic Debt (JECSX)	-2.53 (91)	-6.13 (56)	-6.13 (56)	4.12 (68)	-2.26 (95)	N/A	N/A
● JPM GBI-EM Global Diversified	2.11 (1)	-6.21 (60)	-6.21 (60)	5.91 (23)	-0.96 (90)	0.18 (91)	3.45 (91)
5th Percentile	1.04	-1.82	-1.82	7.01	4.57	5.18	9.47
1st Quartile	-0.20	-4.27	-4.27	5.85	3.59	4.21	8.01
Median	-1.29	-5.91	-5.91	4.71	2.86	3.61	7.36
3rd Quartile	-1.94	-7.08	-7.08	3.82	1.37	2.20	6.25
95th Percentile	-3.04	-8.99	-8.99	2.15	-2.38	-0.97	1.88

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

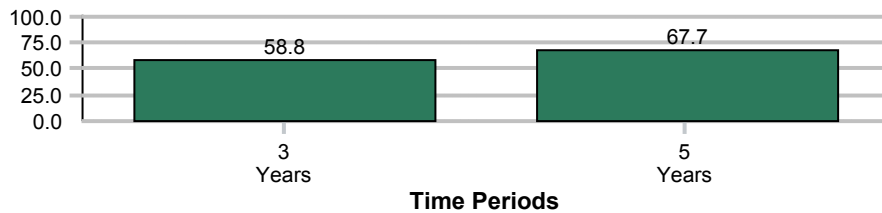


	2017	2016	2015	2014	2013	2012	2011
■ JP Morgan Emerging Mkt Strategic Debt (JECSX)	9.07 (75)	10.26 (54)	-15.88 (99)	-6.09 (95)	-10.64 (97)	N/A	N/A
● JPM GBI-EM Global Diversified	15.21 (3)	9.94 (57)	-14.92 (98)	-5.72 (93)	-8.98 (84)	16.76 (70)	-1.75 (78)
5th Percentile	14.25	14.96	1.98	6.51	-0.47	22.88	7.53
1st Quartile	12.52	13.09	-0.59	4.05	-4.71	19.68	6.10
Median	10.49	10.42	-2.53	1.31	-6.58	18.59	5.13
3rd Quartile	9.02	8.88	-4.49	-1.88	-7.67	16.27	1.00
95th Percentile	6.67	5.57	-13.69	-6.22	-10.41	11.25	-5.70

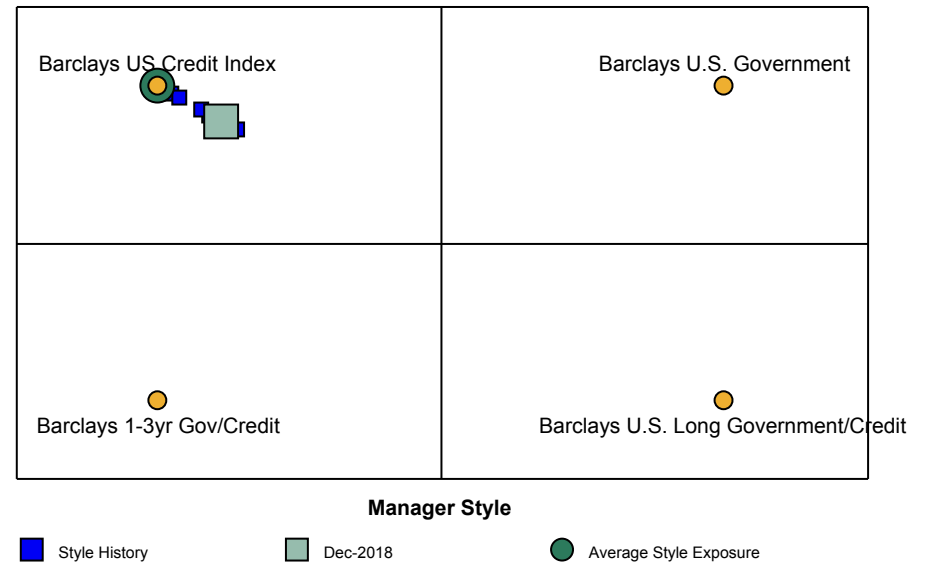
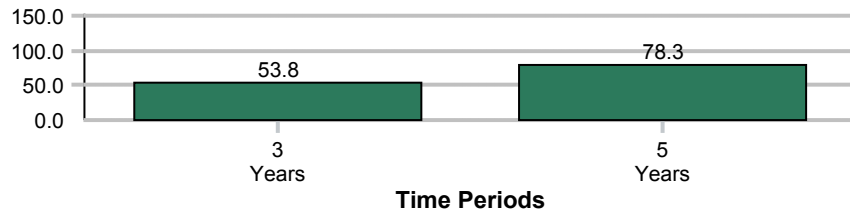
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



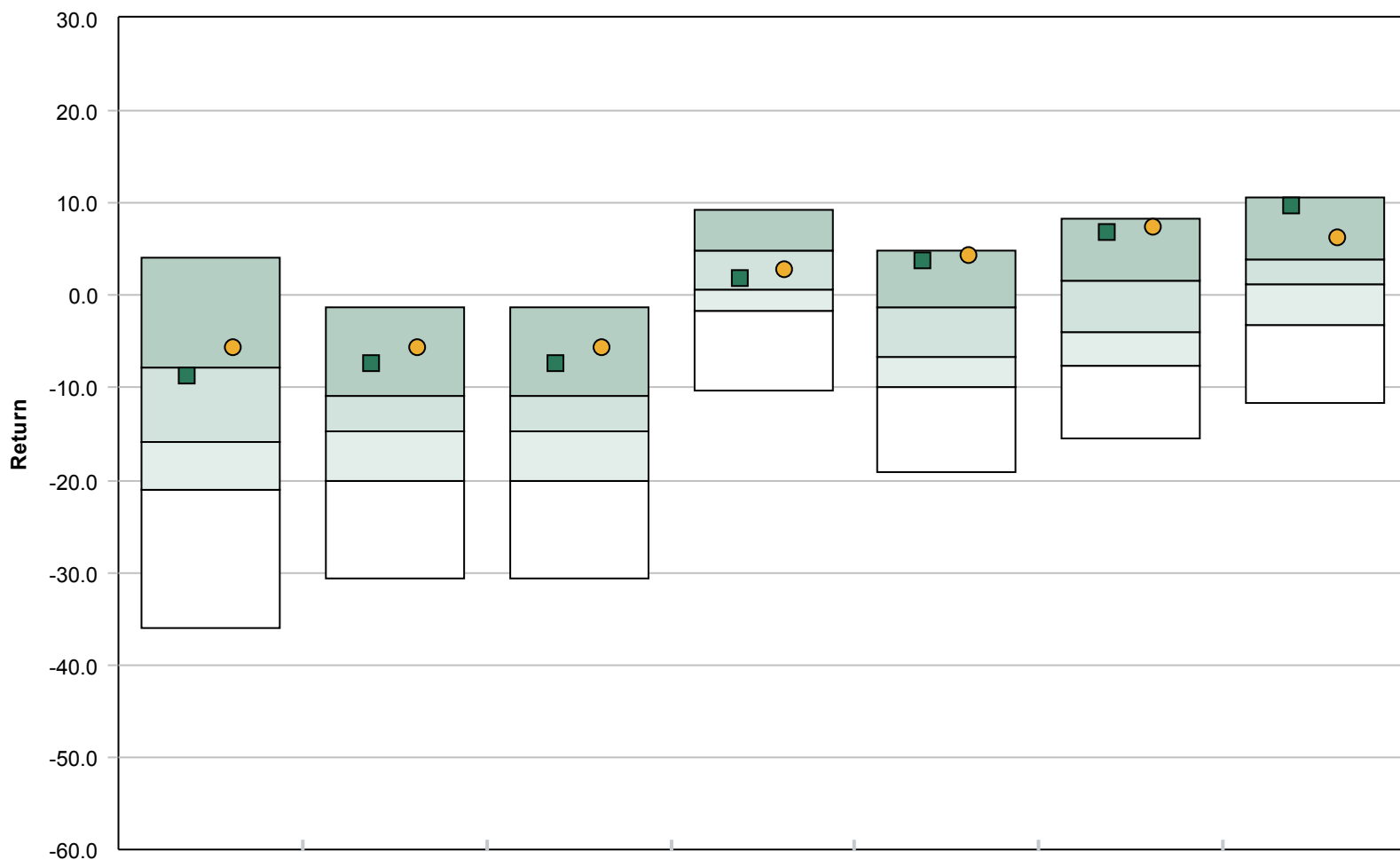
Up Market Capture



Down Market Capture

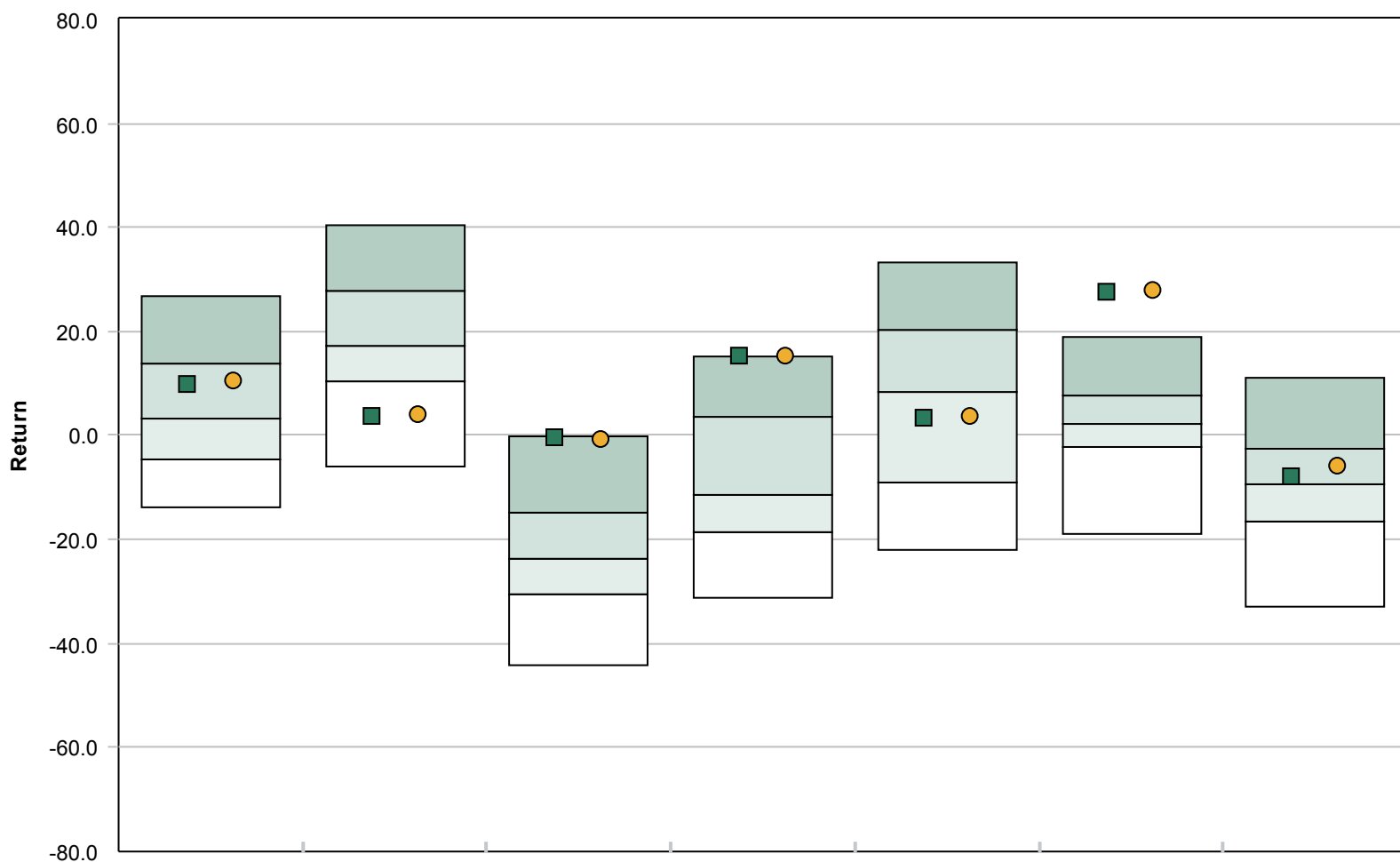


Total Global Real Estate



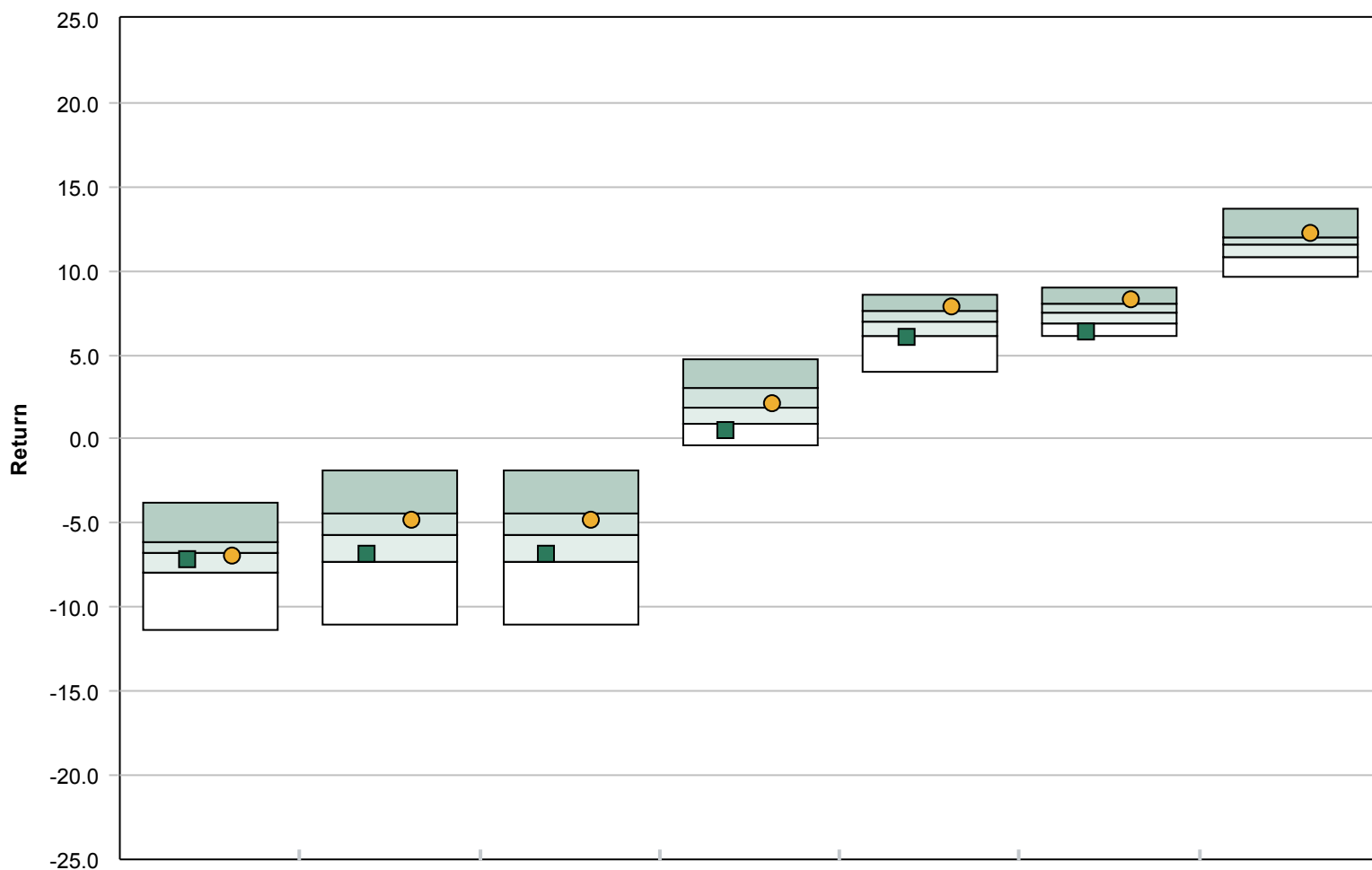
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Global Real Assets	-8.80 (28)	-7.33 (11)	-7.33 (11)	1.72 (44)	3.80 (9)	6.78 (13)	9.58 (8)
● IPS Real Assets Benchmark	-5.69 (19)	-5.63 (9)	-5.63 (9)	2.72 (39)	4.34 (7)	7.30 (11)	6.28 (19)
5th Percentile	4.12	-1.36	-1.36	9.27	4.78	8.28	10.61
1st Quartile	-7.83	-10.87	-10.87	4.88	-1.30	1.61	3.95
Median	-15.86	-14.79	-14.79	0.55	-6.68	-3.97	1.14
3rd Quartile	-21.00	-20.15	-20.15	-1.74	-9.96	-7.58	-3.14
95th Percentile	-36.07	-30.67	-30.67	-10.32	-19.18	-15.52	-11.55

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



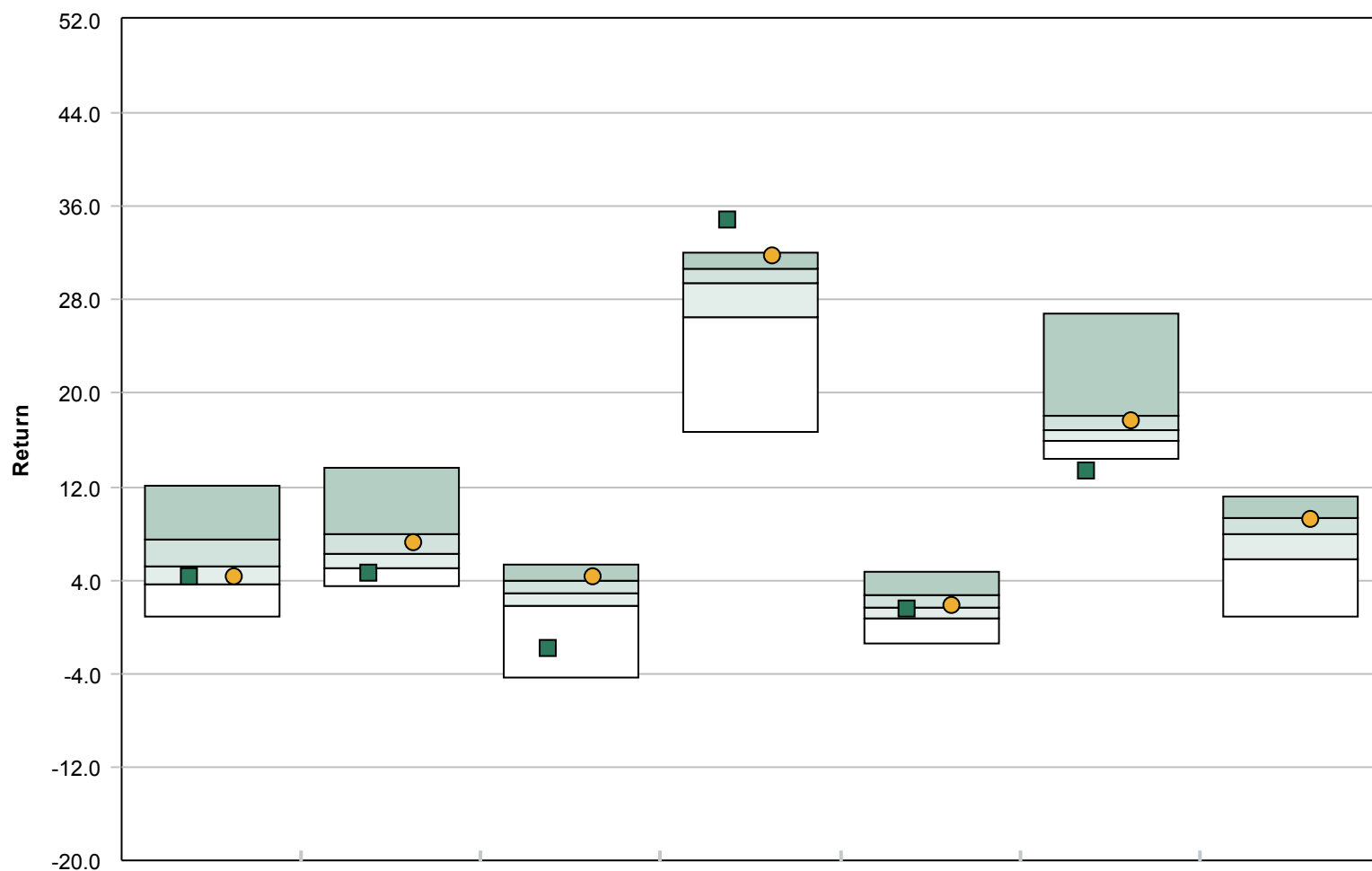
	2017	2016	2015	2014	2013	2012	2011
■ Total Global Real Assets	9.59 (34)	3.62 (92)	-0.67 (6)	15.27 (5)	3.16 (56)	27.37 (1)	-7.94 (40)
● IPS Real Assets Benchmark	10.36 (34)	4.06 (92)	-0.79 (6)	15.02 (6)	3.67 (55)	27.73 (1)	-6.12 (34)
5th Percentile	26.82	40.54	-0.15	15.18	33.25	18.93	11.22
1st Quartile	13.96	27.78	-14.92	3.63	20.16	7.74	-2.72
Median	3.17	17.07	-23.83	-11.32	8.49	2.30	-9.44
3rd Quartile	-4.75	10.44	-30.38	-18.52	-9.21	-2.15	-16.63
95th Percentile	-13.71	-5.95	-44.02	-31.27	-22.15	-18.83	-32.79

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



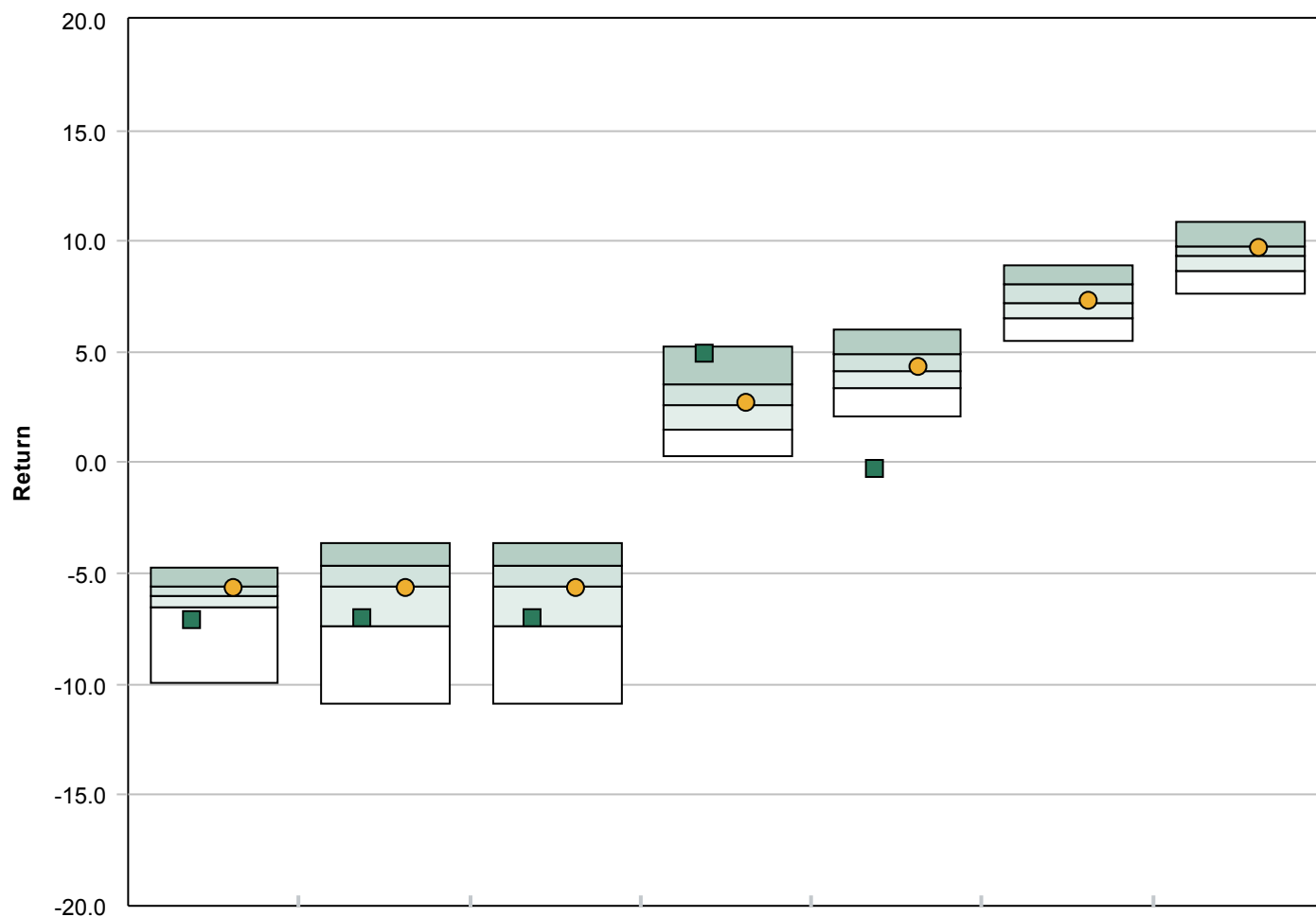
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ JPM Realty Income Inst (JPINX)	-7.24 (61)	-6.92 (69)	-6.92 (69)	0.46 (82)	6.06 (76)	6.40 (91)	N/A
● Wilshire US REIT Index	-6.93 (56)	-4.84 (35)	-4.84 (35)	2.06 (47)	7.87 (22)	8.32 (20)	12.19 (20)
5th Percentile	-3.84	-1.88	-1.88	4.75	8.59	9.05	13.65
1st Quartile	-6.15	-4.42	-4.42	3.07	7.67	8.07	12.05
Median	-6.76	-5.67	-5.67	1.86	6.93	7.52	11.58
3rd Quartile	-7.96	-7.32	-7.32	0.86	6.09	6.85	10.83
95th Percentile	-11.38	-11.03	-11.03	-0.42	3.98	6.14	9.65

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



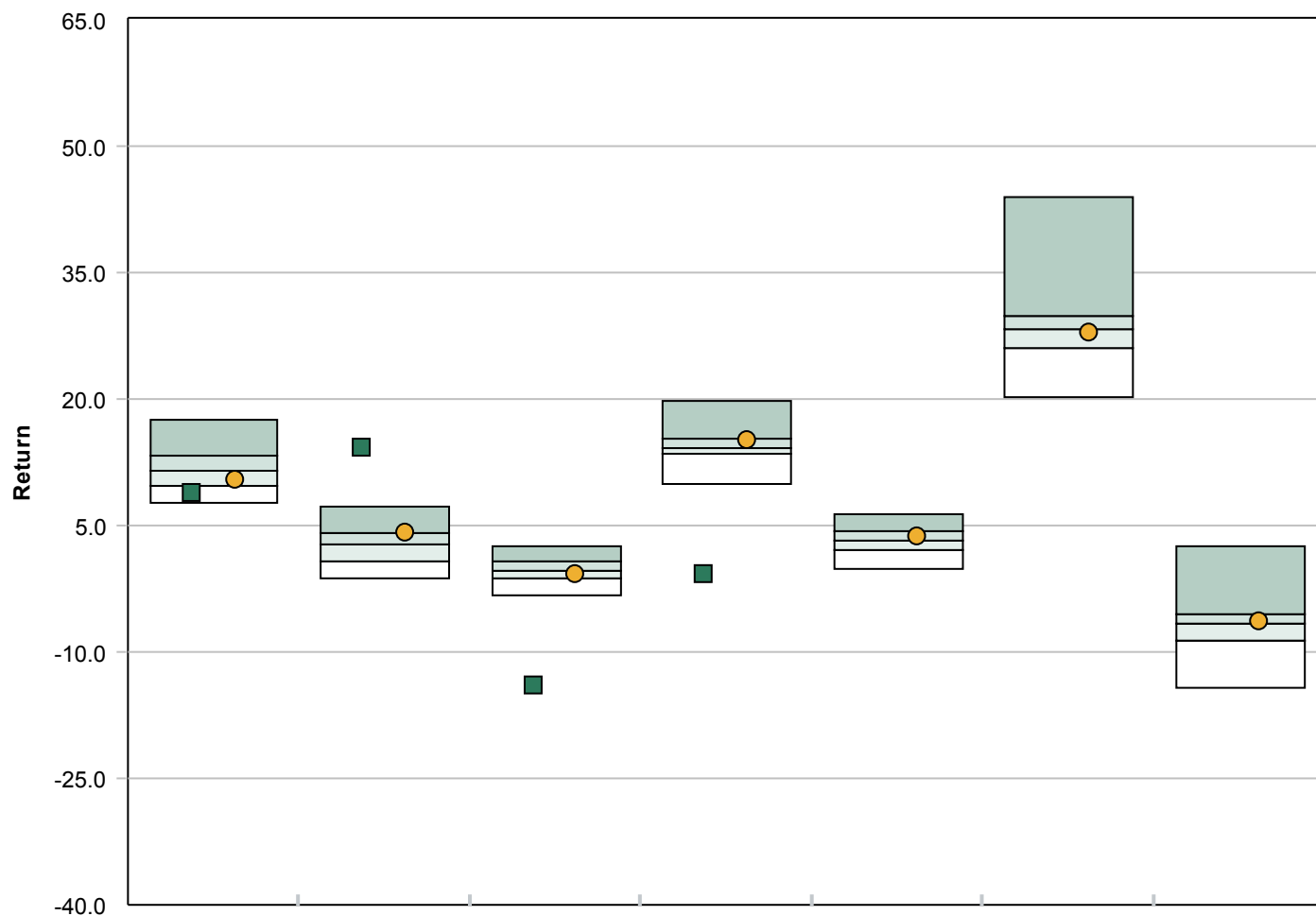
	2017	2016	2015	2014	2013	2012	2011
■ JPM Realty Income Inst (JPINX)	4.22 (66)	4.53 (83)	-1.81 (93)	34.78 (3)	1.52 (53)	13.28 (99)	N/A
● Wilshire US REIT Index	4.18 (66)	7.24 (33)	4.23 (22)	31.78 (8)	1.86 (43)	17.59 (32)	9.24 (27)
5th Percentile	12.08	13.59	5.30	32.09	4.72	26.81	11.23
1st Quartile	7.46	7.97	3.98	30.69	2.65	18.07	9.27
Median	5.14	6.18	2.94	29.43	1.62	16.85	7.89
3rd Quartile	3.67	5.05	1.81	26.58	0.72	15.85	5.76
95th Percentile	0.86	3.44	-4.27	16.74	-1.42	14.44	0.81

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



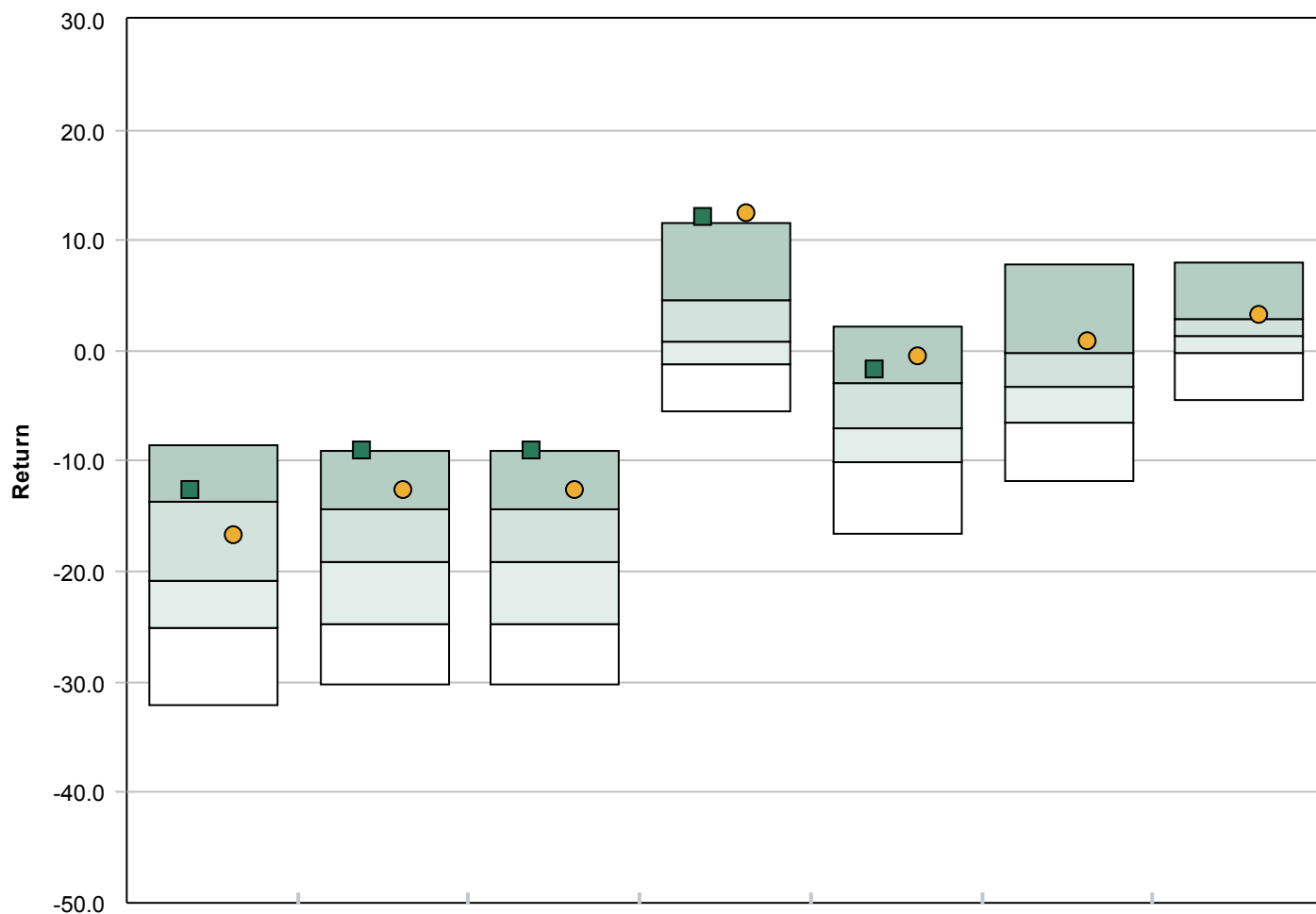
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ SSGA Real Asset NL Strategy	-7.12 (82)	-7.06 (74)	-7.06 (74)	4.91 (8)	-0.33 (100)	N/A	N/A
● FTSE EPRA/NAREIT Developed Index (Net)	-5.69 (36)	-5.63 (53)	-5.63 (53)	2.72 (47)	4.34 (42)	7.30 (48)	9.65 (30)
5th Percentile	-4.76	-3.62	-3.62	5.28	6.01	8.94	10.88
1st Quartile	-5.57	-4.65	-4.65	3.50	4.89	8.03	9.73
Median	-6.02	-5.58	-5.58	2.62	4.17	7.25	9.32
3rd Quartile	-6.48	-7.42	-7.42	1.53	3.40	6.56	8.64
95th Percentile	-9.95	-10.88	-10.88	0.33	2.12	5.46	7.63

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



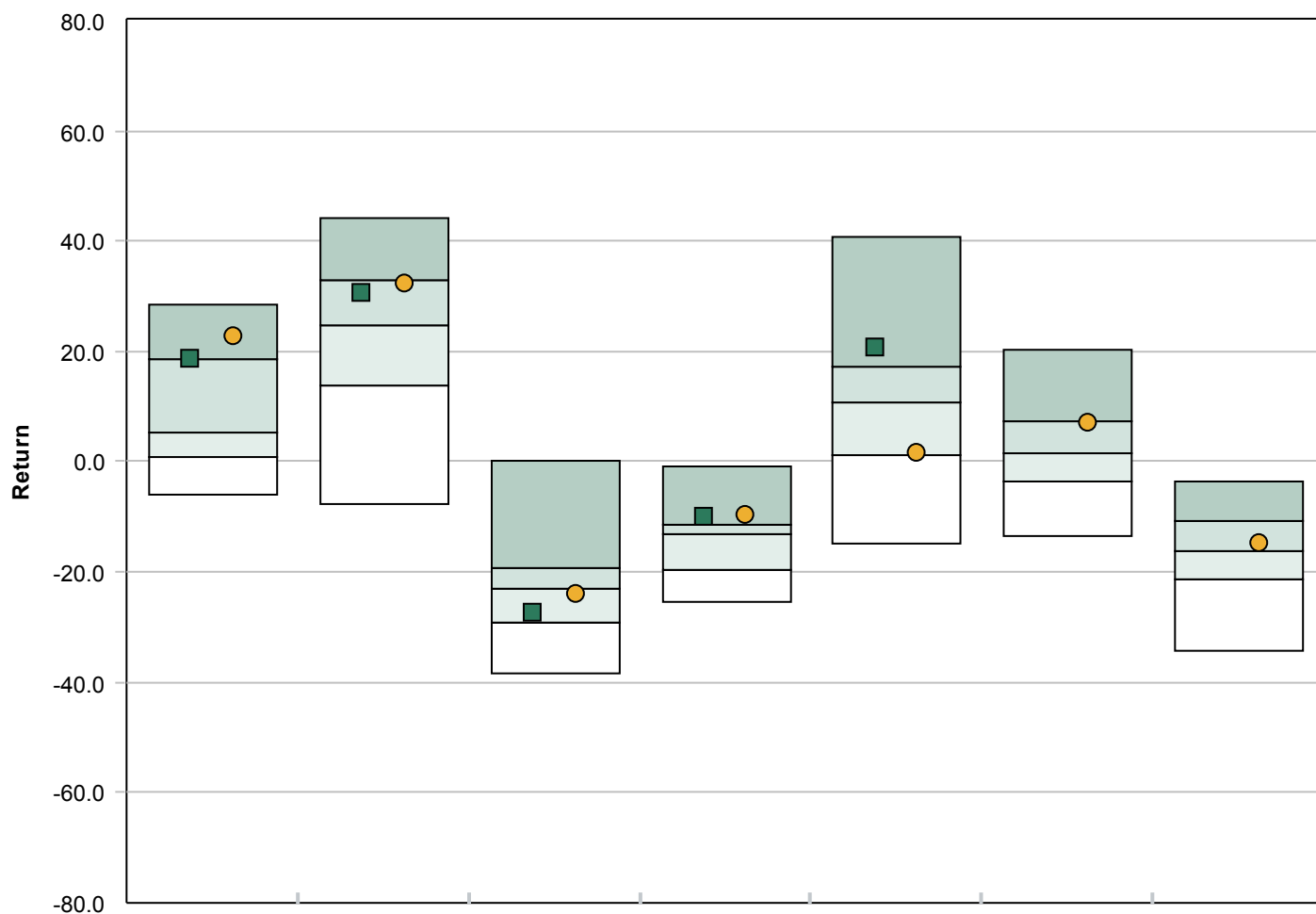
	2017	2016	2015	2014	2013	2012	2011
■ SSGA Real Asset NL Strategy	8.75 (85)	14.26 (1)	-14.03 (100)	-0.93 (100)	N/A	N/A	N/A
● FTSE EPRA/NAREIT Developed Index (Net)	10.36 (68)	4.06 (27)	-0.79 (61)	15.02 (31)	3.67 (38)	27.73 (57)	-6.46 (47)
5th Percentile	17.57	7.25	2.59	19.74	6.37	43.96	2.65
1st Quartile	13.23	4.18	0.76	15.23	4.39	29.95	-5.47
Median	11.44	2.84	-0.29	14.27	3.15	28.31	-6.62
3rd Quartile	9.73	0.76	-1.26	13.43	2.06	26.05	-8.61
95th Percentile	7.58	-1.20	-3.21	9.82	-0.20	20.16	-14.36

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



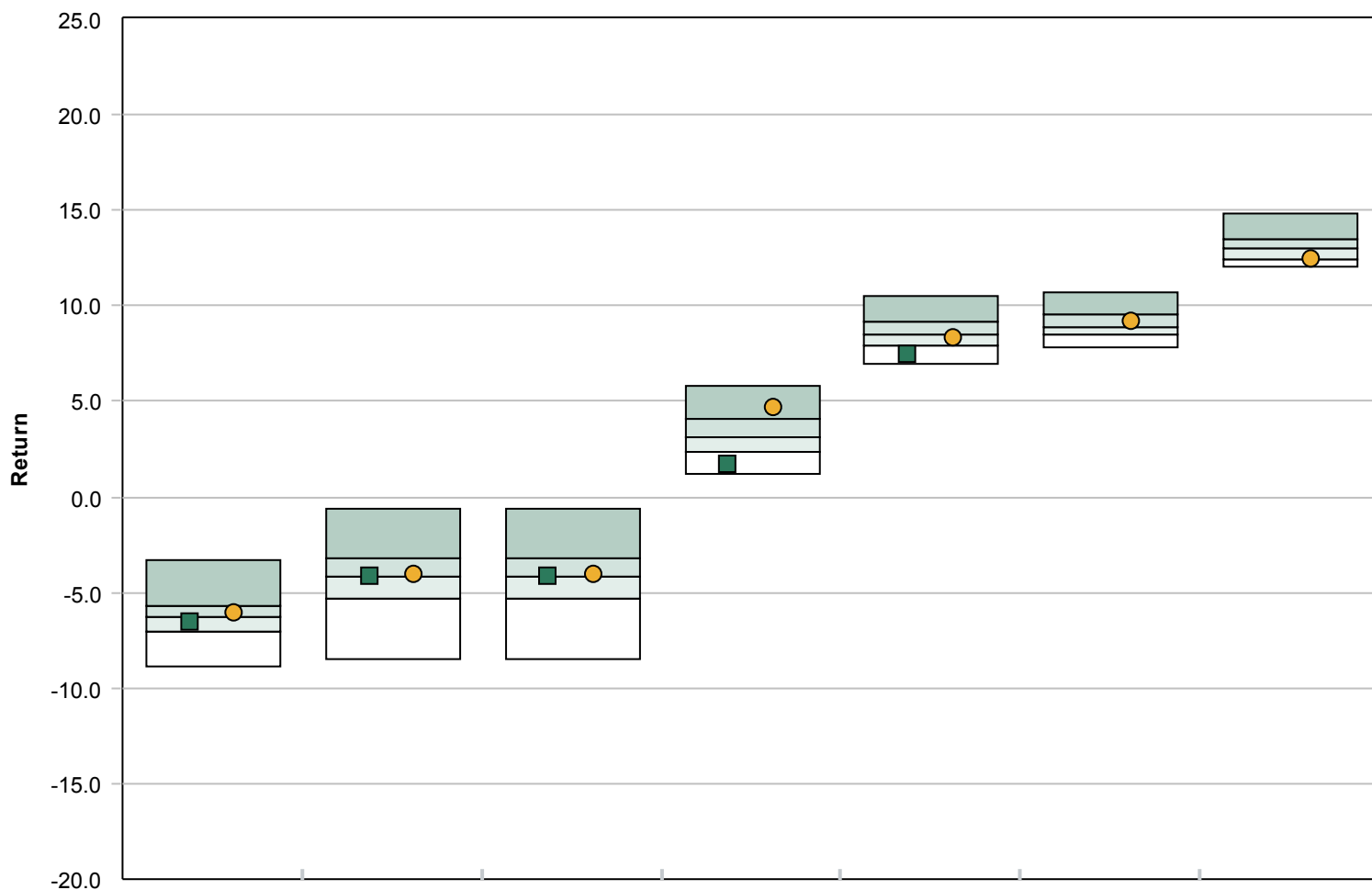
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ SSGA S&P Global Natural Resources Index	-12.58 (21)	-9.11 (6)	-9.11 (6)	12.02 (5)	-1.74 (21)	N/A	N/A
● S&P Global Natural Resources Sector Index	-16.79 (34)	-12.57 (16)	-12.57 (16)	12.36 (4)	-0.53 (14)	0.83 (22)	3.15 (20)
5th Percentile	-8.55	-9.10	-9.10	11.52	2.26	7.78	8.06
1st Quartile	-13.62	-14.30	-14.30	4.56	-2.94	-0.22	2.86
Median	-20.79	-19.13	-19.13	0.76	-7.00	-3.25	1.27
3rd Quartile	-25.05	-24.72	-24.72	-1.15	-10.04	-6.52	-0.14
95th Percentile	-32.10	-30.14	-30.14	-5.45	-16.59	-11.73	-4.44

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



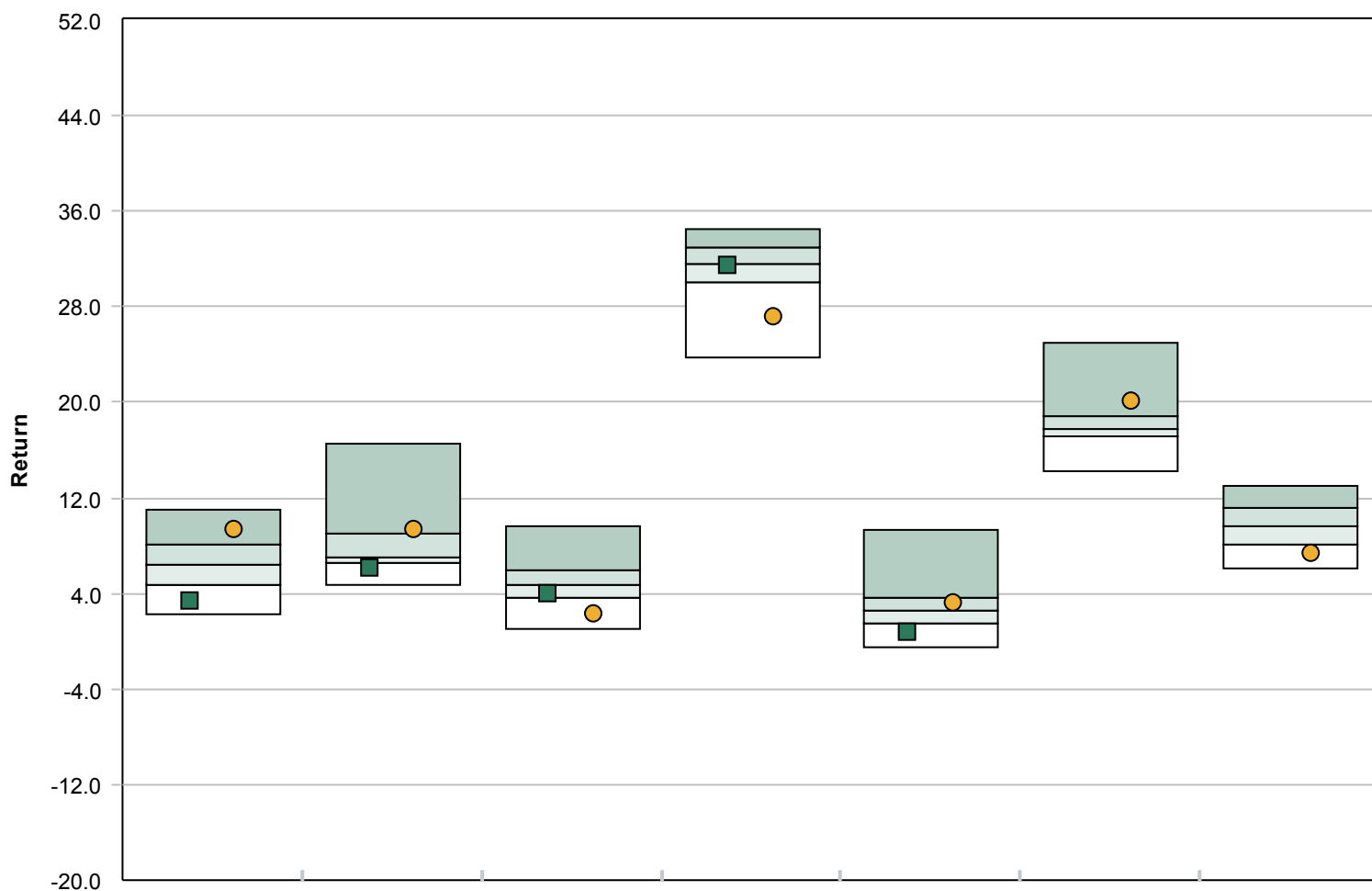
	2017	2016	2015	2014	2013	2012	2011
■ SSGA S&P Global Natural Resources Index	18.53 (24)	30.49 (31)	-27.52 (65)	-10.11 (18)	20.48 (18)	N/A	N/A
● S&P Global Natural Resources Sector Index	22.66 (13)	32.28 (27)	-24.00 (52)	-9.66 (18)	1.55 (75)	7.15 (26)	-14.86 (43)
5th Percentile	28.43	44.25	0.29	-0.77	40.91	20.45	-3.59
1st Quartile	18.42	32.94	-19.40	-11.32	17.21	7.22	-10.80
Median	5.37	24.82	-22.87	-12.99	10.74	1.43	-16.37
3rd Quartile	0.92	13.90	-29.19	-19.67	1.36	-3.46	-21.44
95th Percentile	-6.01	-7.56	-38.33	-25.37	-14.70	-13.45	-34.19

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ SSGA Tuckerman U.S. REIT Index	-6.55 (62)	-4.19 (55)	-4.19 (55)	1.67 (91)	7.48 (82)	N/A	N/A
● FTSE NAREIT All REITs Index	-6.11 (41)	-4.10 (48)	-4.10 (48)	4.62 (15)	8.29 (64)	9.16 (34)	12.41 (78)
5th Percentile	-3.29	-0.66	-0.66	5.83	10.49	10.72	14.85
1st Quartile	-5.67	-3.22	-3.22	4.11	9.17	9.54	13.44
Median	-6.32	-4.15	-4.15	3.17	8.49	8.93	12.96
3rd Quartile	-7.06	-5.32	-5.32	2.36	7.89	8.53	12.47
95th Percentile	-8.84	-8.46	-8.46	1.19	6.92	7.83	12.03

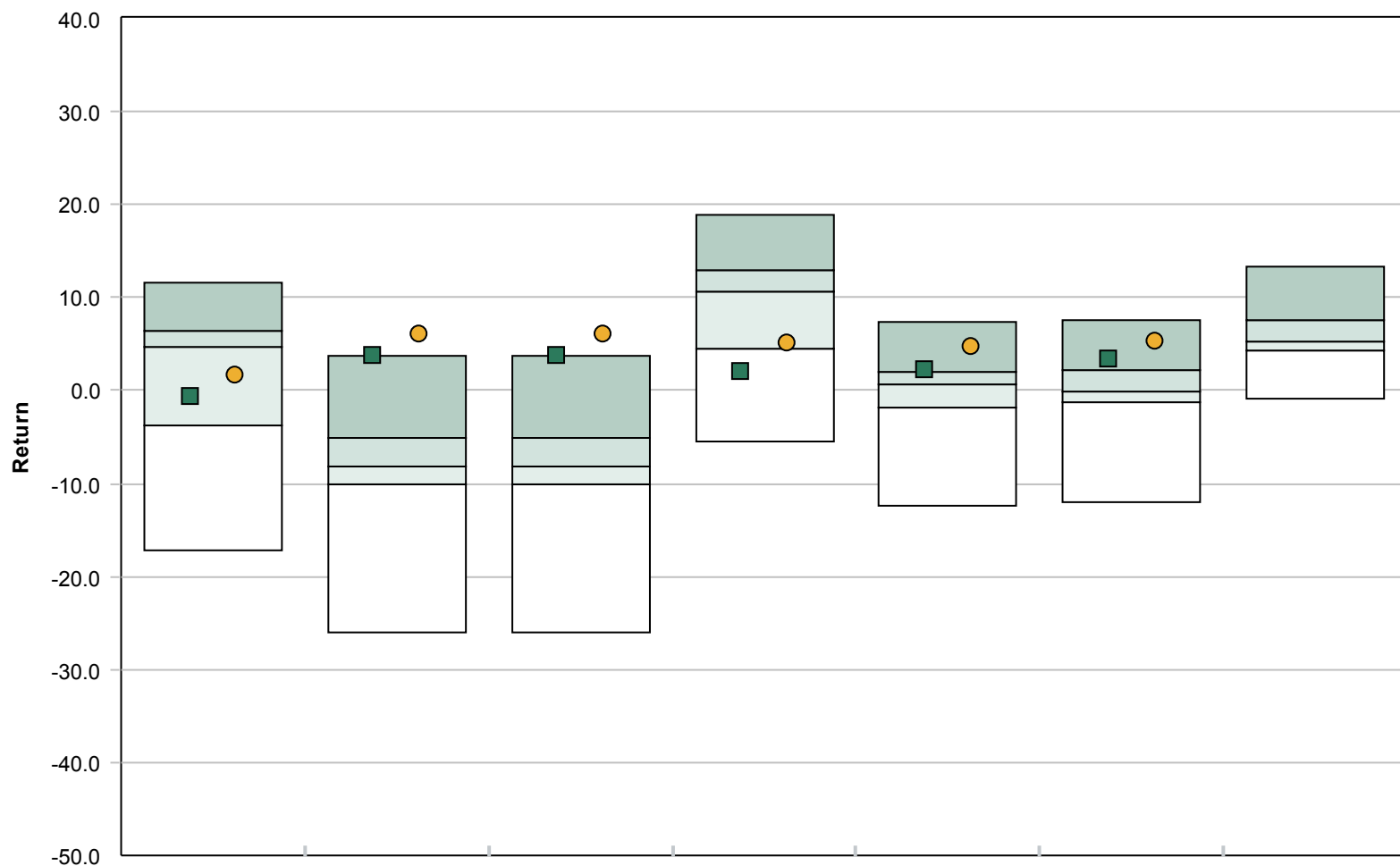
Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.



	2017	2016	2015	2014	2013	2012	2011
■ SSGA Tuckerman U.S. REIT Index	3.35 (93)	6.12 (78)	3.90 (72)	31.40 (56)	0.79 (88)	N/A	N/A
● FTSE NAREIT All REITs Index	9.27 (12)	9.28 (20)	2.29 (93)	27.15 (92)	3.21 (37)	20.14 (16)	7.27 (87)
5th Percentile	11.04	16.55	9.57	34.51	9.36	25.02	12.95
1st Quartile	8.10	9.02	6.01	32.99	3.70	18.83	11.21
Median	6.33	7.01	4.70	31.57	2.62	17.78	9.64
3rd Quartile	4.78	6.62	3.69	30.09	1.56	17.17	8.12
95th Percentile	2.23	4.69	1.01	23.72	-0.47	14.18	6.17

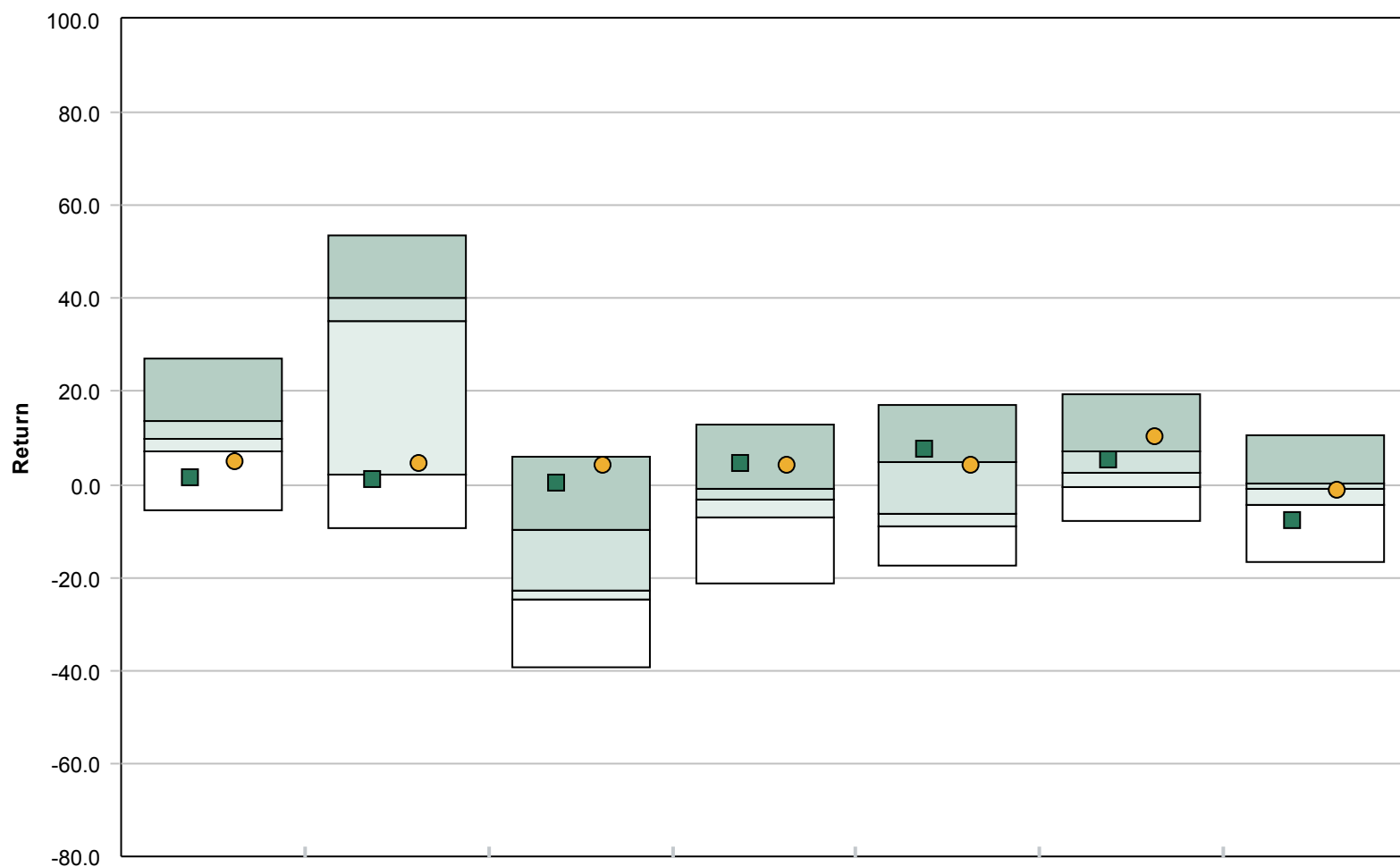
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Hedge Fund Composite



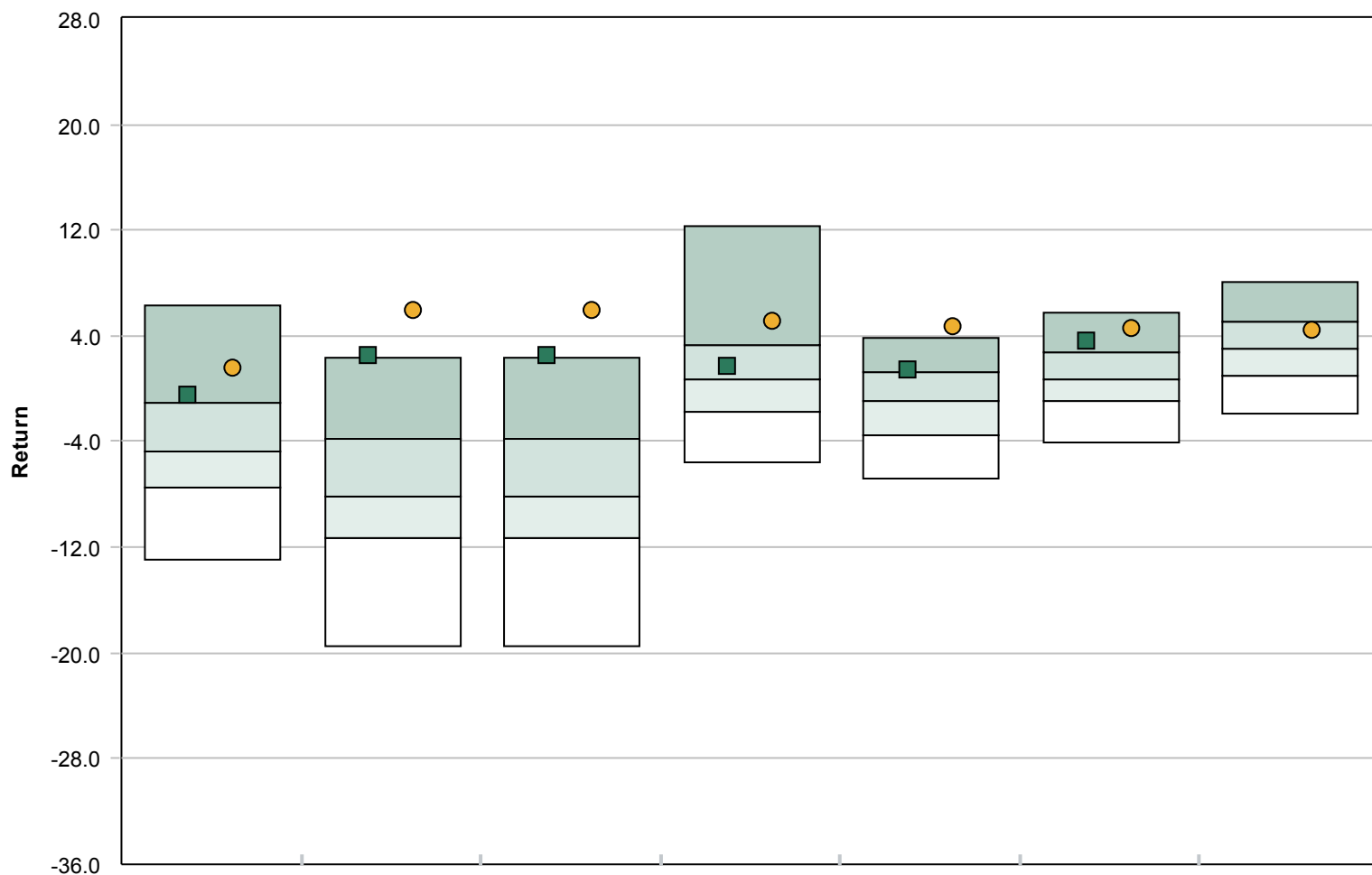
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Hedge Funds	-0.60 (68)	3.73 (5)	3.73 (5)	2.09 (81)	2.16 (24)	3.35 (17)	N/A
● IPS Hedge Fund Benchmark	1.55 (63)	5.95 (4)	5.95 (4)	5.04 (74)	4.63 (10)	5.32 (10)	N/A
5th Percentile	11.57	3.67	3.67	18.90	7.32	7.61	13.24
1st Quartile	6.36	-5.12	-5.12	12.85	2.01	2.11	7.57
Median	4.74	-8.14	-8.14	10.59	0.61	-0.01	5.32
3rd Quartile	-3.74	-10.03	-10.03	4.46	-1.78	-1.24	4.33
95th Percentile	-17.19	-25.93	-25.93	-5.53	-12.39	-12.02	-0.96

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



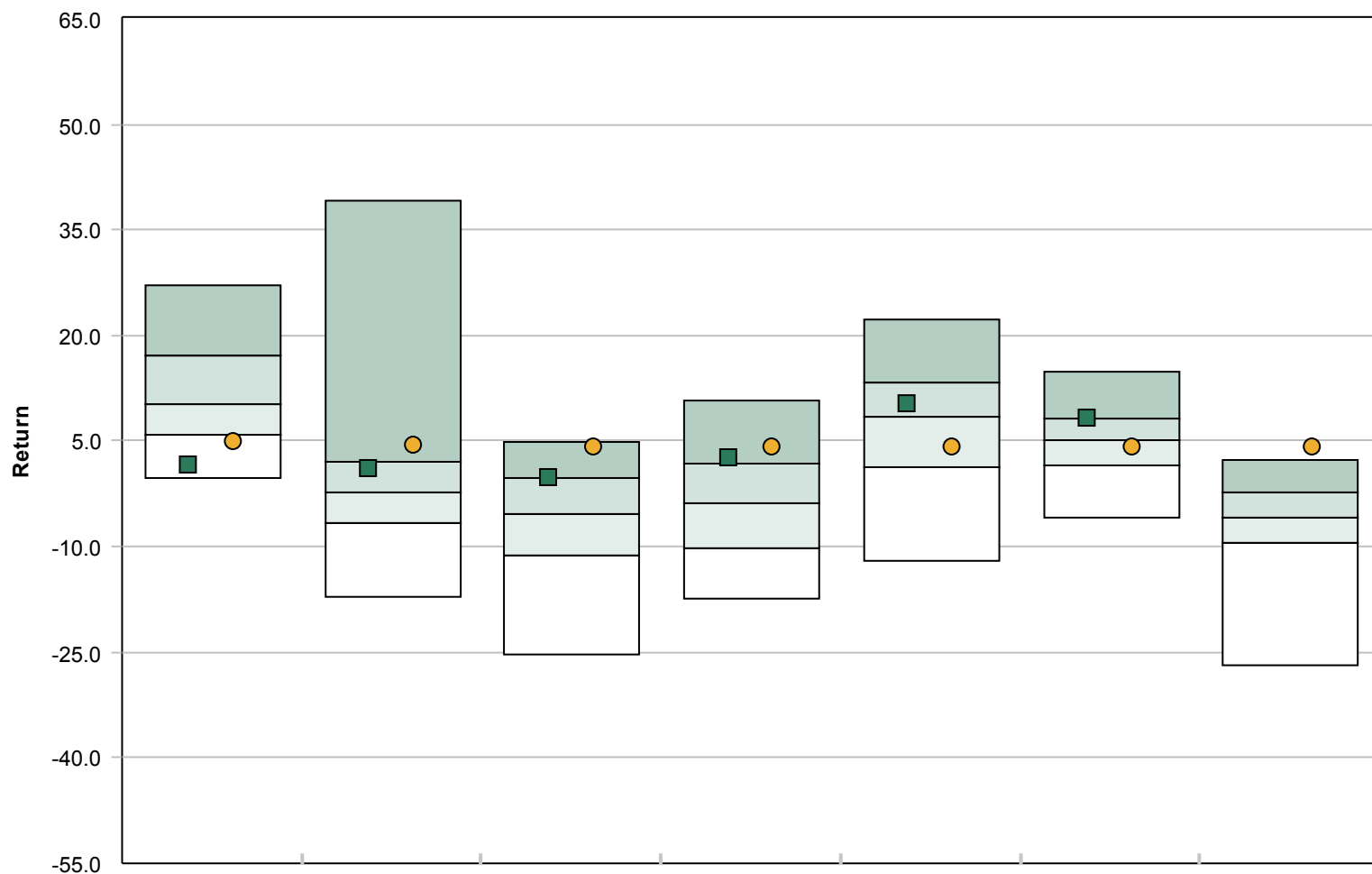
	2017	2016	2015	2014	2013	2012	2011
■ Total Hedge Funds	1.41 (91)	1.15 (77)	0.26 (11)	4.30 (13)	7.59 (22)	5.18 (34)	-7.83 (85)
● IPS Hedge Fund Benchmark	4.88 (83)	4.28 (73)	4.03 (6)	4.03 (13)	4.05 (26)	10.14 (17)	-1.50 (56)
5th Percentile	26.97	53.46	5.98	12.71	17.25	19.51	10.63
1st Quartile	13.63	40.08	-9.93	-0.78	4.65	7.29	0.24
Median	9.84	35.29	-22.62	-3.38	-6.25	2.52	-1.11
3rd Quartile	7.31	2.00	-24.87	-7.17	-8.82	-0.55	-4.23
95th Percentile	-5.35	-9.57	-39.20	-21.43	-17.46	-7.86	-16.54

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



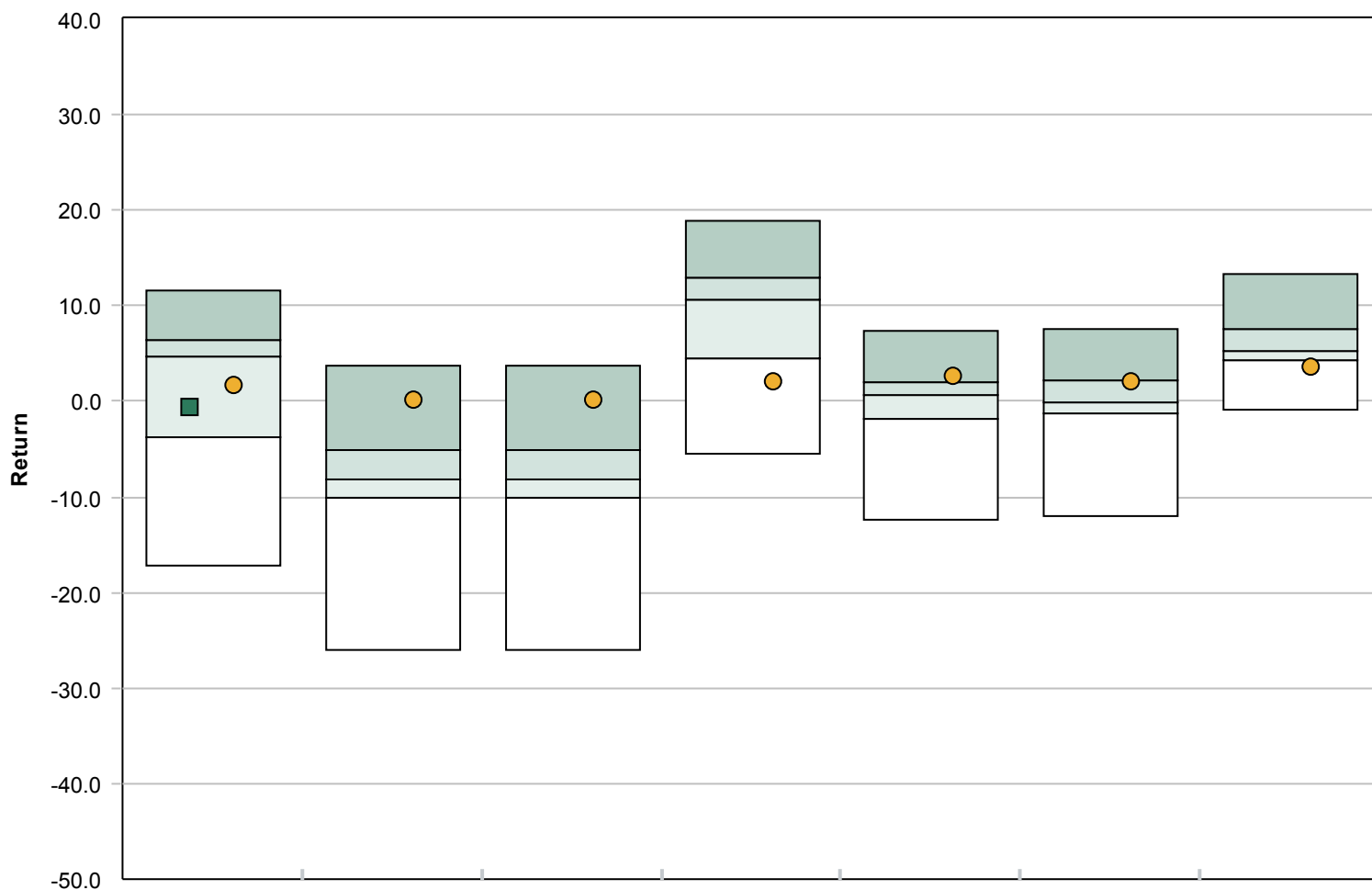
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Global Absolute Alpha Company	-0.51 (22)	2.42 (5)	2.42 (5)	1.61 (40)	1.43 (24)	3.59 (17)	N/A
90 Day T-Bills +4%	1.55 (16)	5.95 (2)	5.95 (2)	5.06 (18)	4.65 (4)	4.49 (10)	4.39 (35)
5th Percentile	6.36	2.29	2.29	12.37	3.80	5.77	8.09
1st Quartile	-1.12	-3.79	-3.79	3.26	1.23	2.76	5.12
Median	-4.73	-8.10	-8.10	0.69	-0.89	0.71	3.06
3rd Quartile	-7.50	-11.29	-11.29	-1.76	-3.56	-0.88	0.93
95th Percentile	-12.89	-19.54	-19.54	-5.63	-6.84	-4.00	-1.94

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	2017	2016	2015	2014	2013	2012	2011
■ Global Absolute Alpha Company	1.43 (93)	1.00 (30)	-0.16 (25)	2.49 (23)	10.23 (42)	8.19 (26)	N/A
● 90 Day T-Bills +4%	4.89 (81)	4.34 (19)	4.05 (7)	4.04 (16)	4.08 (67)	4.12 (59)	4.11 (4)
5th Percentile	27.22	39.26	4.95	10.85	22.15	14.73	2.30
1st Quartile	17.25	2.12	-0.27	1.91	13.38	8.24	-2.39
Median	10.22	-2.30	-5.49	-3.83	8.40	5.20	-5.75
3rd Quartile	6.02	-6.63	-11.15	-10.14	1.32	1.63	-9.50
95th Percentile	-0.34	-17.25	-25.21	-17.36	-12.14	-5.81	-26.74

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ PIMCO Tactical Opportunities Fund	-0.71 (68)	N/A	N/A	N/A	N/A	N/A	N/A
● Blmbg. Barc. U.S. Aggregate	1.64 (63)	0.01 (14)	0.01 (14)	2.06 (81)	2.52 (20)	2.10 (26)	3.48 (82)
5th Percentile	11.57	3.67	3.67	18.90	7.32	7.61	13.24
1st Quartile	6.36	-5.12	-5.12	12.85	2.01	2.11	7.57
Median	4.74	-8.14	-8.14	10.59	0.61	-0.01	5.32
3rd Quartile	-3.74	-10.03	-10.03	4.46	-1.78	-1.24	4.33
95th Percentile	-17.19	-25.93	-25.93	-5.53	-12.39	-12.02	-0.96

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Private Equity Composite

December 31, 2018

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed (\$000)	Total Contribution (\$000)	Total Distribution (\$000)	Market Value (\$000)	IRR (%)	TVPI Multiple	DPI Multiple	PIC Multiple	PME+
Pantheon Europe Fund IV LP	Fund Of Funds	2004	International Private Equity	5,172	4,836	5,822	548	4.87	1.32	1.20	0.94	8.01
Pantheon Global Secondary Fund II LP	Secondary	2004	Secondaries	5,000	4,750	5,595	112	4.38	1.20	1.18	0.95	6.10
Pantheon USA Fund VI LP	Fund Of Funds	2004	Hybrid	6,000	5,708	7,616	1,422	7.21	1.58	1.33	0.95	7.41
GS PEP 2004 Offshore	Fund Of Funds	2004	Buyouts	9,900	11,077	15,075	713	6.88	1.43	1.36	1.12	6.88
GS PEP 2005 Offshore	Fund Of Funds	2005	Hybrid	2,000	2,169	2,187	436	3.33	1.21	1.01	1.09	8.57
Pantheon Europe Fund VI LP	Fund Of Funds	2007	International Private Equity	6,481	5,714	6,116	2,718	9.20	1.55	1.07	0.88	13.43
Pantheon USA Fund VIII LP	Fund Of Funds	2007	Other	7,500	6,743	7,016	5,339	12.15	1.83	1.04	0.90	12.37
GS PEP Asia Offshore	Fund Of Funds	2007	Buyouts	1,000	892	1,078	297	9.77	1.54	1.21	0.89	12.26
GS PEP IX Offshore	Fund Of Funds	2007	Buyouts	1,000	1,037	1,328	265	9.16	1.54	1.28	1.04	12.16
GS Mezzanine V	Partnership	2007	Other	8,500	7,768	10,032	133	10.01	1.31	1.29	0.91	7.16
GS PEP X Offshore	Fund Of Funds	2008	Buyouts	3,000	2,920	3,511	1,251	11.80	1.63	1.20	0.97	13.34
GS Vintage V Offshore	Secondary	2008	Secondaries	4,500	3,969	5,900	586	13.20	1.63	1.49	0.88	14.34
Pantheon Global Secondary Fund IV LP	Secondary	2010	Secondaries	5,000	3,320	4,080	1,114	13.66	1.57	1.23	0.66	14.16
Commonfund International Partners VII	Fund Of Funds	2011	Buyouts	3,000	2,613	1,164	2,313	8.01	1.33	0.45	0.87	11.67
Commonfund Natural Resources Partners IX	Fund Of Funds	2011	Energy & Natural Resources	10,000	8,555	1,421	9,602	8.76	1.29	0.17	0.86	8.62
Commonfund Venture Partners X	Fund Of Funds	2012	Venture Capital	5,000	4,550	921	7,250	17.48	1.80	0.20	0.91	8.06
Pantheon Emerging Asia Fund VI LP	Fund Of Funds	2012	International Private Equity	2,000	1,688	40	2,316	10.74	1.40	0.02	0.84	8.69
Pantheon Global Co-Investment Opps II	Co-Investment	2012	International Private Equity	1,000	923	621	990	15.39	1.75	0.67	0.92	10.02
Highbridge Offshore Mezzanine Partners II LP	Direct	2012	Mezzanine	5,000	4,788	5,150	2,021	17.15	1.55	1.11	0.92	10.25
Commonfund Private Equity Partners VIII	Fund Of Funds	2012	Buyouts	2,000	1,525	774	1,665	16.01	1.60	0.51	0.76	9.16
GS Vintage VI Offshore	Secondary	2012	Secondaries	5,000	4,330	3,667	2,021	12.28	1.31	0.85	0.87	10.58
GS GEM PEM Off	Fund Of Funds	2012	Buyouts	2,500	2,585	616	2,309	4.28	1.13	0.24	1.03	9.28
Commonfund Emerging Markets Partners 2013	Fund Of Funds	2013	International Private Equity	5,000	3,913	532	5,061	14.41	1.43	0.14	0.78	7.21
Highbridge Irish Specialty Loan Fund III	Direct	2013	Other	3,000	3,660	3,381	931	6.27	1.18	0.92	1.22	9.97
Pantheon Global Infrastructure Fund II	Secondary	2013	Infrastructure	2,000	1,580	402	1,679	13.48	1.32	0.25	0.79	7.39
JP Morgan Asian I&R Res Opp Fund II	Other	2013	Infrastructure	930	996	64	581	-11.21	0.64	0.06	1.07	7.17
GS Broad Street Real Estate Credit Partners II GP, L.L.C.	Partnership	2013	Real Estate	3,000	3,384	3,469	407	10.45	1.15	1.03	1.13	9.22
Pantheon Global Secondary Fund V	Secondary	2014	Secondaries	7,000	3,771	998	5,110	25.01	1.62	0.27	0.54	5.28
Commonfund Private Equity Partners IX	Fund Of Funds	2014	Buyouts	2,000	1,340	343	1,496	18.21	1.37	0.26	0.67	6.74
Commonfund International Partners VIII	Fund Of Funds	2014	Buyouts	3,000	1,583	246	1,569	8.54	1.15	0.16	0.53	7.00
Commonfund Natural Resources Partners X	Fund Of Funds	2014	Energy & Natural Resources	9,500	5,225	1,081	5,874	31.27	1.33	0.21	0.55	1.38
Commonfund Venture Partners XI	Fund Of Funds	2015	Venture Capital	4,750	3,337	167	4,456	21.85	1.39	0.05	0.70	3.73
GS Broad Street Senior Credit Partners	Partnership	2015	Other	2,500	2,050	1,052	1,184	8.74	1.09	0.51	0.82	6.30
Highbridge European Asset Value Offshore	Direct	2016	Other	3,000	2,411	267	2,400	8.19	1.12	0.11	0.80	2.53
GS Vintage VII Offshore	Secondary	2016	Secondaries	4,921	2,973	563	3,023	34.15	1.21	0.19	0.60	-5.15
GS Co-Investment Partners II Offshore	Co-Investment	2018	Buyouts	8,000	262	-	244	-6.75	0.93	0.00	0.03	-6.75
Total Private Equity	Total Fund		Hybrid	159,154	128,944	102,292	79,436	9.45	1.41	0.79	0.81	9.10

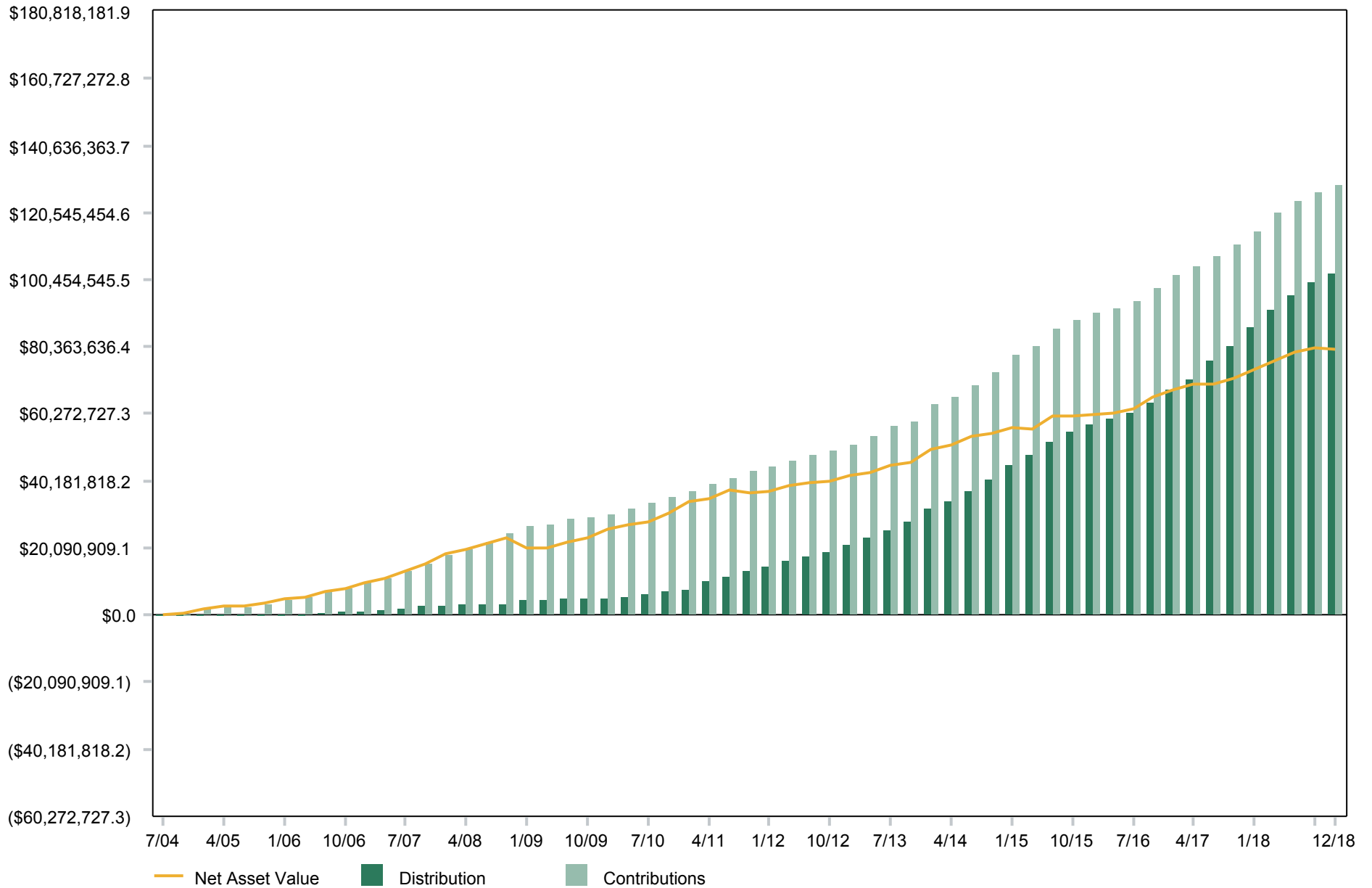
Cash Flow Summary

Capital Committed: \$159,153,673
Total Contributions: \$128,943,911
Remaining Capital Commitment: \$35,509,314

Total Distributions: \$102,292,037
Market Value: \$79,436,265

Inception Date: 07/20/2004
Inception IRR: 9.45
TVPI: 1.41

Cash Flow Analysis



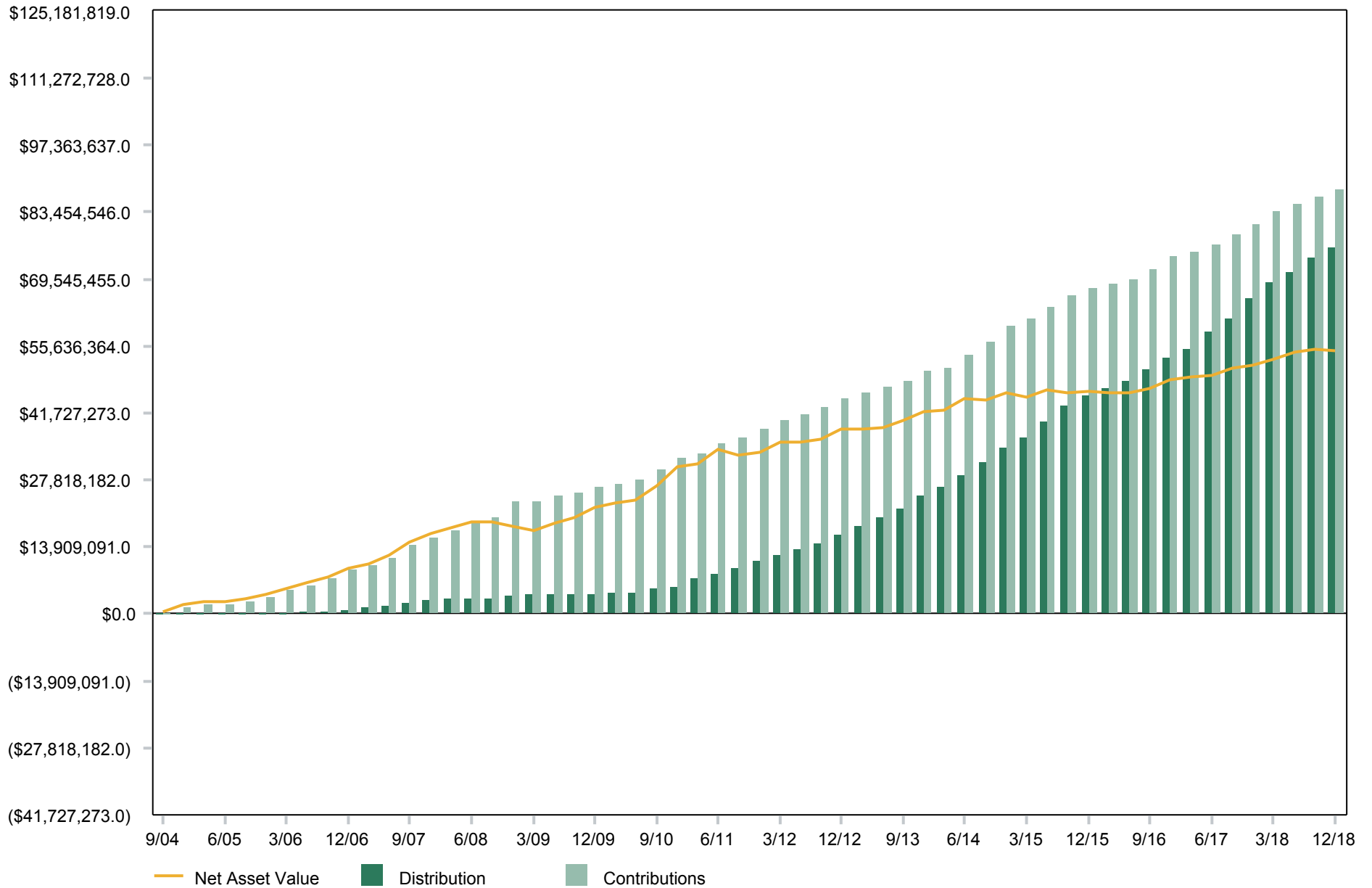
December 31, 2018

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed (\$000)	Total Contribution (\$000)	Total Distribution (\$000)	Market Value (\$000)	IRR (%)	TVPI Multiple	DPI Multiple	PIC Multiple	PME+
Pantheon Europe Fund IV LP	Fund Of Funds	2004	International Private Equity	5,172	4,836	5,822	548	4.87	1.32	1.20	0.94	8.01
Pantheon Global Secondary Fund II LP	Secondary	2004	Secondaries	5,000	4,750	5,595	112	4.38	1.20	1.18	0.95	6.10
Pantheon USA Fund VI LP	Fund Of Funds	2004	Hybrid	6,000	5,708	7,616	1,422	7.21	1.58	1.33	0.95	7.41
GS PEP 2004 Offshore	Fund Of Funds	2004	Buyouts	9,900	11,077	15,075	713	6.88	1.43	1.36	1.12	6.88
GS PEP 2005 Offshore	Fund Of Funds	2005	Hybrid	2,000	2,169	2,187	436	3.33	1.21	1.01	1.09	8.57
Pantheon Europe Fund VI LP	Fund Of Funds	2007	International Private Equity	6,481	5,714	6,116	2,718	9.20	1.55	1.07	0.88	13.43
Pantheon USA Fund VIII LP	Fund Of Funds	2007	Other	7,500	6,743	7,016	5,339	12.15	1.83	1.04	0.90	12.37
GS PEP Asia Offshore	Fund Of Funds	2007	Buyouts	1,000	892	1,078	297	9.77	1.54	1.21	0.89	12.26
GS PEP IX Offshore	Fund Of Funds	2007	Buyouts	1,000	1,037	1,328	265	9.16	1.54	1.28	1.04	12.16
GS PEP X Offshore	Fund Of Funds	2008	Buyouts	3,000	2,920	3,511	1,251	11.80	1.63	1.20	0.97	13.34
GS Vintage V Offshore	Secondary	2008	Secondaries	4,500	3,969	5,900	586	13.20	1.63	1.49	0.88	14.34
Pantheon Global Secondary Fund IV LP	Secondary	2010	Secondaries	5,000	3,320	4,080	1,114	13.66	1.57	1.23	0.66	14.16
Commonfund International Partners VII	Fund Of Funds	2011	Buyouts	3,000	2,613	1,164	2,313	8.01	1.33	0.45	0.87	11.67
Commonfund Venture Partners X	Fund Of Funds	2012	Venture Capital	5,000	4,550	921	7,250	17.48	1.80	0.20	0.91	8.06
Pantheon Emerging Asia Fund VI LP	Fund Of Funds	2012	International Private Equity	2,000	1,688	40	2,316	10.74	1.40	0.02	0.84	8.69
Pantheon Global Co-Investment Opps II	Co-Investment	2012	International Private Equity	1,000	923	621	990	15.39	1.75	0.67	0.92	10.02
Commonfund Private Equity Partners VIII	Fund Of Funds	2012	Buyouts	2,000	1,525	774	1,665	16.01	1.60	0.51	0.76	9.16
GS Vintage VI Offshore	Secondary	2012	Secondaries	5,000	4,330	3,667	2,021	12.28	1.31	0.85	0.87	10.58
GS GEM PEM Off	Fund Of Funds	2012	Buyouts	2,500	2,585	616	2,309	4.28	1.13	0.24	1.03	9.28
Commonfund Emerging Markets Partners 2013	Fund Of Funds	2013	International Private Equity	5,000	3,913	532	5,061	14.41	1.43	0.14	0.78	7.21
Pantheon Global Secondary Fund V	Secondary	2014	Secondaries	7,000	3,771	998	5,110	25.01	1.62	0.27	0.54	5.28
Commonfund Private Equity Partners IX	Fund Of Funds	2014	Buyouts	2,000	1,340	343	1,496	18.21	1.37	0.26	0.67	6.74
Commonfund International Partners VIII	Fund Of Funds	2014	Buyouts	3,000	1,583	246	1,569	8.54	1.15	0.16	0.53	7.00
Commonfund Venture Partners XI	Fund Of Funds	2015	Venture Capital	4,750	3,337	167	4,456	21.85	1.39	0.05	0.70	3.73
GS Vintage VII Offshore	Secondary	2016	Secondaries	4,921	2,973	563	3,023	34.15	1.21	0.19	0.60	-5.15
GS Co-Investment Partners II Offshore	Co-Investment	2018	Buyouts	8,000	262	-	244	-6.75	0.93	0.00	0.03	-6.75
Total Diversified Composite	Total Fund		Hybrid	111,724	88,526	75,973	54,624	9.36	1.48	0.86	0.79	9.33

Cash Flow Summary

Capital Committed:	\$111,724,173
Total Contributions:	\$88,526,391
Remaining Capital Commitment:	\$26,607,353
Total Distributions:	\$75,972,962
Market Value:	\$54,624,467
Inception Date:	08/31/2004
Inception IRR:	9.36
TVPI:	1.48

Cash Flow Analysis



December 31, 2018

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed (\$000)	Total Contribution (\$000)	Total Distribution (\$000)	Market Value (\$000)	IRR (%)	TVPI Multiple	DPI Multiple	PIC Multiple	PME+
Pantheon Europe Fund IV LP	Fund Of Funds	2004	International Private Equity	5,172	4,836	5,822	548	4.87	1.32	1.20	0.94	8.01
Pantheon USA Fund VI LP	Fund Of Funds	2004	Hybrid	6,000	5,708	7,616	1,422	7.21	1.58	1.33	0.95	7.41
GS PEP 2004 Offshore	Fund Of Funds	2004	Buyouts	9,900	11,077	15,075	713	6.88	1.43	1.36	1.12	6.88
GS PEP 2005 Offshore	Fund Of Funds	2005	Hybrid	2,000	2,169	2,187	436	3.33	1.21	1.01	1.09	8.57
Pantheon Europe Fund VI LP	Fund Of Funds	2007	International Private Equity	6,481	5,714	6,116	2,718	9.20	1.55	1.07	0.88	13.43
Pantheon USA Fund VIII LP	Fund Of Funds	2007	Other	7,500	6,743	7,016	5,339	12.15	1.83	1.04	0.90	12.37
GS PEP Asia Offshore	Fund Of Funds	2007	Buyouts	1,000	892	1,078	297	9.77	1.54	1.21	0.89	12.26
GS PEP IX Offshore	Fund Of Funds	2007	Buyouts	1,000	1,037	1,328	265	9.16	1.54	1.28	1.04	12.16
GS PEP X Offshore	Fund Of Funds	2008	Buyouts	3,000	2,920	3,511	1,251	11.80	1.63	1.20	0.97	13.34
Commonfund International Partners VII	Fund Of Funds	2011	Buyouts	3,000	2,613	1,164	2,313	8.01	1.33	0.45	0.87	11.67
Commonfund Venture Partners X	Fund Of Funds	2012	Venture Capital	5,000	4,550	921	7,250	17.48	1.80	0.20	0.91	8.06
Pantheon Emerging Asia Fund VI LP	Fund Of Funds	2012	International Private Equity	2,000	1,688	40	2,316	10.74	1.40	0.02	0.84	8.69
Commonfund Private Equity Partners VIII	Fund Of Funds	2012	Buyouts	2,000	1,525	774	1,665	16.01	1.60	0.51	0.76	9.16
GS GEM PEM Off	Fund Of Funds	2012	Buyouts	2,500	2,585	616	2,309	4.28	1.13	0.24	1.03	9.28
Commonfund Emerging Markets Partners 2013	Fund Of Funds	2013	International Private Equity	5,000	3,913	532	5,061	14.41	1.43	0.14	0.78	7.21
Commonfund Private Equity Partners IX	Fund Of Funds	2014	Buyouts	2,000	1,340	343	1,496	18.21	1.37	0.26	0.67	6.74
Commonfund International Partners VIII	Fund Of Funds	2014	Buyouts	3,000	1,583	246	1,569	8.54	1.15	0.16	0.53	7.00
Commonfund Venture Partners XI	Fund Of Funds	2015	Venture Capital	4,750	3,337	167	4,456	21.85	1.39	0.05	0.70	3.73
Total Fund of Funds Composite	Total Fund		Hybrid	75,803	68,198	60,449	41,423	8.81	1.49	0.89	0.90	9.19

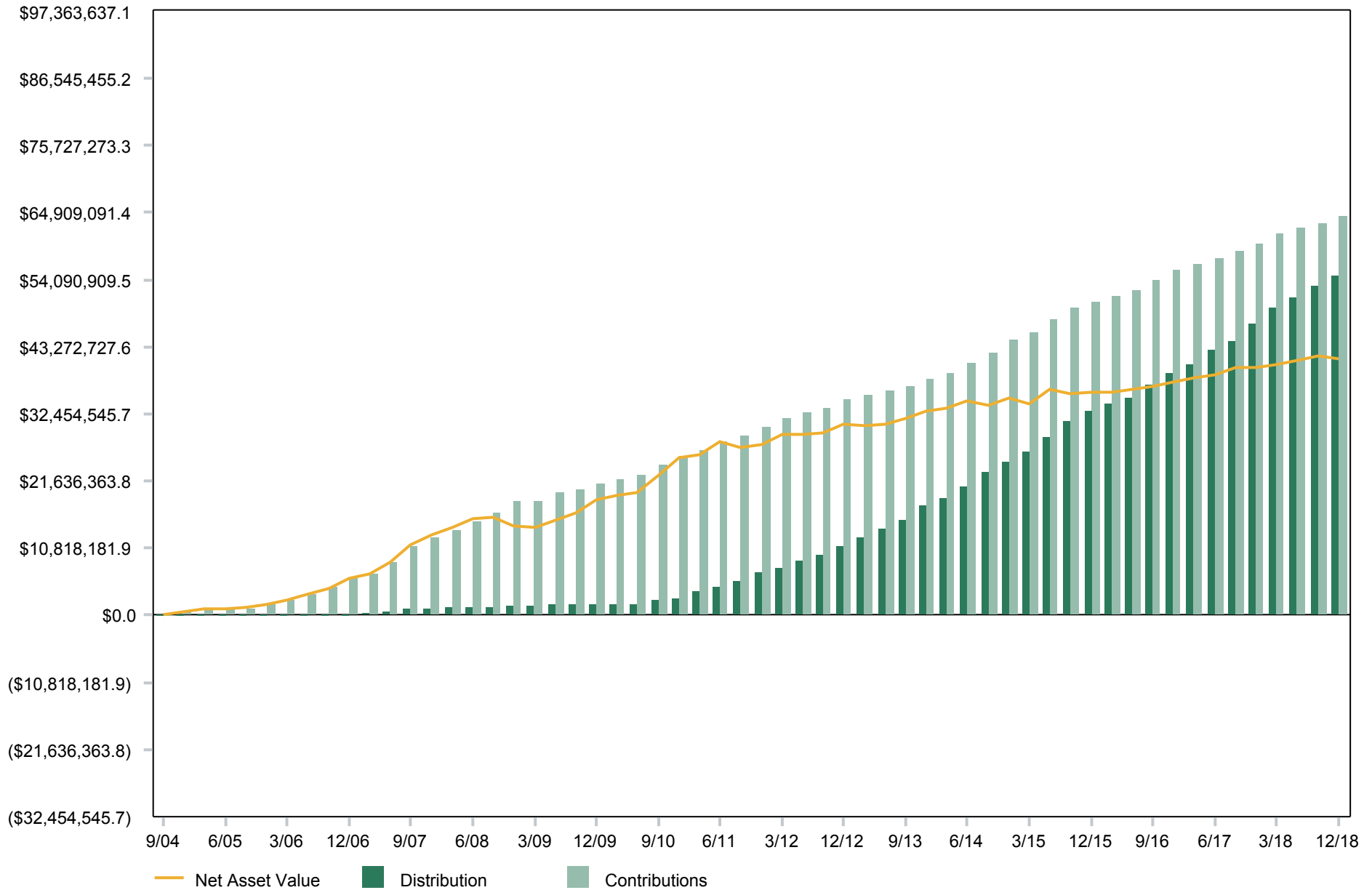
Cash Flow Summary

Capital Committed: \$75,803,417
Total Contributions: \$68,198,089
Remaining Capital Commitment: \$10,512,184

Total Distributions: \$60,449,263
Market Value: \$41,423,238

Inception Date: 08/31/2004
Inception IRR: 8.81
TVPI: 1.49

Cash Flow Analysis



December 31, 2018

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed (\$000)	Total Contribution (\$000)	Total Distribution (\$000)	Market Value (\$000)	IRR (%)	TVPI Multiple	DPI Multiple	PIC Multiple	PME+
Pantheon Global Secondary Fund II LP	Secondary	2004	Secondaries	5,000	4,750	5,595	112	4.38	1.20	1.18	0.95	6.10
GS Vintage V Offshore	Secondary	2008	Secondaries	4,500	3,969	5,900	586	13.20	1.63	1.49	0.88	14.34
Pantheon Global Secondary Fund IV LP	Secondary	2010	Secondaries	5,000	3,320	4,080	1,114	13.66	1.57	1.23	0.66	14.16
Pantheon Global Co-Investment Opps II	Co-Investment	2012	International Private Equity	1,000	923	621	990	15.39	1.75	0.67	0.92	10.02
GS Vintage VI Offshore	Secondary	2012	Secondaries	5,000	4,330	3,667	2,021	12.28	1.31	0.85	0.87	10.58
Pantheon Global Secondary Fund V	Secondary	2014	Secondaries	7,000	3,771	998	5,110	25.01	1.62	0.27	0.54	5.28
GS Vintage VII Offshore	Secondary	2016	Secondaries	4,921	2,973	563	3,023	34.15	1.21	0.19	0.60	-5.15
GS Co-Investment Partners II Offshore	Co-Investment	2018	Buyouts	8,000	262	-	244	-6.75	0.93	0.00	0.03	-6.75
Total Multi-Strategy Composite	Total Fund		Hybrid	45,421	28,847	22,345	13,201	11.40	1.23	0.78	0.64	9.82

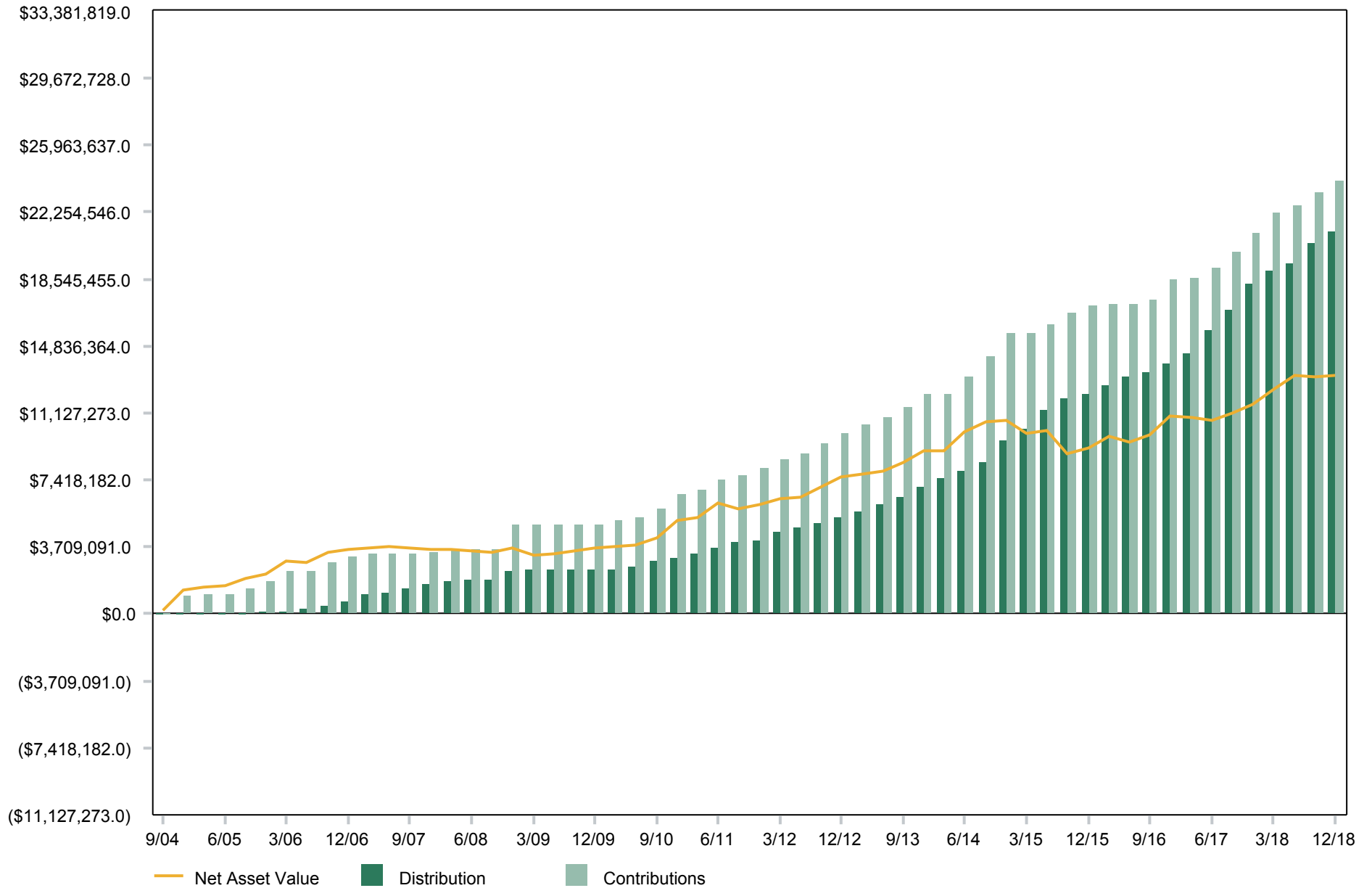
Cash Flow Summary

Capital Committed: \$45,420,756
Total Contributions: \$28,847,468
Remaining Capital Commitment: \$17,754,138

Total Distributions: \$22,344,510
Market Value: \$13,201,229

Inception Date: 08/31/2004
Inception IRR: 11.40
TVPI: 1.23

Cash Flow Analysis



December 31, 2018

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed (\$000)	Total Contribution (\$000)	Total Distribution (\$000)	Market Value (\$000)	IRR (%)	TVPI Multiple	DPI Multiple	PIC Multiple	PME+
GS Mezzanine V	Partnership	2007	Other	8,500	7,768	10,032	133	10.01	1.31	1.29	0.91	7.16
Highbridge Offshore Mezzanine Partners II LP	Direct	2012	Mezzanine	5,000	4,788	5,150	2,021	17.15	1.55	1.11	0.92	10.25
Highbridge Irish Specialty Loan Fund III	Direct	2013	Other	3,000	3,660	3,381	931	6.27	1.18	0.92	1.22	9.97
GS Broad Street Senior Credit Partners	Partnership	2015	Other	2,500	2,050	1,052	1,184	8.74	1.09	0.51	0.82	6.30
Highbridge European Asset Value Offshore	Direct	2016	Other	3,000	2,411	267	2,400	8.19	1.12	0.11	0.80	2.53
Total Private Debt Compsite	Total Fund		Hybrid	22,000	20,678	19,881	6,669	10.79	1.30	0.97	0.93	8.12

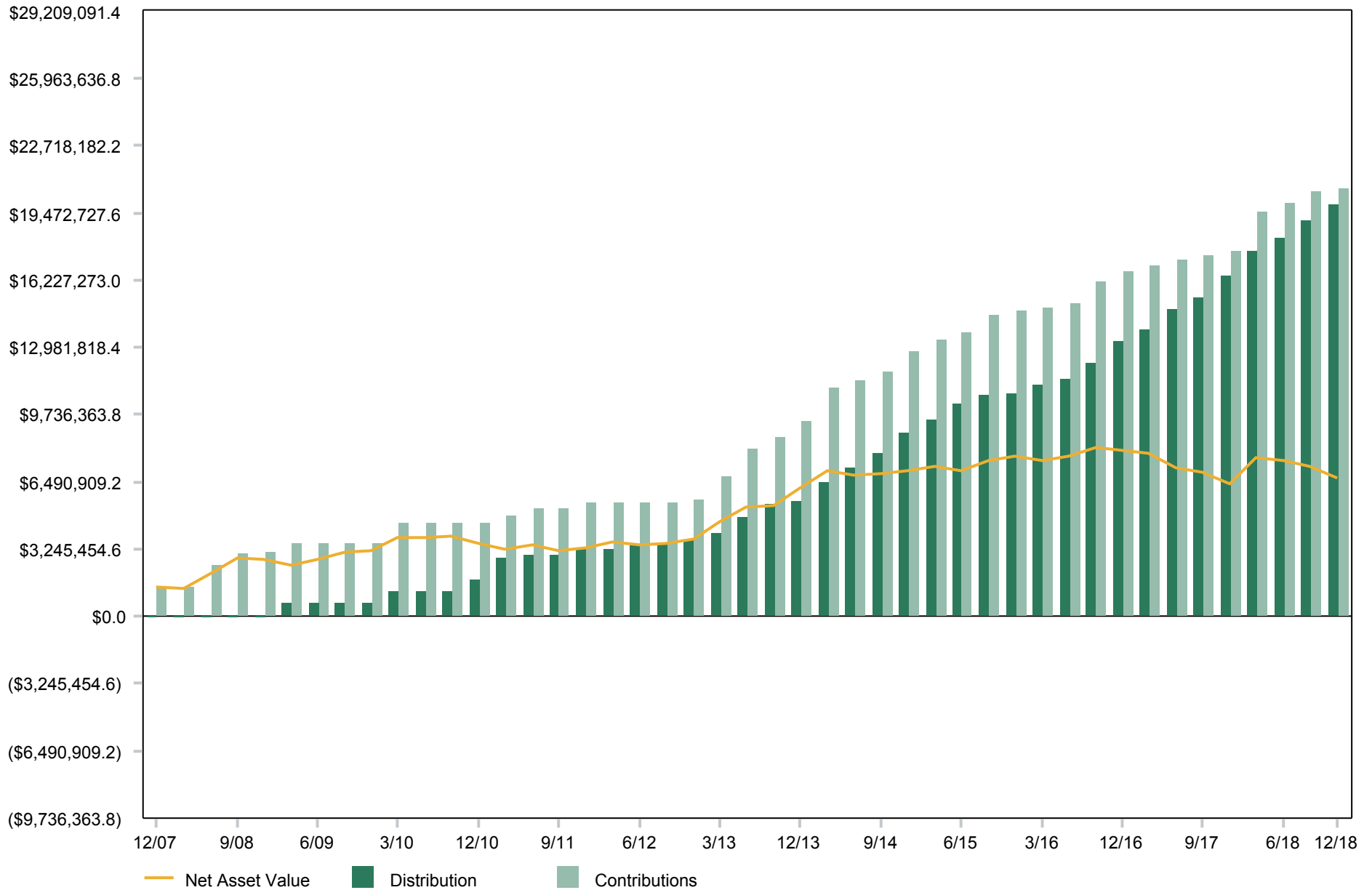
Cash Flow Summary

Capital Committed: \$22,000,000
Total Contributions: \$20,678,253
Remaining Capital Commitment: \$3,153,351

Total Distributions: \$19,881,320
Market Value: \$6,668,870

Inception Date: 11/30/2007
Inception IRR: 10.79
TVPI: 1.30

Cash Flow Analysis



December 31, 2018

Partnerships	Investment Type	Vintage Year	Investment Strategy	Capital Committed (\$000)	Total Contribution (\$000)	Total Distribution (\$000)	Market Value (\$000)	IRR (%)	TVPI Multiple	DPI Multiple	PIC Multiple	PME+
Commonfund Natural Resources Partners IX	Fund Of Funds	2011	Energy & Natural Resources	10,000	8,555	1,421	9,602	8.76	1.29	0.17	0.86	8.62
Pantheon Global Infrastructure Fund II	Secondary	2013	Infrastructure	2,000	1,580	402	1,679	13.48	1.32	0.25	0.79	7.39
JP Morgan Asian I&R Res Opp Fund II	Other	2013	Infrastructure	930	996	64	581	-11.21	0.64	0.06	1.07	7.17
GS Broad Street Real Estate Credit Partners II GP, L.L.C.	Partnership	2013	Real Estate	3,000	3,384	3,469	407	10.45	1.15	1.03	1.13	9.22
Commonfund Natural Resources Partners X	Fund Of Funds	2014	Energy & Natural Resources	9,500	5,225	1,081	5,874	31.27	1.33	0.21	0.55	1.38
Total Private Real Assets Composite	Total Fund		Hybrid	25,430	19,739	6,438	18,143	10.37	1.25	0.33	0.78	7.64

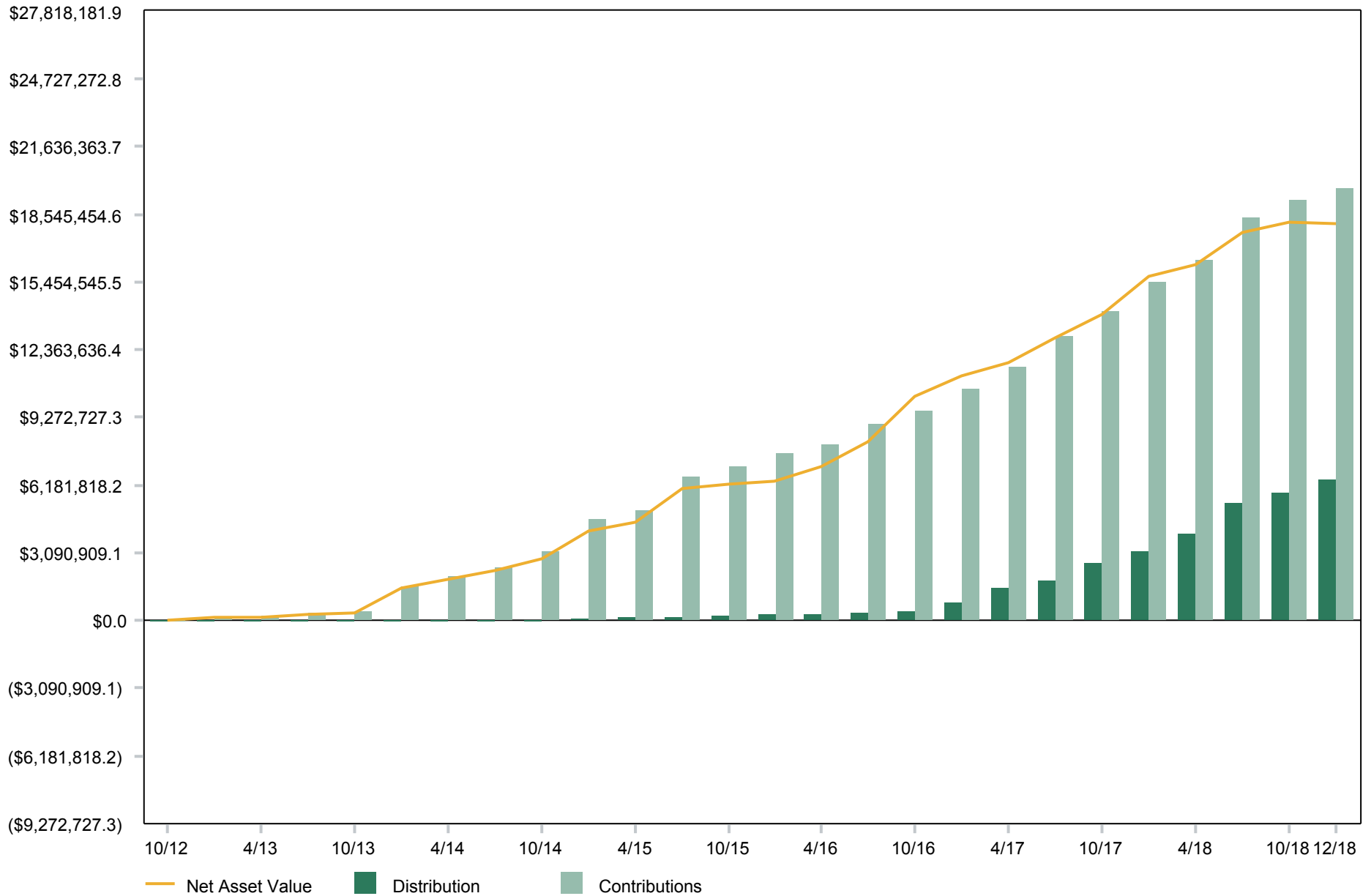
Cash Flow Summary

Capital Committed: \$25,429,500
Total Contributions: \$19,739,267
Remaining Capital Commitment: \$5,748,610

Total Distributions: \$6,437,755
Market Value: \$18,142,929

Inception Date: 10/22/2012
Inception IRR: 10.37
TVPI: 1.25

Cash Flow Analysis



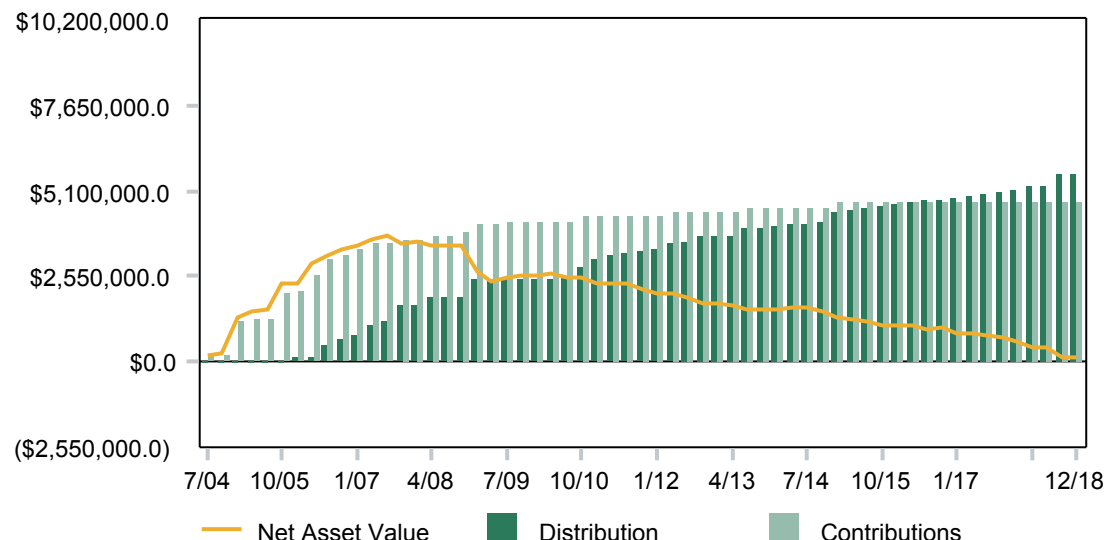
Fund Information

Type of Fund:	Secondary	Vintage Year:	2004
Strategy Type:	Secondaries	Management Fee:	1% years 1-7; 0.90% thereafter. Attenuation start date: 01/01/2012
Size of Fund:	232,100,000	Preferred Return:	8%
Inception:	07/15/2004	General Partner:	Pantheon Global Secondary Fund II, L.P, a newly formed Delaware limited partners
Final Close:	07/15/2004		
Investment Strategy:	PGSF II was created to purchase secondary interests in existing portfolios of private equity funds. Fund II's objective is to generate attractive, risk-adjusted returns for investors. Fund II will generally acquire private equity assets in leveraged buyout, venture capital, and mezzanine funds, as well as direct portfolios of private equity assets.		

Cash Flow Summary

Capital Committed:	\$5,000,000
Total Contributions:	\$4,750,000
Remaining Capital Commitment:	\$250,000
Total Distributions:	\$5,595,000
Market Value:	\$111,903
Inception Date:	07/26/2004
Inception IRR:	4.38
TVPI:	1.20
PME+:	6.10

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

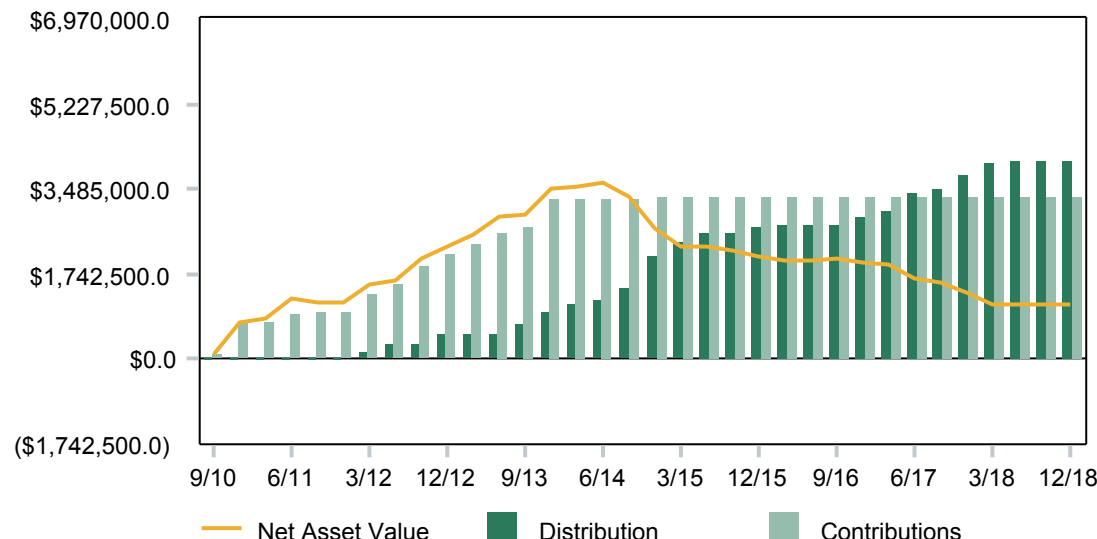
Fund Information

Type of Fund:	Secondary	Vintage Year:	2010
Strategy Type:	Secondaries	Management Fee:	1% years 1-5; 0.90% thereafter. Attenuation start date: 01/01/2016
Size of Fund:	2,156,500,000	Preferred Return:	8%
Inception:	11/21/2008	General Partner:	PGSF IV GP, LLC a Delaware limited liability company
Final Close:	07/30/2010		
Investment Strategy:	Pantheon's investment strategy is to invest in a diversified portfolio of appropriately priced, high quality private equity assets. Pantheon has substantial experience investing through several economic and private equity cycles, and as a disciplined investor, has been able to mitigate risk and produce strong performance on a consistent basis. Pantheon takes a strategic and global approach to origination through the execution of privately negotiated transactions in the secondary market. This includes, but is not limited to: interests in private equity funds, portfolios of direct company assets, hybrid/mixed fund and direct portfolios.		

Cash Flow Summary

Capital Committed:	\$5,000,000
Total Contributions:	\$3,320,000
Remaining Capital Commitment:	\$1,680,000
Total Distributions:	\$4,080,001
Market Value:	\$1,114,282
Inception Date:	08/20/2010
Inception IRR:	13.66
TVPI:	1.57
PME+:	14.16

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

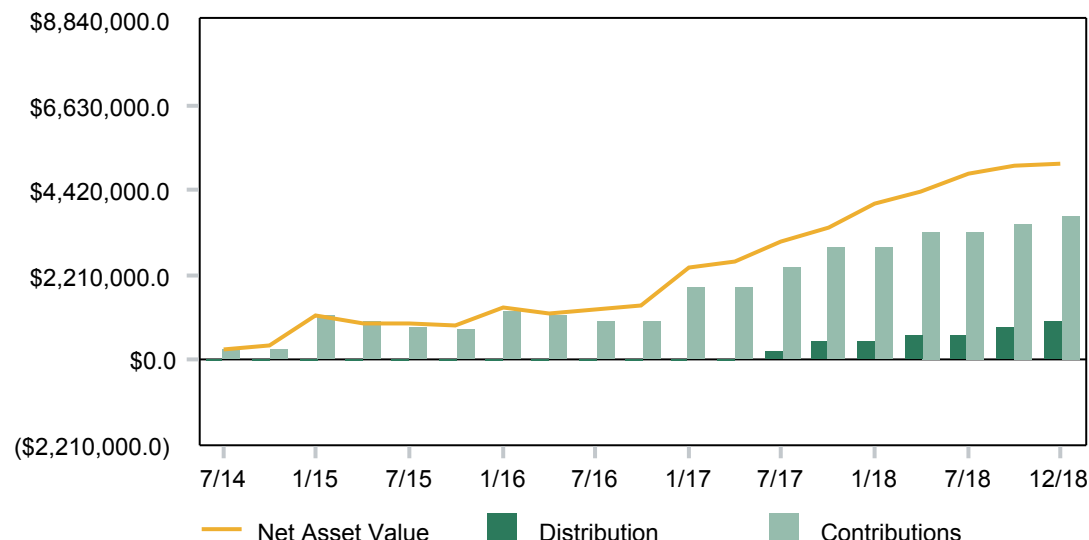
Fund Information

Type of Fund:	Secondary	Vintage Year:	2014
Strategy Type:	Secondaries	Management Fee:	Fund management fee: 1%, OHA fee: 0.95% years 1-5; 0.855% thereafter. Attenuation start date: 01/01/2020. Fee starts 03/31/2014
Size of Fund:	2,111,300,000	Preferred Return:	8%
Inception:	06/30/2014	General Partner:	PGSF V GP, LLC, a Delaware limited liability company
Final Close:	03/31/2016		
Investment Strategy:	PGSF V's objective is to generate superior returns for its investors by investing in private equity assets and pools of capital with private equity-like characteristics. The fund will aim to achieve this by investing in a diversified global portfolio of appropriately priced, mature and high-quality private equity assets. PGSF V will continue to refine and implement the investment strategy which has been successfully delivered in PGSF IV. The opportunity set includes, but is not limited to: interests in private equity funds, portfolios of direct company assets, GP co-investment portfolios, hybrid/mixed fund and direct portfolios, and GP recaps and team spin-outs.		

Cash Flow Summary

Capital Committed:	\$7,000,000
Total Contributions:	\$3,771,061
Remaining Capital Commitment:	\$3,228,939
Total Distributions:	\$997,500
Market Value:	\$5,110,401
Inception Date:	07/29/2014
Inception IRR:	25.01
TVPI:	1.62
PME+:	5.28

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

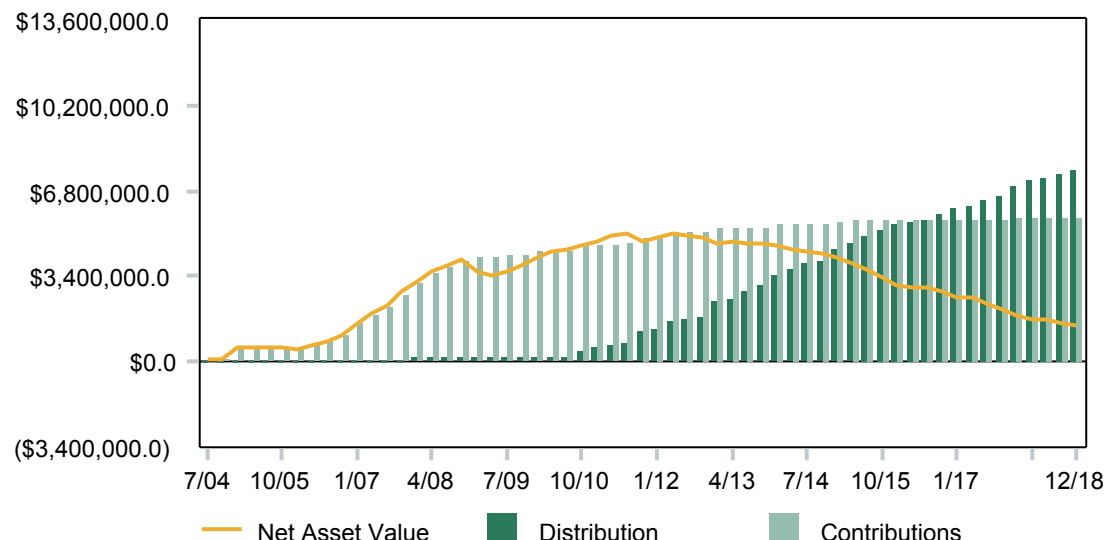
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2004
Strategy Type:	Hybrid	Management Fee:	0.65% years 1-10; 0.585% thereafter. Attenuation start date: 01/01/2015
Size of Fund:	1,941,300,000	Preferred Return:	10%
Inception:	07/12/2004	General Partner:	PUSA VI GP, LLC a Delaware limited liability company
Final Close:	September 2, 2005		
Investment Strategy:	Pantheon's investment strategy is designed to generate superior investment returns by creating a balanced and diversified portfolio of high quality private equity funds. Pantheon believes that asset allocation, diversification, and manager selection are critical factors in constructing superior, risk-adjusted private equity portfolios.		

Cash Flow Summary

Capital Committed:	\$6,000,000
Total Contributions:	\$5,707,500
Remaining Capital Commitment:	\$292,500
Total Distributions:	\$7,616,371
Market Value:	\$1,422,021
Inception Date:	07/20/2004
Inception IRR:	7.21
TVPI:	1.58
PME+:	7.41

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

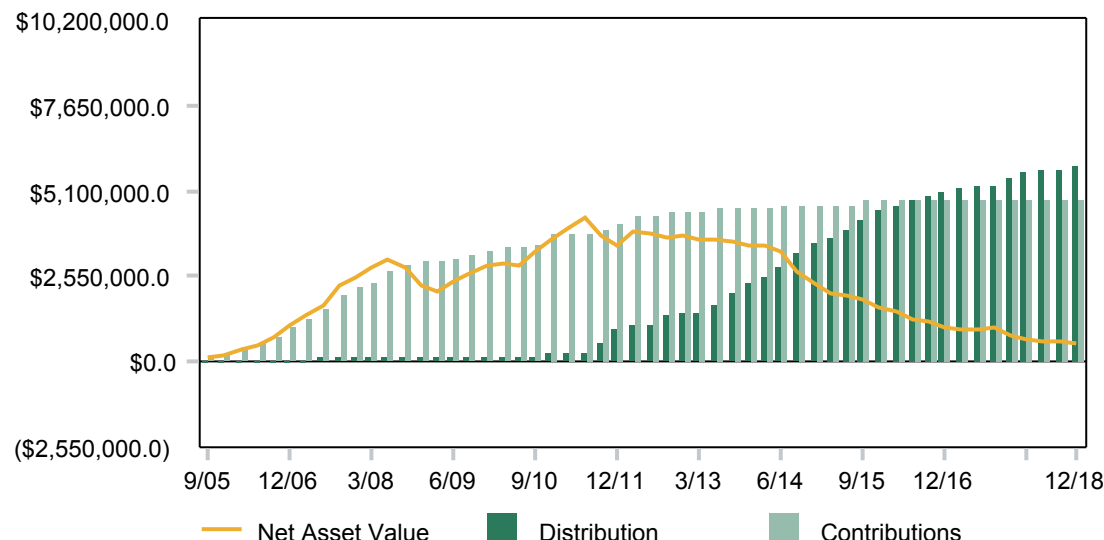
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2004
Strategy Type:	International Private Equity	Management Fee:	0.65% years 1-10; 0.585% thereafter. Attenuation start date: 01/01/2016
Size of Fund:	52,400,000	Preferred Return:	10% per annum on unreturned capital contributions
Inception:	02/02/2005	General Partner:	PEURO IV GP, LLC, a Delaware limited liability company
Final Close:	07/26/2005		
Investment Strategy:	Pantheon's investment strategy is designed to generate superior risk-adjusted investment returns by creating a balanced and diversified portfolio of high quality private equity funds. Asset allocation, diversification and manager selection are critical factors in constructing superior, risk adjusted private equity portfolios.		

Cash Flow Summary

Capital Committed:	\$5,171,977
Total Contributions:	\$4,835,814
Remaining Capital Commitment:	\$336,163
Total Distributions:	\$5,821,984
Market Value:	\$547,879
Inception Date:	09/16/2005
Inception IRR:	4.87
TVPI:	1.32
PME+:	8.01

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

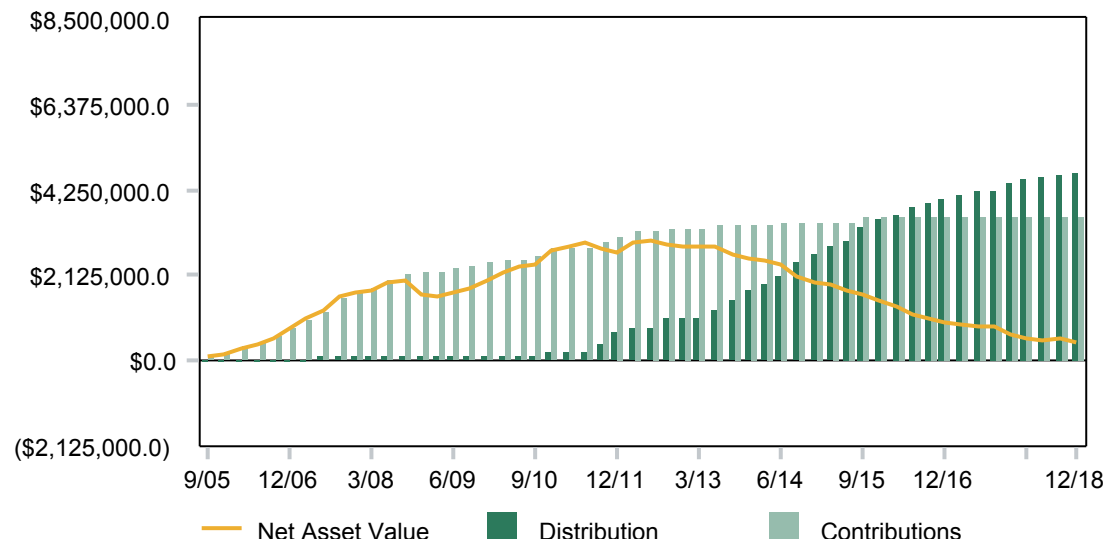
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2004
Strategy Type:	International Private Equity	Management Fee:	0.65% years 1-10; 0.585% thereafter. Attenuation start date: 01/01/2016
Size of Fund:	52,400,000	Preferred Return:	10% per annum on unreturned capital contributions
Inception:	02/02/2005	General Partner:	PEURO IV GP, LLC, a Delaware limited liability company
Final Close:	07/26/2005		
Investment Strategy:	Pantheon's investment strategy is designed to generate superior risk-adjusted investment returns by creating a balanced and diversified portfolio of high quality private equity funds. Asset allocation, diversification and manager selection are critical factors in constructing superior, risk adjusted private equity portfolios.		

Cash Flow Summary

Capital Committed:	\$3,830,243
Total Contributions:	\$3,604,258
Remaining Capital Commitment:	\$225,985
Total Distributions:	\$4,684,386
Market Value:	\$470,520
Inception Date:	10/01/2005
Inception IRR:	6.31
TVPI:	1.43
PME+:	8.19

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

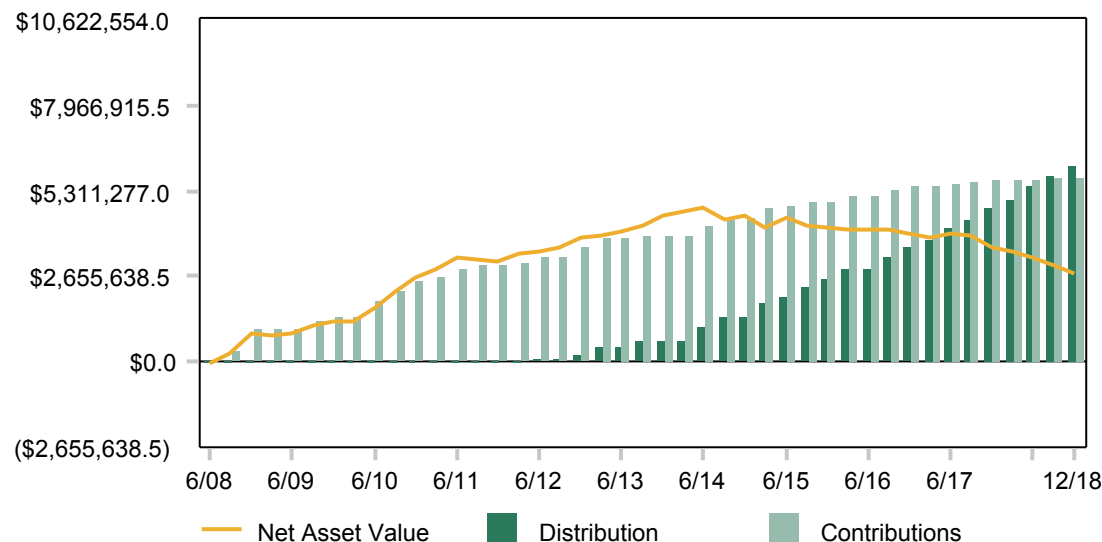
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2007
Strategy Type:	International Private Equity	Management Fee:	0.75% years 1-10; 0.675% thereafter. attenuation start date: 01/01/2018
Size of Fund:	1,075,900,000	Preferred Return:	10%
Inception:	06/27/2008	General Partner:	PEURO VI GP Limited, a Guernsey limited company
Final Close:	12/22/2008		
Investment Strategy:	Pantheon's investment strategy is designed to generate superior risk-adjusted investment returns by creating a balanced and diversified portfolio of high quality private equity funds. Asset allocation, diversification, and manager selection are critical factors in constructing superior, risk weighted private equity portfolios.		

Cash Flow Summary

Capital Committed:	\$6,481,440
Total Contributions:	\$5,714,067
Remaining Capital Commitment:	\$767,373
Total Distributions:	\$6,115,563
Market Value:	\$2,718,022
Inception Date:	07/01/2008
Inception IRR:	9.21
TVPI:	1.55
PME+:	13.43

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

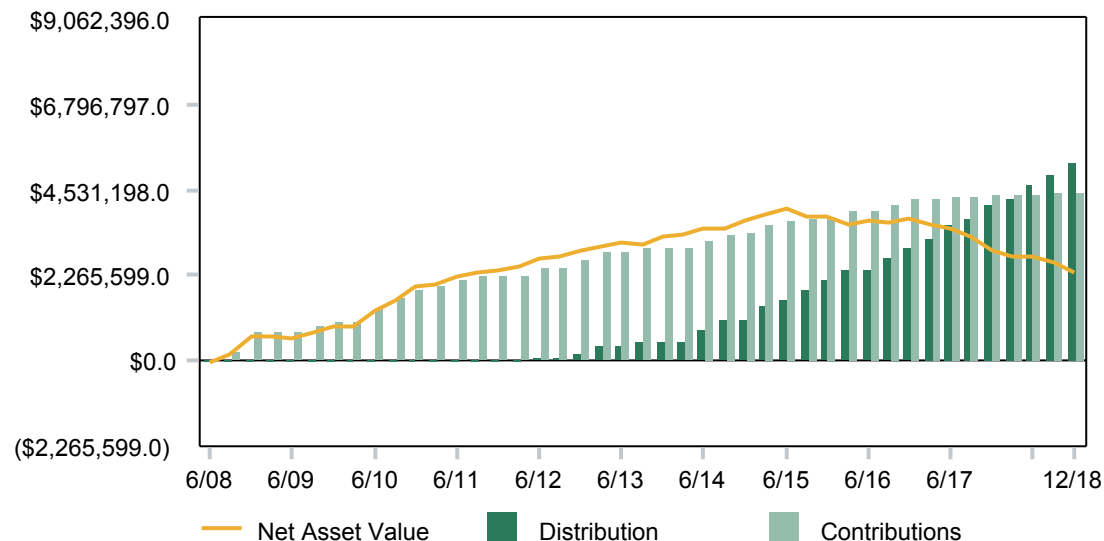
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2007
Strategy Type:	International Private Equity	Management Fee:	0.75% years 1-10; 0.675% thereafter. attenuation start date: 01/01/2018
Size of Fund:	1,075,900,000	Preferred Return:	10%
Inception:	06/27/2008	General Partner:	PEURO VI GP Limited, a Guernsey limited company
Final Close:	12/22/2008		
Investment Strategy:	Pantheon's investment strategy is designed to generate superior risk-adjusted investment returns by creating a balanced and diversified portfolio of high quality private equity funds. Asset allocation, diversification, and manager selection are critical factors in constructing superior, risk weighted private equity portfolios.		

Cash Flow Summary

Capital Committed:	\$4,800,000
Total Contributions:	\$4,464,000
Remaining Capital Commitment:	\$336,000
Total Distributions:	\$5,228,400
Market Value:	\$2,335,611
Inception Date:	07/01/2008
Inception IRR:	11.34
TVPI:	1.69
PME+:	13.32

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

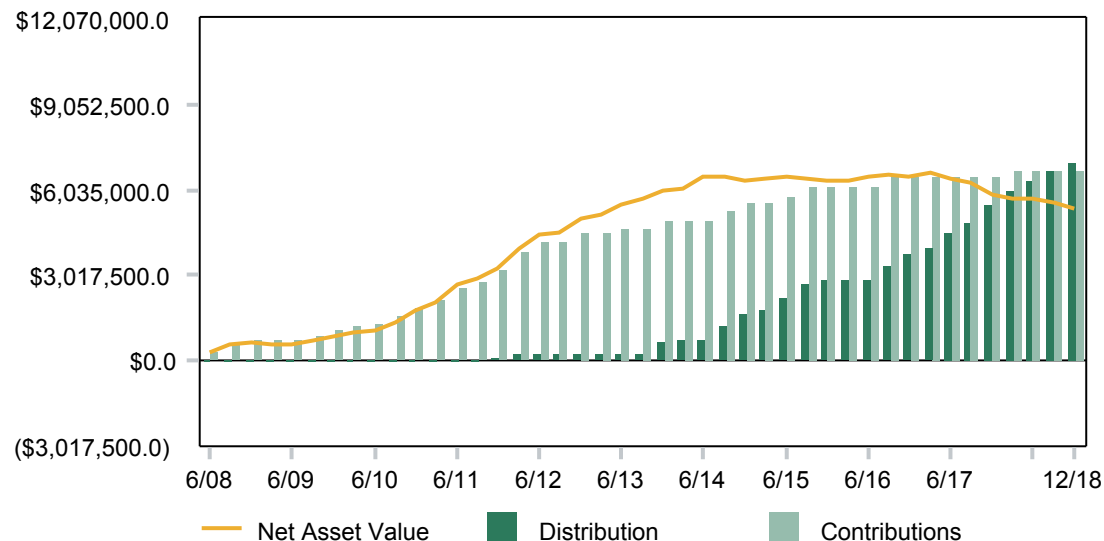
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2007
Strategy Type:	Other	Management Fee:	0.75% years 1-10; 0.675% thereafter. Attenuation start date: 01/01/2017
Size of Fund:	1,676,600,000	Preferred Return:	10%
Inception:	06/26/2008	General Partner:	PUSA VIII GP, LLC, a Delaware limited liability company
Final Close:	12/22/2008		
Investment Strategy:	Pantheon's investment strategy is designed to generate superior risk-adjusted investment returns by creating a balanced and diversified portfolio of high-quality private equity funds. Asset allocation, diversification and manager selection are critical factors in constructing superior, risk-weighted private equity portfolios.		

Cash Flow Summary

Capital Committed:	\$7,500,000
Total Contributions:	\$6,743,239
Remaining Capital Commitment:	\$756,761
Total Distributions:	\$7,015,573
Market Value:	\$5,338,848
Inception Date:	07/01/2008
Inception IRR:	12.28
TVPI:	1.83
PME+:	12.50

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

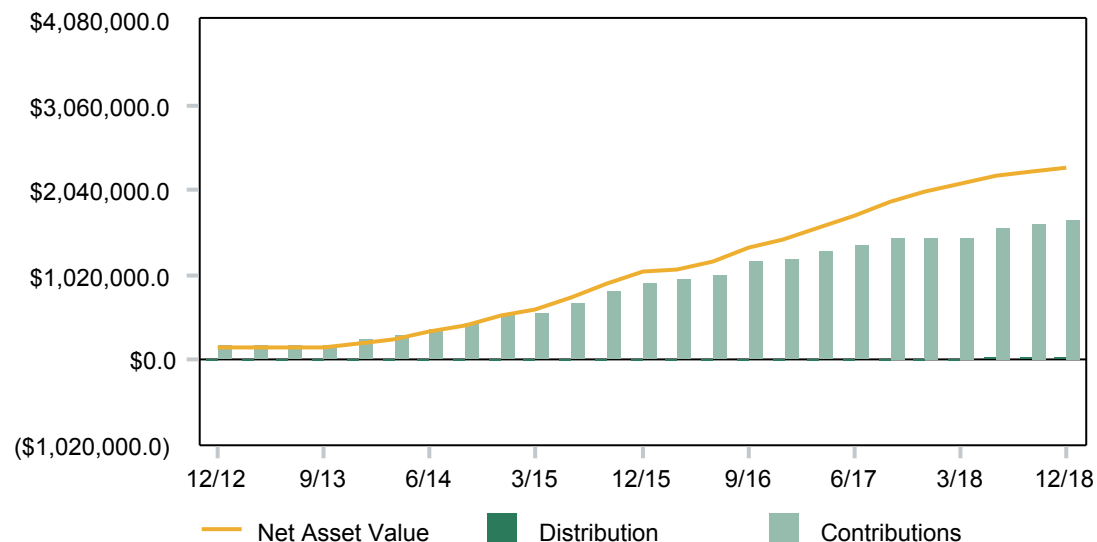
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2012
Strategy Type:	International Private Equity	Management Fee:	0.85% years 1-7; 0.765% thereafter. Attenuation start date: 01/01/2020
Size of Fund:	82,800,000	Preferred Return:	10% per annum, compounded annually on December 31
Inception:	10/22/2012	General Partner:	PASIA VI GP, LLC a Delaware limited liability company
Final Close:	10/22/2012		
Investment Strategy:	PEAF VI will concentrate on Asian emerging markets, focusing on managers who primarily invest in China and India. PEAF VI will exclude allocations to fund managers focused on the mature markets (i.e. Australia, Japan, South Korea) within the PASIA VI strategy. PEAF VI is well-suited to those investors who are capable of accessing the mature markets of Asia themselves but do not have the experience and the networks to invest in the more emerging countries of the region. By opting out of the mature markets, investors in PEAF VI will have a more concentrated portfolio by geography, stage, manager and, possibly, by sector.		

Cash Flow Summary

Capital Committed:	\$2,000,000
Total Contributions:	\$1,688,000
Remaining Capital Commitment:	\$312,000
Total Distributions:	\$40,000
Market Value:	\$2,316,283
Inception Date:	11/07/2012
Inception IRR:	10.74
TVPI:	1.40
PME+:	8.69

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

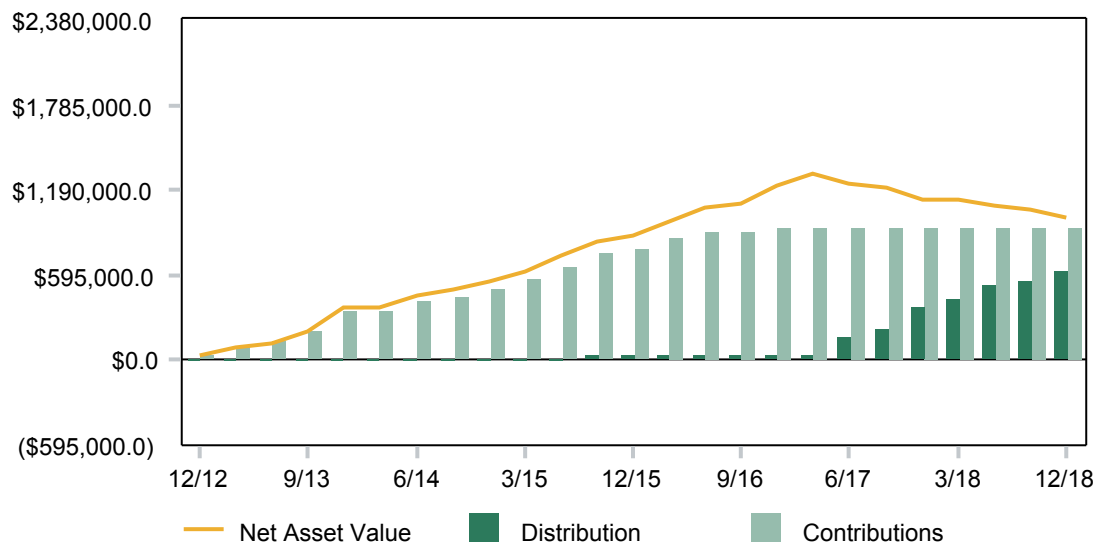
Fund Information

Type of Fund:	Co-Investment	Vintage Year:	2012
Strategy Type:	International Private Equity	Management Fee:	1% years 1-10; 0.9% thereafter. Attenuation start date: 01/01/2012
Size of Fund:	506,200,000	Preferred Return:	8%
Inception:	12/21/2012	General Partner:	PGCO II GP, LLC, a Delaware limited liability company
Final Close:	01/15/2014		
Investment Strategy:	Pantheon's investment objective is to generate superior risk-adjusted returns by creating a balanced, diversified portfolio of high quality co-investments alongside top tier private equity fund managers. Pantheon's co-investments will comprise minority equity and equity-like investments in private companies, primarily in leveraged buyout and growth equity transactions. Pantheon will seek to build a balanced portfolio with limits on individual investment size, and diversification across companies, geographies, sectors, stage, vintage, and private equity fund managers.		

Cash Flow Summary

Capital Committed:	\$1,000,000
Total Contributions:	\$923,000
Remaining Capital Commitment:	\$77,000
Total Distributions:	\$621,002
Market Value:	\$990,348
Inception Date:	01/01/2013
Inception IRR:	15.46
TVPI:	1.75
PME+:	10.08

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

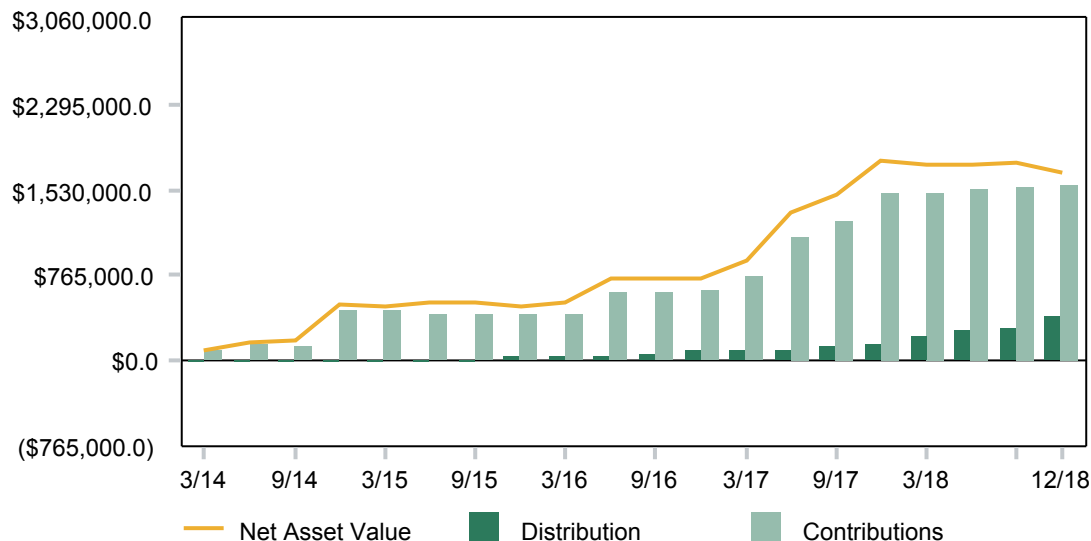
Fund Information

Type of Fund:	Secondary	Vintage Year:	2013
Strategy Type:	Infrastructure	Management Fee:	0.75% per annum of aggregate commitments allocated to secondary investments and co-investments; 0.15% per annum of aggregate commitments allocated to primary investments. Fee reduction of 5bps (0.05%) per annum on aggregate commitments allocation
Size of Fund:	291,000,000	Preferred Return:	8%, with a 50/50 GP catch up
Inception:	12/13/2013	General Partner:	PGIF II GP, LLC, a Delaware limited liability company
Final Close:	12/8/2014		
Investment Strategy:	PGIF II will invest in infrastructure secondaries and select infrastructure co-investments with the aim of generating superior returns with strong downside protection. The focus on secondaries and co-investments (target 85% of the fund) provides unique portfolio benefits including the potential for J-curve mitigation, time diversification, yield enhancement and cost-effective access to the asset class. The fund may also make primary investments in infrastructure funds on a selective basis (target 15%). Ultimately, this opportunistic strategy should allow PGIF II to target the best risk-adjusted return opportunities across the infrastructure asset class and take advantage of a large and growing secondary market. PGIF II aims to be invested directly or indirectly in over 75 underlying infrastructure assets with differing risk return characteristics. Capital will be deployed over a number of vintage years, geographies, industry sectors and managers.		

Cash Flow Summary

Capital Committed:	\$2,000,000
Total Contributions:	\$1,579,589
Remaining Capital Commitment:	\$420,411
Total Distributions:	\$402,000
Market Value:	\$1,678,797
Inception Date:	03/27/2014
Inception IRR:	13.48
TVPI:	1.32
PME+:	7.39

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

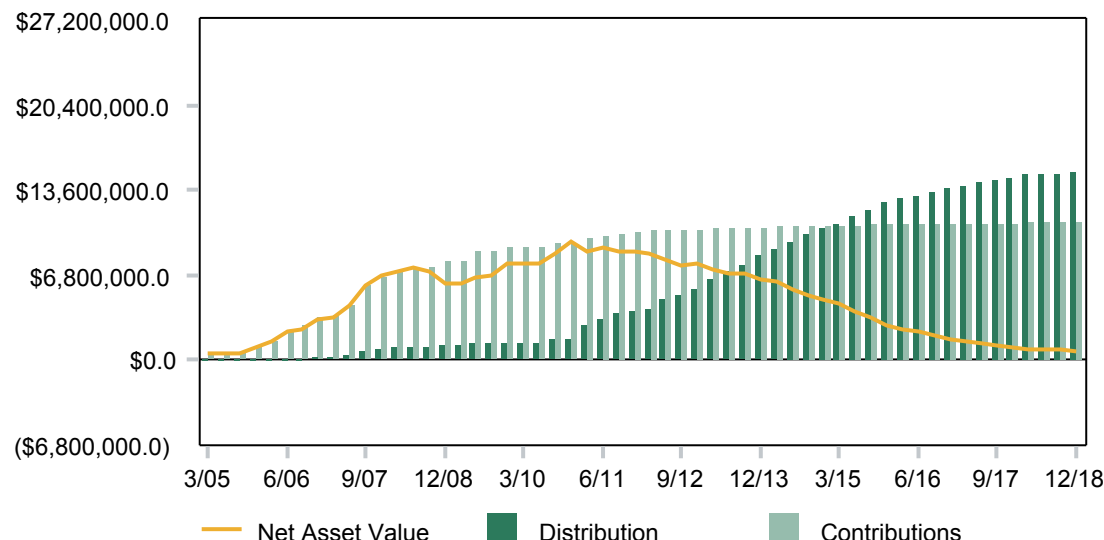
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2004
Strategy Type:	Buyouts	Management Fee:	1.00% year 1-5, 25% yearly stepdown on prior years fee, thereafter. (fee break for commitment size)
Size of Fund:	1,186,000,000	Preferred Return:	8%
Inception:	12/17/2004	General Partner:	GSAM Gen-Par, L.L.C.
Final Close:	06/30/2005		
Investment Strategy:	Private Equity Partners 2004 LP, Private Equity Partners 2004 Offshore LP and Private Equity Partners 2004 Offshore Holdings LP (together, "PEP 2004" or the "Fund") is the seventh global, diversified primary multi-manager fund in the PEP family of funds, providing broad exposure to strategies such as leveraged buyouts, growth capital, venture capital, turnaround, industry focused and structured investments. We completed the construction of the Partnership Investment portfolio in December 2005, committing to a total of 34 private equity funds. The Fund has also invested in 30 Direct Investments. At closing, the Fund had total investor capital commitments of approximately \$527 million. Global buyout focus.		

Cash Flow Summary

Capital Committed:	\$9,900,000
Total Contributions:	\$11,076,764
Remaining Capital Commitment:	\$71,005
Total Distributions:	\$15,075,031
Market Value:	\$713,498
Inception Date:	03/29/2005
Inception IRR:	6.88
TVPI:	1.43
PME+:	6.88

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

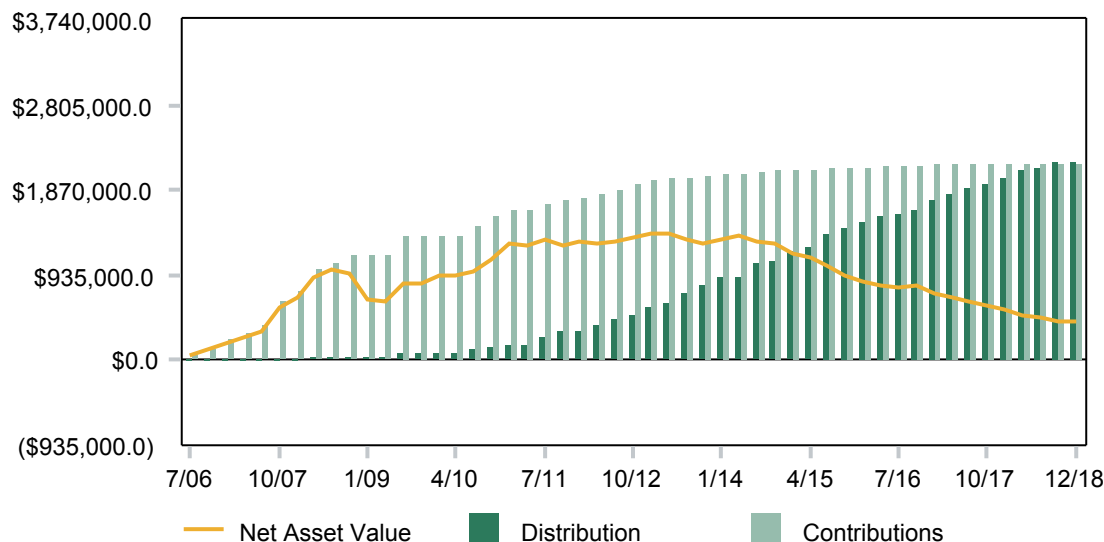
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2005
Strategy Type:	Hybrid	Management Fee:	1% of Commitment in years 1-5, thereafter declines to 75% of prior year's fee
Size of Fund:	662,100,000	Preferred Return:	8% per annum on unreturned contributed capital
Inception:	10/31/2005	General Partner:	GSAM Gen-Par, L.L.C.
Final Close:	05/12/2006		
Investment Strategy:	Goldman Sachs PEP 2005 will reflect the same strategy as PEP 2004, and make commitments to private equity funds located in the United States, Canada, UK, and Western Europe and the rest of the world, with the expected allocation of approximately 70% US and 30% International. The strategic expected range for GS PEP 2005 is to be around 80 – 90% buyouts and 10 – 20% venture capital. The buyout overweighting reflects the team’s deep merger and acquisitions and leveraged finance backgrounds, and expresses the strategic preference for real cash flow generating businesses. In the venture sector, Goldman will commit broadly to funds focusing on early, growth or mature stage investment opportunities. At least 75% of the PEP funds are invested in partnerships (primary and secondary interests), and up to 25% in direct co-investments.		

Cash Flow Summary

Capital Committed:	\$2,000,000
Total Contributions:	\$2,169,031
Remaining Capital Commitment:	\$83,342
Total Distributions:	\$2,186,568
Market Value:	\$436,149
Inception Date:	07/26/2006
Inception IRR:	3.33
TVPI:	1.21
PME+:	8.57

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

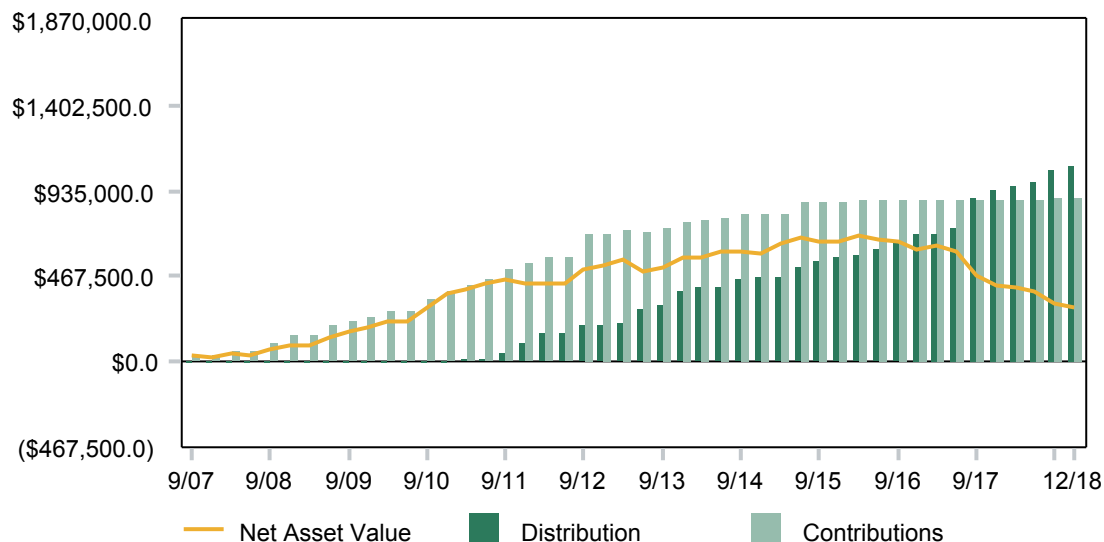
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2007
Strategy Type:	Buyouts	Management Fee:	1.25% year 1-5, 25% yearly stepdown on prior years fee, thereafter.
Size of Fund:	817,000,000	Preferred Return:	8%
Inception:	06/15/2007	General Partner:	Goldman Sachs PEP Asia Advisors, L.L.C.
Final Close:	02/16/2010		
Investment Strategy:	Private Equity Partners (Asia) Offshore LP (the "Partnership"), a Cayman Islands exempted limited partnership, was formed for the purpose of investing in pooled investment vehicles via capital commitments to the issuers of such investments ("Partnership Investments") and privately negotiated transactions ("Direct Investments"), generally sourced on a co-investment basis with certain other coinvestment partnerships ("Co-Investment Partnerships"), with a focus on Asian investments. The Partnership is permitted to invest both domestically and internationally across all sectors of the private equity market. The Partnership looks to achieve its investment objectives through its investment in Private Equity Partners (Asia) LP, a Delaware limited partnership (the "Onshore Fund").		

Cash Flow Summary

Capital Committed:	\$1,000,000
Total Contributions:	\$892,459
Remaining Capital Commitment:	\$220,806
Total Distributions:	\$1,078,044
Market Value:	\$296,511
Inception Date:	09/27/2007
Inception IRR:	9.77
TVPI:	1.54
PME+:	12.26

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

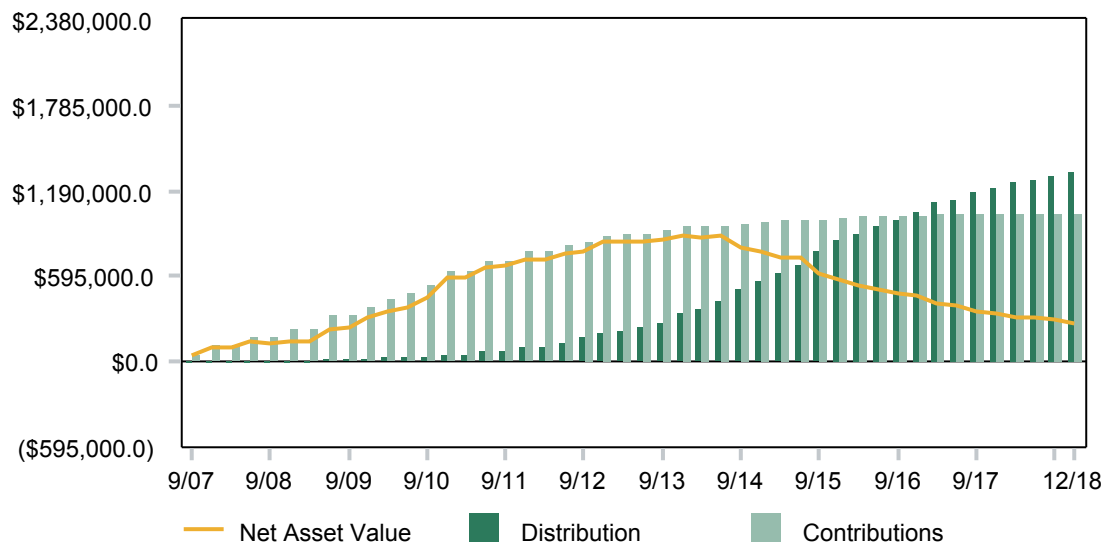
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2007
Strategy Type:	Buyouts	Management Fee:	1.25% year 1-5, 25% yearly stepdown on prior years fee, thereafter.
Size of Fund:	1,770,000,000	Preferred Return:	8% per annum on unreturned contributed capital
Inception:	03/30/2007	General Partner:	GSAM Gen-Par, L.L.C.
Final Close:	07/27/2007		
Investment Strategy:	Goldman Sachs PEP IX will reflect the same strategy as PEP 2005, and make commitments to private equity funds located in the United States, Canada, UK, and Western Europe and the rest of the world, with the expected allocation of approximately 70% US and 30% International. The strategic expected range for GS PEP IX is to be around 80 – 90% buyouts and 10 – 20% venture capital. The buyout overweighting reflects the team’s deep merger and acquisitions and leveraged finance backgrounds, and expresses the strategic preference for real cash flow generating businesses. In the venture sector, Goldman will commit broadly to funds focusing on early, growth or mature stage investment opportunities. At least 75% of the PEP funds are invested in partnerships (primary and secondary interests), and up to 25% in direct co-investments. Global buyout focus.		

Cash Flow Summary

Capital Committed:	\$1,000,000
Total Contributions:	\$1,037,257
Remaining Capital Commitment:	\$94,461
Total Distributions:	\$1,327,838
Market Value:	\$264,529
Inception Date:	09/01/2007
Inception IRR:	9.16
TVPI:	1.54
PME+:	12.16

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

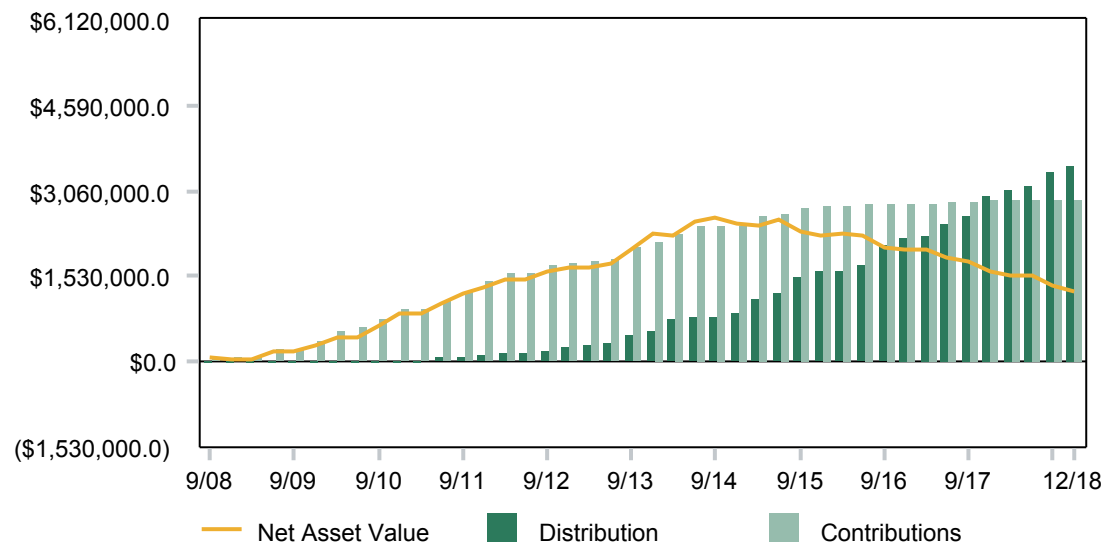
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2008
Strategy Type:	Buyouts	Management Fee:	1.25% year 1-5, 25% yearly stepdown on prior years fee, thereafter.
Size of Fund:	1,146,000,000	Preferred Return:	8%
Inception:	07/15/2008	General Partner:	Goldman Sachs PEP X Advisors, L.L.C.
Final Close:	05/01/2009		
Investment Strategy:	Private Equity Partners X Offshore LP (the "Partnership"), a Cayman Islands exempted limited partnership, was formed for the purpose of investing in (i) pooled investment vehicles via capital commitments to the issuers of such investments ("Partnership Investments"), (ii) pooled investment vehicles purchased from the existing owners of such pooled investments and not from the issuers of such investments or transactions structured to share many of the characteristics and economics of such purchases ("Secondary Investments"), and (iii) privately negotiated transactions ("Direct Investments"), generally sourced on a co-investment basis with certain other co-investment partnerships ("Co-Investment Partnerships" and together with Partnership Investments, Secondary Investments and Direct Investments, "Portfolio Investments").		

Cash Flow Summary

Capital Committed:	\$3,000,000
Total Contributions:	\$2,919,660
Remaining Capital Commitment:	\$404,262
Total Distributions:	\$3,510,567
Market Value:	\$1,250,739
Inception Date:	10/01/2008
Inception IRR:	11.80
TVPI:	1.63
PME+:	13.34

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Secondary
Strategy Type: Secondaries
Size of Fund: 5,530,000,000
Inception: 07/18/2008
Final Close: 03/15/2009
Investment Strategy: Global secondary transactions

Vintage Year: 2008
Management Fee: 1.25% year 1-4, 25% yearly stepdown on prior years fee, thereafter.
Preferred Return: 8%
General Partner: Goldman Sachs VNT Fund V Advisors LLC

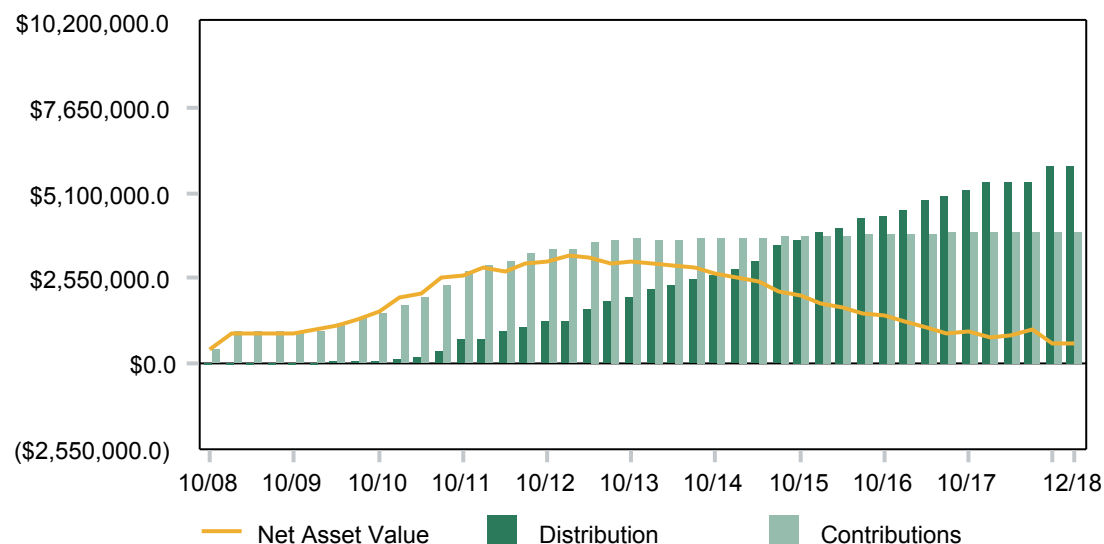
Cash Flow Summary

Capital Committed: \$4,500,000
Total Contributions: \$3,969,165
Remaining Capital Commitment: \$1,208,970

Total Distributions: \$5,899,635
Market Value: \$586,077

Inception Date: 10/29/2008
Inception IRR: 13.20
TVPI: 1.63
PME+: 14.34

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Secondary
Strategy Type: Secondaries
Size of Fund: 5,870,000,000
Inception: 11/28/2012
Final Close: 04/16/2014
Investment Strategy: Global secondary transactions

Vintage Year: 2012
Management Fee: 1.25% year 1-4, 25% yearly stepdown on prior years fee, thereafter.
Preferred Return: 8%
General Partner: Goldman Sachs VF VI Advisors LLC

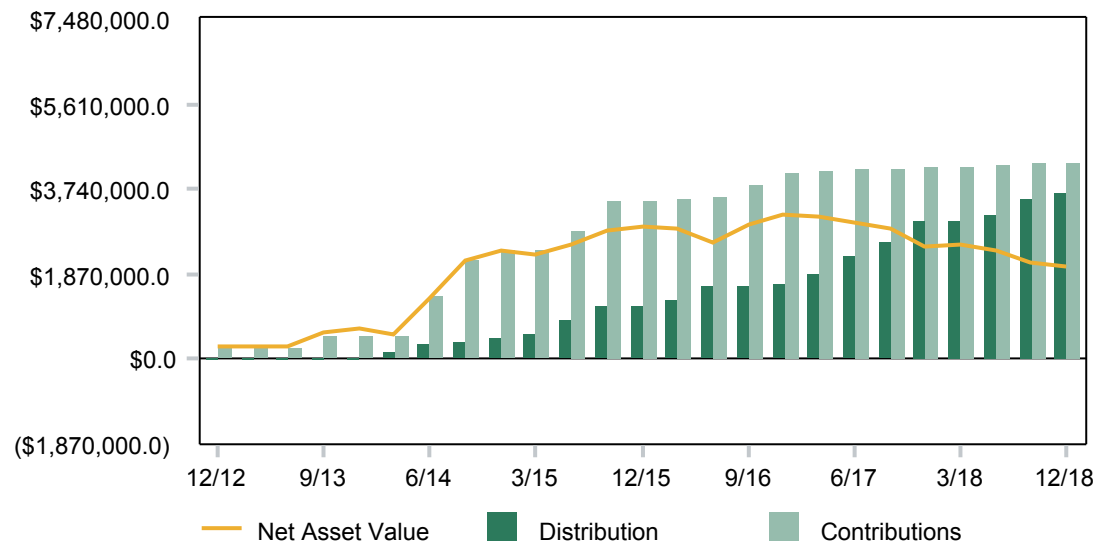
Cash Flow Summary

Capital Committed: \$5,000,000
Total Contributions: \$4,329,626
Remaining Capital Commitment: \$873,551

Total Distributions: \$3,667,103
Market Value: \$2,020,981

Inception Date: 11/28/2012
Inception IRR: 12.28
TVPI: 1.31
PME+: 10.58

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

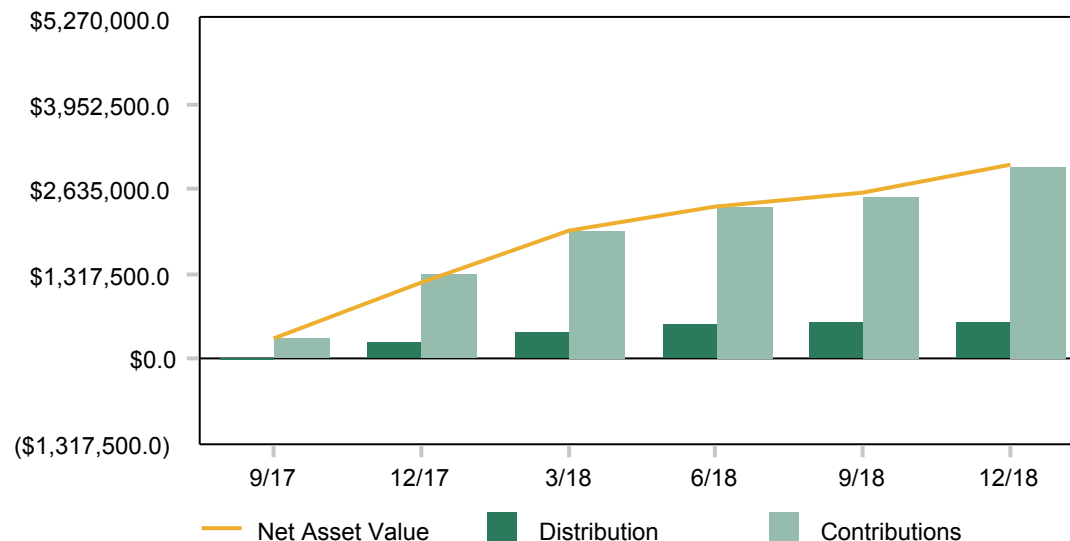
Fund Information

Type of Fund:	Secondary	Vintage Year:	2016
Strategy Type:	Secondaries	Management Fee:	1.25% year 1-4, 25% yearly stepdown on prior years fee, thereafter.
Size of Fund:	7,150,000,000	Preferred Return:	8%
Inception:	10/01/2016	General Partner:	VF VII Advisors Offshore S.A R.L
Final Close:	07/25/2017		
Investment Strategy:	The Vintage funds seek to provide liquidity, capital and partnering solutions to private equity investors and managers. The Vintage funds seek to source opportunities from around the world, acquiring and structuring portfolios of private equity partnerships and underlying portfolio companies across leveraged buyout, credit, distressed, growth capital, real asset and venture capital strategies.		

Cash Flow Summary

Capital Committed:	\$4,920,756
Total Contributions:	\$2,973,110
Remaining Capital Commitment:	\$2,247,185
Total Distributions:	\$563,093
Market Value:	\$3,023,390
Inception Date:	09/28/2017
Inception IRR:	34.15
TVPI:	1.21
PME+:	-5.15

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Co-Investment
Strategy Type: Buyouts
Size of Fund: 900,000,000
Inception: 08/01/2018

Vintage Year: 2018
Management Fee: 1.5%
Preferred Return:
General Partner: Private Equity Co-Investment Partners II Offshore Advisors S.à

Final Close:

Investment Strategy: The Goldman Sachs Co-Investment Partners II (SCSp) expects to make between 25 - 40 investments over the course of its three-year investment period. Up to 50% of the investments will be into middle market buy-out companies. In addition, there may also be exposure to other strategies, including large buyouts, growth equity, and distressed. The Fund will be 50% invested in North America, approximately 30% invested in Western Europe and a small opportunistic exposure to the growth markets, primarily Asia.

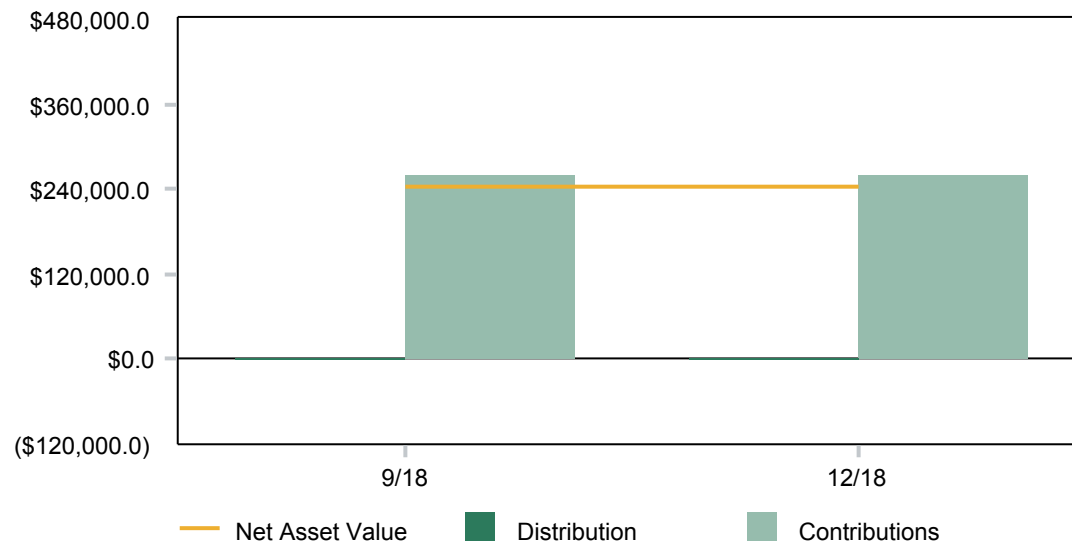
Cash Flow Summary

Capital Committed: \$8,000,000
Total Contributions: \$261,506
Remaining Capital Commitment: \$7,738,494

Total Distributions: -
Market Value: \$243,847

Inception Date: 09/28/2018
Inception IRR: -6.75
TVPI: 0.93
PME+: -6.75

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Partnership
Strategy Type: Real Estate

Vintage Year: 2013
Management Fee: 1.5%, payable semi-annually in arrears and charged on the aggregate equity capital invested by the Partnership on behalf of the Limited Partners, including any reinvested capital, but reduced to account for fully or partially harvested investments

Size of Fund: 4,100,000,000
Inception: 12/01/2013
Final Close: 04/01/2014

Preferred Return: 8%
General Partner: Broad Street Real Estate Credit Partners II GP, L.L.C.

Investment Strategy: The Partnership, a Cayman Islands exempted limited partnership, was formed for the purpose of investing in real estate credit investments in North America and Europe. These investments principally include senior and subordinated securities, including mortgages, B-notes and mezzanine loans, related to real estate-related assets. The Partnership seeks to provide the partners with capital appreciation and current returns through such investments.

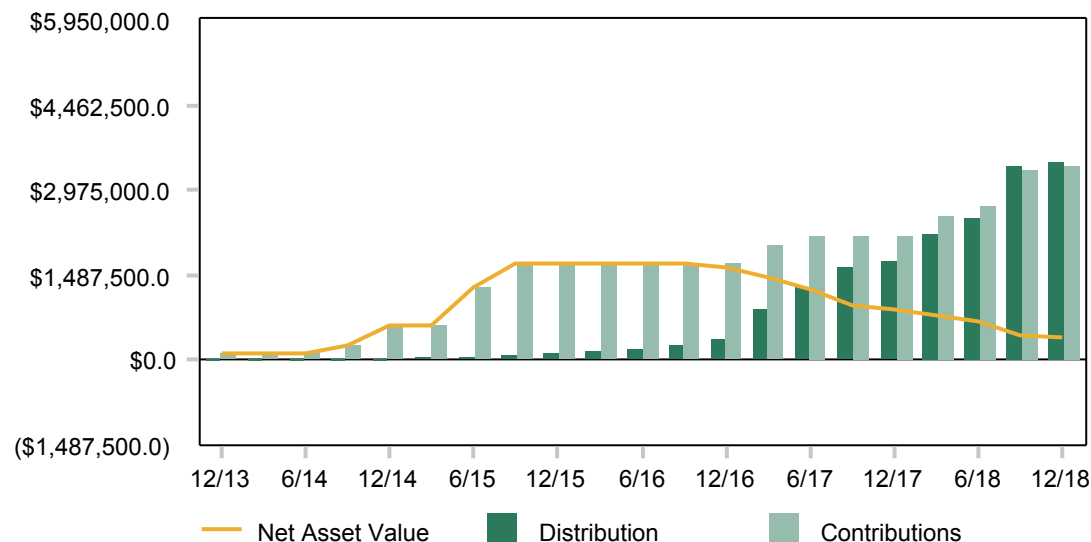
Cash Flow Summary

Capital Committed: \$3,000,000
Total Contributions: \$3,383,695
Remaining Capital Commitment: -\$383,695

Total Distributions: \$3,468,975
Market Value: \$406,558

Inception Date: 12/05/2013
Inception IRR: 10.45
TVPI: 1.15
PME+: 9.22

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

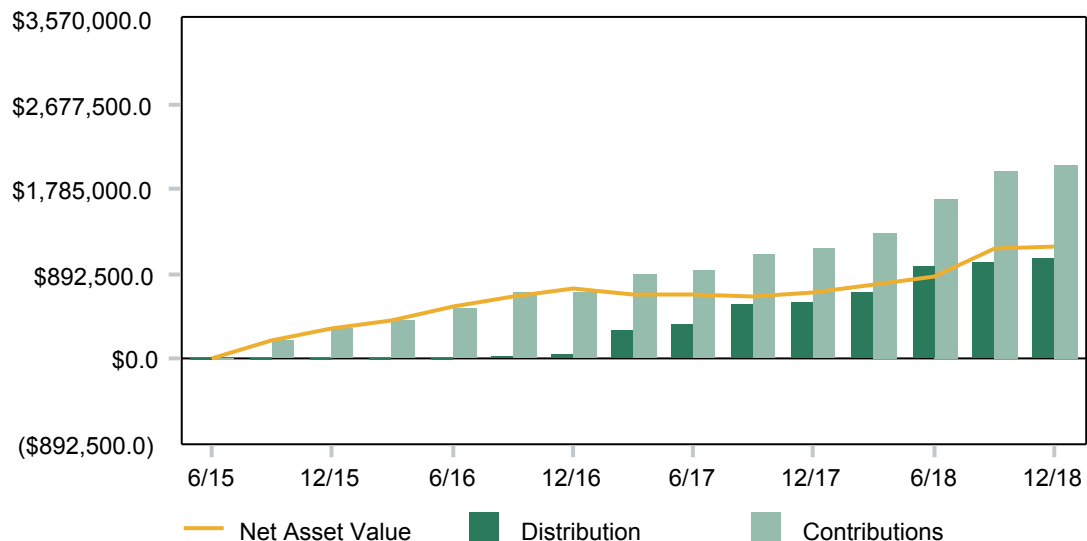
Fund Information

Type of Fund:	Partnership	Vintage Year:	2015
Strategy Type:	Other	Management Fee:	1.0%, payable semi-annually in arrears and charged on the aggregate equity capital invested by the Partnership on behalf of the Limited Partners, including any reinvested capital, but reduced to account for fully or partially harvested investments
Size of Fund:	3,161,000,000	Preferred Return:	7%
Inception:	02/10/2015	General Partner:	Broad Street Senior Credit Partners Advisor, L.L.C.
Final Close:	07/2015		
Investment Strategy:	Broad Street Senior Credit Partners, L.P. (the "Partnership"), a Delaware limited partnership and a closed-ended investment partnership, was formed primarily for the purpose of investing in senior secured loans. The Partnership may also invest in second lien, unsecured, stressed/distressed, real estate and subordinated loans. The Partnership primarily seeks to provide the partners with current returns through such investments as well as long-term capital appreciation.		

Cash Flow Summary

Capital Committed:	\$2,500,000
Total Contributions:	\$2,050,207
Remaining Capital Commitment:	\$449,793
Total Distributions:	\$1,051,525
Market Value:	\$1,184,344
Inception Date:	07/01/2015
Inception IRR:	8.67
TVPI:	1.09
PME+:	6.24

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

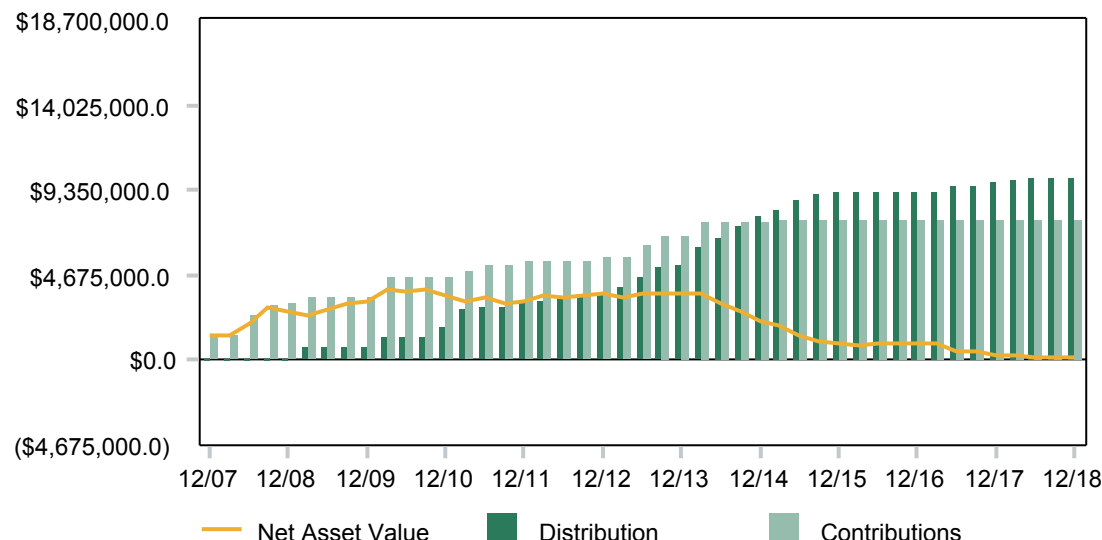
Fund Information

Type of Fund:	Partnership	Vintage Year:	2007
Strategy Type:	Other	Management Fee:	1.5%, payable semi-annually in arrears and charged on the aggregate equity capital invested by the Partnership on behalf of the Limited Partners, including any reinvested capital, but reduced to account for fully or partially harvested investments
Size of Fund:	13,000,000,000	Preferred Return:	6%
Inception:	11/01/2007	General Partner:	GS Mezzanine Advisors V, L.L.C.
Final Close:	03/01/2008		
Investment Strategy:	GS Mezzanine Partners V Offshore, L.P. (the "Partnership"), a Cayman Islands exempted limited partnership, was formed for the purpose of investing in mezzanine securities. These securities principally include fixed income securities such as debt and preferred stock. The Partnership may also invest in equity-related securities such as warrants, common stock or other securities with a convertible feature. The Partnership seeks to provide the partners with long-term capital appreciation and current returns through such investments.		

Cash Flow Summary

Capital Committed:	\$8,500,000
Total Contributions:	\$7,768,274
Remaining Capital Commitment:	\$924,034
Total Distributions:	\$10,032,178
Market Value:	\$132,712
Inception Date:	11/30/2007
Inception IRR:	10.01
TVPI:	1.31
PME+:	7.16

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Fund Of Funds
Strategy Type: Buyouts
Size of Fund: -
Inception: 10/01/2017
Final Close:

Vintage Year: 2011
Management Fee:
Preferred Return:
General Partner:

Investment Strategy: Commonfund Capital International Partners VII, L.P. (the "Partnership"), a Delaware limited partnership, was organized pursuant to a partnership agreement (the "Partnerships Agreement") for the purpose of providing endowment funds and nonprofit organizations the opportunity to invest in target funds, which in turn, make international private equity investments primarily in emerging growth companies with the objective of obtaining long-term growth of capital. The Partnership may also invest in operating companies as direct investments or co-investment opportunities.

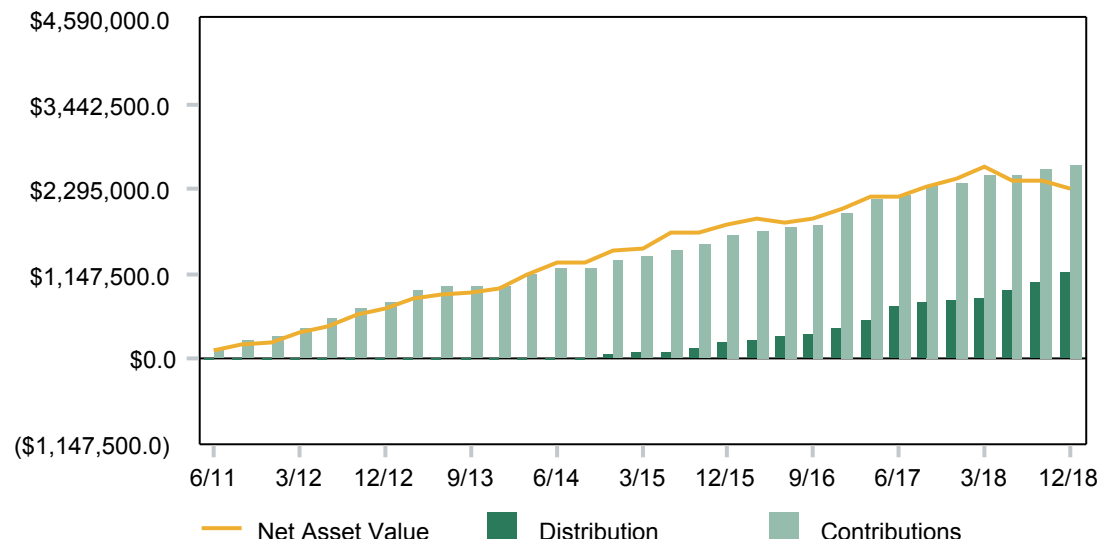
Cash Flow Summary

Capital Committed: \$3,000,000
Total Contributions: \$2,613,000
Remaining Capital Commitment: \$387,000

Total Distributions: \$1,164,438
Market Value: \$2,313,143

Inception Date: 06/30/2011
Inception IRR: 8.01
TVPI: 1.33
PME+: 11.67

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

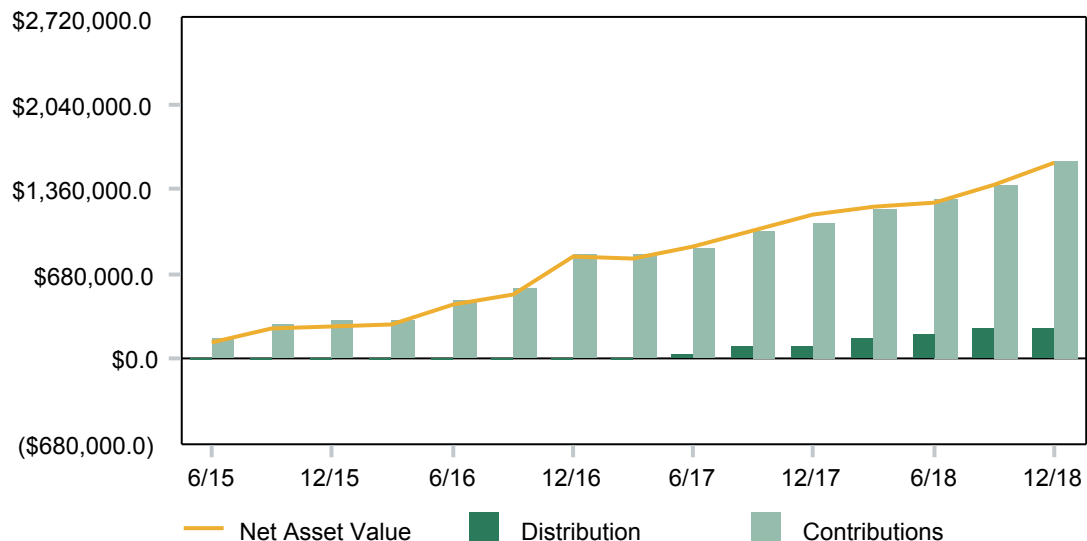
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2014
Strategy Type:	Buyouts	Management Fee:	53 bps per annum on Committed Capital (see detailed fee schedule)
Size of Fund:	139,500,000	Preferred Return:	
Inception:	01/01/2015	General Partner:	Fairfield Partners 2012, LP
Final Close:	03/24/2016		
Investment Strategy:	Commonfund Capital's Int'l Private Equity Partners VIII seeks long-term capital appreciation and superior risk-adjusted net returns through diversified private equity investments. Strategic focus areas are Europe and other developed countries outside of the United States, a private equity emphasis and a preference for local managers.		

Cash Flow Summary

Capital Committed:	\$3,000,000
Total Contributions:	\$1,582,500
Remaining Capital Commitment:	\$1,417,500
Total Distributions:	\$245,510
Market Value:	\$1,568,657
Inception Date:	06/29/2015
Inception IRR:	8.54
TVPI:	1.15
PME+:	7.00

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

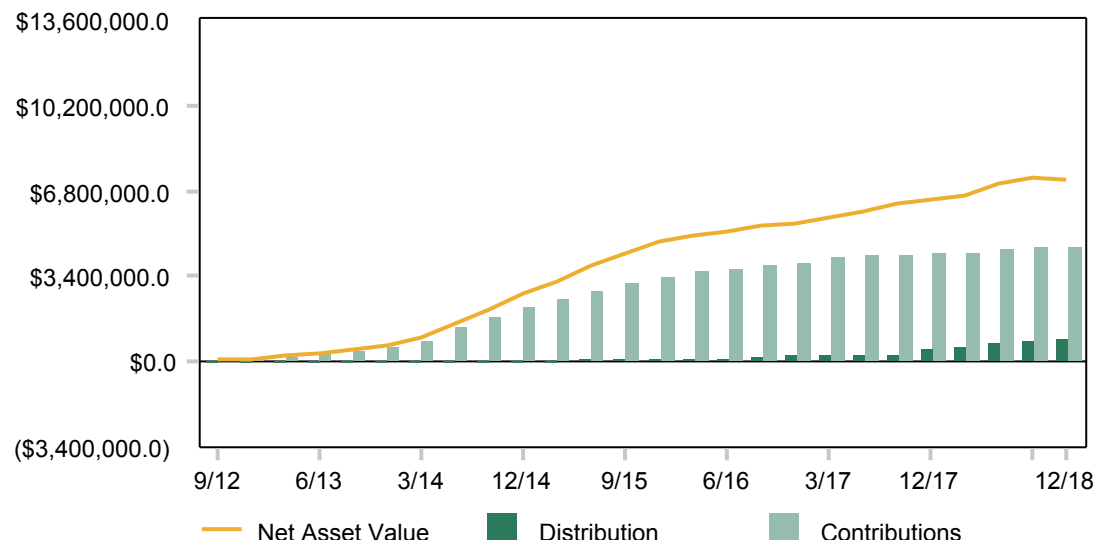
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2012
Strategy Type:	Venture Capital	Management Fee:	
Size of Fund:	502,400,000	Preferred Return:	
Inception:	09/11/2012	General Partner:	Fairfield Partners Management LLC
Final Close:	08/31/2012		
Investment Strategy:	Commonfund Capital's venture capital programs aim to give investors the opportunity to earn long-term capital appreciation by investing in early stage, high growth private companies, principally in the information technology and life sciences/healthcare fields. Traditionally, venture capital investments seek to earn returns above those on publicly traded stocks over a long-term investment horizon, and to further diversify the equity component of an investment portfolio.		

Cash Flow Summary

Capital Committed:	\$5,000,000
Total Contributions:	\$4,550,000
Remaining Capital Commitment:	\$450,000
Total Distributions:	\$921,176
Market Value:	\$7,250,385
Inception Date:	09/11/2012
Inception IRR:	17.48
TVPI:	1.80
PME+:	8.06

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

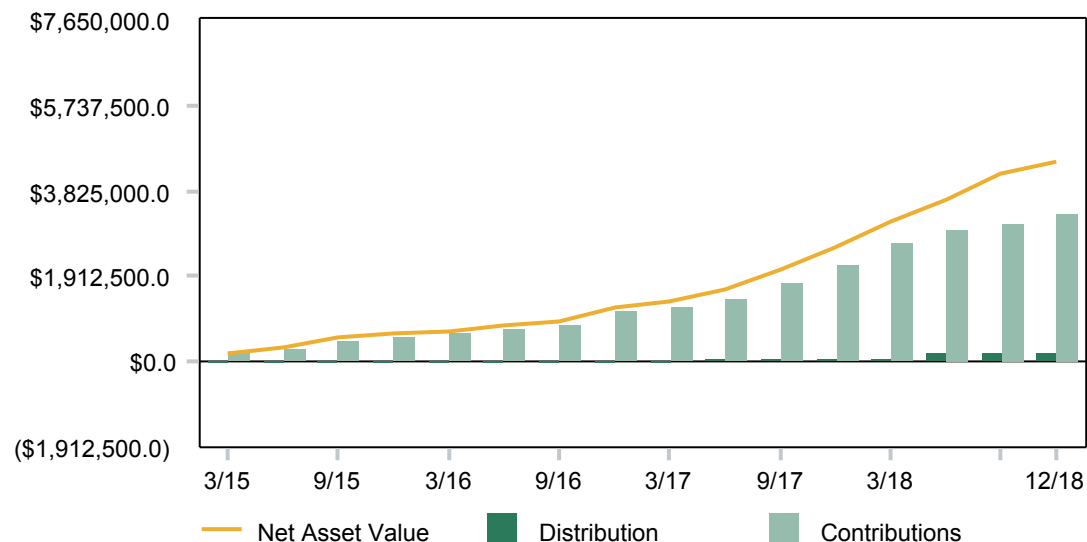
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2015
Strategy Type:	Venture Capital	Management Fee:	53 bps
Size of Fund:	525,000,000	Preferred Return:	
Inception:	01/15/2015	General Partner:	Fairfield Partners Management LLC
Final Close:	1/29/2016		
Investment Strategy:	Commonfund Capital's venture capital programs aim to give investors the opportunity to earn long-term capital appreciation by investing in early stage, high growth private companies, principally in the information technology and life sciences/healthcare fields. Traditionally, venture capital investments seek to earn returns above those on publicly traded stocks over a long-term investment horizon, and to further diversify the equity component of an investment portfolio.		

Cash Flow Summary

Capital Committed:	\$4,750,000
Total Contributions:	\$3,336,875
Remaining Capital Commitment:	\$1,413,125
Total Distributions:	\$167,174
Market Value:	\$4,455,940
Inception Date:	02/03/2015
Inception IRR:	21.85
TVPI:	1.39
PME+:	3.73

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

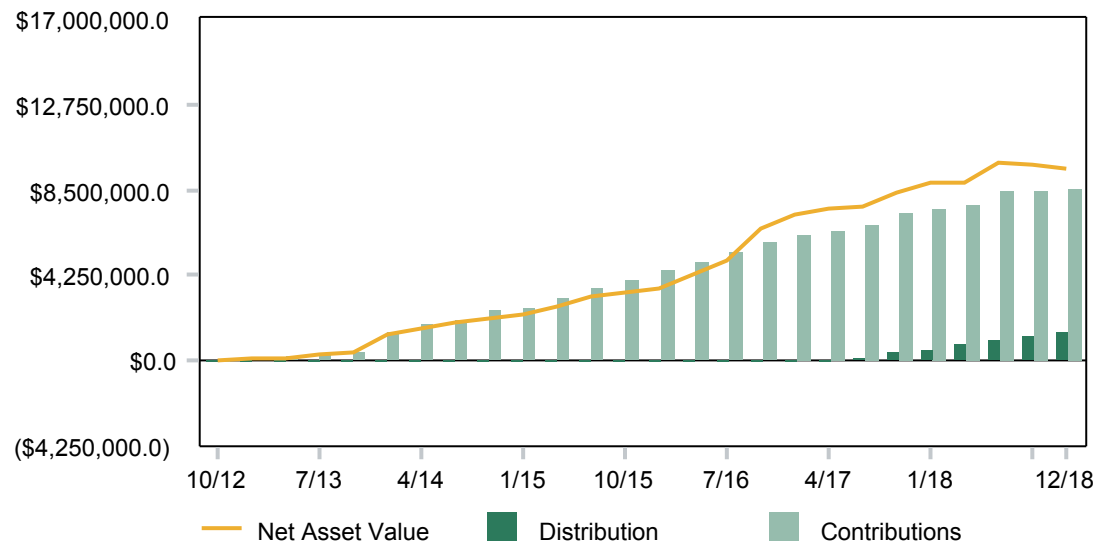
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2011
Strategy Type:	Energy & Natural Resources	Management Fee:	53 bps per annum on Committed Capital (see detailed fee schedule)
Size of Fund:	507,000,000	Preferred Return:	
Inception:	10/01/2012	General Partner:	Fairfield Partners 2012, LP
Final Close:	07/23/2013		
Investment Strategy:	Commonfund Capital's Natural Resources Partners IX, LP seeks long-term capital appreciation and superior risk-adjusted net returns through equity investments and property acquisition strategies. Strategic focus areas include emphasis on oil and natural gas production, oilfield services, infrastructure, mining and other natural resources opportunities.		

Cash Flow Summary

Capital Committed:	\$10,000,000
Total Contributions:	\$8,555,000
Remaining Capital Commitment:	\$1,445,000
Total Distributions:	\$1,421,274
Market Value:	\$9,602,075
Inception Date:	10/22/2012
Inception IRR:	8.76
TVPI:	1.29
PME+:	8.62

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

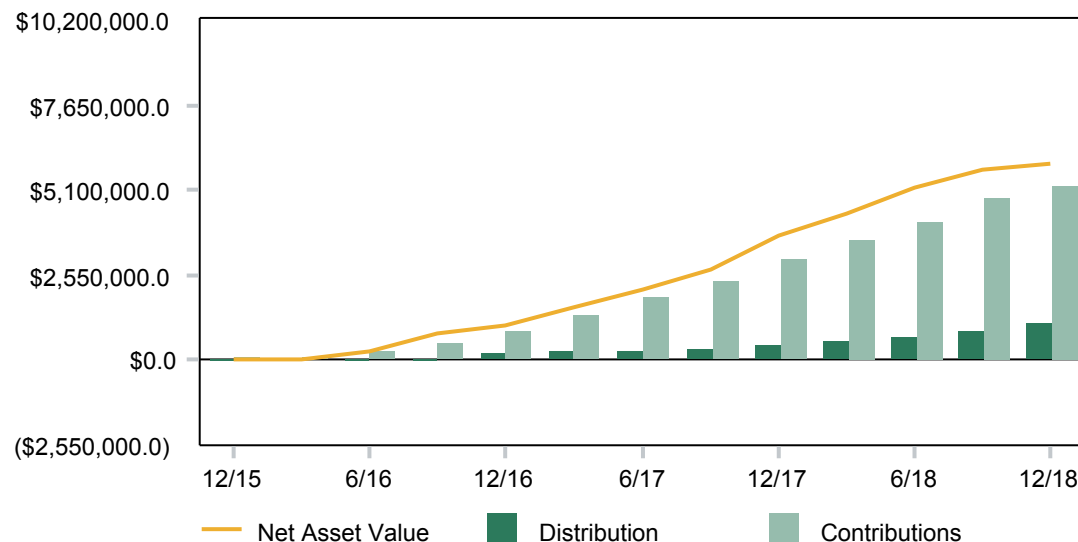
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2014
Strategy Type:	Energy & Natural Resources	Management Fee:	53 bps per annum
Size of Fund:	252,700,000	Preferred Return:	
Inception:	08/01/2014	General Partner:	Fairfield Partners 2014, LP
Final Close:	3/17/2016		
Investment Strategy:	Commonfund Capital's Natural Resources Partners X, LP seeks long-term capital appreciation and superior risk-adjusted net returns through equity investments and property acquisition strategies. Strategic focus areas include emphasis on oil and natural gas production, oilfield services, infrastructure, mining and other natural resources opportunities.		

Cash Flow Summary

Capital Committed:	\$9,500,000
Total Contributions:	\$5,225,000
Remaining Capital Commitment:	\$4,275,000
Total Distributions:	\$1,081,014
Market Value:	\$5,874,455
Inception Date:	11/20/2015
Inception IRR:	31.27
TVPI:	1.33
PME+:	1.38

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

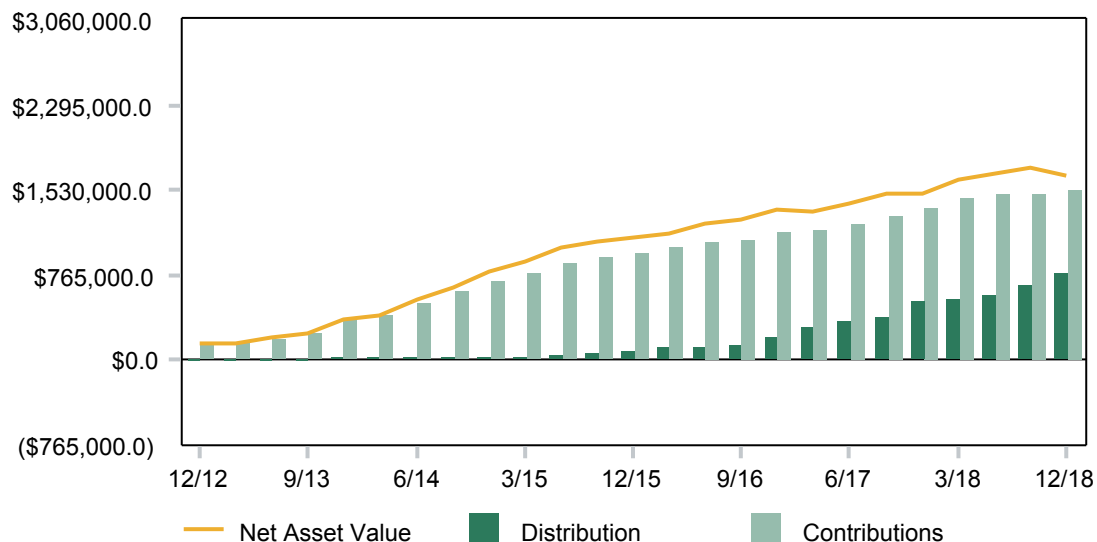
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2012
Strategy Type:	Buyouts	Management Fee:	53 bps per annum on Committed Capital (see detailed fee schedule)
Size of Fund:	218,100,000	Preferred Return:	
Inception:	12/01/2011	General Partner:	Fairfield Partners 2009, LP
Final Close:	01/31/2013		
Investment Strategy:	Commonfund Capital's Private Equity Partner VIII fund offers investors the opportunity to invest in private equity transactions, such as growth equity financing, leveraged buyouts, acquisitions and/or industry consolidations, recapitalizations and restructurings. Traditionally, private equity investments seek to earn returns substantially above those on publicly traded stocks over a long term (seven- to 10-year) investment horizon and to further diversify the equity component of an investment portfolio. The fund seeks long-term capital appreciation and superior risk-adjusted net returns through diversified private equity investments.		

Cash Flow Summary

Capital Committed:	\$2,000,000
Total Contributions:	\$1,525,000
Remaining Capital Commitment:	\$475,000
Total Distributions:	\$773,940
Market Value:	\$1,665,102
Inception Date:	11/02/2012
Inception IRR:	16.01
TVPI:	1.60
PME+:	9.16

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

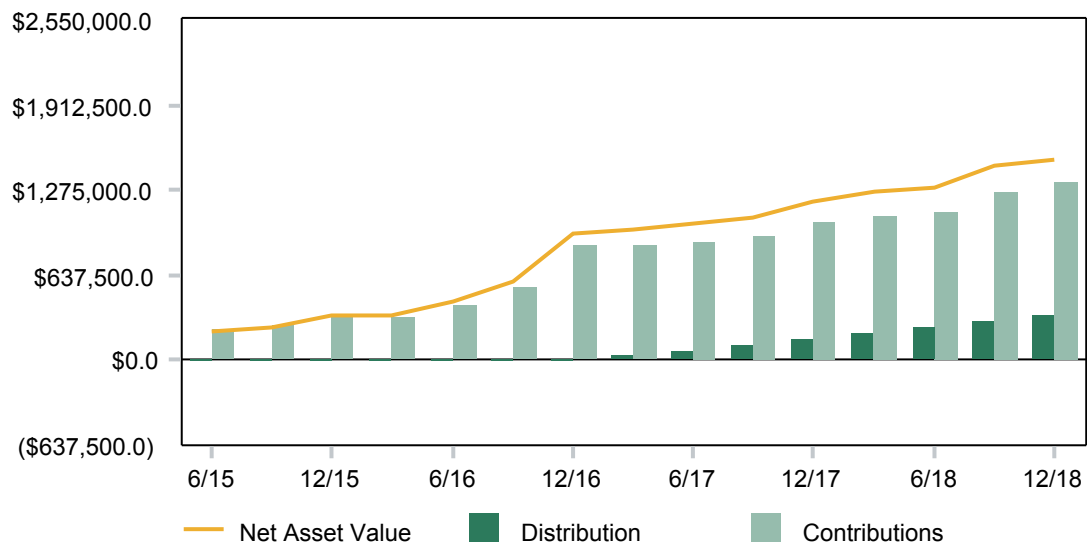
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2014
Strategy Type:	Buyouts	Management Fee:	53 bps per annum on Committed Capital (see detailed fee schedule)
Size of Fund:	280,500,000	Preferred Return:	
Inception:	12/01/2014	General Partner:	Fairfield Partners 2012, LP
Final Close:	03/24/2016		
Investment Strategy:	Commonfund Capital's Private Equity Partner IX fund offers investors the opportunity to invest in private equity transactions, such as growth equity financing, leveraged buyouts, acquisitions and/or industry consolidations, recapitalizations and restructurings. Traditionally, private equity investments seek to earn returns substantially above those on publicly traded stocks over a long term (seven- to 10-year) investment horizon and to further diversify the equity component of an investment portfolio. The fund seeks long-term capital appreciation and superior risk-adjusted net returns through diversified private equity investments.		

Cash Flow Summary

Capital Committed:	\$2,000,000
Total Contributions:	\$1,340,000
Remaining Capital Commitment:	\$660,000
Total Distributions:	\$342,551
Market Value:	\$1,495,724
Inception Date:	06/12/2015
Inception IRR:	18.21
TVPI:	1.37
PME+:	6.74

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

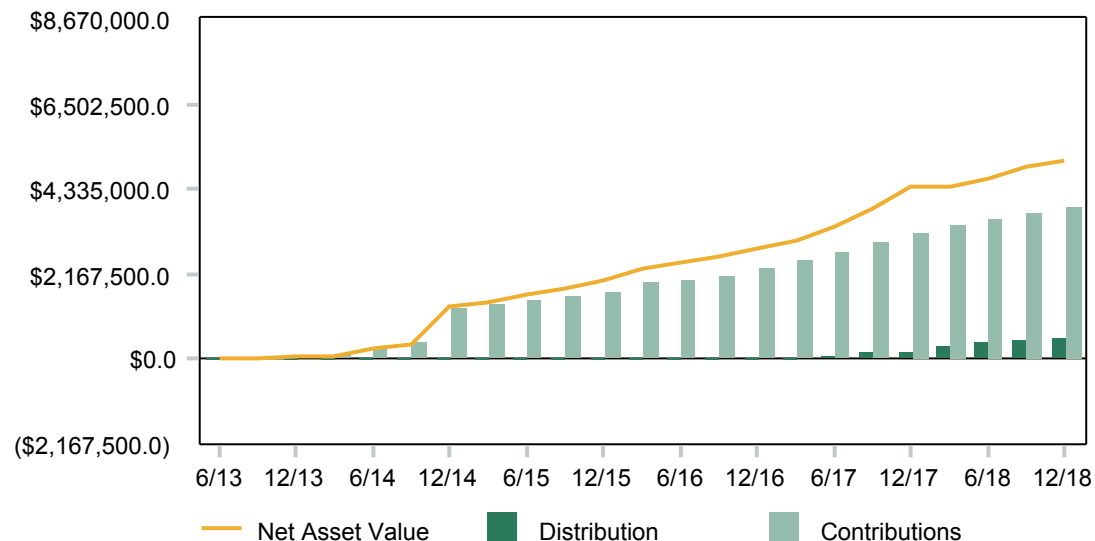
Fund Information

Type of Fund:	Fund Of Funds	Vintage Year:	2013
Strategy Type:	International Private Equity	Management Fee:	
Size of Fund:	199,400,000	Preferred Return:	
Inception:	06/26/2013	General Partner:	Fairfield Partners Management LLC
Final Close:			
Investment Strategy:	Commonfund Capital's Emerging Markets Partners 2013 seeks long-term capital appreciation and superior risk-adjusted net returns through diversified private capital investments including growth equity, buyouts and venture capital. Strategic focus area is Emerging Markets including China, Latin America, India, Southeast Asia, South Korea, Africa and other select emerging markets countries.		

Cash Flow Summary

Capital Committed:	\$5,000,000
Total Contributions:	\$3,912,500
Remaining Capital Commitment:	\$1,087,500
Total Distributions:	\$531,795
Market Value:	\$5,061,077
Inception Date:	06/26/2013
Inception IRR:	14.41
TVPI:	1.43
PME+:	7.21

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

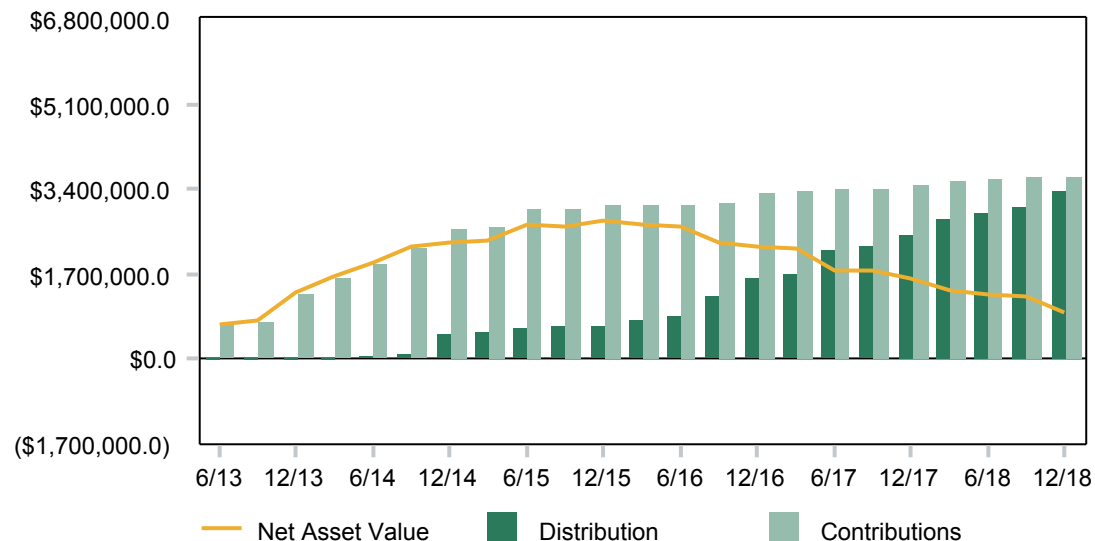
Type of Fund:	Direct	Vintage Year:	2013
Strategy Type:	Other	Management Fee:	1.25%
Size of Fund:	1,011,100,000	Preferred Return:	7%
Inception:	08/31/2012	General Partner:	Highbridge Capital Management, LLC
Final Close:	06/18/2013		
Investment Strategy:	"The Highbridge Specialty Loan Fund III invests in directly originated secured loans made to middle market companies (revenues of \$50 million to \$500 million). The strategy is designed to exploit the dislocation due to banks pulling away from lending in the middle market space - post global financial crisis and stricter regulatory requirements.		

The strategy targets a gross IRR of 11-13%"

Cash Flow Summary

Capital Committed:	\$3,000,000
Total Contributions:	\$3,660,147
Remaining Capital Commitment:	\$154,822
Total Distributions:	\$3,380,534
Market Value:	\$930,926
Inception Date:	06/01/2013
Inception IRR:	6.32
TVPI:	1.18
PME+:	10.05

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Direct
Strategy Type: Other
Size of Fund: 800,000,000
Inception: 06/23/2015
Final Close: 12/23/2016

Vintage Year: 2016
Management Fee: 1.50%
Preferred Return: 8%
General Partner: Highbridge GP, Ltd.

Investment Strategy: European Asset Value Fund (“EAVF”) will invest in performing financial asset portfolios and platforms with origination and servicing capabilities. The Fund seeks to take advantage of strategic shifts in the European specialty finance sector, where regulatory-induced deleveraging is leading banks to divest those portfolios and platforms which are both capital intensive and non-core. EAVF intends to create a leading non-bank financial institution through its pan-European platforms, providing a meaningful alternative to the banks for SME and Consumer credit.

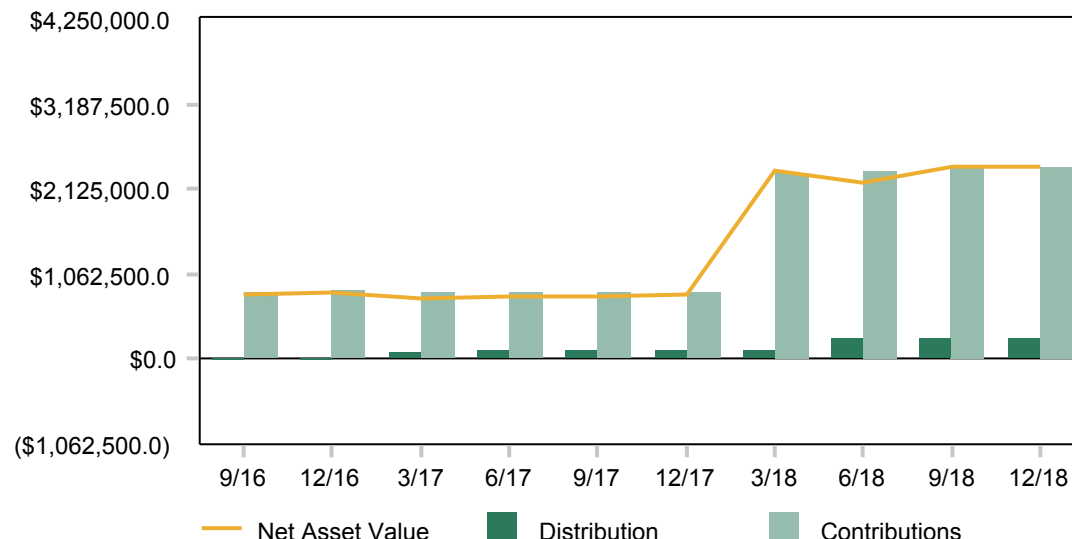
Cash Flow Summary

Capital Committed: \$3,000,000
Total Contributions: \$2,411,323
Remaining Capital Commitment: \$808,014

Total Distributions: \$266,651
Market Value: \$2,399,929

Inception Date: 09/12/2016
Inception IRR: 8.19
TVPI: 1.12
PME+: 2.53

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Fund Information

Type of Fund: Direct
Strategy Type: Mezzanine
Size of Fund: 4,407,000,000
Inception: 03/15/2012
Final Close: 03/15/2013

Vintage Year: 2012
Management Fee: 1.50%
Preferred Return: 8%
General Partner: HPS Mezzanine Partners II GP, L.P.

Investment Strategy: The Mezzanine Funds’ investment objective is to generate current returns as well as long-term capital appreciation through investments in mezzanine securities, which are high yielding fixed-income securities typically combined with an equity component (such as common stock or equity warrants) of the underlying portfolio company. Mezzanine securities typically represent the portion of the issuer’s capital structure between the senior secured and equity tranches. The fixed-income portion of a mezzanine investment is generally senior in ranking to the equity but subordinated to any senior secured indebtedness. The Funds will consider a broad array of investment opportunities, with the majority of investments expected to be in securities of mid- to large- cap companies in North America and Europe, although the Funds may invest in Latin America, Asia and elsewhere globally as determined in the discretion of the General Partners.

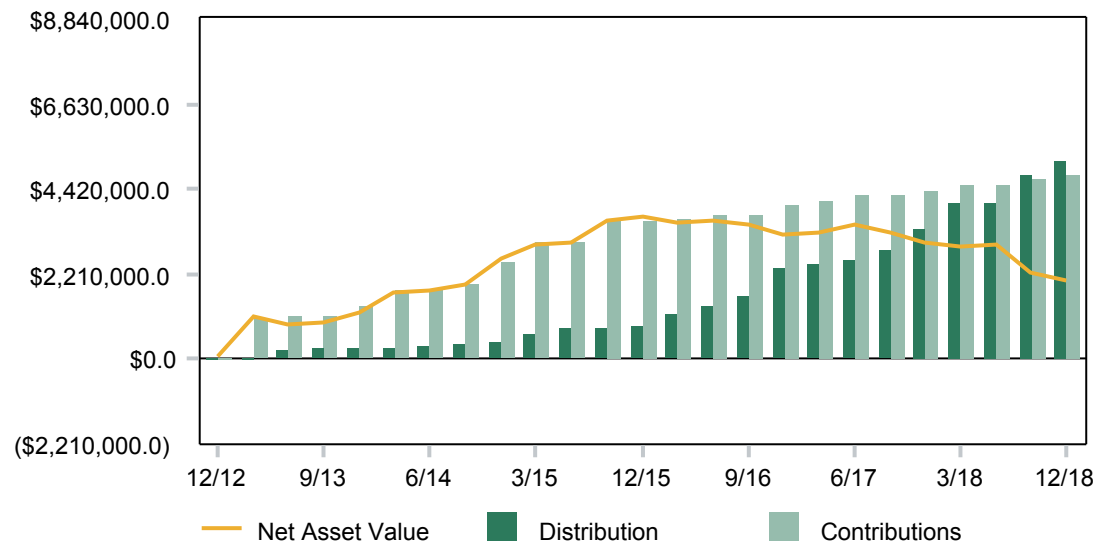
Cash Flow Summary

Capital Committed: \$5,000,000
Total Contributions: \$4,788,302
Remaining Capital Commitment: \$816,688

Total Distributions: \$5,150,432
Market Value: \$2,020,959

Inception Date: 12/31/2012
Inception IRR: 17.15
TVPI: 1.55
PME+: 10.25

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

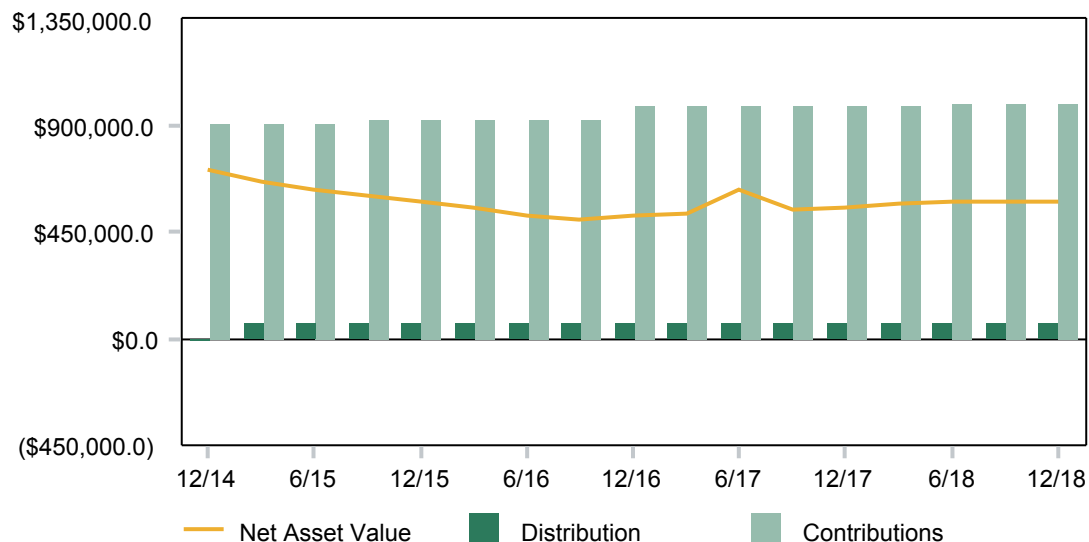
Fund Information

Type of Fund:	Other	Vintage Year:	2013
Strategy Type:	Infrastructure	Management Fee:	1.50%
Size of Fund:	468,800,000	Preferred Return:	Preferred return of 8% per annum
Inception:	04/01/2013	General Partner:	
Final Close:	January 25,2015		
Investment Strategy:	Closed Ended Opportunistic and Asia Infrastructure Investment Strategy: The Asian Infrastructure strategy employs a holistic approach to investing across the full value chain of infrastructure and related resource companies throughout Asia. The strategy seeks to capitalize on the abundant need for infrastructure in the region by investing primarily in growth opportunities, providing expansion capital with a focus on sustainable (economic, social, and environmental) investments.		

Cash Flow Summary

Capital Committed:	\$929,500
Total Contributions:	\$995,983
Remaining Capital Commitment:	-\$8,106
Total Distributions:	\$64,492
Market Value:	\$581,044
Inception Date:	11/05/2014
Inception IRR:	-11.21
TVPI:	0.64
PME+:	7.17

Cash Flow Analysis



Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

Appendix

Total IPS OHA Benchmark

3/1/03 to 12/31/08:

27.8%	U.S. Large Cap Equity	100.0% Russell 1000 Index
11.1%	U.S. Small Cap Equity	100.0% Russell 2000 Index
11.1%	International Equity	100.0% MSCI EAFE (Net)
22.2%	Core Fixed Income	100.0% Barclays U.S. Aggregate
5.6%	High Yield Fixed Income	100.0% Barclays U.S. Corporate High Yield
11.1%	Global Real Estate	25.0% FTSE NAREIT Equity 75.0% NCREIF
11.1%	Absolute Return	100.0% 3-month LIBOR + 4%

1/1/09 to 8/30/09:

37.5%	Traditional Global Equities	100.0% MSCI All Country World (Net)
20.5%	Traditional Global Fixed Income	100.0% Barclays U.S. Aggregate
10.0%	Global Real Estate	50.0% FTSE NAREIT Equity 50.0% NCREIF
15.0%	Absolute Return	100.0% 3-month LIBOR + 3%
12.5%	Equity Alternatives	100.0% MSCI All Country World (Net) +3%
2.5%	Fixed Income Alternatives	100.0% Barclays U.S. Corporate High Yield +1%
2.0%	Commodities	100.0% S&P GS Commodities

9/1/09 to 6/30/10:

37.5%	Traditional Global Equities	100.0% MSCI All Country World (Net)
20.5%	Traditional Global Fixed Income	100.0% Barclays U.S. Aggregate
5.0%	Global Public Real Estate	100.0% FTSE EPRA/NAREIT Developed
5.0%	Global Private Real Estate	100.0% NCREIF
15.0%	Absolute Return	100.0% 3-month T-Bill + 3%
12.5%	Equity Alternatives	100.0% MSCI All Country World (Net) +3%
2.5%	Fixed Income Alternatives	100.0% Barclays U.S. Corporate High Yield +1%
2.0%	Commodities	100.0% S&P GS Commodities

7/1/10 to 6/30/11:

37.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
20.5%	Traditional Global Fixed Income	100.0% Barclays U.S. Aggregate
5.0%	Global Real Estate	100.0% FTSE EPRA/NAREIT Developed
15.0%	Absolute Return	100.0% 3-month T-Bill + 3%
12.5%	Equity Alternatives	100.0% MSCI All Country World IMI (Net) +3%
2.5%	Fixed Income Alternatives	100.0% Barclays U.S. Corporate High Yield +1%
2.0%	Commodities	100.0% S&P GS Commodities
5.0%	Hawaii Direct Investments	100.0% Barclays U.S. TIPS +4.75%

7/1/11 to 12/31/12:

37.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
20.5%	Traditional Global Fixed Income	80.0% Barclays U.S. Aggregate 10.0% Merrill Lynch HY Master II 10.0% JPM GBI-EM Global Diversified
5.0%	Global Public Real Estate	100.0% FTSE EPRA/NAREIT Developed (Net)
15.0%	Absolute Return	50.0% T-Bills +4% 33.3% MSCI All Country World IMI (Net) 16.7% Merrill Lynch HY Master II
12.5%	Equity Alternatives	100.0% MSCI All Country World IMI (Net) +3%
2.5%	Fixed Income Alternatives	100.0% Merrill Lynch HY Master II + 1%
2.0%	Commodities	100.0% Bloomberg Commodity Index Total Return
5.0%	Hawaii Direct Investments	25.0% Barclays U.S. TIPS 20.0% DJ U.S. Select REIT TR 35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ UBS Commodity TR

1/1/13 to 6/30/14:

38.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
11.0%	Traditional Global Credit	65.0% Barclays U.S. Credit Bond 15.0% JPM GBI-EM Global Diversified 15.0% Barclays U.S. High Yield – 2% Issuer Cap 5.0% JPM EMBI Global
5.5%	Traditional Global Real Assets	100.0% FTSE EPRA/NAREIT Developed (Net)
8.0%	Enhanced Liquidity	n/a DJ UBS Commodity TR (Actual Weight) n/a Barclays U.S. Gov't (Actual Weight)
5.0%	Hawaii Direct Investments	25.0% Barclays U.S. TIPS 20.0% DJ U.S. Select REIT TR 35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ UBS Commodity TR
12.8%	Low Volatility Marketable Alternatives	80.0% T-Bills +4% 20.0% DJ UBS Commodity TR
12.8%	N.M. Equity	100.0% MSCI All Country World IMI +3% (Qtr Lag)
2.4%	N.M. Credit	100.0% Merrill Lynch HY Master II + 1.5% (Qtr Lag)
4.0%	N.M. Opportunistic & Real Assets	25.0% Barclays U.S. TIPS 20.0% DJ U.S. Select REIT TR 35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ UBS Commodity TR (Qtr Lag +3% per annum)

7/1/14 to 10/31/2015:

38.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
11.0%	Traditional Global Credit	65.0% Barclays U.S. Credit Bond 15.0% JPM GBI-EM Global Diversified 15.0% Barclays U.S. High Yield – 2% Issuer Cap 5.0% JPM EMBI Global
5.5%	Traditional Global Real Assets	100.0% FTSE EPRA/NAREIT Developed (Net)
8.0%	Enhanced Liquidity	n/a Citigroup 3 Month T-Bill + 4% (Actual Weight) n/a Barclays U.S. Gov't (Actual Weight)
5.0%	Hawaii Direct Investments	25.0% Barclays U.S. TIPS 20.0% DJ U.S. Select REIT TR 35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ UBS Commodity TR
12.8%	Low Volatility Marketable Alternatives	80.0% OHA Citigroup 3 Month T Bill + 4% 20.0% Bloomberg Commodity Index Total Return
12.8%	N.M. Equity	100.0% MSCI All Country World IMI +3%
2.4%	N.M. Credit	100.0% Merrill Lynch HY Master II + 1.5%
4.0%	N.M. Opportunistic & Real Assets	25.0% Barclays U.S. TIPS 20.0% DJ U.S. Select REIT TR 35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ UBS Commodity TR (Qtr Lag +3% per annum)

11/1/15 to 10/31/17:

38.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
11.0%	Traditional Global Credit	65.0% Barclays U.S. Credit Bond 15.0% JPM GBI-EM Global Diversified 15.0% Barclays U.S. High Yield – 2% Issuer Cap 5.0% JPM EMBI Global
5.5%	Traditional Global Real Assets	100.0% FTSE EPRA/NAREIT Developed (Net)
8.0%	Enhanced Liquidity	n/a Citigroup 3 Month T-Bill + 4% (Actual Weight)
5.0%	Hawaii Direct Investments	100.0% SSgA Real Asset Strategy
12.8%	Low Volatility Marketable Alternatives	100.0% Citigroup 3 Month T-Bill
12.8%	N.M. Equity	100.0% MSCI All Country World IMI +4%
2.4%	N.M. Credit	100.0% Merrill Lynch HY Master II + 1.5%
4.0%	N.M. Opportunistic & Real Assets	25.0% Barclays U.S. TIPS 20.0% DJ U.S. Select REIT TR 35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ Brookfield Glb Infra (Qtr Lag +3% per annum)

11/1/17 to Present:

40.0%	Traditional Global Equities	100.0% MSCI All Country World
17.0%	Traditional Global Credit	100.0% Bloomberg Barclays U.S. Aggregate
5.0%	Traditional Global Real Assets	100.0% Bloomberg Barclays U.S. TIPS +3%
12.0%	Hedge Funds	100.0% Citigroup 3 Month T-Bill +4%
18.0%	Private Equity	100.0% MSCI All Country World +3%
3.0%	Enhanced Liquidity	100.0% Bloomberg Barclays 1-3 Year Treasury
5.0%	Hawaii Direct Investments	100.0% Bloomberg Barclays U.S. TIPS +3%

Total IPS Traditional Assets Benchmark

1/1/11 to 6/30/11:

59.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
32.5%	Traditional Global Fixed Income	100.0% Bloomberg Barclays U.S. Aggregate
8.0%	Traditional Global Real Assets	100.0% FTSE EPRA/NAREIT Developed

7/1/11 to 12/31/2012:

59.5%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
32.5%	Traditional Global Fixed Income	80.0% Barclays U.S. Aggregate 10.0% Merrill Lynch HY Master II 10.0% JPM GBI-EM Global Diversified
8.0%	Global Public Real Estate	100.0% FTSE EPRA/NAREIT Developed (Net)

1/1/13 to 10/31/17:

70.0%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
20.0%	Traditional Global Fixed Income	65.0% Barclays U.S. Credit Bond 15.0% JPM GBI-EM Global Diversified 15.0% Barclays U.S. High Yield – 2% Issuer Cap 5.0% JPM EMBI Global
10.0%	Global Public Real Estate	100.0% FTSE EPRA/NAREIT Developed (Net)

11/1/17 to Present:

64.5%	Traditional Global Equities	100.0% MSCI All Country World
27.4%	Traditional Global Credit	100.0% Bloomberg Barclays U.S. Aggregate
8.1%	Traditional Global Real Assets	100.0% Bloomberg Barclays U.S. TIPS +3%

Total IPS Global Equities Benchmark

3/1/03 to 12/31/08:

- 55.6% U.S. Large Cap Equity**
100.0% Russell 1000 Index
- 22.2% U.S. Small Cap Equity**
100.0% Russell 2000 Index
- 22.2% International Equity**
100.0% MSCI EAFE (Net)

1/1/09 to 6/30/10:

- 55.1% Traditional Global Equities**
100.0% MSCI All Country World (Net)
- 30.2% Traditional Global Fixed Income**
100.0% Barclays U.S. Aggregate
- 14.7% Global Real Estate**
50.0% FTSE NAREIT Equity
50.0% NCREIF

7/1/10 to 6/30/11:

- 59.5% Traditional Global Equities**
100.0% MSCI All Country World IMI (Net)
- 32.5% Traditional Global Fixed Income**
100.0% Barclays U.S. Aggregate
- 8.0% Global Real Estate**
100.0% FTSE EPRA/NAREIT Developed

7/1/11 to 12/31/12:

- 59.5% Traditional Global Equities**
100.0% MSCI All Country World IMI (Net)
- 32.5% Traditional Global Fixed Income**
80.0% Barclays U.S. Aggregate
10.0% Merrill Lynch HY Master II
10.0% JPM GBI-EM Global Diversified
- 8.0% Global Public Real Estate**
100.0% FTSE EPRA/NAREIT Developed (Net)

1/1/13 to 10/31/17:

- 70.0% Traditional Global Equities**
100.0% MSCI All Country World IMI (Net)
- 20.0% Traditional Global Credit**
65.0% Barclays U.S. Credit Bond
15.0% JPM GBI-EM Global Diversified
15.0% Barclays U.S. High Yield – 2% Issuer Cap
5.0% JPM EMBI Global
- 10.0% Traditional Global Real Assets**
100.0% FTSE EPRA/NAREIT Developed (Net)

11/1/17 to Present:

- 64.5% Traditional Global Equities**
100.0% MSCI All Country World
- 27.4% Traditional Global Credit**
100.0% Bloomberg Barclays U.S. Aggregate
- 8.1% Traditional Global Real Assets**
100.0% Bloomberg Barclays U.S. TIPS +3%

Total IPS Global Fixed Income Benchmark

3/1/03 to 12/31/08:

79.9% Core Fixed Income

100.0% Barclays U.S. Aggregate

20.1% High Yield Fixed Income

100.0% Barclays U.S. Corporate High Yield

1/1/09 to 6/30/11:

100.0% Traditional Global Fixed Income

100.0% Barclays U.S. Aggregate

7/1/11 to 12/31/12:

100.0% Traditional Global Fixed Income

80.0% Barclays U.S. Aggregate

10.0% Merrill Lynch HY Master II

10.0% JPM GBI-EM Global Diversified

1/1/13 to 10/31/17:

100.0% Traditional Global Credit

65.0% Barclays U.S. Credit Bond

15.0% JPM GBI-EM Global Diversified

15.0% Barclays U.S. High Yield – 2% Issuer Cap

5.0% JPM EMBI Global

11/1/17 to Present:

100.0% Traditional Global Credit

100.0% Bloomberg Barclays U.S. Aggregate

Total IPS Global Real Assets Benchmark

11/1/03 to 12/31/08:

100.0% Global Real Estate

25.0% FTSE NAREIT Equity
75.0% NCREIF

1/1/09 to 6/30/10:

100.0% Global Real Estate

50.0% FTSE NAREIT Equity
50.0% NCREIF

7/1/10 to 12/31/13:

100.0% Global Real Estate

100.0% FTSE EPRA/NAREIT Developed

1/1/14 to 10/31/17:

100.0% Traditional Global Real Assets

100.0% FTSE EPRA/NAREIT Developed (Net)

11/1/17 to Present:

100.0% Traditional Global Real Assets

100.0% Bloomberg Barclays U.S. TIPS +3%

Total IPS Hedge Funds Benchmark

7/1/10 to 6/30/11:

100.0% Absolute Return

100.0% 3-month T-Bill + 3%

7/1/11 to 12/31/12:

100.0% Absolute Return

50.0% T-Bills +4%
33.3% MSCI All Country World IMI (Net)
16.7% Merrill Lynch HY Master II

1/1/13 to 6/30/14:

100.0% Low Volatility Marketable Alternatives

80.0% T-Bills +4%
20.0% DJ UBS Commodity TR

7/1/14 to 10/31/15:

100.0% Low Volatility Marketable Alternatives

80.0% OHA Citigroup 3 Month T Bill + 4%
20.0% Bloomberg Commodity Index Total Return

11/1/15 to 10/31/17:

100.0% Low Volatility Marketable Alternatives

100.0% Citigroup 3 Month T-Bill

11/1/17 to Present:

100.0% Hedge Funds

100.0% Citigroup 3 Month T-Bill +4%

Total IPS Enhanced Liquidity Account Benchmark

7/1/10 to 6/30/11:

50.0%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
20.5%	Traditional Global Fixed Income	100.0% Barclays U.S. Aggregate
5.0%	Global Public Real Estate	100.0% FTSE EPRA/NAREIT Developed
15.0%	Absolute Return	100.0% 3-month T-Bill + 3%
2.5%	Fixed Income Alternatives	100.0% Barclays U.S. Corporate High Yield
2.0%	Commodities	100.0% S&P GS Commodities
5.0%	Hawaii Direct Investments	100.0% Barclays U.S. TIPS

7/1/11 to 12/31/12:

55.0%	Traditional Global Equities	100.0% MSCI All Country World IMI (Net)
18.5%	Traditional Global Fixed Income	100.0% Barclays U.S. Aggregate
5.0%	Global Public Real Estate	100.0% FTSE EPRA/NAREIT Developed
7.5%	Absolute Return	100.0% 1-month T-Bill + 3%
7.0%	Fixed Income Alternatives	100.0% Merrill Lynch High Yield Master II
2.0%	Commodities	100.0% DJ UBS Commodity TR
5.0%	Hawaii Direct Investments	100.0% SSgA Real Asset Strategy

1/1/13 to 6/30/14:

n/a	Diversifying Strategies	n/a DJ UBS Commodity TR (Actual Weight)
n/a	U.S. Gov't Securities	n/a Barclays U.S. Gov't (Actual Weight)

7/1/14 to 1/31/16:

n/a	Diversifying Strategies	n/a Citigroup 3 Month T-Bill +4% (Actual Weight)
n/a	U.S. Gov't Securities	n/a Barclays U.S. Gov't (Actual Weight)

2/1/16 to 10/31/17:

n/a	U.S. Gov't Securities	n/a Barclays U.S. Gov't (Actual Weight)
------------	------------------------------	---

11/1/17 to Present:

100.0%	Enhanced Liquidity Account	100.0% Bloomberg Barclays 1-3 Year Treasury
---------------	-----------------------------------	---

Total IPS Hawaii Direct Investments Benchmark

7/1/10 to 6/30/11:

100.0% Hawaii Direct Investments

100.0% Barclays U.S. TIPS +4.75%

7/1/11 to 6/30/16:

100.0% Hawaii Direct Investments

25.0% Barclays U.S. TIPS
20.0% DJ U.S. Select REIT TR
35.0% S&P Global Lrg MidCap Common Resources (Net)
20.0% DJ UBS Commodity TR

7/1/16 to 9/30/17:

100.0% Hawaii Direct Investments

25.0% Barclays U.S. TIPS
15.0% DJ U.S. Select REIT TR
10.0% S&P Global Infrastructure
25.0% S&P Global Lrg MidCap Common Resources (Net)
25.0% Bloomberg Roll Select Commodity and Resources

10/1/17 to Present:

100.0% Hawaii Direct Investments

100.0% Barclays U.S. TIPS +3%

Office of Hawaiian Affairs

March 13, 2019

Darren Smith, *Client Advisor*
(415) 315-8939, darren.f.smith@jpmorgan.com

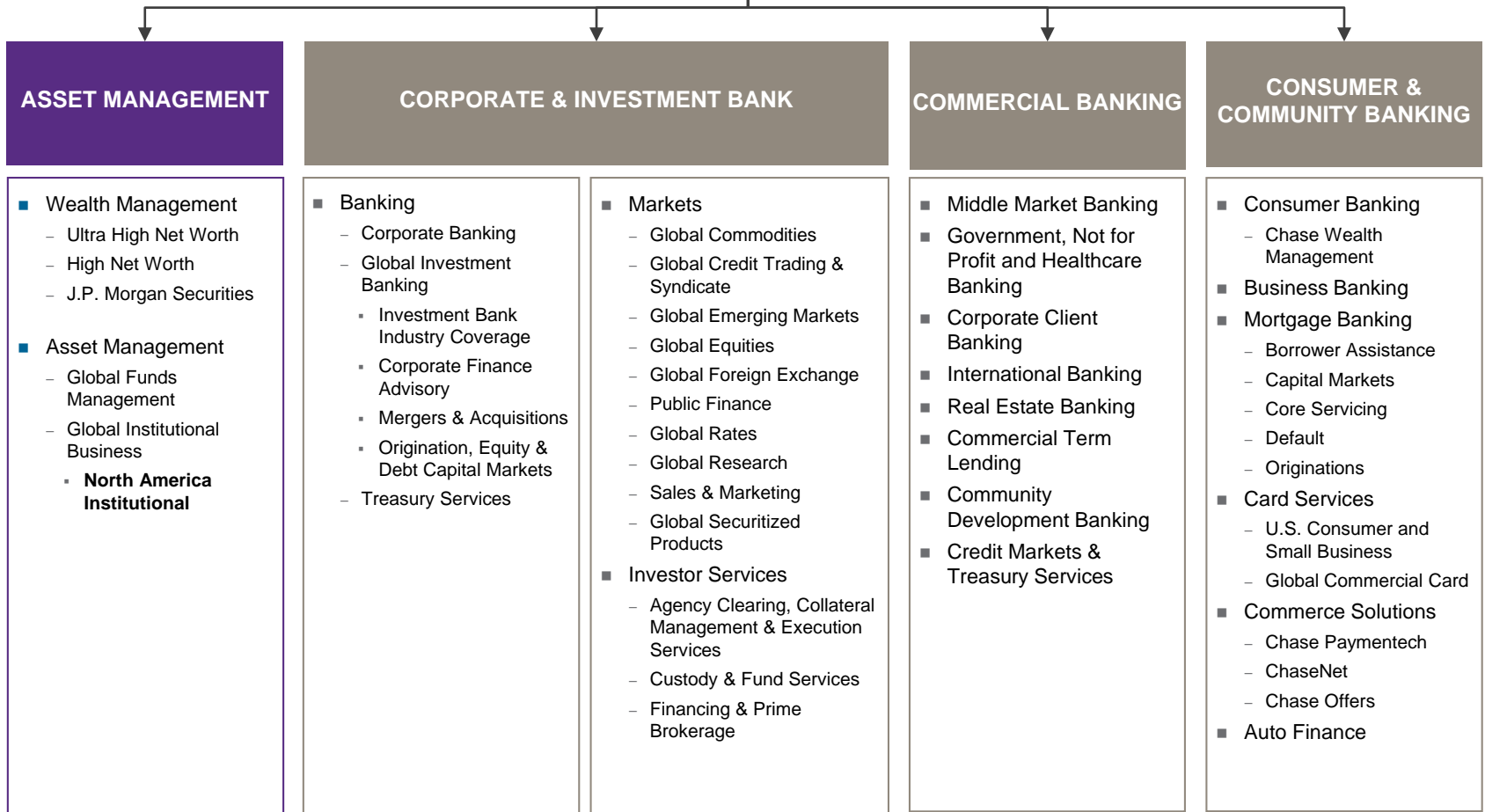
Charles Fishman, *Investment Specialist*
(212) 648-0306, charles.fishman@jpmorgan.com

Agenda

- J.P. Morgan Multi-Asset Solutions
- Market Review
- Portfolio Update
- Market Outlook
- Appendix

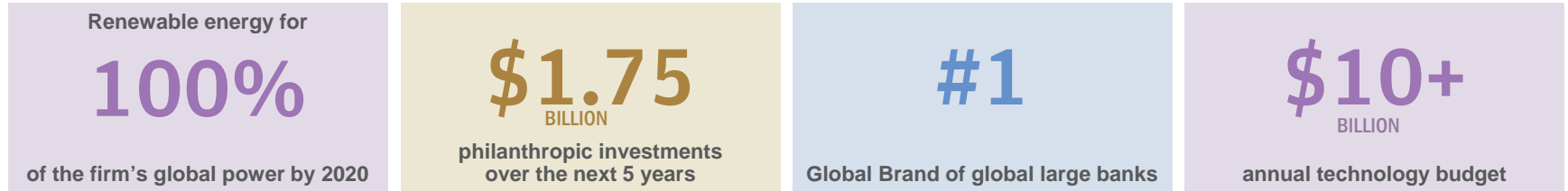
Balanced leadership across the franchise

JPMORGAN CHASE & CO.

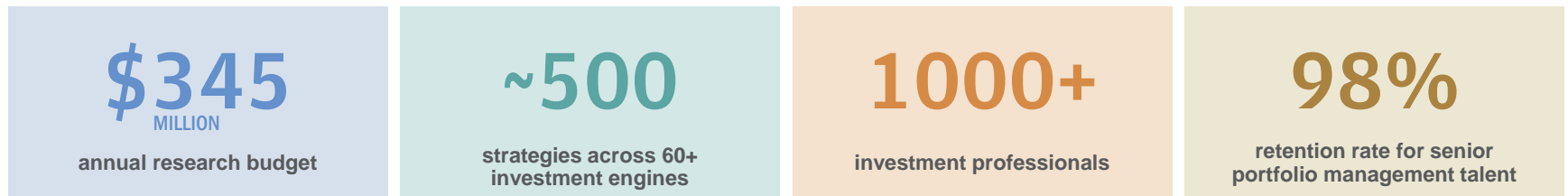


J.P. Morgan Asset Management

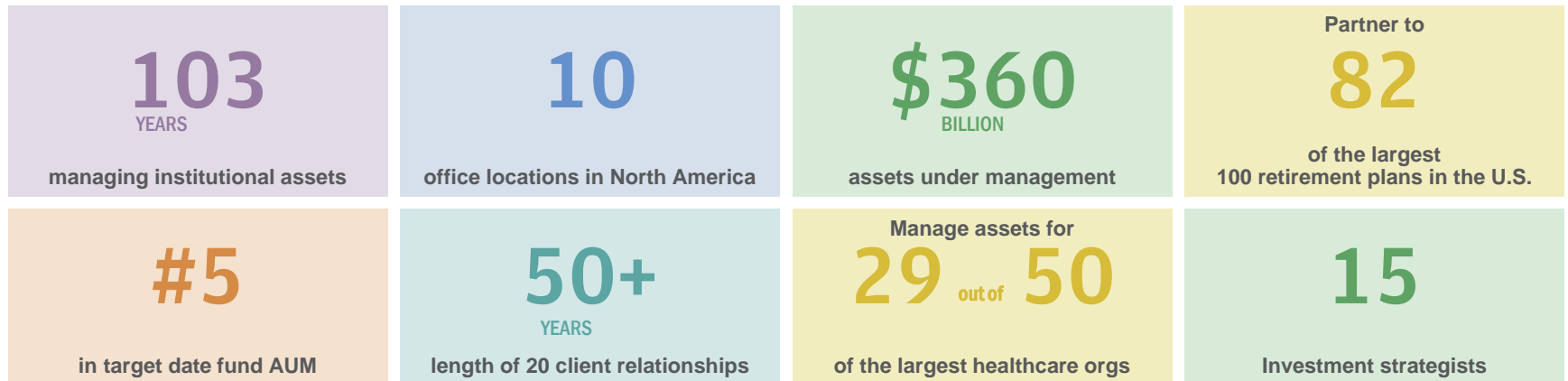
J.P. MORGAN CHASE



J.P. MORGAN ASSET MANAGEMENT



NORTH AMERICA INSTITUTIONAL



Sources: J.P. Morgan Asset Management as of December 31, 2018; JPMorgan Chase & Co. Investor Day 2018; JPMorgan Chase & Co. Annual Report 2017

Global Reach

Access to a deeply resourced network of investment professionals who take a research-driven approach to uncovering opportunities and risks



1000+ INVESTMENT PROFESSIONALS

5000+ ANNUAL ON-SITE COMPANY VISITS¹

USD **345**^{MM} ANNUAL RESEARCH BUDGET

Proprietary research across the globe

Source: J.P. Morgan Asset Management, as of December 31, 2018

Commitment to Diversity and Inclusion: Enriched by our culture

45% of firm's Operating Committee

30% of senior leaders globally

50% of all employees

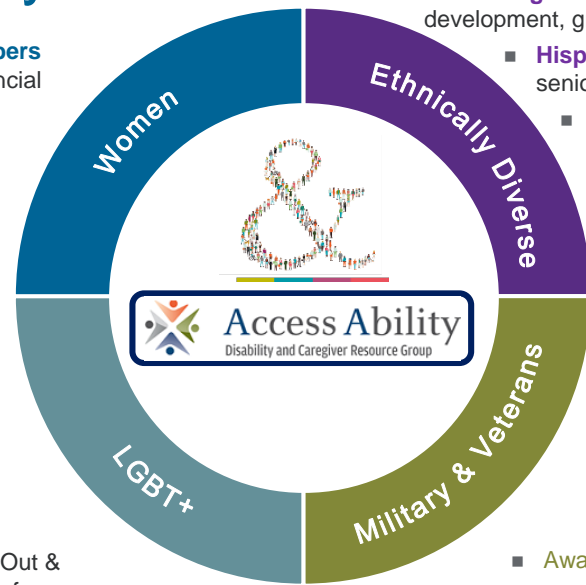
- **Women on The Move** program, ~35,500 members globally, focused on women's careers and financial health.
- The **ReEntry Program** creates a pathway for women to return to the workforce after a career break. To date, close to **150 fellows** have gone through the program

48% Ethnic diversity in US employees



97 Black Managing Directors (global)





- **Advancing Black Pathways** aimed at having sustainable impact on economic development, growth and empowerment externally in the black community
- **Hispanic and Asian Executive Forums** serve as a collective senior voice for their respective communities
- **Advancing Black Leaders** launched in 2016 to focus on developing and sourcing Black talent.
- **Chris Willcox**, Asset Management CEO, is an Executive Sponsor for the AWM **Black Leadership Forum**



LGBT Executive Council

- Consists of "out" senior leaders who serve as advocates for the community
- Sponsored the **Human Rights Campaign's** "A Workplace Divided" study and working with Out & Equal to build software solutions through Force for Good
- Currently developing manager / employee transgender educational toolkit



14,000+ Vets hired by JPMC since 2011

- **In addition** helped **470,000** veteran hires by 200+ leading firms.

1,000 mortgage free homes to military families through **Military Home Awards** Program

- Support veteran-owned small businesses through special financial products at Chase and invest \$4.2 million in organizations that support veteran entrepreneurs





Source: J.P. Morgan Chase & Co. as of December 31, 2018

J.P. Morgan Asset Management: Proven success as an institutional investment partner

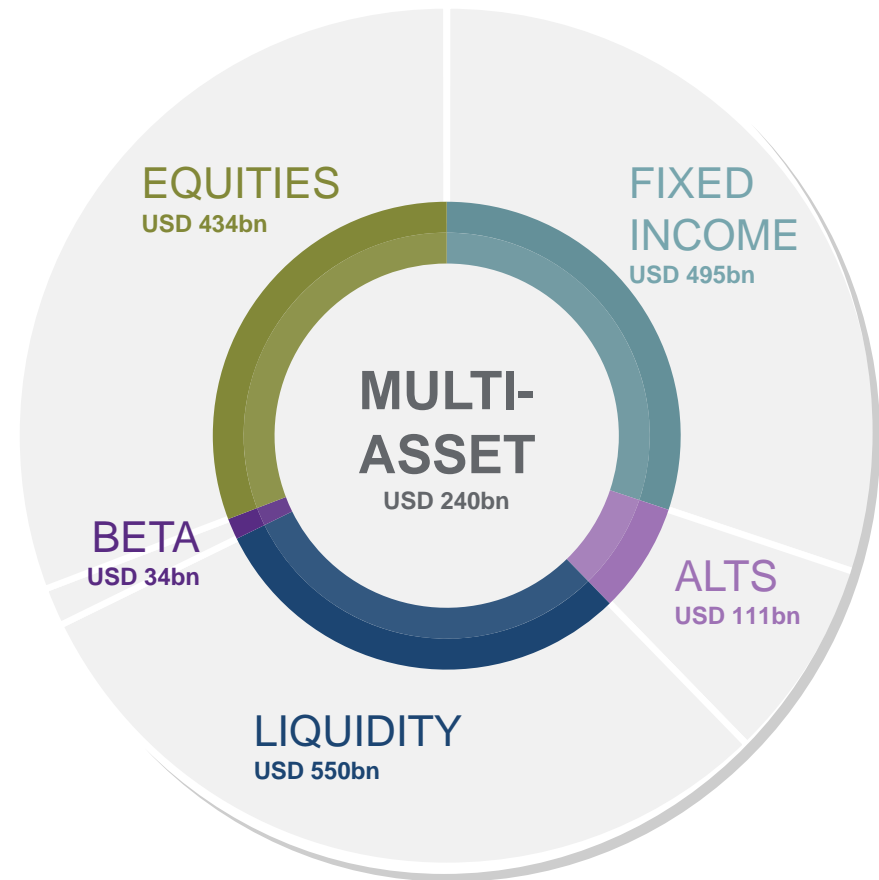
Organizational expertise

J.P. Morgan Asset Management

- \$1.7tn in Assets Under Management
- 500+ investment strategies and 60+ investment engines
- 1,000+ investment professionals globally

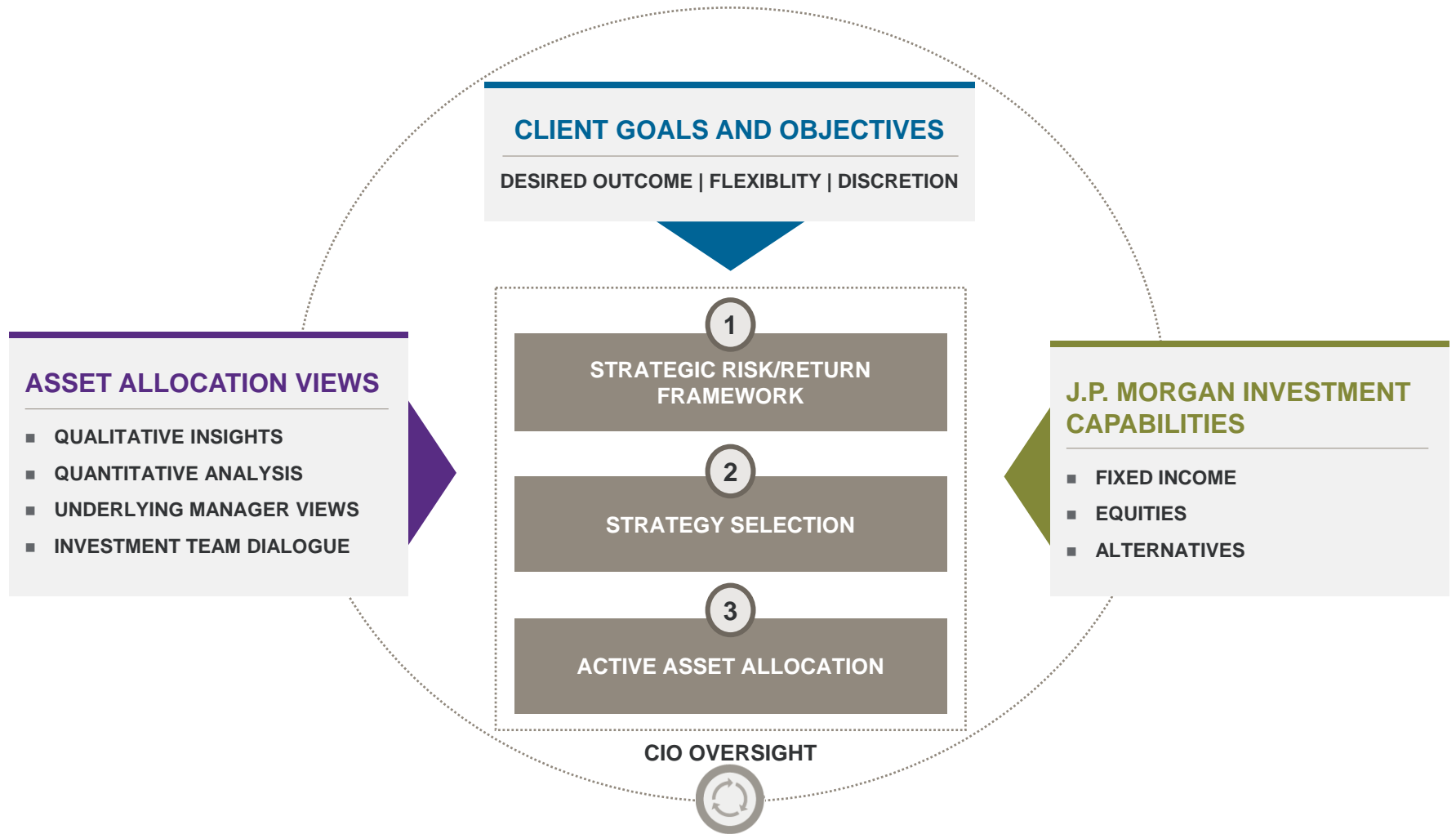
Multi-Asset Solutions (Portfolio Management Team)

- 45 year track record managing institutional portfolios
- Over \$37bn in institutional Assets Under Management globally
- 2018 Institutional Multi-Asset Manager of the Year¹
- #1 recognized discretionary institutional investment manager provider²



Source: J.P. Morgan Asset Management as of December 31, 2018. ¹Fundmap Institutional Multi-Asset Manager of the Year Award. ²Cogent 2016 Institutional Investor Brandscape Survey, OCIO providers.

Our team drives an integrated approach to investing



Source: J.P. Morgan Asset Management. For illustrative purposes only.

Office of Hawaiian Affairs: Mandate overview

Primary objectives and constraints

Primary objectives:

- Outperform a Policy Benchmark comprised of 70% Equities, 20% Fixed Income, 10% Inflation Sensitive Assets
- Mandate should be run in accordance with the Native Hawaiian Trust Fund Investment Policy Statement as applicable
- Utilize tactical asset allocation and active management to outperform the primary benchmark

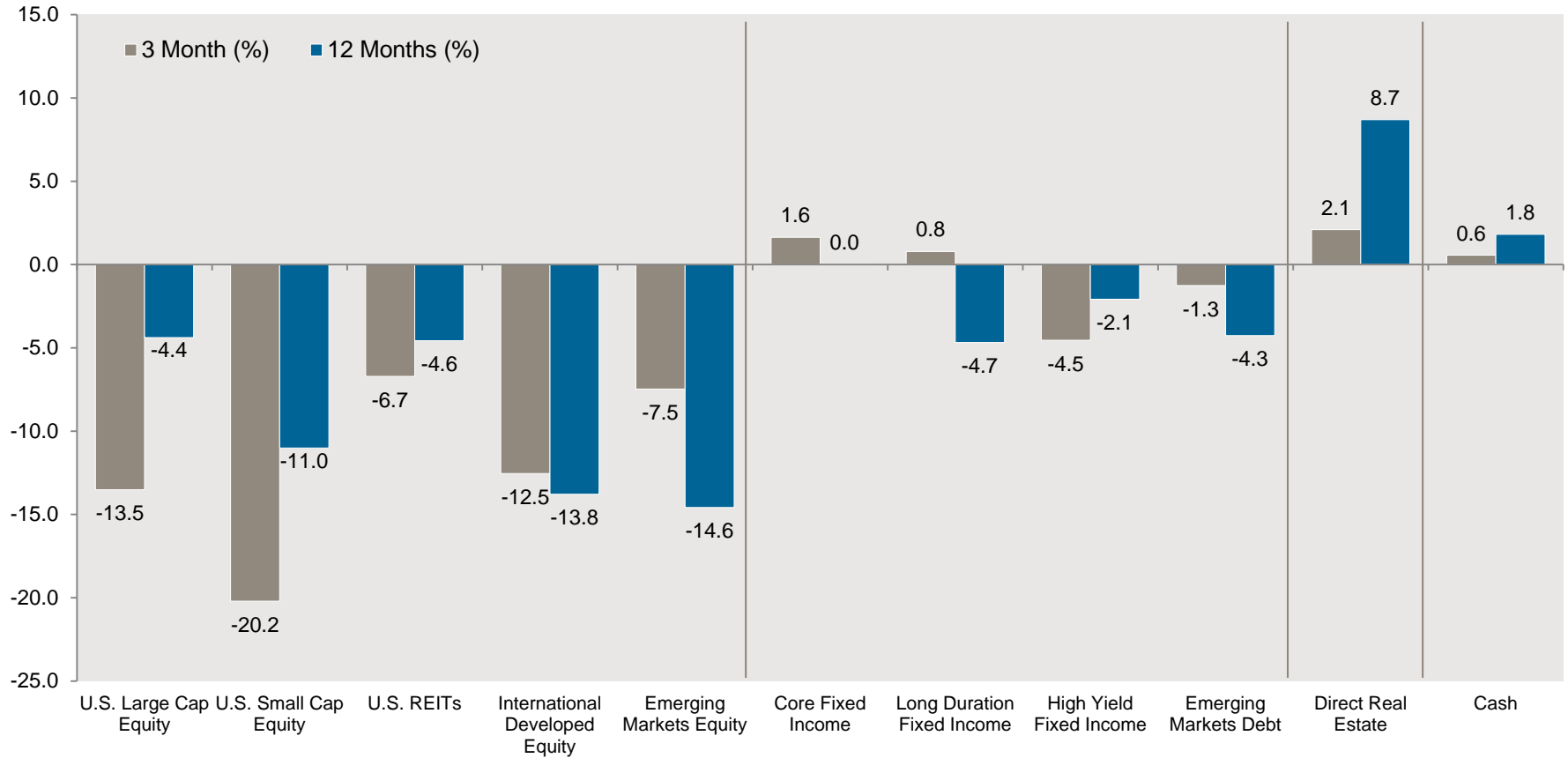
Key constraints:

- Prudent risk management of the portfolio with consideration for total portfolio volatility and tracking error from the Policy Benchmark
- Asset class constraints:
 - Global Equities: 40.00% Minimum, 100.00% Maximum
 - Global Fixed Income: 0.00% Minimum, 60.00% Maximum
 - Real Assets: 0.00% Minimum, 15.00% Maximum
- Liquidity constraints: Commingled investment vehicles must have at least monthly liquidity under normal conditions with no more than T+3 settlement and T-3 notification requirements

Source: J.P. Morgan Asset Management. The manager seeks to achieve the stated objectives. There can be no guarantees they are met.

Market Review

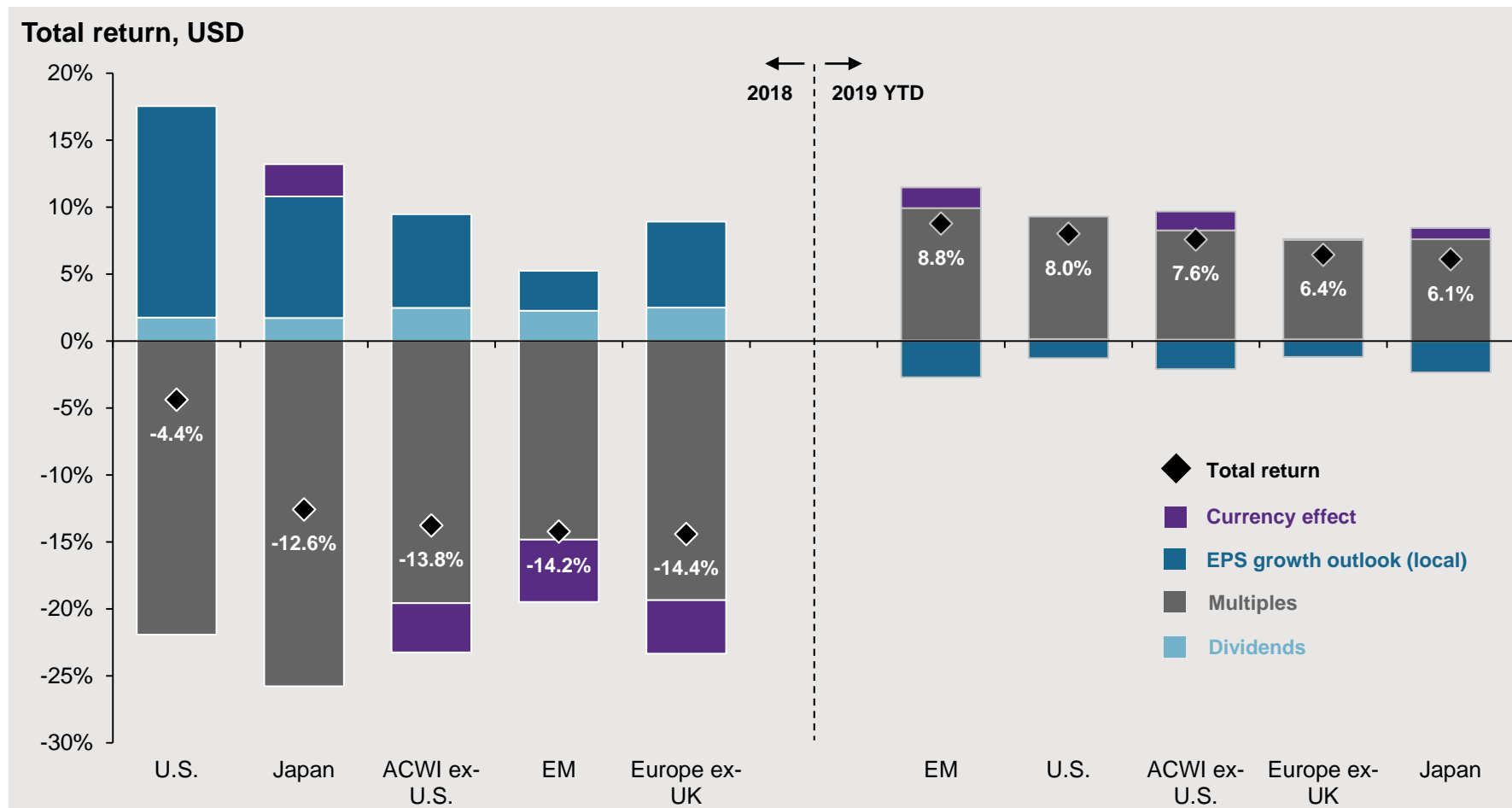
Global market performance in the fourth quarter of 2018



J.P. Morgan Asset Management, Multi-Asset Solutions; as of 12/31/2018. Note: All data shown is representative of U.S. dollar denominated index returns. Past performance is no guarantee of future results.

Global equity markets: Returns

Sources of global equity returns*



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. All figures are total return in USD
 All return values are MSCI Gross Index (official) data, except the U.S., which is the S&P 500. *Multiple expansion is based on the forward P/E ratio and EPS growth outlook is based on NTMA earnings estimates. Chart is for illustrative purposes only. Past performance is not indicative of future results.
 Guide to the Markets - U.S. Data are as of January 31, 2019.

Portfolio Update

Investment Performance

January 31, 2019

	1 Month	3 Month	YTD	1 Year	2 year	3 Year	5 year	7 year	Since Inception*
Total Return	6.32%	1.68%	6.32%	-6.29%	7.1%	9.76%	5.98%	7.93%	6.99%
Total Portfolio Policy Benchmark¹	6.38%	2.34%	6.38%	-3.66%	7.47%	10.05%	6.17%	7.68%	6.79%
Excess Return	-0.06%	-0.66%	-0.06%	-2.63%	-0.37%	-0.29%	-0.19%	0.25%	0.20%
Total Portfolio Custom Benchmark²	5.90%	2.38%	5.9%	-4.3%	7.41%	10.18%	6.13%	7.54%	6.6%
Excess Returns	0.42%	-0.70%	0.42%	-1.99%	-0.31%	-0.42%	-0.15%	0.39%	0.39%

*Since inception date of June 30, 2011. Total Portfolio Custom Benchmark reflect underlying managers' benchmarks, at their strategic portfolio weights. Total Portfolio Policy Benchmark reflects benchmark indices and weights as indicated in investment guidelines.

^{1,2} For benchmark compositions denoted with numbered footnotes, please see slide "Index Compositions" in the Appendix. Performance is shown net of fees. Past performance is no guarantee of future results.

Current portfolio positioning

January 31, 2019

Strategy	Market Value	Strategic Allocation	Current Allocation	(+/-)
JPMorgan Disciplined Equity Fund	7,437,396	5.10%	7.06%	1.96%
JPMorgan Large Cap Core Plus Fund	12,910,418	12.00%	12.25%	0.25%
JPMorgan US Small Company Fund	1,112,197	1.90%	1.06%	-0.84%
JPMorgan Mid Cap Equity Fund	2,644,375	2.50%	2.51%	0.01%
JPMorgan Value Advantage Fund	8,754,034	8.03%	8.30%	0.27%
JPMorgan Growth Advantage Fund	8,667,915	7.97%	8.22%	0.26%
US Equity	41,526,335	37.50%	39.40%	1.90%
JPMorgan International Research Equity Fund ¹	7,747,967	8.50%	7.35%	-1.15%
JPMorgan International Equity Fund	5,415,281	6.25%	5.14%	-1.11%
JPMorgan International Advantage Fund ²	5,406,570	6.25%	5.13%	-1.12%
International Equity	18,569,818	21.00%	17.62%	-3.38%
JPMorgan Emerging Economies Fund Select	3,319,383	3.75%	3.15%	-0.60%
JPMorgan Emerging Markets Equity Fund	1,972,712	3.75%	1.87%	-1.88%
Emerging Markets Equity	5,292,095	7.50%	5.02%	-2.48%
Global Equity	65,388,248	66.00%	62.03%	-3.97%
JPMorgan Core Bond Fund	9,757,027	9.25%	9.26%	0.01%
JPMorgan Core Plus Bond Fund	3,250,335	3.25%	3.08%	-0.17%
JPMorgan Floating Rate Income Fund	7,851,198	5.00%	7.45%	2.45%
Core Fixed Income	20,858,560	17.50%	19.79%	2.29%
JPMorgan High Yield Bond Fund	6,350,466	4.50%	6.02%	1.52%
High Yield	6,350,466	4.50%	6.02%	1.52%
JPMorgan Emerging Markets Strategic Debt Fund	3,165,852	3.00%	3.00%	0.00%
Emerging Markets Debt	3,165,852	3.00%	3.00%	0.00%
Global Credit	30,374,877	25.00%	28.82%	3.82%
JPMorgan Realty Income Fund	4,328,786	4.00%	4.11%	0.11%
US REITs	4,328,786	4.00%	4.11%	0.11%
JPMorgan Inflation Managed Bond Fund	2,317,213	2.50%	2.20%	-0.30%
iShares TIPS Bond Fund	2,680,897	2.50%	2.54%	0.04%
Inflation-Sensitive Fixed Income	4,998,109	5.00%	4.74%	-0.26%
Total Real Assets	9,326,895	9.00%	8.85%	-0.15%
Total Cash	318,567	0.00%	0.30%	0.30%
Total Portfolio	105,408,587	100.00%	100.00%	0.00%

Source: J.P. Morgan Asset Management. Data as of January 31, 2019.

¹ As of November 1, 2017, the JPMorgan Disciplined Equity Fund has been renamed to JPMorgan U.S. Research Enhanced Equity Fund.

² As of July 31, 2018, the Intrepid International Fund has been renamed to JPM International Advantage Fund.

Asset Allocation Over Time

Strategy	Q4 17	Q1 18	Q2 18	Q3 18	Q4 18	31st Jan
JPMorgan U.S. Research Enhanced Equity Fund ¹	7.58%	4.57%	5.29%	5.76%	8.17%	7.06%
JPMorgan Large Cap Core Plus Fund	9.13%	10.04%	10.05%	10.37%	12.05%	12.25%
JPMorgan Intrepid America Fund	4.90%	5.74%	5.91%	5.83%	0.00%	0.00%
JPMorgan US Small Company Fund	1.91%	3.85%	2.84%	3.15%	1.02%	1.06%
JPMorgan Mid Cap Equity Fund	2.83%	2.87%	2.83%	2.91%	2.41%	2.51%
JPMorgan Value Advantage Fund	6.98%	6.83%	6.51%	6.63%	8.17%	8.30%
JPMorgan Growth Advantage Fund	6.98%	7.23%	7.45%	7.30%	7.90%	8.22%
US Equity	40.30%	41.13%	40.89%	41.95%	39.71%	39.40%
JPMorgan International Research Enhanced Equity Fund	9.29%	8.98%	8.61%	8.24%	6.97%	7.35%
JPMorgan International Equity Fund	7.12%	6.75%	6.50%	6.05%	4.74%	5.14%
JPMorgan International Advantage Fund ²	6.99%	6.75%	6.46%	5.92%	4.73%	5.13%
International Equity	23.40%	22.47%	21.57%	20.20%	16.44%	17.62%
JPMorgan Emerging Economies Fund	5.25%	4.99%	4.30%	2.97%	3.03%	3.15%
JPMorgan Emerging Markets Equity Fund	5.25%	5.07%	4.29%	3.49%	2.05%	1.87%
Emerging Markets Equity	10.50%	10.07%	8.60%	6.46%	5.08%	5.02%
Global Equity	74.20%	73.67%	71.05%	68.61%	61.23%	62.03%
JPMorgan Corporate Bond	0.98%	0.00%	0.00%	0.00%	0.00%	0.00%
JPMorgan Core Bond	0.78%	0.77%	0.78%	5.29%	7.30%	9.26%
JPMorgan Core Plus Bond	0.52%	2.90%	0.52%	3.16%	3.24%	3.08%
JPMorgan Floating Rate Income Fund	2.19%	2.23%	2.19%	7.19%	7.72%	7.45%
Core Fixed Income	4.46%	5.91%	9.30%	15.64%	18.26%	19.79%
JPMorgan High Yield Bond Fund	5.46%	5.45%	5.58%	6.35%	5.48%	6.02%
High Yield	5.46%	5.45%	5.58%	6.35%	5.48%	6.02%
JPMorgan Emerging Markets Debt Fund	2.70%	2.75%	0.10%	0.10%	0.00%	0.00%
JPMorgan Emerging Markets Strategic Debt Fund	1.23%	1.22%	1.89%	0.11%	0.12%	3.00%
Emerging Markets Debt	3.92%	3.97%	1.99%	0.21%	0.12%	3.00%
Global Credit	13.85%	15.33%	16.88%	22.20%	23.86%	28.82%
JPMorgan Realty Income Fund	3.97%	3.01%	4.00%	4.02%	3.92%	4.11%
US REITs	3.97%	3.01%	4.00%	4.02%	3.92%	4.11%
JPMorgan Commodities Strategy Fund	1.24%	1.24%	1.28%	0.00%	0.00%	0.00%
Commodities	1.24%	1.24%	1.28%	0.00%	0.00%	0.00%
JPMorgan Inflation Managed Bond Fund	4.24%	4.31%	4.25%	2.43%	2.31%	2.20%
iShares TIPS Bond Fund	2.19%	2.14%	2.23%	2.52%	2.67%	2.54%
Inflation Sensitive Fixed Income	6.43%	6.45%	6.49%	4.95%	4.97%	4.74%
Total Real Assets	11.65%	10.70%	11.77%	8.97%	8.89%	8.85%
Total Cash	0.31%	0.30%	0.29%	0.30%	6.02%	0.30%
Total Portfolio	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: J.P. Morgan Asset Management. Data as of January 31, 2019.

¹ As of November 1, 2017, the JPMorgan Disciplined Equity Fund has been renamed to JPMorgan U.S. Research Enhanced Equity Fund.

² As of July 31, 2018, the Intrepid International Fund has been renamed to JPM International Advantage Fund. Please see the prospectus for more details.

Investment Performance

January 31, 2019

	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception	Inception Date
US Large Cap Equity	8.14%	-0.06%	8.14%	-4.60%	13.03%	9.70%	N/A	11.97%	4/30/2012
S&P 500 Index	8.01%	0.26%	8.01%	-2.31%	14.02%	10.96%	N/A	12.61%	
<i>Excess Return</i>	<i>0.13%</i>	<i>-0.32%</i>	<i>0.13%</i>	<i>-2.29%</i>	<i>-0.99%</i>	<i>-1.26%</i>	<i>-</i>	<i>-0.64%</i>	
Multi Cap Equity	9.33%	0.68%	9.33%	-1.83%	15.31%	10.68%	N/A	13.09%	4/30/2012
Multi Cap Equity Custom Benchmark	8.59%	0.45%	8.59%	-2.33%	14.20%	10.41%	N/A	12.40%	
<i>Excess Return</i>	<i>0.74%</i>	<i>0.23%</i>	<i>0.74%</i>	<i>0.50%</i>	<i>1.11%</i>	<i>0.27%</i>	<i>-</i>	<i>0.69%</i>	
US Small Cap + Mid Cap Equity	10.76%	1.48%	10.76%	-3.70%	12.31%	7.76%	N/A	10.91%	4/30/2012
Small/Mid Cap Equity Custom Benchmark	10.99%	1.13%	10.99%	-3.16%	13.90%	8.20%	N/A	11.40%	
<i>Excess Return</i>	<i>-0.23%</i>	<i>0.35%</i>	<i>-0.23%</i>	<i>-0.54%</i>	<i>-1.59%</i>	<i>-0.44%</i>	<i>-</i>	<i>-0.49%</i>	
REITs	11.52%	8.31%	11.52%	6.83%	6.78%	6.58%	7.35%	6.16%	6/30/2011
REITs Custom Benchmark	11.78%	7.44%	11.78%	11.32%	8.89%	7.92%	8.83%	7.67%	
<i>Excess Return</i>	<i>-0.26%</i>	<i>0.87%</i>	<i>-0.26%</i>	<i>-4.49%</i>	<i>-2.11%</i>	<i>-1.34%</i>	<i>-1.48%</i>	<i>-1.51%</i>	
EAFE + Canada	7.03%	1.18%	7.03%	-15.00%	6.51%	2.35%	5.27%	3.38%	6/30/2011
MSCI EAFE USD Net Index	6.57%	1.27%	6.57%	-12.51%	7.74%	2.66%	5.93%	3.72%	
<i>Excess Return</i>	<i>0.46%</i>	<i>-0.09%</i>	<i>0.46%</i>	<i>-2.49%</i>	<i>-1.23%</i>	<i>-0.31%</i>	<i>-0.66%</i>	<i>-0.34%</i>	
Emerging Markets Equity	9.84%	11.26%	9.84%	-16.11%	14.00%	4.74%	2.56%	1.05%	6/30/2011
MSCI Emerging Markets USD Net Index	8.76%	10.24%	8.76%	-14.24%	14.89%	4.77%	2.89%	1.25%	
<i>Excess Return</i>	<i>1.08%</i>	<i>1.02%</i>	<i>1.08%</i>	<i>-1.87%</i>	<i>-0.89%</i>	<i>-0.03%</i>	<i>-0.33%</i>	<i>-0.20%</i>	

Returns are net of fees. Past performance is not a guarantee of comparable future results. Total return assumes the reinvestment of income. The deduction of an advisory fee reduces an investor's return. Fees are described in Part II of the Advisor's ADV which is available upon request. Mutual Fund performance, if any, is shown net of fees and assumes the reinvestment of fund distribution. Returns for periods less than 1 year are not annualized. Discrepancies in excess return may appear due to rounding.

Investment Performance

January 31, 2019

	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception	Inception Date
Core Fixed Income	1.51%	1.29%	1.51%	1.26%	4.50%	3.89%	3.95%	3.47%	6/30/2011
Core Fixed Income Custom Benchmark	1.42%	2.28%	1.42%	1.99%	1.99%	2.46%	2.75%	2.14%	
<i>Excess Return</i>	<i>0.09%</i>	<i>-0.99%</i>	<i>0.09%</i>	<i>-0.73%</i>	<i>2.51%</i>	<i>1.43%</i>	<i>1.20%</i>	<i>1.33%</i>	
High Yield	4.75%	1.21%	4.75%	1.11%	7.82%	3.76%	5.17%	5.42%	6/30/2011
Barclays Capital HY 2% Issuer Constrained Index	4.52%	1.40%	4.52%	1.73%	9.41%	4.61%	6.12%	6.20%	
<i>Excess Return</i>	<i>0.23%</i>	<i>-0.19%</i>	<i>0.23%</i>	<i>-0.62%</i>	<i>-1.59%</i>	<i>-0.85%</i>	<i>-0.95%</i>	<i>-0.78%</i>	
Emerging Markets Fixed Income	3.87%	3.59%	3.87%	-3.16%	5.40%	0.76%	1.99%	1.56%	6/30/2011
Emerging Market Debt Custom Benchmark	4.41%	5.37%	4.41%	0.01%	7.16%	2.02%	1.04%	1.08%	
<i>Excess Return</i>	<i>-0.54%</i>	<i>-1.78%</i>	<i>-0.54%</i>	<i>-3.17%</i>	<i>-1.76%</i>	<i>-1.26%</i>	<i>0.95%</i>	<i>0.48%</i>	
Inflation-Sensitive Fixed Income	1.34%	1.67%	1.34%	0.65%	N/A	N/A	N/A	N/A	10/31/2017
Bloomberg Barclays 1-10 Year U.S. TIPS Index	1.12%	1.86%	1.12%	1.63%	N/A	N/A	N/A	N/A	
<i>Excess Return</i>	<i>0.22%</i>	<i>-0.19%</i>	<i>0.22%</i>	<i>-0.98%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	
Bloomberg Barclays U.S. TIPS Index (Series-L)	1.35%	2.39%	1.35%	0.93%	N/A	N/A	N/A	N/A	
<i>Excess Return</i>	<i>-0.01%</i>	<i>-0.72%</i>	<i>-0.01%</i>	<i>-0.28%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	

Returns are net of fees. Past performance is not a guarantee of comparable future results. Total return assumes the reinvestment of income. The deduction of an advisory fee reduces an investor's return. Fees are described in Part II of the Advisor's ADV which is available upon request. Mutual Fund performance, if any, is shown net of fees and assumes the reinvestment of fund distribution. Returns for periods less than 1 year are not annualized. Discrepancies in excess return may appear due to rounding.

Market Outlook

Current asset allocation views

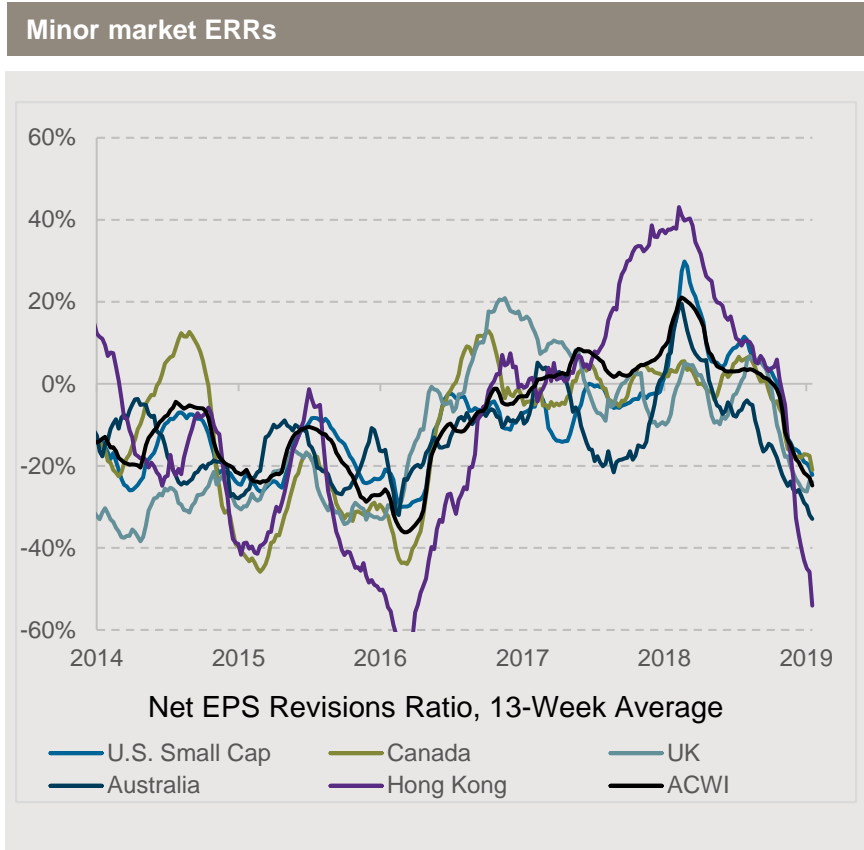
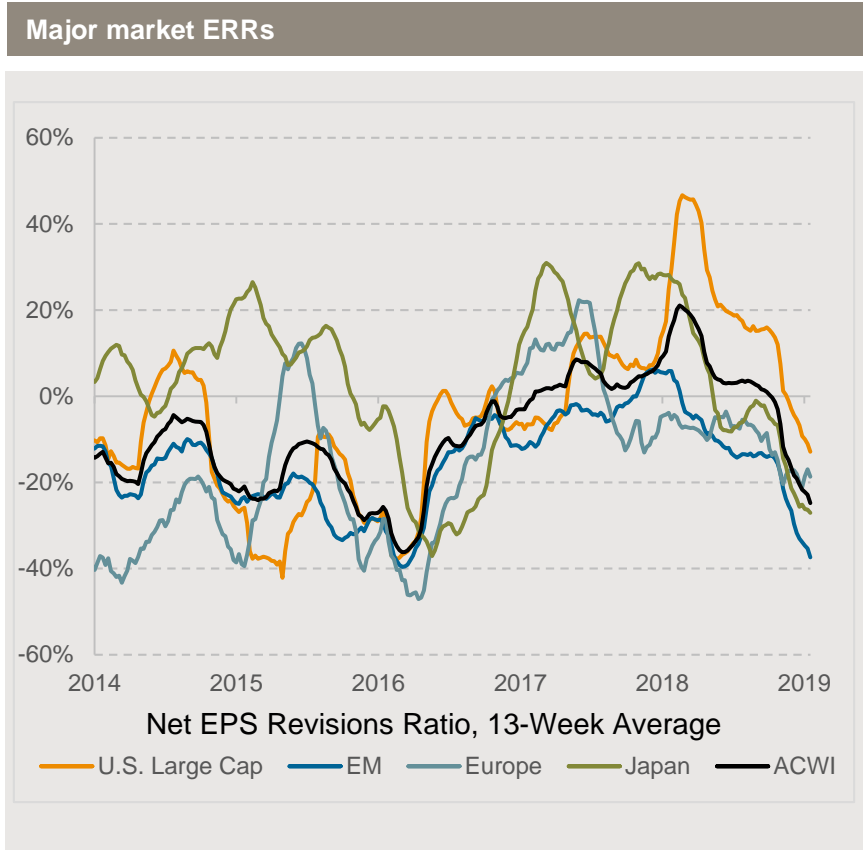
Asset class	Opportunity set	Chg	Negative	Neutral	Positive				
MAIN ASSET CLASSES	Equities/Bonds		▼	○	○	●	○	○	○
	Duration			○	○	○	○	●	○
	Credit			○	○	○	●	○	○
	Commodities			○	○	○	●	○	○
	Real Estate			○	○	○	●	○	○
	Cash		▲	○	○	○	○	●	○
	U.S. large cap			○	○	○	○	○	○
EQUITIES	U.S. small cap		▼	○	○	○	●	○	○
	Europe ex-UK		▼	○	●	●	○	○	○
	UK			○	○	○	●	○	○
	Japan		▼	○	○	○	●	○	○
	Asia Pacific ex-Japan			○	○	○	●	○	○
	Emerging markets		▼	○	○	●	○	○	○
	Direct Real Estate			○	○	○	●	○	○
	U.S. REITs			○	○	○	●	○	○
SOVEREIGN FIXED INCOME	U.S. Treasuries			○	○	○	○	●	○
	U.S. TIPS		▲	○	○	○	○	○	○
	Euro, core (Bund)			○	○	○	○	○	○
	Euro, periphery (BTP)			○	○	○	●	○	○
	UK Gilts			○	○	○	●	○	○
	Japanese JGBs			○	○	○	●	○	○
	Canadian gov't bonds		▲	○	○	○	●	○	○
	Australian gov't bonds			○	○	○	○	○	○
	Investment grade			○	○	○	○	○	○
	U.S. high yield			○	○	○	○	○	○
CREDIT	European high yield			○	○	○	○	○	○
	Emerging markets debt			○	○	○	○	○	○
	USD			○	○	○	○	○	○
	EUR		▼	○	○	○	○	○	○
FX	GBP			○	○	○	○	○	○
	JPY		▲	○	○	○	○	○	○

Key takeaways

- Global growth slowing to trend but US recession risk low for now
- Tighter policy means less slack to absorb shocks
- U.S. duration and USD cash attractive on positive real yields
- Slowing second derivative of EPS growth; limited upside to stocks
- Defensive stance favors U.S. stocks; UW to EM and EU stocks
- Credit view nuanced to navigate late cycle slowdown; UW IG
- Cautious EM: rising USD rates a headwind & few upside catalysts
- Neutral USD and EUR, move to OW JPY on safe haven support

Source: J.P. Morgan Asset Management Multi-Asset Solutions; assessments are made using data and information up to November 2018. For illustration only. These asset class views apply to a 12- to 18- month horizon. Up/down arrows indicate a positive (↑) or negative (↓) change in view since the prior quarterly Strategy Summit. This summary of our individual asset class views shows relative direction and strength of conviction, but is independent of portfolio construction considerations. These views should not be construed as a recommended portfolio. The opinions and views expressed here are those held by the author at the date of publication which are subject to change and are not to be taken as or construed as investment advice. Forecasts, projections and other forward looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections and other forward statements, actual events, results or performance may differ materially from those reflected or contemplated.

Earnings are weak across the board, little dispersion in ERR data



Source: Refinitiv, J.P. Morgan Asset Management Multi-Asset Solutions; data as of January 2019.

The qualitative business cycle scorecard for the U.S.

		Early Cycle	Mid Cycle	Late Cycle	Recession
Economic metrics	Overall economic output	Below potential, rising	Near potential, rising	Above potential, rising	Contracting
	Consumption	Low, lagging income	Recovering	High, ahead of income	Falling
	Capital investment	Low as % of GDP	Rising, moderate as % of GDP	High as % of GDP	Falling
	Residential investment	Low as % of GDP	Rising, moderate as % of GDP	High as % of GDP	Contracting
	Price inflation	Below central bank target, stable	Below CB target, rising	Above CB target	Falling
	Wage inflation	Low, stable	Moderate, rising	High	Falling
	Private credit formation	Low, starting to rise	Rising in line with output	Rising faster than output	Falling
	Personal saving rate	High relative to income	Starting to decline	Low relative to income	Rising vs. income (excl. deep recession)
	Unemployment	Well above NAIRU	Above NAIRU	Around or below NAIRU	Rising sharply
Consumer confidence	Low	Moderate	Exuberant	Falling	
Asset market metrics	EPS revision ratios	Downgrade cycle, improving trend	Upgrade cycle, improving trend	Upgrade cycle, falling trend	Downgrade cycle, falling trend
	Corporate margins	High	Peaking	Declining	Low
	Credit spreads	Wide, contracting	Tight, stable	Past cyclical trough	Wide, unstable
	Aggressive issuance	Low as share of total	Moderate as share of total	High as share of total	Nonexistent
	M&A activity	Low	Moderate	High	Nonexistent
	Yield curve	Rates low, curve steep	Rates rising, curve flattening	Rates high, curve flat	Rates falling, curve steepening
	Volatility	Vol high, skew falling	Vol low, skew low	Vol starting to rise, skew rising	Vol high, skew high

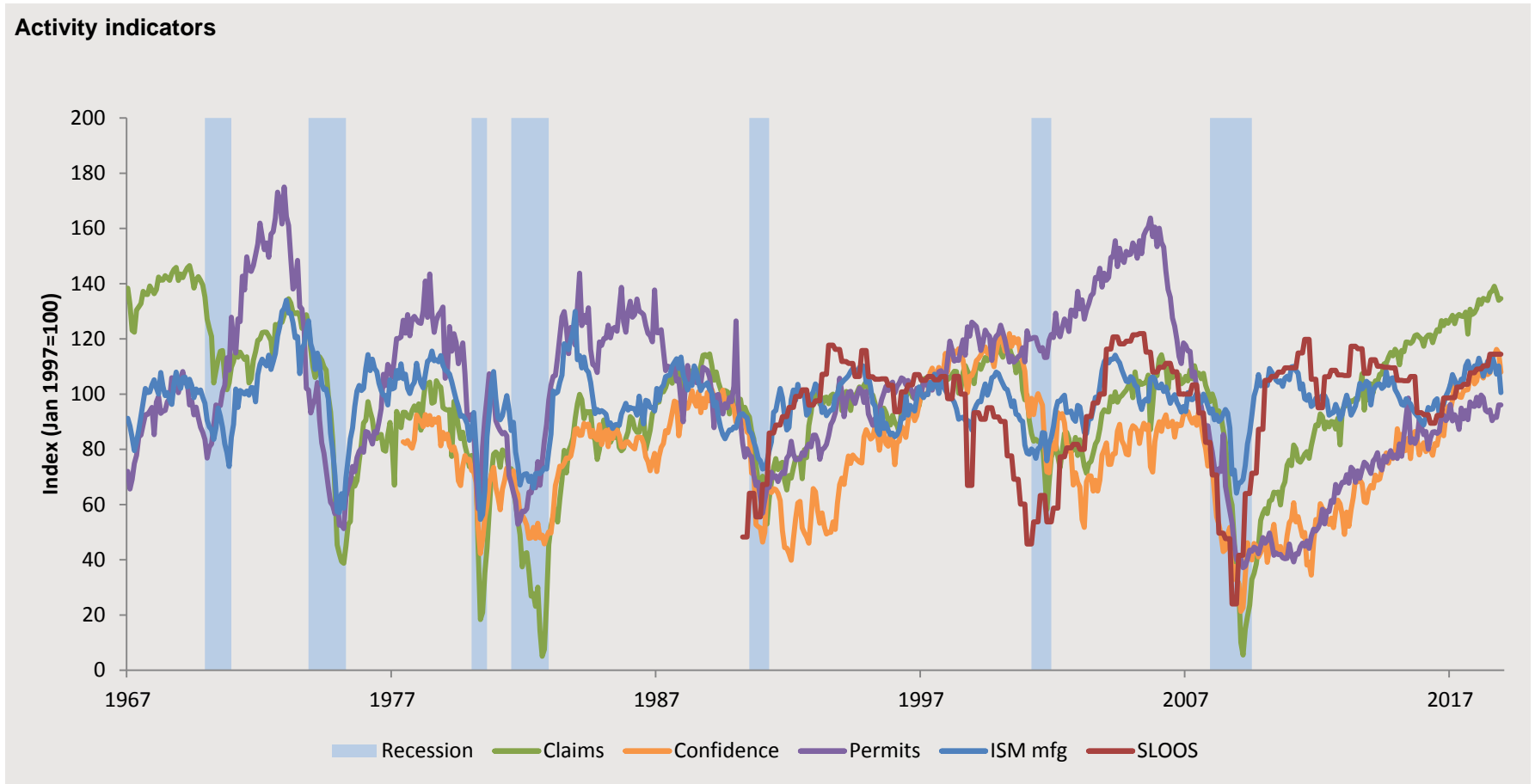
Source: JPMAM Global Multi-Asset Strategy; assessments as of January 2019.

Watch list – Late cycle slowdown: is this the big one?

- *Economic momentum*
 - The much anticipated U.S. downturn is actually happening; other regions not picking up the slack
- *Late cycle growth shocks*
 - Signals from an inverted yield curve; business confidence and capex waning; U.S. housing softness
- *Geopolitics*
 - Oil price volatility; Political risk premia in Europe; two-sided Brexit risk; Korean peninsula flare-ups
- *Trade war*
 - Yea or nay on a U.S.-China agreement; erosion of private sector confidence
- *Tech outlook*
 - Maturing products; uncertainty around sales and margin trends; wide fluctuations in investor sentiment
- *EM crisis*
 - China struggles to contain weakening; LatAm political polarization; Vulnerabilities to tighter fin. Conditions
- *Monetary policy shock*
 - Further acceleration in wages; hawkish shift in ECB reaction function; higher S/B correlation

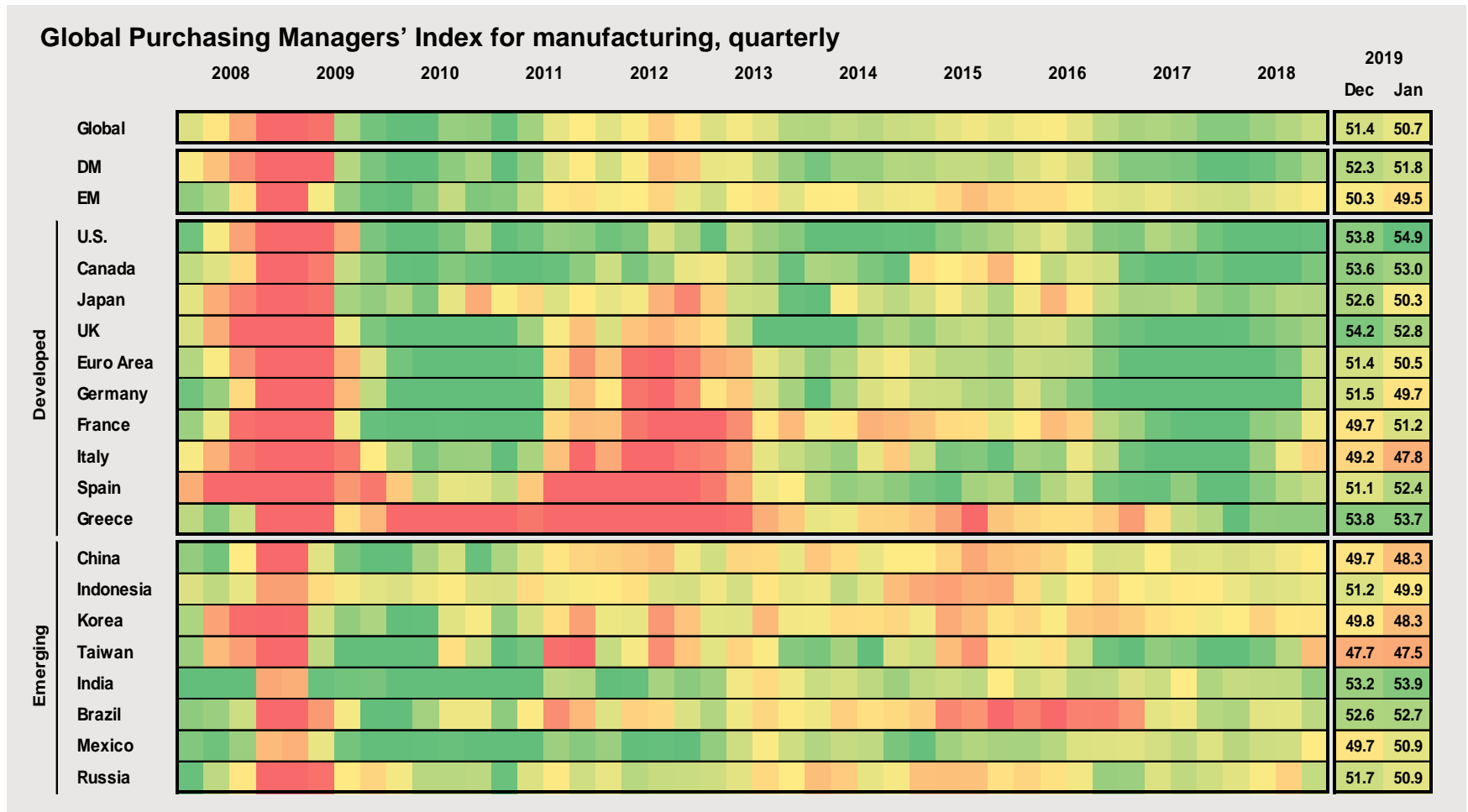
Source: JPMAM Global Multi-Asset Strategy; assessments as of January 2019

Recessions are generally preceded by high-frequency changes in momentum



Source: Bloomberg, Haver Analytics, JPMAM GIM Multi-Asset Solutions; data as of December 2018.

Manufacturing momentum



Source: Markit, J.P. Morgan Asset Management.

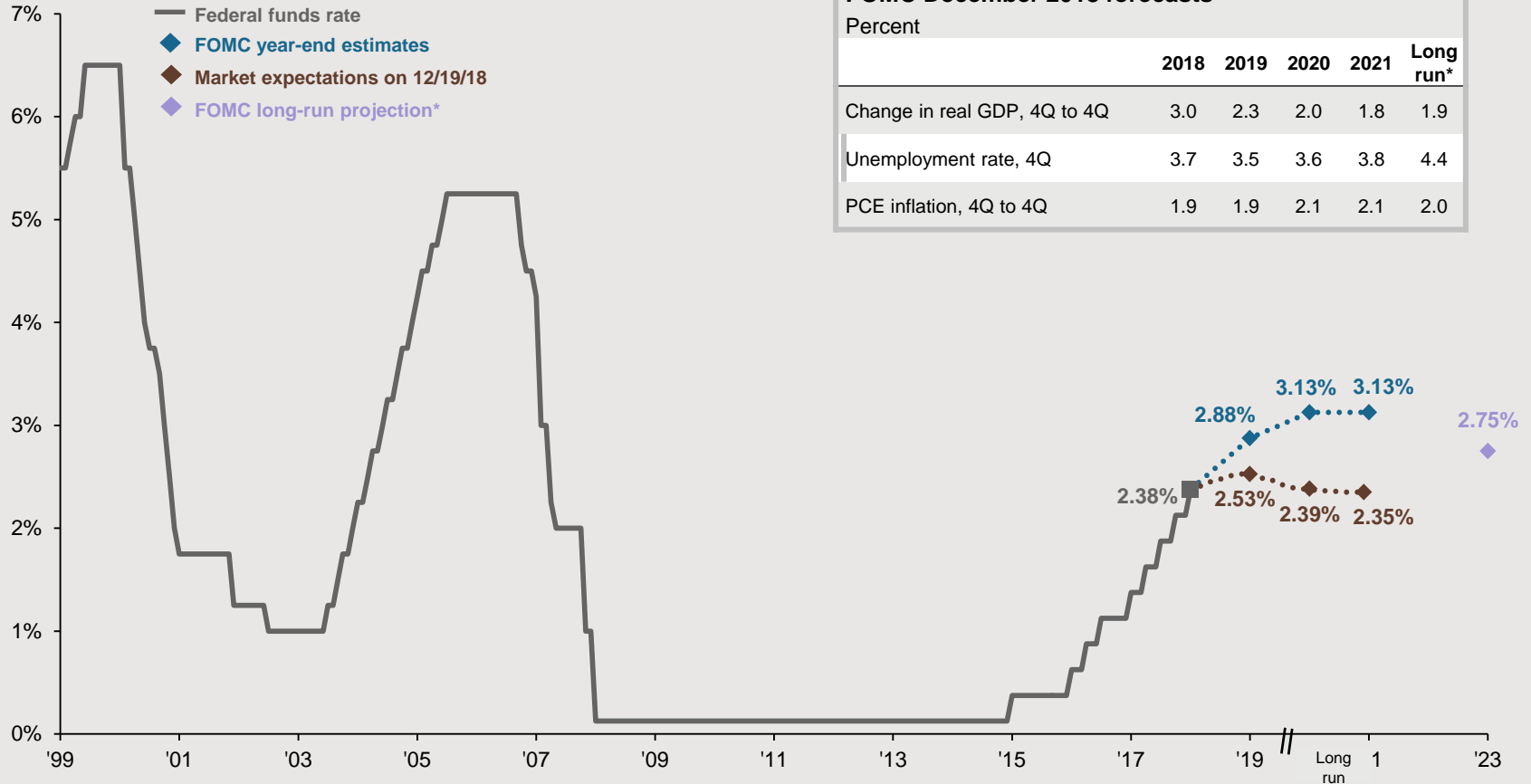
Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heat map is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for Canada, Indonesia and Mexico are back-tested and filled in from December 2007 to November 2010 for Canada and May 2011 for Indonesia and Mexico due to lack of existing PMI figures for these countries. DM and EM represent developed markets and emerging markets, respectively.

Guide to the Markets – U.S. Data are as of January 31, 2019.

The Fed and interest rates

Federal funds rate expectations

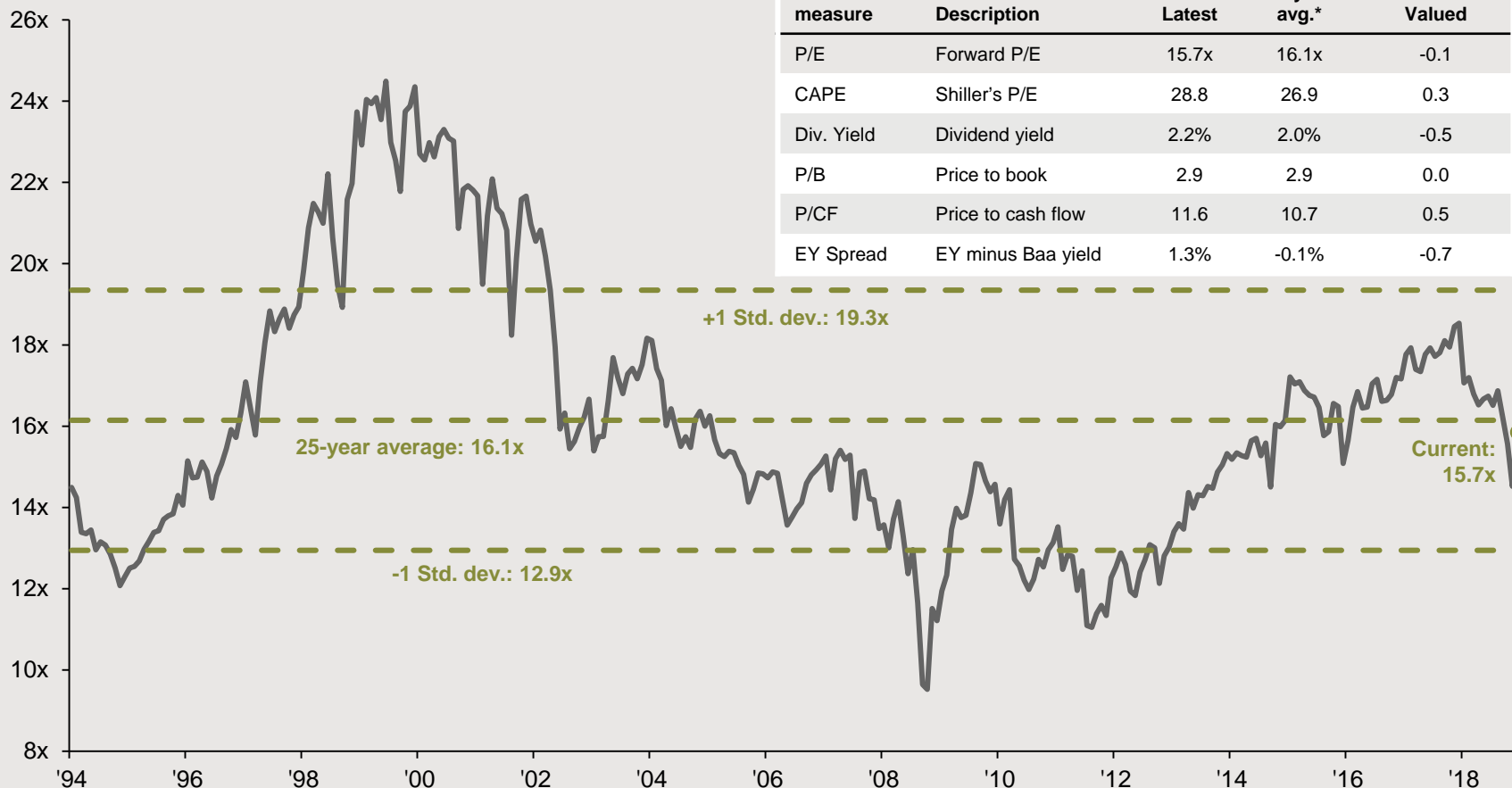
FOMC and market expectations for the federal funds rate



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management. Market expectations are the federal funds rates priced into the fed futures market as of the date of the December 2018 FOMC meeting and are through November 2021. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. *Guide to the Markets – U.S.* Data are as of January 31, 2019.

S&P valuations do not look especially stretched vs. own history

S&P 500 Index: Forward P/E ratio



Source: FactSet, FRB, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.

Price to earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IVES since December 1993, and FactSet for January 31, 2019.

Average P/E and standard deviations are calculated using 25 years of IBES history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. Price to book ratio is the price divided by book value per share. Price to cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow data availability. *Guide to the Markets – U.S.* Data are as of January 31, 2019.

Appendix







Commitment to Diversity and Inclusion: Spotlight on our women's initiatives

50% OF J.P. MORGAN
CHASE EMPLOYEES

45% OF THE
OPERATING COMMITTEE

30% OF THE
GLOBAL LEADERSHIP

2x+ the AM industry average
for female portfolio managers

CLARE HART  EQUITY INCOME	ANNE LESTER  SMART- RETIREMENT	GRACE KOO  GLOBAL ALLOCATION
SUSAN BAO  U.S. EQUITY	LISA COLEMAN  CORPORATE BOND	BARB MILLER  CORE BOND

2018 Women's Summit

A showcase of insightful and inspiring women – from across the investing universe to the leading edges of technology and business



Keynote Speakers

Lindsey Vonn, World Cup Alpine Ski Racer
Katrina Adams, President of the U.S. Tennis Assoc.
Zhang Xin, Founder and CEO of SOHO China

- 140 female advisors and senior investment and research leads from prominent institutions
- \$11 trillion in buying power across institutional and retail channels

JPMORGAN CHASE & CO.

Women on the Move



“ You miss 100 percent of the shots you never take. Provide women with the opportunities to succeed. That's what WOTM is all about.”

Sam Saperstein

Head of Women on the Move, JPMorgan Chase & Co.

Our complementary goals:

- Be a premier employer for women
- Be the service provider of choice for women-led enterprises

Sources: J.P. Morgan Asset Management. Industry average source New York Times 5/4/2018

Our commitment to sustainable investing

- We have been building our sustainable investing capabilities to meet client needs for over four decades

1970s

First values-based client mandates

1990s

Proxy Committee and Corporate Governance Teams established

2007

Signatory to the Principles for Responsible Investing

2016

Sustainable Investment Leadership Team Established

Today

Solutions offered across four approaches to Sustainable Investing

- We offer solutions across four approaches to sustainable investing

	<i>Definition</i>	<i>Our Capabilities:¹</i>
VALUES/NORMS BASED SCREEN	Avoiding certain companies or industries that do not align with investor values or meet other norms or standards	Equity, Fixed Income, Hedge Fund Solutions
ESG INTEGRATION	Explicit consideration of material ESG factors in the investment decision making process	Equity, Fixed Income, Infrastructure, Real Estate, Hedge Fund Solutions, Private Equity
BEST IN CLASS/TILT	Investment in companies based on positive ESG performance relative to industry peers	Equity
IMPACT/THEMATIC	Investments based on specific environmental or social themes or assets related to sustainability	Fixed Income, Private Equity

¹The selected asset classes displayed are those under which JPMAM currently has the capability to offer sustainable investment solutions, as of December 31, 2018

Strategy performance: U.S. equity

January 31, 2019

U.S. Equity	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception*
U.S. Research Enhanced Equity¹	8.24%	0.87%	8.24%	-2.95%	13.47%	9.90%	N/A	12.18%
S&P 500	8.01%	0.26%	8.01%	-2.31%	14.02%	10.96%	N/A	12.61%
<i>Excess Return</i>	<i>0.23%</i>	<i>0.61%</i>	<i>0.23%</i>	<i>-0.64%</i>	<i>-0.55%</i>	<i>-1.06%</i>	<i>N/A</i>	<i>-0.43%</i>
U.S. Large Cap Core Plus	8.09%	-0.03%	8.09%	-5.36%	13.10%	N/A	N/A	9.12%
S&P 500	8.01%	0.26%	8.01%	-2.31%	14.02%	N/A	N/A	10.16%
<i>Excess Return</i>	<i>0.08%</i>	<i>-0.29%</i>	<i>0.08%</i>	<i>-3.05%</i>	<i>-0.92%</i>	<i>N/A</i>	<i>N/A</i>	<i>-1.04%</i>
Growth Advantage	10.61%	0.99%	10.61%	1.54%	18.67%	13.01%	N/A	15.00%
Russell 3000 Growth	9.18%	0.63%	9.18%	0.03%	16.51%	12.57%	N/A	13.69%
<i>Excess Return</i>	<i>1.43%</i>	<i>0.36%</i>	<i>1.43%</i>	<i>1.51%</i>	<i>2.16%</i>	<i>0.44%</i>	<i>N/A</i>	<i>1.31%</i>
Value Advantage	8.10%	0.32%	8.10%	-5.43%	11.71%	8.11%	N/A	10.94%
Russell 3000 Value	8.00%	0.26%	8.00%	-4.76%	11.79%	8.20%	N/A	11.04%
<i>Excess Return</i>	<i>0.10%</i>	<i>0.06%</i>	<i>0.10%</i>	<i>-0.67%</i>	<i>-0.08%</i>	<i>-0.09%</i>	<i>N/A</i>	<i>-0.10%</i>
Mid Cap Equity	10.86%	2.34%	10.86%	-2.50%	12.90%	8.84%	N/A	12.74%
Russell Mid Cap	10.79%	2.25%	10.79%	-2.90%	13.29%	8.89%	N/A	13.00%
<i>Excess Return</i>	<i>0.07%</i>	<i>0.09%</i>	<i>0.07%</i>	<i>0.40%</i>	<i>-0.39%</i>	<i>-0.05%</i>	<i>N/A</i>	<i>-0.26%</i>
U.S. Small Company	10.51%	0.07%	10.51%	-5.64%	11.66%	6.80%	N/A	12.58%
Russell 2000	11.25%	-0.41%	11.25%	-3.52%	14.71%	7.26%	N/A	12.22%
<i>Excess Return</i>	<i>-0.74%</i>	<i>0.48%</i>	<i>-0.74%</i>	<i>-2.12%</i>	<i>-3.05%</i>	<i>-0.46%</i>	<i>N/A</i>	<i>0.36%</i>

Performance is shown net of fees. Past performance is no guarantee of future results.

* Since inception date is inception date of the strategy

¹ As of November 1, 2017, the JPMorgan Disciplined Equity Fund has been renamed to JPMorgan U.S. Research Enhanced Equity Fund.

Strategy performance: global equity

January 31, 2019

International Equity	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception*
International Equity	6.96%	1.76%	6.96%	-17.19%	7.76%	2.46%	N/A	4.53%
MSCI EAFE	6.57%	1.27%	6.57%	-12.51%	7.74%	2.66%	N/A	5.66%
<i>Excess Return</i>	<i>0.39%</i>	<i>0.49%</i>	<i>0.39%</i>	<i>-4.68%</i>	<i>0.02%</i>	<i>-0.20%</i>	<i>N/A</i>	<i>-1.13%</i>
International Research Enhanced Equity	6.44%	1.13%	6.44%	-13.32%	N/A	N/A	N/A	-4.63%
MSCI EAFE	6.57%	1.27%	6.57%	-12.51%	N/A	N/A	N/A	-3.20%
<i>Excess Return</i>	<i>-0.13%</i>	<i>-0.14%</i>	<i>-0.13%</i>	<i>-0.81%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>-1.43%</i>
International Advantage Fund ¹	7.94%	0.69%	7.94%	-15.03%	5.66%	2.14%	N/A	5.19%
MSCI EAFE	6.57%	1.27%	6.57%	-12.51%	7.74%	2.66%	N/A	5.66%
<i>Excess Return</i>	<i>1.37%</i>	<i>-0.58%</i>	<i>1.37%</i>	<i>-2.52%</i>	<i>-2.08%</i>	<i>-0.52%</i>	<i>N/A</i>	<i>-0.47%</i>

Emerging Markets Equity	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception*
Emerging Markets Equity	10.45%	13.11%	10.45%	-13.88%	16.05%	6.57%	3.77%	2.36%
MSCI Emerging Markets Net	8.76%	10.24%	8.76%	-14.24%	14.89%	4.77%	2.89%	1.25%
<i>Excess Return</i>	<i>1.69%</i>	<i>2.87%</i>	<i>1.69%</i>	<i>0.36%</i>	<i>1.16%</i>	<i>1.80%</i>	<i>0.88%</i>	<i>1.11%</i>
Emerging Economies	8.94%	8.47%	8.94%	-18.87%	11.71%	2.71%	1.16%	-0.45%
MSCI Emerging Markets Net	8.76%	10.24%	8.76%	-14.24%	14.89%	4.77%	2.89%	1.25%
<i>Excess Return</i>	<i>0.18%</i>	<i>-1.77%</i>	<i>0.18%</i>	<i>-4.63%</i>	<i>-3.18%</i>	<i>-2.06%</i>	<i>-1.73%</i>	<i>-1.70%</i>

Performance is shown net of fees. Past performance is no guarantee of future results.

* Since inception date is inception date of the strategy

¹ As of July 31, 2018, the Intrepid International Fund has been renamed to JPM International Advantage Fund.

Strategy performance: global fixed income and credit

January 31, 2019

Global Credit	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception*
Core Bond	0.94%	3.21%	0.94%	2.14%	N/A	N/A	N/A	N/A
Barclays U.S. Aggregate	1.06%	3.53%	1.06%	2.25%	N/A	N/A	N/A	N/A
<i>Excess Return</i>	<i>-0.12%</i>	<i>-0.32%</i>	<i>-0.12%</i>	<i>-0.11%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Core Plus Bond	1.24%	3.26%	1.24%	2.14%	N/A	N/A	N/A	1.19%
Barclays U.S. Aggregate	1.06%	3.53%	1.06%	2.25%	N/A	N/A	N/A	1.12%
<i>Excess Return</i>	<i>0.18%</i>	<i>-0.27%</i>	<i>0.18%</i>	<i>-0.11%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>0.07%</i>
Floating Rate Income	2.57%	-0.95%	2.57%	0.95%	N/A	N/A	N/A	1.86%
Credit Suisse Leveraged Loan Index	2.30%	-0.86%	2.30%	2.37%	N/A	N/A	N/A	3.18%
<i>Excess Return</i>	<i>0.27%</i>	<i>-0.09%</i>	<i>0.27%</i>	<i>-1.42%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>-1.32%</i>
High Yield Bond	4.75%	1.21%	4.75%	1.11%	7.82%	3.76%	5.42%	5.17%
Barclays U.S. Corporate HY 2% Issuer Capped	4.52%	1.40%	4.52%	1.73%	9.41%	4.61%	6.20%	6.12%
<i>Excess Return</i>	<i>0.23%</i>	<i>-0.19%</i>	<i>0.23%</i>	<i>-0.62%</i>	<i>-1.59%</i>	<i>-0.85%</i>	<i>-0.78%</i>	<i>-0.95%</i>
Emerging Markets Strategic Debt	3.87%	3.42%	3.87%	-3.33%	5.49%	-0.67%	3.33%	-3.06%
EMD Strategic Custom Benchmark	4.41%	5.37%	4.41%	0.01%	7.26%	0.82%	5.41%	-1.64%
<i>Excess Return</i>	<i>-0.54%</i>	<i>-1.95%</i>	<i>-0.54%</i>	<i>-3.34%</i>	<i>-1.77%</i>	<i>-1.49%</i>	<i>-2.08%</i>	<i>-1.42%</i>

Performance is shown net of fees. Past performance is no guarantee of future results.

* Since inception date is inception date of the strategy

Strategy performance: global real assets

January 31, 2019

Global Real Assets	One Month	Three Months	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception*
Realty Income	11.52%	8.31%	11.52%	6.83%	5.69%	8.03%	7.77%	7.88%
MSCI U.S. REIT	11.78%	7.44%	11.78%	11.32%	7.99%	9.31%	9.13%	9.09%
<i>Excess Return</i>	<i>-0.26%</i>	<i>0.87%</i>	<i>-0.26%</i>	<i>-4.49%</i>	<i>-2.30%</i>	<i>-1.28%</i>	<i>-1.36%</i>	<i>-1.21%</i>
Inflation Managed Bond	1.24%	0.87%	1.24%	0.47%	N/A	N/A	N/A	0.30%
Bloomberg Barclays 1-10 Year U.S. TIPS Index	1.12%	1.86%	1.12%	1.63%	N/A	N/A	N/A	0.99%
<i>Excess Return</i>	<i>0.12%</i>	<i>-0.99%</i>	<i>0.12%</i>	<i>-1.16%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>-0.69%</i>
iShares Barclays TIPS Bond	1.42%	2.45%	1.42%	0.84%	N/A	N/A	N/A	0.80%
Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)	1.35%	2.39%	1.35%	0.93%	N/A	N/A	N/A	0.89%
<i>Excess Return</i>	<i>0.07%</i>	<i>0.06%</i>	<i>0.07%</i>	<i>-0.09%</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>-0.09%</i>

Performance is shown net of fees. Past performance is no guarantee of future results.

* Since inception date is inception date of the strategy

Benchmark Composition

Total Portfolio Policy Benchmark

From To	6/30/2011 12/31/2012	1/1/2013 10/31/2017	11/1/2017 Present
MSCI AC World IMI USD	59.50%	70.00%	-
MSCI AC World Free USD	-	-	70.00%
FTSE EPRA/NAREIT Developed Net of Tax	8.00%	10.00%	-
Bloomberg Barclays U.S. Aggregate	26.00%	-	20.00%
Bloomberg Barclays Credit	-	13.00%	-
BofA Merrill Lynch HY	3.25%	-	-
Bloomberg Barclays HY 2 pct Issuer Constrained	-	3.00%	-
JPMorgan EMBI Global Diversified	3.25%	-	-
JPMorgan GBI-EM Global Diversified	-	3.00%	-
JPMorgan EMBI Global	-	1.00%	-
Bloomberg Barclays 1-10 Year U.S. TIPS Index	-	-	-
Barclays US TIPS +3%	-	-	10.00%

Benchmark Composition

Total Portfolio Custom Benchmark

From To	6/30/2011 4/30/2012	5/1/2012 5/31/2012	6/1/2012 12/31/2012	1/1/2013 6/30/2014	7/1/2014 3/31/2015	4/1/2015 12/31/2015	1/1/2016 9/30/2016	10/1/2016 1/31/2017	2/1/2017 10/31/2017	11/1/2017 8/31/2018	9/1/2018 11/30/2018	11/30/2018 Present
S&P 500	-	14.00%	13.50%	16.50%	16.50%	16.50%	19.60%	19.60%	20.80%	18.80%	18.80%	17.10%
MSCI EAFE	16.10%	24.00%	24.00%	27.00%	27.00%	27.00%	26.00%	26.00%	23.00%	21.00%	21.00%	21.00%
MSCI EM	3.90%	8.50%	8.50%	9.00%	9.00%	9.00%	6.50%	6.50%	7.00%	7.50%	7.50%	7.50%
Russell Mid Cap	-	-	1.50%	2.50%	2.50%	2.50%	2.90%	2.90%	3.20%	2.80%	2.80%	2.50%
Russell 2000	-	-	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	1.90%	1.90%	1.90%
Russell 2000 Growth	-	1.50%	-	-	-	-	-	-	-	-	-	-
Russell 2000 Value	-	1.50%	-	-	-	-	-	-	-	-	-	-
Russell 3000 Growth	-	5.00%	5.00%	6.50%	6.50%	6.50%	6.50%	6.50%	7.00%	7.00%	7.00%	8.00%
Russell 3000 Value	-	5.00%	5.00%	6.50%	6.50%	6.50%	6.50%	6.50%	7.00%	7.00%	7.00%	8.00%
MSCI US REIT	3.02%	4.50%	4.50%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	4.00%	4.00%	4.00%
FTSE EPRA/NAREIT Developed Net of Tax	3.02%	3.50%	3.50%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	-	-	-
Bloomberg Barclays U.S. Aggregate	8.40%	26.00%	26.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	12.50%	12.50%	12.50%
Credit Suisse Leveraged Loan Index	-	-	-	-	-	-	-	-	-	2.25%	5.00%	5.00%
Bloomberg Barclays HY 2 pct Issuer Constrained	1.15%	3.25%	3.25%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	4.50%	4.50%	4.50%
JPMorgan EMBI Global Diversified	-	-	-	-	-	1.00%	1.00%	4.00%	4.00%	3.00%	3.00%	3.00%
JPMorgan GBI-EM Global Diversified	-	-	-	1.00%	3.00%	3.00%	3.00%	-	-	-	-	-
JPMorgan EMBI Global	0.60%	3.25%	3.25%	3.00%	1.00%	-	-	-	-	-	-	-
Bloomberg Barclays 1-10 Year U.S. TIPS Index	-	-	-	-	-	-	-	-	-	4.25%	2.50%	2.50%
Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)	-	-	-	-	-	-	-	-	-	2.25%	2.50%	2.50%
Bloomberg Commodity Index	-	-	-	-	-	-	-	-	-	1.25%	-	-
Diversified Mutual Fund Index	63.80%	-	-	-	-	-	-	-	-	-	-	-

Benchmark Composition

Multi Cap Equity Custom Benchmark

From	4/30/2012
To	Present
Russell 3000 Value	50.00%
Russell 3000 Growth	50.00%

Small/Mid Cap Equity Custom Benchmark

From	4/30/2012	6/1/2012	1/1/2013	1/1/2016	2/1/2017	11/1/2017
To	5/31/2012	12/31/2012	12/31/2015	1/31/2017	10/31/2017	Present
Russell 2000	-	57.14%	44.44%	40.82%	38.46%	40.43%
Russell Mid Cap	-	42.86%	55.56%	59.18%	61.54%	59.57%
Russell 2000 Value	50.00%	-	-	-	-	-
Russell 2000 Growth	50.00%	-	-	-	-	-

REITs Custom Benchmark

From	6/30/2011	5/1/2012	1/1/2013	11/1/2017
To	4/30/2012	12/31/2012	10/31/2017	Present
MSCI US REIT	50.00%	56.25%	60.00%	100.00%
FTSE EPRA/NAREIT Developed ex US Net of Tax	50.00%	43.75%	40.00%	-

Benchmark Composition

Core Fixed Income Custom Benchmark

From To	6/30/2011 10/31/2017	11/1/2017 Present
Bloomberg Barclays U.S. Aggregate Index	100.00%	84.75%
Credit Suisse Leveraged Loan Index	-	15.25%

Emerging Markets Debt Custom Benchmark

From To	6/30/2011 3/31/2015	4/1/2015 9/30/2016	1/10/2016 Present
JPMorgan EMBI Global Diversified	-	25.00%	100.00%
JPMorgan GBI-EM Global Diversified Unhedged	75.00%	75.00%	-
JPMorgan EMBI Global	25.00%	-	-

EMD Strategic Custom Benchmark

From To	12/31/2012 9/30/2016	10/1/2016 Present
JPMorgan EMBI Global Diversified	-	100.00%
JPMorgan GBI-EM Global Diversified	100.00%	-

J.P. Morgan's 2019 Long-Term Capital Market Return Assumptions

	Annualized Volatility (%)	Arithmetic Return 2019 (%)	Compound Return 2019 (%)
FIXED INCOME			
U.S. Cash	2.00	2.00	2.00
U.S. Intermediate Treasuries	3.25	3.31	3.50
U.S. Long Treasuries	3.25	3.83	11.00
TIPS	3.25	3.38	5.25
U.S. Aggregate Bonds	4.00	4.06	3.50
U.S. Short Duration Government/Credit	3.25	3.27	2.00
U.S. Long Duration Government/Credit	4.00	4.41	9.25
U.S. Inv Grade Corporate Bonds	4.50	4.67	6.00
U.S. Long Corporate Bonds	4.50	4.97	10.00
U.S. High Yield Bonds	5.50	5.82	8.25
U.S. Leveraged Loans	5.00	5.27	7.50
World Government Bonds hedged	2.75	2.84	3.00
World Government Bonds	2.75	3.04	6.25
World ex-U.S. Government Bonds hedged	2.50	2.61	2.75
World ex-U.S. Government Bonds	2.75	2.96	8.00
Emerging Markets Sovereign Debt	6.25	6.67	9.50
Emerging Markets Local Currency Debt	6.75	7.44	12.25
Emerging Markets Corporate Bonds	6.00	6.32	8.25
U.S. Muni 1-15 Yr Blend	3.25	3.29	3.00
U.S. Muni High Yield	4.50	4.72	6.75
U.S. Large Cap	5.25	6.03	13.75
U.S. Mid Cap	5.75	6.79	15.75
U.S. Small Cap	6.00	7.47	18.25
Euro Area Large Cap	7.00	9.03	21.50
Japanese Equity	6.75	7.68	14.50
Hong Kong Equity	6.75	8.50	20.00
UK Large Cap	6.50	7.79	16.75
EAFE Equity hedged	6.50	7.41	13.50
EAFE Equity	6.75	7.94	16.75
Emerging Markets Equity	8.50	10.43	21.25
AC Asia ex-Japan Equity	8.00	10.35	20.75
AC World Equity	6.00	7.18	15.25
U.S. Equity Value Factor	6.00	7.04	15.00
U.S. Equity Momentum Factor	5.50	6.41	14.00
U.S. Equity Quality Factor	5.25	5.98	12.50
U.S. Equity Minimum Volatility Factor	5.50	6.07	11.00
U.S. Equity Dividend Yield Factor	6.00	6.87	13.75
U.S. Equity Diversified Factor	5.50	6.23	12.50
Global Convertible	5.50	5.92	9.50
Global Credit Sensitive Convertible	4.75	4.94	6.25
Private Equity	8.25	10.20	21.00
U.S. Core Real Estate**	5.75	6.45	12.25
U.S. Value-Added Real Estate**	6.75	7.53	20.00
European ex-UK Core Real Estate**	7.00	9.74	16.50
Asia Pacific Core Real Estate**	6.00	6.91	14.00
U.S. REITs	6.25	7.35	15.50
Global Infrastructure Equity	6.00	6.64	11.75
Global Infrastructure Debt	4.75	4.95	6.50
Diversified Hedge Funds	4.25	4.52	7.50
Event Driven Hedge Funds	4.75	5.13	9.00
Long Bias Hedge Funds	4.75	5.32	11.00
Relative Value Hedge Funds	4.50	4.73	7.00
Macro Hedge Funds	3.75	4.06	8.00
Direct Lending**	7.25	8.14	14.00
Commodities**	2.25	3.50	16.25
Gold*	2.50	4.02	18.00

Note: All estimates on this page are in U.S. dollar terms. Given the complex risk-reward trade-offs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations to all of these asset classes and strategies. Please note that all information shown is based on qualitative analysis. Exclusive reliance on this information is not advised. This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise of future performance. Note that these asset class and strategy assumptions are passive only—they do not consider the impact of active management. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. This material has been prepared for information purposes only and is not intended to provide, and should not be relied on for, accounting, legal or tax advice.

Source: J.P. Morgan Asset Management; as of September 30, 2018. Alternative asset classes (including hedge funds, private equity, real estate, direct lending and infrastructure) are unlike other asset categories shown above in that there is no underlying investible index. ** For additional disclosures, please turn to the additional information slide located in the back of the book.



J.P. Morgan Asset Management

This document is a general communication being provided for informational purposes only. It is educational in nature and not designed to be a recommendation for any specific investment product, strategy, plan feature or other purposes. By receiving this communication you agree with the intended purpose described above. Any examples used in this material are generic, hypothetical and for illustration purposes only. None of J.P. Morgan Asset Management, its affiliates or representatives is suggesting that the recipient or any other person take a specific course of action or any action at all. Communications such as this are not impartial and are provided in connection with the advertising and marketing of products and services. Prior to making any investment or financial decisions, an investor should seek individualized advice from a personal financial, legal, tax and other professional advisors that take into account all of the particular facts and circumstances of an investor's own situation.

Opinions, estimates, forecasts, and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable. These views and strategies described may not be suitable for all investors. References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as, recommendations. Past performance is no guarantee of future results. Indices do not include fees or operating expenses and are not available for actual investments the information herein employs proprietary projections of expected returns as well as future estimates of future volatility. The relative relationships and forecast contained herein are based upon proprietary research and developed through analysis of historical data and capital markets theory. The estimates have certain inherent limitations and unlike an actual performance record, they do not reflect actual trading, liquidity constraints, fees or other cost. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve.

There can be no assurance that the professionals currently employed by JPMAM will continue to be employed by JPMAM or that the past performance or success of any such professional serves as an indicator of such professional's future performance or success.

Any securities/portfolio holdings mentioned throughout the presentation are shown for illustrative purposes only and should not be interpreted as recommendations to buy or sell. A full list of firm recommendations for the past year are available upon request.

Past performance does not guarantee future results. Total returns assumes reinvestment of any income. The deduction of an advisory fee reduces an investor's return. Actual account performance will vary on individual portfolio security selection and the applicable fee schedule. Fees are available upon request.

The following is an example of the effect of compounded advisory fees over a period of time on the value of a client's portfolio: A portfolio with a beginning value of \$100 million, gaining an annual return of 10% per annum would grow to \$259 million after 10 years, assuming no fees have been paid out. Conversely, a portfolio with a beginning value of \$100 million, gaining an annual return of 10% per annum, but paying a fee of 1% per annum, would only grow to \$235 million after 10 years. The annualized returns over the 10 year time period are 10.00% (gross of fees) and 8.91% (net of fees). If the fee in the above example was 0.25% per annum, the portfolio would grow to \$253 million after 10 years and return 9.73% net of fees. The fees were calculated on a monthly basis, which shows the maximum effect of compounding.

Securities may be sold through J.P. Morgan Institutional Investments Inc., member FINRA/SIPC.

J.P. Morgan Asset Management is the marketing name for the asset management businesses of JPMorgan Chase & Co. Those businesses include, but are not limited to, JPMorgan Chase Bank N.A., J.P. Morgan Investment Management Inc., Security Capital Research & Management Incorporated, J.P. Morgan Alternative Asset Management, Inc., and J.P. Morgan Asset Management (Canada), Inc.

Copyright 2019 JPMorgan Chase & Co. All rights reserved.