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'āina Lee, At-Large
Carmen Hulu Lindsey, Maui
Colette Y. Machado, Moloka'i/Lāna'i
John Waihe'e IV, At-Large



STATE OF HAWAI'I 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 <u>BOTmeetings@oha.org</u> 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

[‡] 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

Donfluna

STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS 560 N. Nimitz Hwy, Suite 200 HONOLULU, HI 96817

Minutes of the Office of Hawaiian Affairs Committee on Resource Management March 13, 2019 10:05 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 Dylan Zheng Kamana'opono Crabbe, CEO Miles Nishiiima Raina Gushiken Raymond Matsuura Sylvia Hussey, COO Lehua Itokazu Carol Ho'omanawanui Lopaka Baptiste Claudine Calpito Ron Porter Maria Calderon Paul Harleman Melissa Wennihan Kauikeaolani Wailehua Kama Hopkins Zuri Aki Lei Ann Durant Priscilla Nakama

Guest and Community:

Rodney Lee – SPIRE Hawaii Lucas Sayin – SPIRE Hawaii Lani Nakazawa - SPIRE Hawaii William Yuen, Esq. Judy Tanaka, Esq. Kurt Klein, Esq. Robert G. Klein, Board Counsel Craig Chaikin, Segal Marco Darren Smith, JP Morgan Charlie Fishman, JP Morgan

I. CALL TO ORDER

Chair Ahuna – Calls the Committee on Resource Management to order at 10:05 am, noting for the record the following Trustees present:

	Present	Excused	Comments
TRUSTEE LEI AHU ISA	X		
TRUSTEE KALEI AKAKA	Х		
TRUSTEE KELI 'I AKINA	X		
TRUSTEE BRENDON KALEI 'AINA LEE	X		
TRUSTEE HULU LINDSEY	X		
TRUSTEE ROBERT LINDSEY	X		
TRUSTEE JOHN WAIHE'E	X		10:06 arrived
CHAIRPERSON DAN AHUNA	X		integration Eq.
TOTAL	9		A STATE OF THE STA
At the Call to Order, there are nine (9) Tr	ustees prese	ent.	

II. PUBLIC TESTIMONY

None.

III. APPROVAL OF MINUTES

A. February 13, 2019

Chair Ahuna asked for approval of the February 13, 2019 minutes and discussion.

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TRUSTEE LEI AHU ISA			x	100	LARL WHEL	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
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TRUSTEE KELI'I AKINA			x	jū, or	Side a magne	jas I ig
TRUSTEE BRENDON KALEI 'AINA LEE	71	i y	x		nga es— 1	
TRUSTEE HULU LINDSEY	X		х			
TRUSTEE ROBERT LINDSEY			Х			
TRUSTEE COLETTE MACHADO			x			
TRUSTEE JOHN WAIHE'E		x	х	res ventern		120011001
CHAIRPERSON DAN AHUNA			x	topologica)	A Clark and	A-value T
TOTAL VOTE COUNT	7	-	x	E thospe i		-rw 11.2

MOTION: [X] UNANIMOUS [] PASSED [] DEFERRED [] FAILED

Motion passes with nine (9) YES votes.

IV. NEW BUSINESS

A. NHTF 4th Quarter Performance Review with Investment Consultant Segal Marco

Chair Ahuna calls Ray Matsuura.

Ray Matsuura introduces Craig Chaikin from Segal Marco and Darren Smith and Charlie Fishman of JP Morgan.

Craig Chaikin states I was the voice on the phone at your last meeting. Most of you have hard copies in front of you, I'm going to start on page 4 talking about markets. We talked about this a little bit at the last meeting when I was on the phone, but when you're looking at these numbers through the end of 2018 I think the word I would use would be depressing. If you're looking at your portfolio balance at the beginning of the year and thinking about where he stood things didn't look particularly good. At the end of the year, there were a lot of geopolitical concerns United States were busy shutting down the federal government for the longest shutdown in history. There were concerns about

the brexit, how Britain was going to be exiting the EU. There were concerns about trade wars and tariffs with China. They are the same concerns we have right now when we're sitting here on March 13th. The fed and some of their comments they were in the process of tightening, so they raise rates for the fourth time at their December meeting so the FED funds rate is now sitting between 2 1/2 and 2 and 3/4 percent. The market was concerned that with tightening rates and not easy money that would present some significant challenges to the market. You saw results I would say accordingly. Since that time it was seen a pretty sustained rally for the first two months of the year, so just through the end of February, the S&P was up eleven and a half percent so now all these lines are above the zero.

Craig Chaikin gave highlights of the fourth quarter performance of last year and the Analysis of Investment Performance of the Native Hawaiian Trust Fund. See attached.

Trustee Akina states it was good to see you at the economic forecasts dinner. I know that you're not here to talk about our real estate, you're here to talk about our portfolio, but since you got real estate on the chart I have a question for you. It's obvious that real estate even in the fourth quarter faired very well compared to other sectors. Does this also apply to Hawaii real estate?

Craig Chaikin states I think the answer is it depends. A lot of real estate is certainly impacted by the property, where it's located, timing of it, in terms of how it's doing. What you is both property appreciation as well as income. Typically it also depends on the type of real estate your looking at. We look at core, or value add as well as opportunistic real estate, so core real estate kind of across-the-board is more developed properties that you're looking at. They tend to have a very very high income potential, so it does have a somewhat more muted return. You do expect more of that result to come from income. Value added and opportunistic you expect more of that component to come from developing, upgrading properties, things like that. So I don't have any numbers specifically on how Hawaii real estate related relative to real estate as a whole, but if those factors would impact what the return would be specific to those specific properties.

Trustee Akina states my reason for raising it, is because I'm aware that Hawaii real estate has fared fairly well compared to these other investment sectors and just want to make a note to fellow trustees, that we spend good time and I'm glad we do, looking at our portfolio and our investments. In fact the predominant amount of time of investment review is spent looking at our native land trust fund portfolio, but we spend almost no time discussing the potential investments in real estate and missed opportunity costs and so forth and just as a suggestion we might parcel some of our time to look at that. Especially as we looking at the development of are underdeveloped real estate.

Chair Ahuna states it's important that we develop our strategy so we can look at look at it in a way we can maximize our resources and assets. That's all part of it too, not just one side, this is not a linear approach, this is more of a laffer curve approach.

Trustee Ahu Isa states everything is timing, same sex marriage would never have passed when I was in the house years ago, medical marijuana now look at it, the same thing with our land Kakaako Makai, our investments have to have the will to do it. To make sure we get our share, our fair share, for our beneficiaries and to perpetuate this fund into perpetuity. Real estate is one area.

Craig Chaikin states real estate does play a key role in a lot of portfolios, both direct real estate here as well as potential consideration from diversifying property types, one of the biggest inaudible is liquidity. If you need money, and you don't have a huge liquidity inaudible, if you can't sell a property today, we consider a very valuable part of inaudible. I am going to flip all the way to page 23. This takes a look at the asset allocation and I think the two things to note, this is largely consistent with what we saw when we were reviewing the end of the third quarter results, somewhat a little bit more exacerbated because equity markets declined so substantially but you can see the portfolio is relatively underweight to its equity target. It remains overweight to privateequity because of the inaudible, structure private equity we do tend to over allocate, you have a slight over-allocation there. When we look at absolute results on page 27, the underweight equity certainly benefited the portfolio because it was the lowest performing asset class. Page 27 takes a look at the absolute results of the portfolio, you can see there for the quarter down 5.8% vs your benchmark of down 6.8% so if you'd been one hundred percent passively invested, you would have been down about to close to 7%, the portfolios down significantly less and like I said it's a combination of some of the active management as well as a fact that you remained underweight to the equity allocation. I won't go through each of these in detail, one of the things that you will note a couple pages later on you, I wanted to point this out because the returns looks so dislocated for your absolute return strategies. So the absolute return strategies are supposed to return in a something like a CPI plus 34% keep pace with inflation plus over time, the benchmarks that are reflective here are cash plus a little bit of fixedincome benchmarks. Given how the managers are invested, their invested much more broadly for that absolute return perspective. Things like commodities, currencies, things like that and so when you look at the results here, it looks like your managers did absolutely horribly relative to their benchmarks, but it's what we would expect in a period where people were relatively risk-averse running into safe or more safe assets and your managers are not invested, with that specific short-term time frame in mind. So the managers have continued to do what we expect them to do but it looks like there is a large dislocation for the specific period.

Ray Matsuura states that some of you approved PIMCO last Dec. as a hedge fund manager and cut back Commonfund, its showing here on page 32, they just started in February, had a return of 4.45. end of the year, so with that strategy with PIMCO did help in terms of a week market.

B. JP Morgan portfolio update and outlook

Chair Ahuna states we will now move onto item B. JP Morgan portfolio update and outlook.

Ray Matsuura next introduces Darren Smith and Charlie Fishman of JP Morgan.

Darren Smith states my name is Darren Smith and I am the lead relationship manager for west region for North America Institutional business and to my left is Charlie Fishman, our portfolio management team as part of our multi-asset solutions group. We have basically four lines of business and one of those happens to be Asset Management. Within asset management everything from our private bank to our liquidity business or institutional business or retail mutual fund practice. We have been working with you now since June 2011, thank you for that longevity and we talk about the markets and do an abbreviated version of that today. We'll talk about the overall performance and then we'll talk a little bit about our outlook. Spoke on the agenda of J.P Morgan Multi-Asset solutions, market review, portfolio update, and market outlook. See attached for additional information and details.

Charlie Fishman states hello Trustees, it is nice to be with everyone again this year. Gave summary and quick refresher on the investment process and then what is the mandate that we are managing for the Office of Hawaiian Affairs. See attached for additional information and details.

Trustee Lee asks so you said this was representative of end of January, you're active managers made an adjustment based on quarter four, how active is that and I will try and quantify my question so it makes sense to you. As you mentioned before and I'm aware of, that in the month of January all the losses of fourth-quarter were made up in the markets, then there was a pull back right and then as of today we broke a major line of resistance right, in 3 days that pull back that took a week to do, was made up, so how active is the pivot.

Charlie Fishman states just to show you how we've been tactical over time and to clarify our team is responsible for managing the asset allocation, that is our groups full responsibility, so if you look at where we were and what we show on page 16 is just our portfolio exposures, over the last 12-13 months. If you look at the very left hand side of

the page, you'll see at the end of December 2017, we're about 74% inequities, that was you know when Global growth was above-trend, earnings growth was strong across the developed and emerging world, all economic data was very strong. We were very pro risk at that time and about 74% equities. As the growth picture has deteriorated throughout 2018, as earnings growth has slowed for-profitability perspective for companies, we've caught equity risk in multiple stages. So if you just look at that global equity line item, you can see at the end of the third quarter, we had taken down equities to 68% of the portfolio. In the fourth quarter, a huge sell-off in markets global equity sold off anywhere from 15 to 20% depending on the market you were looking at, so I think a good story just in terms of doing what you're paying us to do, which is to manage the risk profile of this portfolio. At the end of the fourth quarter of 2018, you can see we were about 61% in equities, that was us getting more defensive, part of that was also equity market sold off, so that allocation shrunk. But then at the end of January 31st, we are kind of getting back to our targets at about 62%. So I think that we have been fairly active and cutting that risk, just to quantify it.

Trustee Lee states I don't need an exact figure, but do you know about where we're at now.

Charlie Fishman states yes, roughly about 63-64%, we actually had our quarterly asset allocation meeting last week before we came and begun to get a little bit more constructive but still think it makes sense to underweight equities. I think it's a good question for summarizing some of the things that we've done. Other places that you'll see kind of bigger changes, you'll see global credit Q4 2017 about 13.85%, fast forward to the end of January we essentially double that allocation to about 28.8%. The two biggest things have been, one moving into core fixed-income, which is that light blue line just under global equities. Moving more and more of the capital of the portfolio into high-quality core fixed-income, to be a bit more defensive and then we have more inaudible, exposure to high yield within the portfolio. Similar to the comment I made on the prior page but just giving a few data points help quantify the changes that we've made. The last thing I would just call out is, we've taken down the total real assets exposure. We had held about a 1.25% rate to come out of these in the portfolio, that's on the left hand side of the page, second blue line under Global Credit and just above real assets. Now that weight it is at 0%, so we think real assets play a helpful role in diversifying the portfolio. We know that OHA has large asset portfolio aside from the one that were managing. Which is separate and distinct from the decisions that were making in this portfolio. We just prefer to take that marginal dollar of risk within credit both in high quality fixed income and then also high-yield fixed-income, particularly in the US.

Trustee Akina asks on page 23 is this the big one, what is your answer.

Charlie Fishman states is this the big one, the biggest risk that were looking at I would say is the top one economic momentum and then the fourth one being trade wars. So economic growth is the key thing that fuels global economy, which ultimately drives corporate earnings, and so the slowdown that we have seen in economic growth has probably been one of the key things that were looking at. Then the trade war we know about some of the tariffs between the US &China as well as the US and Europe that we do recognize could be a headwind to Global growth. So I would say any change in developments there, we know that there has been a lot of talk in the last month about it but an agreement with the US and China that were looking out for. But I would say those are probably the two biggest risks that were looking at.

Robert Klein is growth is slowing, why feds are raising interest rates.

Charlie Fishman states I would say two things, one the FED had begun to normalize interest rates from ultra-accommodative and so they did that for the better part of the last two or three years. US is growing at two and a half percent, unemployment at a cycle of about 4% there's no reason to have as accommodative monetary policy as the FED had for such a long time. Part of it was normalizing, going from ultra to relatively accommodative. The other thing I would say is if you look at the most recent FED minutes, the FED has indicated that they're taking a pause on raising interest rates. So most expectations for fed hikes for 2019, most people including ourselves are expecting 0 to 1 hike, which was very different than what we expected 6 months ago. So I think the FED is in a little bit more of a wait and see approach then they were say 12 months ago.

Kamana'opono Crabbe states just going back to page 21 on the major and the minor market errs, you know when you're looking at the graph especially for 2019, the downward projection going back to Trustee Lee in terms of you have shared that you're reacting to the market. We have benchmarks so what would be your prediction; on how will we prevent further losses so that our investments will still be solid in terms of reaching the benchmark.

Charlie Fishman states to the risk that were mindful of is that equity markets can go down which is that equity benchmark you are describing. Part of what we see our mandate is as your manager, is to manage your allocation if we have that view.

So right now we are underweight equities and we had been underweight equities in the fourth quarter, so we see that as being part of our responsibility within your broader portfolio to say, if there are some short-term challenges to be expected, we should be cutting risk. Now part of the mandate is a long-term mandate. We think there's a strong case to stay invested throughout the cycle, but then we compliment that with our skill

set to try to take down risk where appropriate, to minimize some of the short-term losses.

Trustee Lee states and if I understand the way you answered my question earlier, given even what the markets done in January and where it's at now, where you're slowly starting to ramp up in equities and with the broader longer horizon, your managing that by hedging it so that if we're wrong and we're starting to ramp up and it does in fact snapback, which doesn't look like projections look like that's going to happen, were hedged. We have our insurance policy.

Charlie Fishman says right. We are trying to be active around those market changes so that way we can help mitigate drawdowns on the downside. One of the key things that were always mindful of is, you know is the US economy on the brink of a recession. We don't by any means think that we can forecast that. That is a very difficult thing to do but that doesn't mean that we're not looking at things to try to get a sense of where we are in the business cycle. Slide 22 is what we call our qualitative business cycle scorecard and what we do is we look across economic metrics in blue, GDP, unemployment and then we look at financial market metrics in purple. Think about the yield curve, M&A issuance, taking all the metrics, we assign them a score of cycles; early, mid, late and recession. Based on this we can get a total picture of the US economy, which we know, is so impactful.

Chair Ahuna thanks Charlie for his presentation. Workshop with SPIRE.

Chair Ahuna mentions a 72-hour time limit waiver, for new committee materials.

C. Workshop: Conducted by SPIRE (Certified Public Accountants for Fiscal Sustainability) on structure, organization and decision points related to OHA financial policies and rules.

Chair Ahuna calls up Rodney Lee of SPIRE Hawaii and his team.

Rodney Lee gave update on structure, organization and decision points related to OHA financial policies and rules. Were trying to overcome his understanding the fiscal policies that exist today don't have addressed all the issues that need to be covered with maximizing the overall resources of OHA. See attached.

Trustee Ahu Isa asks does our policy allow us to do like public-private partnerships, work with DHHL to do ag and Kukaniloko, does our policy do that now, or do we create a whole new one.

Rodney Lee states you are allowed under Chapter 10 to establish entities. You have no direction if you want to do it. Chapter 10 allows you to partner and to be able to engage other entities to be able to serve your mission. The board hasn't decided if

that's something that the board wants to do within the policies. We are building within the policies.

Trustee Lee states using KS as an example, how do you come up with a number if you decide to for instance come up with an operational holding company that held funds for a non-interest-bearing financing. Let's say KS sold two properties for 1 billion dollars, how do you come up with a number of, if they sold for 1 billion dollars, and should put a hundred million on the side for, like you said they needed 300 million, how do you come up with that number to hold in reserve, to self-finance, who makes that educational decision.

Rodney Lee states that assessment should already be done at admin level, to present to the board with what we have in assets itself; this is what we need to be able to activate those assets and offer best options.

Trustee Akina asks how common is it for institutions to have a relationship between their investment policy and their spending policy, for example we have a spending policy of roughly 5% draw and I believe our institutions that have capital growth policy that says they can expect 5% real return on their investments and when they achieve that, they can take a 4% draw, which means that the portfolio will always grow by 1%. There is a discipline, a relationship between the investment returns and the spending. Is that common? Is that something we could develop for all OHA?

Rodney Lee it is common, it's what KS does. They have a 5% real return and 4% spending.

Trustee Lee states KS has a range, 2.5 to 4% depending on return.

Trustee Akina states so if they had a 5% in real investment return and 4% spending policy, they will always grow by 1%.

Rodney Lee states yes, there will always be a growth. What I'd like to say is that they are in a unique position where they have sizeable assets in which the 4% equates to a quite a bit of money, so they can take it. But at one point, if you look at the history, they were pretty much even between spending and investment.

Trustee Akina states I shared my thoughts and Lucas when we met and I appreciate that but I didn't include my thoughts on this and I would urge us to consider a capital growth model in which we aim for a certain investment return and when we achieve that we allow a spending amount, so the portfolio will always grow.

Chair Ahuna states for me and my role as a trustee and a member of this board, I understand that we have a side to us where we have to perpetuate this fund, then ther is this other side of us where we have to spend it. These two sides have to work

together, we can strategize so we can maximize. When we look at KS, I guess when you look at the methodology of how they miss this information is because they did not know where they were doing, so they couldn't strategize or see the upcoming event.

Trustee Hulu Lindsey states our HDIP policy is fairly new to the board, we have a cap of 25 million a lot of it was taken out in the loan to purchase which was not a good deal in in my opinion, the equity in this property should cover that mortgage that we're paying Bank of Hawaii and which would free up the 25 million HDIP and I think in its early days like Kamehameha schools when they made that mistake, I would say that we're in the early days of investment, we can invest in smaller portions, like a lot at Kakaako Makai. Lets say we partner with a developer, but we don't only want the lease income as revenue to us, but we would like to have participation of the profit that they're going to make. So let's say we want to invest five or ten million dollars, that should be coming out of the HDIP, so if we think that that's not enough money, then maybe we should just raise that cap. We're in the right place, its how we utilize it.

Rodney Lee states you are correct, addressing the debt certainly is a good relief, the monies available within the HDIP, address the cap overall so you can limit exposure. Hopefully through the administration's efforts to seek funding, hopefully that the increase in the property valuation is considered, so the attractiveness of a payoff amount is going to be there, before it wasn't.

Trustee Hulu Lindsey states now its valued at 40 million and the balance for NLK is between 17-19 million. The 40 million equity in the property should cover that so easily and totally expose are 25 million cap for the HD IP.

Rodney Lee continues to summarize the financial policies and rules update.

Chair Ahuna asks what the next steps are.

Rodney Lee states we have to go through internal vetting, we need legal review of drafts. We're working on it right now and submit. We have to do now operational review of risk and identify key resources. OHA needs a governance structure that reflects policy goals and objectives. They need to be in the governance structure.

Trustee Hulu Lindsey asks who will write these drafts. Who will do the legal work.

Rodney Lee states we are doing an initial draft of it. Corp counsel actually will have a hand in it.

Kamana'opono Crabbe states whether or not the subject matter requires any other specialty consulting regarding finances, we have the capability in contracts to do that. So administratively operationally, we are very confident in our legal counsel.

Trustee Akina asks would like an update on recommendations for fiscal reserve policy.

Chair Ahuna states we will discuss that in executive session.

Chair Ahuna thanks Rodney. We are moving into executive session.

Trustee Hulu Lindsey moved.

Trustee Akaka seconded.

Meeting resolved into executive session at 11:31 am.

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).

Meeting reconvenes into open session at 12:16 pm.

VI. ANNOUNCEMENTS

None.

VII. ADJOURNMENT

Moved by Trustee Robert Lindsey, second by Trustee Akaka.

Trustee Robert Lindsey, MOVED, Motion to adjourn.	SE	CC	OND by	Trustee A	kaka	o eminor o objecto
	1	2	'AE (YES)	'A'OLE (NO)	KANALUA (ABSTAIN)	EXCUSED

TRUSTEE LEI	AHU ISA						not in room
TRUSTEE KALEI	AKAKA		X	X			
TRUSTEE KELI'I	AKINA			X			
TRUSTEE BRENDON KALEI 'AINA LEE				X			
TRUSTEE HULU	LINDSEY			X			
TRUSTEE ROBERT	LINDSEY	X		Х			
TRUSTEE COLETTE I	MACHADO			X			
TRUSTEE JOHN	WAIHE'E			Х			
CHAIRPERSON DAN	AHUNA			X			
TOTAL VO	TE COUNT			8			
MOTION: [] UNANIMO	US [X] PASS	SEC	<u> </u>] DEFE	RRED[]	FAILED	,

Motion passes with eight (8) YES votes.

Meeting a	djourned	at 12:17 pm.
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Respectfully Submitted,

Claudine Calpito, Trustee Aide

Committee on Resource Management

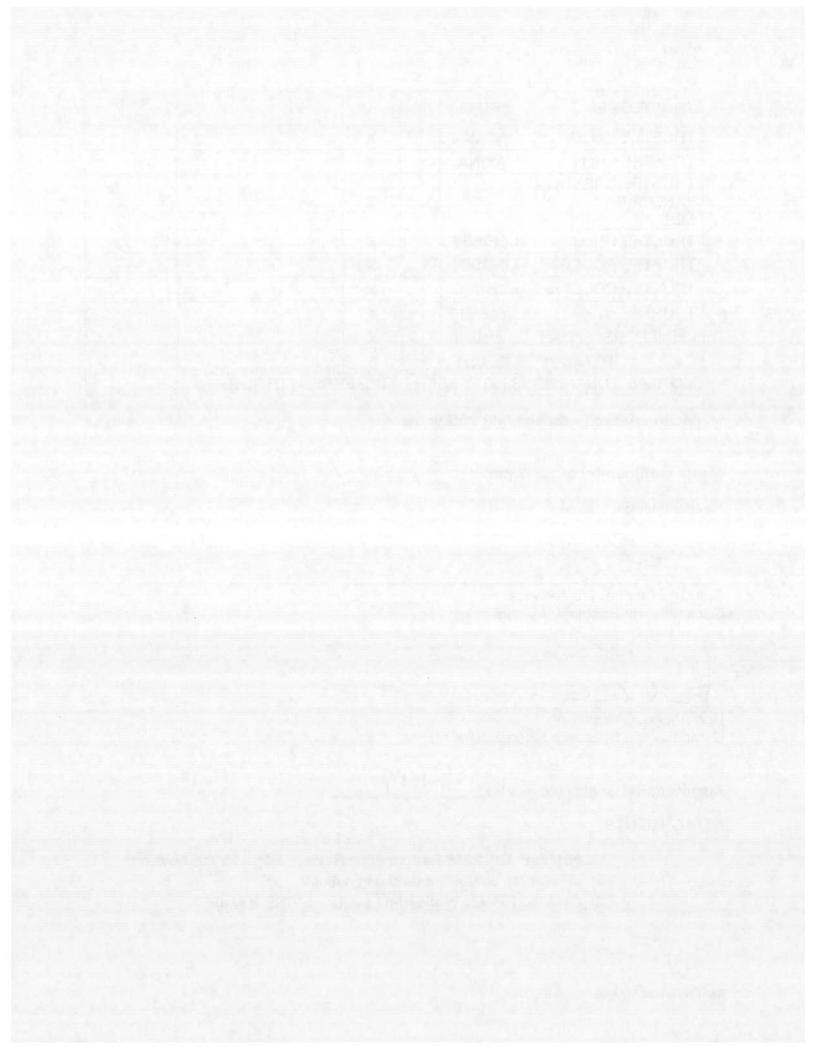
Dan Ahuna, Chairperson

Committee on Resource Management

Approved: RM Committee meeting

ATTACHMENTS:

- 1) NHTF 4th Qtr. 2018 Performance Review- Segal Marco Advisors
- 2) JP Morgan portfolio update and outlook
- 3) OHA BOT Policy Workshop Update SPIRE Hawaii





Office of Hawaiian Affairs

ANALYSIS OF INVESTMENT PERFORMANCE

Native Hawaiian Trust Fund

December 2018

John Marco Senior Vice President

Craig Chaikin, CFA Vice President

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ANALYSIS OF INVESTMENT PERFORMANCE

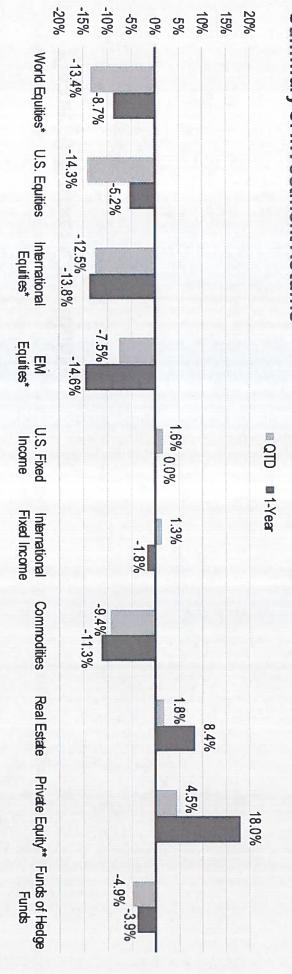
This performance report ("Report") is based upon information obtained by Segal Marco Advisors ("SMA") from third parties over which SMA does not exercise any control. Although the information collected by SMA is believed to be reliable. SMA cannot verify or guarantee the accuracy or validity of such 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 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 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

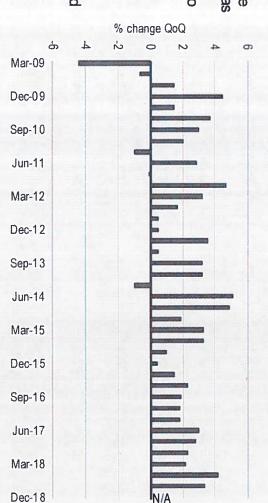
Hedge Funds	Private Equity	Private Real Estate	Commodities	Non-U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	Non-U.S. Equity	U.S. Equity	World Equity	Asset Class
HFRI Fund of Funds Composite	Thomson Reuters Private Equity ⁴	NFI-ODCE ³	Bloomberg Commodity Index	FTSE ² Non-U.S. WGBI (Unhedged)	Bloomberg Barclays U.S. Aggregate	MSCI EM1	MSCI EAFE1	Russell 3000	MSCI World ¹	Indices
4.85	4.50	1.76	-9.41	1.31	1.64	-7.47	-12.54	-14.30	-13.42	QTD
-3.92	7.71	8.35	-11.25	-1.82	0.01	-14.58	-13.79	-5.24	-8.71	YTD
-3.92	18.01	8.35	-11.25	-1.82	0.01	-14.58	-13.79	-5.24	-8.71	1-Year
1.34	12.11	8.24	0.30	3.32	2.06	9.25	2.87	8.97	6.30	3-Year
1.42	14.42	10.41	-8.80	0.28	2.52	1.65	0.53	7.91	4.56	5-Year
3.13	10.09	7.00	-3.78	1.27	3.48	8.02	6.32	13.18	9.67	10-Year

Net of Dividends
 Pormerly 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 wholy owned subsidiary of LSEG.
 NCREIF Fund Index (NFI) – Open End Diversified Core Equity (ODCE)
 Performance as of Q2 2018 because Q3 2018 and Q4 2018 performance data is not yet available.
 Sources: Investment Metrics, Thomson One, FactSet

GDP Growth

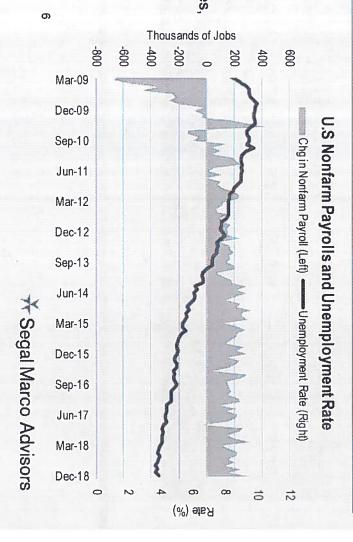
- The release of Q4 2018 GDP data has been delayed due to the partial U.S. government shutdown. Although the government has reopened, the Bureau of Economic Analysis (BEA) is awaiting the underlying data it needs from other government agencies to assess GDP growth during the quarter.
- Real GDP grew 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.

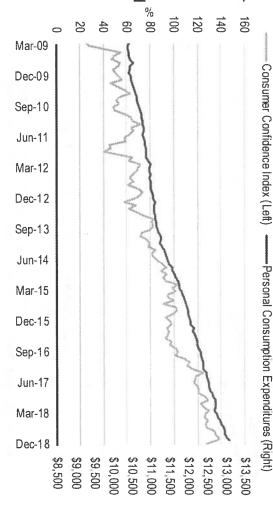


Q4 2018 In Review: U.S. Economy

Consumer Confidence and Spending

Consumer Confidence and Spending

- Sentiment declined in Q4, as the Conference Board's Consumer September to 128.1 at the end of December. Confidence Index decreased from 135.3 at the end of
- 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.

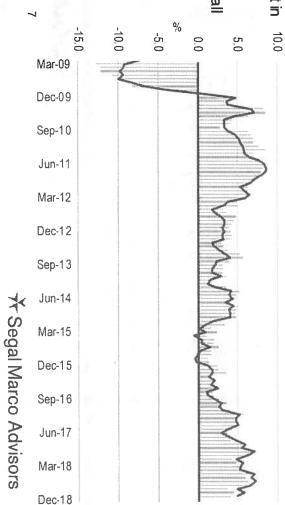


Retail Sales

- 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 for Q4 October, keeping expectations in place for strong results overall

U.S. Retail Sales

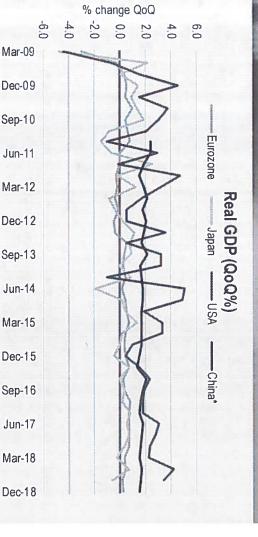




Q4 2018 In Review: Global Economy

World GDP Growth

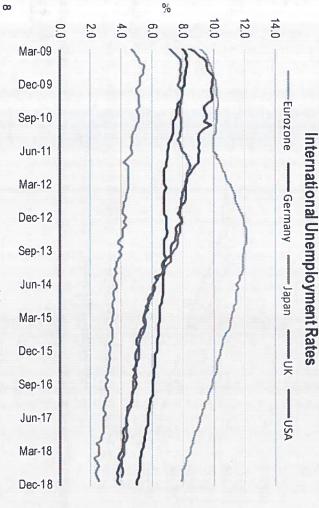
- Eurozone GDP growth remained weak in Q4, gaining 0.2% quarter over quarter (QoQ). The Eurozone's annual growth rate fell to 1.2% at the end of 2018.
- China's GDP growth declined by 0.1% QoQ to 1.5% in Q4.
 The country's annual growth rate slowed to 6.4%.
- Japan's GDP was negative QoQ in Q3**, coming 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.



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* Segal Marco Advisors

^{*}Quarter over quarter data calculations began in 2011.

^{**}Mostrecent data av ailable.
Source this page: FactSet

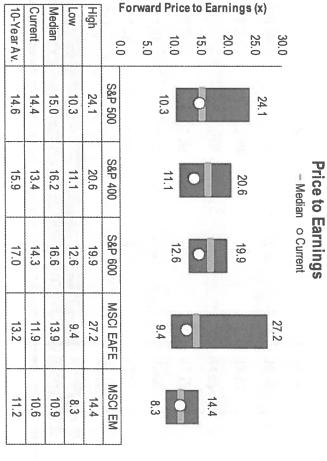
Q4 2018 In Review: Global Equity Overview

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

*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.



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.

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

Q4 2018 In Review: International Equity

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

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	one one	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

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

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

Performance

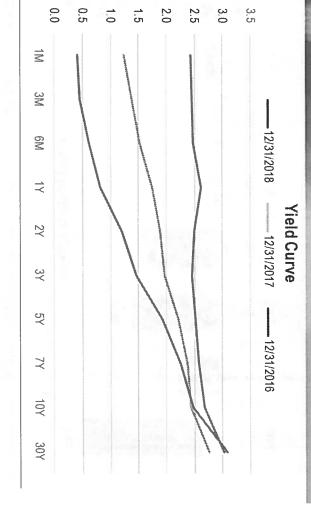
- Emerging markets, which suffered for much of 2018, dropped 7.5% in Q4. EM fell less than the U.S. and developed markets during the quarter.
- Fears of a slowdown in global growth and uncertainty around continuing trade tensions contributed to EM's Q4 decline.
- The standout performer in EM in Q4 was 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.

Utilities	Telecommunications Services	Materials	Information Technology	Industrials	Healthcare	Financials	Energy	Consumer Staples -	Consumer Discretionary	MSCI EM Sector Returns
3.62	-3.72	-10.75	-12.71	-3.78	-16.17	-0.88	-10.60	-4.59	-13.52	60
-3.79	-14.93	-11.58	-19.29	-12.58	-20.89	-8.68	4.67	-13.65	-32.50	1-Year

Q4 2018 In Review: Fixed Income Overview

Yield Curve

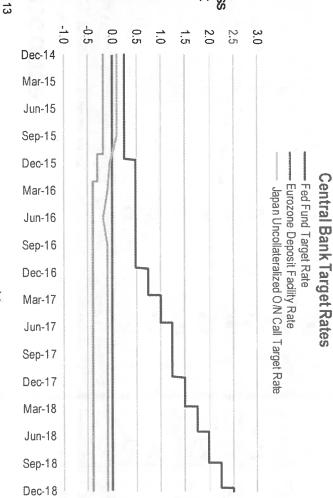
- Treasury yields rose across the short end of the curve in Q4 with compressed across maturities greater than 1 year. the Fed continuing to tighten its monetary policy. Yields
- Global demand accentuated the yield curve's flattening end of the curve moved up modestly. trajectory, as long-term Treasury yields fell and the very front
- bps lower than the prior quarter. 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



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 volatility and economic growth. clear now than previously stated due to concerns about market

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)
X,	0.25% (Dec. 2008)	-0.40% (Mar. 2016)



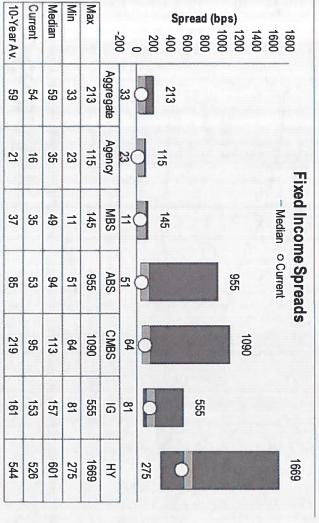
Q4 2018 In Review: U.S. Fixed Income

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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.						

All data in the table are percentages.

Performance and Spreads

- The U.S. Aggregate Index was positive in Q4. which both returned over 2.0%. Performance was driven by Treasuries and Agency MBS
- 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.



Data range is from 9/30/00-12/31/18

* Segal Marco Advisors

wholly owned subsidiary of LSEG. ** 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

Q4 2018 In Review: International Fixed Income

QTD	YTD	1-Year	3-Year	5-Year	10-Year
1.20	-1.19	-1.19	2.70	1.08	2.49
1.74	1.77	1.77	2.91	3.45	3.78
1.31	-1.82	-1.82	3.32	0.28	1.27
2.29	3.49	3.49	3.55	4.36	3.76
-1.26	-4.26	-4.26	5.15	4.80	8.20
2.11	-6.21	-6.21	5.91	-0.96	3.45
	1.20 1.74 1.31 2.29 -1.26 2.11		-1.19 1.77 -1.82 3.49 -4.26 -6.21	YTD 1-Year -1.19 -1.19 1.77 1.77 -1.82 -1.82 3.49 3.49 -4.26 -4.26 -6.21 -6.21	YID 1-Year 3-Year -1.19 -1.19 2.70 1.77 1.77 2.91 -1.82 -1.82 3.32 3.49 3.49 3.55 -4.26 -4.26 5.15 -6.21 -6.21 5.91

Global Performance and Yields

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

Global 10-Year Treasury Yields

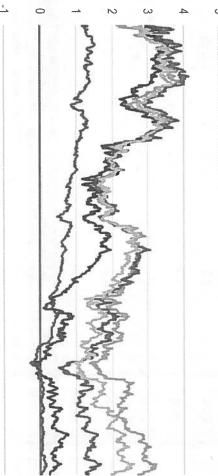
*USA

Japan

| | |

Germany

-Canada



Dec-08 May-09 Oct-09 Mar-10 Aug-10 Jan-11 Jun-11 Nov-11 Apr-12 Sep-12 Feb-13 Jul-13 Dec-13 May-14 * Segal Marco Advisors Oct-14 Mar-15 Aug-15 Jan-16 Jun-16 Nov-16 Apr-17 Sep-17

Feb-18 Jul-18 Dec-18

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

Q4 2018 In Review: Absolute Return Strategies

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

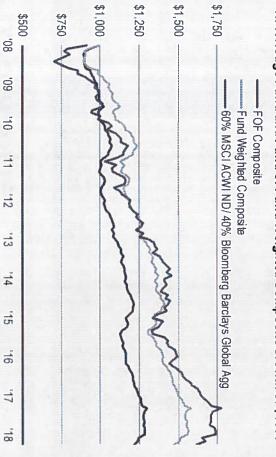
All data in the table are percentages.

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

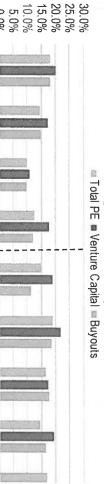


Q4 2018 In Review: Private Equity

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 "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.

<u>^</u>

5 Yr.

10 Yr.

20 Yr.

2016

2015

2014

2013

2012

Fundraising

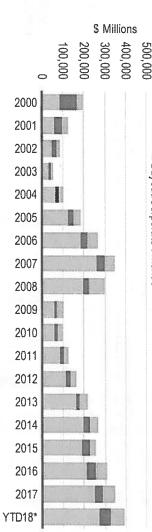
- U.S. private equity funds raised approximately \$392.1 billion across 1,136 funds through December 17, 2018*, which is on par with 2017's annual fundraising data.
- On a global basis, private equity fundraising dropped \$140 billion from 2017 to 2018. The 10 largest funds accounted for nearly one-quarter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

Private Equity Commitments: United States

Other (Includes fund of funds, mezzanine, and secondaries)

Venture

Buyout/Corporate Finance



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).

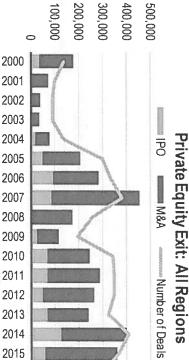
The most recent data available.
Sources this page: Thomson Reuters, Private Equity Analyst, Preqin

17

* Segal Marco Advisors

2016 2017

2018



2,000

Number of Deals

1,000

3,000

\$ Millions

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

10%

5%

0%

QTD

1-Year

3-Year

5-Year

10-Year

20%

15%

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.

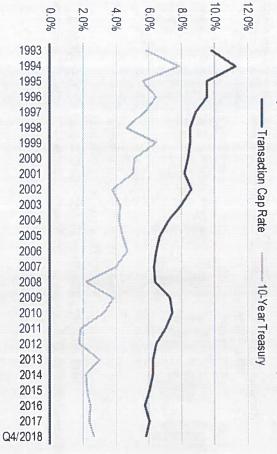
The NFI-CEVA Index, which is a quarter lagged in performance reporting, is defined by NCREIF as a capitalization-weighted, gross of fees, time-weighted return index. Funds included in the index must be closed-end with a value-add strategy operated for U.S. institutional investors and must comply with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

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

Capitalization Rates & 10-Year U.S. Treasury



* Segal Marco Advisors

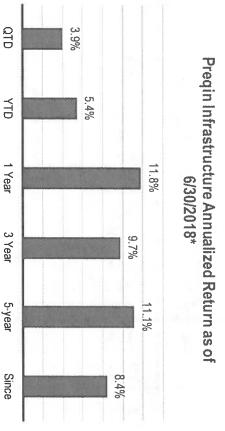
^{**} A cap rate is the potential rate of return on a real estate investment. Assuming no change in net operating income, real estate valuations rise when cap rates fall. Comparing cap rates to the 10-year U.S. Treasury provides investors with an estimated spread for expected returns from real estate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



14% 12% 10%

6%

2%

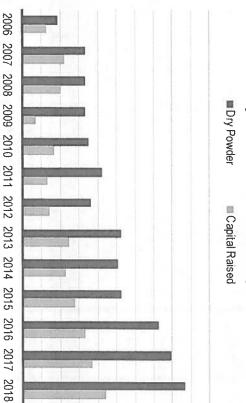
According to Preqin, the Preqin Infrastructure Index captures the average returns earned by investors in their infrastructure portfolios, based on the actual amount of money invested. The Preqin Infrastructure index is calculated on a quarterly basis using data from Preqin's Infrastructure Online services.

Inception (12/31/2007)

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



\$USD Billions

\$200 \$180 \$160 \$140 \$120 \$100

\$80 \$60 \$40

Q4 2018 In Review: Commodities and Currencies

2000	0.15 -10.79 -10.79 -6.78 letals -8.69 -19.48 -19.48 7.69		Bloomberg Commodity Index (BCOM) -9.41 -11.25 -11.25 0.30 -8.80	BCOM Indices QTD YTD 1-Year 3-Year 5-Year				-11.25 -12.70 -10.79 -19.48	-9.41 -25.78 -25.78 -8.69	BCOM Indices Bloomberg Commodity Index (BCOM) Energy Agriculture Industrial Metals
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Commodity and Currency Highlights

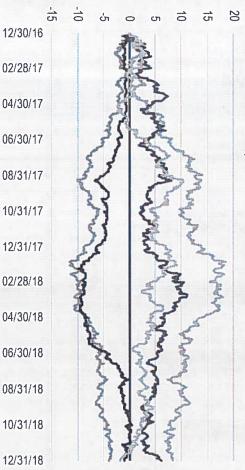
- The Bloomberg Commodity Index fell during Q4. Performance across the underlying sectors varied significantly.
- oil exports from Saudi Arabia and OPEC, coupled with decreased about oversupply entered the market with stronger-than-expected Energy fell 25.8% in Q4, erasing a 17.6% YTD gain through Q3 demand expectations amid a weakening global economy. prices all declined more than 30% during the quarter. Concerns West Texas Intermediate crude oil, gasoline, and Brent crude oi
- 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.
- though its strength moderated The USD continued to rise against most major currencies in Q4.
- 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

* Segal Marco Advisors

Major World Currencies Indexed to Zero

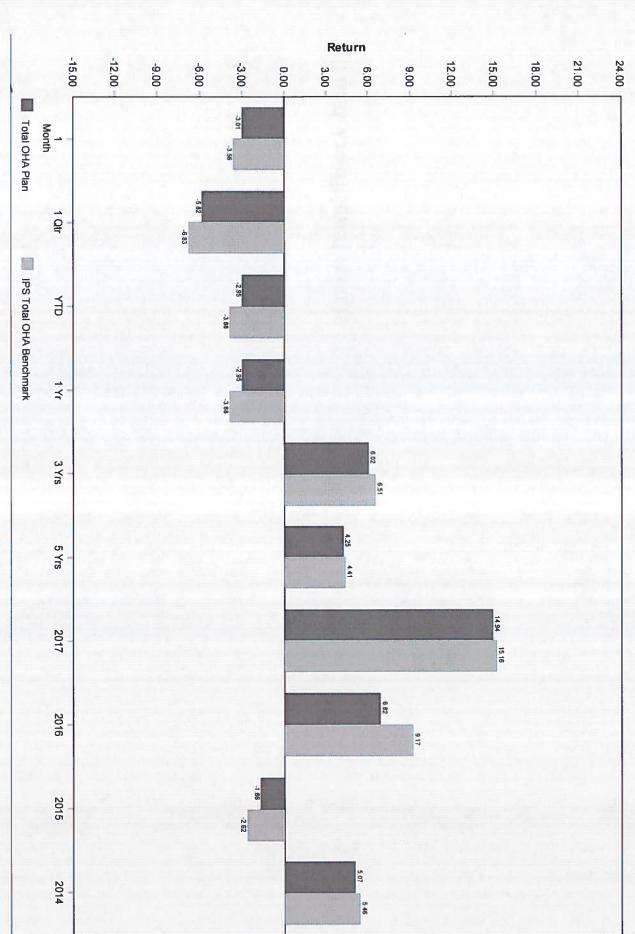
- USD per Euro US Trade-Weighted Dollar Exchange Rate Index
- USD per Japanese Yen
 USD per China Yuan Renminbi



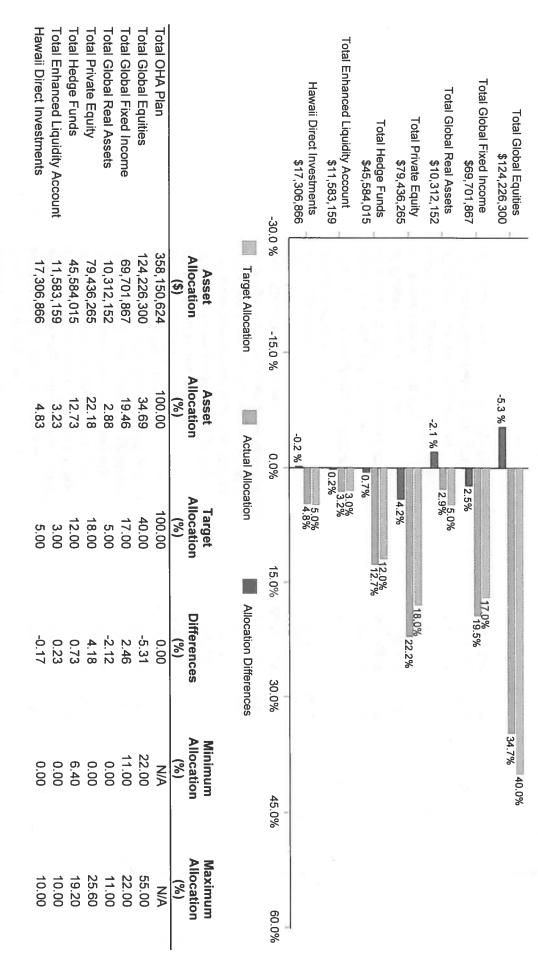


Source this page: FactSet

Total Traditional Assets



* Segal Marco Advisors



Total OHA Plan Total Global Equities	וסומו רעווע	
Total OHA Plan Total Clobal Equities	(\$)	%
Total Clobal Equition	358,150,624	100.00
Total Giobai 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 Insti (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 (JUSSX)	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

Asset Allocation
As of December 31, 2018

	1-4-1	-
	(\$)	%
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	/13,498	0.20
GS TET 2005 Offshore	206 511	0.12
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

	Total Fund	ā
	(\$)	%
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

Comparative Performance

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	Allocation	3	_				Perform	Performance (%)					
,					1	Jul-2018			•		2		
	(\$000)	%	Month	Quarter	Date	Dec-2018	Year	Years	Years	Years	Inception	Date	Expense Ratio
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	00 7.3	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)	The state of the s	9	0 15	0.47	-1 -3 -3 -6	0.87	136	N	N	N/A	0.92	12/01/2016	0.37
90 Day U.S. Treasury Bill	Section Control of Control		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	N/A	NIA	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	NA	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	NA	N/A	10.95	11/01/2016	0.02
S&P 500	A STATE OF THE PERSON NAMED IN COLUMN TO STATE OF THE PER		-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	1161	9.21		0.92
State Street S&P 500 Index Strategy (SSSYX) Rank			57	46	31	39	31	×	N	NA	చ		
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	NA	NA	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	-561	8 00	7 13	1161	7, 26		0.92
JP Morgan US Large Cap Core Plus (JLPSX) Rank			66	90	75	79	75	65	NA	NA	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	4	NIA	27		
Population			778	770	736	755	736	634	565	514	530		
JP Morgan Value Advantage Insti (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	A CONTRACTOR OF THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.		-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 Insti (JVAIX) Rank			39	18	28	26	28	27	17	NIA	ÇŞ,		
Population			416	413	409	411	409	345	290	267	272		
				_			_	_	_				

	Allegation						0	19/					
	Market Value		_	1	Year To	Jul-2018 To	1	1 3	On	7	Since	=	
JP Morgan Growth Advantage (JGVVX)	7.837	219	-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		40.00
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 (VSNGX)	2,385	0.67	-0.51	-15.79	-8.29	-10.90	-8.29	6.12	8 19	NA	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 (VSNGX) Rank			84	44	95	62	95	79	68	NA	60		
Population			560	557	538	549	538	482	418	359	368		
JP Morgan US Small Company Insti (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 Insti (JUSSX) Rank		1	32	25	53	58	53	7.4	47	NA	4.		
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	NA	5.13	11/01/2016	0.06
MSCI AC World ex USA		1	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 Population			87	87	80 W	8 1	89 33 42 42	63 ×	55	52 N/A	72 3		
		2			3	3		2					
orange Soundits Grober Equity	004,01	1.0.1	704	10.75	10.00	9 9 9	10.00	0 00	200	0 20 20	2 20	4102110110	Statement of the last of the l
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	NA	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	. O. 1	-10.17		0.99
JP Morgan Intl Research (OIEAX) Rank			33	27	45	40	4. m	S	N/A	S 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	NA	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	NIA	42		
Population			3,285	3,249	3,094	3,193	3,094	2,655	2,092	1,732	1,785		

Comparative Performance As of December 31, 2018

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						11.2018	37						
	Market Value (\$000)	*	Month	Quarter	Year To Date	To Dec-2018	1 Year	Years	Years	7 Years	Since	Inception Date	Expense Ratio
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		0 00
JP Morgan International Equity R6 (JNEMX) Rank Population	1 9/28	- 30 0 1 5	51 87	32	76 82	58 84	76 82	22 63	55 22 A	N/A 52	52 52		5
JP Morgan Emerging Markets Equity (JMIEX)	3,005	0.84	-3.63	ъ в 32	-15.84	-0.26	-15.84	10.84	2.83	3.77	1.04	07/01/2011	0.95
MSCI EM (net)		THE STREET STREET	-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			7.4	33	45	4 1	45	7	(20	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	-15.41	-10.04	-16,41	6.87	0.87	2.96	-0.26		1.32
JP Morgan Emerging Economies Select (JEESX) Rank Population			904	8 61 8 61	78 840	872 872	78 840	58 721	541	79 3 97	350		
			,		3								
IPS Global Fixed Income Benchmark	00,00	3	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	The state of the s	C. COMMENSION PROPERTY.	0.18	0.56	1.87	1.06	1.87	0.99	0.61	0.45	0.59	And the second s	
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 NVA	1.08		
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	.48	1.12	1.20	1,08		
JPM Open Cash Rank			92	94	100	100	100	100	100	100	100		
Copulation			ű	S	20	9	20	20	ŧ	4	ŧ		
iShares TIPS Bond (TIP)	2,643	0.74	0.53	-0.53	-1.46	-1.40	-1,46	NA	NA	N/A	-0.39	7102/10/11	0.20
Bimbg. Barc. U.S. TIPS			0.55	-0.42	-1.26	-1.24		1.68	0.91	0.88	-0.20		0 69
Shares TIPS Bond (TIP) Rank				33	4 0	44	4. C	N/A	N/A	N/A	<u>د</u> -		4
Population			239	238	227	236	227	201	162	139	227		
JP Morgan inflation Managed (JRBSX)	2,289	0.64	-0.17	 	-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		100000000000000000000000000000000000000	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	NS	N/S	NA	51		
Population			220	3	227	325	227	201	160	139	227		

	Allocation							(a) contamental					
	Market Value		_	-	Year To	Jul-2018 To	1	ш	СП	7	Since	Inception	
	(000¢)	76	IDIOM	Quarter	Date	Dec-2010	1 Bal	1 data	16919	Ieala	IIIcepuoii	Date	Expense Nano
State Street Aggregate Bond Index (SSFEX)	29,469	8.23	1.90	1.65	0.01	1.61	0.09	2.06	2.52	2.10	0.57	9102/10/11	0.03
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	NIA	NA	62		
Population			531	525	506	519	506	442	378	338	463		
JP Morgan ULTRA Short Income (JPST)	5,674	1.58	0.18	N.	N/A	NA	N/A	NA	NA	NA	0.13	11/01/2018	0.18
ICE BofAML 3 Month U.S. T-Bill	277		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	NA	NA	N/A	N/A	NIA	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 N	N/A	NA	0.60	11/01/2017	0.35
Bimbg. 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	00	7	00	N/A	N/A	NA	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	NA	0.22	11/01/2017	0.46
Blmbg. Barc. U.S. Aggregate	1000		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	100	20	19	N/A	N/A	NIA	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	Sammen Company
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	NA	34		
Population			697	695	672	687	672	582	487	391	407		
JP Morgan Floating Rate Income (JPHSX)	7,654	214	-2.37	-3.50	-0.30	-1.79	-0.30	N/A	N/A	N/A	b.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	4	51	35	51	N/A	NA	N/A	84		
Population			247	245	238	244	238	210	192	147	230		

Comparative Performance

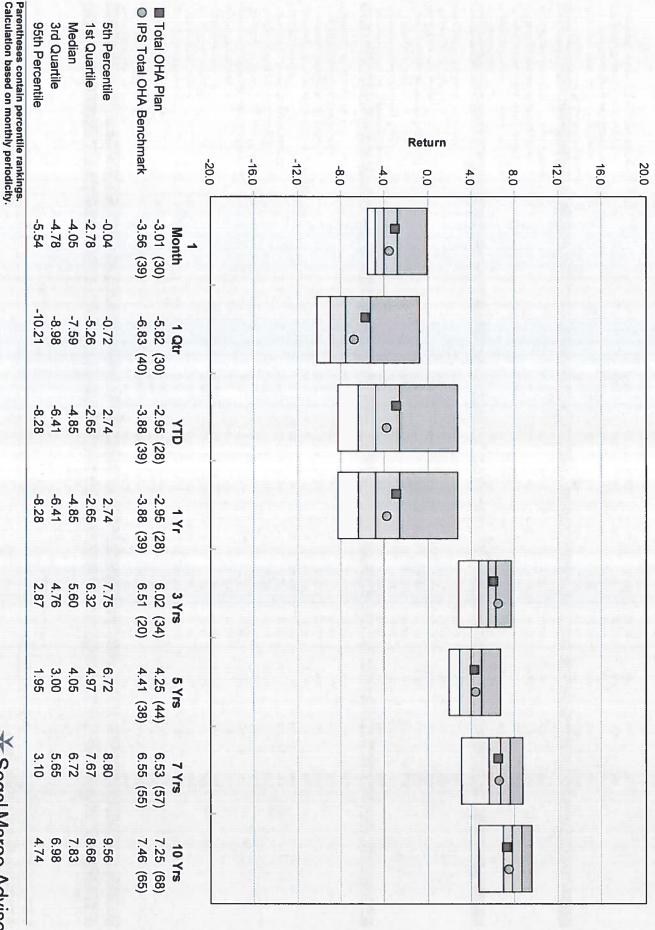
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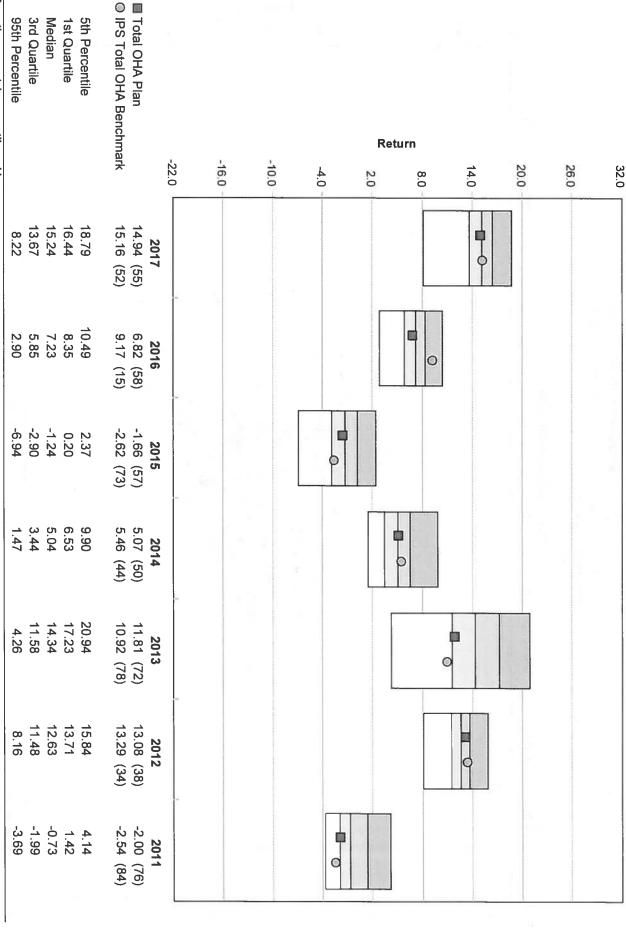
	Allocation	<u> </u>					Perform	Performance (%)					
	Market Value		-	-	Year To	Jul-2018 To	-	ω	O1	7	Since	Inception	
	(\$000)	*	Month	Quarter	Date	Dec-2018	Year	Years	Years	Years	Inception	Date	Expense Ratio
JP Morgan Emerging Mkt Strategic Debt (JECSX)	121	0.03	0.65	-2.53	-6.13	-0.79	-6.13	4.12	-2.26	NA	-3.71	01/01/2013	0.95
JPM GBI-EM Global Diversified	And oppositely considerable and property for the property of	Spinister or other Persons Spinish	1.31	2.11	-6.21	0.25	-6.21	5.91	-0.96	0.18	-2.34	1000	
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			7.9	92	56	78	55	රියි	95	NIA	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	The second second		-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		Annual Control	-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	-5.76	-5 67	-6.05	-5.67	1 86	6,93	7.52	6 74		144
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	NA	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	-1	23		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		6	-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			.A.	21	6	-1- (D)	6	យា	21	NA	49		
Population			116	112	110	112	110	104	96	90	95		
SSGA Tuckerman U.S. REIT Index	2,222	0.62	-8.54	-8.55	4.10	-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	The second state of	
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	69		
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		
		_			1				3	ľ			

	Allocation	3					Perform	Performance (%)					
						Jul-2018						SE DETENT	
	Warket Value	2	1	-	Year To	To 2018	۲ <u>-</u> -	V S	< g	Your	Since	Inception	Evanna Dati
Total Hedge Funds	45.584	12.73	-0.35	-0.60 -0.60	3,73	0.48	3.73	2.09	2.16	3,35	2.87	05/01/2017	Lyponoo Mado
IPS Hedge Fund Benchmark			0.51	1.55	5,95	3.06	5.95	5.04	4.63	5.32	5.59		>
	22	3	3	h	3	0.76	3	2	3	o h	3 37	00/04/2014	
Global Americas Calpilla Collipsily	600,47	0.00	20.10	10.01	24.3	0.70	24.72	10.1	1,70	0,00	10.3	000012011	STATE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAMED IN C
90 Day T-Bills +4%		i	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	ហ	- A	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	NA	0.15	NA	N/A	NA	NA	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	-6.14	2.33	-B 14	10.59	0.61	-0.01	N/A		
PIMCO Tactical Opportunities Fund Rank			69	68	N/A	63	N/A	N/A	NIA	NA	N/A		
Population		À	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	NA	NA	NA	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	58	1.45	1.49	1.54		
SSGA 1-3 Year U.S. Credit Index (CM2WNON) Rank			30	57	51	27	51	NA	NA	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	NA	-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	-5.68	-3.97	-5.45		
SSGA Real Asset NL Strategy Rank			100	23	h h	23	1	25	23	N/A	24		
Population			732	726	675	715	675	592	503	397	459		

Comparative Performance As of December 31, 2018

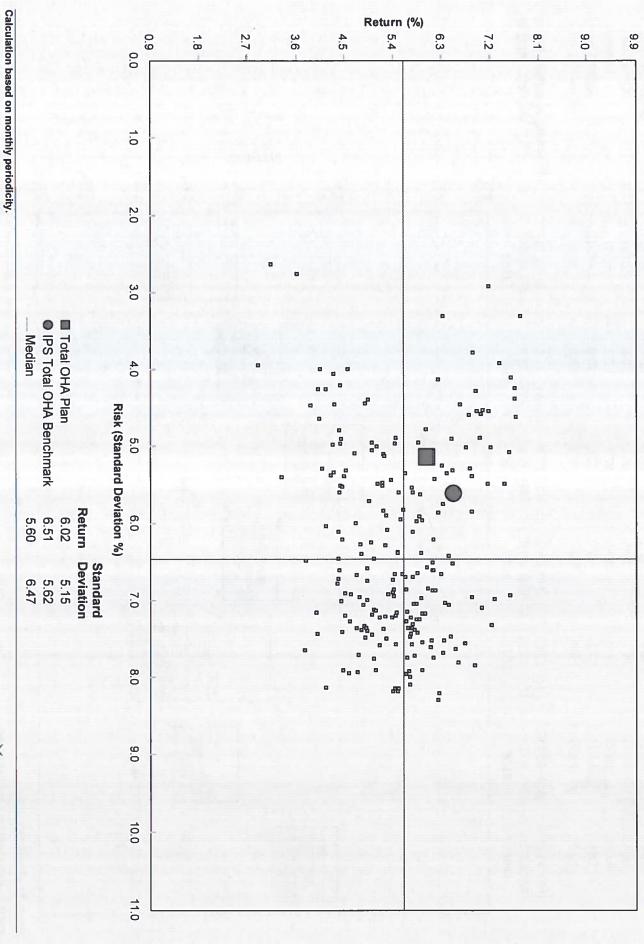
	Allocation	_					Perform	Performance (%)			AS	of December	As of December 31, 2018
	Market Value		<u> </u>	1	Year To	Jul-2018 To	-	ω	Ø1	7	Since	Inception	
	(\$000)	%	Month	Quarter	Date	Dec-2018	Year	Years	Years	Years	Inception	Date	Expense Ratio
Total Private Equity	79,436	22.18	0.01	0.19	6.77	0.37	6.77	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	di	
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 0	16.25	130	4 36	7 90	7 88	Z Z	Z Z		
Commonfund Emerging Markets Partners 2013			0.00	0.00	7.26	5.78	7.26	13.44	11.04	N/A	N/A	Ä	
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		ľ	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	Z Z		
Pantheon Global Secondary Fund IV LP			0.00	0.00	4.88	-0.34	4.88	2 6	5.96	17.65	2 2		
GS Vintage VI Offshore			0.43	2 23	37 80	5.87	37.80	N/A	N/A	N S	N N		
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 1	8,70	N/A	Z N		
GS Broad Street Senior Credit Partners			0.00	9 9	13.77	6.17	13.77	N/A	Z Z	Z	2 3		
Highbridge European Asset Value Offshore			0.00	0,00	13.77	0,17	13.77	3	Š	3	3		
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	Z Z	Z Z		
Commontung Natural Resources Partners X			0.00	0.00	14.53	0.90	14.50	90.00	3	3	3		





Parentheses contain percentile rankings. Calculation based on monthly periodicity.

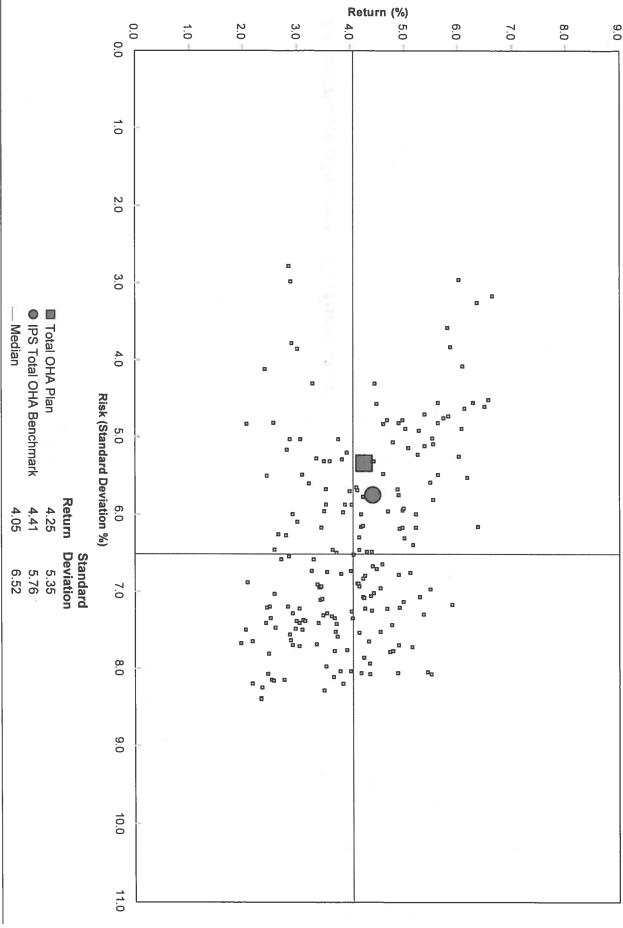




* Segal Marco Advisors

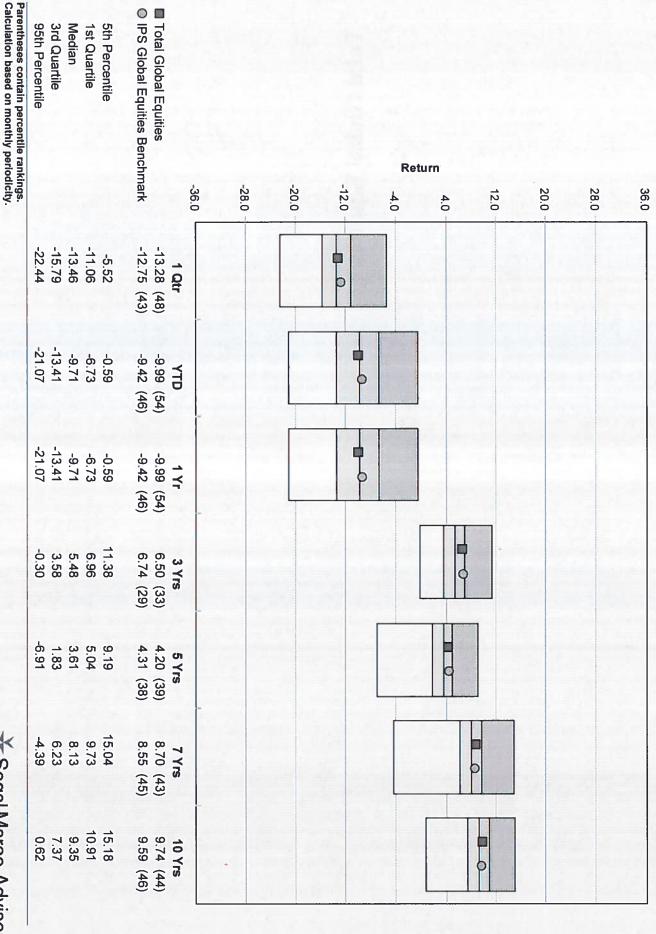
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5 Years Ending December 31, 2018

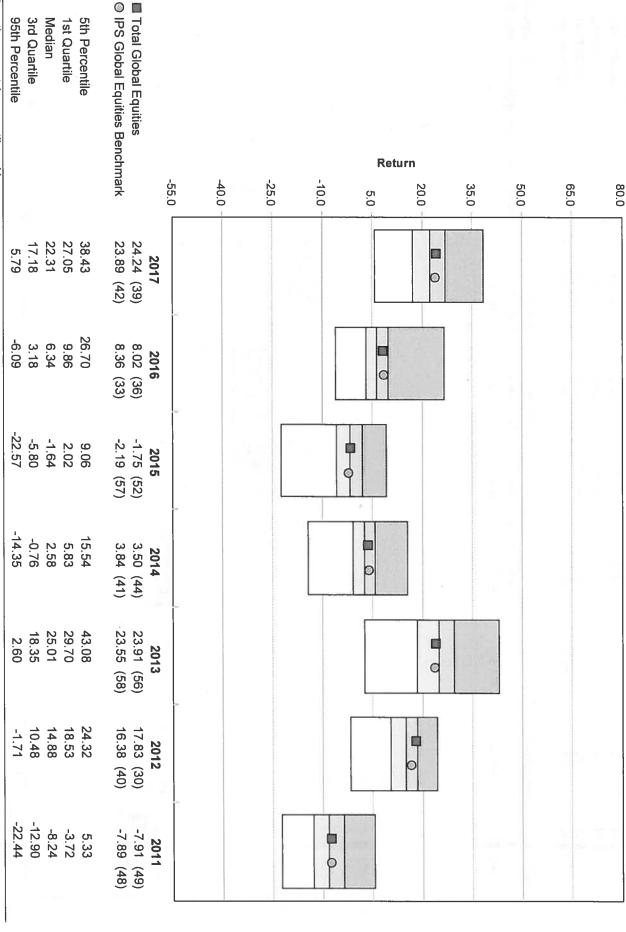


Investment Manager Performance

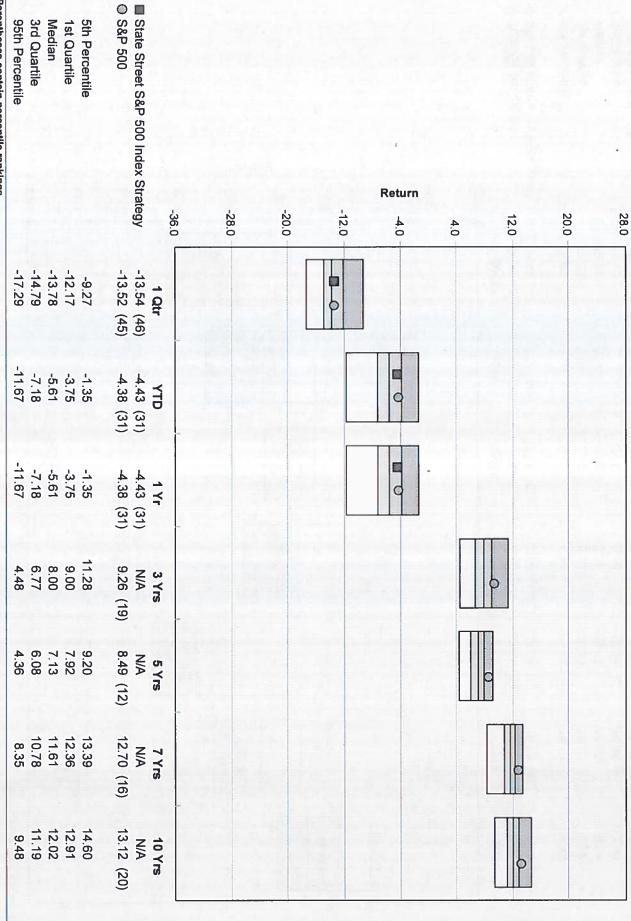
Total Global Equities

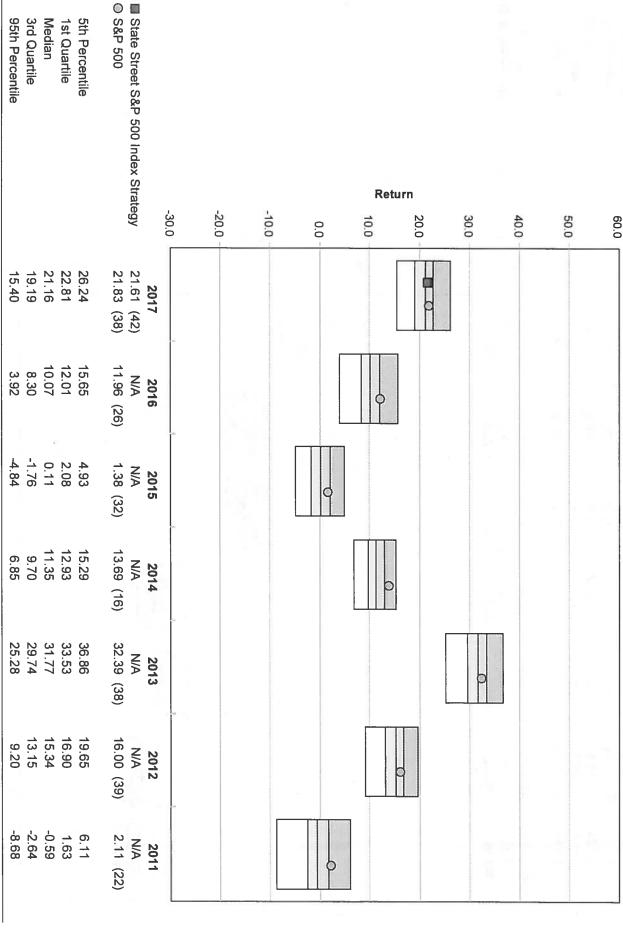


As of December 31, 2018

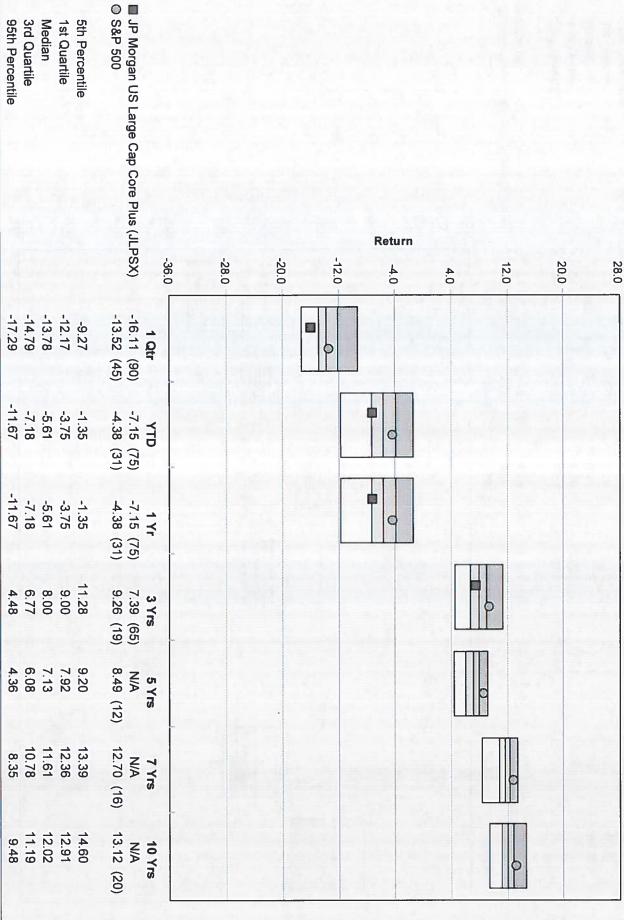


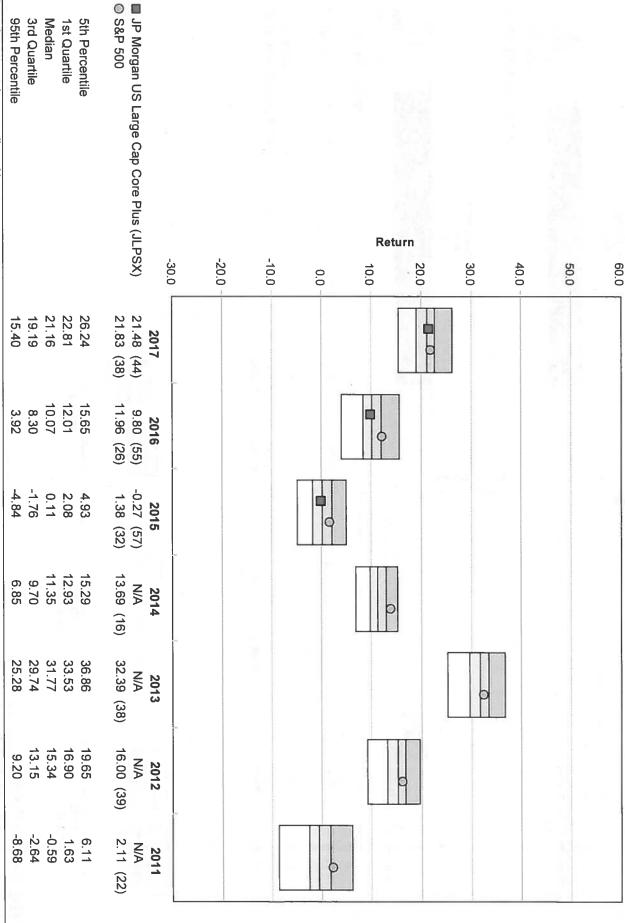
Parentheses contain percentile rankings. Calculation based on monthly periodicity.



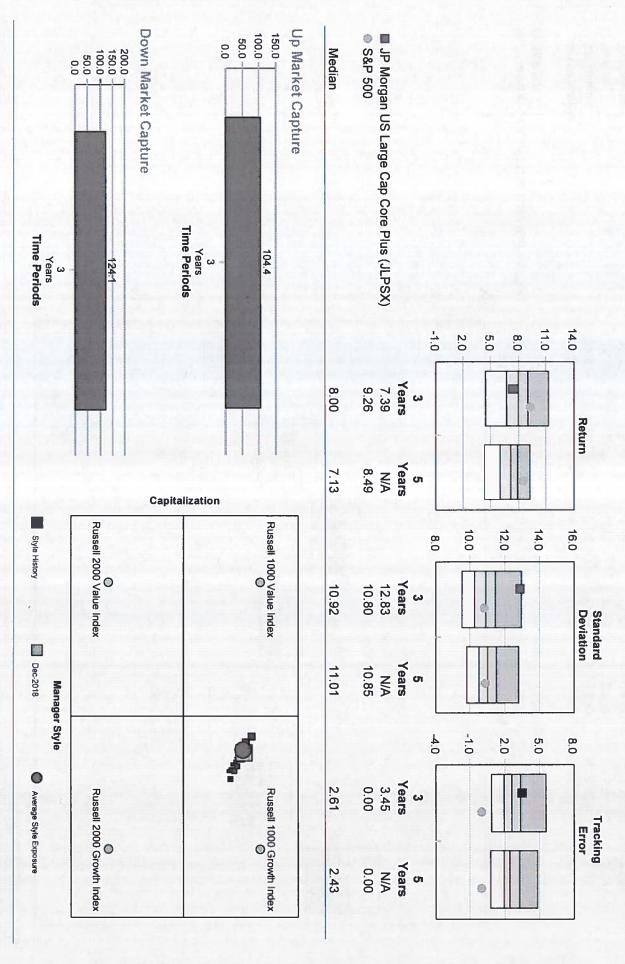


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

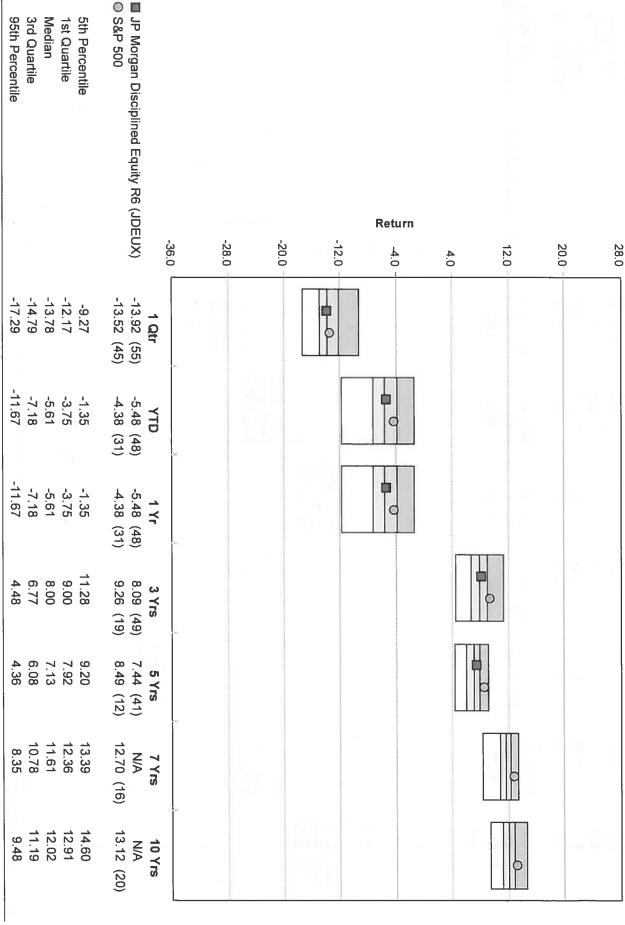




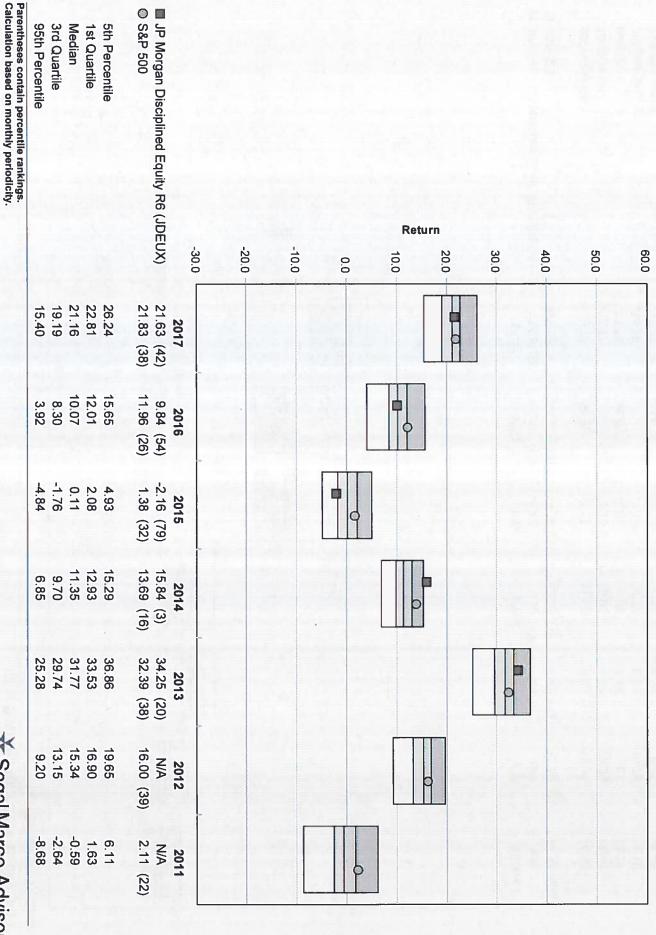
Parentheses contain percentile rankings. Calculation based on monthly periodicity.

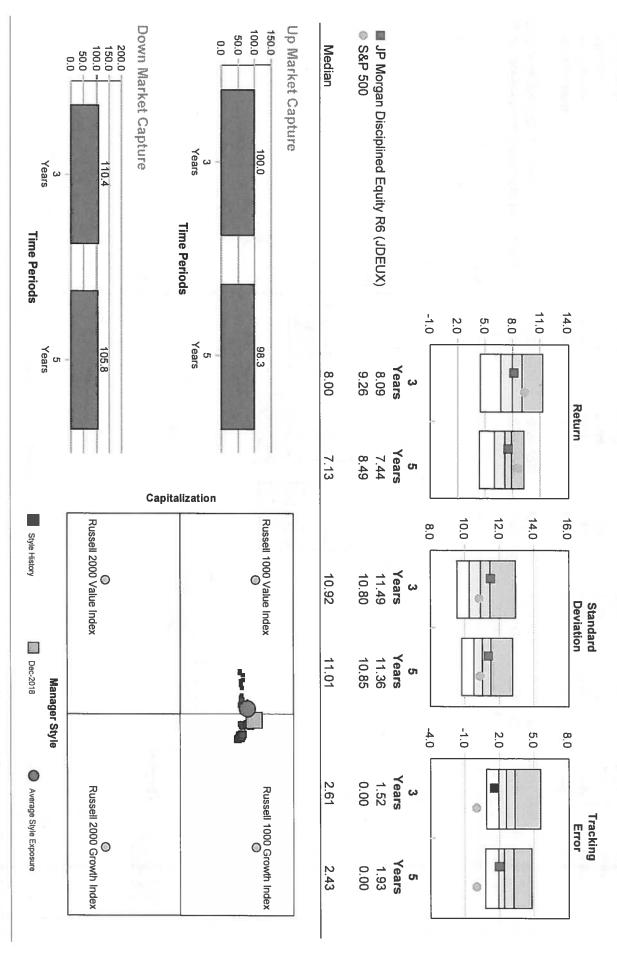


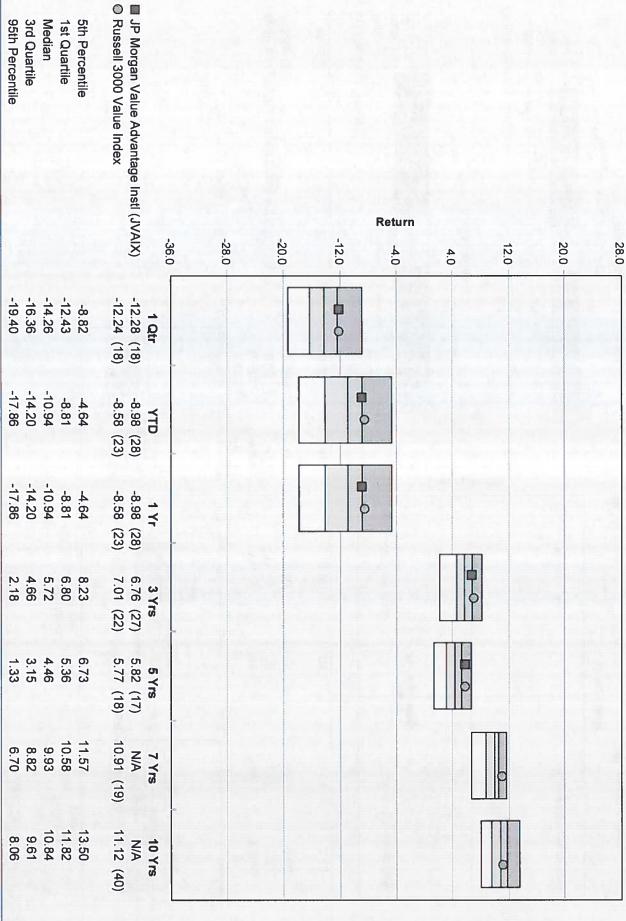
* Segal Marco Advisors

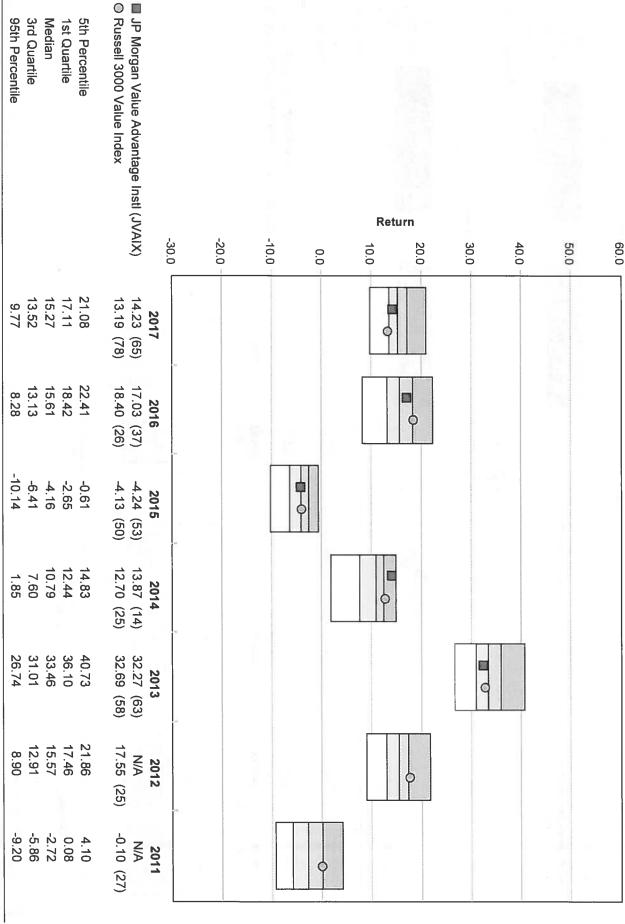


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

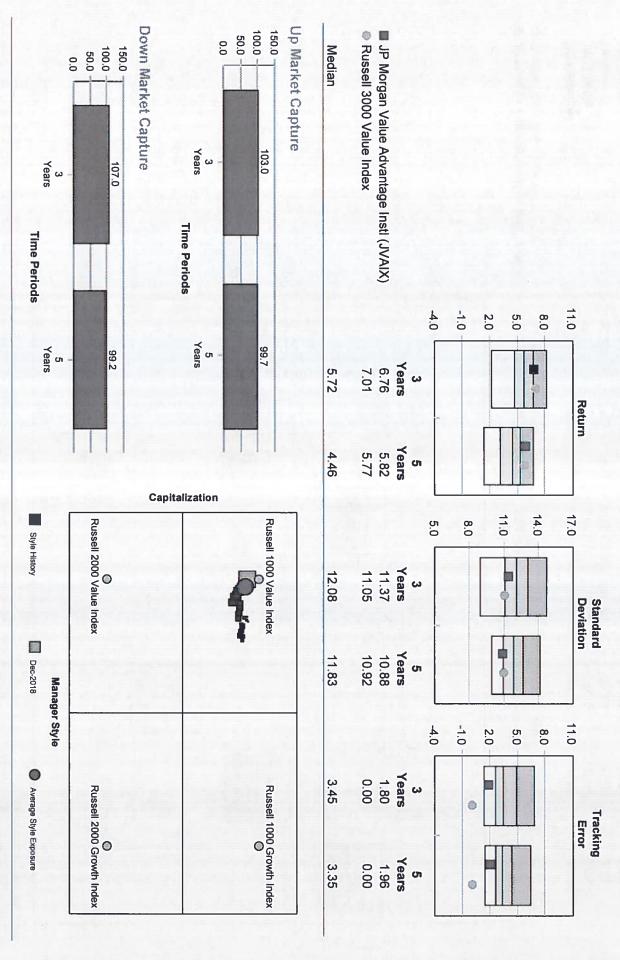


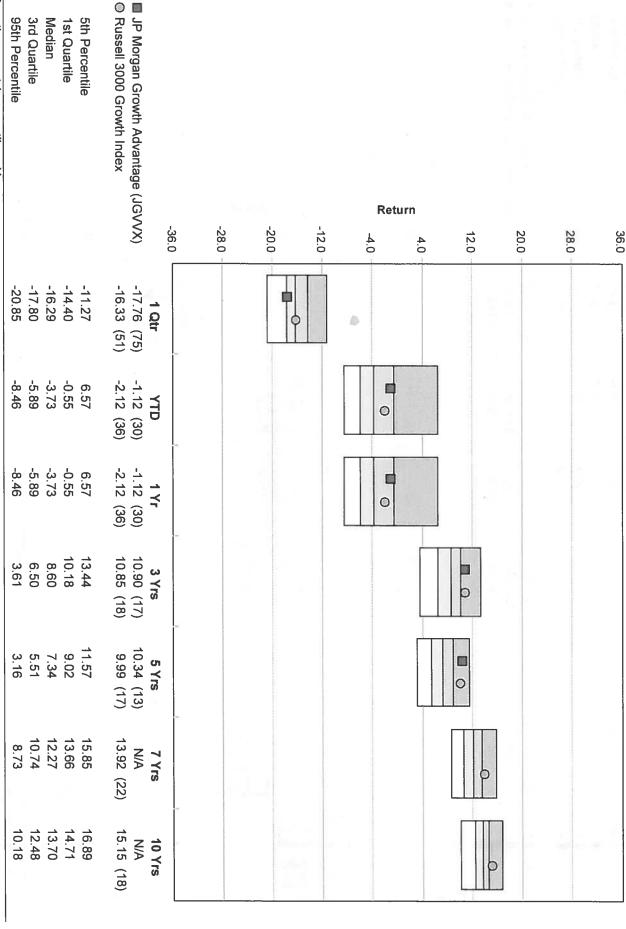




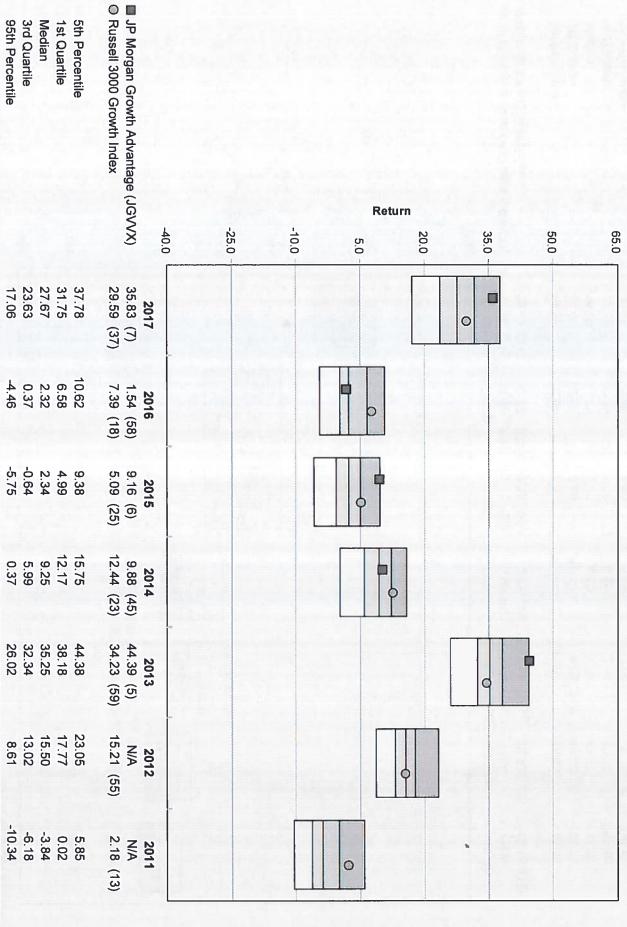


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

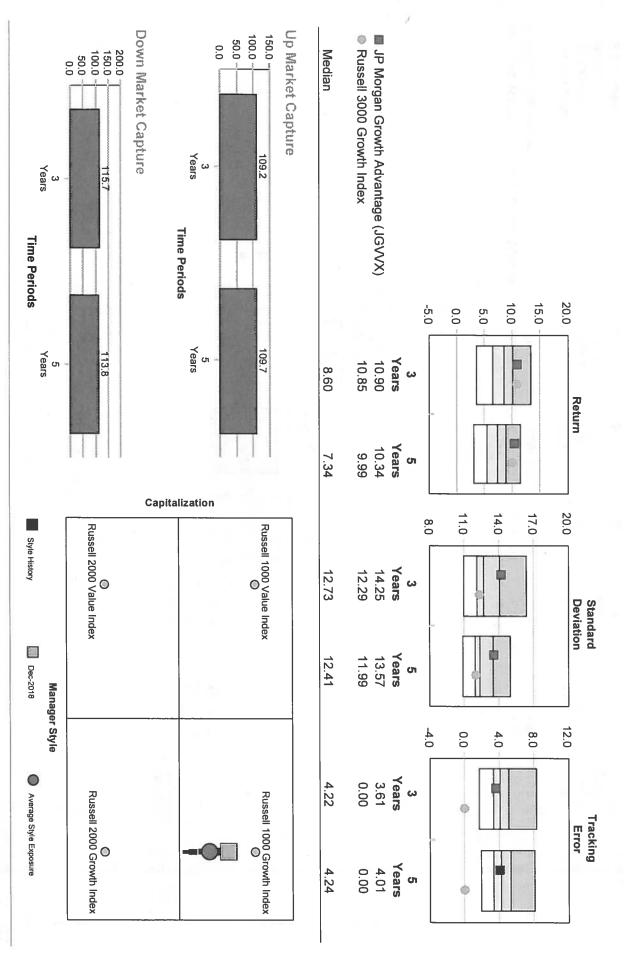


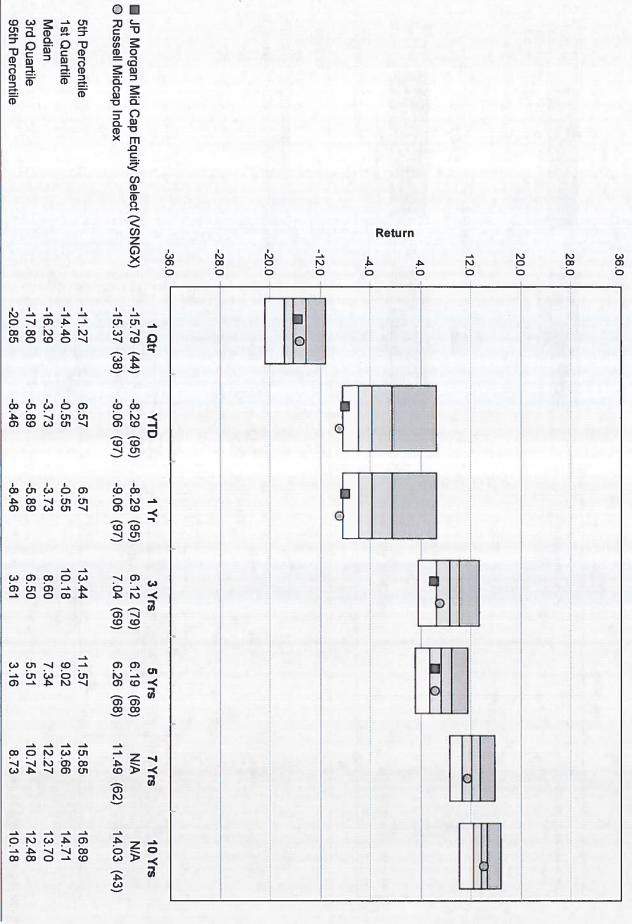


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

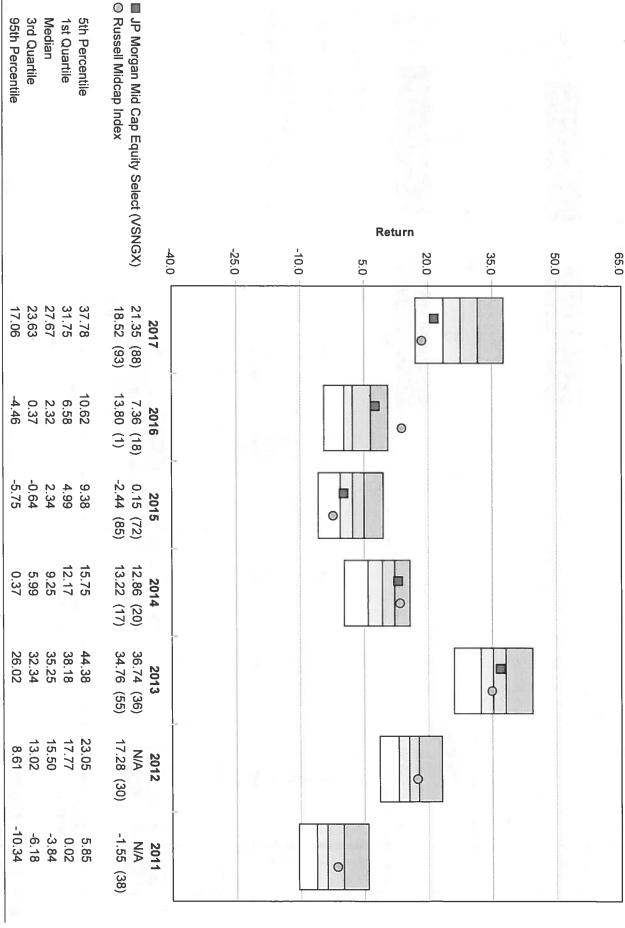


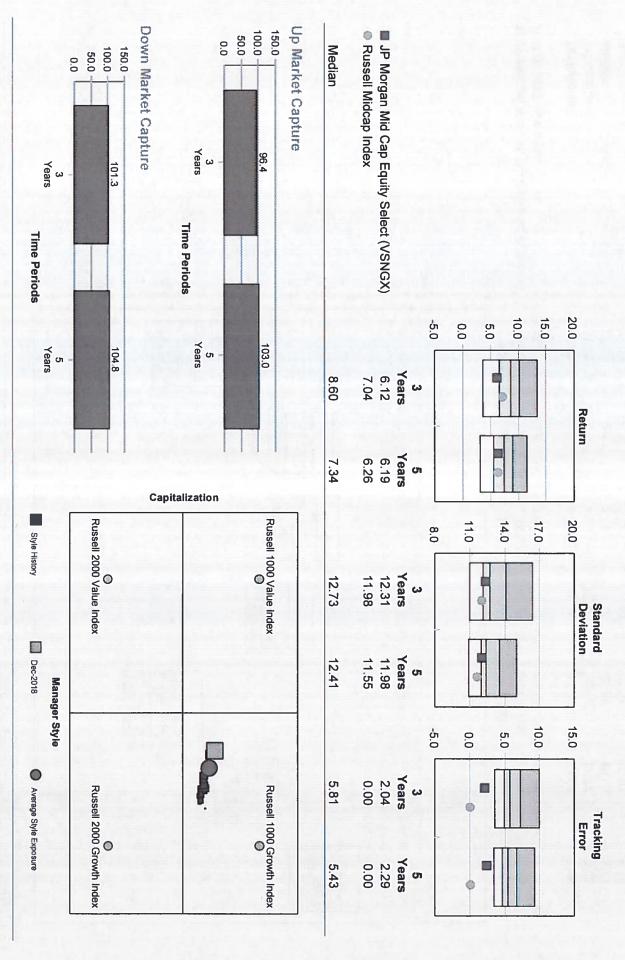
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

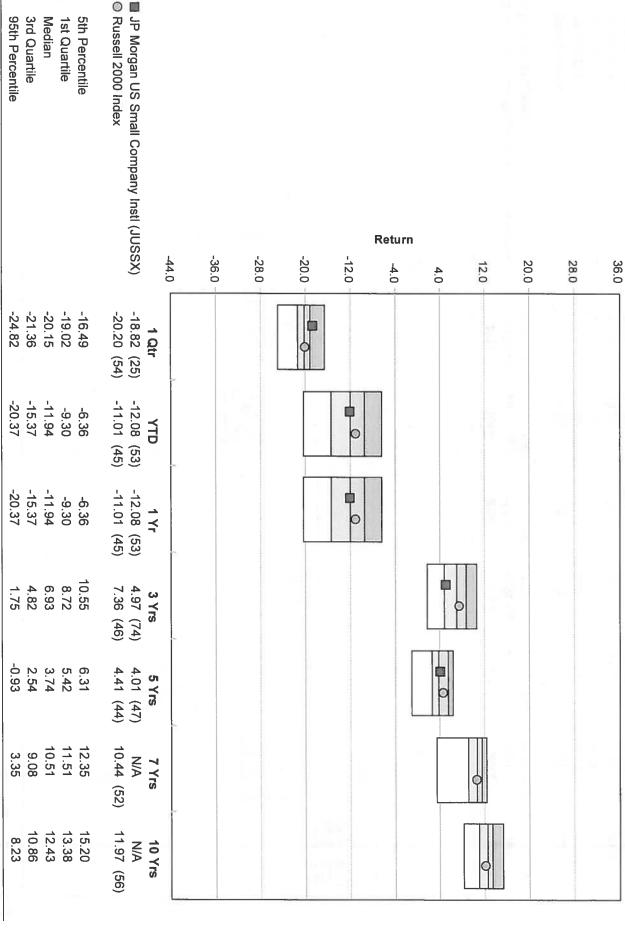


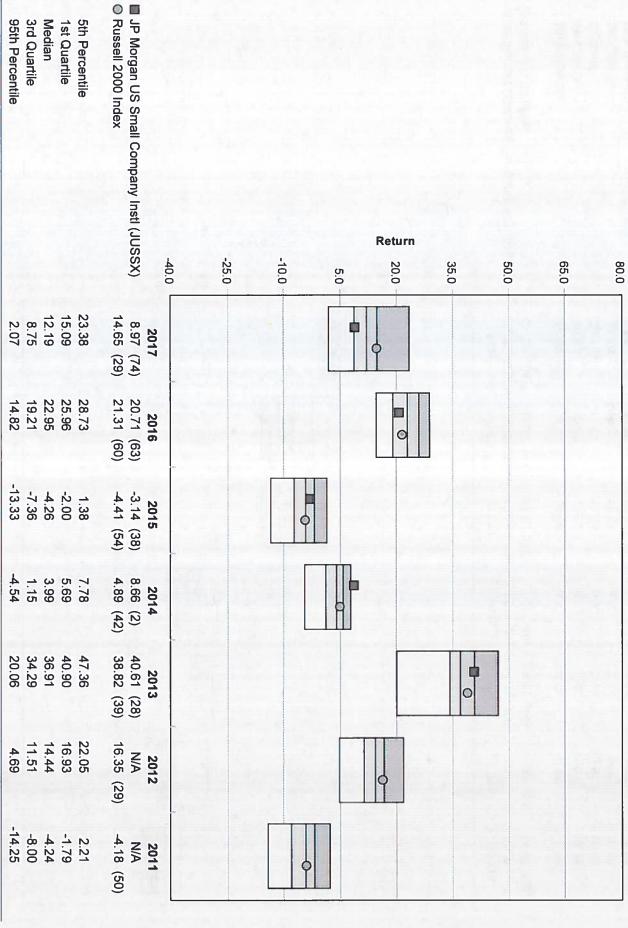


Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

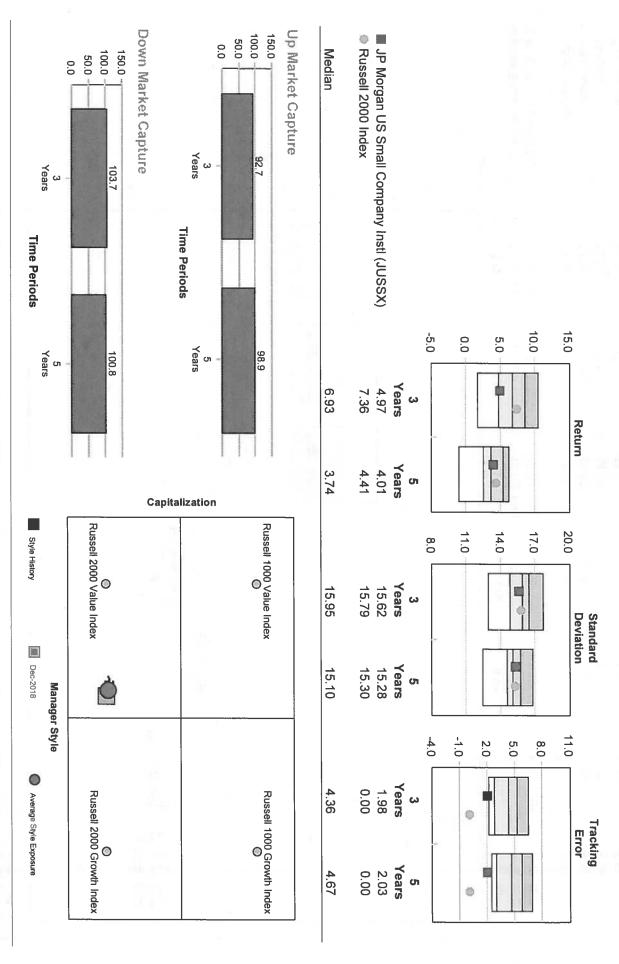


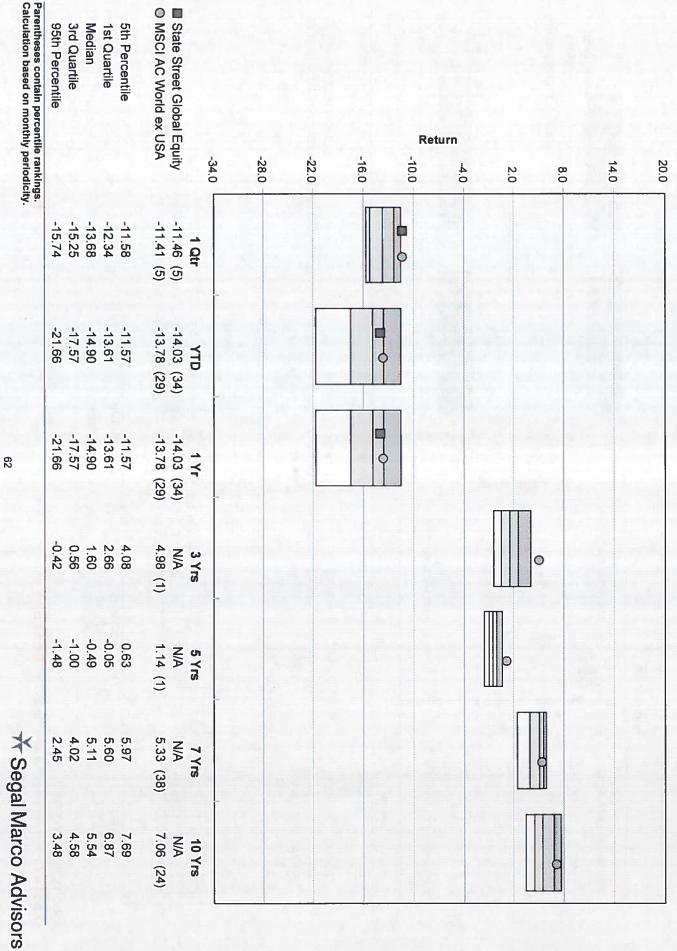


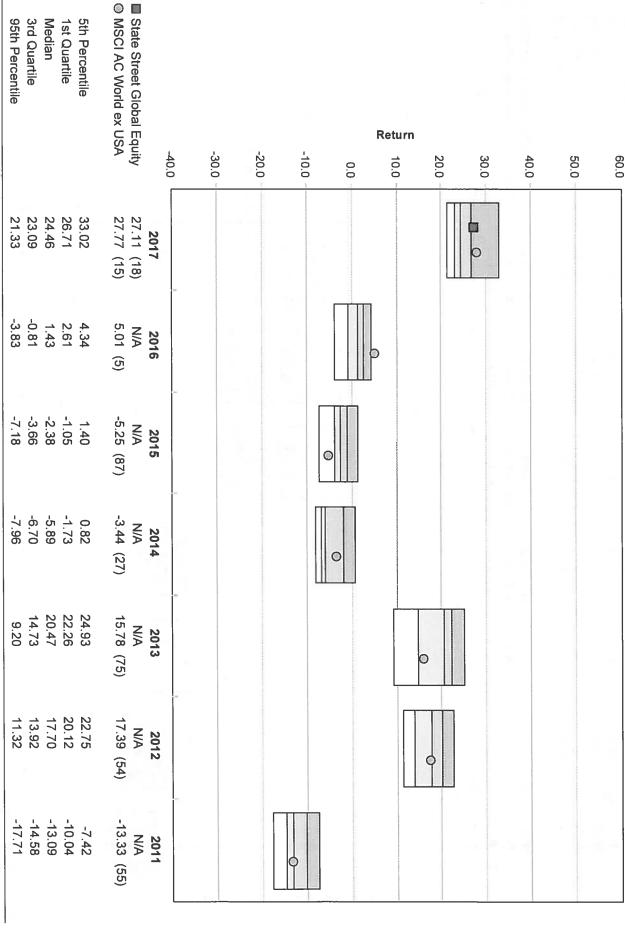


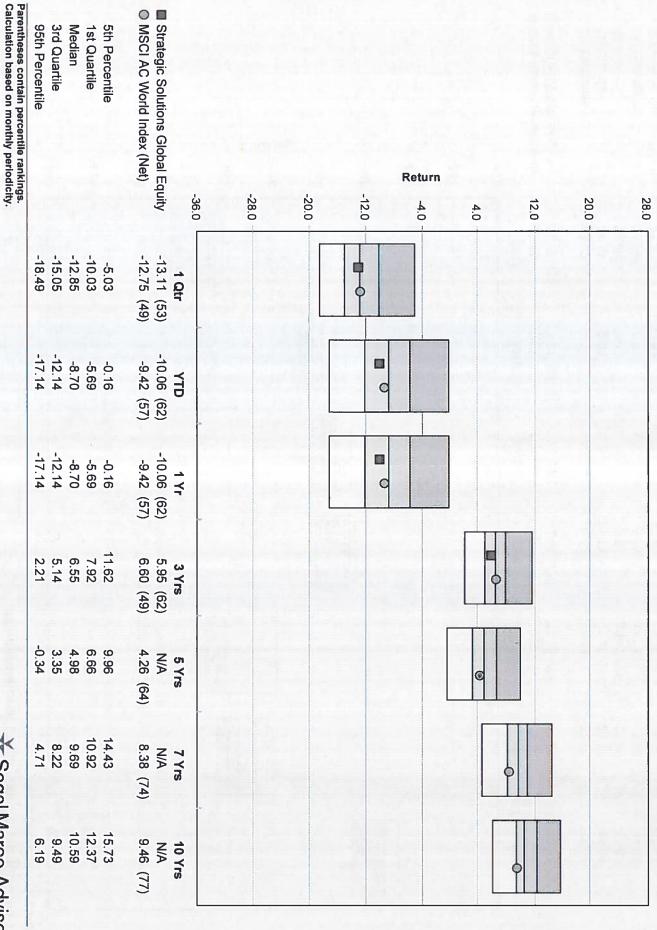


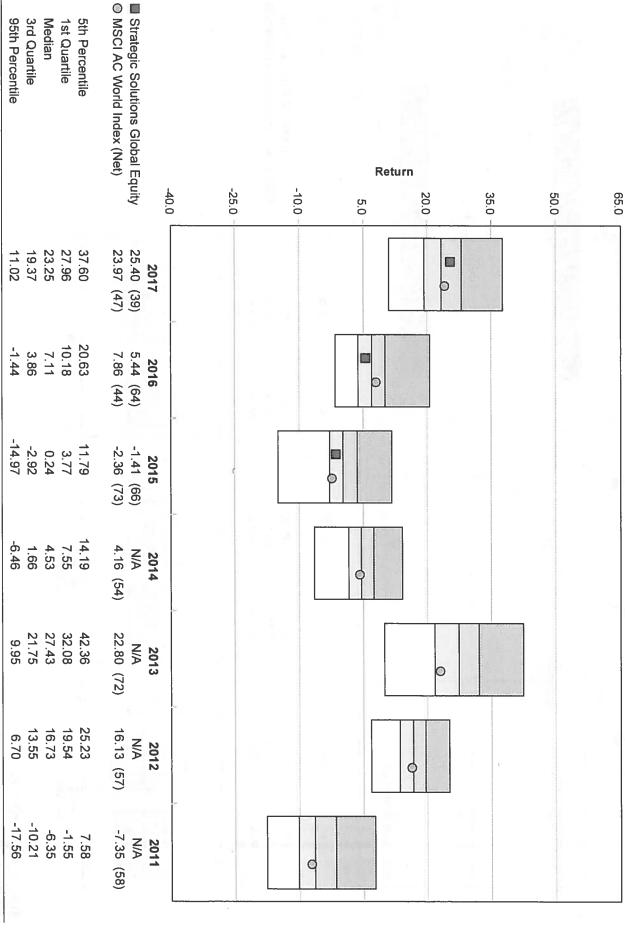
Parentheses contain percentile rankings.
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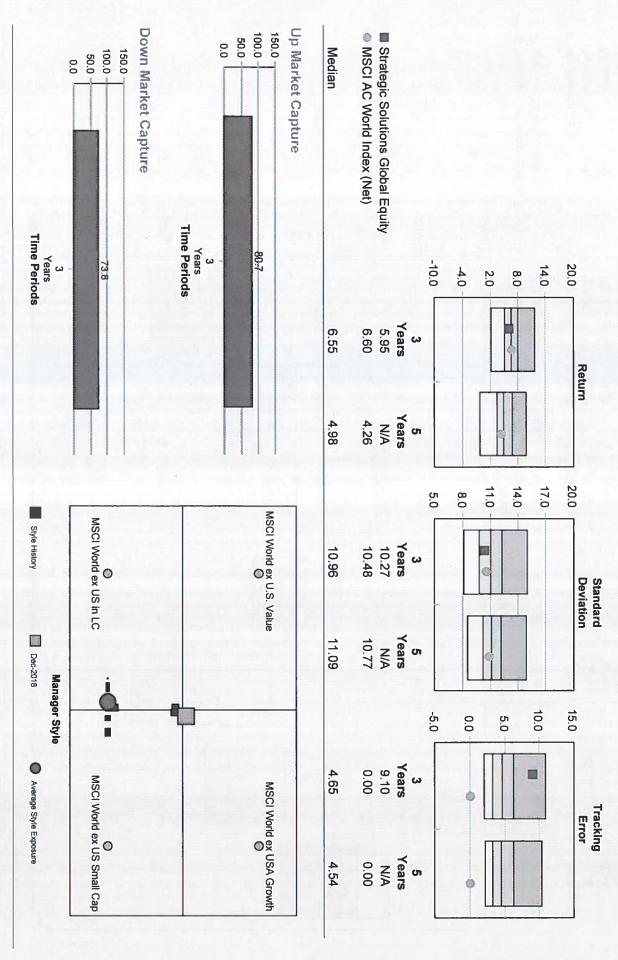


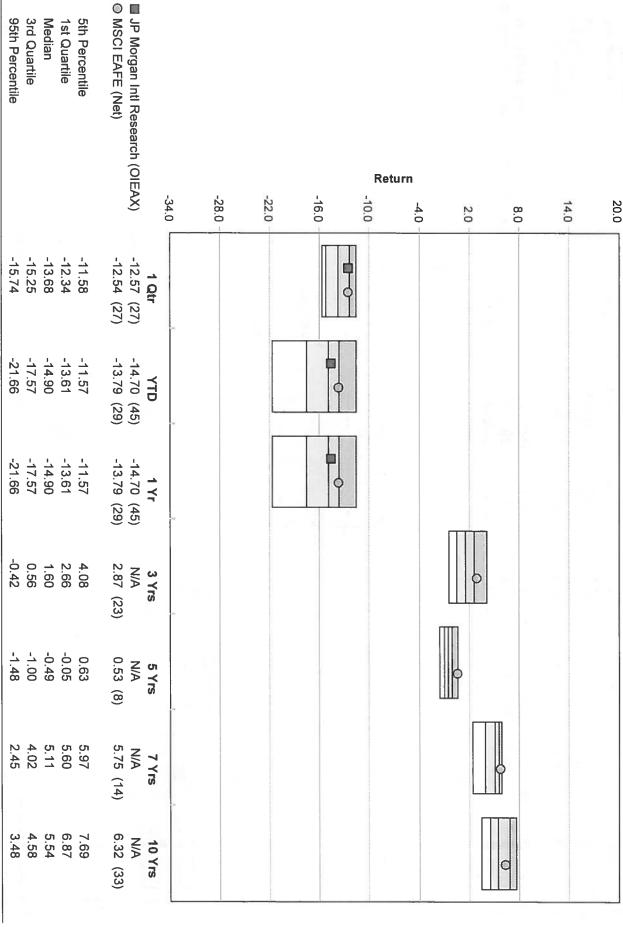




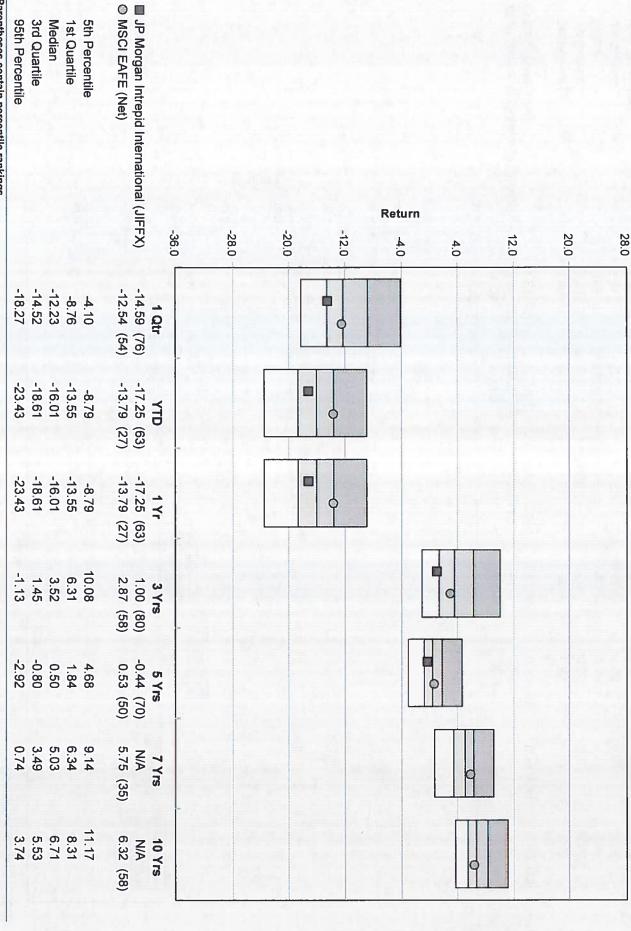


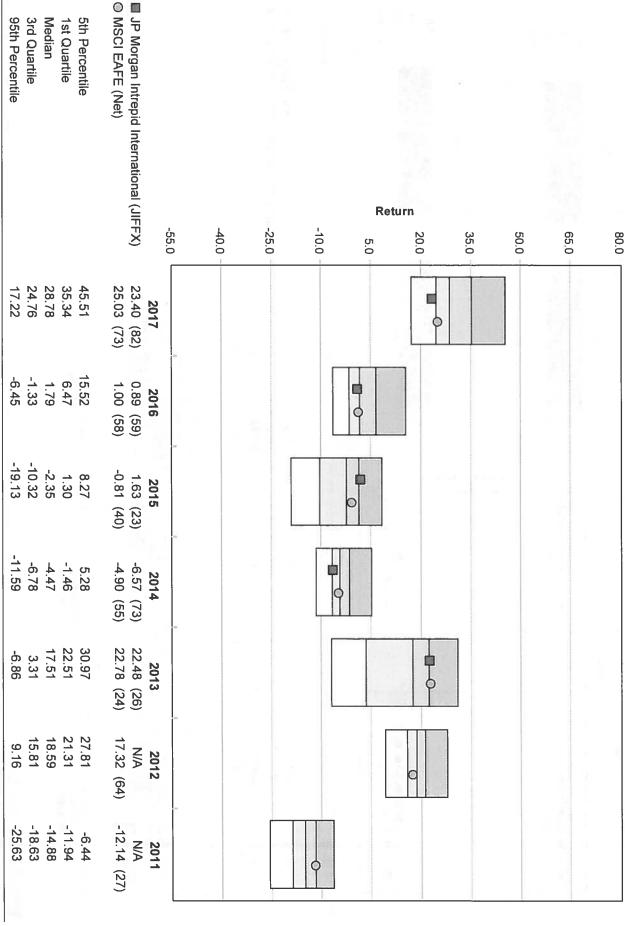


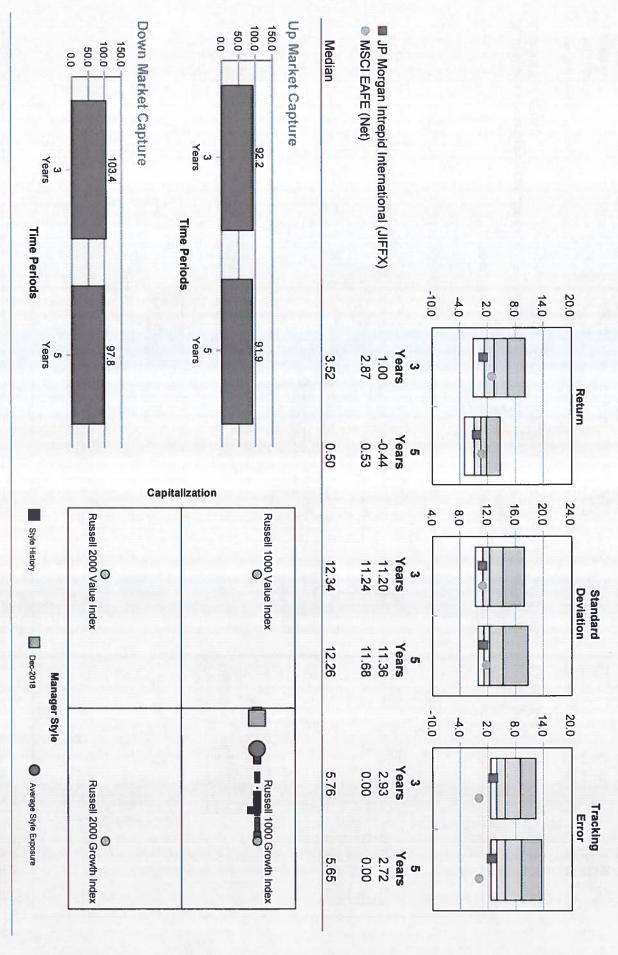


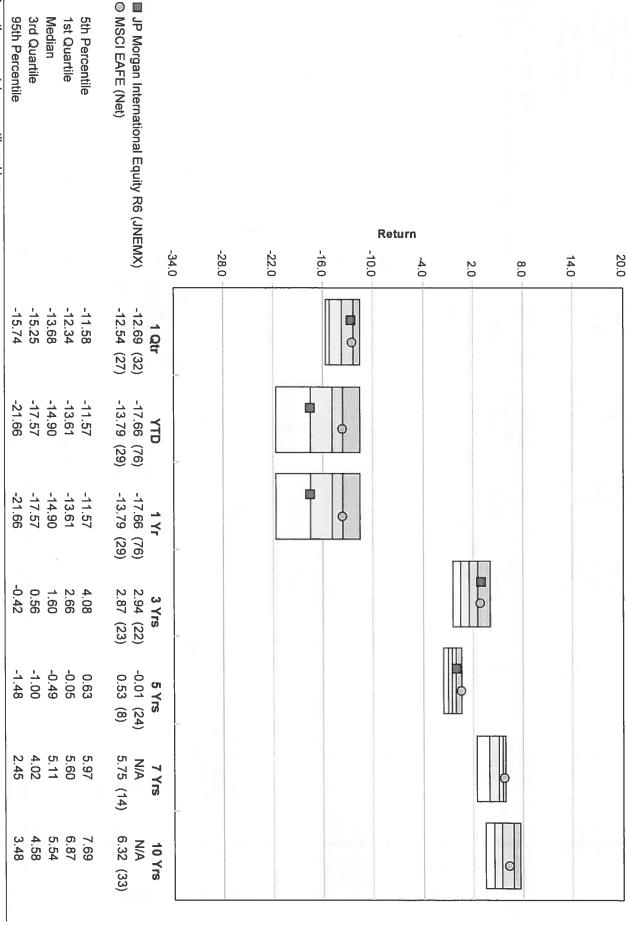


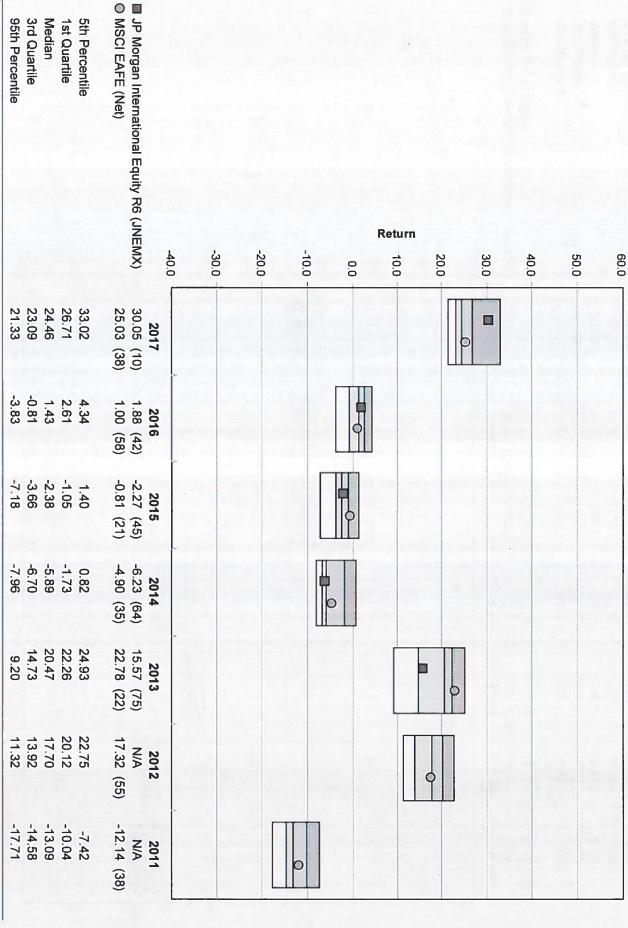
Parentheses contain percentile rankings. Calculation based on monthly periodicity.

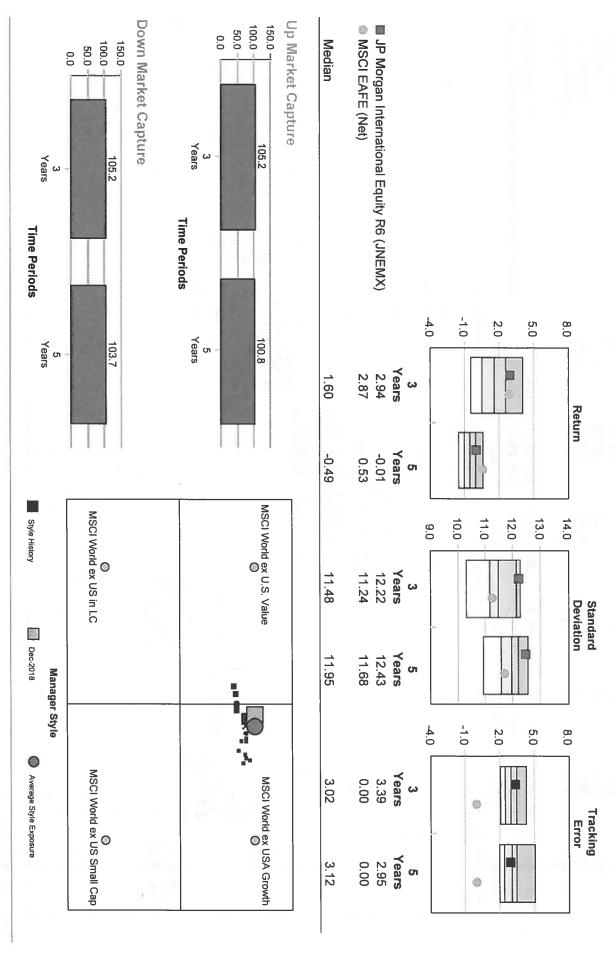


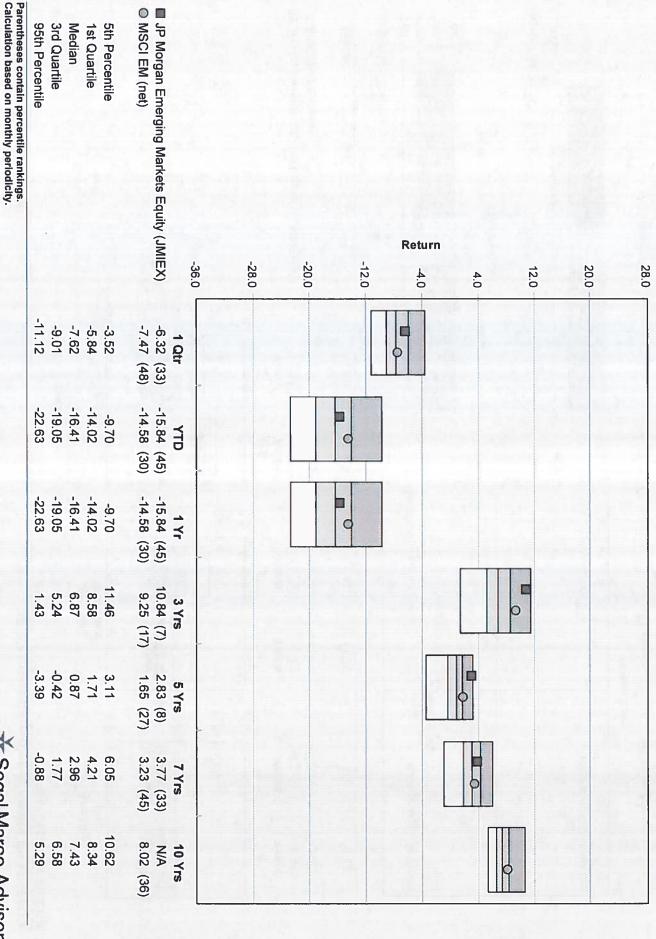


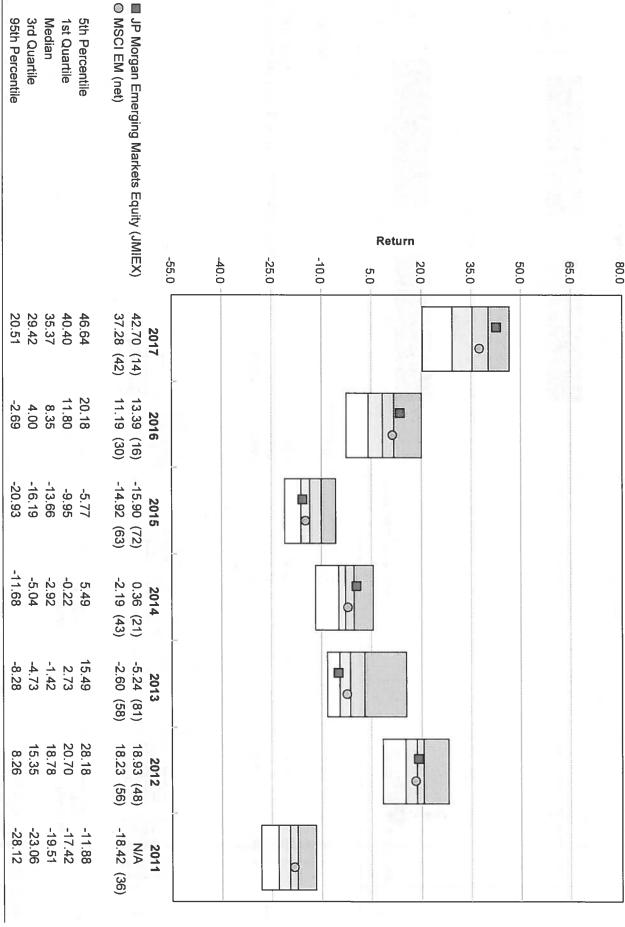


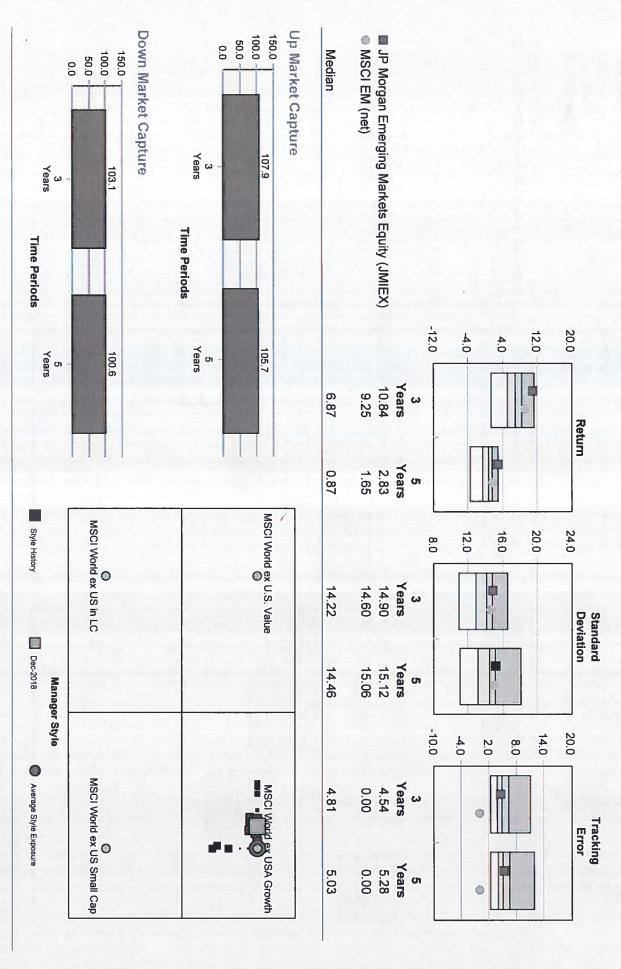


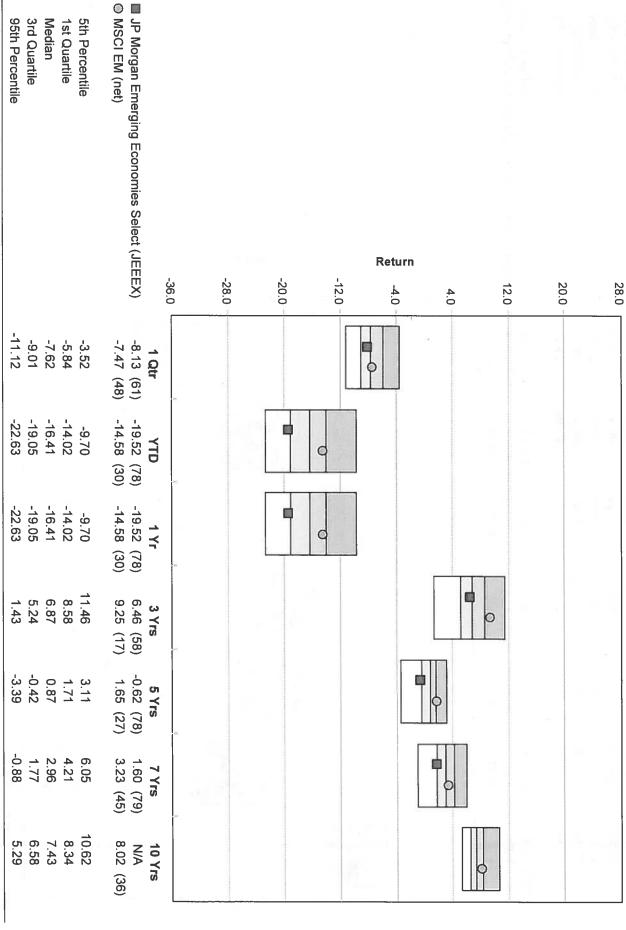


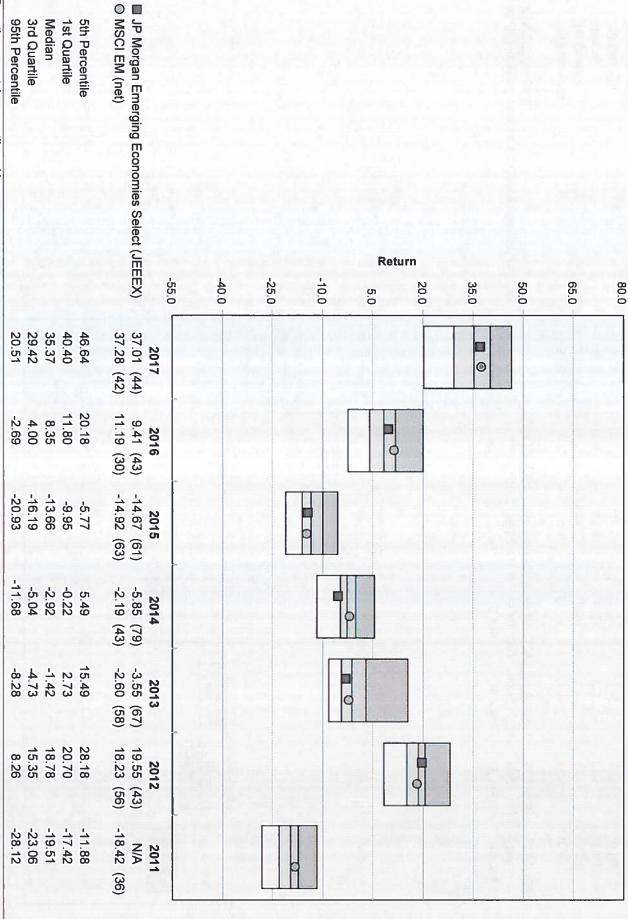


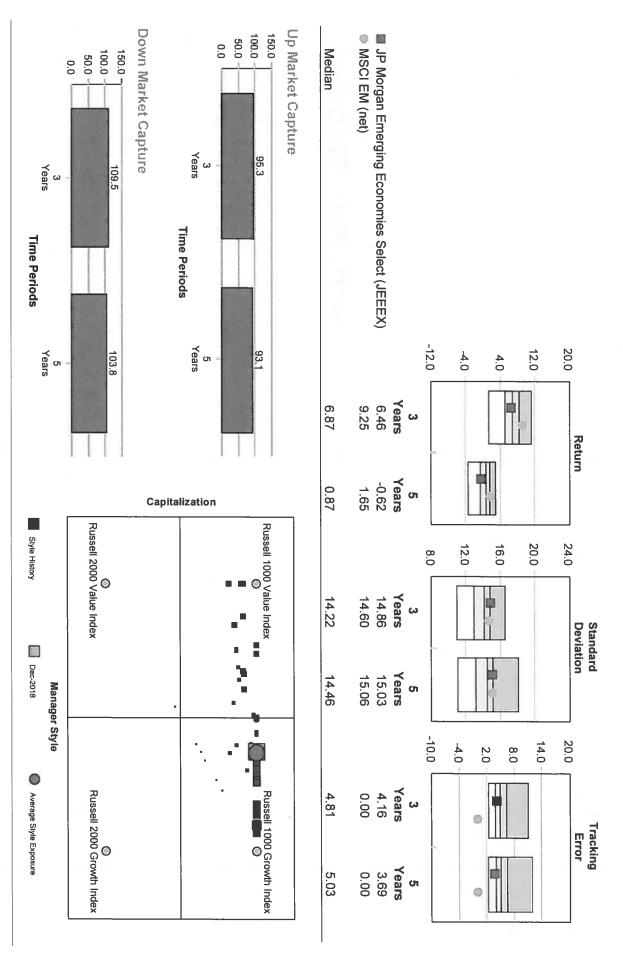




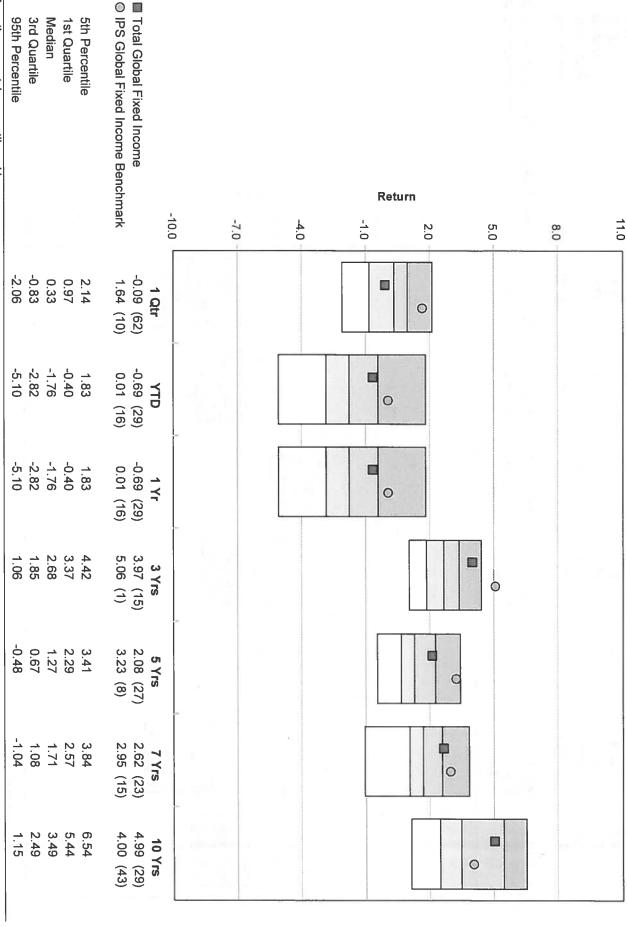


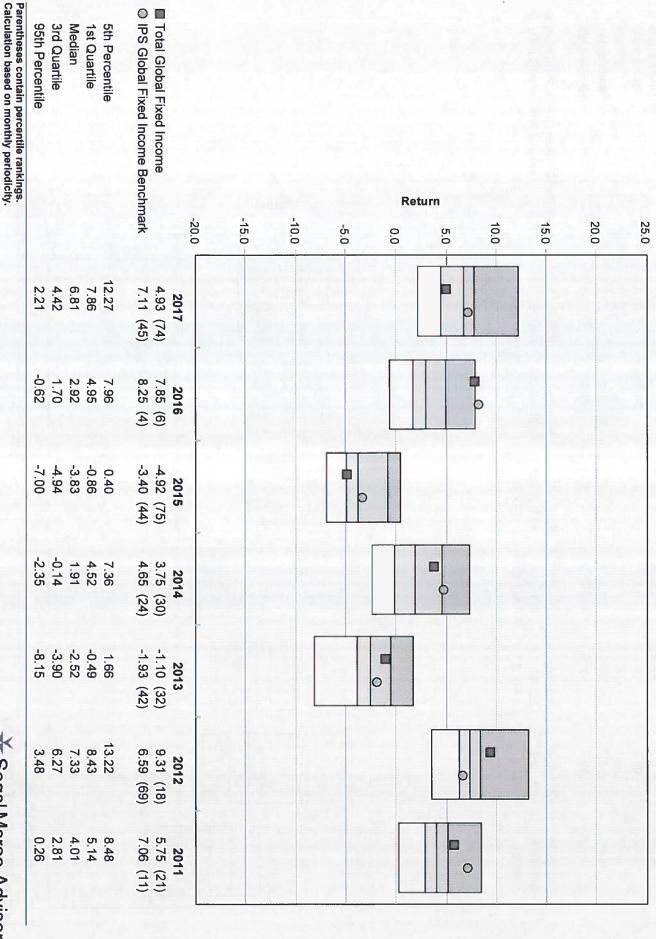


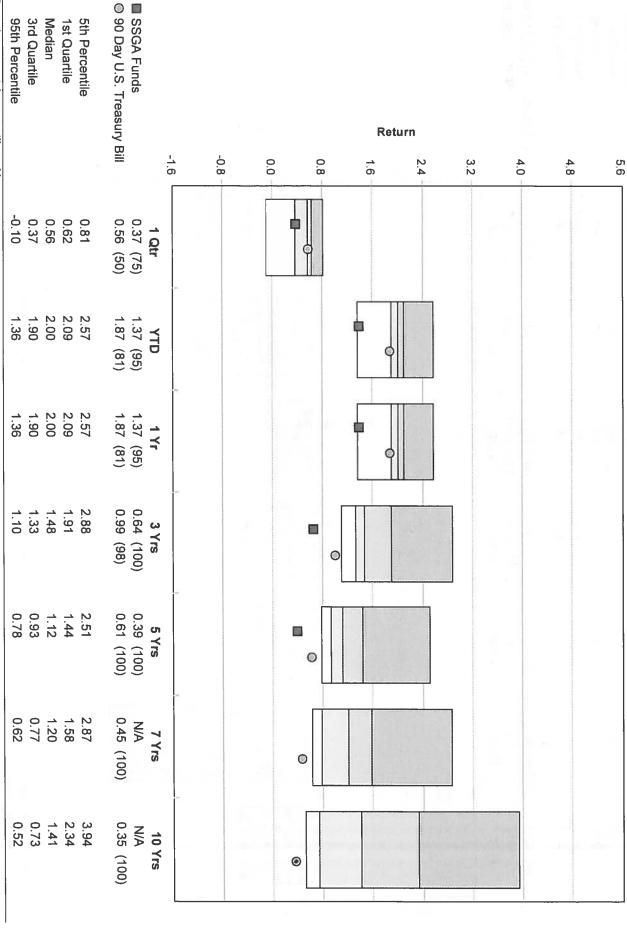


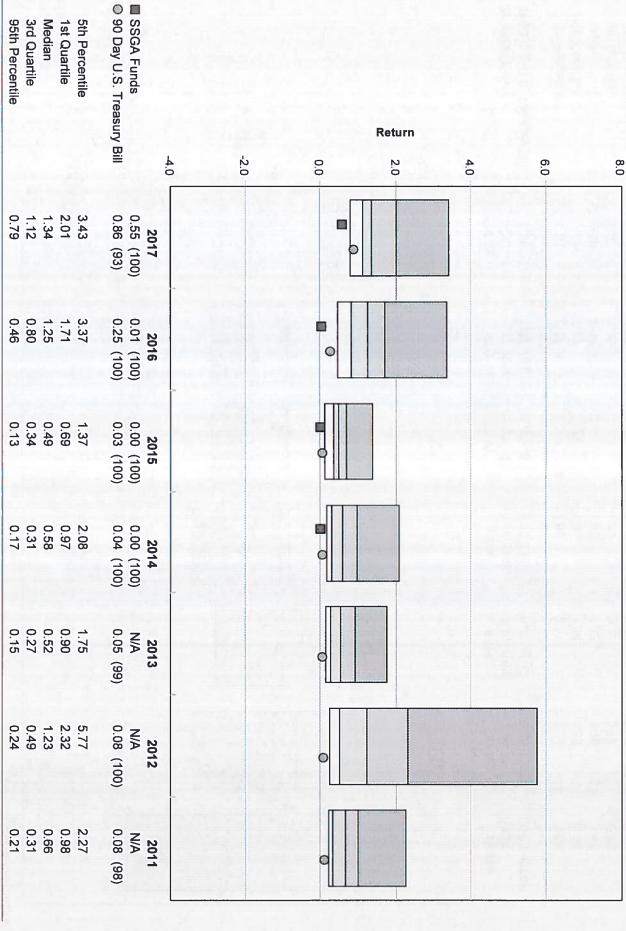


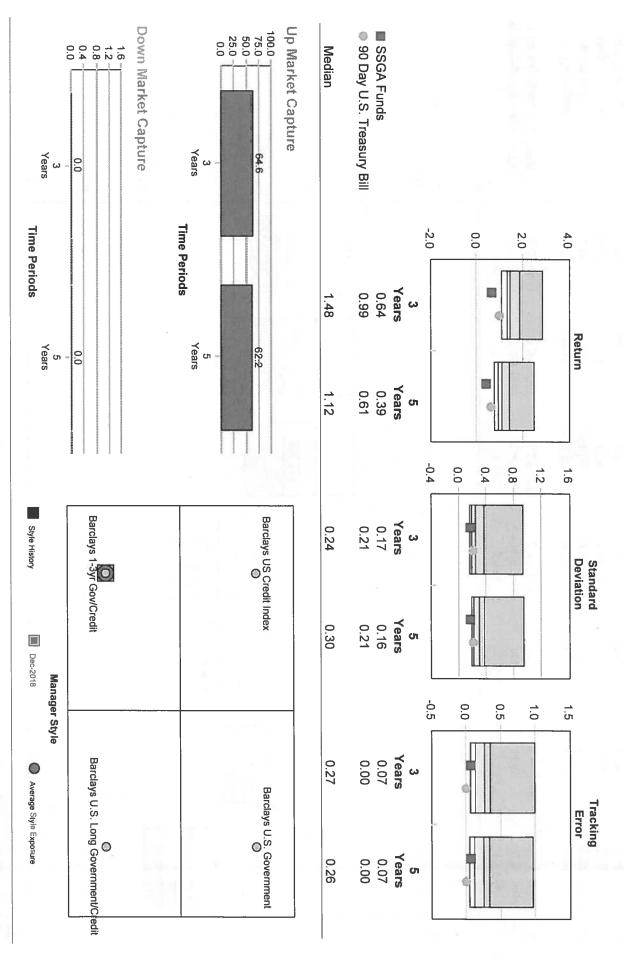
Total Global Fixed Income

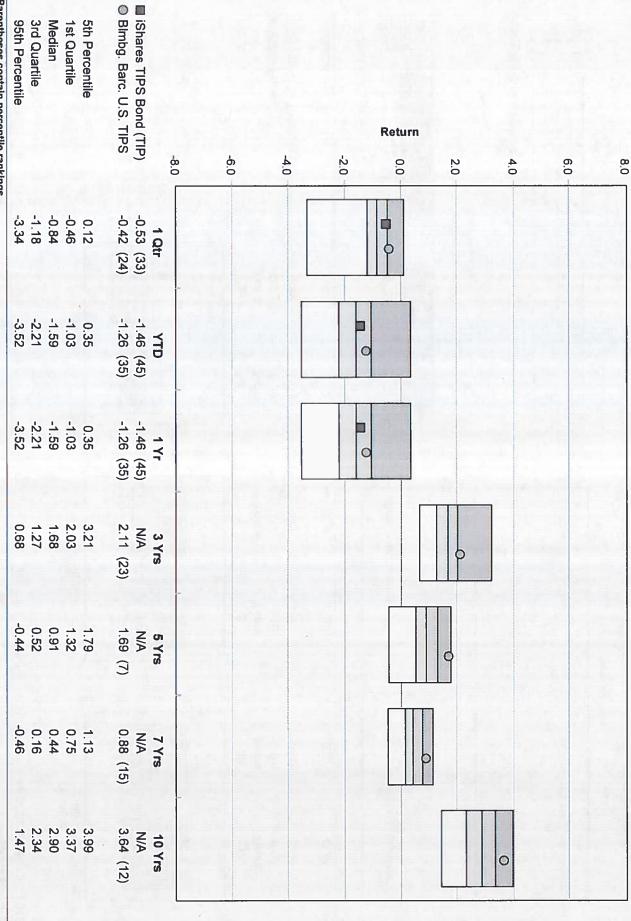




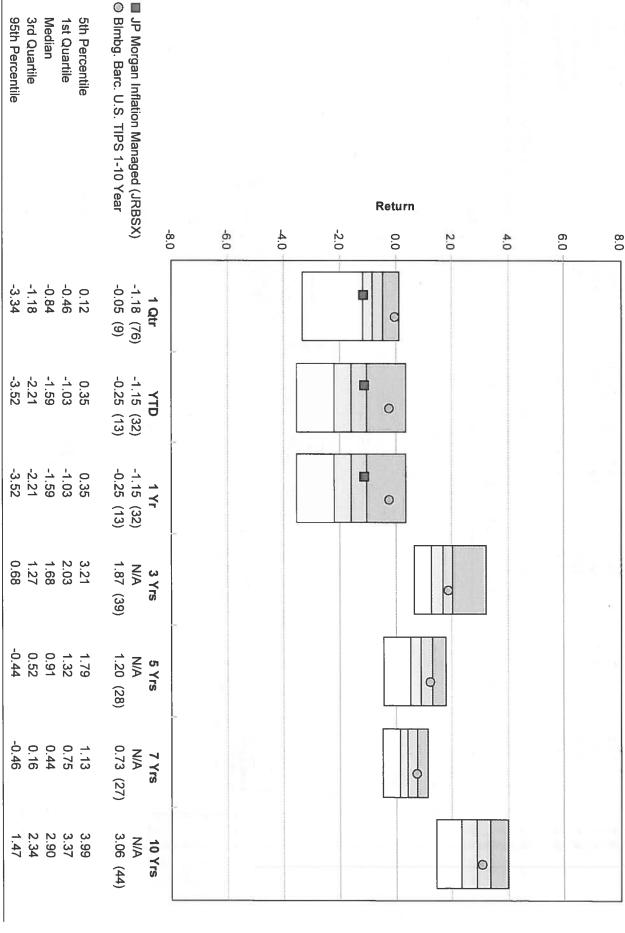


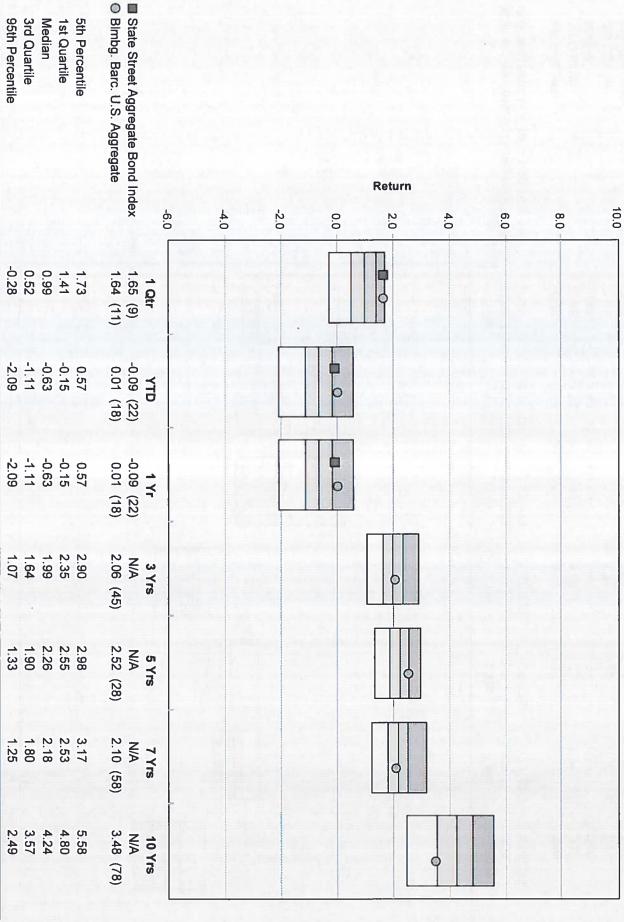




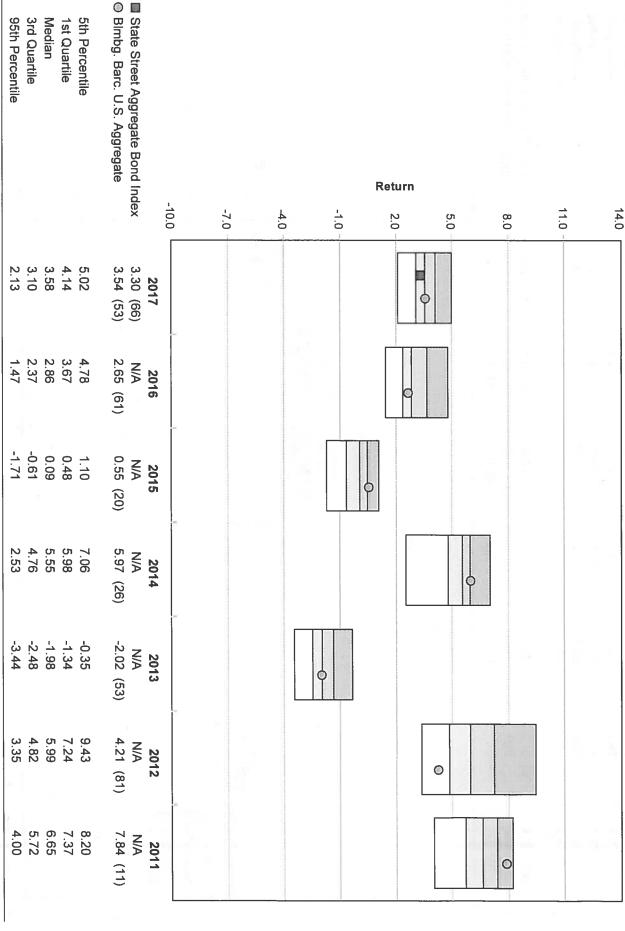


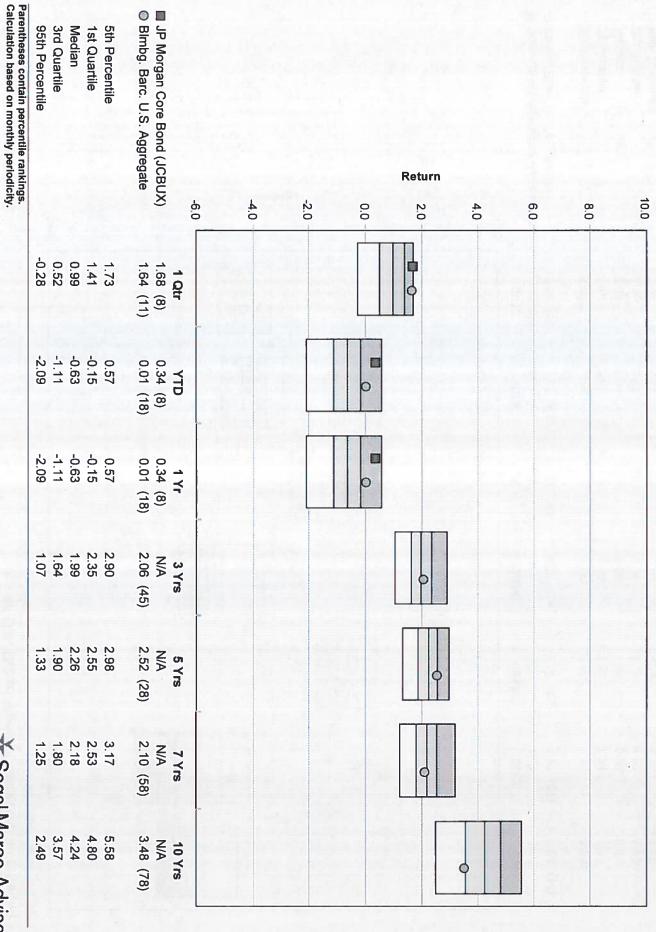
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



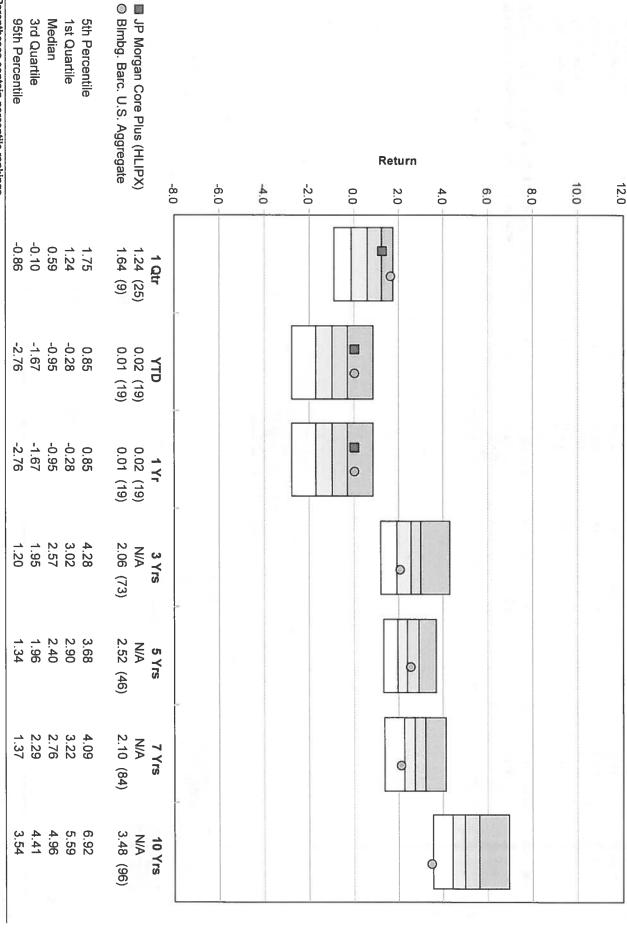


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

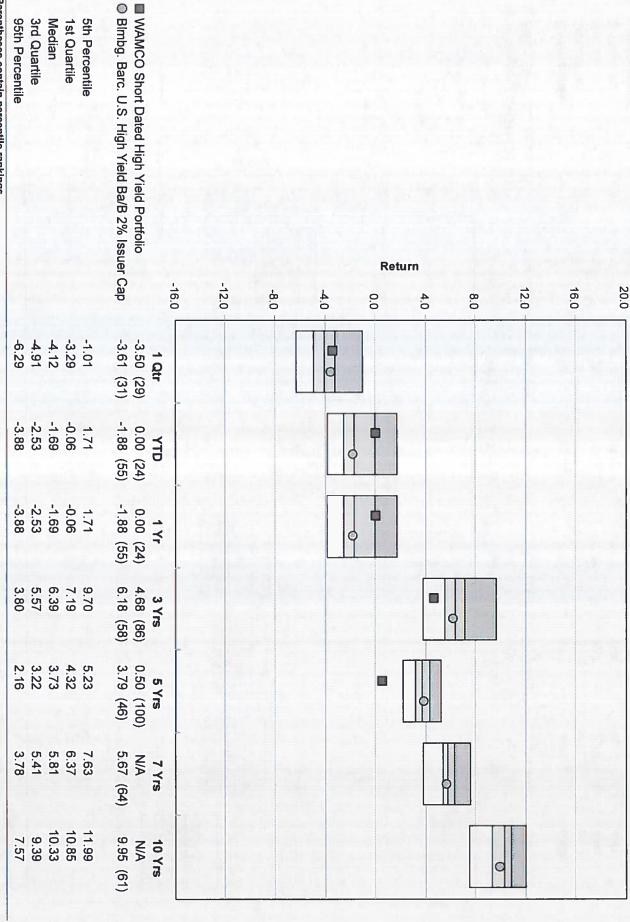




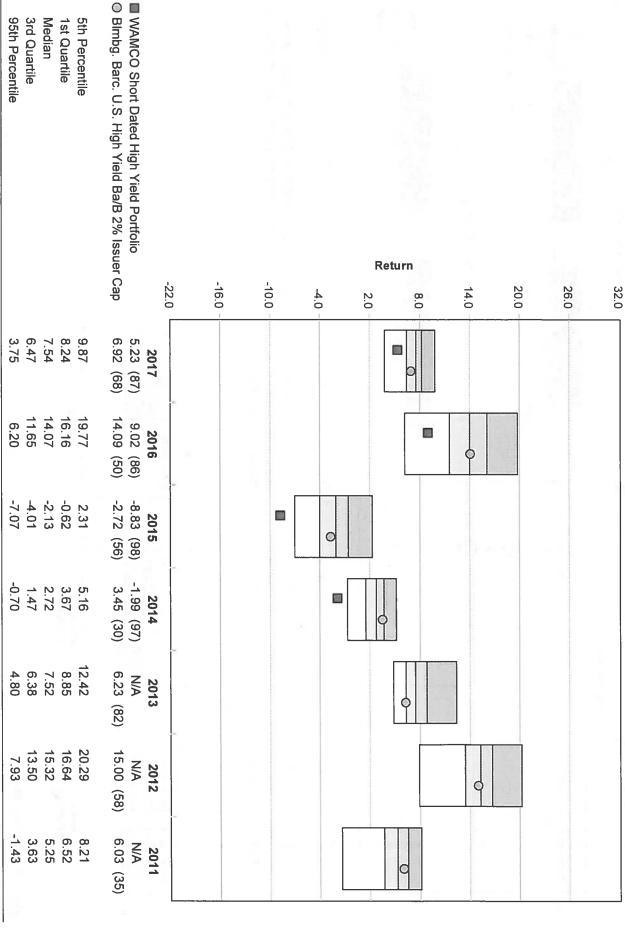
90

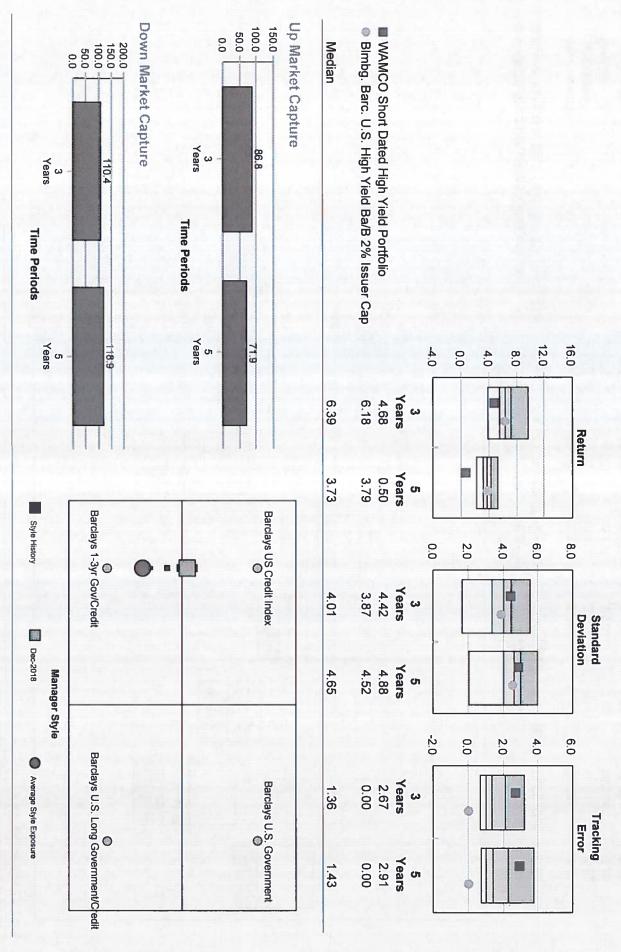


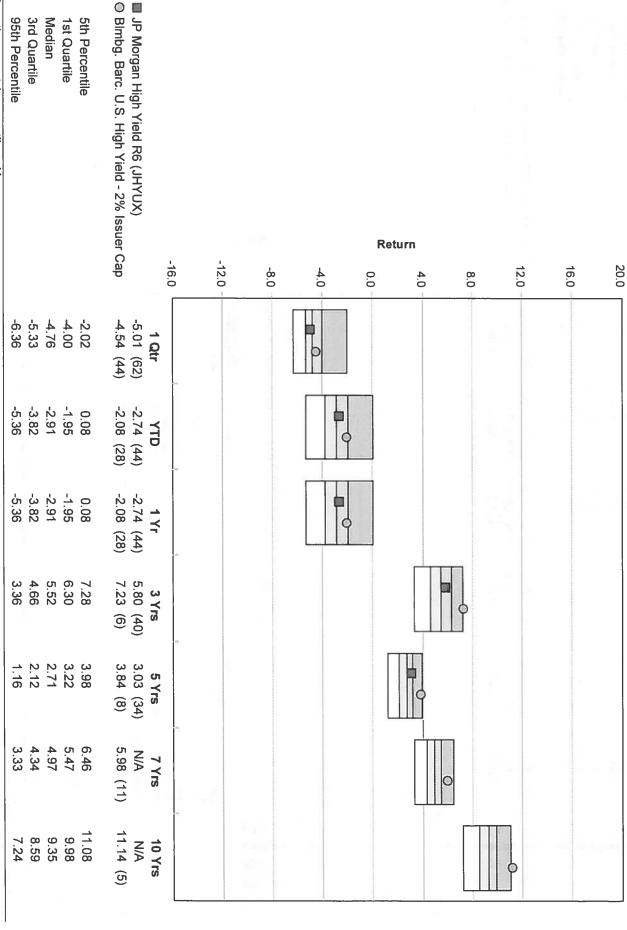
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



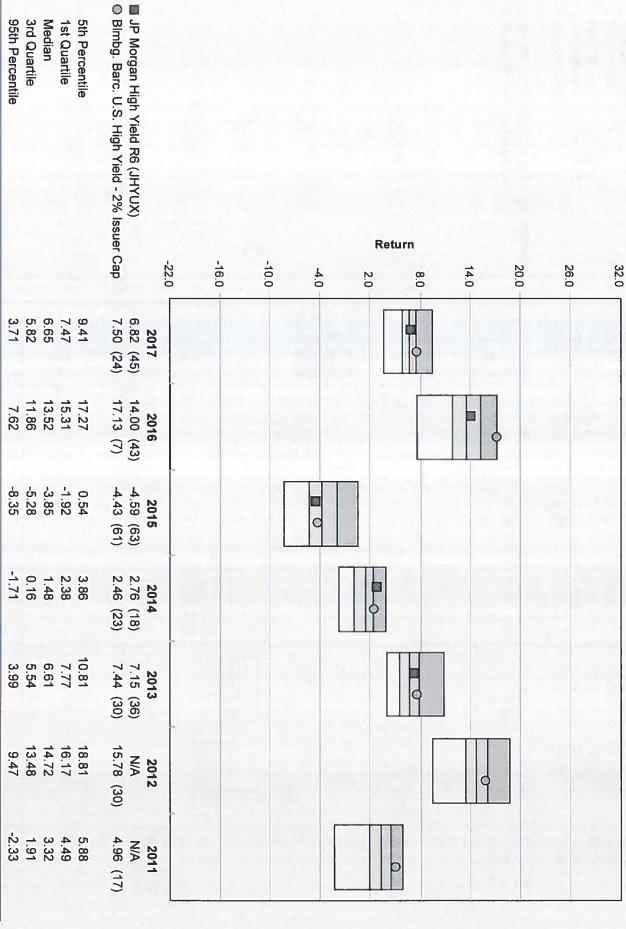
Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.



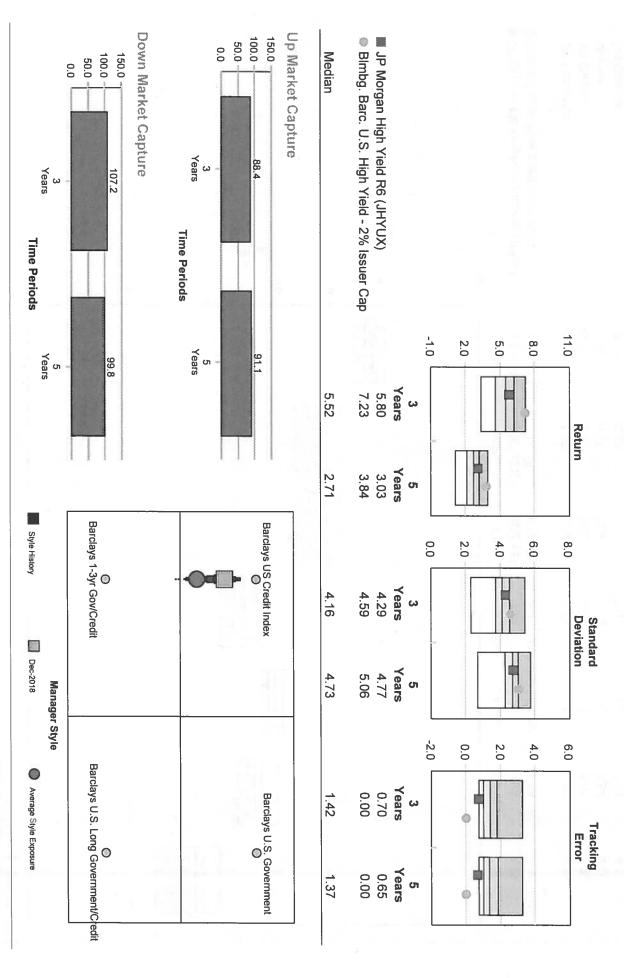


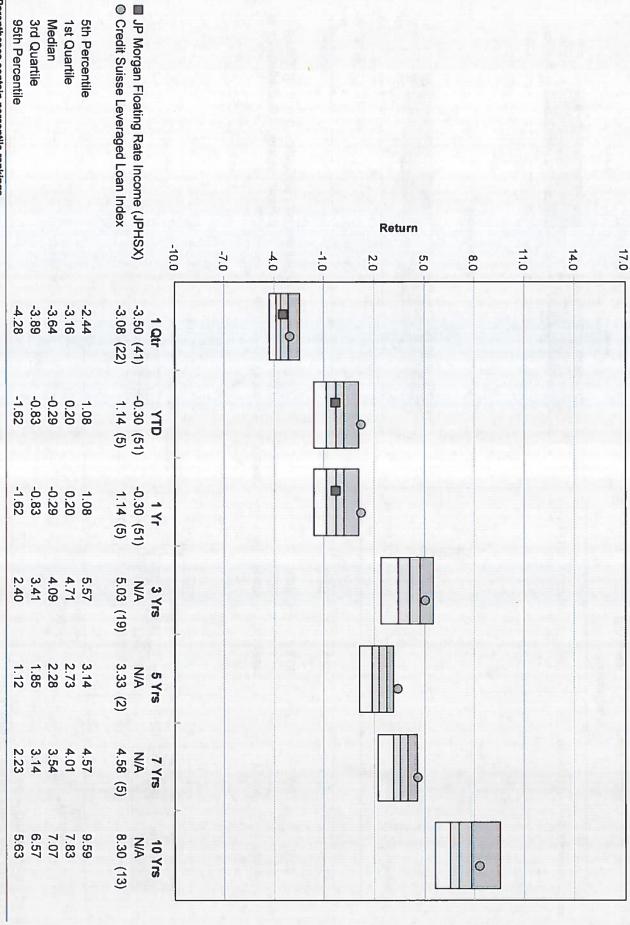


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

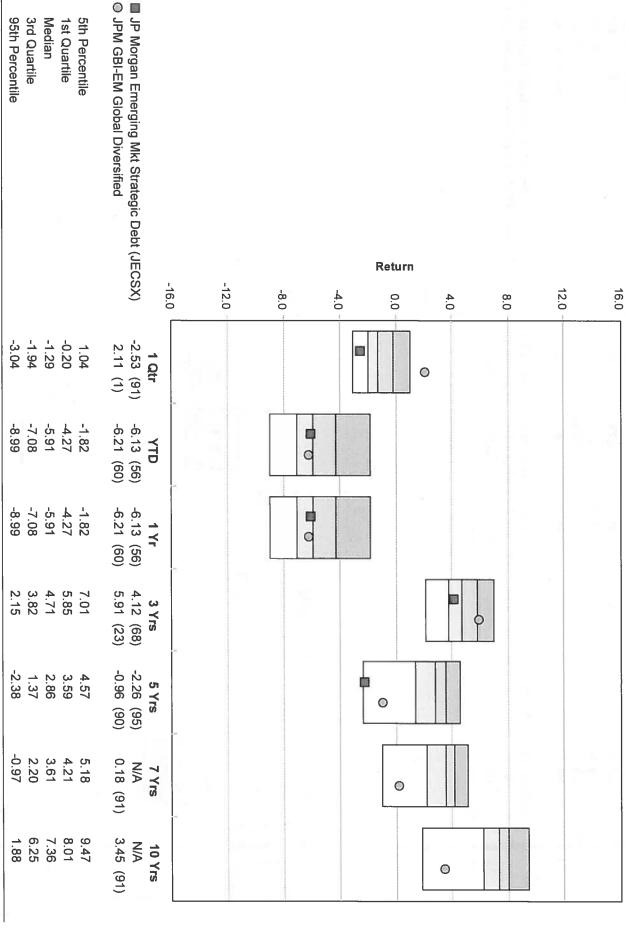


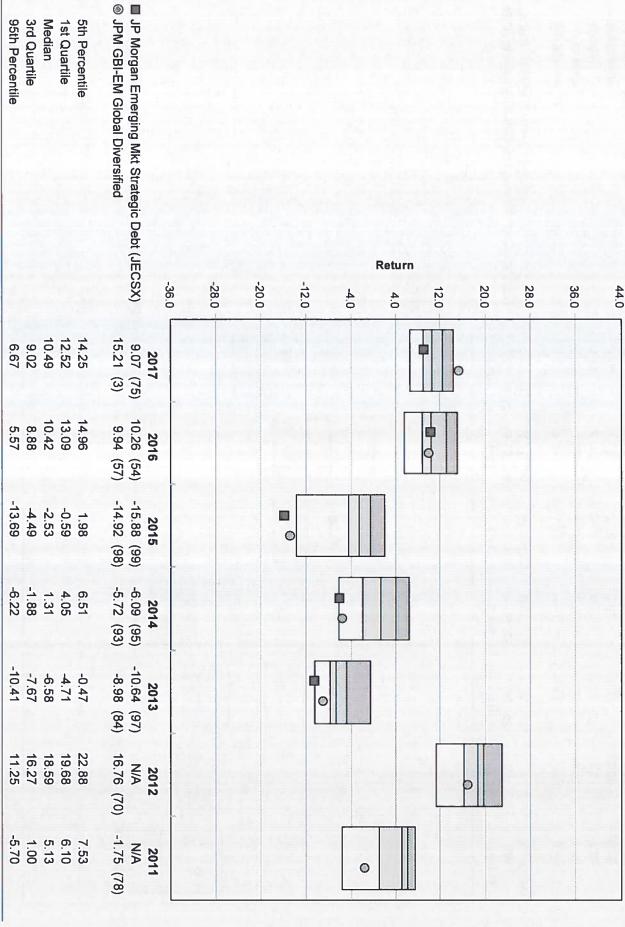
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.





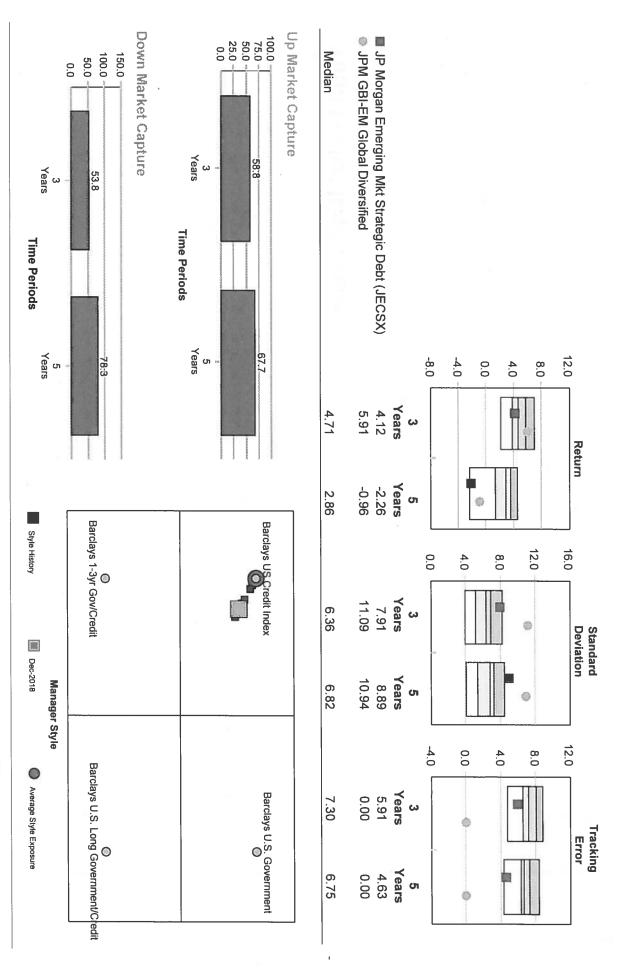
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



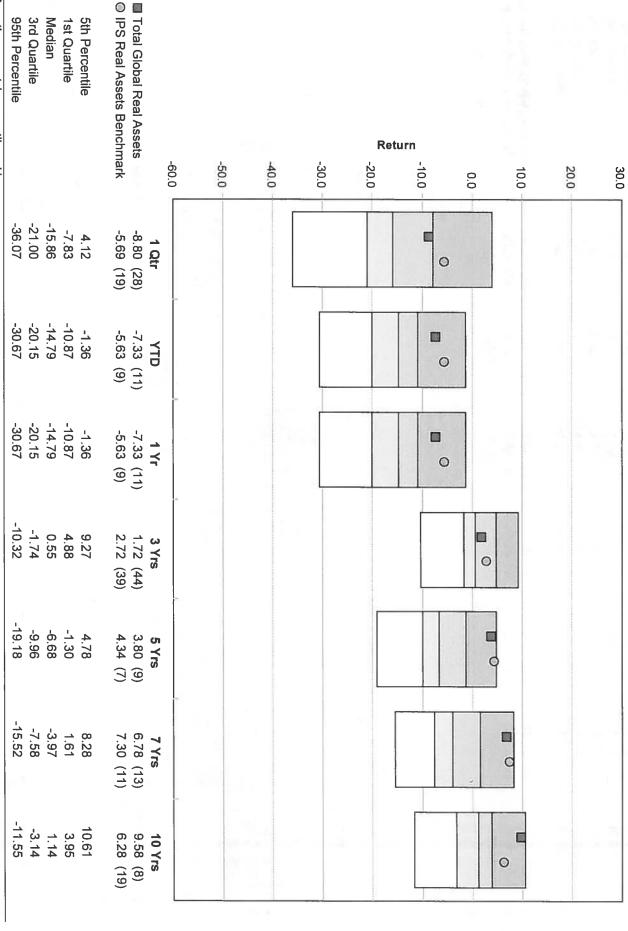


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

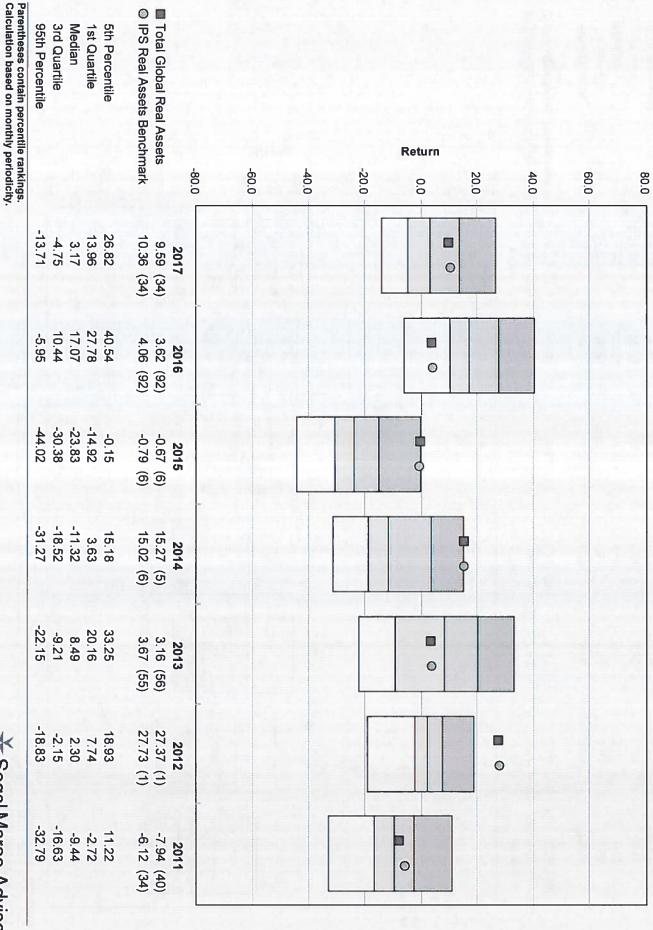
Median

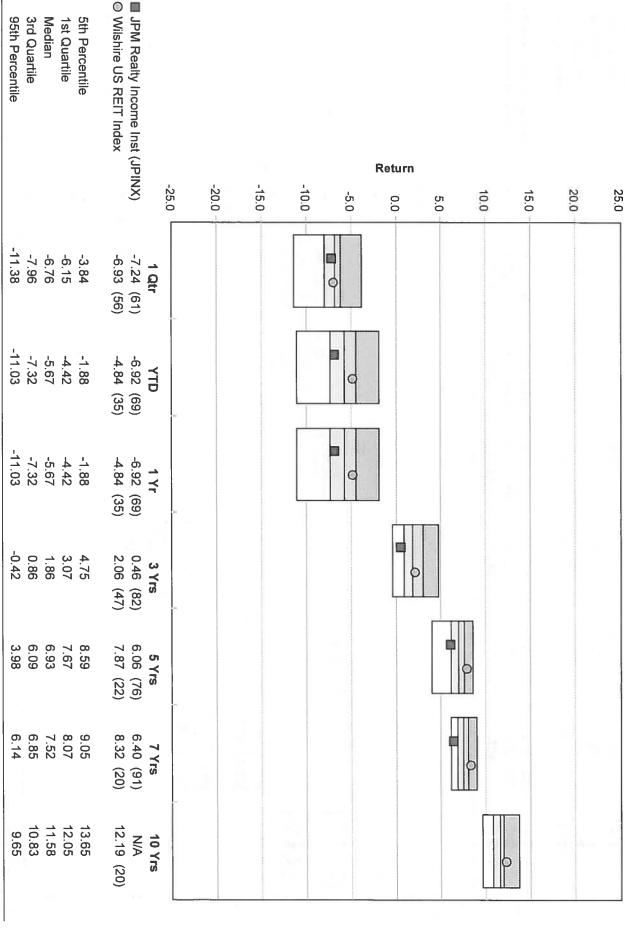


Total Global Real Estate

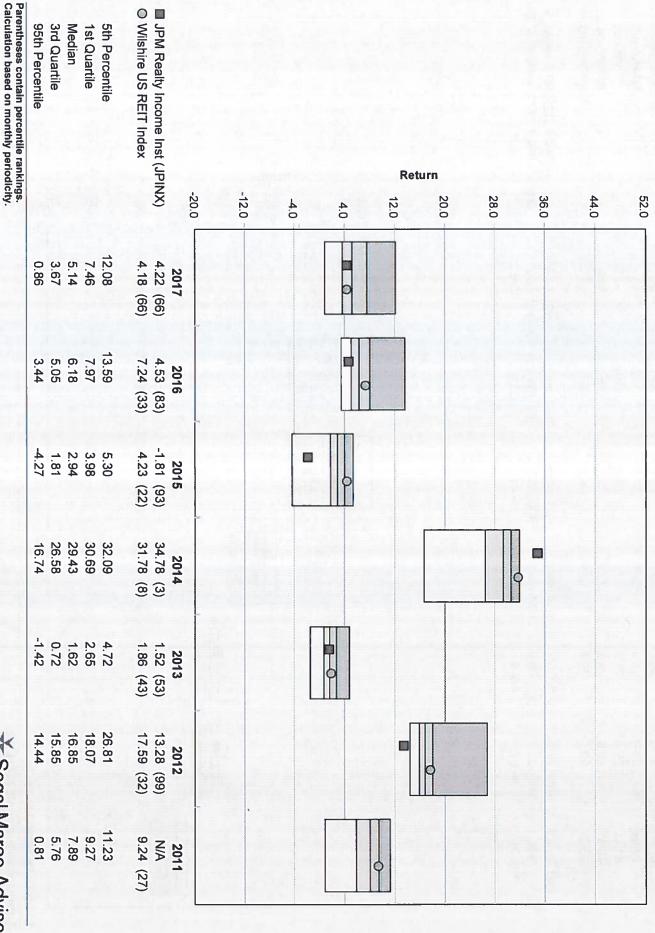


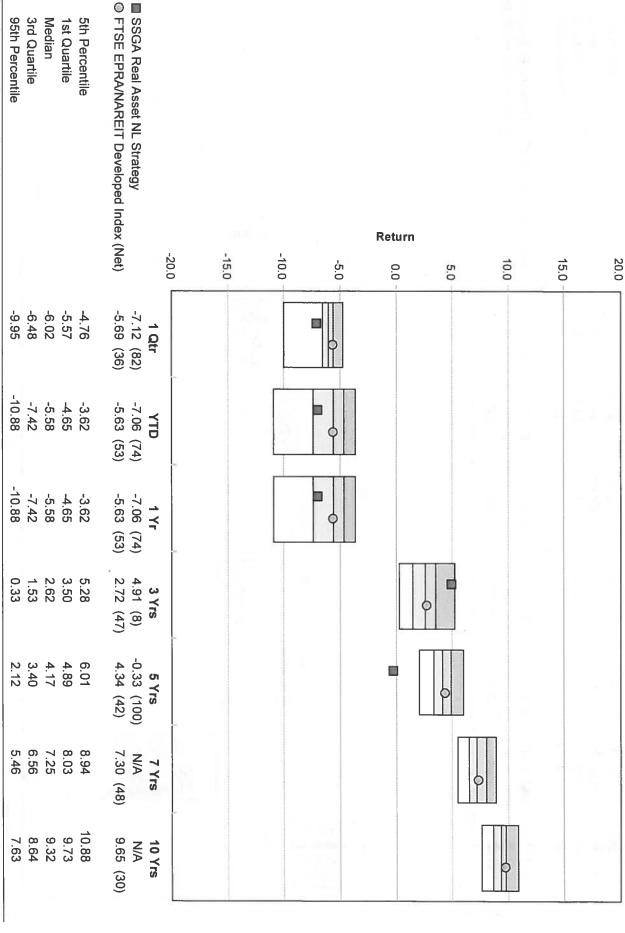
Parentheses contain percentile rankings. Calculation based on monthly periodicity.

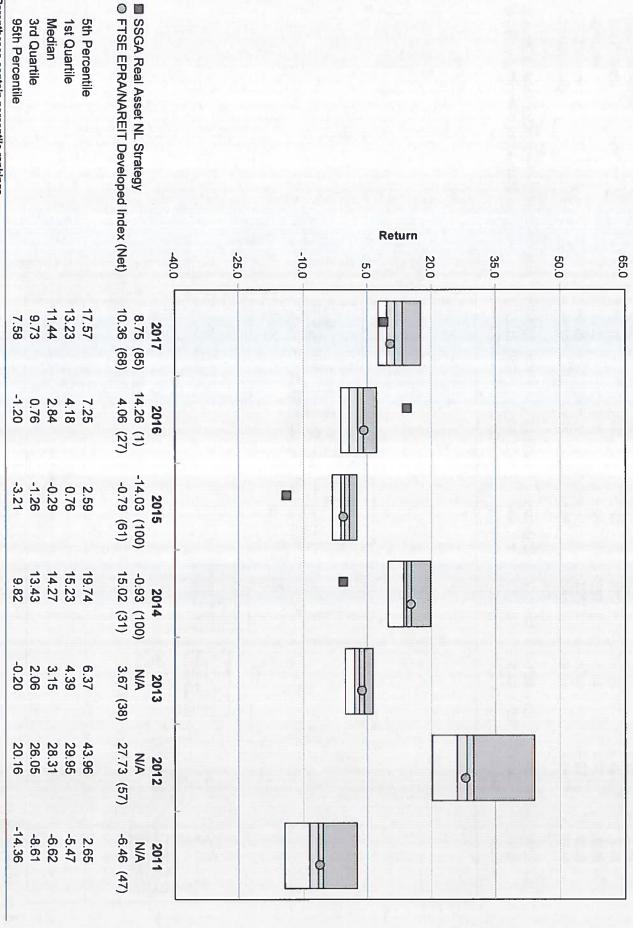


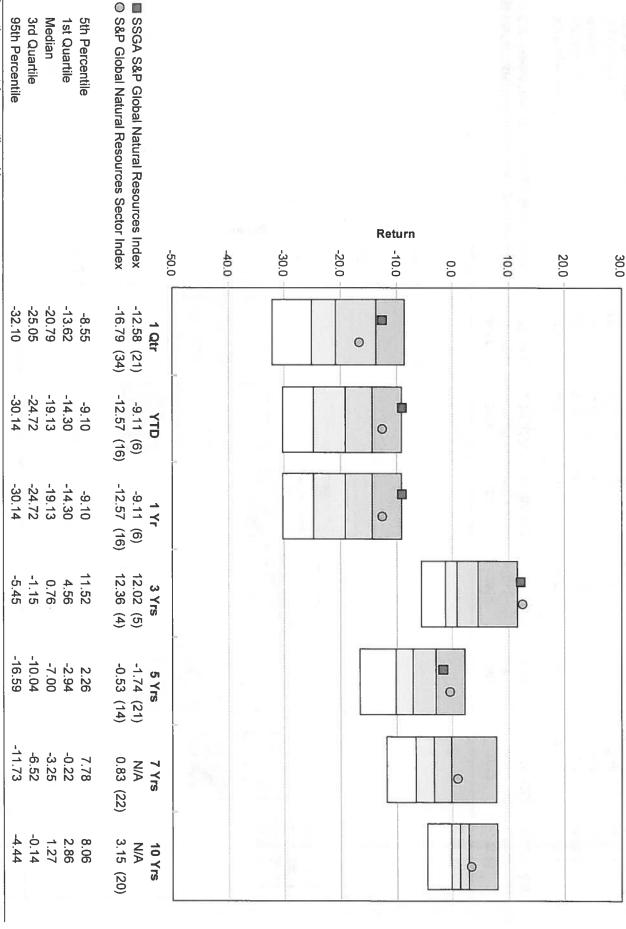


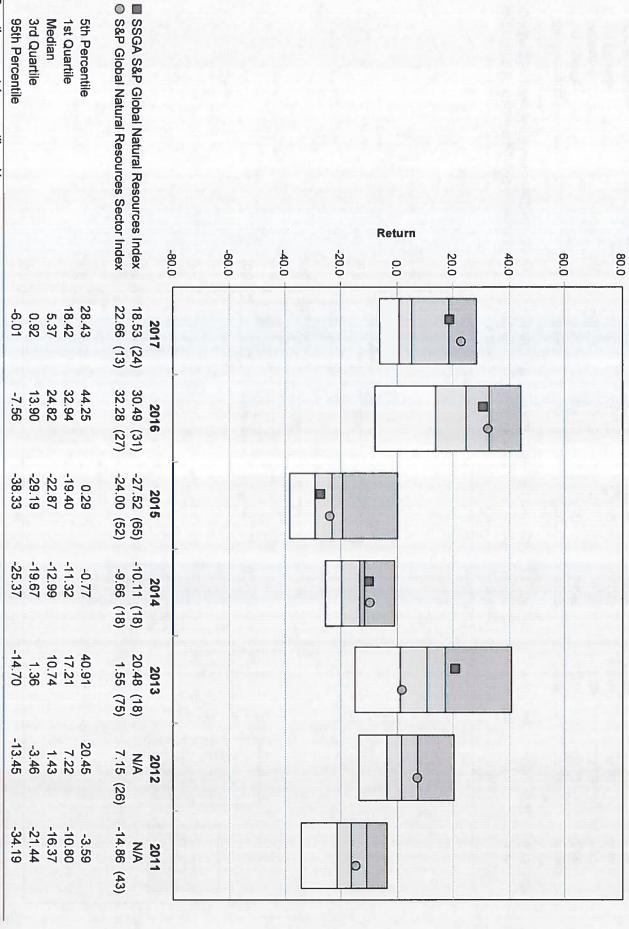
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



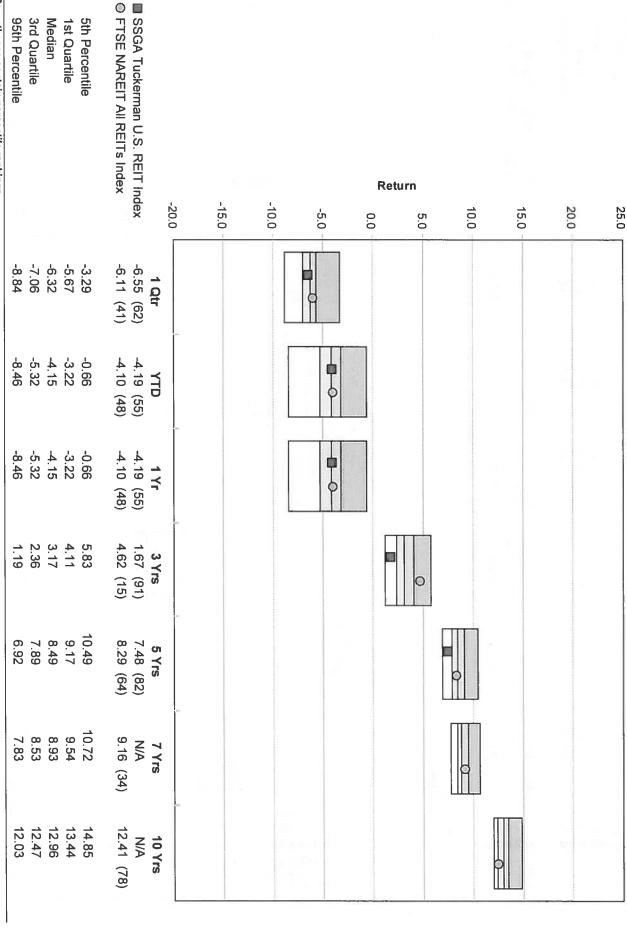


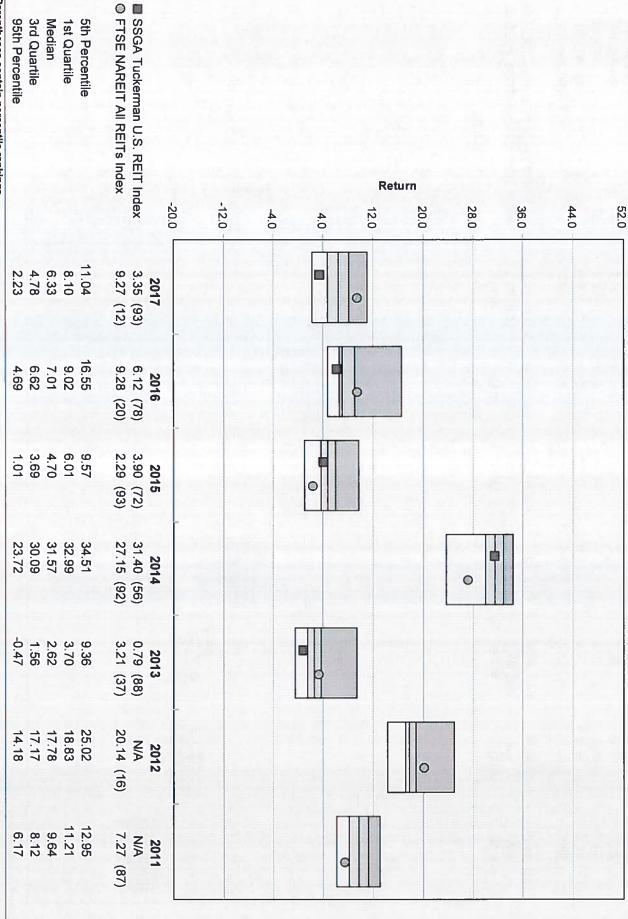




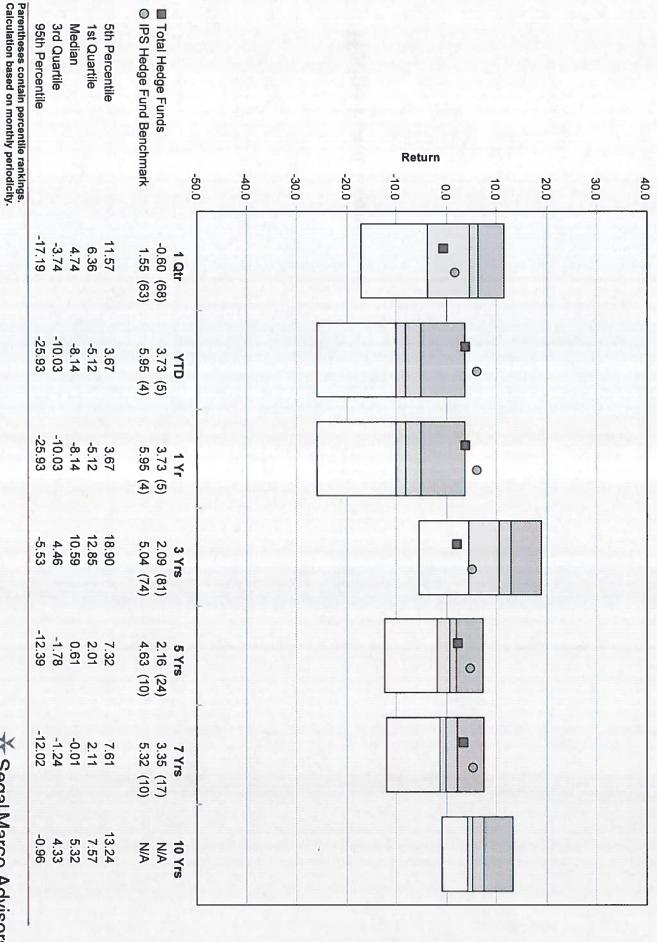


Median



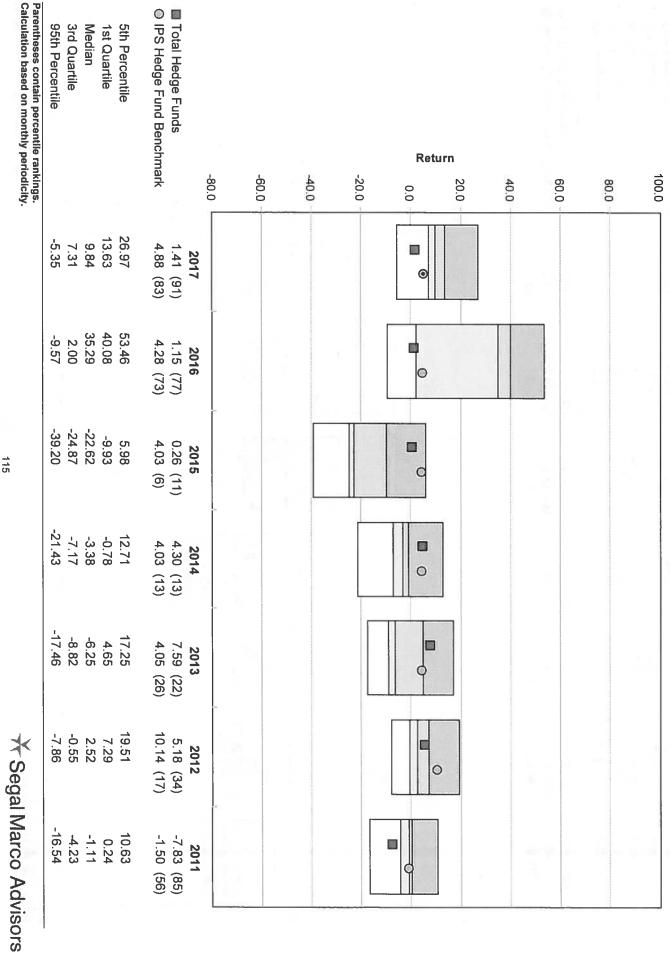


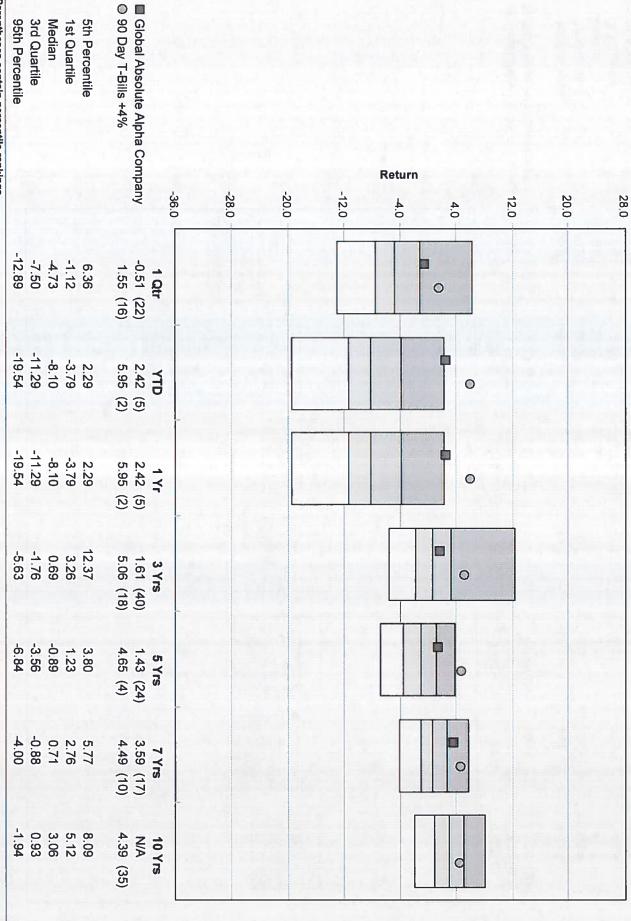
Hedge Fund Composite

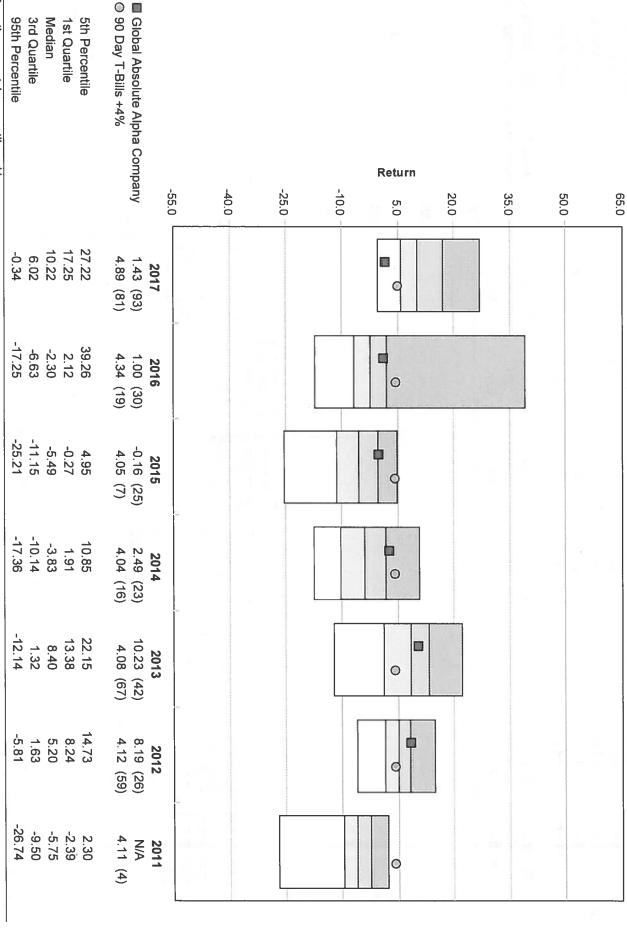


Multi-Strategy Hedge Funds-[TASS]

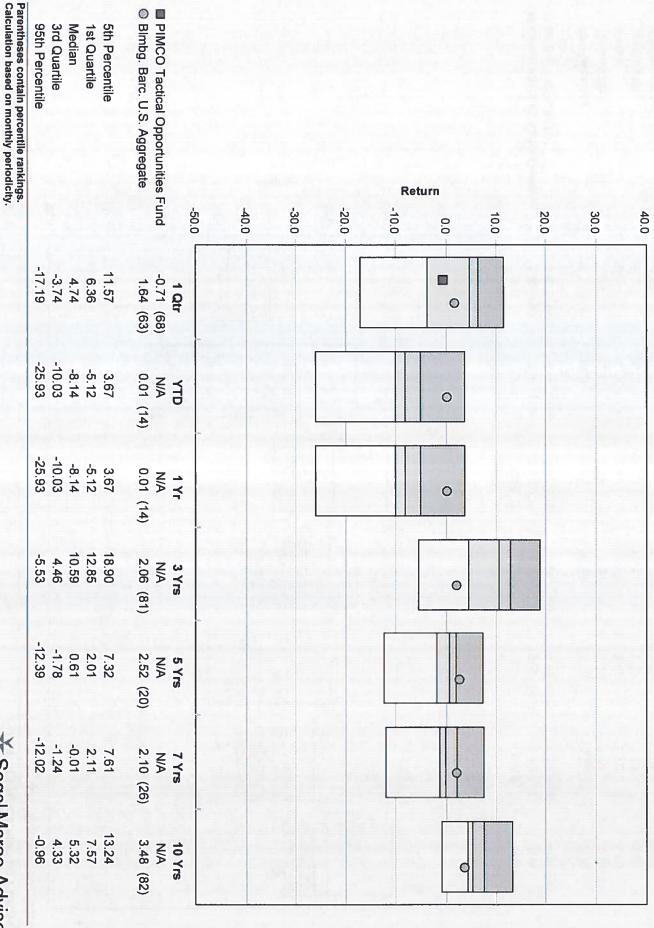
As of December 31, 2018







Parentheses contain percentile rankings. Calculation based on monthly periodicity.



Private Equity Composite

	2 1 5 4 4
15,075 2,187 6,116 7,016 1,078 1,328 10,032 3,511 5,900 4,080 1,164 1,421 921 40	4,836 4,750 5,708 11,077 2,169
	3 8 1 8 7
	1.20 1.18 1.33 1.36 1.01
1.12 1.09 0.88 0.90 0.89 1.04 0.91 0.97 0.88 0.66 0.87 0.86 0.91 0.84	6
6.88 8.57 13.43 12.26 12.16 7.16 13.34 14.16 11.67 8.62 8.69 9.16 10.25 9.16	8.01 6.10 7.41 6.88 8.57

December 31, 2018

Cash Flow Summary

Capital Committed: \$159,153,673
Total Contributions: \$128,943,911

Remaining Capital Commitment: \$35,509,314

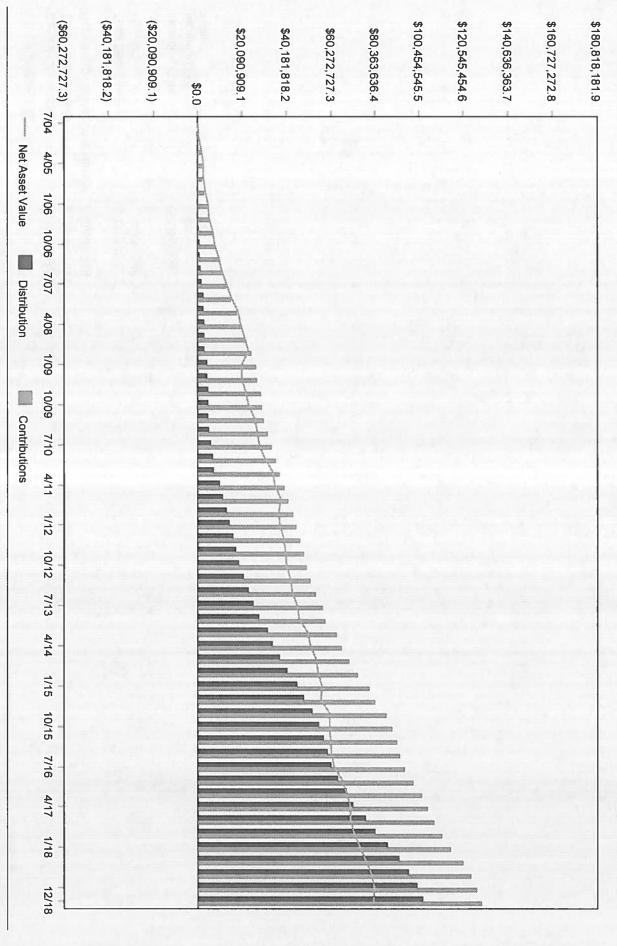
Total Distributions: Market Value:

\$102,292,037 \$79,436,265

Inception Date: Inception IRR: TVPI:

07/20/2004 9.45 1.41

Cash Flow Analysis



Total Diversified Composite Overview

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

Cash Flow Summary

Capital Committed: \$111,724,173
Total Contributions: \$88,526,391
Remaining Capital Commitment: \$26,607,353

Market Value: Total Distributions:

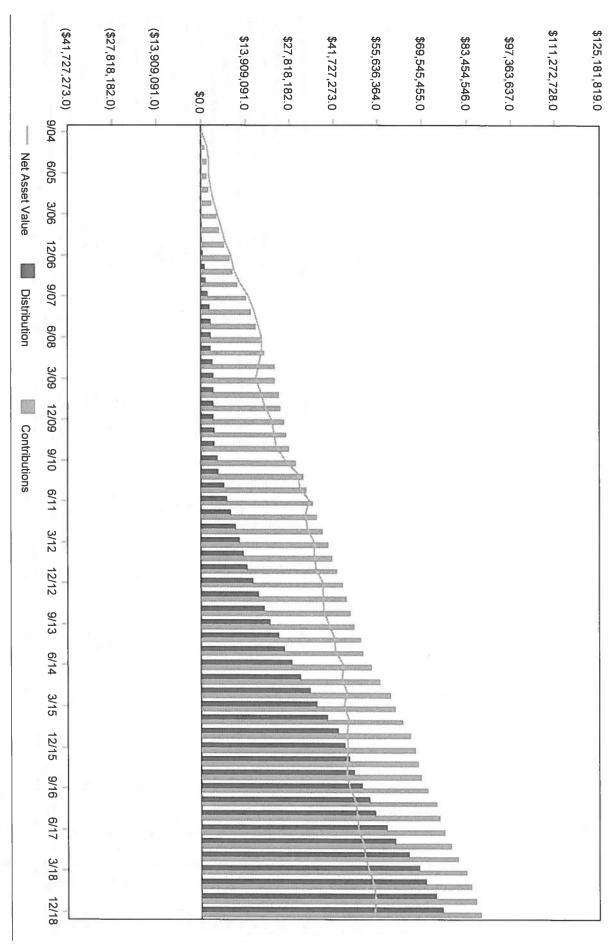
\$75,972,962 \$54,624,467

Inception Date: Inception IRR:

1.48 9.36 08/31/2004

December 31, 2018

Cash Flow Analysis



Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2008 Buyouts 3,000 Fund Of Funds 2011 Buyouts 3,000 Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,500 IN Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750	Partnerships Pantheon Europe Fund IV LP Pantheon USA Fund VI LP GS PEP 2004 Offshore GS PEP 2005 Offshore Pantheon Europe Fund VI LP Pantheon USA Fund VII LP		0	Investment Strategy International Private Equity Hybrid Buyouts Hybrid Hybrid International Private Equity Other	Capital Committed (\$000) 5,172 6,000 9,900 2,000 6,481 7,500	Total (\$000) 4,836 5,708 11,077 2,169 5,714 6,743	Total Distribution (\$000) 5,822 7,616 15,075 2,187 6,116 7,016	Warket Value (\$000) 548 1,422 713 436 2,718 5,339	(%) 4.87 7.21 6.88 3.33 9.20 12.15		TVPI Multiple 1.32 1.58 1.43 1.21 1.55 1.83		TVPI Multiple 1.32 1.58 1.43 1.21 1.55 1.83
Fund Of Funds 2007 Other 7,500 Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2008 Buyouts 3,000 Fund Of Funds 2011 Buyouts 3,000 Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Fund Of Funds 2015 Venture Capital 4,750	Pantheon Europe Fund VI LP			ternational Private Equity	6,481	5,714	6,116	2,71		9.20	9.20	9.20 1.55	9.20 1.55 1.07
Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2008 Buyouts 3,000 Fund Of Funds 2011 Buyouts 3,000 Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Fund Of Funds 4,750	Pantheon USA Fund VIII LP		007	Other	7,500	6,743	7,016	On .		12.15	12.15	12.15 1.83	12.15 1.83 1.04
Fund Of Funds 2007 Buyouts 1,000 Fund Of Funds 2008 Buyouts 3,000 Fund Of Funds 2011 Buyouts 5,000 Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2014 Buyouts 4,750 Fund Of Funds 2015 Venture Capital 4,750	GS PEP Asia Offshore		007	Buyouts	1,000	892	1,078			9.77	9.77	9.77 1.54	9.77 1.54 1.21
Fund Of Funds 2008 Buyouts 3,000 Fund Of Funds 2011 Buyouts 3,000 Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2014 Buyouts 4,750 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Of Funds 4,750	GS PEP IX Offshore		007	Buyouts	1,000	1,037	1,328			9.16	9.16	9.16 1.54	9.16 1.54 1.28
/II Fund Of Funds 2011 Buyouts 3,000 Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,500 International Private Equity 5,000 5,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund 4,750 4,750	GS PEP X Offshore		800	Buyouts	3,000	2,920	3,511			11.80	11.80	11.80 1.63	11.80 1.63 1.20
Fund Of Funds 2012 Venture Capital 5,000 Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Of Funds 4,750	Commonfund International Partners VII	-	011	Buyouts	3,000	2,613	1,164			8.01	8.01	8.01 1.33	8.01 1.33 0.45
Fund Of Funds 2012 International Private Equity 2,000 Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,000 International Private Equity 5,000 Fund Of Funds 2013 International Private Equity 5,000 Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Of Funds 4,750	Commonfund Venture Partners X		012	Venture Capital	5,000	4,550	921			17.48	17.48	17.48 1.80	17.48 1.80 0.20
VIII Fund Of Funds 2012 Buyouts 2,000 Fund Of Funds 2012 Buyouts 2,500 Ix Fund Of Funds 2013 International Private Equity 5,000 IX Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Hybrid 75,803 6	Pantheon Emerging Asia Fund VI LP	Ï		ternational Private Equity	2,000	1,688	40			10.74	10.74	10.74 1.40	10.74 1.40 0.02
Fund Of Funds 2012 Buyouts 2,500 artners 2013 Fund Of Funds 2013 International Private Equity 5,000 ers IX Fund Of Funds 2014 Buyouts 2,000 Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Of Funds 4,750	Commonfund Private Equity Partners VIII	Fund Of Funds	012	Buyouts	2,000	1,525	774			16.01	16.01	16.01 1.60	16.01 1.60 0.51
Partners 2013 Fund Of Funds 2013 International Private Equity 5,000 ers IX Fund Of Funds 2014 Buyouts 2,000 rs Vill Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Hybrid 75,803 6	GS GEM PEM Off	Fund Of Funds	012	Buyouts	2,500	2,585	616			4.28	4.28	4.28 1.13	4.28 1.13 0.24
ers IX Fund Of Funds 2014 Buyouts 2,000 rs VIII Fund Of Funds 2015 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Hybrid 75,803	Commonfund Emerging Markets Partne	Fund Of Funds		ternational Private Equity	5,000	3,913	532			14.41	14.41	14.41 1.43	14.41 1.43 0.14
rs Vill Fund Of Funds 2014 Buyouts 3,000 Fund Of Funds 2015 Venture Capital 4,750 Total Fund Hybrid 75,803 6	Commonfund Private Equity Partners IX	u,	014	Buyouts	2,000	1,340	343			18.21	18.21	18.21 1.37	18.21 1.37 0.26
Fund Of Funds 2015 Venture Capital 4,750 Total Fund Hybrid 75,803 6	Commonfund International Partners VIII		014	Buyouts	3,000	1,583	246			8.54	8.54	8.54 1.15	8.54 1.15 0.16
Total Fund Hybrid 75,803	Commonfund Venture Partners Xi		015	Venture Capital	4,750	3,337	167			21.85	21.85	21.85 1.39	21.85 1.39 0.05
	Total Fund of Funds Composite	Total Fund		Hybrid	75,803	68,198	60,449	4	41,423	1,423 8.81		00 00 21	8.81 1.49

Cash Flow Summary

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

Market Value: Total Distributions:

\$60,449,263 \$41,423,238

Inception IRR: Inception Date:

TVPI:

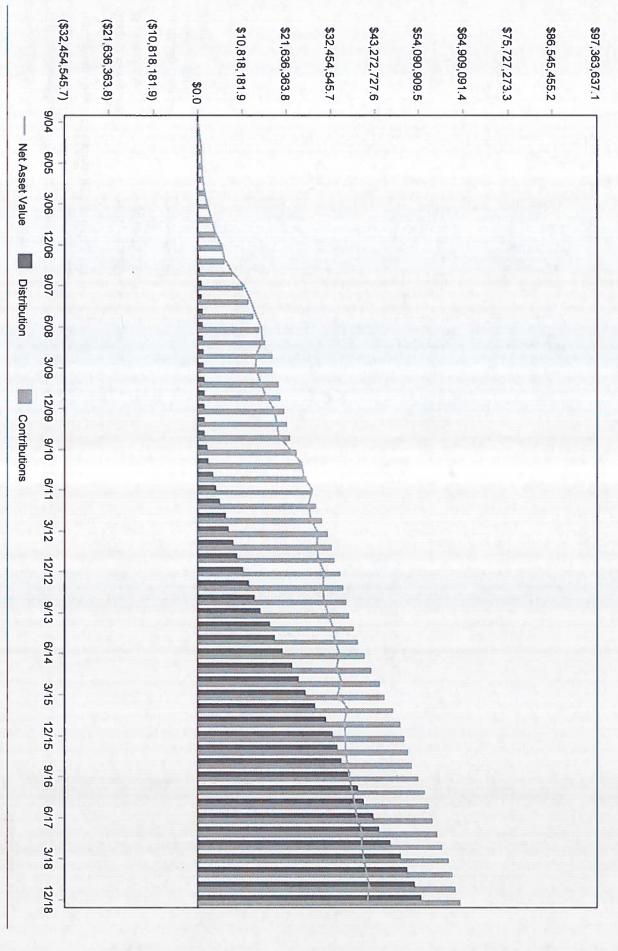
8.8<u>1</u> 08/31/2004

1.49

127

December 31, 2018

Cash Flow Analysis



Partnerships Investment Type Vintage Vear Investment Strategy Log Committed Committed Committed Committed Committed Contribution Distribution Partnerships Total Value V	9.82	0.64	0.78	1.23	11.40	13,201	22,345	28,847	45,421	Hybrid		Total Fund	Total Multi-Strategy Composite
Investment Vintage Investment Capital Total Market Value IRR TVPI DPI PIC Tary Fund II LP Secondary 2004 Secondaries 5,000 4,750 5,595 112 4.38 1.20 1.18 0.95 Jary Fund II LP Secondary 2008 Secondaries 5,000 3,369 5,900 586 13.20 1.63 1.49 0.88 Jary Fund IV LP Secondary 2010 Secondaries 5,000 3,320 4,080 1,114 13.66 1.57 1.23 0.66 Jary Fund IV LP Secondary 2012 International Private Equity 1,000 923 5,900 5,86 13.20 1.57 1.23 0.66 Jary Fund V Secondary 2012 International Private Equity 1,000 4,330 3,667 2,021 12.28 1.35 0.87 Jary Fund V Secondary 2014 Secondaries 5,000 4,330 3,667 2,021	-6.75		0.00		-6.75	244		262	8,000	Buyouts	2018	Co-Investment	GS Co-Investment Partners II Offshore
Investment Vintage Investment Capital Total Market TVPI DPI PIC dary Fund II LP Secondary 2004 Secondaries 5,000 4,750 5,955 112 4.38 1.20 1.18 0.95 dary Fund IV LP Secondary 2008 Secondaries 4,500 3,969 5,900 586 13.20 1.63 1.49 0.88 vestment Opps II Co-Investment 2012 International Private Equity 1,000 923 621 2,990 1.57 1.23 0.65 secondary Secondaries 5,000 4,330 3,667 2,021 1.28 0.87 vestment Opps II Co-Investment 2012 International Private Equity 1,000 923 621 990 1.53 1.57 0.87 secondary Secondaries 5,000 4,330 3,667 2,021 1.28 0.87 dary Fund IV Secondary 2014 Secondaries 5,000 3,3771<	-5.15		0.19		34.15	3,023	563	2,973	4,921	Secondaries	2016	Secondary	GS Vintage VII Offshore
Linvestment Vintage Investment Vintage Investment Capital Total Market TVPI DPI PIC Type Type Year Strategy (\$000) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) (\$0.00) <t< td=""><td>5.28</td><td></td><td>0.27</td><td></td><td>25.01</td><td>5,110</td><td>998</td><td>3,771</td><td>7,000</td><td>Secondaries</td><td>2014</td><td>Secondary</td><td>Pantheon Global Secondary Fund V</td></t<>	5.28		0.27		25.01	5,110	998	3,771	7,000	Secondaries	2014	Secondary	Pantheon Global Secondary Fund V
Linvestment Vintage Investment Vintage Investment Capital Total Market TVPI DPI PIC Type Type Year Strategy (\$000) (\$000) (\$000) (\$000) (\$000) (%) Multiple	10.58		0.85		12.28	2,021	3,667	4,330	5,000	Secondaries	2012	Secondary	GS Vintage VI Offshore
Investment Vintage Investment Capital Total Market TVPI DPI PIC Type Year Strategy (\$000)	10.02		0.67		15.39	990	621	923	1,000	International Private Equity	2012	Co-Investment	Pantheon Global Co-Investment Opps II
Investment Vintage Investment Capital Total Market Market TVPI DPI PIC Type Year Strategy (\$000)	14.16		1.23		13.66	1,114	4,080	3,320	5,000	Secondaries	2010	Secondary	Pantheon Global Secondary Fund IV LP
Capital Total Market Investment Vintage Investment Committed Contribution Distribution Value IRR TVPI DPI PIC Type Year Strategy (\$000) (\$000) (\$000) (\$000) (%) Multiple Multiple Multiple DPI PIC DP	14.34		1.49		13.20	586	5,900	3,969	4,500	Secondaries	2008	Secondary	GS Vintage V Offshore
Capital Total Market Investment Vintage Investment Committed Contribution Distribution Value IRR TVPI DPI PIC Type Year Strategy (\$000) (\$000) (\$000) (\$000) (\$000) (%) Multiple Multiple	6.10		1.18		4.38	112	5,595	4,750	5,000	Secondaries	2004	Secondary	Pantheon Global Secondary Fund II LP
	PME+	1"	DPI Multiple		(%)	Market Value (\$000)	Total Distribution (\$000)	Total Contribution (\$000)	Capital Committed (\$000)	Investment Strategy	Vintage Year	Investment Type	Partnerships

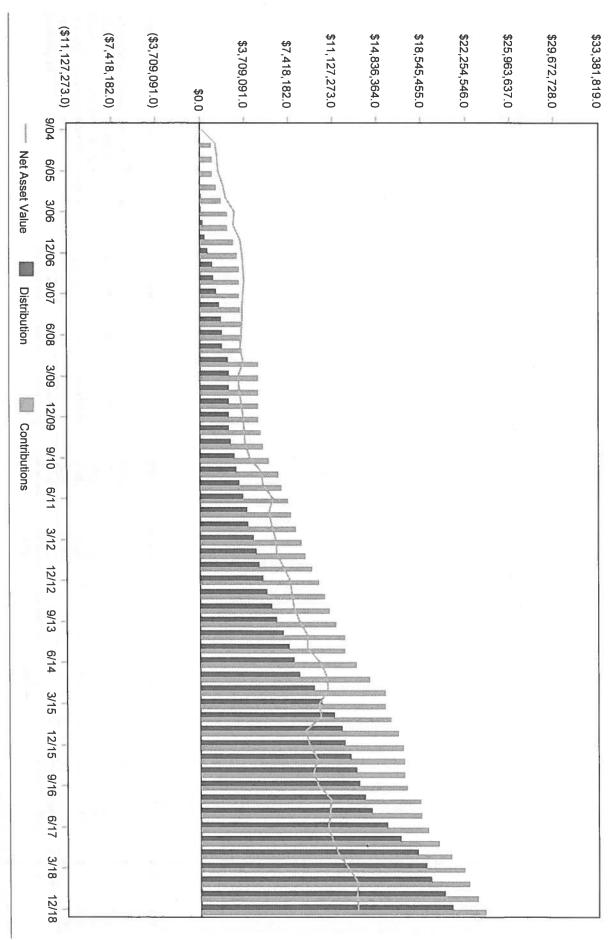
Cash Flow Summary

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

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

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

Cash Flow Analysis



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	Total Private Debt Compsite	Highbridge European Asset Value Offshore	GS Broad Street Senior Credit Partners	Highbridge Irish Specialty Loan Fund III	Highbridge Offshore Mezzanine Partners II LP	GS Mezzanine V	Partnerships		
	Total Fund	Direct	Partnership	Direct	Direct	Partnership	Type	Investment	
		2016	2015	2013	2012	2007	Year	Vintage	
	Hybrid	Other	Other	Other	Mezzanine	Other	Strategy	Investment	
ļ	22.000	3,000	2,500	3,000	5,000	8,500	(\$000)	Committed	Capital
	20.678	2,411	2,050	3,660	4,788	7,768	(\$000)	Contribution	Total
	19.881	267	1,052	3,381	5,150	10,032	(\$000)	Distribution	Total
	6.669	2,400	1,184	931	2,021	133	(\$000)	Value	Market
	10.79	8.19	8.74	6.27	17.15	10.01	(%)	RR	
	1.30	1.12	1.09	1.18	1.55	1.31	Multiple	¥	
					1.11				
	0 93	0.80	0.82	1.22	0.92	0.91	Multiple	PIC	
	8 12	2.53	6.30	9.97	10.25	7.16	PME+		

Cash Flow Summary

Remaining Capital Commitment: \$3,153,351 **Total Contributions:** Capital Committed: \$22,000,000

\$20,678,253

Total Distributions: Market Value:

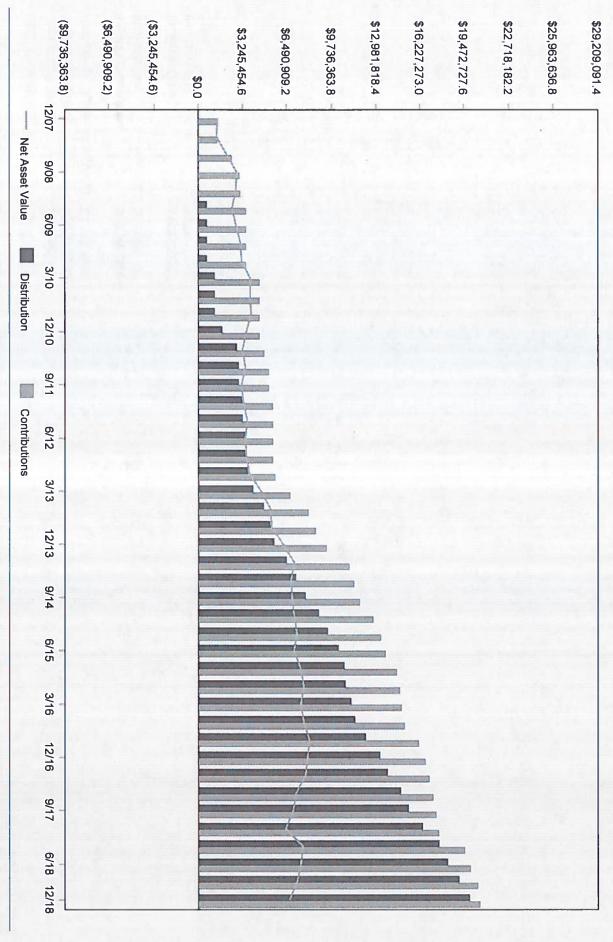
\$19,881,320 \$6,668,870

Inception Date: Inception IRR: TVPI:

> 10.79 11/30/2007

1.30





Total Private Real Assets Composite Overview

December 31, 2018

Total Private Real Assets Composite	Commonfund Natural Resources Partners X	GS Broad Street Real Estate Credit Partners II GP, L.L.C.	JP Morgan Asian I&R Res Opp Fund II	Pantheon Global Infrastructure Fund II	Commonfund Natural Resources Partners IX	Partnerships
Total Fund	Fund Of Funds	Partnership	Other	Secondary	Fund Of Funds	Investment Type
	2014	2013	2013	2013	2011	Vintage Year
Hybrid	Energy & Natural Resources	Real Estate	Infrastructure	Infrastructure	Energy & Natural Resources	Investment Strategy
25,430	9,500	3,000	930	2,000	10,000	Capital Committed (\$000)
19,739	5,225	3,384	996	1,580	8,555	Total Contribution (\$000)
6,438	1,081	3,469	64	402	1,421	Total Distribution (\$000)
18,143	5,874	407	581	1,679	9,602	Market Value (\$000)
10.37	31.27	10.45	-11.21	13.48	8.76	(%)
1.25	1.33	1,15	0.64	1.32	1.29	t IRR TVPI) (%) Multiple
0.33	0.21	1.03	0.06	0.25	0.17	DPI Multiple
0.78						PIC
7.64	1.38	9.22	7.17	7.39	8.62	PME+

Cash Flow Summary

Capital Committed: Total Contributions: \$25,429,500 \$19,739,267

Remaining Capital Commitment: \$5,748,610

Inception Date: Inception IRR:

Market Value:

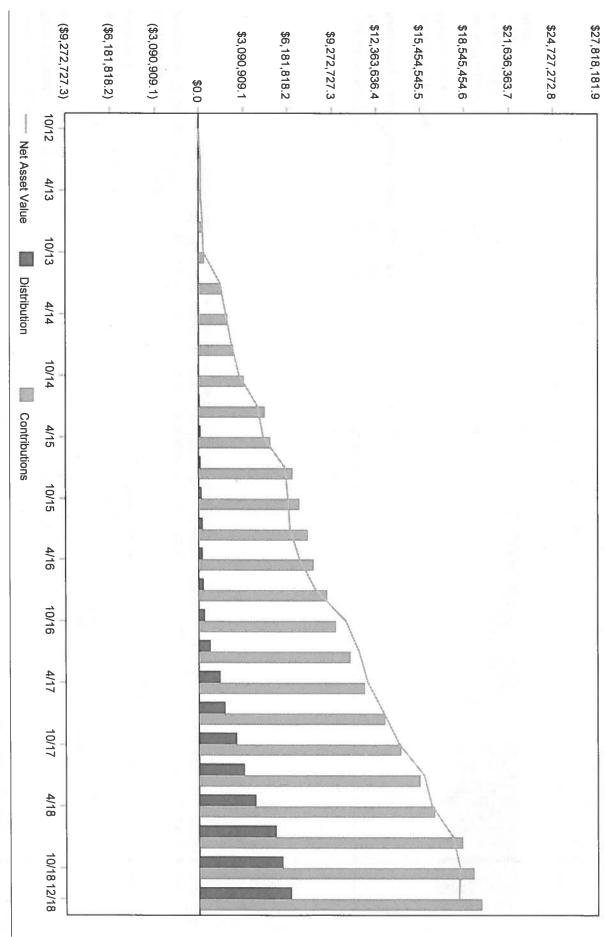
Total Distributions:

1.25

10.37 10/22/2012

\$18,142,929 \$6,437,755

Cash Flow Analysis



Fund Information

Strategy Type: Type of Fund: Secondaries Secondary

Size of Fund: Inception: 07/15/2004 232,100,000

07/15/2004

Management Fee: Vintage Year: 2004

Attenuation start date: 01/01/2012 years 1-7; 0.90% thereafter

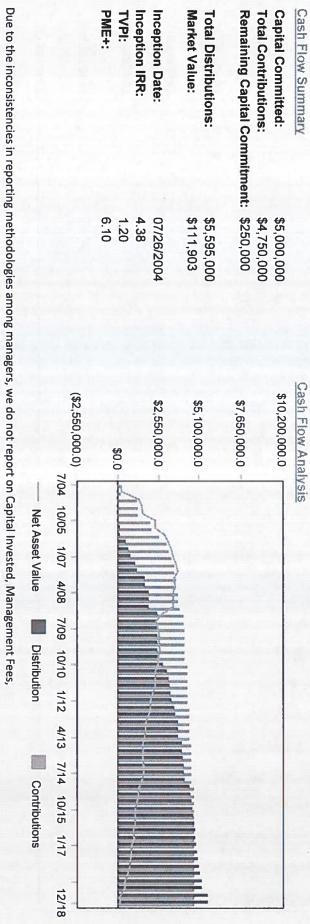
Preferred Return:

General Partner: Pantheon Global Secondary Fund II, L.P, a newly

formed Delaware limited partners

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.



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Strategy Type: Type of Fund: Secondaries Secondary Management Fee: Vintage Year:

Size of Fund: 2,156,500,000

07/30/2010

Final Close: Inception: 11/21/2008 General Partner: PGSF IV GP, LLC a Delaware limited liability company

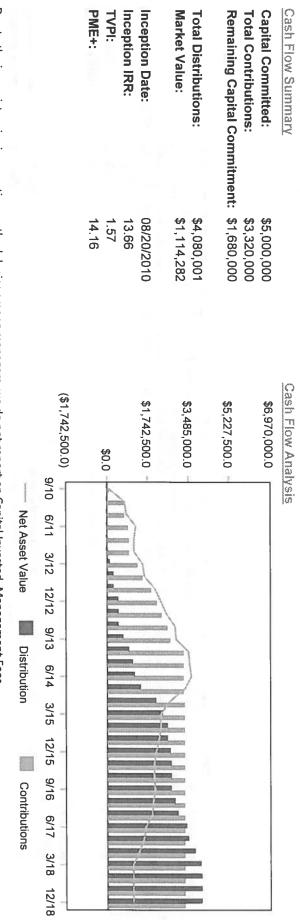
Preferred Return:

2010

Attenuation start date: 01/01/2016 1% years 1-5; 0.90% thereafter

Investment Strategy: Pantheon's investment strategy is to invest in a diversified portfolio of appropriately priced, high quality private equity assets. Pantheon 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 has substantial experience investing through several economic and private equity cycles, and as a disciplined investor, has been able to

equity funds, portfolios of direct company assets, hybrid/mixed fund and direct portfolios.





Fund Information

Strategy Type: Type of Fund: Secondaries Secondary

Management Fee: Vintage Year:

Fund management fee: 1%,

Attenuation start date: 01/01/2020. Fee starts OHA fee: 0.95% years 1-5; 0.855% thereafter

03/31/2014

Preferred Return:

General Partner:

PGSF V GP, LLC, a Delaware limited liability company

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 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 equity-like characteristics. The fund will aim to achieve this by investing in a diversified global portfolio of appropriately priced, mature and

Final Close:

03/31/2016 06/30/2014 2,111,300,000

Size of Fund

assets, GP co-investment portfolios, hybrid/mixed fund and direct portfolios, and GP recaps and team spin-outs.

PME+: Remaining Capital Commitment: \$3,228,939 **Total Contributions:** Capital Committed: Cash Flow Summary Inception IRR: Market Value: ₹ P: Inception Date: Total Distributions: 25.01 5.28 1.62 07/29/2014 \$5,110,401 \$997,500 \$7,000,000 \$3,771,061 Cash Flow Analysis (\$2,210,000.0) \$2,210,000.0 \$4,420,000.0 \$6,630,000.0 \$8,840,000.0 \$0.0 7/14 Net Asset Value 1/15 7/15 1/16 Distribution 7/16 1/17 7/17 Contributions 1/18 7/18 12/18

Fund Information

Type of Fund: Fund Of Funds

Strategy Type:

Size of Fund: 1,941,300,000

Final Close: September 2, 2005

Investment Strategy:

Inception: 07/12/2004 General Partner: PUSA VI GP, LLC a Delaware limited liability company

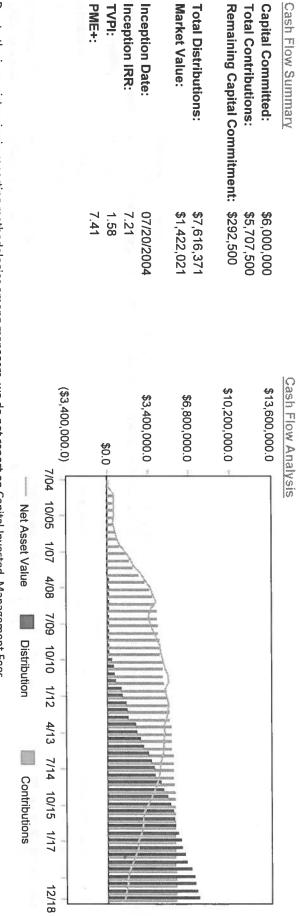
Preferred Return:

Management Fee: Vintage Year:

0.65%

Attenuation start date: 01/01/2015 years 1-10; 0.585% thereafter.

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.



Fund Information

Type of Fund: Fund Of Funds

Strategy Type: International Private Equity

Inception: Size of Fund: 02/02/2005 52,400,000

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 criticl factors in constructing

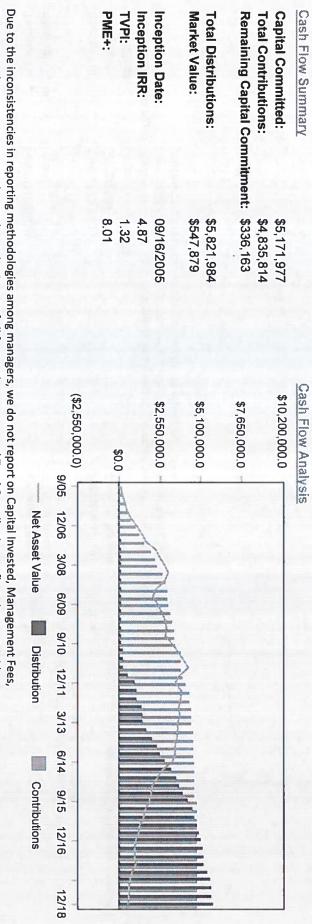
Preferred Return:

General Partner:

PEURO IV GP, LLC, a Delaware limited liability 10% per annum on unreturned capital contributions Management Fee: Vintage Year:

0.65% years 1-10; 0.585% thereafter. Attenuation start date: 01/01/2016

superior, risk adjusted private equity portfolios.



Fund Information

Strategy Type: Type of Fund: International Private Equity Fund Of Funds

Size of Fund: 52,400,000

Final Close: 07/26/2005

Inception: 02/02/2005

General Partner:

Preferred Return: PEURO IV GP, LLC, a Delaware limited liability 10% per annum on unreturned capital contributions

Management Fee:

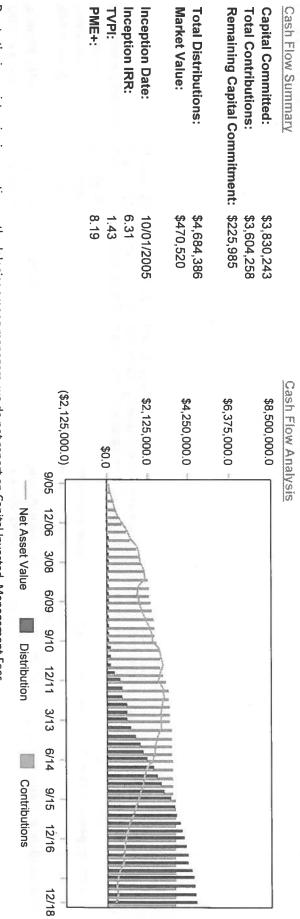
0.65% years 1-10; 0.585% thereafter. Attenuation start

date: 01/01/2016

Vintage Year:

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 criticl factors in constructing

superior, risk adjusted private equity portfolios.



Fund Information

Fund Of Funds

Strategy Type: International Private Equity

Size of Fund: 1,075,900,000

Final Close: Inception: 06/27/2008 12/22/2008 **General Partner:** PEURO VI GP Limited, a Guernsey limited company

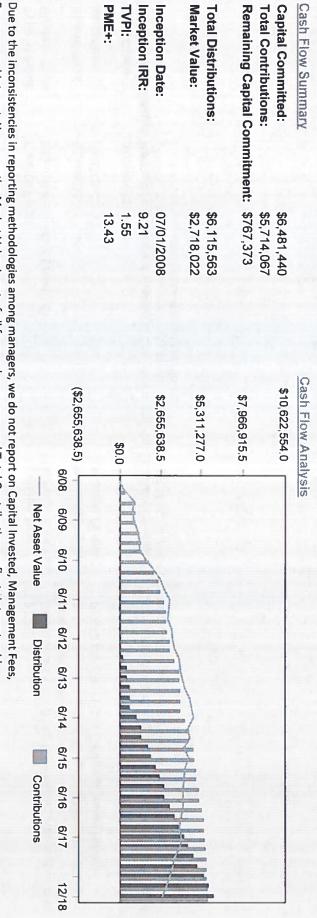
Preferred Return:

Management Fee: Vintage Year:

date: 01/01/2018

0.75% years 1-10; 0.675% thereafter, attenuation start

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.



Fund Information

Type of Fund: Fund Of Funds

Strategy Type: International Private Equity

Size of Fund: 1,075,900,000

Inception: 06/27/2008

Investment Strategy:

Final Close: 12/22/2008 General Partner: PEURO VI GP Limited, a Guernsey limited company

Preferred Return:

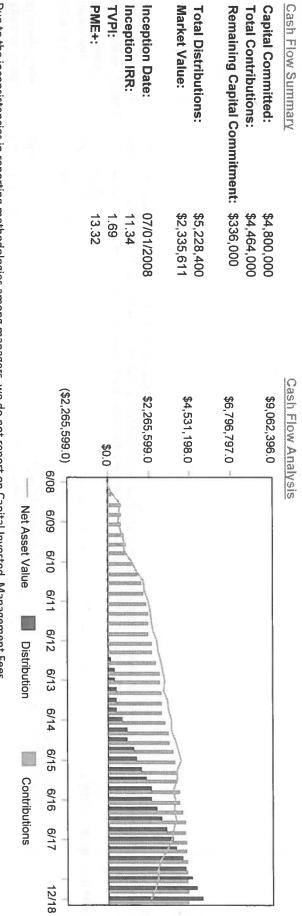
Management Fee: Vintage Year:

2007

0.75% years 1-10; 0.675% thereafter. attenuation start

date: 01/01/2018

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.





Fund Information

Fund Of Funds

Strategy Type:

Size of Fund: Inception: 06/26/2008 1,676,600,000

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.

Preferred Return:

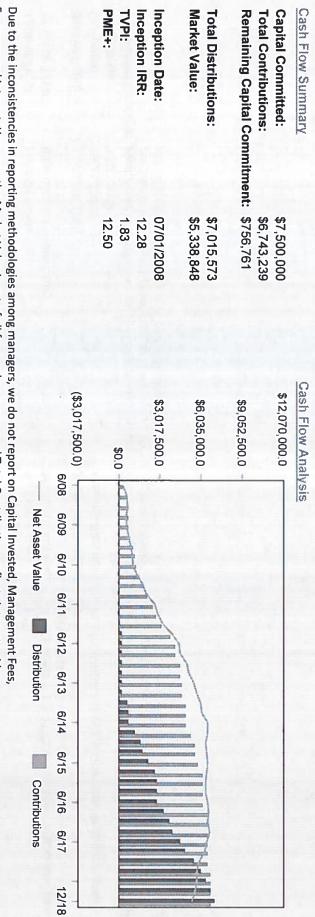
General Partner:

PUSA VIII GP, LLC, a Delaware limited liability company

Attenuation start date: 01/01/2017 0.75% years 1-10; 0.675% thereafter.

Management Fee:

Vintage Year:



Pantheon Emerging Asia Fund VI LP

As of December 31, 2018

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Type of Fund: Fund Of Funds

Strategy Type: International Private Equity

International Private Equity Management Fee: 0.85% years 1-7; 0.765% thereafter. Attenuation start

Vintage Year:

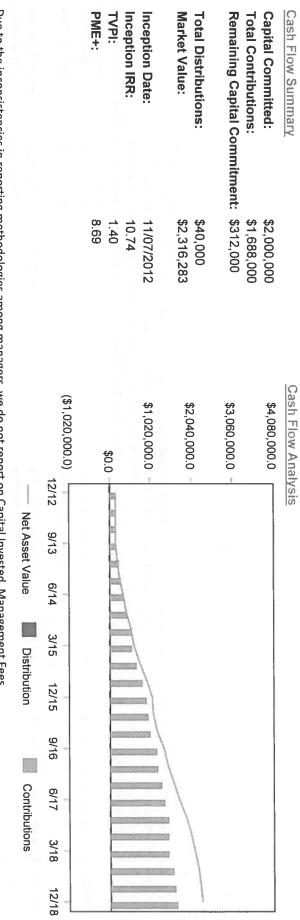
date: 01/01/2020

Size of Fund: Inception: 82,800,000 10/22/2012 **General Partner: Preferred Return:** PASIA VI GP, LLC a Delaware limited liability company 10% per annum, compounded annually on December 31

Final Close: Investment Strategy: PEAF VI will concentrate on Asian emerging markets, focusing on managers who primarily invest in China and India. PEAF VI will 10/22/2012

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 is well-suited to those investors who are capable of accessing the mature markets of Asia themselves but do not have the exclude allocations to fund managers focused on the mature markets (i.e. Australia, Japan, South Korea) within the PASIA VI strategy.

PEAF VI will have a more concentrated portfolio by geography, stage, manager and, possibly, by sector.





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Type of Fund: Co-Investment

Strategy Type: International Private Equity

> Management Fee: Vintage Year:

01/01/20121

1% years 1-10; 0.9% thereafter. Attenuation start date:

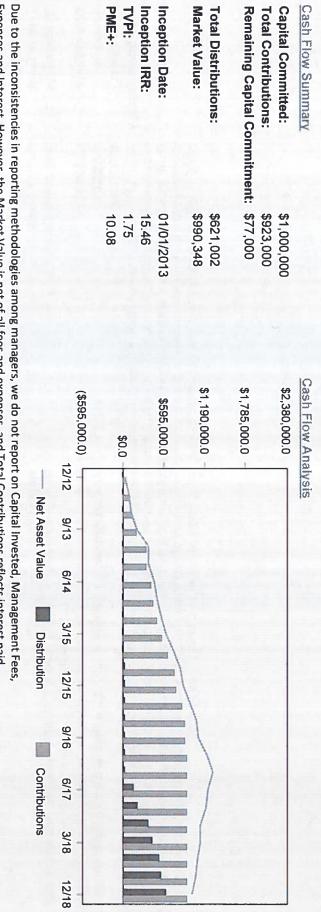
Size of Fund: 506,200,000

Final Close: Inception: 01/15/2014 12/21/2012 **Preferred Return:** General Partner:

PGCO II GP, LLC, a Delaware limited liability company

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 portfolio with limits on individual investment size, and diversification across companies, geographies, sectors, stage, vintage, and private investments in private companies, primarily in leveraged buyout and growth equity transactions. Pantheon will seek to build a balanced

equity fund managers.



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Strategy Type: Type of Fund: Infrastructure Secondary

Size of Fund:

291,000,000

12/13/2013

Inception:

Management Fee: Vintage Year: 2013

to secondary investments and co-investments; 0.15% 0.75% per annum of aggregate commitments allocated

annum on aggregate commitments allocation primary investments. Fee reduction of 5bps (0.05%) per per annum of aggregate commitments allocated to

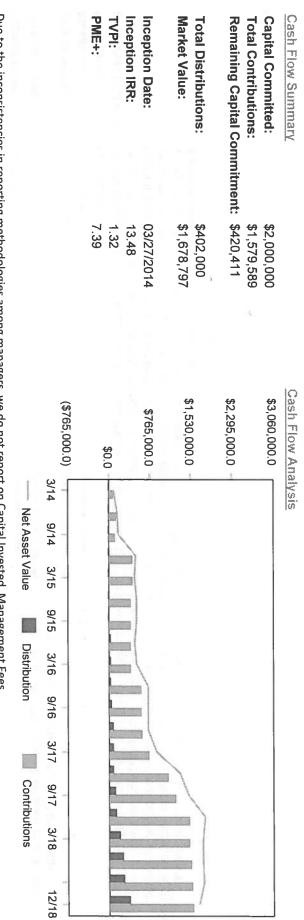
8%, with a 50/50 GP catch up

Preferred Return:

General Partner: PGIF II GP, LLC, a Delaware limited liability company

Final Close: 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 12/8/2014

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 fund may also make primary investments in infrastructure funds on a selective basis (target 15%). Ultimately, this opportunistic strategy including the potential for J-curve mitigation, time diversification, yield enhancement and cost-effective access to teh asset class. The





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Type of Fund: Fund Of Funds

Strategy Type: Buyouts

Size of Fund: 12/17/2004 1,186,000,000

Final Close: Inception: 06/30/2005 General Partner: GSAM Gen-Par, L.L.C

Preferred Return:

Management Fee: Vintage Year:

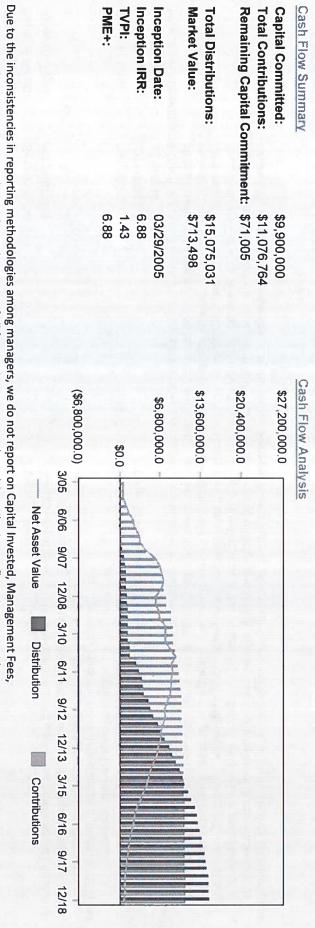
1.00% year 1-5, 25% yearly stepdown on prior years fee, thereafter. (fee break for commitment size)

Investment Strategy: Private Equity Partners 2004 LP, Private Equity Partners 2004 Offshore LP and Private Equity Partners 2004 Offshore Holdings LP broad exposure to strategies such as leveraged buyouts, growth capital, venture capital, turnaround, industry focused and structured (together, "PEP 2004" or the "Fund") is the seventh global, diversified primary multi-manager fund in the PEP family of funds, providing

equity funds. The Fund has also invested in 30 Direct Investments. At closing, the Fund had total investor capital commitments of

investments. We completed the construction of the Partnership Investment portfolio in December 2005, committing to a total of 34 private

approximately \$527 million. Global buyout focus.



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Type of Fund: Fund Of Funds

Strategy Type:

Size of Fund: 662,100,000

Final Close:

inception: 05/12/2006

10/31/2005 General Partner: GSAM Gen-Par, L.L.C.

Preferred Return 8% per annum on unreturned contributed capital

75% of prior year's fee

1% of Commitment in years 1-5, thereafter declines to

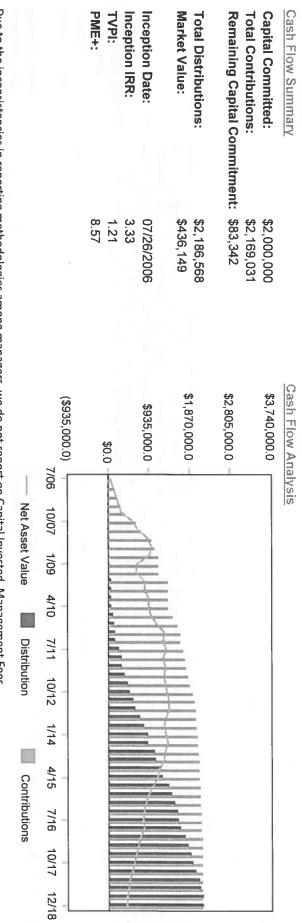
Management Fee: Vintage Year:

2005

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

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 buyout overweighting reflects the team's deep merger and acquisitions and leveraged finance backgrounds, and expresses the strategic

interests), and up to 25% in direct co-investments



Fund Information

Type of Fund: Fund Of Funds

Strategy Type: Buyouts

Size of Fund: 06/15/2007 817,000,000

02/16/2010

Final Close: Inception: General Partner: **Preferred Return:**

Goldman Sachs PEP Asia Advisors, L.L.C

Management Fee:

1.25% year 1-5, 25% yearly stepdown on prior years

fee, thereafter.

Vintage Year:

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"

investment in Private Equity Partners (Asia) LP, a Delaware limited partnership (the "Onshore Fund"). and internationally across all sectors of the private equity market. The Partnership looks to achieve its investment objectives through its

partnerships ("Co-Investment Partnerships"), with a focus on Asian investments. The Partnership is permitted to invest both domestically and privately negotiated transactions ("Direct Investments"), generally sourced on a co-investment basis with certain other coinvestment

Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, **Total Contributions:** Capital Committed: Cash Flow Summary Inception IRR: Market Value: Remaining Capital Commitment: \$220,806 **Total Distributions:** Inception Date 1.54 12.26 \$1,000,000 09/27/2007 \$296,511 \$1,078,044 \$892,459 Cash Flow Analysis \$1,870,000.0 \$1,402,500.0 (\$467,500.0) \$467,500.0 \$935,000.0 \$0.0 9/08 Net Asset Value 9/09 9/10 9/11 Distribution 9/12 9/13 9/14 9/15 Contributions 9/16 9/17 12/18

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Type of Fund: Fund Of Funds

Strategy Type:

Size of Fund: 1,770,000,000

Final Close: Inception: 07/27/2007

03/30/2007 General Partner: GSAM Gen-Par, L.L.C.

Preferred Return:

8% per annum on unreturned contributed capital

1.25% year 1-5, 25% yearly stepdown on prior years

fee, thereafter

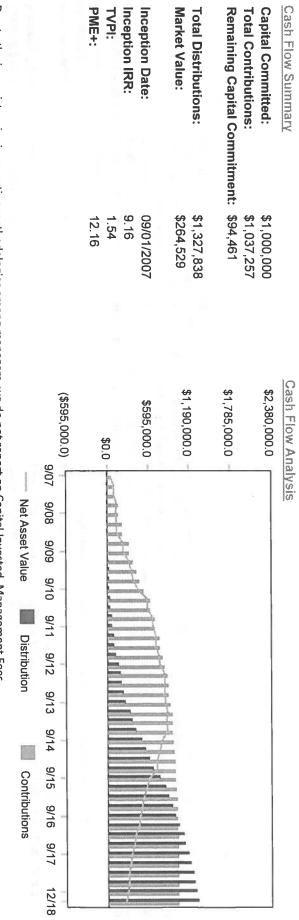
Management Fee: Vintage Year:

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 growth or mature stage investment opportunities. At least 75% of the PEP funds are invested in partnerships (primary and secondary preference for real cash flow generating businesses. In the venture sector, Goldman will commit broadly to funds focusing on early,

interests), and up to 25% in direct co-investments. Global buyout focus



Fund Information

Type of Fund: Fund Of Funds

Strategy Type: Buyouts

Size of Fund: 1,146,000,000

Final Close: Inception: 07/15/2008 05/01/2009 **General Partner:**

Preferred Return:

Vintage Year:

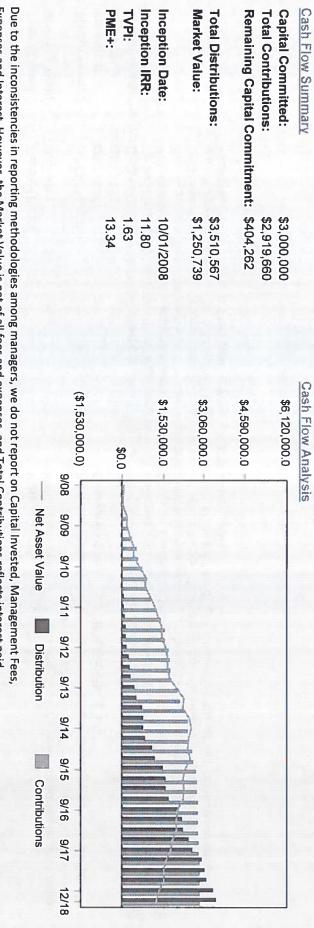
Management Fee: fee, thereafter. 1.25% year 1-5, 25% yearly stepdown on prior years

Goldman Sachs PEP X Advisors, L.L.C

Investment Strategy: Private Equity Partners X Offshore LP (the "Partnership"), a Cayman Islands exempted limited partnership, was formed for the purpose of pooled investment vehicles purchased from the existing owners of such pooled investments and not from the issuers of such investments investing in (i) pooled investment vehicles via capital commitments to the issuers of such investments ("Partnership Investments"), (ii)

partnerships ("Co-Investment Partnerships" and together with Partnership Investments, Secondary Investments and Direct privately negotiated transactions ("Direct Investments"), generally sourced on a co-investment basis with certain other co-investment or transactions structured to share many of the characteristics and economics of such purchases ("Secondary Investments"), and (iii)

Investments, "Portfolio Investments").



Fund Information

Type of Fund: Secondary

Strategy Type: Secondaries

Size of Fund: inception: 5,530,000,000 07/18/2008

General Partner: Preferred Return:

Goldman Sachs VNT Fund V Advisors LLC

Management Fee: Vintage Year:

2008

fee, thereafter.

1.25% year 1-4, 25% yearly stepdown on prior years

Final Close: 03/15/2009

Investment Strategy: Global secondary transactions

Cash Flow Analysis

TVPI: Remaining Capital Commitment: \$1,208,970 **Total Contributions:** Capital Committed: Cash Flow Summary PME+: Inception IRR: Market Value: **Total Distributions:** Inception Date: 14.34 1.63 \$3,969,165 \$4,500,000 13.20 \$586,077 \$5,899,635 10/29/2008 \$10,200,000.0 (\$2,550,000.0) \$7,650,000.0 \$2,550,000.0 \$5,100,000.0 \$0.0 10/08 Net Asset Value 10/09 10/10 10/11 10/12 10/13 Distribution 10/14 10/15 Contributions

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

10/16

10/17

12/18

Fund Information

Strategy Type: Type of Fund: Secondaries Secondary

Size of Fund: Final Close: Inception: 5,870,000,000 04/16/2014 11/28/2012

Investment Strategy: Global secondary transactions

Vintage Year:

Management Fee: 1.25% year 1-4, 25% yearly stepdown on prior years

fee, thereafter.

Preferred Return:

General Partner: Goldman Sachs VF VI Advisors LLC

Cash Flow Summary **Total Contributions:** Capital Committed: TVPI: Inception IRR: Market Value: **Total Distributions:** Remaining Capital Commitment: \$873,551 Inception Date 1.31 10.58 12.28 \$2,020,981 \$3,667,103 \$4,329,626 \$5,000,000 11/28/2012 Cash Flow Analysis (\$1,870,000.0) \$1,870,000.0 \$7,480,000.0 \$3,740,000.0 \$5,610,000.0 \$0.0 12/12 Net Asset Value 9/13 6/14 Distribution 3/15 12/15 9/16 Contributions 6/17 3/18 12/18

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.

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Strategy Type: Type of Fund: Secondaries Secondary

Size of Fund: 7,150,000,000

Inception: 07/25/2017 10/01/2016

Final Close:

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.

General Partner: **Preferred Return:**

VF VII Advisors Offshore S.A R.L

Management Fee: Vintage Year:

fee, thereafter.

1.25% year 1-4, 25% yearly stepdown on prior years

Capital Committed: Cash Flow Summary TVPI: Inception IRR: Remaining Capital Commitment: \$2,247,185 **Total Contributions:** PME+: Inception Date: Market Value: Total Distributions: -5.151.21 34.15 \$3,023,390 \$563,093 \$2,973,110 \$4,920,756 09/28/2017 Cash Flow Analysis (\$1,317,500.0) \$1,317,500.0 \$2,635,000.0 \$3,952,500.0 \$5,270,000.0 \$0.0 9/17 Net Asset Value 12/17 Distribution 3/18 6/18 Contributions 9/18 12/18

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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%

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

30% invested in Western Europe and a small opportunistic exposure to the growth markets, primarily Asia. other strategies, including large buyouts, growth equity, and distressed. The Fund will be 50% invested in North America, approximately

Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid. Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, PME+: ₹PI: Market Value: Remaining Capital Commitment: \$7,738,494 **Total Contributions:** Capital Committed: Cash Flow Summary Inception IRR: **Total Distributions:** Inception Date: 0.93 -6.75 -6.75\$243,847 \$8,000,000 09/28/2018 \$261,506 Cash Flow Analysis (\$120,000.0) \$120,000.0 \$360,000.0 \$480,000.0 \$240,000.0 \$0.0 Net Asset Value 9/18 Distribution Contributions 12/18

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Type of Fund: Partnership
Strategy Type: Real Estate

Size of Fund:

4,100,000,000

Final Close:

12/01/2013 04/01/2014

Inception:

Vintage Year: 20° Management Fee: 1.5

1.5%, payable semi-annually in arrears and charged on the aggregate equity capital invested by the Partnership

the aggregate equity capital invested by the Partners on behalf of the Limited Partners, including any reinvested capital, but reduced to account for fully or partially beginned investments.

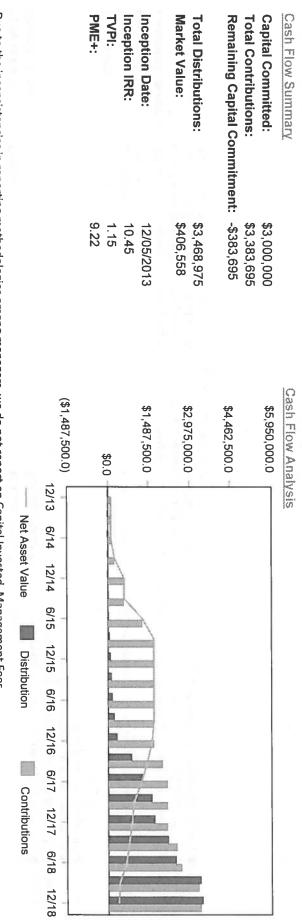
partially harvested investments

Preferred Return:

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.



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

Strategy Type: Type of Fund: Partnership

Size of Fund 02/10/2015 3,161,000,000

Final Close: nception: 07/2015 General Partner: Broad Street Senior Credit Partners Advisor, L.L.C.

Preferred Return:

Management Fee:

on behalf of the Limited Partners, including any

reinvested capital, but reduced to account for fully or

partially harvested investments

1.0%, payable semi-annually in arrears and charged on

the aggregate equity capital invested by the Partnership

Vintage Year:

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.

Due to the inconsistencies in reporting methodologies among managers, we do not report on Capital Invested, Management Fees, PME+: Capital Committed: Cash Flow Summary TVPI: Inception IRR: Market Value: Remaining Capital Commitment: \$449,793 **Total Contributions:** Total Distributions: Inception Date: 8.67 1.09 07/01/2015 \$1,184,344 \$1,051,525 \$2,050,207 \$2,500,000 Cash Flow Analysis \$1,785,000.0 \$2,677,500.0 \$3,570,000.0 (\$892,500.0) \$892,500.0 \$0.0 6/15 Net Asset Value 12/15 6/16 Distribution 12/16 6/17 12/17 Contributions 6/18 12/18

Fund information

Type of Fund: Partnership
Strategy Type: Other

Vintage Year: 2007

Management Fee: 1.5%

 e: 1.5%, payable semi-annually in arrears and charged on the aggregate equity capital invested by the Partnership

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

Preferred Return:

Size of Fund:

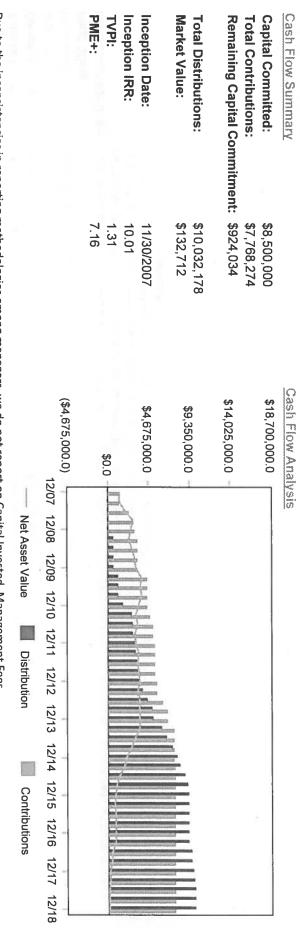
Inception:

13,000,000,000 11/01/2007

General Partner: GS Mezzanine Advisors V, L.L.C

Investment Strategy: Final Close: GS Mezzanine Partners V Offshore, L.P. (the "Partnership"), a Cayman Islands exempted limited partnership, was formed for the purpose 03/01/2008

Partnership seeks to provide the partners with long-term capital appreciation and current returns through such investments Partnership may also invest in equity-related securities such as warrants, common stock or other securities with a convertible feature. The of investing in mezzanine securities. These securities principally include fixed income securities such as debt and preferred stock. The





Fund Information

Strategy Type: Type of Fund: Buyouts Fund Of Funds

Size of Fund:

Inception: 10/01/2017

Final Close:

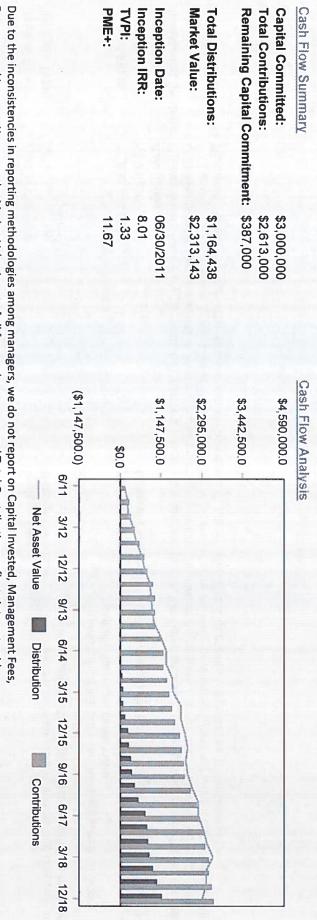
Investment Strategy: Commonfund Capital International Partners VII, L.P. (the "Partnership"), a Delaware limited partnership, was organized pursuant to a

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

2011

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 partnership agreement (the "Partnerships Agreement") for the purpose of providing endowment funds and nonprofit organizations the

or co-investment opportunities



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.

Native Hawaiian Trust Fund

Commonfund International Partners VIII

As of December 31, 2018

Fund Information

Type of Fund: Fund Of Funds

Strategy Type:

Size of Fund: 139,500,000

Inception: 01/01/2015

Final Close: 03/24/2016 General Partner:

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

Preferred Return:

Fairfield Partners 2012, LP

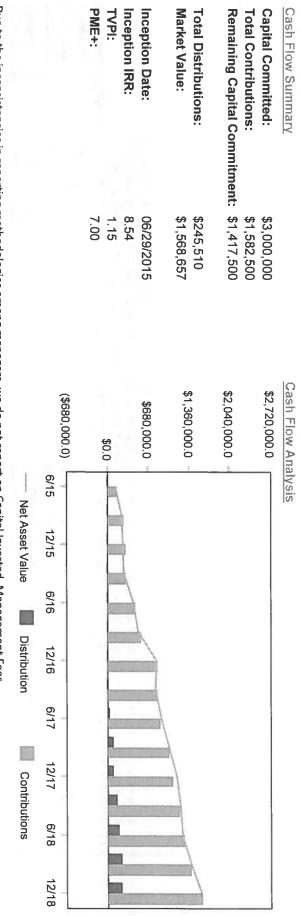
Management Fee: Vintage Year:

2014

fee schedule)

53 bps per annum on Committed Capital (see detailed

private equity emphasis and a preference for local managers.





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Size of Fund: Strategy Type: Type of Fund: inception: 08/31/2012 502,400,000 09/11/2012 Venture Capital Fund Of Funds

Final Close:

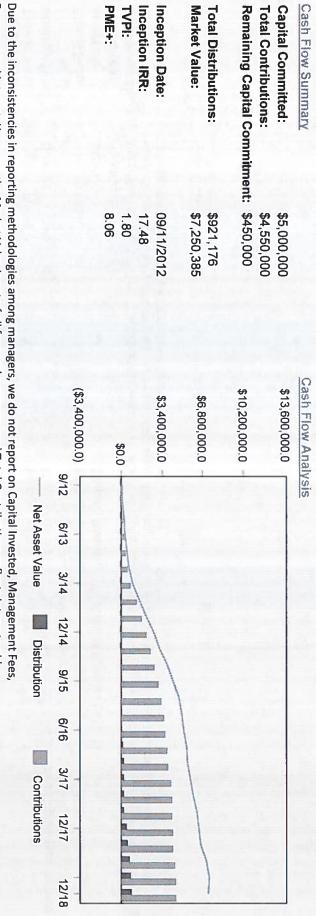
Vintage Year: 2012

Management Fee: Preferred Return:

General Partner: Fairfield Partners Management LLC

Investment Strategy: Commonfund Capital's venture capital programs aim to give investors the opportunity to earn long-term capital appreciation by investing venture capital investments seek to earn returns above those on publicly traded stocks over a long-term investment horizon, and to further in early stage, high growth private companies, principally in the information technology and life sciences/healthcare fields. Traditionally,

diversify the equity component of an investment portfolio.



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

Strategy Type: Size of Fund: Type of Fund: inception: 525,000,000 Venture Capital Fund Of Funds **Preferred Return:** Management Fee: Vintage Year:

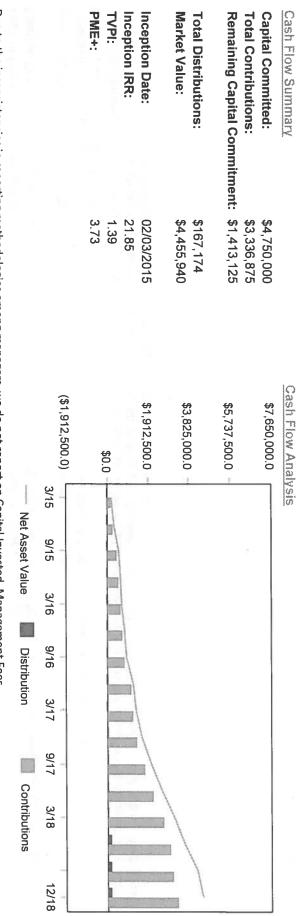
01/15/2015 General Partner: Fairfield Partners Management LLC

2015 53 bps

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,

diversify the equity component of an investment portfolio. venture capital investments seek to earn returns above those on publicly traded stocks over a long-term investment horizon, and to further Investment Strategy:



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



Fund Information

Type of Fund: Fund Of Funds

Strategy Type: **Energy & Natural Resources**

Size of Fund: 507,000,000

Final Close: 07/23/2013

10/01/2012 General Partner: Fairfield Partners 2012, LP

Preferred Return:

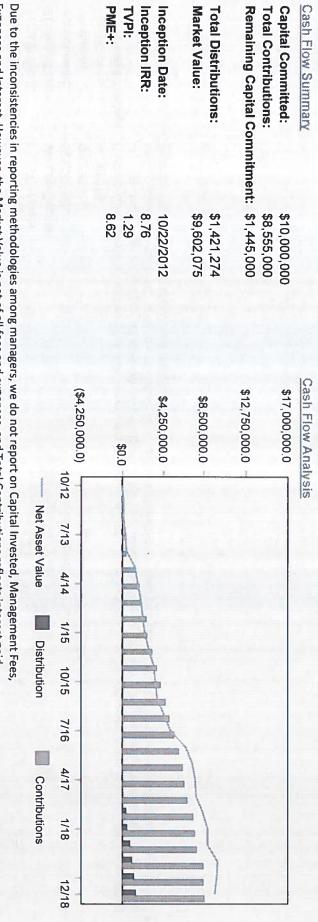
Management Fee:

53 bps per annum on Committed Capital (see detailed

fee schedule)

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.



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

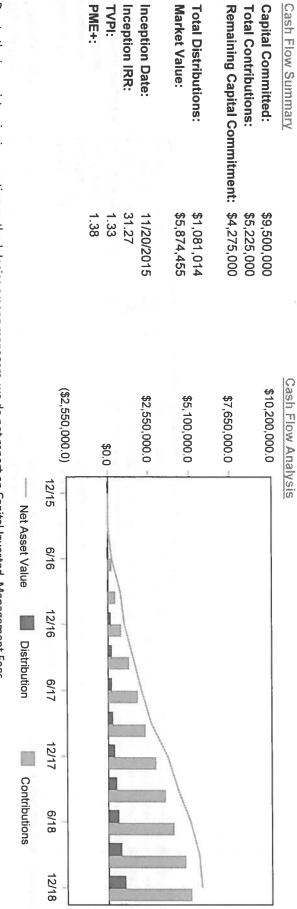
53 bps per annum

Strategy Type: **Energy & Natural Resources** Management Fee:

Size of Fund: Inception: 08/01/2014 252,700,000

Final Close: 3/17/2016 General Partner: Preferred Return: Fairfield Partners 2014, LP

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.



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



Fund Information

Type of Fund: Fund Of Funds

Strategy Type: Buyouts

Management Fee:

53 bps per annum on Committed Capital (see detailed

fee schedule)

Fairfield Partners 2009, LP

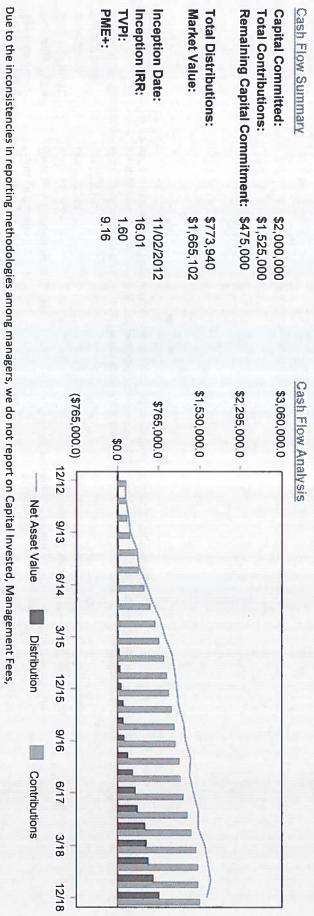
Vintage Year:

Size of Fund: Inception: 218,100,000 12/01/2011

Final Close: 01/31/2013 General Partner: Preferred Return:

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,

and superior risk-adjusted net returns through diversified private equity investments. investment horizon and to further diversify the equity component of an investment portfolio. The fund seeks long-term capital appreciation private equity investments seek to earn returns substantially above those on publicly traded stocks over a long term (seven- to 10-year)



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: 280,500,000

03/24/2016

Final Close: Inception: 12/01/2014 General Partner: Fairfield Partners 2012, LP

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,

Preferred Return:

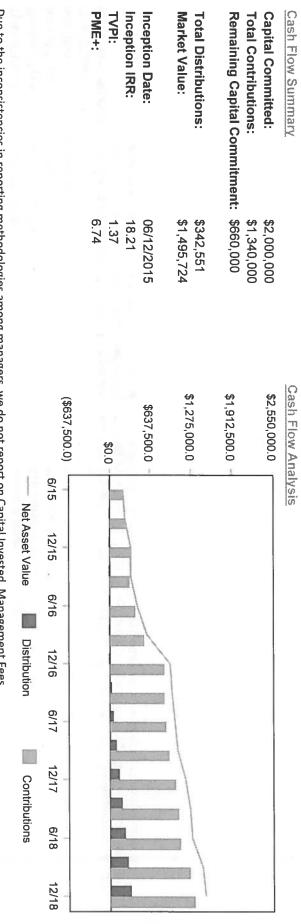
Management Fee: Vintage Year:

fee schedule)

53 bps per annum on Committed Capital (see detailed

private equity investments seek to earn returns substantially above those on publicly traded stocks over a long term (seven- to 10-year)

and superior risk-adjusted net returns through diversified private equity investments. investment horizon and to further diversify the equity component of an investment portfolio. The fund seeks long-term capital appreciation



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



Fund Information

Strategy Type: Type of Fund: Fund Of Funds International Private Equity

Size of Fund: Inception: 199,400,000 06/26/2013

Final Close: General Partner: Preferred Return:

Fairfield Partners Management LLC

Management Fee

Vintage Year:

2013

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.

PME+: **Total Contributions:** Capital Committed: Cash Flow Summary Market Value: **Total Distributions:** Remaining Capital Commitment: \$1,087,500 Inception IRR: Inception Date 7.21 1.43 14.41 \$5,061,077 \$531,795 \$3,912,500 \$5,000,000 06/26/2013 Cash Flow Analysis (\$2,167,500.0) \$6,502,500.0 \$8,670,000.0 \$2,167,500.0 \$4,335,000.0 \$0.0 6/13 12/13 6/14 12/14 6/15 12/15 6/16 Net Asset Value Distribution 12/16 6/17 12/17 6/18 12/18 Contributions

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

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Size of Fund: Strategy Type: Type of Fund: Other 1,011,100,000

Final Close: Inception: 08/31/2012 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 General Partner: Highbridge Capital Management, LLC

Preferred Return:

Management Fee Vintage Year:

1.25% 2013

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

space - post global financial crisis and stricter regulatory requirements.

Capital Committed: Cash Flow Summary PME+: TVPI: Inception IRR: **Total Distributions:** Remaining Capital Commitment: \$154,822 **Total Contributions:** Inception Date: Market Value: 6.32 10.05 1.18 \$3,660,147 06/01/2013 \$930,926 \$3,380,534 \$3,000,000 Cash Flow Analysis (\$1,700,000.0) \$1,700,000.0 \$6,800,000.0 \$3,400,000.0 \$5,100,000.0 \$0.0 6/13 12/13 Net Asset Value 6/14 12/14 6/15 12/15 6/16 Distribution 12/16 6/17 Contributions 12/17 6/18 12/18

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

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Size of Fund: Strategy Type: Inception: Type of Fund: Other 800,000,000

Final Close: 06/23/2015 12/23/2016 Preferred Return:

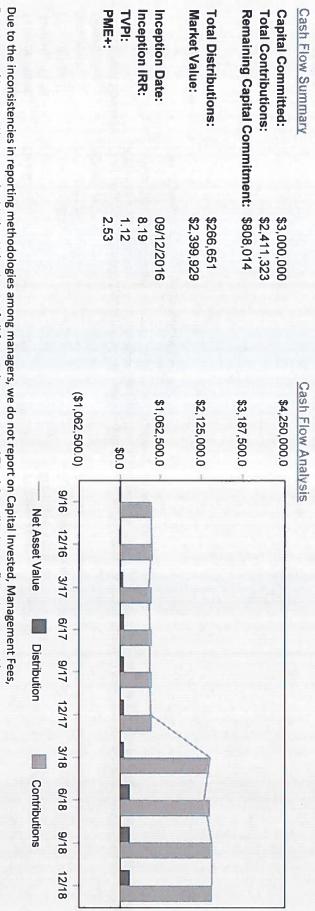
Investment Strategy: European Asset Value Fund ("EAVF") will invest in performing financial asset portfolios and platforms with origination and servicing General Partner: Highbridge GP, Ltd

Management Fee Vintage Year:

1.50% 2016

create a leading non-bank financial institution through its pan-European platforms, providing a meaningful alternative to the banks for deleveraging is leading banks to divest those portfolios and platforms which are both capital intensive and non-core. EAVF intends to capabilities. The Fund seeks to take advantage of strategic shifts in the European specialty finance sector, where regulatory-induced

SME and Consumer credit.



Expenses and Interest. However, the Market Value is net of all fees and expenses, and Total Contributions reflects interest paid.

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Type of Fund: Direct
Strategy Type: Mezzanine
Size of Fund: 4,407,000,000

Inception: 03/15/2012
Final Close: 03/15/2013
Investment Strategy: The Mezzanine Funds' investment ob

Investment Strategy: The Mezzanine Funds' investment objective is to generate current returns as well as long-term capital appreciation through investments in

Management Fee: Preferred Return:

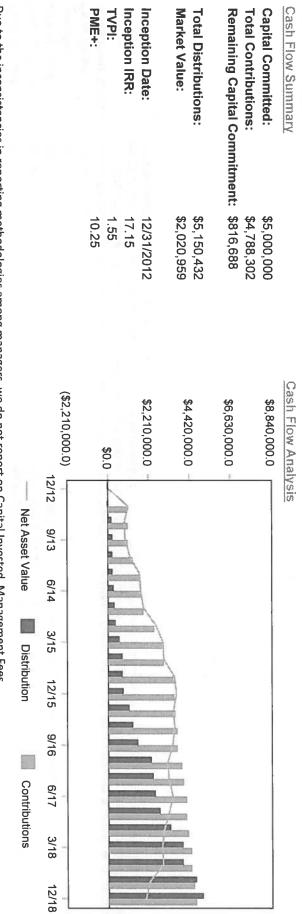
2012

Vintage Year:

General Partner:

HPS Mezzanine Partners II GP, L.P.

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



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

Fund Information

Strategy Type: Type of Fund: Infrastructure

Size of Fund: 04/01/2013 468,800,000

Final Close: January 25,2015

Investment Strategy: Closed Ended Opportunistic and Asia Infrastructure Investment Strategy: The Asian Infrastructure strategy employs a holistic approach to the abundant need for infrastructure in the region by investing primarily in growth opportunities, providing expansion capital with a focus investing across the full value chain of infrastructure and related resource companies throughout Asia. The strategy seeks to capitalize on

Management Fee:

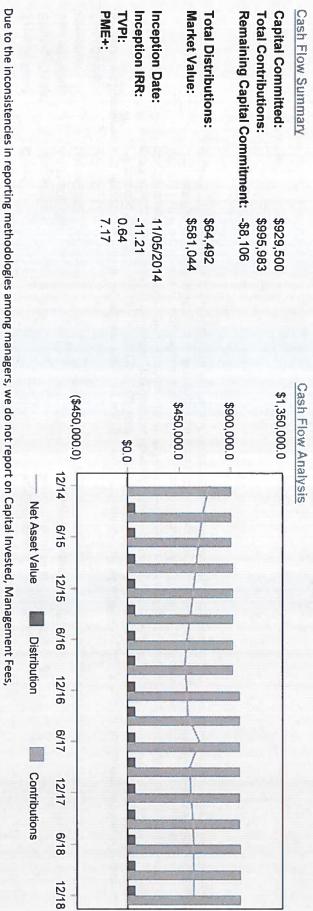
1.50% 2013

Preferred return of 8% per annum

Vintage Year:

General Partner: Preferred Return:

on sustainable (economic, social, and environmental) investments.



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

Appendix

Total IPS OHA Benchmark

100.0% S&P GS Commo Hawaii Direct Investments 100.0% Barclays U.S. TII
2.5%
12.5%
15.0%
5.0%
20.5%
37.5%
7/1/10 to 6/30/11:
2.0%
2.5%
12.5%
15.0%
5.0%
5.0%
20.5%
37.5%
9/1/09 to 6/30/10:

25.0% Barciays U.S. IIPS			
ar ook			
N.M. Opportunistic & Real Assets	4.0%		
100.0% Merrill Lynch HY Master II + 1.5% (Qtr Lag)			
N.M. Credit	2.4%	20.0% DJ UBS Commodity TR	
100.0% MSCI All Country World IMI +3% (Qtr Lag)		35.0% S&P Global Lrg MidCap Common Resources (Net)	
N.M. Equity	12.8%	20.0% DJ U.S. Select REIT TR	
20.0% DJ UBS Commodity TR		25.0% Barclays U.S. TIPS	
80.0% T-Bills +4%		Hawaii Direct Investments	5.0%
Low Volatility Marketable Alternatives	12.8%	100.0% Bloomberg Commodity Index Total Return	
20.0% DJ UBS Commodity TR		Commodities	2.0%
35.0% S&P Global Lrg MidCap Common Resources (Net)		100.0% Merrill Lynch HY Master II + 1%	
20.0% DJ U.S. Select REIT TR		Fixed Income Alternatives	2.5%
25.0% Barclays U.S. TIPS		100.0% MSCI All Country World IMI (Net) +3%	
Hawaii Direct Investments	5.0%	Ęq	12.5%
n/a Barclays U.S. Gov't (Actual Weight)		16.7% Merrill Lynch HY Master II	
n/a DJ UBS Commodity TR (Actual Weight)		33.3% MSCI All Country World IMI (Net)	
Enhanced Liquidity	8.0%	50.0% T-Bills +4%	
100.0% FTSE EPRA/NAREIT Developed (Net)		6 Absolute Return	15.0%
Traditional Global Real Assets	5.5%	100.0% FTSE EPRA/NAREIT Developed (Net)	
5.0% JPM EMBI Global		Global Public Real Estate	5.0%
15.0% Barclays U.S. High Yield – 2% Issuer Cap		10.0% JPM GBI-EM Global Diversified	
15.0% JPM GBI-EM Global Diversified		10.0% Merrill Lynch HY Master II	
65.0% Barclays U.S. Credit Bond		80.0% Barclays U.S. Aggregate	
Traditional Global Credit	11.0%	% Traditional Global Fixed Income	20.5%
100.0% MSCI All Country World IMI (Net)		100.0% MSCI All Country World IMI (Net)	
Traditional Global Equities	38.5%	% Traditional Global Equities	37.5%
1/1/13 to 6/30/14:	<u>1/1/13 t</u>	7/1/11 to 12/31/12:	7/1/11

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)

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)			20.0% Bloomberg Commodity Index Total Return 12.8% N.M. Equity	12.8% Low Volatility Marketable Alternatives 80.0% OHA Citigroup 3 Month T Bill + 4%	35.0% S&P Global Lrg MidCap Common Resources (Net) 20.0% DJ UBS Commodity TR	Dire	100.0% FTSE EPRA/NAREIT Developed (Net) 8.0% Enhanced Liquidity	5.0% JPM EMBI Global 5.5% Traditional Global Real Assets	0, 0,	11.0% Traditional Global Credit 65.0% Barclays U.S. Credit Bond	7/1/14 to 10/31/2015: 38.5% Traditional Global Equities 100.0% MSCI All Country World IMI (Net)
	20.0% DJ Brookfield Glb Infra (Qtr Lag +3% per annum)	20.0% DJ U.S. Select REIT TR 25.0% CSB Global Lag MidCap Common Bosonicos (Not)	4.0% N.M. Opportunistic & Real Assets 25.0% Barclays U.S. TIPS	2.4% N.M. Credit 100.0% Merrill Lynch HY Master II + 1.5%	12.8% N.M. Equity 100.0% MSCI All Country World IMI +4%		100.0% FTSE EPRA/NAREIT Developed (Net) 8.0% Enhanced Liquidity	5.0% JPM EMBI Global 5.5% Traditional Global Real Assets	15.0% JPM GBI-EM Global Diversified 15.0% Barclays U.S. High Yield – 2% Issuer Cap	11.0% Traditional Global Credit 65.0% Barclays U.S. Credit Bond	11/1/15 to 10/31/17: 38.5% Traditional Global Equities 100.0% MSCI All Country World IMI (Net)

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

	100.0% FTSE EPRA/NAREIT Developed (Net)	8.0% Global Public Real Estate	10.0% JPM GBI-EM Global Diversified	10.0% Merrill Lynch HY Master II	80.0% Barclays U.S. Aggregate	32.5% Traditional Global Fixed Income	100.0% MSCI All Country World IMI (Net)	59.5% Traditional Global Equities	7/1/11 to 12/31/2012:		100.0% FTSE EPRA/NAREIT Developed	8.0% Traditional Global Real Assets	100.0% Bloomberg Barclays U.S. Aggregate	32.5% Traditional Global Fixed Income	100.0% MSCI All Country World IMI (Net)	59.5% Traditional Global Equities	1/1/11 to 6/30/11:
100.0% Bloomberg Barclays U.S. TIPS +3%	8.1% Traditional Global Real Assets	100.0% Bloomberg Barclays U.S. Aggregate	27.4% Traditional Global Credit	100.0% MSCI All Country World	64.5% Traditional Global Equities	11/1/17 to Present:		100.0% FTSE EPRA/NAREIT Developed (Net)	10.0% Global Public Real Estate	5.0% JPM EMBI Global	15.0% Barclays U.S. High Yield – 2% Issuer Cap	15.0% JPM GBI-EM Global Diversified	65.0% Barclays U.S. Credit Bond	20.0% Traditional Global Fixed Income	100.0% MSCI All Country World IMI (Net)	70.0% Traditional Global Equities	1/1/13 to 10/31/17:

Total IPS Global Equities Benchmark

		100.0% MSCI EAFE (Net)	22.2% International Equity	100.0% Russell 2000 Index	22.2% U.S. Small Cap Equity	100.0% Russell 1000 Index	55.6% U.S. Large Cap Equity	3/1/03 to 12/31/08:
10 00/ T	5.0% JPM EMBI C	15.0% Barclays U.	15.0% JPM GBI-EN	65.0% Barclays U.	20.0% Traditional Global Crec	100.0% MSCI All Co	70.0% Traditional Global Equ	1/1/13 to 10/31/17:

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

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

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

59.5% Traditional Global Equities 7/1/11 to 12/31/12:

32.5% Traditional Global Fixed Income **Global Public Real Estate** 10.0% JPM GBI-EM Global Diversified 10.0% 80.0% Barclays U.S. Aggregate Merrill Lynch HY Master II

100.0% FTSE EPRA/NAREIT Developed (Net)

100.0% MSCI All Country World IMI (Net)

Country World IMI (Net) uities

I.S. High Yield – 2% Issuer Cap M Global Diversified .S. Credit Bond

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

8.1% 27.4% Traditional Global Credit **Traditional Global Real Assets** 100.0% Bloomberg Barclays U.S. Aggregate

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% JPM GBI-EM Global Diversified 10.0% Merrill Lynch HY Master II

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

	5.0%	!	2.0%	7.0%	7 0%	7.5%		5.0%		18.5%		55.0%	7/1/11		5.0%		2.0%		2.5%		15.0%		5.0%		20.5%		50.0%	7/1/10
100.0% SSgA Real Asset Strategy	Hawaii Direct Investments	100.0% DJ UBS Commodity TR	Commodities	100 0% Merrill voch High Yield Master II	100.0% 1-month T-Bill + 3%	Absolute Return	100.0% FTSE EPRA/NAREIT Developed	Global Public Real Estate	100.0% Barclays U.S. Aggregate	Traditional Global Fixed Income	100.0% MSCI All Country World IMI (Net)	Traditional Global Equities	7/1/11 to 12/31/12:	100.0% Barclays U.S. TIPS	Hawaii Direct Investments	100.0% S&P GS Commodities	Commodities	100.0% Barclays U.S. Corporate High Yield	Fixed Income Alternatives	100.0% 3-month T-Bill + 3%	Absolute Return	100.0% FTSE EPRA/NAREIT Developed	Global Public Real Estate	100.0% Barclays U.S. Aggregate	Traditional Global Fixed Income	100.0% MSCI All Country World iMI (Net)	Traditional Global Equities	7/1/10 to 6/30/11;
											100.0% Bloomberg Barclays 1-3 Year Treasury	100.0% Enhanced Liquidity Account	11/1/17 to Present:	n/a Barclays U.S. Gov't (Actual Weight)	n/a U.S. Gov't Securities	2/1/16 to 10/31/17:		n/a Barclays U.S. Gov't (Actual Weight)	n/a U.S. Gov't Securities	n/a Citigroup 3 Month T-Bill +4% (Actual Weight)	n/a Diversifying Strategies	7/1/14 to 1/31/16:		n/a Barclays U.S. Gov't (Actual Weight)	n/a U.S. Gov't Securities	n/a DJ UBS Commodity TR (Actual Weight)	n/a Diversifying Strategies	1/1/13 to 6/30/14:

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

15.0% 25.0% Barclays U.S. TIPS 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.

ASSET MANAGEMENT

CORPORATE & INVESTMENT BANK

COMMERCIAL BANKING

- Wealth Management Ultra High Net Worth
- High Net Worth
- J.P. Morgan Securities
- Asset Management
- Global Funds Management
- Global Institutional Business
- North America Institutional

- Banking
- Corporate Banking
- Global Investment Banking
- Investment Bank Industry Coverage
- Corporate Finance Advisory
- Mergers & Acquisitions
- Origination, Equity & **Debt Capital Markets**
- Treasury Services

- Markets
- Global Commodities
- Global Credit Trading & Syndicate
- Global Emerging Markets
- Global Equities
- Global Foreign Exchange
- Public Finance
- Global Rates
- Global Research Sales & Marketing
- Global Securitized Products
- Investor Services
- Agency Clearing, Collatera Services Management & Execution
- Custody & Fund Services
- Financing & Prime Brokerage

- Government, Not for Banking Profit and Healthcare

Middle Market Banking

- Corporate Client Banking
- International Banking
- Real Estate Banking
- Commercial Term Lending
- **Development Banking** Community
- Credit Markets & Treasury Services
- U.S. Consumer and Small Business
- Global Commercial Card
- Chase Paymentech
- ChaseNet
- Chase Offers

COMMUNITY BANKING CONSUMER &

- Consumer Banking
- Chase Wealth Management
- **Business Banking**
- Mortgage Banking Borrower Assistance
- Capital Markets
- Core Servicing
- Default
- Card Services Originations
- Commerce Solutions

- Auto Finance



J.P. Morgan Asset Management

J.P. MORGAN CHASE

Renewable energy for

100%

of the firm's global power by 2020

\$1.75

over the next 5 years

philanthropic investments

Global Brand of global large banks

\$10+

annual technology budget

J.P. MORGAN ASSET MANAGEMENT =

\$345

annual research budget

~500

strategies across 60+ investment engines

1000+

investment professionals

98%

retention rate for senior portfolio management talent

NORTH AMERICA INSTITUTIONAL

103 YEARS

managing institutional assets

office locations in North America

\$360

assets under management

Manage assets for 29 out of 50

50+

of the largest healthcare orgs

length of 20 client relationships

00 N Partner to

of the largest 100 retirement plans in the U.S.

Investment strategists

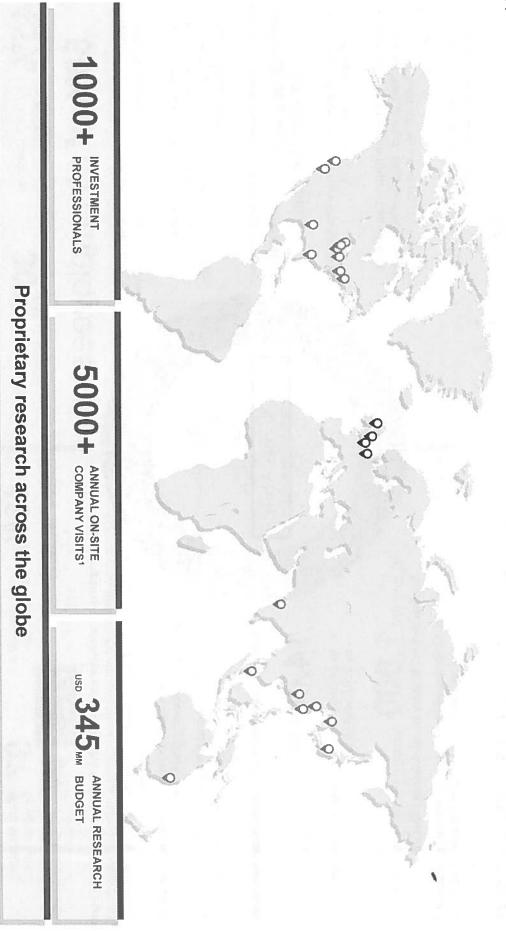
Sources: J.P. Morgan Asset Management as of December 31, 2018: JPMorgan Chase & Co. Investor Day 2018: JPMorgan Chase & Co. Annual Report 2017

in target date fund AUM



Global Reach

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



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

Women on The Move program, ~35,500 members

50% of all employees

globally, focused on women's careers and financia

The ReEntry Program creates a pathway for

through the program

break. To date, close to 150 fellows have gone women to return to the workforce after a career

30%

of senior leaders globally

48% Ethnic diversity in US employees

器BOLD Black Organization for Loadership Dovelopmen

Black Managing Adelante

- 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

ASPIRE



LGBT Executive Council

- Consists of "out" senior leaders who serve as advocates for the community
- Equal to build software solutions through Force for "A Workplace Divided" study and working with Out & Sponsored the Human Rights Campaign's
- 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.
- Awarded 1,000 mortgage free homes to military
- Support veteran-owned small businesses through special financial products at Chase and invest \$4.2 million in organizations that support veteran entrepreneurs

families through Military Home Awards Program



and Ally Resource Group



JPMC veteran mentoring program



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

J.P.Morgan Asset Management

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

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)

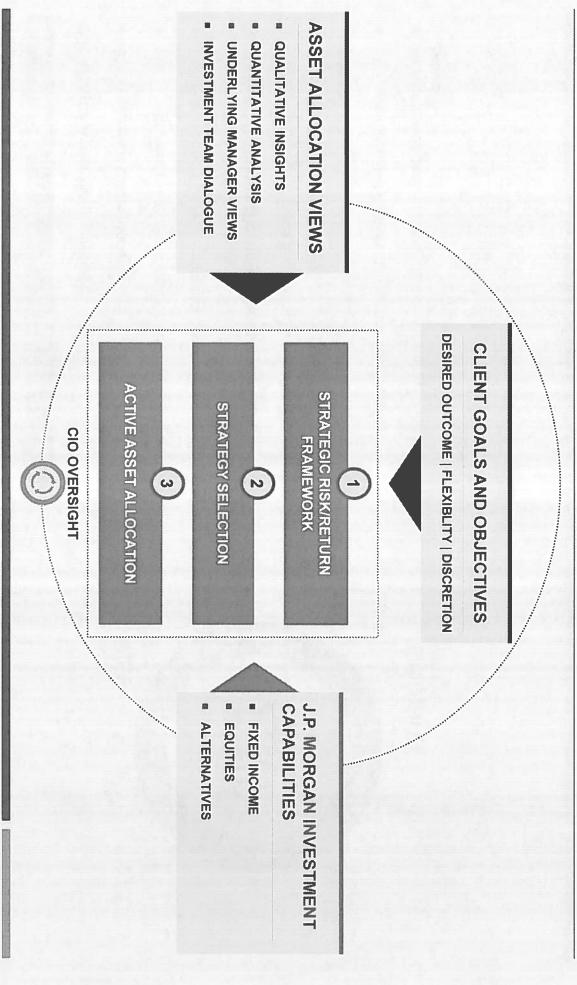
- 45 year track record managing institutional portfolios
- Over \$37bn in institutional Assets Under Management globally
- 2018 Institutional Multi-Asset Manager of the Year
- #1 recognized discretionary institutional investment manager provider²



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



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
- than T+3 settlement and T-3 notification requirements Liquidity constraints: Commingled investment vehicles must have at least monthly liquidity under normal conditions with no more

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

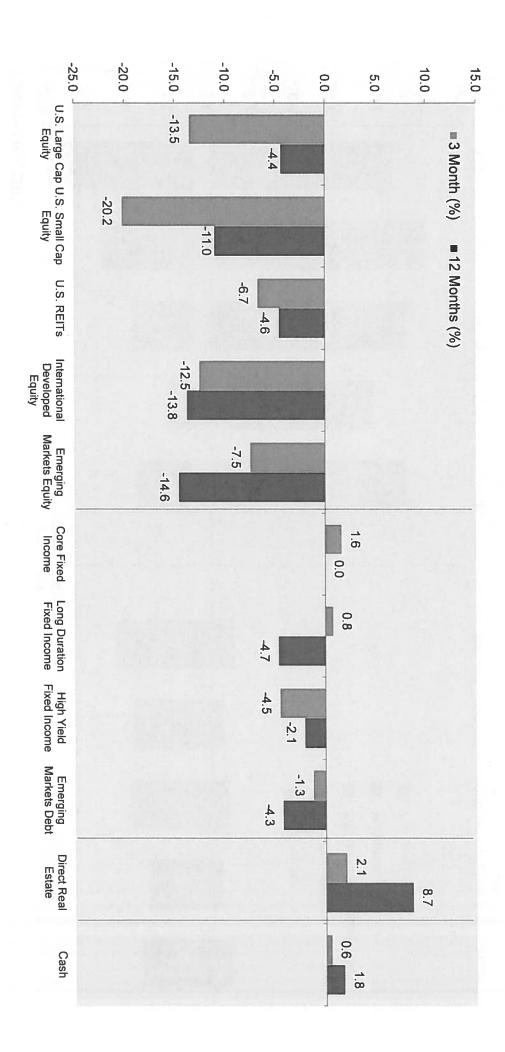


Market Review

Asset Mana



Global market performance in the fourth quarter of 2018

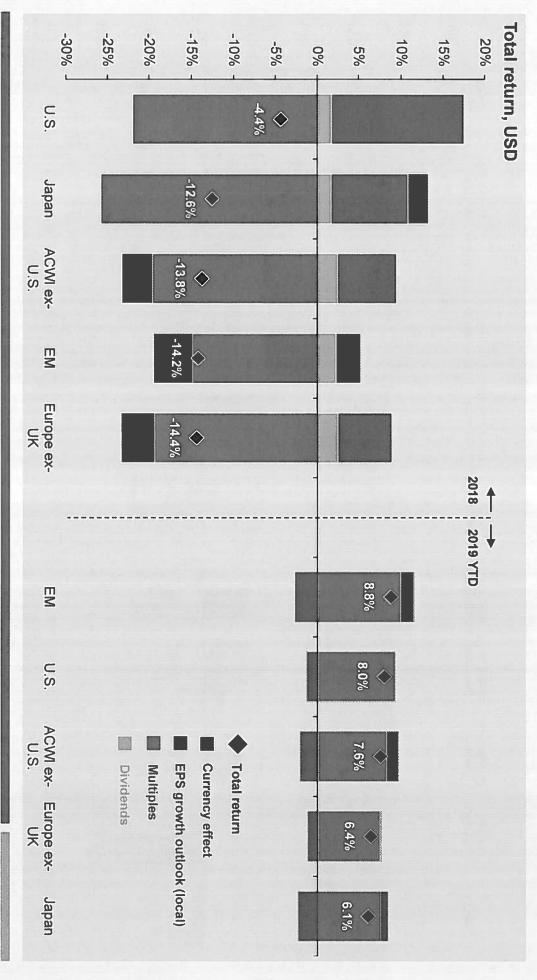


future results. J.P. Morgan Asset Management, Multi-Asset Solutions; as of 12/31/2018. Note: All data shown is representative of U.S. dollar denominated index returns. Past performance is no guarantee of



Global equity markets: Returns

Sources of global equity returns*



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. 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

J.P.Morgan Asset Management

Portfolio Update

Investment Performance

January 31, 2019

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

^{*}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.

Current portfolio positioning

January 31, 2019

Stratany	Market Value	Strategic Allocation	Current Allocation	(+/-)
IPMorgan 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 Fund1	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	5,292,096	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	20,868,560	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 Warkets 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%
1	405 400 507	100 000/	100 00%	0 00%
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

2777	OA 45	24.40	25 40	C5 45	27.50	27
Strategy	7 500/	G1 10	E 200/	E 760/	G4 10	2 06% 1 1 2 1 C
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%
1	10000	400 000	100 008/	100 000	4000	400
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	Year to Date	One Year	Three Years	Five Years	Seven Years	Seven Years Since Inception Inception Date	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%	
Excess Return	0.13%	-0.32%	0.13%	-2.29%	-0.99%	-1.26%	٠	-0.64%	
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%	
Excess Return	0.74%	0.23%	0.74%	0.50%	1.11%	0.27%		0.69%	
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%	
Excess Return	-0.23%	0.35%	-0.23%	-0.54%	-1.59%	-0.44%		-0.49%	
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%	
Excess Return	-0.26%	0.87%	-0.26%	-4.49%	-2.11%	-1.34%	-1.48%	-1.51%	
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%	
Excess Return	0.46%	-0.09%	0.46%	-2.49%	-1.23%	-0.31%	-0.66%	-0.34%	
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%	
Excess Return	1.08%	1.02%	1.08%	-1.87%	-0.89%	-0.03%	-0.33%	-0.20%	

distribution. Returns for periods less than 1 year are not annualized. Discrepancies in excess return may appear due to rounding. 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 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



Investment Performance

January 31, 2019

	O								
	Month	Three Months Year to Date	Year to Date	One Year	Three Years		Seven Years	Five Years Seven Years Since Inception Inception Date	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%	
Excess Return	0.09%	-0.99%	0.09%	-0.73%	2.51%	1.43%	1.20%	1.33%	
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%	
Excess Return	0.23%	-0.19%	0.23%	-0.62%	-1.59%	-0.85%	-0.95%	-0.78%	
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%	
Excess Return	-0.54%	-1.78%	-0.54%	-3.17%	-1.76%	-1.26%	0.95%	0.48%	
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	NA	
Excess Return	0.22%	-0.19%	0.22%	-0.98%	N/A	NIA	NVA	NVA	
Bloomberg Barclays U.S. TIPS Index (Series-L)	1.35%	2.39%	1.35%	0.93%	N/A	N/A	N/A	N/A	
Excess Return	-0.01%	-0.72%	-0.01%	-0.28%	NVA	N/A	NVA	NVA	

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

No.								F	PREF	ERE	NCE	ВУ	ASS	ET C	LAS	s											-GL/e	MAIN			Asset class
TO THE	F	X			CRE	DIT		50	OVE	REIG	IN F	IXEC) IN	CON	ΛE	RE ES	AL T			EC	UIT	IES					CLASSES	MAIN ASSET			
JPY	GBP	EUR	USD	Emerging markets debt	European high yield	U.S. high yield	Investment grade	Australian gov't bonds	Canadian gov't bonds	Japanese JGBs	UK Gilts	Euro, periphery (BTP)	Euro, core (Bund)	U.S. TIPS	U.S. Treasuries	U.S. REITS	Direct Real Estate	Emerging markets	Asia Pacific ex-Japan	Japan	CK	Europe ex-UK	U.S. small cap	U.S. large cap	Cash	Real Estate	Commodities	Credit	Duration	Equities/Bonds	Opportunity set
																															Chg
)>		4							Þ					>				4		4		4	4		Þ					4	Neg
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Negative
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	•	0	0	0	0	0	0	0	0	Neutrai
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0	0	0	0	0	0	0	0	٥	0	0	0	0	0	ò	٥	0	0	0	0	0	0	0	0	٥	٥	0	0	0	9	0	VĐ.
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	No.
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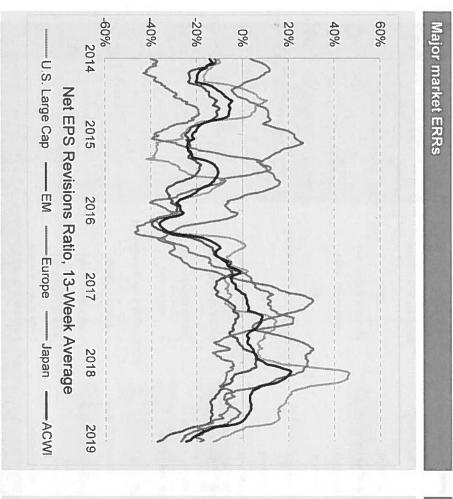
Key takeaways

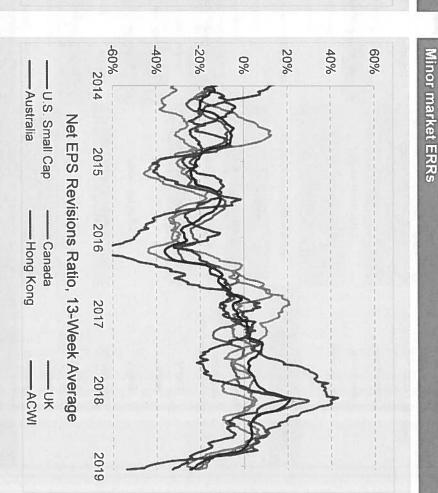
- Global growth slowing to trend but US recession risk low for now
- Tighter policy means less slack to absorb shocks
- U.S. duration and USD cash attractive on positive real yields
- Slowing second derivative of EPS growth; limited upside to stocks
- Defensive stance favors U.S. stocks; UW to EM and 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

with forecasts, projections and other forward statements, actual events, results or performance may and serve as an indication of what may occur. Given the inherent uncertainties and risks associated statements are based upon current beliefs and expectations. They are for illustrative purposes only are those held by the author at the date of publication which are subject to change and are not to be views should not be construed as a recommended portfolio. The opinions and views expressed here direction and strength of conviction, but is independent of portfolio construction considerations. These 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 and information up to November 2018. For illustration only. These asset class views apply to a 12- to Source: J.P. Morgan Asset Management Multi-Asset Solutions; assessments are made using data differ materially from those reflected or contemplated. taken as or construed as investment advice. Forecasts, projections and other forward looking



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.

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

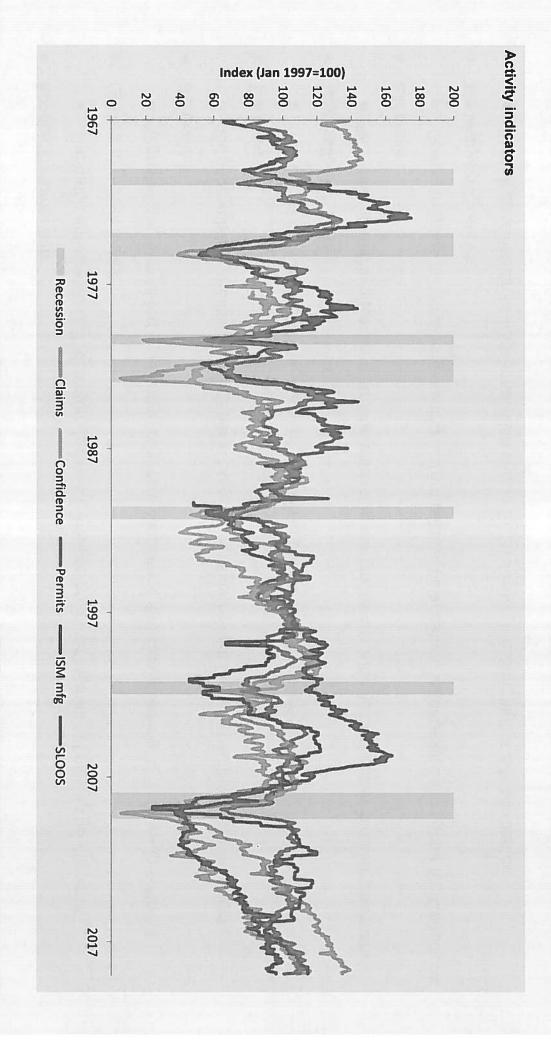
Source: JPMAM Global Multi-Asset Strategy; assessments as of January 2019.



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

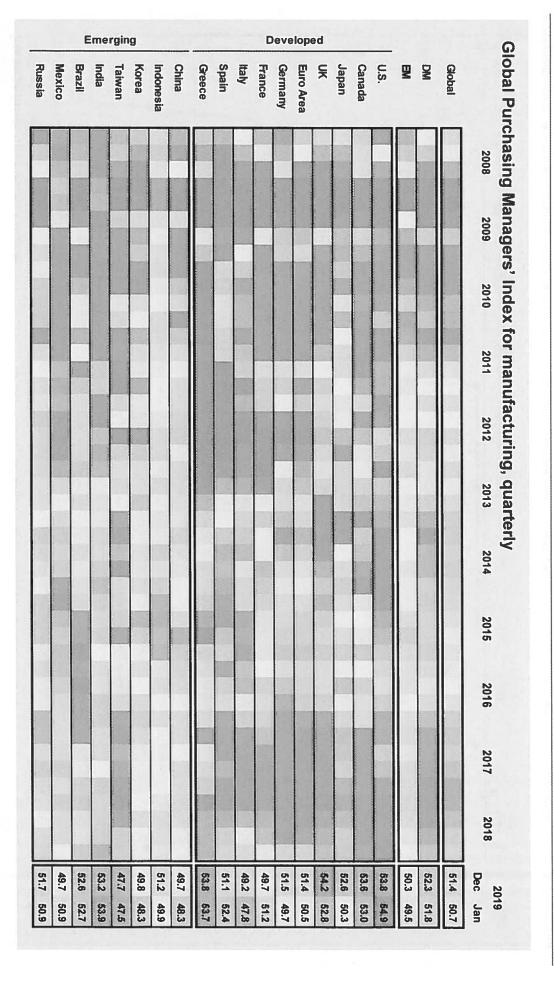
Recessions are generally preceded by high-frequency changes in momentum



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



Manufacturing momentum

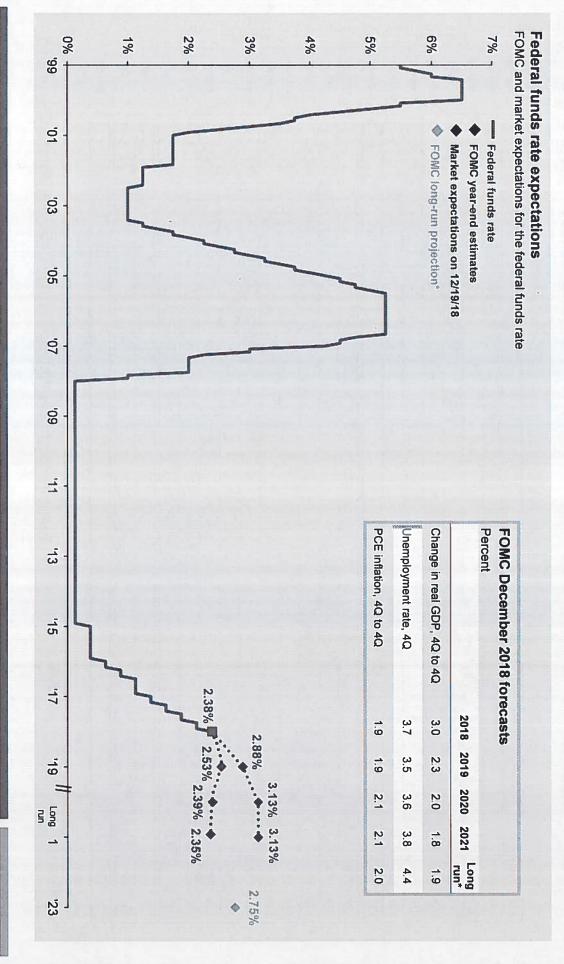


Source: Markit, J.P. Morgan Asset Management.

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. 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



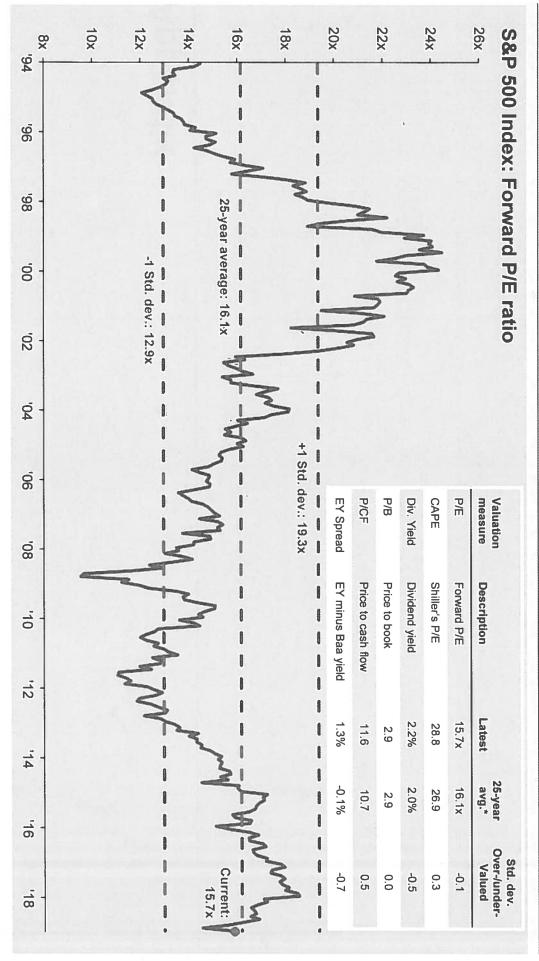
The Fed and interest rates



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



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

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. 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 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-





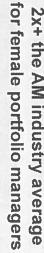
Commitment to Diversity and Inclusion: Spotlight on our women's initiatives

50% OF J.P. MORGAN CHASE EMPLOYEES

OPERATING COMMITTEE 45% OF THE

GLOBAL LEADERSHIP 30% OF THE

2x+ the AM industry average









GRACE KOO









SMART-

EQUITY













U.S. EQUITY



CORE BOND









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2018 Women's Summit

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

Women on the Move

JPMORGAN CHASE & CO.



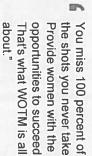


Keynote Speakers

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

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





Sam Saperstein

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

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

mandates based client First values-

1990s

Teams established Corporate Governance **Proxy Committee and**

2007

Signatory to the Principles for Responsible Investing

2016

Established Investment Sustainable Leadership Team

Today

approaches to Sustainable Investing across four Solutions offered

We offer solutions across four approaches to sustainable investing

Definition

Our Capabilities:

BASED SCREEN VALUES/NORMS Avoiding certain companies or industries that do not align

with investor values or meet other norms or standards

Equity, Fixed Income, Hedge Fund Solutions

Equity, Fixed Income, Infrastructure, Real Estate, Hedge Fund Solutions, Private Equity

ESG INTEGRATION

investment decision making process Explicit consideration of material ESG factors in the

Equity

performance relative to industry peers Investment in companies based on positive ESG

BEST IN CLASS/TILT

IMPACT/THEMATIC

themes or assets related to sustainability Investments based on specific environmental or social

Fixed Income, Private Equity

The 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

U.S. Equity	One Month	Three Months Year to Date	Year to Date	One Year	Three Years	Five Years	Seven Years	Since Inception*
U.S. Research Enhanced Equity ¹	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%
Excess Return	0.23%	0.61%	0.23%	-0.64%	-0.55%	-1.06%	N/A	-0.43%
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%
Excess Return	0.08%	-0.29%	0.08%	-3.05%	-0.92%	N/A	N/A	-1.04%
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%
Excess Return	1.43%	0.36%	1.43%	1.51%	2.16%	0.44%	NIA	1.31%
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%
Excess Return	0.10%	0.06%	0.10%	-0.67%	-0.08%	-0.09%	N/A	-0.10%
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%
Excess Return	0.07%	0.09%	0.07%	0.40%	-0.39%	-0.05%	NIA	-0.26%
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%
Excess Return	-0.74%	0.48%	-0.74%	-2.12%	-3.05%	-0.46%	N/A	0.36%



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

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%
Excess Return	0.39%	0.49%	0.39%	4.68%	0.02%	-0.20%	N/A	-1.13%
International Research Enhanced Equity	6.44%	1.13%	6.44%	-13.32%	N/A	NIA	NA	-4.63%
MSCI EAFE	6.57%	1.27%	6.57%	-12.51%	N/A	NA	N/A	-3.20%
Excess Return	-0.13%	-0.14%	-0.13%	-0.81%	N/A	N/A	NVA	-1.43%
International Advantage Fund 1	7.94%	0.69%	7.94%	-15.03%	5.66%	2.14%	NIA	5.19%
MSCI EAFE	6.57%	1.27%	6.57%	-12.51%	7.74%	2.66%	N/A	5.66%
Excess Return	1.37%	-0.58%	1.37%	-2.52%	-2.08%	-0.52%	N/A	-0.47%
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%
Excess Return	1.69%	2.87%	1.69%	0.36%	1.16%	1.80%	0.88%	1.11%
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%
Excess Return	0.18%	-1.77%	0.18%	-4.63%	-3.18%	-2.06%	-1.73%	-1.70%



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

Global Credit	One Month	Three Months Year to Date	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
Excess Return	-0.12%	-0.32%	-0.12%	-0.11%	NIA	N/A	NIA	N/A
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%
Excess Return	0.18%	-0.27%	0.18%	-0.11%	N/A	N/A	N/A	0.07%
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%
Excess Return	0.27%	-0.09%	0.27%	-1.42%	N/A	N/A	N/A	-1.32%
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%
Excess Return	0.23%	-0.19%	0.23%	-0.62%	-1.59%	-0.85%	-0.78%	-0.95%
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%
Excess Return	-0.54%	-1.95%	-0.54%	-3.34%	-1.77%	-1.49%	-2.08%	-1.42%



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

Global Real Assets	One Month	One Month Three Months Year to Date	Year to Date	One Year	Three Years	Five Years Seven 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%
Excess Return	-0.26%	0.87%	-0.26%	-4.49%	-2.30%	-1.28%	-1.36%	-1.21%
Inflation Managed Bond	1.24%	0.87%	1.24%	0.47%	NA	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%
Excess Return	0.12%	-0.99%	0.12%	-1.16%	NIA	N/A	N/A	-0.69%
iShares Barclays TIPS Bond	1.42%	2.45%	1.42%	0.84%	NA	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	NA	N/A	0.89%
Excess Return	0.07%	0.06%	0.07%	-0.09%	NVA	NVA	N/A	-0.09%



Performance is shown net of fees. Past performance is no guarantee of future results.
* Since inception date is inception date of the strategy

Total Portfolio Policy

Benchmark			
From	6/30/2011	1/1/2013	11/1/2017
То	12/31/2012	10/31/2017	Present
MSCI AC World IMI USD	59.50%	70.00%	ı
MSCI AC World Free USD	ı	•	70.00%
FTSE EPRA/NAREIT Developed Net of Tax	8.00%	10.00%	1
Bloomberg Barclays U.S. Aggregate	26.00%		20.00%
Bloomberg Barclays Credit	ı	13.00%	
BofA Merrill Lynch HY	3.25%	t	1
Bloomberg Barclays HY 2 pct Issuer Constrained		3.00%	ľ
JPMorgan EMBI Global Diversified	3.25%	ı	
JPMorgan GBI-EM Global Diversified	1	3.00%	9
JPMorgan EMBI Global	a	1.00%	,
Bloomberg Barclays 1-10 Year U.S. TIPS Index	i.	6	•
Barclays US TIPS +3%	Ε	ı	10.00%

Total Portfolio Custom Benchmark

							Martin Control of the	Towns or the second sec				
From	6/30/2011	5/1/2012	6/1/2012	1/1/2013	7/1/2014	4/1/2015	1/1/2016 10/1/2016		2/1/2017 11/1/2017 9/1/2018	11/1/2017		11/30/2018
То	4/30/2012	5/31/2012	12/31/2012 6/30/2014	6/30/2014	3/31/2015	3/31/2015 12/31/2015	9/30/2016	9/30/2016 1/31/2017 10/31/2017 8/31/2018 11/30/2018	10/31/2017	8/31/2018 1	1/30/2018	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		1	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%	•			i	.1	•			1	
Russell 2000 Value		1.50%		,	•			•	1	1		
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		ı			r				•	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 4)	1.00%	1.00%	4.00%	4.00%	3.00%	3.00%	3.00%
JPMorgan GBI-EM Global Diversified	ù.			1.00%	3.00%	3.00%	3.00%	1	1	ı		1
JPMorgan EMBI Global	0.60%	3.25%	3.25%	3.00%	1.00%	•		٠		1		1
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)							ı	ı		2.25%	2.50%	2.50%
Bloomberg Commodity Index										1.25%		
Diversified Mutual Fund Index	63.80%			-		a v		,	ī			•



Multi Cap Equity Custom Benchmark

Russell 3000 Growth	To Russell 3000 Value	4/30/2012 Present 50.00%
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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
То	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%	1	1	1	ı	
Russell 2000 Growth	50.00%	ı	-	b to the state of	(1

REITs Custom Benchmark

4/30/2012 12/31/2012 10/31/2017 50.00% 56.25% 60.00%	To MSCI US REIT BY SELECTION OF THE SERVICE
6/30/2011 5/1/2012 1/1/2013 11/1/2017	From



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

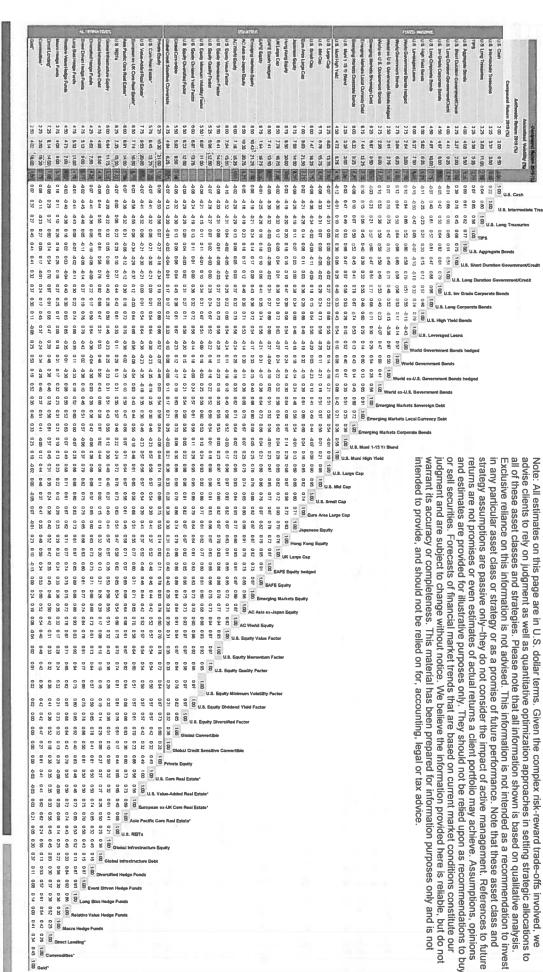
From	6/30/2011	4/1/2015	1/10/2016
То	3/31/2015	9/30/2016	Present
JPMorgan EMBI Global Diversified		25.00%	100.00%
JPMorgan GBI-EM Global Diversified Unhedged	75.00%	75.00%	
JPMorgan EMBI Global	25.00%	•	1

EMD Strategic Custom Benchmark

EMD offatefic custom benchmark		
From	12/31/2012	10/1/2016
То	9/30/2016	Present
JPMorgan EMBI Global Diversified		100.00%
JPMorgan GBI-EM Global Diversified	100.00%	



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



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 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



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J.P. Morgan Asset Management

into account all of the particular facts and circumstances of an investor's own situation. 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 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 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 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 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

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of firm recommendations for the past year are available upon request. 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

performance will vary on individual portfolio security selection and the applicable fee schedule. Fees 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

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% fees were calculated on a monthly basis, which shows the maximum effect of compounding (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

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.

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OHA BOT Policy Workshop Update



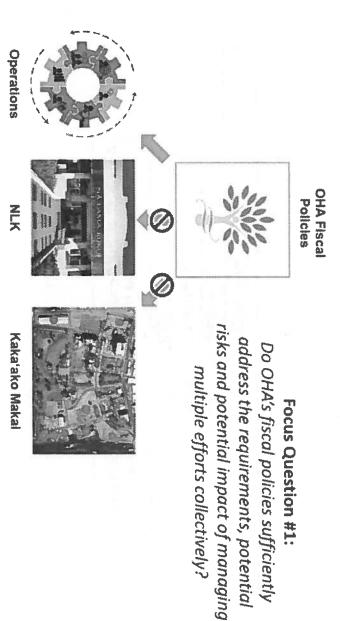
March 13, 2019

Objective and Agenda

- Objective
- Update on path toward the development of the recommended fiscal policies
- Agenda
- 1. Recap of workshop #1
- 2. Financial policies overview and next steps



disconnect between the existing policies and the current multi-faceted nature of OHA. To lay the foundation for the workshop, a problem statement was posed to the Trustees that highlights the



policy

asset strategy

Legal structures
Land policy

strategy

policy

Policy Real estate **Debt Policy**

Investment

Investment Policy Real estate asset

Debt Policy

Spending

Fiscal reserve

Policies and policy documents require logic and structure.

Article XII of the Constitution of the State of Hawai'i Chapter 10 of Hawai'i Revised Statutes

BOT Bylaws & Policies

OHA Procedures



Financial Policies

Debt

- Conditions before debt is incurred:
- Repayment source
- Benefit/gain to OHA
- Favorable due diligence analysis
- Recurring debt capacity study

Investment & Real Estate

- Separate policies for financial securities from real estate/equity interests
- Remove geographical distinction and HDIP cap
- Establish blended rate of return, robust real estate plan, and advisory committee

Economic Development

Spending

Introduction of cost centers to budgeting

Define spending vs. investment

- Socio-economic value of projects
- Identify appropriate operating structures for each project
- How does the project fit within OHA's strategic plan?



- Internal vetting
- Identification of key resources
- OHA needs a governance structure that reflects policy goals and objectives

