PHONE (808) 594-1888

#### FAX (808) 594-1865

#### Committee on Resource Management

Trustee John Waihe'e IV, At-Large - Chair

Trustee Luana Alapa, Moloka'i / Lāna'i - Vice Chair

Members

Trustee Dan Ahuna, *Kaua'i / Ni'ihau* Trustee Kaleihikina Akaka, *O'ahu* Trustee Keli'i Akina, *At-Large* 

Trustee Brickwood Galuteria, At-Large Trustee Carmen Hulu Lindsey, Maui Trustee J. Keoni Souza, At-Large Trustee Mililani Trask, Hawai'i Island



# STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS

# MEETING OF THE COMMITTEE ON RESOURCE MANAGEMENT (RM)

DATE: Wednesday March 6, 2024

**TIME**: 10:00 a.m.

**PLACE**: Remote Meeting by Interactive Conference Technology

and in-person at OHA Mauli Ola Boardroom

Nā Lama Kukui 560 N. Nimitz Hwy. Honolulu, HI. 96817

viewable at <a href="https://www.oha.org/livestream">https://www.oha.org/livestream</a> OR

Listen by phone: (213) 338-8477, Webinar ID: 863 4000 3303

This virtual meeting can be viewed and observed via livestream on OHA's website at www.oha.org/livestream or listened to by phone at: (213) 338-8477, Webinar ID: 863 4000 3303. A physical meeting location, open to members of the public who would like to provide oral testimony or view the virtual meeting, will be available at 560 N. Nimitz Hwy., Suite 200, Honolulu HI 96817.

# **AGENDA**

- I. Call to Order
- **II.** Approval of Minutes
  - A. February 7, 2024
- III. Unfinished Business None
- IV. New Business
  - A. The Native Hawaiian Trust Fund (NHTF) Investment Portfolio Review for the Quarter Ending December 31, 2023
  - B. Consequent Capital Management
    - 1. Recommendations for the Native Hawaiian Trust Fund (NHTF)
  - C. Presentation by Administration on Event Sponsorship Grants
- V. Announcements

#### VI. Adjournment

If you need an auxiliary aid/service or other accommodation due to a disability, please contact Everett Ohta at (808) 594-1988 or by email at everetto@oha.org as soon as possible. Requests made as early as possible have a greater likelihood of being fulfilled. Upon request, this notice is available in alternate/accessible formats.

Meeting materials for this meeting will be available for the public to view 48 hours prior to this meeting at OHA's main office located at 560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817. Meeting materials will also be available to view at OHA's neighbor island offices and will be posted to OHA's website at: <a href="https://www.oha.org/rm">www.oha.org/rm</a>.

In the event that the livestream or the audiovisual connection is interrupted and cannot be restored, the meeting may continue as an audioonly meeting through the phone and Webinar ID listed at the beginning of this agenda. Meeting recordings and written meeting minutes are posted to OHA's website.



# STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS

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

<u>Public Testimony</u> will be called for each agenda item and <u>must be limited</u> to those matters listed on the meeting agenda. Hawai'i Revised Statutes, Chapter 92, Public Agency Meetings and Records, prohibits Board members from discussing or taking action on matters not listed on the meeting agenda.

Testimony can be provided to the OHA Board of Trustees either as: (1) written testimony emailed at least 24 hours prior to the scheduled meeting, (2) written testimony mailed and received at least two business days prior to the scheduled meeting, or (3) live, oral testimony online or at the physical meeting location during the virtual meeting.

- (1) Persons wishing to provide *written testimony* on items listed on the agenda should submit testimony via *email* to BOTmeetings@oha.org at least 24 hours prior to the scheduled meeting or via *postal mail* to Office of Hawaiian Affairs, Attn: Meeting Testimony, 560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817 to be received at least two business days prior to the scheduled meeting. Any testimony received after these deadlines will be 'late' testimony and will be distributed to the Board members after the scheduled meeting.
- (2) Persons wishing to provide **oral testimony** online during the virtual meeting must first register at:

https://us06web.zoom.us/webinar/register/WN\_HUn-j3C6SMO-ubteTw\_u\_A

You need to register if you would like to **orally testify** *online*. Once you have completed your registration, a confirmation email will be sent to you with a link to join the virtual meeting, along with further instructions on how to provide **oral testimony** *online* during the virtual meeting.

To provide **oral testimony** *online*, you will need:

- (a) a computer or mobile device to connect to the virtual meeting;
- (b) internet access; and
- (c) a microphone to provide oral testimony.

Once your **oral testimony** *online* is completed, you will be asked to disconnect from the meeting. If you do not sign off on your own, support staff will remove you from the Zoom meeting. You can continue to view the remainder of the meeting on the livestream or by telephone, as provided at the beginning of this agenda.

(3) Persons wishing to provide **oral testimony** *at the physical meeting location* can sign up the day-of the meeting at the Nā Lama Kukui OHA lobby.

Oral testimony online or at the physical meeting location will be limited to five (5) minutes.

Oral testimony by telephone/landline will not be accepted at this time.

02/29/2024

Date

Trustee John Waihe'e, IV, Chair

Committee on Resource Management

March 6, 2024 - Continued

PHONE (808) 594-1888

#### FAX (808) 594-1865

#### **Committee on Resource Management**

Trustee John Waihe'e IV, At-Large - Chair

Trustee Luana Alapa, Moloka'i / Lāna'i - Vice Chair

Members

Trustee Dan Ahuna, *Kaua'i / Ni'ihau* Trustee Kaleihikina Akaka, *O'ahu* Trustee Keli'i Akina, *At-Large* 

Trustee Brickwood Galuteria, At-Large Trustee Carmen Hulu Lindsey, Maui Trustee J. Keoni Souza, At-Large Trustee Mililani Trask, Hawai'i Island



# STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS

# MEETING OF THE COMMITTEE ON RESOURCE MANAGEMENT (RM)

DATE: Wednesday March 6, 2024

**TIME**: 10:00 a.m.

**PLACE**: Remote Meeting by Interactive Conference Technology

and in-person at OHA Mauli Ola Boardroom

Nā Lama Kukui 560 N. Nimitz Hwy. Honolulu, HI. 96817

viewable at https://www.oha.org/livestream OR

Listen by phone: (213) 338-8477, Webinar ID: 863 4000 3303

This virtual meeting can be viewed and observed via livestream on OHA's website at www.oha.org/livestream or listened to by phone at: (213) 338-8477, Webinar ID: 863 4000 3303. A physical meeting location, open to members of the public who would like to provide oral testimony or view the virtual meeting, will be available at 560 N. Nimitz Hwy., Suite 200, Honolulu HI 96817.

# **AGENDA**

- I. Call to Order
- **II.** Approval of Minutes

A. February 7, 2024

- III. Unfinished Business None
- IV. New Business
  - A. The Native Hawaiian Trust Fund (NHTF) Investment Portfolio Review for the Quarter Ending December 31, 2023
  - B. Consequent Capital Management
    - 1. Recommendations for the Native Hawaiian Trust Fund (NHTF)
  - C. Presentation by Administration on Event Sponsorship Grants
- V. Announcements

#### VI. Adjournment

If you need an auxiliary aid/service or other accommodation due to a disability, please contact Everett Ohta at (808) 594-1988 or by email at everetto@oha.org as soon as possible. Requests made as early as possible have a greater likelihood of being fulfilled. Upon request, this notice is available in alternate/accessible formats.

Meeting materials for this meeting will be available for the public to view 48 hours prior to this meeting at OHA's main office located at 560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817. Meeting materials will also be available to view at OHA's neighbor island offices and will be posted to OHA's website at: <a href="https://www.oha.org/rm">www.oha.org/rm</a>.

In the event that the livestream or the audiovisual connection is interrupted and cannot be restored, the meeting may continue as an audioonly meeting through the phone and Webinar ID listed at the beginning of this agenda. Meeting recordings and written meeting minutes are posted to OHA's website.

# STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS 560 N. NIMITZ HIGHWAY, SUITE 200 (VIRTUAL MEETING - VIA ZOOM WEBINAR)

#### **COMMITTEE ON RESOURCE MANAGEMENT MINUTES**

February 7, 2024 1:30 p.m.

#### **ATTENDANCE:**

Chairperson John Waihe'e, IV Vice-Chairperson Luana Alapa Trustee Dan Ahuna Trustee Kaleihikina Akaka Trustee Keli'i Akina Trustee Brickwood Galuteria Trustee C. Hulu Lindsey Trustee J. Keoni Souza Trustee Mililani Trask

#### **BOT STAFF:**

Anuhea Patoc Crayn Akina Joyce Yang Kanani laea Kyla Hee Lei Ann Durant Melissa Wennihan Morgan Kaui Robello Pohai Ryan

## **BOT STAFF (cont.):**

Richelle Kim Ruben Sierra Sommer Soares

#### **ADMINISTRATION STAFF:**

Stacy Ferreira, CEO / Ka Pouhana Casey Brown, COO / Ka Pou Nui Dave Kozuki, IT Everett Ohta, Interim General Counsel Kevin Chak, IT Nietzsche Ozawa, Interim Senior Legal Counsel Ramona Hinck, CFO Ryan Lee, Endowment Director Sandra Stancil, Administration Tiger Li, IT

Gerry Flintoft, Consequent Capital Management Kuan Yuan, Former CIO, Hawai'i EUTF Rodney June, LACERS CIO Steve Edmundson, Investment Officer, Nevada PERS Vijoy Chattergy, Consequent Capital Management

### I. CALL TO ORDER

**Chair Waihe'e** calls the Committee on Resource Management meeting for Wednesday, February 7, 2024 to order at **1:31 p.m.** 

Chair Waihe'e notes for the record that PRESENT are:

MEMBERS			AT CALL TO ORDER (1:31 p.m.)	TIME ARRIVED
CHAIR	JOHN	WAIHE'E, IV	PRESENT	
VICE-CHAIR	LUANA	ALAPA	PRESENT	
TRUSTEE	DAN	AHUNA	PRESENT	
TRUSTEE	KALEIHIKINA	AKAKA	PRESENT	
TRUSTEE	KELI'I	AKINA	PRESENT	
TRUSTEE	BRICKWOOD	GALUTERIA	PRESENT	
TRUSTEE	C. HULU	LINDSEY	PRESENT	
TRUSTEE	J. KEONI	SOUZA	PRESENT	
TRUSTEE	MILILANI	TRASK	PRESENT	

At the Call to Order, **NINE (9) Trustees are PRESENT**, thereby constituting a quorum.

# II. APPROVAL OF MINUTES

None

#### III. UNFINISHED BUSINESS

None

### IV. NEW BUSINESS

A. Consequent Capital Management Investment Education Sessions (Terms and Concepts)

Chair Waihe'e asks if there is anyone signed-up to testify on this agenda item.

RM Staffer Akina: No one has signed-up to testify on this agenda item.

Chair Waihe'e turns it over to Independent Board Investment Advisor Vijoy Chattergy.

**Independent Board Investment Advisor Chattergy:** Aloha kākou Chair, Trustees, Ka Pouhana, aides, staff and other interested parties. Thank you again for having Consequent Capital Management in front of you today. My name is Vijoy Chattergy, I serve as the Chief Investment Officer on behalf of Consequent Capital Management, and our role is to be the Board Consultant for OHA.

Today, we're going to go through the usual routine that we're establishing in terms of appearing in front of the RMC and I will direct you to our presentation material. The first couple of pages are an intro and background on our organization. I think you already are familiar with that, so if you could go to page 5, that's where we're going to start today's session.

The first part, what we like to do in our presentations is to review the last time we were in front of you, which was actually only last week. We had a manager come and present, Pantheon Capital, which is a private markets investor for OHA. It has been an investor for some 20 years and it had been about four years since the last time they were in front of you.

So, we're trying to establish a routine of getting your managers in front of you more regularly. We had one of their senior people come and present. Ryan Lee and I actually met with the manager after the presentation, and we received further insight into what they're doing and what they have done on behalf of OHA and its other investors.

You recall that they're a global investor. They invest in private equity markets which include something called primary markets, investing in funds directly, investing in secondaries, which are taking positions after those funds have come to market when they find good ones. Then doing co-investments, where they partner with their investors like OHA, to do an investment into either the fund or a particular project or company within those funds, and those are done at reduced fees.

So, all of those sorts of investments are open to OHA. The last commitment made to Pantheon was actually in 2014, but the investment period is ongoing, so they're continuing to make investments in those commitments that were made there then, and they are holding those assets to maturity on behalf of OHA, so you'll continue to see positive returns, we hope, from Pantheon over time.

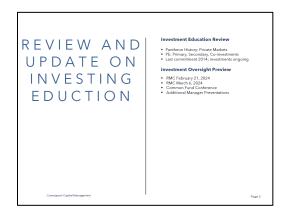
That does lead us to some conversation and questions that we'll bring back in front of the RMC related to the pacing of commitments and the role of the private equity program in the portfolio.

So, if we go down to the investment oversight section, that leads into where we're going to go after this meeting. Today's meeting, we're going to go through some investment concepts; we have a terrific panel of CIOs and a former CIO - to talk to you about what they do.

On the 21st of this month there's another RMC Meeting, and so what we'd like to do is come back in front of the Trustees and present some observations we've made in terms of the investment portfolio and the program as well as your policies.

At the March 6<sup>th</sup> meeting, what we'd like to do is to come back and then make actual recommendations based on those observations. Then sometime after the Commonfund event, when you have your meeting in March, we hope that the Trustees will be able to take action on those recommendations and make changes to policies as you see fit.

**Independent Board Investment Advisor Chattergy:** In the course of those meetings, it's our intention to meet with the Trustees individually, with staff as well, to make sure that we're all on the same page in terms of what we're seeing and what potential changes, if necessary, can be. So, we want to get a lot of input before we make our observations, and before we make our recommendations.

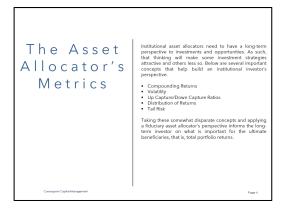


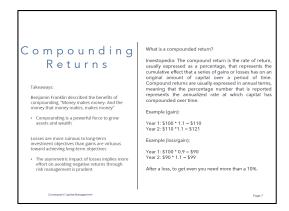
**Independent Board Investment Advisor Chattergy:** That's going to be the timetable as we move forward. In addition to that, at these meetings on an ongoing basis, we'll continue to invite your various service providers / fund managers to come and talk about their strategies with you and what they do. I think that's important before we make any real changes to the portfolio structure, which is separate from the policy structure. We understand who those managers are, what they do and how they fit in the portfolio. So that's the game plan.

Before we go to the panel of CIOs, if I could turn your attention to page six of the presentation, I'd like to go through a few investment concepts. Now, these concepts can be very dense and very nuanced, but I'm going to try to go through them fairly quickly, to present them to you in the perspective of how it's valuable to a Trustee overseeing a portfolio, as opposed to getting into the minutia. We can always go into the minutia if you have questions, or if you'd like to meet separately, that's something that's certainly available in terms of ongoing education.

Independent Board Investment Advisor Chattergy: I'm always learning more in terms of these concepts myself, but for the purpose of running the portfolio, that's the perspective I'd like to do, and again, as an institutional asset allocator, the key strength of being who OHA is, is that you're a long-term investor. There are opportunities that short-term investors can take advantage of, but your strength is that you're investing into perpetuity. So, there's certain kind of investments that other investors cannot take advantage of, because they don't have the long-term perspective that you do, so we try and capture that.

So, the areas that I'm going to cover is something called Compounding Returns, Volatility, Up capture / Down capture ratios, Distribution of Returns and Tail Risk, and again we'll move fairly quickly, but if you have questions we can come back, and I can speak with you individually, with your aides, with staff later.





**Independent Board Investment Advisor Chattergy:** If you turn to page seven, there's a lot of information there about Compounding Returns, and this is really a growth concept. So, the reason I'm putting this in front of you is because as an institutional investor, how you think about growing the portfolio, and the importance of compounding. It is something that if you go back to Benjamin Franklin, one of the founders of the United States - what he felt and is purportedly to have said is that compounding is one of the greatest inventions of human beings, because of its power to grow assets over time.

And, in fact, what he had done was back in the eighteenth century, he put aside money and specified that it should be allowed to grow at a compounding rate over time, for 100 years, and then 200 years, and so in I think everyone's lifetime, here the distribution of the assets that he put away in his lifetime grew to about 30 million dollars, which he put aside for the city of Boston and the city of Philadelphia.

So, in 1991, those two cities received the proceeds of that compounding, which was about 30 million. Maybe in today's numbers, in terms of city budgets, 30 million, that goes pretty quickly. But if you think - that money was just put away and allowed to grow over time.

I kind of think of ourselves. If you knew your great grandparents and you end up knowing your great grandchildren, that's almost 200 years, if you assume a generation, is about 25 years. So, within that period, the effect of compounding was very impactful. And the importance to you as Trustees is that you want your portfolio to grow over time, and those returns will beget growth and so on. So, you always want to be thinking about, how do we grow these assets.

Another example of Compounding that a lot of people learn, maybe in sixth grade or something, I'm not saying we all learned it, but we are exposed to it is the sort of different types of compounding. We see that in our everyday lives, maybe if you have a bank account, you think about the money you put in the bank and you earn interest, or you put it into a CD savings account, and it earns a certain amount of interest over a period of time; that money is compounding. That's what the power of earning that interest is.

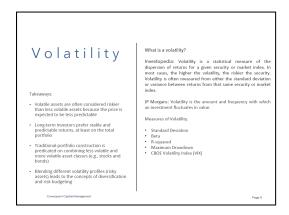
In terms of and how the assets are managed within the OHA portfolio, the important thing to keep in mind there is not only that you want to be continuing to grow those assets now, you're not growing it in a CD at a bank, you're investing it with fund managers who hopefully are creating positive returns and those positive returns on the portfolio side grow, and then that growth, those returns also are in the portfolio and continue to grow, so the portfolio grows over time.

**Independent Board Investment Advisor Chattergy:** The example I give here is a hundred dollars. If it went up 10% one year, then the next year, if that \$110 earned is kept in and it grows again by another 10%, now the portfolio grows from 110 to \$121. So, the first year you grew \$10, the second year you grew \$11, and so on, and so forth.

So compounding is very powerful, but the important part I want to emphasize here is what happens if it goes down. Because, unlike a bank account, sometimes the markets go down, and so, if the markets go down, the lesson here is that if you had \$100 and it went down 10%, it goes down to \$90, in order to get it back to break even to \$100, you don't need a 10% return. You actually need an 11% return.

So, it's an asymmetry just based on the math alone in terms of the importance of upside and downside, so one thing that we want to keep in mind is that asymmetry. For professional investors, while we all want to participate in the upside, it's really avoiding the downside that is critical. So, as we think about ways to manage the portfolio going forward, we want to really be focused-in on how can we prevent losses, because the negative impact of losses in terms of now, what you need to return, what you hope to compound at, is important.

If you lose less than the market, or your benchmark, that's actually a good thing. So that's why a lot of professional investors focus in on the downside as opposed to, how much can I return. When you're an individual you focus-in, on your high net worth. You want to know, how much can I earn, but professionals focus-in and say *how much can I lose and am I willing to lose that?* So, that's the lesson here on *compound*, there's a lot of words here, but that's the main message on that page.



**Independent Board Investment Advisor Chattergy:** If we can turn to the next page, the second concept is Volatility, and I know that Trustee Trask asked last time about the definition of *volatility*. It wasn't in the last glossary, but two presentations ago we had volatility defined, and it's in this glossary.

Volatility, think of it as a dispersion, so if you're trying to get a certain return, the volatility is the movement around that expected return. One way to think about volatility is a way to differentiate traders from investors. So, you as stewards of the OHA portfolio want to be more on the investor side. There are different ways to differentiate. *Are you a trader? Are you an investor?* 

One thing you hear from traders is they like volatility because they can trade around that; they make a lot of money. Now, as long-term investors, as institutional investors, on the whole, you don't want volatility, you want consistency, because you want to be compounding positively.

**Independent Board Investment Advisor Chattergy:** You want to know why your portfolio is behaving the way it is. Volatility is a measure of uncertainty. That's another way to think of volatility, and the more uncertainty you have in the future of your portfolio, the less beneficial that is to you as an institution.

Now, there are nuances there, I should make clear in terms of volatility. In general, traders like volatility, institutional investors don't like volatility. But just like *The Lion, the Witch and the Wardrobe*, if you read that book or read that to your kids, you know, there's always deeper truth in Narnia. So, it actually can be good to have volatility in your portfolio, but in a portfolio context, certain assets are going to be riskier, have less certain returns, and that's okay in a portfolio context. But in general, as institutional investors, I want you to think that I would much prefer a more certain return than expecting someone to trade around uncertainty.

So, further down on this page there are different types of volatility measures. Maybe one of the most famous that you would be familiar with is something called the VIX Index, which is run by an exchange called the Chicago Board of Options Exchange (CBOE). Sometimes you hear about it in the news as the fear index, because when that's up, that means the markets are fearful of returns. When it's steady or low, then markets tend to be so-called greedy, people are trying to generate returns. But these are all different ways to think about volatility.

Volatility is something that can actually be traded, in a way it's an asset class. They're traded through options and usually those options traders are the ones who have the greatest visibility into volatility. I don't have visibility into volatility, we wouldn't as an institutional investor, but you can invest with managers who trade that. They talk about volatility smiles, and it's important for pricing options to understand the value of the measures of volatility.

Independent Board Investment Advisor Chattergy: Maybe the way to think about it as an institutional investor is if you go to the grocery store and you want to buy a box of cereal for breakfast, when you go to the store you expect that cereal box to be a certain price. Now, if you come back an hour later, and the price of that cereal is different than it was an hour ago, that's the volatility, the price changing. So, if every time you went to the cereal section and the price of the box of cereal changed, you don't know what the price is. So that's why, as a buyer or an institutional investor is the equivalent here, you want more certainty in the assets. You want to know that box of cereal is going to be the same box of cereal for the same value day in, day out.

Now, a trader, might actually like the fact the box of cereal moves over time, they might say, oh, I noticed that the store discounts the cereal in the afternoon. I guess there are less people buying cereal in the afternoon, they need it for breakfast, so they're trading strategies.

They'll say, Oh, I only buy cereal on the weekends or in the afternoon, because I know they're gonna lower the price, and then the price is gonna go back up.

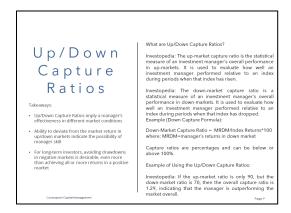
Maybe I'll sell it to you directly for the higher price later and pocket the change.

So, the volatility is the uncertainty and the price that changes around. The example of the cereal is, if you were a trader, and you're kind of trading that cereal box that you see in the grocery store.

Vice-Chair Alapa: Who sets the price?

**Independent Board Investment Advisor Chattergy:** Generally, in an economy like our own, prices should be set by the Market, Supply and Demand, fundamentals in the long-term. But there are a lot of things that can happen to prices and volatility of prices in the short-term. Someone could try to corner the market, the government could intervene and put in a stabilization program or something.

So, there are a lot of reasons why prices change, but as a long-term investor you're going to prefer more stability. There can be parts of the portfolio where volatility can be good in terms of OHA. So, there's certain managers that'll maybe have a more volatile profile than others, but you really want, as institutional investors, to have some stability because you're investing for the long-term. You want that compounding to be positive. So, there's a lot more in terms of volatility we can talk about, but let's come back to that.



**Independent Board Investment Advisor Chattergy:** Let's go on to the next concept here, which is sort of effectiveness is the way I would characterize up and down capture ratios. So, what we're trying to understand, and this is just a measure - the measure is defined there and there's a formula in terms of how you can calculate your up and down capture.

But essentially, it's an effectiveness. Because if we go, and we find a manager, say, they're trading stocks for you and we say: what's your up capture? what's your down capture ratios? We want to see that. It indicates how much of the market do they capture in an up market, and how much do they capture in a down market.

So, it could be 100%, that means it's kind of like the index, if the S&P 500, which was up near 5,000 today, so everyone's getting excited that we're near the 5,000 mark and your manager is capturing all of that, 100%, one for one, then they're basically giving you the market return.

If they're capturing more to that, then they're doing something like they're capturing 110% of return, so the market is up 100, they're up 110, so you want to know in a positive market, how does a manager perform.

Independent Board Investment Advisor Chattergy: So, the up-capture ratio is a way to do that. Now the down capture ratio talks about, what if the market's down 100 points. Is your manager also down 100 points, or are they only down 50 points, or God forbid, they're down 150 points? These are all indications of if your manager is good in these different markets. How do they perform? It isn't are they good, just by looking at the number. I think I said before, there's no one number that will tell you exactly what's going on, you need to then ask that further question.

In this last bullet point on the left here, it gives an idea of possibly what they're doing, they're doing well.

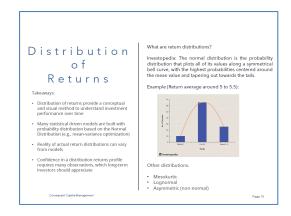
So, if a manager captures 110% of the return on the upside, that's great, we all like positive returns. But are they doing it because they're taking excess risk, like too much leverage? Are they doing it because they just got lucky, they were in the magnificent seven last year?

Those seven big tech stocks that went to the moon when everything else kind of stayed stable. But remember as institutional investors, the emphasis is downside protection. It's we don't want to lose in down markets. So, if you're losing 100% in a downside market, then you're doing what the market is doing. So, do you have any skill?

If you're only losing 50% you might have skill that might be something to pay for, *like hey*, *in a down market, we're gonna lose less, which means, when the markets turn around, I'm not compounding from where the market went down, I'm compounding from 50% higher,* which again, over the long term as an institutional investor, that's what you want to do.

You want to gain as much of the upside as you can, but you want to lose less on the downside. So, on the right side, this Investopedia example talks about an up-capture ratio of 90, which is like 90% of the market is captured in the upside, and on the downside, you'll only capture 70% of the downside, it's not 100.

But that's actually a good ratio. They show you how you can use it, you just divide the 90 by the 70. You get the 1.29, which is an indication that you're generating better returns than the market, both on the upside and the downside. I'll note that this profile is actually like a particular strategy called the covered calls or cash-secured put writing, which is a nice strategy. It's like, let's capture as much of the upside as we can, in this case, 90%, but let's only capture maybe two-thirds of the downside, which is kind of like the 70%, (66%-70%). That profile over time, as a long-term investor will put you in a very good position to be, if you're a pension fund to be fully funded, or to reach all your goals as an investor. So that's what up and down capture ratio means for you as institutional investors.



**Independent Board Investment Advisor Chattergy:** The next page, which is page 10, I'm just going to touch a little bit on Distribution of Returns. Distribution of Returns, you kind of see in these bell curve shape examples, you have both potential and actual returns that they could be showing you. So, that's an important question to ask when a manager comes to you, we have an expected return of 20 or 18% like, *is that an actual return?* No, that's an expected return.

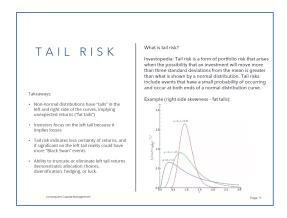
Okay well, maybe the question is, then, what's the distribution around that return? Your expected return is kind of like the average, that's what you expect to get. That's the highest point in the graph. But what's the shape of that graph?

Is it likely that you're gonna get 18-20%, or are you taking some risks? So, there's a lot of dispersion around that, that volatility, the price isn't really known, and you could actually end up with a lot less, or maybe a lot more.

As an institutional investor, even though you can get maybe a lot more if there's a wider dispersion of that distribution of returns, you really want the certainty as investors, because that allows you to run your mission, that allows you to do other things. If you know every year, you're going to get a 10% return from the portfolio, now you can plan all the other things that you need to do to fulfill your mission at OHA.

If you say, well, one year we're going to have 15%, now we're gonna have 5%, then we're going to be negative 5%. Okay, now that spending policy becomes important because, well we don't know what we're going to do. It could be anywhere from positive 10% to minus 5%, that's good to know, but that's what we're talking about with Distribution of Returns.

What does that profile look like? That's a fair question to ask managers. If they tell you, well we expect to get 8% returns over the long term. Okay, well, what is the long term, and what's the likelihood of getting that return?



**Independent Board Investment Advisor Chattergy:** So, there are different kinds of dispersion charts that you can look at, and I've listed a few here just for your information. And again, we can go into more detail later about that.

So, let me leave that as it is, and let's come to the final topic that I'd like to cover with you quickly, and this is called Tail Risk. It's not tailwind, you know, with the way the winds at your back and things are going great. Tail Risk is actually something that you want to be aware of as an investor, and you may want to avoid.

Now, usually what we're talking about with tail risk here are extreme outcomes. So, if you think about a distribution, positive is on the right side, negative is on the left side. Everybody loves the positive, right? It's like, Oh, we were expecting a 10% return, and the manager came back and said, this year we made 20%, everybody loves that right? It should also cause you to ask questions, like: how did you get that so much higher than what we thought? Did you do something unusual? Did you take unnecessary risk?

But let's put that aside because everybody likes to make more than they thought they were going to get. It's again the downside as institutional investors, what you want to be concerned about, what's that tail risk on the left side of the distribution.

So, there's a picture there, and we're trying to manage tail risk. This shows something called skew, it's right-side skew, it's fat-tailed skew, so this might be something that you like, but the tail is all the way on the right side.

**Independent Board Investment Advisor Chattergy:** So again, this is on the positive side, but if you see returns like this, you're sort of wondering, the central, the expectation is where the peak is on that chart, and the stuff to the right are kind of surprises, and again as institutional investors, or just as human beings. Positive surprises or surprises aren't always bad, but as institutional investors, the ideal would be, have that certainty.

Now, we can't have certainty in the world. So, we expect sometimes there are surprises. Sometimes things we won't expect, but in terms of thinking about how a manager is managing for you, you want to know, almost every year you're going to come in and you're going to give me a 7% return.

**Independent Board Investment Advisor Chattergy:** That's nice, but every now and then we're down 50%. That doesn't sound too good to me in terms of an investment, because that's a big tail risk.

Now that tail risk, maybe it won't happen for 50 years, maybe it happens every two or three years. Those are the kind of questions that you want to drill into, because am I comfortable as a steward for the OHA portfolio to accept that kind of a tail, even if it's unlikely to happen. *Are you okay with that?* 

There are different ways to eliminate that left tail risk. So, the bottom bullet point on the left, you can kind of eliminate that by allocation choices. You can say, well, I'm not going to invest in those strategies because there's just too much uncertainty. That's one thing you can do as a Trustee, as a steward of the OHA portfolio.

You can also diversify. So okay, this strategy has some risk in it, maybe a little higher than other strategies, but if I own a lot of different strategies, presumably you've diversified the portfolio, and that will help to mitigate the risk that may be that one out of 50 years the strategy doesn't work, but everything else does work. So that's a portfolio construction, and that's a diversification.

There are also specific hedging strategies that you can use to hedge out, like we want to cut that tail off. I'm willing to accept a 3% loss, but I don't want a 5% loss. So, let's bring in a manager, let's make sure the manager can hedge that additional downside.

So, those are things that are possible. We can talk about that more in terms of what it means for the OHA portfolio.

**Independent Board Investment Advisor Chattergy:** Then the last thing in terms of avoiding the downside is just luck.

Some of this stuff, you just get a little bit lucky, and you manage to avoid it.

A lot of the models, a lot of the analysis that goes into some of these metrics here - you really don't get certainty or confidence in the metric that comes to you unless you have a lot of observations, and until you have a lot of observations - you don't know.

Is the manager demonstrating a skill set in avoiding the downside, or are they just getting lucky? So that's difficult.

But as long-term investors, again, I mentioned at the beginning, you have a certain strength, and that strength is that you can hold onto positions. You can manage the portfolio for the long term and households, day traders, and groups like that - they can't take advantage of being able to invest over a long period of time to generate their returns for different reasons, but that's something that, as a long-term investor, you have to consider.

So, when you make policy, when you choose managers, you don't want to be trying to change them out every year. You want to say this is the strategy, I understand the risk, I know that some years it's going to be what I want, some years it might disappoint, but if I believe in the overall structure, then I'm going to be willing to hold that through time. It doesn't mean you wouldn't sell it at some point, but just your approach as institutional investors needs to be grounded in strategic, long-term thinking, and that's what these metrics in different ways get at.

Independent Board Investment Advisor Chattergy: Again, these are dense concepts, these are nuanced concepts. What I'm trying to present to you is as a Trustee overseeing a fiduciary responsibility, how do you think about these concepts in terms of what's meaningful to you? There's a lot more we can learn about it. I'm not trying to teach you a college course here. I'm just trying to give you some of the tools and the ways to think about these concepts. Now you can have conversations with consultants, with managers, with your stakeholders, about why and how you manage and invest the portfolio.

Again, what I'd like to do is, I'd come like to come and meet with you individually to go over some of this; field questions. I'll do the same with staff and we'll continue to make our observations and come back to you with some recommendations, in terms of your policies, in terms of your portfolio structure, and maybe even somewhat to certain managers.

**Vice-Chair Alapa:** You mentioned something about Tail Risk which include events that have a small probability of occurring, *what events are you referring to?* 

**Independent Board Investment Advisor Chattergy:** So, events that happen that are out on the tails; they can be events that happen every so often, the ones that you're focused-in on, saying like, extreme events or very unlikely events.

Sometimes they've been called Black Swans. So, a black swan comes from the concept that for the West, for thousands of years they only saw white swans, and they said, a swan is white, that's all you get is a White Swan.

Then they went ahead and sort of colonized. They went to Australia, and the Western powers that occupied Australia suddenly came across a black swan. That was impossible until they actually observed that there were actually black swans out there, because there was never a black swan in the West, that's what I'm told. I don't know if that's entirely true, but that's what we're told.

So, a black swan event is one of these events that you just don't know is coming. You can't conceive of it, because all your experience is only seeing white swans through history, so there must only be white swans. Suddenly the Black Swan changes your world. So, in the financial markets it would be the kind of event where the price of a house never goes down, invest in housing, housing prices don't go down because everyone forgot that sometimes they do. Then in 2008, we had what we would call Black Swan. I mean, prices of houses have gone down in history, but nobody is alive who remembers that, so everyone thought, just invest in a house, you'll be safe, your family be secure, then 2008 happens. That was considered like a Black Swan event, very unlikely and extreme.

So there is a case, and I've invested in strategies that create something called Crisis Alpha. The idea - that in a financial crisis - what are the strategies that do well, because you know your stocks are going down. Is there anything that does well when everything else is going down? And that is sort of like, if there was a Black Swan event, how do you protect yourself, if you can?

**Vice-Chair Alapa:** Can you foresee that happening again?

**Independent Board Investment Advisor Chattergy:** I think every time you have a new data point like that, you kind of say, *yeah*, *it could happen again*. There are people right now who are saying, Hey, you're in a housing buzz, there are problems with the housing market, there are problems with lending in the housing market.

Could 2008 happen again? I think it goes down to..., I forget who said it, History doesn't repeat it rhymes.

So, yes. Could markets go down 50% again? Yeah, it could.

Under what conditions we probably won't know until we're in the middle of it, and that's why, as Trustees, as institutional investors, you want to build a portfolio that you're comfortable with living through different examples.

Now, the chances of markets really going to another 2008 are low, are minimal, but they're not zero. As a Trustee, you want to say:

- Well, how much am I willing to live with the possibility?
- What if the markets go down the way they did in 2008?
- How will our portfolio perform?

**Independent Board Investment Advisor Chattergy:** *And is that okay?* Because after - it spends the next 10 years coming back up.

So those are the considerations that you want to do. You can't eliminate risk entirely in any portfolio, certainly not in the OHA portfolio, but you want to know what those risks are, and then you want to be able to say to yourself, *I accept these risks, but I don't accept those risks*.

That's like the idea of *okay, you have a list, this is what I'm willing to invest in*. It used to be that the government only let institutional investors invest in bonds, the stocks are too risky. You cannot own stock, you can only own bonds. So, I think, even as late as the '70s or '80s, a lot of institutional investors only owned bonds.

Then over time, they said, *Oh, well, stock, that's a certain risk, and we can model that and that's okay.* So, then they allowed groups to invest more in stocks, and now there's more diversified alternatives that are considered acceptable for institutional investors to invest in a portfolio concept.

Chair Waihe'e recognizes Trustee Galuteria.

**Trustee Galuteria:** Vijoy, to what degree is long-term investment geopolitical or geographical, or even seasonal? Any of these come into play, I'm talking like world conflicts, that sort of thing? How does that affect us long-term investors?

**Independent Board Investment Advisor Chattergy:** Yeah, it's a challenge, I think (John Maynard) Keynes the twentieth century economist said something roughly like;

What good is it if you know you're investing for when the oceans are calm and you know they're gonna be calm again, but in the tempest, when things are going crazy you don't have anything to say.

**Independent Board Investment Advisor Chattergy:** So, there is a balancing that you have to do in terms of there are shorter term and acute risk in the markets that could have a dramatic impact on your portfolio versus, *hey, I'm a long-term investor, I don't have to worry about this.* 

Some of us might have been around in 1987 and you remember that Black Monday when the market sold down, and that was *oh*, *we're headed to another depression*.

Well, if you just ignored that event, and you just held on, the markets have run way up, so it's kind of like that. That was a very acute and challenging event at the time for a lot of us, but it didn't last, and staying invested for the long term meant that you did very well. No guarantee it worked out that way, we could have gone into another great depression, but it didn't for various reasons.

So, as a long-term investor, assessing these sorts of risks like; geopolitical, or should I not be investing in China right now, because the Chinese market is going down, but it's the second biggest economy, should I invest?

What you want to be thinking about is, are these shorter-term, potentially transitory events which may last years? Are they something that we can stomach, we can handle?

For example, if I have pension benefits to pay out - well, I want to manage the portfolio so that suddenly, if the markets became liquid, or I lost 10% of the portfolio, can I still pay my pension beneficiaries? That's the way you think, like okay, how do we adjust or manage these short-term stresses for our long-term objectives?

Now you as OHA, you run programs with the assets, you draw on that and you run your programs. So, you want to make sure that, however, your programs are funded through the portfolio, that portfolio contribution is there, year in, year out, because it would be tragic not to be able to run those programs.

So, that's the way to think about those short-term risks.

Is there some event in the short-term, like if the housing market went down again and it goes down 20%, 50% - how would that affect my ability to run the different OHA programs over time?

If there's enough liquidity, if there's enough assets to continue to run those programs, then that's acceptable.

If you can't run them because of the kind of investments you're making or you don't have enough liquidity, then you might think, well, what if markets went down 50%, how do we deal with that?

If it went down 10%, not a problem. So, I'm trying to give you different ways to think about it, I don't know if that helps.

Trustee Galuteria: So, just stay the course.

**Independent Board Investment Advisor Chattergy:** That's often-what folks will say is, *stay the course*, but by staying the course, that assumes that you have structured a strategic portfolio that gives you exposure to different kinds of assets in a diversified way. That you're able to hold on to those positions through market cycles, through changes in interest rates, through changes in inflation, through maybe a financial crisis.

And again, the decision that you're making is at a policy level, and you're doing the best you can to kind of say, well, you know, what's the likelihood of 2008 happening again? What's the likelihood of 2001 happening again? What if a 1987 happens again? Which one of those is too much for you to bear risk? Does your current portfolio reflect the ability for you as an organization to withstand that kind of a downturn?

Now, again, you have to balance that, though, because, even though I said, hey, focus more on the downside, you want to capture that upside. So, if you're only focusing all the time on like, I want to avoid all these risks, well you have to have some risk, you have to have some ability to generate positive returns.

A year ago, nobody knew that the S&P 500 was going to be driven by these magnificent 7 stocks, and that the markets would be near record levels. Everyone thought we'd be in a recession right now. So, guess what, everybody was pretty much wrong. So as a Trustee, you want to be able to capture as much of the upside but mitigate that downside in case things go wrong.

So, it's a portfolio thinking, it's strategic thinking, and it's long-term thinking. We all have to acknowledge that we just don't know where the markets are. Going to be next year, a year from now, five years from now, we have a good idea that probably stocks are going to continue to grow the way they have the last 100 years for the next 100 years. So, you want to have that exposure, but we don't know for sure, and we don't know what time periods in the next 100 years, are stocks going to be down 30% or 20%.

If you've built a portfolio as an institution that wants to be for the long-term, hopefully you have strategies and you have approaches in the portfolio that will allow you to weather those down markets.

As an institution you can do that much better than an individual. As an individual, I can't be down 30%, I'm going to miss my mortgage or something like that, but as an institution, investing for the long-term, you should be able to withstand that. That's one of the strengths of being a long-term investor, an institution like you are.

**Vice-Chair Alapa:** Do you recommend, you mentioned tech stocks, are we able as investors, trustees to participate in that?

**Independent Board Investment Advisor Chattergy:** You do participate in it, for sure you participate in the State Street Index Fund that you're invested with, because they own all the stocks in the S&P 500, so that's one way. Some of the other strategies will also have exposure to those tech stocks, so you do participate in it. But I'll just recall, as I said, the first time I was in front of you, is that my strength is not going to be able to tell you what stocks to invest or not invest in *right?* I'm trying to give you advice in terms of structure, in terms of long-term investing, and that's where I can add value.

**Independent Board Investment Advisor Chattergy:** But I would say, even though, *hey, those stocks have run up a lot*, and maybe people are trimming some of those positions which isn't a bad thing to do, but I don't know where they'll go. They may continue to go up.

Some people are saying, these guys, these big stocks can continue to go up. But hopefully, you have other strategies in there that expose you to other things. So, if suddenly this year, those stocks aren't up 43% like they were last year, but they may be up 10% or down 5%, other parts of your portfolio will generate the returns that allow you to continue to fund your activities and to grow into the future. That's the advantage of having a diversified portfolio, which you do have, and which I recommend you continue to have, even if the structure or the governance changes.

Chair Waihe'e recognizes Trustee Ahuna.

**Trustee Ahuna:** Thank you, Chair. My question is to the overall structure, you talked about upside, downside, with managers, I'm worried about managers. What's the difference between an active manager and just what's going on with like a regular manager?

**Independent Board Investment Advisor Chattergy:** So, generally to start out with, I would just say, all managers are active in some way, even if they were a passive manager, because not making a decision to invest in something or invest in a certain way, is kind of a decision. But the general description, and let's just stay with the liquid market. So, let's stick with the markets where securities trade on an exchange like stocks. The difference between an active manager and a passive manager would be that an active manager is saying, *I have a skill in investing*.

Remember at the first meeting I talked about four different ways of generating excess return. You got better information, you interpret information better, you got better execution, or you got better risk management.

So, what an active manager is generally saying is, I've got a strategy, and I do something because it takes skill to generate excess returns beyond the S&P 500, let's say as your index.

So, I'm going to get paid a little more for that, and I'm going to generate returns that you can't achieve without my skill.

A passive manager will say, I'm just going to give you exposure to the market, like your State Street strategy. I'm just going to give you exposure to the S&P 500, and I'm going to match that S&P 500, no matter if stocks are going up, no matter if stocks are going down. So over time, you're going to generate the return of having exposure to those stocks, but I'm not doing anything special.

I don't have a better model, I'm not trying to interpret information, I'm just making sure you have that exposure over time. So, they charge a lower fee because they're not saying they have some special skill, they're just saying I have the ability to give you exposure to the market, generally.

Actually, one of our speakers uses that strategy a lot in their portfolio, and we'll hear from them directly.

**Trustee Ahuna:** Okay, just a quick follow up question, because, for me, sometimes paying a little bit more, we get better results. So, when you talk about managers, the return and stuff like that. Sometimes I feel like the active managers, they get the most out of it, so even though we're paying a little bit more, sometimes it can still be a better thing.

**Independent Board Investment Advisor Chattergy:** Yes, I'm sort of agnostic.

It really depends if they can demonstrate the ability to generate those returns over time. As long as they do that, if that's a fair price, meaning it's competitive with what other managers with that skill set are charging, then yes, that could actually be a good thing to have in the portfolio.

**Chair Waihe'e** asks if there are any further questions.

There are no further questions.

#### IV. NEW BUSINESS

B. Consequent Led Panel of CIOs on Managing a Multi-asset Portfolio for Fiduciary Institutional Investment Programs

Chair Waihe'e asks if there is anyone signed-up to testify on this agenda item.

**RM Staffer Akina:** No one has signed-up to testify on this agenda item.

Chair Waihe'e turns it over to Independent Board Investment Advisor Vijoy Chattergy.

**Independent Board Investment Advisor Chattergy:** Okay, I'd like to invite our CIO panel to turn on their cameras and be given the microphone. This is on page 12 of the presentation, you'll see a short description. We have three, really, qualified and very well-respected investors.

You'll see Stephen Edmundson there on the left, well I don't know if everyone's screen is the same, but Steve is with the Public Employees' Retirement System of Nevada (NVPERS), and there's a short description there. I'm going to give him a chance to introduce himself, and Steve has a portfolio that is very famous in the institutional world in terms of how they manage it. So, we'll talk a little bit about passive and active with him.





Steve Edmundson was appointed to the position of investment Officer of the Public Employees' Retirement System of Nevada in December 2012. In his role he oversees aspects of PERS' investment program, including investment operations, compliance, research, manager oversight and implementation of PERS' investment stration of personal programs.

Mir Rodney Junie s DA. ERS Chief Investinent advisory, general partnerships, consultant and evaluation of the partnerships consultant and evaluation, the evaluation, the evaluation investment strategy development and implementation. From 2008 until his return to LACERS in 2012, Mr. June was the Chief investment Officer of the State of Hawaii Employees' Retirement System overseeing an \$11 billion portfolia.

Kuan Yuan is the former Chief Investment Officer of the Hawaii EUTF and has seen the multi-asset portfolio grow to \$6.5 billion. He was hired as a investment officer and grew the staff and consultant relationships. He expenditures formit hydrogen in Hawaii

**Independent Board Investment Advisor Chattergy:** Mr. Rodney June, is with the LACERS logo there, Rod is a former Chief Investment Officer for the State of Hawai'i Pension Plan, the ERS, and he is the current Chief Investment Officer for the Los Angeles City Employees' Retirement System (LACERS). He actually has family from Hawai'i, and he is sometimes back in the islands every now and then, but he also knows how we manage money here in the islands. He is a very well-regarded Chief Investment Officer, and I should mention he was my former boss. I learned a lot about institutional investing from Rod, so the full disclosure there, Rod, I hope you don't mind.

Then the final person is actually Kuan Yuan, who is the former Chief Investment Officer of the Hawai'i Employer-Union Health Benefits Trust Fund or more commonly known as the EUTF. If you remember last time, we heard from one of the Trustees from EUTF who was Kuan's boss, in that sense, and Kuan was hired as an Investment Officer. Then, as the portfolio grew and his responsibilities grew, they actually made him a Chief Investment Officer. So, we'll hear a little bit about how that grew.

**Independent Board Investment Advisor Chattergy:** Thank you to all three of you for joining us, I appreciate it. I know that, Steve and Rod, you are kind of out there in the West and Kuan is actually locally-based here.

So, let me begin. I'm going to moderate this panel, and I'll begin by asking questions, I'm just going to ask, generally, of all 3 panelists.

The trustees have a short description in terms of your background in your organization, but *could you* share a little bit more about your career trajectory, and maybe in particular, were there any lessons or jobs that you held that help you be prepared to be an institutional investor?

Steve, since you're the furthest away, why don't we start with you, and then we'll go over to Kuan and then Rod.

**Nevada PERS CIO Edmundson:** Great, thanks for inviting me to join today. Just a quick introduction, my name is Steve Edmundson, I'm the CIO here at Nevada PERS (NVPERS). We're, as of today, right around a 61-billion-dollar public DB (Defined Benefit) plan, here in the State of Nevada. We cover all the public employees within the State, so whether you're a state employee or a city or county or school district employee, you're a participant in Nevada PERS.

I've been here at PERS since 2005, so going on 19 years here at the retirement system. I came from the private sector originally, working in a corporate treasury, and then moved over here to the retirement system. There were three people here at the time, I was originally hired on as an analyst, and was quickly promoted to the Deputy Investment Officer job. Then in 2012 I became the CIO here at Nevada PERS, so I've been here for a while now.

In terms of things that have helped me along the way in in my career; I would say first and foremost, I've just had the luck and privilege of being able to work with some fantastic people, both prior to working here at Nevada PERS, that mentored me along the way through my finance career in the private sector. Then coming over here, I had a couple of terrific mentors, that I worked up through the process of becoming CIO, and the previous CIO here, who I'm still good friends with was a terrific mentor as well. When you work in the public domain, like you know we're operating here, I believe this is a public board meeting - it requires a unique skill set. You have to be able to put together an investment portfolio that will work over time, but also operate in a very public and visible way, and being able to manage through some difficult times while you're in the spotlight; so it requires some PR skills along the way, too.

**Independent Board Investment Advisor Chattergy:** Thank you, Steve. Rod, same question, background and then what was something that influenced you or made you into the CIO you are.

Los Angeles City Employees' Retirement System (LACERS) CIO June: Very good Vijoy and good afternoon OHA Trustees. Thank you for having me here today. It's sort of good to be back on the island, even though physically I'm here in California, but as Vijoy said, I do get back to the islands quite often, because I have a lot of family on O'ahu.

I started off working for the City of LA, I'll kind of start there. I've had jobs prior to that, and I won't go into too much detail, but started my career with the City of Los Angeles, out of graduate school, back in 1990 and worked in affordable housing programs that were HUD funded and gained a lot of experience on the administrative side. I was also a project manager that helped develop multi-family affordable housing in the City of Los Angeles, and working with politicians and community development banks, and a lot of different leaders in the city, I think gave me very good grounding or moving forward into a position like the Chief Investment Officer.

I was an employee of a bank, I was a lending officer at one time, I was also a substitute teacher, believe it or not, and a management consultant. So the variety of experiences that I gained from varied positions, but also working as a management consultant in different kinds of businesses, help me understand how businesses can add value over time, and that's exactly what we do in a public pension plan, or what you're doing at OHA is to add value, to increase the corpus of your portfolio and to make money in a very prudent and smart way. So, that's sort of sort of my trajectory.

**LACERS CIO June:** I worked at LACERS, starting in 1998, and I had the good fortune of working in all of the asset classes, because at the time we were about a 7-billion-dollar plan. I was able to sort of work across public equities, non-U.S. Equities, real estate, and private equity, and that gave me a good foundation to eventually become a CIO.

I was head of private equity for the plan, just prior to going over to Hawai'i in 2008 to be become the CIO for the State of Hawai'i Employees' Retirement System (ERS), and I wouldn't say it was so much my private equity background, as it was probably more my varied background in a number of asset classes, I think that that helped quite a bit.

I was in Hawai'i for almost 5 years, and then my boss back at Los Angeles City employees retired, and his position opened up, and I thought it would be a good time to get back to California and get that position. So, I've been at LACERS as CIO for about a little over 11 years now, and it's been a very good ride for me.

I think, working in Hawai'i for a multi-employer retirement system, and with LACERS as the CIO, where we handle just the civilian employees of the city of LA - we do not have the Fire and Police, they have their own plan, and the utility workers have their own plan - that's where I'm at today, but I think it's all the varied experiences that I've had in various jobs - that all contributed to helping me to become an effective CIO, and I'll pause there. Thank you.

**Independent Board Investment Advisor Chattergy:** Thank you, Rod, and then Kuan same question, and I'll note that while you've left the EUTF as the CIO, you're now running a family business here in the islands.

**Former CIO of Hawai'i EUTF Yuan:** Aloha Trustees, Staff, Vijoy and fellow panelists, great to be with you this afternoon. My name is Kuan Yuan, as Vijoy assured, I spent some time at the Hawai'i EUTF, and I'll go back a little bit from the beginning of my career. I think every step had some influence in preparing me for the CIO role. So, my first job was as an auto mechanic. My family valued education, but just didn't have the resources to help me pay for one, but I was really fortunate that I came across an entrepreneurial opportunity, and I got to run a small automotive service and distribution company for about four years, I successfully grew that, and that's what paid for college.

I attended HPU and studied management. After HPU I had a chance to join one of the world's largest tire manufacturers, and around that time I realized I was really, missing an important tool. I didn't have a working knowledge of finance and I didn't study that in college, to my fault. So, I decided to fix that, and I joined Bank of Hawai'i. I joined the Trust department to try to learn finance on the job. Being in the Trust department we also dealt with investments, so it actually helped me not only learn finance, but build an investing foundation.

So, my role at Bank of Hawai'i really evolved over time, but it involved three hats; one hat, I was managing investments, so these are high network clients or small institutions, so think about the smaller companies or institutions with 10-million-in-assets or less.

The other hat I was wearing was operations management. Somehow in the investment side, when their operations evolved, I get pulled in to oversee or manage that.

**Former CIO of Hawai'i EUTF Yuan:** Then the third hat I was wearing was, strategic planning. Trying to think about ways to manage and grow revenue for the division. So, the latter 2, although, wasn't really directly part of day to day job, I think maybe because of my earlier involvement with small business, with growing business, kind of naturally pulled me into those roles.

**Former CIO of Hawai'i EUTF Yuan:** Fast forward to 2016, I was approached about the opportunity at EUTF, and sounds like the Board may have heard a little bit about the history there.

Basically, the organization was coming in to a lot of money in a short period of time, and the amount of assets was going to grow at a very steep trajectory.

The investments, up to that point - there was no dedicated investment staff, and so they needed to bring on staff and build an investment office.

So, I think given my experience wearing multiple hats that seemed to be a good fit because they needed someone that had the investment foundation, but also, readily and really needed someone to get involved on the operational side, build up the operational side, but also think strategically and how to grow the portfolio and investment office over time.

So, I joined the organization as an Investment Officer and about four and a half years later I was promoted to Chief Investment Officer. I think the original idea was, you come in as an officer, if you're successful in growing that portfolio, growing the investment office, then I will have a shot at the Chief Investment Officer position. I was fortunate to have been promoted into that role. I am the former, so that means I am no longer with the organization.

So, this past September, after a great seven-year run, I felt that they were in a great place. Performance was strong and they had great prospects ahead, where they were ready for really the next generation of leadership, so I stepped aside. My wife and I founded Blue Tide where we're buying and operating small to medium sized businesses from retiring owners that don't have a succession plan. In a nutshell, that's my professional history that has led up to EUTF and today. I'll take a pause there, thank you.

Independent Board Investment Advisor Chattergy: Thank you, Kuan, that's perfect.

Okay, the trustees here have been hearing about governance and fiduciary responsibilities and how to manage an institutional portfolio, as such. I wonder if you could talk a little bit about, this is to everyone, your work with a board and with staff in terms of reaching the mission of the organization. Maybe I'll go to Rod first and then Kuan, and then, Steve. If you could talk a little bit about how you work with trustees, staff, stakeholders, just give us a one or two ways that you think is effective.

**LACERS CIO June:** Yes, sure, I'll be happy to start. Working with boards as a CIO, it's primarily through Board meetings, because we are a public entity. The work that I do, how I transmit information to them, and recommendations is all through that sort of governance structure, which is through the meeting process.

**LACERS CIO June:** I will say, to be most effective with the board, I rely heavily on the governance structure, which is really looking back at the policies, having a strong grounding, understanding policies, knowing how to implement the policy, and to ensure that we are in compliance with policy because the policy is really designed to assure that you can achieve your financial goals in the best way possible. You have the highest likelihood of doing so.

So, I would say mine is probably more governance-oriented, it wasn't always that way. I think when I first became CIO, I probably ran the program more off the seat of my pants, but I've learned over time that the governance structure really addresses how you achieve performance and how you minimize the risk in doing so. I think it's the best path to take.

I know there's an inclination for trustees and even staff to want to do things that are maybe more tactical, less strategic, but your policy framework really is more of a strategic approach and a lot of thought and care is generally put into the design and crafting of language of the policy.

I think it really incorporates the institutional mind set of the organization. So, what I'm executing on implementation of any type of investment, I always go back and look at the policy and ensure that I conform with it, and I stay within those bounds.

And when trustees have questions about well, can't we do this, or can't we do that, or should we do this? It usually goes back to, if I don't know what the policies are at the time I will usually say, give me a chance to look at the policy and see if it addresses that particular idea that you have. If it doesn't, and this seems like a good idea, then we can always go back and amend the policy.

That requires a lot of deliberation, a lot of consultation with consultants, staff, and other experts to make sure you get it right, because those policies need to endure over the long period of time, not just three or five years. Policies are usually good for 10 years, or into perpetuity. So, I would just summarize that my approach working with boards is really shaped by the governance structure of our plan.

**Independent Board Investment Advisor Chattergy:** Thank you, Rod. Steve, same question, as it relates to working with the board and having an effective board.

**NVPERS CIO Edmundson:** Yeah, thanks Vijoy. I would say that my experience working with the board is somewhat similar to what Rod has described. We're both public entities, so we largely interact and are required to interact with these public board meetings.

If I was going to add something to that, specifically here in Nevada, one of the things that I found that is really important, is that everybody here in Nevada, and I think it's something that we've done particularly well; between staff, board and our constituents, meaning our members and beneficiaries, the teachers and the firefighters and the employers that participate in Nevada's pension plan, *is that* we are all very much in agreement of what our overall mission is.

We're here to fund a public pension plan. Everybody puts on their fiduciary hat, they drop aside whatever other interest they might be representing, and we all represent the singular interest here in Nevada when dealing with the pension affairs, and that's ultimately to fund the retirement benefits of our members and beneficiaries.

**NVPERS CIO Edmundson:** In addition to that, what I think we've done particularly well is to build a culture that in an investment portfolio reflects the broader culture of our organization here in Nevada. It's kind of getting to some of the stuff that Vijoy was talking about earlier in his presentation, which I thought was fantastic. That we really have to craft an investment portfolio that can withstand those deep spots in the stream. You can get through the difficult moments, and a large part of that is creating a portfolio that fits well with the culture of both our governance structure and with our constituents.

That's one of the reasons why our portfolio is kind of simply designed with a heavy influence on indexing. That is something that has resonated with our members and beneficiaries, it's resonated with our governance structure, and so inevitably, there's going to be, sort of like, pick your poison.

Decide, which problems you want to have and which problems you can withstand. Then build up a portfolio that's kind of designed to get you through those spots. I think that our governance structure and working with the board in that capacity has ultimately allowed us to do that.

Independent Board Investment Advisor Chattergy: Thank you, Steve.

Kuan, working with a board, and we did hear from Christian Fern last time, so I know that you worked closely with Christian as he was a Trustee, Head of the Investment Committee.

You want to add comments to what Rod and Steve have said?

**Former CIO of Hawai'i EUTF Yuan:** Yeah, sure. There's a lot of similarities with what Rod and Steve have said, and first of all, I personally have a high degree of respect for trustees and the responsibilities that you're taking on.

You're wearing multiple hats, you're representing your constituents, and in this role, the fiduciary responsibility to the organization and it's a balancing act of many forces that are involved. So, I really respect that, the roles you're in.

In the case of EUTF specifically, I think the key underpinning was a high area of trust that was built up over time, between staff and the board. I think that really enables the governance and the execution to all work very smoothly. It took many years to really build up that trust, but kind of like what Rod was sharing with the structure, where the board really focused on the strategic level, monitoring and overseeing and the staff comes in to execute and implement.

We were actually in the earlier stages of starting to take on some delegation of decision, which takes time itself. Again, I will point to the Trust being really the key underpinning in the overall governance structure that makes things happen.

**Independent Board Investment Advisor Chattergy:** Okay, thank you Kuan. I'm going to now just ask an individual question of each panelist to round out the portfolio.

So, if I could go to Steve first. Steve, you had mentioned that the portfolio you've built, the way you manage it sort of reflects the culture of the organization and the people that you work with. I know one thing that the Nevada program has been known for in the past is sort of having a heavy dose of passive strategies in the portfolio. I wonder if you could help the trustees understand that approach, and why it was so meaningful to the Nevada plan.

**NVPERS CIO Edmundson:** Great, sure Vijoy. Nevada has developed a reputation in the industry for being kind of the simple plan out there. We have fewer moving parts, we have a tiny investment staff for a 60-billion-dollar investment portfolio. It consists of myself and one other person now. Up until 2022, I, myself, was the singular investment employee, for a number of years.

This emphasis that we've placed on indexing, largely derives from the way that we manage the fund. Very much from the top-down level; we manage asset allocation. Indexing is an absolutely fabulous tool for the way that we manage the fund from that top-down asset allocation, in that we can put the exact market exposures into the fund that we want.

So, let's say we want to own U.S. stocks. We can index to S&P 500 and so we can put that pie slice in the exact way that we want into the portfolio, and we can do it in a really efficient and low-cost way.

One of the benefits to indexing is that it keeps your fees low, and getting to the culture here, that's something that's resonated with our constituents over the years. If you're invested in, say, an active equity portfolio, it might cost 45 basis points. Relative indexing might cost you a basis point.

So, starting from that low fee structure, to begin with, that's something that's resonated culturally with our members and beneficiaries. They very much understand owning large cap blue chip stocks. They know that when they go up, we'll participate. They also understand that when they go down that we'll participate in the downside as well. This is something that they know and expect and it's easily explainable. Keeping fees low in a public environment is always beneficial.

The reality is from an investment standpoint - lower fees - we have a high fee structure in the investment portfolio.

**NVPERS CIO Edmundson:** There was a discussion earlier today on this call about *well, sometimes it's worth it*, absolutely, but the key thing is whether or not you can kind of stick through those tough times with those expensive investment portfolios. If you're paying managers a whole bunch of money, and you go through a three or five year period down cycle and you're not able to stick with it, then inevitably you make the emotional mistake of getting rid of whatever that strategy was at the wrong time.

Indexing is a good way for us to avoid those kinds of emotional mistakes within the portfolio.

I would say, maybe the downside to the way that we do it, is simply that we look different than everybody else. When you construct an investment portfolio that is different, you kind of stick your neck out there a little bit.

Our portfolio is going to behave differently than our peer group across market cycles, and we're prepared for that. So, we spend a lot of time around managing expectations; when will we look good, when will we look bad. Everybody understands that, and that's getting to the earlier discussion about working with our board and our governance structure.

I think that we've been able to do that since we've been doing it for a long time now, everybody knows what to expect with our portfolio in any given market environment. And again, it's just kind of pick your poison and the one that we've picked is kind of the low fee structure.

**NVPERS CIO Edmundson:** We understand what the portfolio will do in specific environments. We don't pretend that we can avoid a downside volatility in various markets, and we understand that. And we're able to live through those tough times as a result. I would say at the end of the day, that's probably the most important thing is to be able to pick an approach and stick with it, because if you abandon it at the wrong time, then inevitably that will ultimately hurt returns more than anything else.

**Independent Board Investment Advisor Chattergy:** Thank you, Steve. That's great, very insightful. Rod, in your case, even though you worked in all the major asset classes through your career, I think it's fair to say that even in the '2000s, you were pioneering in terms of public plans and institutional investors in investing in alternatives and private equity, in particular.

Even though you saw that in the endowments and even Washington state was an early adopter, but a lot of plans hadn't gone in that direction. I think with your background, you were a proponent of using alternatives and building diverse portfolios. So maybe, in contrast to what Steve just described, can you give us some insights in terms of your thinking of building a portfolio the way you did.

**LACERS CIO June:** Yeah, certainly. I would like to at least talk just a few seconds on the *active* versus *passive*. We have a combination of both at the LACERS, we are passively invested in U.S. Large-Cap, which is a very efficient asset class. But many of the other asset classes like small-cap U.S. equities, emerging market equities, for example, where there's more inefficiency.

Our board believes that we can add value to that area through active management, if we can choose the right managers, and I could talk for minutes on that, but we do have a combination of both.

We have been in private equity at LACERS since 1996. So, we have, I'd say a fairly long runway of being in the asset class. We have a fairly mature portfolio. We've allocated close to or slightly over 5 billion dollars to that asset class over the last 25 years. It is our best performing asset class, but it is also the riskiest asset class.

Vijoy had spoken earlier about volatility, in order to get those types of returns you have to subject yourself to volatility. It is a bet, if you will, that our board is willing to take. It's also an essential asset class, meaning that our assumed rate of return at our retirement system is 7%. In order to achieve that 7% bogey over long periods of time, we really have no choice but to search out higher performing asset classes, that yes, does carry greater risk, and yes, carries much higher fees, but without being in those asset classes, we would fall short in ever reaching close to 7%, which is our assumed return.

**LACERS CIO June:** So, we are in that asset class. We try to diversify. We don't time the market, meaning that intuitively one can say, this is a good time to be in private equity, the markets are robust, interest rates are low, and there's times when you want to say, no, we shouldn't be there. But we try to take a very even-keeled balanced and consistent approach to private equity. Meaning that we tend to allocate the same amount of dollars from year to year. There is a plan behind that, and that's called our Annual Strategic Plan, which we review with our board every year, and we get them to understand what the next 12 months will look like. They approve that plan, and then staff executes on that plan.

For private equity, that is the one asset class plus another asset class, private credit, where the Board has delegated decision-making authority to the consultant and staff, which means that every time we make a commitment to a fund investment in private equity; and our fund investments are generally 20 to 75 million dollars per commitment, we do not need to go and get board approval in advance.

**LACERS CIO June:** They have established a policy framework that has all the guardrails and risk parameters in it, and we follow that, and we make the commitment. Then we notify our board after we've made the commitment and assure them that we have followed the policy that they had approved for executing on private equity.

Again, it's our highest performing asset class, but it does carry risk, that's true with any asset class. The greater return that you expect to get from it the greater volatility or fluctuations you can expect to have. But, when you combine private equity with other asset classes, your overall risk is reduced down, and that's the term that we use, diversification. We try to diversify as much risk away as we can by building around different asset classes, and we have a highly diversified portfolio at LACERS, and I'm going to pause there.

Independent Board Investment Advisor Chattergy: Thank you, Rod. Also, a lot of great insights there, and things I think we'll come back to discuss. Kuan, you talked a little bit already about your journey at EUTF, and how the position evolved. I was wondering if you could maybe focus in on how you went from a zero Assets Under Management (AUM) Portfolio to a 6-billion-dollar Portfolio in terms of the kinds of resources that you needed or the kinds of support that you provided or were provided by the different leaders in the EUTF, including trustees and including executive directors. *Could you talk a little bit about that, the resource needs of going from a 0 portfolio to \$6 billion?* 

**Former CIO of Hawai'i EUTF Yuan:** Sure. To set the stage coming into the role, there was a consultant that was already involved, and that consultant was previously working with the administrator of the fund to manage the day-to-day.

At that time, the portfolio looked something like about maybe 4 or 5 asset classes, and each of those asset classes was probably a mutual fund or some publicly traded vehicle.

Now, at that time, right when I stepped in, the consultant already worked with the board to decide what the long-term picture was going to look like, and that involved somewhere, I think, 12 or 13 asset classes. So, most of the things that needed to be there that the Board wanted to be there, it is not there yet.

So, from that standpoint we have to figure out first of all, how do we prioritize amongst these different asset classes that we need to have this fully functioning performance? And what that is, going back to Vijoy's presentation earlier, you talked about downside risk and tail risk, and these different types of ways of thinking. How do you generate strong returns, but also you want to prevent losses when times are not there? So those are what the different parts of the additional asset classes we're trying to add in, including alternatives like private equity.

So, how we ended up tackling the problem was we took a blend of passive and active approach where you enforce basically any liquid assets, any liquid investments, we just make that passive, and we know over the long run, bang for the buck, is probably going to be on the alternatives, on the private market side.

So, let's get exposure. First get what we need, and then start building out the private markets gradually.

**Former CIO of Hawai'i EUTF Yuan:** So, as we're going through that, we were first using the same set of consultants. We basically went to one consultant that provided us all different types of help, and that really worked. We give them credit and kudos to them. They gave us really, good, sound advice, and as we start to evolve, we developed a better feel for specific needs in different parts of the portfolio.

So, from a consultant standpoint, we thought, we need to reassess what are the different providers, and what are the different strengths.

A couple of years down the road we ended up bringing in other consultants for specific parts of the portfolio. So, that's how the consultant-side evolved.

Staffing, as a public entity, I'm sure we all face the same challenge of you have to go through the legislative process to request positions, and it takes years for that to happen. It took about three years for us to get our second staff; I was the first, it took three years for us to get our first analyst, and then took probably another year or two for the next position. So, we knew that was going to be a long process, to staff up.

**Former CIO of Hawai'i EUTF Yuan:** So, that also impacted how we thought about our working relations with consultants.

- Where can we make the model where it's flexible?
- Where we can lean on them for tasks, for roles that we cannot effectively or quickly staff up but remain in control of more strategic decisions or strategic relationships?

And as we ramp up staffing, we can, maybe take some of those responsibilities back from the consultant.

I jumped around to a couple of things, but overall, staff's involvement grew, as the team grew, and the consultant's role changed over time as our team got to the right size.

**Independent Board Investment Advisor Chattergy:** Okay, thank you, Kuan. If any of the panelists have any more comments, happy to take that. Also, trustees, if you'd like to ask any questions of the panelist or myself, happy to entertain that at this time. Otherwise, we'll conclude our presentation

Chair Waihe'e recognizes Trustee Lindsey.

**Trustee Lindsey:** Vijoy, I just wondered at what point in time, since you've started with us, would you be able to share the condition of our policies?

**Independent Board Investment Advisor Chattergy:** So, what I'd like to do is at the next RMC meeting later this month, is to share our observations. Then to bring to the trustees on March 6<sup>th</sup>, the next following RMC meeting, recommendations on those observations in terms of policy changes. So, that would probably consist of a memo, as well as potentially a red line version. If that's acceptable in terms of how the board goes about doing what they need to do. Then I think at that point the process of where the trustees would evaluate and recommend would probably happen at the next meeting, after the Commonfund event, that's sort of the timing we're expecting.

Trustee Lindsey: Thank you.

**Independent Board Investment Advisor Chattergy:** Okay, trustees, thank you very much for your time and your attention here. Thank you to our three guest speakers, who did a fabulous job, and I know that your times are very valuable as well. So, I appreciate you making time for us this afternoon and providing very insightful thoughts on how you do your job as an investor. So, thank you very much.

Salutations exchanged between Trustees & Panelists.

Chair Waihe'e: Yes, thank you very much and thank you, Vijoy.

### IV. NEW BUSINESS

C. Presentation: Update on OHA's August 2023 Maui Wildfire Disaster Aid Response

Chair Waihe'e asks if there is anyone signed-up to testify on this agenda item.

RM Staffer Akina: No one has signed-up to testify on this agenda item.

Chair Waihe'e turns it over to Ka Pouhana Ferreira.

**Pouhana Ferreira:** Mahalo nui Chair. Trustees, you should have a copy of the presentation in front of you, and if I could ask for the presentation up on the screen.

**Pouhana Ferreira:** So, I was asked to assist Chair Hulu Lindsey in putting together a proposal for the Board, and this is more information sharing at this point, to get feedback from Trustees. So, I wanted to share with you what we've put together.





**Pouhana Ferreira:** So back in August, when the wildfires occurred, the Trustees made a bold commitment of 5 million dollars towards the recovery efforts for Maui, not necessarily just Lahaina, but also those that were suffering losses in Kula, as well.

On our website, if you go to <a href="www.oha.org">www.oha.org</a> you'll see a statement from our Board on September 6<sup>th</sup>, committing to our Native Hawaiian families impacted by the 2023 Maui wildfires, the 5 million dollars in aid for disaster recovery.

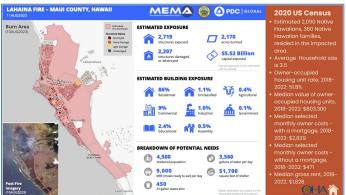


**Pouhana Ferreira:** However, that wasn't the only aid that was provided to our Maui beneficiaries. As you can see on this slide the 5-million-dollar commitment is by far the largest, but I do want to also point out that the trustees made other commitments to our beneficiaries. One was helping with the economic development data gathering to really assess how Native Hawaiian businesses were being affected by the wildfire tragedy.

We've also been very involved in natural and cultural resource, advocacy and consultation. Our Compliance team, Kai Markell and Kamakana Ferrera have been essential in providing feedback on Olowalu and other coastal studies that are being done. Now with runoff as the rains have hit the Lahaina community, and ensuring that again, the county and other governmental agencies are in compliance with State, County, and Federal laws, and certainly ensuring that our beneficiary Native Hawaiian rights are being monitored and followed.

We also provided resources at Hakuone. We offered warehousing space for Maui relief donations that has just recently come to an end but was critical when we had thousands of individuals wanting to provide extra care and support in all kinds of ways, whether it was food or clothing to our Maui brothers and sisters.

**Pouhana Ferreira:** We also provided sponsorship to the Wiwoʻole Maui benefit concert that raised funds for the Maui community. Then, just recently, we provided sponsorship to the Lele Aloha Hoʻūlu Lahaina Unity March, held in Lahaina in January, where we had Trustee Ahuna representing our Board for that effort.



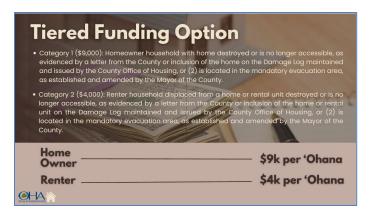
**Pouhana Ferreira:** So, again, the Board has been very active since August in many different ways. But the 5 million dollars is top of mind, I think, for the Board, and I know that many of you have been getting calls or emails or folks stopping by to kind of pick your brain on *what's that next step?* So, we want to share with you what our thinking is.

Before I get into the proposal, I just want to leave you with some data points that I think will help to inform the proposal. The 2020 US Census estimated about 2,090 Native Hawaiians, or about 360 Native Hawaiian families that resided in the impacted area, and this is specifically to Lahaina, so this doesn't include our Kula 'ohana. Owner-occupied housing units from 2018 to 2022 was about 51.8% and the median value of an owner-occupied housing units in 2018 through 2022 was about \$800,000 and I'm sure that's attributed much to the tourism factor in Lahaina.

It's also important to note that the *median* selected monthly owner cost with a mortgage, is about \$2,800, and a *median* selected monthly owner cost without a mortgage, is about \$471. So, I just want to baseline our understanding around what that means in terms of owner costs or monthly owner cost. So, that includes things like utilities, HOA, Property taxes, Homeowner's insurance and ongoing home maintenance.

Some additional information; the White House just released a fact sheet today, this morning, six months after the fire, FEMA recapped what they've done in Maui. So, six months since the Fire, FEMA has put 330 million dollars in loans and grants towards the response and recovery efforts. They've also provided 43.7 million in assistance to 7,000 households. So, why I mention this FEMA data for you is because it's really important to know that right now there's an extreme priority to move folks out of hotels into long-term housing, and the reason for that is FEMA's funding is intended to end in February 2025. So that's coming pretty quickly.

I've had the opportunity to participate in the Maui Economic Recovery Commission on behalf of OHA. I know that both Chair along with myself - have had conversations with the Maui Mayor, and getting feedback from him and from the work that we've been participating in. This is Chair's Island, so she's on the ground, she gets a lot of feedback, probably on the daily, on what needs to happen and what her constituents want. So, that's really helped to inform what we're going to share with you.



**Pouhana Ferreira:** So, knowing that the FEMA funding is going to be ending, we do have folks transitioning out of these temporary shelters. There is an extreme need to get funding into our resident's hands so that they can make this transition into longer term, more stable housing. We want to make sure that their basic needs are being met, so we don't want our beneficiaries to continue to have to jump through many hoops and go to various places to figure out how to get funding. We believe that OHA's funding is going to be very critical and getting it to them in a very direct and quick way at this point, is where we want to go.

We're planning on launching this in April and running through December 2024, we want to be able to provide tiered-funding options to our beneficiaries in Maui affected by the fires.

Category One would be \$9,000, and this would go to homeowner households with homes destroyed or homes that are no longer accessible, as evidenced by: a letter from the County or inclusion of the home on the Damage Log maintained and issued by the County Office of Housing, or is also located in the Mandatory Evacuation Area, as established and amended by the Mayor of the County.

The second category is \$4,000 to renter households displaced from a home or rental unity destroyed or is no longer accessible, as evidenced by a letter from the County or inclusion of the home on the Damage Log maintained and issued by the County Office of Housing, or is also located in the Mandatory Evacuation Area, as established and amended by the Mayor of the County.

So again, we're looking at 2 tiers of funding. One, if you are a homeowner, and two, if you are a renter.

Before I go on, I do want to let you know that our CFO Ramona Hinck did a lot of investigation on the tax implications of giving these awards directly to beneficiaries because we do not want them to be penalized by getting any funding directly, and so what we were able to get back was that there will be no tax implications, and that funding will be considered emergency relief.

**CFO Hinck:** Just for details, OHA doesn't have to issue a *1099* to the recipient of a qualified disaster payment, and the recipient's post income shall not include any amount received as a qualified disaster relief payment.

**Pouhana Ferreira:** Mahalo for that due diligence, Ramona. We appreciate that on behalf of our beneficiaries.

**Pouhana Ferreira:** The next slide is the process, and I'm not going to go too much into the weeds, but please know that this is a very high-level overview of the process. I don't want to bore you.

There's much more that's going to be entailed in terms of us delivering this, but at a very high level, our Maui office will facilitate and manage the eligibility verification process and awarding of the funds.

So, we're very grateful that we do have staff already on Maui that will be leading, and with support from our O'ahu office here, and we are looking at sending temporary (temp) assistance for the duration of the time that we will be giving these direct awards from April till December.

It's also important to note that we are going to be utilizing a verified list provided by the County of Maui. So, Chair and I will be working diligently to get that list prior to us starting any processing and disbursements.





**Pouhana Ferreira:** So here you see a very truncated eligibility requirement list. We are looking at applicants that are at least 18 years of age, with Native Hawaiian ancestry. There may be non-Hawaiian adults that may apply on behalf of a minor Hawaiian child living in the same household. So, we do know that we have many Native Hawaiian children who are overrepresented in our foster care system, so this may be a case where we have legal guardians who will be receiving benefits on their behalf.

The household must be in one of the impacted disaster districts or zones, determined by the county officials. And a household may consist of a person living alone, or multiple, unrelated individuals or families living together, we know that Hawaii is a very expensive place, so many times residents had multi-generational families co-residing.

There are other things that are currently in development, as we prepare to go forward with this proposal. We will be working very closely with our Communications Department to ensure that we can get the word out to our beneficiaries, who were affected by the fires.

In one of our recent Emergency Response Commission meetings, they provided a slide and e kala mai, I don't have that to share with you, but I will share it in a subsequent BOT meeting. It was shocking to me of how many have moved to the continent already.

So, I'd like to present that to you, because I think it's really important to know that even though we don't have all of our residents here - that didn't stay in Maui, or have relocated to one of our other islands, that we have many that are now on the continent, that also need our support.

**Pouhana Ferreira:** So, we will be working with our Communications department to make sure that we can get this message out, as far and wide as possible.

We are putting together an implementation plan and I want to thank our COO, Casey Brown, who assisted me in very quickly putting together this implementation plan, because there are a lot of details. We want to make sure that we're keeping good records, that we are collecting the required documentation and that we are again going to be coordinating along with the County of Maui to ensure that the beneficiaries are getting the support that they need.



**Pouhana Ferreira:** I want to close here with saying that we do have a timeline right now of April through December, and as much as we'd like to believe that we will get out all of the money, the 5 million dollars, that may not be the case. So, we will reassess with the Board at the end of the year to see how far we've come, what progress we've made, and if there's any additional next steps that are required.

**Ka Pou Nui Brown:** Just to add Ka Pouhana, fresh off the presses, that with our April estimated date was to have our CRM, our software in place so that we could leverage salesforce software to do some of this intake evaluation, the information exchange, but we're also capable of going manual, meaning more of a paper process, so that we can get things up running even sooner.

So, we can do that by the end of February, if the Trustees so choose to move forward with this proposal, we can set up a manual process to get things moving even quicker.

Pouhana Ferreira: Mahalo, Casey.

**Trustee Lindsey:** I just want to say that we have part of the list, not the whole list and that's what's holding us back from starting to qualify our people. This proposal or plan came up from my going into the community and talking to the people that were displaced. The different hubs that we had in Maui, especially in Lahaina, several hubs, five or six of them, just lulling around talking story with them, and they've all complained that the monies that have been going to the nonprofits have not been funneling back into their hands, and they need money. We're holding off to see how close it would come to when they showed a real need, after we exhausted all the benefits of the State, the Federal, and the County, and that was part of the advice from the Mayor to us. So, I think we're at that point where maybe we can offer this money to them because it's going to take a few years before they recover, and I believe they're needing help now.

Chair Waihe'e recognizes Trustee Souza.

**Trustee Souza:** Mahalo, Chair. Thank you for the presentation Stacy, I love the option, we're getting it directly to our people. Ramona, if you can confirm, I know there are more monies that were possibly available. The reason why I ask is because we don't know the real number just yet, I think they're still finding that out. So, I just want to know, if there's potentially other options; if we don't get the monies out, or if we needed more money.

I know there's a couple temporary housing options that I'd like to explore as well that already committed by; FEMA, the State of Hawai'i, and Hawai'i Community Foundation, that was announced a couple of weeks ago. It's going to be a part of those efforts as well; the housing option, as well as this option as well, which I do support. Thank you.

**Trustee Souza:** Ramona, can you confirm that there are other funds possibly available? Because I know this was just a start for the Board to contribute to the recovery efforts.

**CFO Hinck:** So, currently, we do have a large grant budget. So, we can allocate some of the current budget in grants to reallocate it someplace else or repurpose it; so that's one option.

The second option is, we're kind of right up against our spending limit, so it's going to be hard to access more budget monies because we're up against our spending limit, and that also includes any kind of grant carryovers, because we have to assess the carryover in light of our spending limit, too.

So, I think the best option we have right now is to look to reallocating some of our Grants budget. We just went through a realignment, so I can recalculate what the spending limit is and our budget to see what the excess is, but the last time I looked at it right before we did the realignment, we didn't have too much cushion.

**Trustee Souza:** Okay, thank you Ramona, for the update. I definitely support this, and I guess we'll see as it goes along, how fast we can get all these monies to help our beneficiaries. Thank you so much.

Chair Waihe'e recognizes Trustee Akaka.

**Trustee Akaka:** Mahalo, this question is for Ramona regarding the spending limit that you mentioned. What were some of the top amounts that we recently allocated or distributed, or planning to distribute that would affect the spending limit?

**CFO Hinck:** So, we used our current budget, and we reallocated certain funds, but then the big one was the 1-million-dollar governance loan that we paid out in FY24 that we had actually budgeted in FY23. So, that increased our budget by 1 million dollars right there and then the other big thing was in commercial properties, the Hakuone \$1.3 million additional expenditures for Lot L for repairs.

**Pou Nui Brown:** I would say this \$5 million is probably the biggest unplanned amount in our entire budget Trustees, so Mona is accounting for this 5 million with being part of that spend rate that is by far the biggest bucket in a one time, unforeseen event that was not planned for when we were budgeting last year.

Chair Waihe'e recognizes Trustee Ahuna.

**Trustee Ahuna:** Thank you, Chair. I was just wondering - what are the number of residents, homeowners, and renters? Do we actually know an amount, does anybody know?

**Trustee Lindsey:** I think putting it together, was around 3,000, and that includes families and individuals. I think our CEO divided it up according to what we think the families numbered around, 220 renters and 350 lost their homes

**Trustee Ahuna:** So that would be under 5 million. So perfect.

**Trustee Lindsey:** Not really, we took about the whole 5 million.

**Pouhana Ferreira:** Yeah, I think we'll definitely be able to answer your question, trustee, when we get the list, because these are estimates obviously, because we needed to put the proposal together. But we'll have a more definitive number soon.

**Pou Nui Brown:** I want to acknowledge one thing about this monumental amount that the Trustees approved for 5 million dollars, I also want to note that this will be the first time OHA is going to be directly giving money to individuals.

Historically, we normally give it to organizations, but this is going directly to the individuals, and I want to acknowledge the team across OHA's administration that came together to stand up the process to be able to do this in a quick time, in response to the Trustees' directive.

I commend the team. It was a cross-functional team across almost every division that came together, and they came together to put up the infrastructure, to be able to deploy and disperse the money.

Our very first time OHA's giving money directly to our beneficiaries in their hands, I just want to mahalo them. Thank you.

Trustee Lindsey: Thank you, Casey.

### V. ANNOUNCEMENTS

None

### VI. ADJOURNMENT

Trustee Lindsey moves to adjourn the RM meeting.

Vice-Chair Alapa seconds the motion.

Chair Waihe'e asks if there is any discussion.

There is zero discussion.

### Chair Waihe'e calls for a ROLL CALL VOTE.

							3:24 p.m.
TRUSTEE		1	2	'AE (YES)	A'OLE (NO)	KANALUA (ABSTAIN)	EXCUSED
DAN	AHUNA			X			
KALEIHIKINA	AKAKA			X			
KELI'I	AKINA			X			
VICE-CHAIR LUANA	ALAPA		2	X			
BRICKWOOD	GALUTERIA						Departed at 3:16 p.m.
CARMEN HULU	LINDSEY	1		X			
J. KEONI	SOUZA			X			
MILILANI	TRASK						Departed at 2:08 p.m.
CHAIR JOHN	WAIHE'E			X			
TOTAL VOTE O	OUNT			7	0	0	2

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

Chair Waihe'e adjourns the RM meeting at 3:24 p.m.

DRAFT For Approval on 3/06/2024

Respectfully submitted,
Melissa Wennihan Trustee Aide Committee on Resource Management
As approved by the Committee on Resource Management (RM) on March 6, 2024
Trustee John Waihe'e, IV Chair Committee on Resource Management

PHONE (808) 594-1888

#### FAX (808) 594-1865

### **Committee on Resource Management**

Trustee John Waihe'e IV, At-Large - Chair

Trustee Luana Alapa, Moloka'i / Lāna'i - Vice Chair

Members

Trustee Dan Ahuna, *Kaua'i / Ni'ihau* Trustee Kaleihikina Akaka, *O'ahu* Trustee Keli'i Akina, *At-Large* 

Trustee Brickwood Galuteria, At-Large Trustee Carmen Hulu Lindsey, Maui Trustee J. Keoni Souza, At-Large Trustee Mililani Trask, Hawai'i Island



# STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS

### MEETING OF THE COMMITTEE ON RESOURCE MANAGEMENT (RM)

DATE: Wednesday March 6, 2024

**TIME**: 10:00 a.m.

**PLACE**: Remote Meeting by Interactive Conference Technology

and in-person at OHA Mauli Ola Boardroom

Nā Lama Kukui 560 N. Nimitz Hwy. Honolulu, HI. 96817

viewable at https://www.oha.org/livestream OR

Listen by phone: (213) 338-8477, Webinar ID: 863 4000 3303

This virtual meeting can be viewed and observed via livestream on OHA's website at www.oha.org/livestream or listened to by phone at: (213) 338-8477, Webinar ID: 863 4000 3303. A physical meeting location, open to members of the public who would like to provide oral testimony or view the virtual meeting, will be available at 560 N. Nimitz Hwy., Suite 200, Honolulu HI 96817.

### **AGENDA**

- I. Call to Order
- II. Approval of Minutes
  - A. February 7, 2024
- III. Unfinished Business None
- IV. New Business
  - A. The Native Hawaiian Trust Fund (NHTF) Investment Portfolio Review for the Quarter Ending December 31, 2023
  - B. Consequent Capital Management
    - 1. Recommendations for the Native Hawaiian Trust Fund (NHTF)
  - C. Presentation by Administration on Event Sponsorship Grants
- V. Announcements
- VI. Adjournment

If you need an auxiliary aid/service or other accommodation due to a disability, please contact Everett Ohta at (808) 594-1988 or by email at everetto@oha.org as soon as possible. Requests made as early as possible have a greater likelihood of being fulfilled. Upon request, this notice is available in alternate/accessible formats.

Meeting materials for this meeting will be available for the public to view 48 hours prior to this meeting at OHA's main office located at 560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817. Meeting materials will also be available to view at OHA's neighbor island offices and will be posted to OHA's website at: <a href="https://www.oha.org/rm">www.oha.org/rm</a>.

In the event that the livestream or the audiovisual connection is interrupted and cannot be restored, the meeting may continue as an audioonly meeting through the phone and Webinar ID listed at the beginning of this agenda. Meeting recordings and written meeting minutes are posted to OHA's website. The Native Hawaii Trust Fund Investment Portfolio Review Quarter Ending December 31, 2023

Committee on Resource Management Committee March 6, 2024

# Table of Contents

- Market Update
- NHTF Q4 Performance
- Policy Attribution
- Peer Group Comparison
- Asset Allocation
- Appendix: Draft Dashboard Report

# Market Overview – Fourth Quarter 2023

# Major asset classes rallied after a series of softer inflation reports in the US and Europe

- <u>Global stocks</u> MSCI All-Country World Index returned +11% for the quarter and +22.2% for the year. The US market led the way with +12.1% for the quarter (+26.2% for the year), followed by non-US markets at +10.4% (+18.2%, 1-year).
- Fixed Income Bloomberg Aggregate Bond Index returned 6.8% for the quarter (+5.5% year).

### FOURTH QUARTER 2023 TOTAL RETURNS (%)

The reversal of rising interest rates led most asset classes to finish out 2023 in strong fashion.



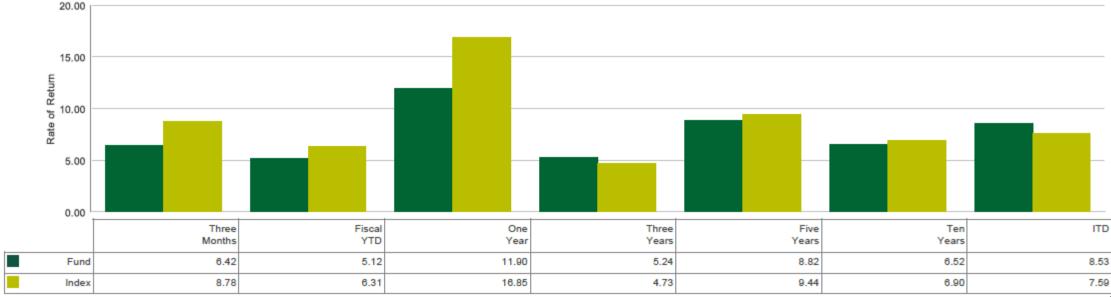
Source: Northern Trust Asset Management, Bloomberg. NR: Natural Resources; GRE: Global Real Estate; GLI: Global Listed Infrastructure.

# Native Hawaiian Trust Fund Performance – Fourth Quarter 2023

### Highlights:

- Market value of \$548 million, a \$35.1 million increase from the previous quarter(\$55.8 million calendar year).
- Quarter: 6.4% versus 8.7% net return (6.1%, Quarter Lag PE) for the policy benchmark.
- Calendar 2023: 11.9% versus 16.8% net return for the policy benchmark (16.9%, Quarter Lag PE)
- Long-term Ten-Year Annualized returns: +6.5% versus 6.9% net return for the policy benchmark (16.8%, Quarter Lag PE)

### **OHA FINANCIAL ASSETS TOTAL FUND GROSS OF FEES**



Index: OHA Policy Index

# Fourth Quarter 2023- Policy Attribution

- Contributors: Public Equities (selection, overweight)
- Detractors: Private Equity (delayed valuations compared to public market benchmarks) and Cash.

Note: The performance gap should narrow over time as updated private market valuations become available.

NORTHERN TRUST
OHA Financial Assets | December 31, 2023

### Policy Level Attribution - Three Months

•	Weights		Rate of Returns		Attribution Effects		
	Beginning Weights	Beginning Excess Weight	Return	Relative Excess Return	Relative Asset Allocation	Relative Stock Selection	Total Effect
OHA Financial Assets	100.00	0.00	6.42	-2.17	-0.41	-1.77	-2.17
OHA Policy Index	100.00		8.78				
Total Global Equity	44.29	2.29	11.09	0.05	0.05	0.02	0.07
MSCI ACWI ND	42.00		11.03				
Total Private Equity	12.47	-6.53	-1.42	-11.85	-0.19	-1.50	-1.69
MSCI ACWI (Net) +3%	19.00		11.83				
Total Global Real Assets	8.09	3.09	3.94	-1.46	-0.09	-0.12	-0.20
BBG US TIPS + 3%	5.00		5.48				
Total Hedge Funds	13.29	0.29	1.57	-0.73	-0.00	-0.11	-0.11
90 Day T-Bill + 4%	13.00		2.32				
Total Fixed Income	17.10	-0.90	6.28	-0.50	0.03	-0.08	-0.06
BBG US Aggregate	18.00		6.82				
Total Enhanced Liquidity	2.72	-0.28	3.01	0.44	0.02	0.01	0.03
BBG US Treasury: 1-3 Year	3.00		2.56				
Cash	2.03	-	1.31	-	-0.22	0.00	-0.22

Residual

# Native Hawaiian Trust Fund Peer Group Comparison

NHTF returns fall within the median on a 1, 3, and 5-year time frame with Endowment and Foundation Peer groups



\*Rank is in parenthesis

# Asset Allocation as of December 31, 2023

### Asset Allocation Overview





# **Summary:**

- Asset classes are currently positioned within policy ranges
- The overweight to Public Equities and Global Real Assets balances the underweight to Private Equity
- Underweight to Fixed Income allocation is compensated by an overweight position in Cash, which is anticipated to decrease to realign with policy targets and support ongoing operational needs.

	Ending Market Value			
Program/Consolidation	GOF USD	Actual Weight	Target Weight	Min and Max
Total Public Equity	258,631	47.15	42.00	22.00 - 55.00
Total Private Equity	62,147	11.33	19.00	0.00 - 25.60
Total Global Real Assets	42,455	7.74	5.00	0.00 - 11.00
Total Hedge Funds	69,386	12.65	13.00	6.40 - 19.20
Total Fixed Income	87,302	15.91	18.00	11.00 - 22.00
Total Enhanced Liquidity	14,398	2.62	3.00	0.00 - 10.00
Cash	14,237	2.60	0.00	
OHA Financial Assets	548,556	100.00		
OHA Financial Assets Percent				

<sup>\*</sup>Market Values are represented in thousands.

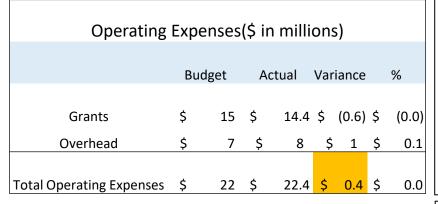
<sup>\*</sup>Underlying assets of the fund have been included in the market value and allocation.

# Appendix

Dashboard Report(Draft)

### OHA Finance Dashboard – Q4xx

### Operating & Capital Expenses

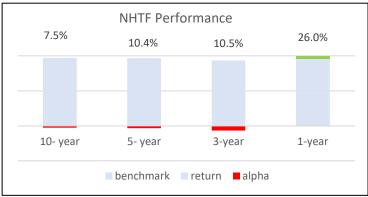


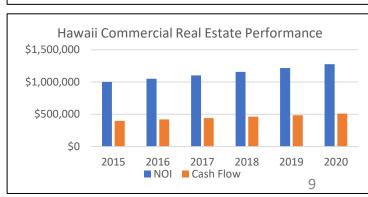
# **Spending Policy Metrics**

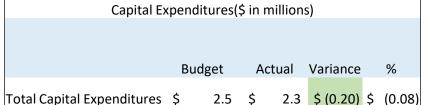




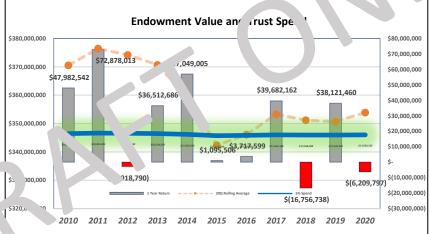








- Total Operating Expenses
  - \$.04 M over Budget
  - Overall operating budget was above expenses...
- Capital Expenses
  - \$.xx under Budget



- Endowment Spend is below target at 4.5%
- Endowment Value is \$xx million

# Financial Assets Dashboard – 4th Quarter, December 31, 20xx

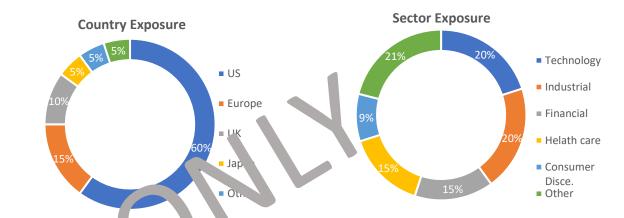
### **ASSET ALLOCATION**



Liquidity		
Financial Assets	MV(in Mi	% of FAD
Endowment Cash	\$100	5%
Funds Available Within 30 days	\$2,500	40%

Fixed Income	Yield to Maturity	Duration
US Fixed Income	2%	4.5

### Marketable Securities



### **Private Assets**

Private Equity	Unfunded	Contributions	distributions	Fair Value	Total Value
U Private Equit,	\$29	\$89	\$88	\$40	\$120
Non is Private Equity	\$25	\$78	\$53	\$57	\$110
Ventu Capital	\$22	\$44	\$24	\$52	\$76
r. 'ate Credit	\$8	\$37	\$15	\$94	\$54
Real Assets	\$2	\$14	\$8	\$10	\$18
Total	\$86	\$262	\$188	\$253	\$378

### **Portfolio Activities**

Fund Manager	Cash	Flow(\$M)	Notes
SSGA Real Assets	\$	(2.30)	Implement New IPS - reduce overweight
SSGA S&P 500	\$	(5.00)	reduce, overweight
WAMCO Fixed Income	\$	1.30	Add, underweight
Operational Cash	\$	3.00	Fund BOH Organization Spend
Net Amount	\$	(3.00)	10



# **OHA Financial Assets**

Investment Risk & Analytical Services

December 31, 2023

# **Table of Contents**

Section 1. OHA Financial Assets	6	Section 1. OHA Financial Assets	6
1.1. Market Overview	7	1.18 Ex Post Risk Statistics Graphs(2)	48
1.2. Executive Summary	13	1.19 Ex Post Risk Statistics Graphs(3)	49
1.3. Asset Class Totals	14	1.20 Index Overview	50
1.4. Manager Performance	16	1.21 Index Component Reporting	54
1.5. Asset Allocation Overview	22	1.22 Peer Group Rankings	55
1.6. Asset Allocation over Time	23	Section 2. Total Public Equity	56
1.7. Growth Over Time-Inception to Date	25		<b>5</b> 7
1.8. Market Value Summary - Three Months	26	2.1. Executive Summary	57
1.9. Market Value Summary - One Year	29	2.2. Investment Hierarchy	58
1.10 Policy Level Attribution Overview	32	2.3. Market Value Summary - Three Months	60
1.11 Policy Level Attribution Detail - One Month	33	2.4. Peer Group Rankings	61
1.12 Policy Level Attribution Detail - Three Months	35	Section 3. STRATEGIC SOLUTIONS GBL EQT	62
1.13 Policy Level Attribution Detail - One Year	37	3.1. Portfolio Windows	63
1.14 Greatest Asset Impact	39	Continue 4 MEO LE MODOAN MUT ED ODOMEUA	64
1.15 Risk Statistics	42	Section 4. MFO J P MORGAN MUT FD GROWTH A	
1.16 Risk Statistics by Program/Portfolio	43	4.1. Portfolio Windows	65
1.17 Ex Post Risk Statistics Graphs	47		

			,
Section 5. MFO JP MORGAN TRUST I US EQUIT	66	Section 14. MFO JPMORGAN TR I EMERGING MKT	84
5.1. <u>Portfolio Windows</u>	67	14.1 Portfolio Windows	85
Section 6. MFO JP MORGAN TRUST I VALUE AD	68	Section 15. MFO JPMORGAN TR IV EMERGING MK	86
6.1. <u>Portfolio Windows</u>	69	15.1 Portfolio Windows	87
Section 7. MFO JPMORGAN TR I SMALL CAP BL	70	Section 16. Total Private Equity	88
7.1. Portfolio Windows	71	16.1 Executive Summary	89
Section 8. STATE STREET EQUITY 500 INDEX	72	16.2 Investment Hierarchy	90
8.1. Portfolio Windows	73	16.3 Market Value Summary - Three Months	91
o.i. Foliono windows		16.4 Market Value Summary - Six Months	92
Section 9. JPM BetaBuilders Canada ETF	74	Section 17. PRIVATE EQUITY CO-INVESTMENT P	93
9.1. Portfolio Windows	75	17.1 Asset Level Performance	94
Section 10. JPM Europe Dynamic Fund	76		
10.1 Portfolio Windows	77	Section 18. Commonfund Venture Capital	95
		18.1 <u>Asset Level Performance</u>	96
Section 11. JPM International Focus R6	78	Section 19. OHA OPPORTUNISTIC	97
11.1 Portfolio Windows	79	19.1 Asset Level Performance	98
Section 12. JPM JAPAN ETF	80		
12.1 Portfolio Windows	81	Section 20. Total Global Real Assets	99
12.1 Tottono windows		20.1 Executive Summary	100
Section 13. STATE STREET GLOBAL ALL CAP	82	20.2 Investment Hierarchy	101
13.1 Portfolio Windows	83		

Section 20. Total Global Real Assets	99	Section 27. Total Fixed Income	117
20.3 Market Value Summary - Three Months	102	27.2 Investment Hierarchy	119
Section 21. Total Hedge Funds	103	27.3 Market Value Summary - Three Months	120
21.1 Executive Summary	104	27.4 Peer Group Rankings	121
21.2 Investment Hierarchy	105	Section 28. CF STATE STREET AGGREGATE BOND	122
21.3 Market Value Summary - Three Months	106	28.1 Portfolio Windows	123
Section 22. CF GLOBAL ABSOLUTE ALPHA COMPA	107	Section 29. MFO CORE PLUS BD FD CL R6	124
22.1 Portfolio Windows	108	29.1 Portfolio Windows	125
Section 23. MFO JP MORGAN TRUST I RESEARC	109	Section 30. MFO JPMORGAN TR II CORE BD FD	126
23.1 Portfolio Windows	110	30.1 Portfolio Windows	127
Section 24. MFO JPMORGAN TR I INCOME FD CL	111	Section 31. MFO JPMORGAN TR II HIGH YIELD	128
24.1 Portfolio Windows	112	31.1 Portfolio Windows	129
Section 25. MFO JPMORGAN TR I OPPORTUNISTI	113	Section 32. WAMCO SHORT-DATED HIGH YLDPORT	130
25.1 Portfolio Windows	114	32.1 Portfolio Windows	131
Section 26. PIMCO TACTICAL OPPORTUNITIES O	115	Section 33. Total Enhanced Liquidity	132
26.1 Portfolio Windows	116	33.1 Executive Summary	133
Section 27. Total Fixed Income	117	33.2 Investment Hierarchy	134
27.1 Executive Summary	118	33.3 Market Value Summary - Three Months	135

Section 34. Cash	136
34.1 Executive Summary	137
34.2 <u>Investment Hierarchy</u>	138
34.3 Market Value Summary - Three Months	139
Section 35. Appendix	140
35.1 Disclaimer(s)	141

# SECTION 1

# **OHA Financial Assets**

Investment Risk & Analytical Services

December 31, 2023

### Market Overview

#### MARKET OVERVIEW - FOURTH QUARTER 2023

PROVIDED BY NORTHERN TRUST ASSET MANAGEMENT

MISSION ACCOMPLISHED? ... Entering 2024, the Federal Reserve appears set to proclaim inflationary mission accomplished – and in soft-landing fashion. Investors welcomed the Fed's evolving message on monetary policy, with global equity markets up 11% (12% in the U.S.) in the quarter. The strong finish to an already strong year was largely driven by the reversal of rising interest rates. After peaking at 4.99% on October 19, 10-year U.S. Treasury yields ended 2023 at 3.88% – interestingly, right near where they started the year. As we progress into 2024, investor attention may shift from the mission to tame inflation to the mission to calm geopolitical tensions.

Is the inflation mission fully accomplished yet? The Fed's preferred measure of inflation – Core Personal Consumption Expenditures (PCE) – has fallen to 3.2% from a cycle high of 5.6% while the six-month annualized inflation level actually sits below the Fed's 2% inflation target at 1.9%. The shift in inflation trends has been accompanied by a shift in "Fedspeak" – with Fed Chair Jerome Powell's cheerful holiday message after the December 13 Fed meeting receiving only modest pushback in subsequent speaking appearances from other Fed officials. Investors are now expecting six rate cuts in 2024, starting in March. That said, the Fed – per its Summary of Economic Projections – is collectively only calling for three cuts this year, while continuing to provide assurance they will see their mission through if inflation shows signs of moving higher again.

Geopolitics: Mission impossible? Should inflation maintain its current trajectory lower, investor attention will stray from monetary policy to focus more directly on ongoing geopolitical tensions – for which near-term resolution appears difficult. Most pressing at the moment is the free movement of goods through the Red Sea, which carries around 12% of global trade. As Iranian-backed Houthi rebels ramp up their attacks on Red Sea-faring vessels, companies (over concern for their employees) are rerouting ships and insurance providers (over concern for their capital) are declining to provide standard coverage. Should the conflict jump the Arabian peninsula to the Strait of Hormuz in the Persian Gulf – where around 20% of global oil passes – the geopolitical challenges will likely become much more acute. Complicating matters further, almost half of the world's 7.9 billion people will have an election in 2024. The election slate is headlined by the U.S. presidential cycle, kicking off on January 15 with the lowa Caucuses. Just as important is the January 13 Taiwan presidential election, which risks refreezing recently thawed U.S.-China relations should the pro-independence Democratic Progressive Party nominee, Lai Ching-te, win (as expected). Any escalation in this cold war could quickly jump over the hot wars to the front of the queue as an area of investor concern – certainly with respect to the longer-term financial market outlook.

#### FOURTH QUARTER 2023 TOTAL RETURNS (%)

The reversal of rising interest rates led most asset classes to finish out 2023 in strong fashion.



Source: Northern Trust Asset Management, Bloomberg, NR: Natural Resources; GRE: Global Real Estate; GLI: Global Listed Infrastructure.

### Soft Landing in Sight?

U.S. economic resilience remained on center stage in 4Q with 2023 real GDP growth set to finish near 2.5% – a far cry from early-year fears of a recession. Much of the resilience ties back to the U.S. consumer – insulated to a degree from higher rates and supported by a firm labor market. Core inflation continued to move lower with goods deflation helping offset more sticky services inflation. Housing-related inflation is still elevated but it operates on a lag and future moderation is expected given trends in rent over the last year.

### Season's Greetings from the Fed

The Fed did little to dampen soft landing hopes and the easing in financial conditions. Fed officials expressed more optimism on inflation normalizing without major labor market disruption. In December, Fed Chair Powell implied the Fed is done hiking and offered an optimistic take on inflation progress — leading to sharp further declines in Treasury yields. Outside the U.S., the European Central Bank and Bank of England are also likely done hiking, but face a more delicate situation with weaker growth and higher inflation versus the U.S.

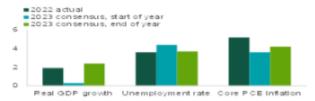
### Rising Geopolitical Risk

The brutal Hamas attack on Israel led to risk of a broad Middle East conflict and oil supply disruption. The war has been largely contained so far. But the Iran-aligned Houthis picked up attacks on shipping vessels in December, causing re-routing away from the Red Sea. Roughly 30% of container shipping flows through the Suez Canal, including many Asia-to-Europe routes. Although not unusual to see higher prices from Asia in 4Q given holiday trade flows, shipping rates on Asia-to-Europe routes surged, reflecting rising geopolitical risk.

### Sprint to the Finish Line

Equity market gains broadened in the last two months of 2023 with help from lower interest rates. The average U.S. stock performed well while previously lagging areas (e.g., small caps, regional banks, real estate, unprofitable tech companies) rebounded nicely. The "Magnificent Seven" stocks still held their ground, capping a fantastic run in 2023. This group accounted for roughly 60% of the S&P 500's 26% gain in 2023. Meanwhile, the sharp decline in rates helped long-term Treasuries avoid a third consecutive year of losses.

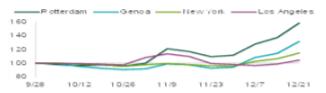
### CONSENSUS U.S. ECONOMIC DATA (%)



### CHANGE IN 10-YEAR TREASURY YIELD (BPS)



### SHIPPING RATES: SHANGHAI TO ... (INDEXED TO 100)



#### YEAR-TO-DATE RETURNS AS OF ... (%)



### Interest Rates

Treasury yields moved sharply lower across the quarter after peaking at cycle highs in October. The 2-year yield declined ~80 basis points (bps), with the 10-year yield down ~70 bps. Investors pulled forward expectations for the first Fed rate cut to March (from July), with six cuts expected in 2024 (up from three). The Fed held its policy rate but its broader messaging indicated policy members expect a pivot to lower rates in 2024 as well. Specifically, its latest economic projections call for three rate cuts and a soft-landing-type backdrop in 2024.

### Credit Markets

It was a solid quarter for spread products with help from both lower government bond yields and tighter credit spreads. Investment grade (IG) and high yield (HY) credit spreads widened alongside summitting interest rates before spreads firmly tightened alongside the rate reprieve. IG and HY credit spreads narrowed 19 and 73 bps, respectively, with both finishing at levels tighter than long-term averages. From a return standpoint, IG fixed income produced an abnormally robust return of 6.8%. HY also delivered an outsized gain at 7.2%.

### Equities

Global equities finished the quarter with an 11.1% gain after surging 15% across November and December. All major regions partook in the rally as growing investor belief in benign inflation led to a dovish repricing in expectations for central bank activity. U.S. equities led the charge amid a durable macro backdrop that allowed for better market breadth. 2024 earnings expectations moved up, but most of the gains were valuation driven. U.S. valuations sit well above the long-term median, while non-U.S. prices are closer to historical norms.

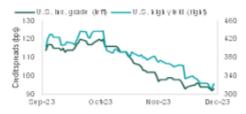
### Real Assets

Real estate was a standout performer with a 15% gain. The interest rate rollover amid non-recessionary growth conditions were tailwinds for the asset class, which had lagged global equities the prior six successive quarters. With interest rate support, global infrastructure kept pace with global equities – a respectable outcome given its lower risk profile. Natural resources registered an underwhelming 3.6% gain, with weakness mainly within energy. War-related risk premiums were seemingly overpowered by future demand uncertainty.

#### U.S. TREASURY YIELD CURVE



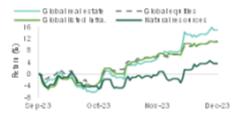
#### CREDIT SPREADS



#### REGIONAL EQUITY INDICES



### REAL ASSET INDICES



#### MARKET EVENTS

■4Q 2023 global equity total return: 11.1%



A blowout increase in U.S. jobs added contributes to intermediate-tolonger term Treasury yields rising to levels last reached in 2007.

OCTOBER

U.S. equities post a 6% weekly gain and interest rates move sharply lower as the Fed stays on hold and U.S. hiring slows.

NOVEMBER

Moody's lowers its outlook for China's credit rating to negative on debt concerns. Toward the end of the week, Politburo indicates more proactive fiscal policy in 2024.

DECEMBER

Markets contend with new geopolitical risks after Hamas' surprise attack on Israel; broader escalation risks are contained during the quarter.

U.S. inflation decelerates and is milder than expected, especially when accounting for upward impacts due to changes in health care accounting.

Comments from BOJ Governor Ueda raise suspicion that the central bank may exit negative interest rates sooner than expected.

U.S. headline inflation rises more than expected as the 'super core' measure (core services ex-housing) posts a strong 0.6% monthly increase.

President Xi and President Biden meeting is de-escalatory, though it gives little reason to believe that the longerterm strategic rivalry will change course. U.S. jobs report underscores ongoing strength while job openings data released the day before shows a declining supply shortfall.

The United Auto Workers (UAW) reaches tentative agreements with Ford Motors and Stellantis that include 25% wage hikes over roughly four years.

The U.S. passes a short-term funding bill excluding wartime aid to keep the government funded for roughly two more months.

Fed communication suggests rate hikes are done and rate cuts are expected in 2024.

The Bank of Japan (BOJ) introduces flexibility around yield curve control, now referring to a 1% yield as a "reference" rather than a "ceiling" for 10-year government bonds.

Third quarter U.S. Gross Domestic Product is upwardly revised from 4.9% to 5.2% – the fastest pace in almost two years. The European Central Bank pushes against rate cut expectations; the Bank of England leaves its policy rate unchanged, though three of nine members vote for a rate hike.

### IMPORTANT INFORMATION

Indexes used: Bloomberg Barclays (BBC) 1-3 Month UST (Cash); BBC Municipal (Muni); BBC Aggregate (Inv. Grade); BBC TIPS (TIPS); BBC High Yield 2% Capped (High Yield); JP Morgan GBI-EM Global Diversified (Em. Markets Fixed Income); MSCI U.S. Equities IMI (U.S. Equities); MSCI World ex-U.S. IMI (Dev. ex-U.S. Equities); MSCI Emerging Market Equities IMI (Em. Markets Equities); S&P Global Natural Resources (Natural Resources); MSCI ACWI IMI Core Real Estate (Global Real Estate); S&P Global Infrastructure (Global Listed Infrastructure).

IMPORTANT INFORMATION. The information is not intended for distribution or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation. Northern Trust and its affiliates may have positions in and may effect transactions in the markets, contracts and related investments different than described in this information. This information is obtained from sources believed to be reliable, and its accuracy and completeness are not guaranteed. Information does not constitute a recommendation of any investment strategy, is not intended as investment advice and does not take into account all the circumstances of each investor. Opinions and forecasts discussed are those of the author, do not necessarily reflect the views of Northern Trust and are subject to change without notice.

This report is provided for informational purposes only and is not intended to be, and should not be construed as, an offer, solicitation or recommendation with respect to any transaction and should not be treated as legal advice, investment advice or tax advice. Recipients should not rely upon this information as a substitute for obtaining specific legal or tax advice from their own professional legal or tax advisors.

Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Comparative indices shown are provided as an indication of the performance of a particular segment of the capital markets and/or alternative strategies in general. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. For additional information on fees, please refer to Part 2a of the Form ADV or consult a Northern Trust representative.

Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Fund Managers (Ireland) Limited, Northern Trust Global Investments Japan, K.K, NT Global Advisors, Inc., 50 South Capital Advisors, LLC, Belvedere Advisors LLC, Northern Trust Asset Management Australia Pty Ltd, and investment personnel of The Northern Trust Company of Hong Kong Limited and The Northern Trust Company.

© 2023 Northern Trust Corporation, Head Office: 50 South La Salle Street, Chicago, Illinois 60603 U.S.A.

Cooling inflation, softening labor markets and lower interest rates paved the way for a strong rally during the fourth quarter. Central governments held interest rates steady during the quarter, leading to hopes that rate cuts would be coming in the following year. The Northern Trust All Funds Over \$100 Million plan universe median return was up 7.3% for the period. The total plan universe is comprised of 406 institutions with total assets over \$1.4 trillion. The Northern Trust Corporate (ERISA) universe median return for the quarter was up 9.5%, the Northern Trust Foundation and Endowment (F&E) universe produced a 5.5% median return, and the Northern Trust Public Funds universe median return was up 6.4%.

During the fourth quarter, the US equity markets rallied behind guidance from the Federal Reserve that rate cuts may come sooner than previously anticipated. Corporate profits showed continued growth at an annual rate of 2.7% leading to hopes that the economy could avoid a recession. The Northern Trust US Equity Program universe produced an 8.5% median return for the quarter. The S&P 500 large cap index was up 11.7% for the three-month period. The Russell 1000 large cap growth index returned 14.2%, which outperformed the Russell 1000 large cap value index return of 9.5%. Large cap stocks underperformed small cap stocks. The Russell 1000 large cap index returned 12.0%, compared to the Russell 2000 small cap index which returned 14.0% for the period.

The Eurozone, UK and the Emerging Markets region equity markets responded positively to the rate pause by the European Central Bank and major central banks during the quarter. The Japanese market continued to build on a strong 2023 rally supported by an uptick in corporate spending, increases in exports and favorable regulatory reform. The Northern Trust Non-US Equity Program universe produced a 9.8% median return for the quarter. By comparison, the MSCI World Ex-US ND index returned 10.5% during the period and the MSCI Emerging Markets ND index returned 7.9%.

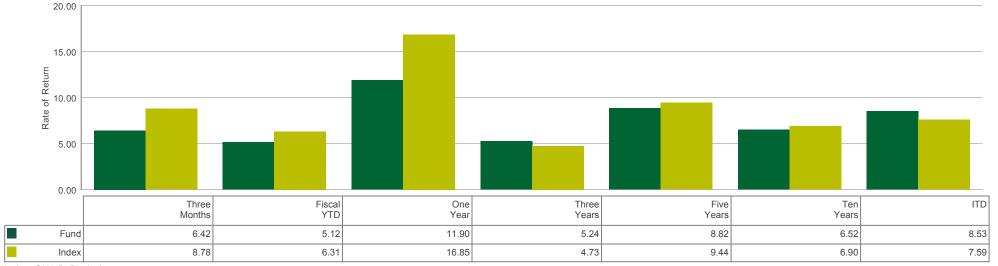
The Fed held interest rates steady during the quarter at the 5.25% to 5.5% range. The US ten-year government bond yield fell from 4.59% to 3.88% during quarter and the two-year government bond yield fell 78 basis points to 4.25%. The Northern Trust US Fixed Income program universe median return was up 5.3% for the quarter.

The ERISA plan median one, three and five-year returns were 10.3%, -1.0% and 6.1%, respectively. ERISA plans large allocation to the US fixed Income asset class (53.1%) enabled the client segment to outperform other segments as a result of rising bond prices during the quarter. The Public Funds universe median returns for the one, three and five-year periods stand at 10.6%, 4.6% and 8.3%, respectively. The median quarter allocation to US and international equity are 28.1% and 12.6%, respectively. The median exposure to US fixed income for Public Funds is 22.2%. The segment continues to increase the allocation to Private Equity, where the universe median allocation now stands at 14.0%.

The Foundations & Endowments median one, three and five-year returns were 11.3%, 5.2% and 9.1%, respectively. Foundation and Endowments are continuing the trend to allocate funds to the private equity asset class with the median allocation now at 24.1%, a slight decline from the prior quarter.

# **Executive Summary**

### **OHA FINANCIAL ASSETS TOTAL FUND GROSS OF FEES**

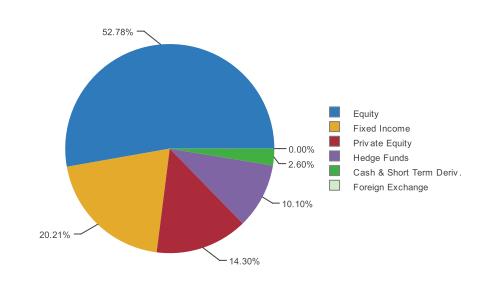


Index: OHA Policy Index

### **GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES**



### **ASSET CLASS ENDING WEIGHTS**



### **Asset Class Totals**

			_	% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
OHA Financial Assets	548,555,636	100.00		6.42	5.12	11.90	5.24	8.82	6.52	8.53	02/28/2003
OHA Policy Index				8.78	6.31	16.85	4.73	9.44	6.90	7.59	02/28/2003
OHA Policy Index Qtr Lag PE				6.07	5.59	16.94	4.40	9.23	6.79	7.54	02/28/2003
CPI + 5%				0.89	3.02	8.51	10.86	9.26	7.91	7.62	02/28/2003
Capital Appreciation	320,777,383	58.48		8.39	5.71	16.41	6.75	12.83	10.16	10.68	06/30/2004
Total Public Equity	258,630,506	47.15	42.00	11.09	7.31	22.14	5.94	12.13	8.14	7.88	06/30/2011
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	7.93	8.29	06/30/2011
Total Global Equity	258,630,506	47.15		11.09	7.31	22.14	5.94	12.13	8.14	7.88	06/30/2011
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	7.93	8.29	06/30/2011
Global Equity	51,664,709	9.42		10.51	7.37	21.72	5.09	10.81	-	7.51	06/30/2014
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	-	7.68	06/30/2014
Emerging Markets	8,892,493	1.62		7.68	1.98	7.99	-8.10	4.30	2.06	2.20	06/30/2011
MSCI Emerging Markets ND				7.86	4.71	9.83	-5.08	3.68	2.66	1.54	06/30/2011
Developed Markets	198,073,305	36.11		11.38	7.51	22.98	7.17	12.86	8.91	10.12	04/30/2012
MSCI World ND Index				11.42	7.56	23.79	7.27	12.80	8.60	9.99	04/30/2012
Domestic Equity	129,250,650	23.56		11.90	8.67	26.52	9.90	16.31	11.80	13.89	04/30/2012
Russell 3000				12.07	8.43	25.96	8.54	15.16	11.48	12.88	04/30/2012
International Equity	68,822,654	12.55		10.46	5.48	16.96	2.59	7.16	3.64	5.34	04/30/2012
MSCI EAFE ND				10.42	5.88	18.24	4.02	8.16	4.28	6.19	04/30/2012
Total Private Equity	62,146,877	11.33	19.00	-1.42	-0.48	-1.74	5.70	11.66	12.16	11.48	06/30/2004
MSCI ACWI (Net) +3%				11.83	8.84	25.81	8.91	15.04	11.15	10.78	06/30/2004
MSCI ACWI (NET) +3% QLAG				-2.68	4.09	24.37	10.09	9.64	10.77	10.21	06/30/2004
Diversified	29,659,495	5.41		-0.69	-0.20	0.76	4.86	8.87	10.30	10.35	06/30/2004
MSCI AC World (Net) +3%				12.21	9.14	27.44	10.47	16.16	11.84	11.02	06/30/2004
MSCI AC World (Net)+3% QLag				-2.74	4.66	25.55	11.31	10.46	11.49	10.46	06/30/2004
Co-Investments	11,881,543	2.17		-3.20	0.16	4.00	12.49	19.77	16.57	15.54	11/30/2012
MSCI AC World (Net) +3%				12.21	9.14	27.44	10.47	16.16	-	-	11/30/2012
MSCI AC World (Net)+3% QLag				-2.74	4.66	25.55	11.31	10.46	11.49	12.76	11/30/2012
Venture Capital	19,322,519	3.52		-1.65	-1.48	-8.72	4.19	16.88	18.95	18.10	08/31/2012
NASDAQ + 3%				15.41	12.95	59.62	13.46	26.29	-	-	08/31/2012
NASDAQ + 3% QLag				-2.13	13.73	39.27	12.96	18.48	-	-	08/31/2012
Opportunistic Credit	1,283,320	0.23		1.88	3.79	7.64	8.56	7.34	8.79	8.78	10/31/2007
S&P/LSTA Lev Loan Index +2%				3.37	7.47	15.37	7.87	7.90	6.50	6.83	10/31/2007
S&P/LSTA Lev +2% QLag				3.97	7.77	15.22	8.19	6.54	6.38	6.85	10/31/2007

				% Rate of Return									
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date		
Total Global Real Assets	42,454,553	7.74	5.00	3.94	3.92	2.75	10.73	7.57	7.31	7.93	07/31/2011		
BBG US TIPS + 3%				5.48	3.50	7.00	1.98	6.24	5.49	5.08	07/31/2011		
BBG US TIPS + 3% QLAG				-1.87	-2.55	4.28	0.97	5.18	4.79	5.11	07/31/2011		
Marketable Real Assets	26,128,896	4.76		3.70	3.09	1.18	4.66	7.41	5.91	6.86	07/31/2011		
S&P Real Assets Index NTR				8.81	5.81	7.29	3.40	5.36	3.39	3.69	07/31/2011		
Private Real Assets	16,325,657	2.98		4.27	5.20	5.21	19.49	9.02	7.54	0.65	09/30/2012		
S&P Real Assets Index + 3%				9.59	7.37	10.49	6.50	8.51	6.49	6.63	09/30/2012		
S&P Real Assets Index + 3% Lag				-2.03	-1.69	8.81	6.92	5.49	5.78	6.36	09/30/2012		
Diversifying Strategies	69,386,099	12.65		1.57	6.60	10.16	4.93	5.22	3.50	3.64	06/30/2011		
Total Hedge Funds	69,386,099	12.65	13.00	1.57	6.60	10.16	4.93	5.22	3.50	3.64	06/30/2011		
90 Day T-Bill + 4%				2.32	4.69	9.35	6.47	5.98	5.32	5.07	06/30/2011		
Fixed Income	101,700,261	18.54		5.81	3.42	6.20	-2.07	1.88	1.90	2.26	06/30/2011		
Total Fixed Income	87,302,020	15.91	18.00	6.28	3.40	6.25	-2.14	2.01	1.97	2.32	06/30/2011		
BBG US Aggregate				6.82	3.37	5.53	-3.31	1.10	1.81	2.01	06/30/2011		
Total Enhanced Liquidity	14,398,242	2.62	3.00	3.01	3.79	5.37	0.59	2.09	-	1.90	05/31/2017		
Bloomberg U.S. Treasury 1-3 Year				2.56	3.28	4.29	-0.10	1.28	-	1.19	05/31/2017		
Cash	14,237,340	2.60	0.00	1.31	2.62	4.91	2.03	1.23	0.77	0.76	10/31/2013		
90 Day T-Bill				1.37	2.76	5.35	2.47	1.98	1.32	1.30	10/31/2013		

# Manager Performance

•				% Rate of Return									
	Ending				F: .		T.	<u> </u>					
Account/Group	Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date		
OHA Financial Assets	548,555,636	100.00		6.42	5.12	11.90	5.24	8.82	6.52	8.53	02/28/2003		
OHA Policy Index				8.78	6.31	16.85	4.73	9.44	6.90	7.59	02/28/2003		
Excess Return				-2.36	-1.19	-4.95	0.52	-0.61	-0.38	0.94	02/28/2003		
OHA Policy Index Qtr Lag PE				6.07	5.59	16.94	4.40	9.23	6.79	7.54	02/28/2003		
Excess Return				0.35	-0.47	-5.04	0.84	-0.41	-0.28	0.99	02/28/2003		
CPI + 5%				0.89	3.02	8.51	10.86	9.26	7.91	7.62	02/28/2003		
Excess Return				5.53	2.10	3.39	-5.61	-0.44	-1.40	0.91	02/28/2003		
Capital Appreciation	320,777,383	58.48		8.39	5.71	16.41	6.75	12.83	10.16	10.68	06/30/2004		
Total Public Equity	258,630,506	47.15	42.00	11.09	7.31	22.14	5.94	12.13	8.14	7.88	06/30/2011		
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	7.93	8.29	06/30/2011		
Excess Return				0.05	0.06	-0.07	0.19	0.41	0.22	-0.41	06/30/2011		
Total Global Equity	258,630,506	47.15		11.09	7.31	22.14	5.94	12.13	8.14	7.88	06/30/2011		
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	7.93	8.29	06/30/2011		
Excess Return				0.05	0.06	-0.07	0.19	0.41	0.22	-0.41	06/30/2011		
Global Equity	51,664,709	9.42		10.51	7.37	21.72	5.09	10.81	-	7.51	06/30/2014		
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	-	7.68	06/30/2014		
Excess Return				-0.53	0.11	-0.48	-0.65	-0.91	-	-0.17	06/30/2014		
STRATEGIC SOLUTIONS GBL EQT	51,664,709	9.42		10.51	7.37	21.72	5.09	10.81	-	7.31	06/30/2014		
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	-	7.68	06/30/2014		
Excess Return				-0.53	0.11	-0.48	-0.65	-0.91	-	-0.37	06/30/2014		
Developed Markets	198,073,305	36.11		11.38	7.51	22.98	7.17	12.86	8.91	10.12	04/30/2012		
MSCI World ND Index				11.42	7.56	23.79	7.27	12.80	8.60	9.99	04/30/2012		
Excess Return				-0.03	-0.05	-0.81	-0.10	0.06	0.30	0.13	04/30/2012		
Domestic Equity	129,250,650	23.56		11.90	8.67	26.52	9.90	16.31	11.80	13.89	04/30/2012		
Russell 3000				12.07	8.43	25.96	8.54	15.16	11.48	12.88	04/30/2012		
Excess Return				-0.17	0.24	0.56	1.36	1.15	0.32	1.01	04/30/2012		
Commonfund Open Cash				-	-	-	-	-	-	-	06/30/2012		
JPM Equity Focus Fd Cl R6				-	-	-	-	-	-	-	05/24/2023		
S&P 500				11.69	8.04	-	-	-	-	17.03	05/24/2023		
Excess Return				-	-	-	-	-	-	-	05/24/2023		
JPM Large Cap Value Fd Cl R6	2,934,916	0.54		10.37	6.72	-	-	-	-	13.19	05/24/2023		
Russell 1000 Value				9.50	6.03	-	-	-	-	12.60	05/24/2023		
Excess Return				0.87	0.69	-	-	-	-	0.59	05/24/2023		

OHA Financial Assets | December 31, 2023

						% Ra	ate of Return				
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
MFC JP MORGAN ETF TRUST EQUITY	20,053,054	3.66		11.51	-	-	-	-	-	6.83	07/31/2023
S&P 500				11.69	-	-	-	-	-	4.67	07/31/2023
Excess Return				-0.18	-	-	-	-	-	2.16	07/31/2023
MFO J P MORGAN MUT FD GROWTH A	8,963,750	1.63		13.52	9.89	40.37	6.50	20.49	15.30	16.39	04/30/2012
Russell 3000 Growth				14.09	10.28	41.21	8.08	18.85	14.33	15.11	04/30/2012
Excess Return				-0.57	-0.38	-0.84	-1.58	1.64	0.97	1.28	04/30/2012
MFO JP MORGAN TRUST I US EQUIT	24,320,793	4.43		12.07	8.90	27.31	10.17	-	-	15.54	08/31/2019
S&P 500				11.69	8.04	26.29	10.00	-	-	13.80	08/31/2019
Excess Return				0.38	0.86	1.02	0.17	-	-	1.74	08/31/2019
MFO JP MORGAN TRUST I VALUE AD	6,332,669	1.15		10.87	8.10	10.00	10.96	11.38	8.56	10.47	04/30/2012
Russell 3000 Value				9.83	6.36	11.66	8.81	10.84	8.28	10.31	04/30/2012
Excess Return				1.04	1.74	-1.65	2.15	0.53	0.29	0.16	04/30/2012
MFO JPMORGAN TR I SMALL CAP BL	2,996,229	0.55		12.22	6.24	15.71	-	-	-	-1.64	11/30/2021
Russell 2000				14.03	8.18	16.93	-	-	-	-2.38	11/30/2021
Excess Return				-1.81	-1.94	-1.22	-	-	-	0.73	11/30/2021
STATE STREET EQUITY 500 INDEX	63,649,239	11.60		11.67	8.03	26.26	9.91	15.59	-	14.17	10/31/2016
S&P 500				11.69	8.04	26.29	10.00	15.69	-	13.97	10/31/2016
Excess Return				-0.03	-0.01	-0.02	-0.09	-0.09	-	0.20	10/31/2016
International Equity	68,822,654	12.55		10.46	5.48	16.96	2.59	7.16	3.64	5.34	04/30/2012
MSCI EAFE ND				10.42	5.88	18.24	4.02	8.16	4.28	6.19	04/30/2012
Excess Return				0.04	-0.40	-1.28	-1.42	-1.01	-0.64	-0.85	04/30/2012
JPM BetaBuilders Canada ETF	1,848,900	0.34		11.24	6.31	-	-	-	-	11.18	05/24/2023
MS Canada IMI				10.73	6.63	-	-	-	-	11.38	05/24/2023
Excess Return				0.51	-0.31	-	-	-	-	-0.20	05/24/2023
JPM Europe Dynamic Fund	11,447,085	2.09		11.99	5.37	18.76	-	-	-	6.81	02/28/2022
MSCI Europe Index				11.05	5.55	19.89	-	-	-	5.24	02/28/2022
Excess Return				0.94	-0.17	-1.13	-	-	-	1.57	02/28/2022
JPM International Focus R6	14,337,875	2.61		11.72	4.87	17.19	-	-	-	3.09	02/28/2022
MSCI EAFE ND				10.42	5.88	18.24	-	-	-	4.39	02/28/2022
Excess Return				1.30	-1.01	-1.05	-	-	-	-1.31	02/28/2022
JPM JAPAN ETF	4,129,385	0.75		7.76	5.04	20.57	-	-	-	4.45	02/28/2022
Morningstar Japan TME Benchmrk				7.96	6.56	20.67	-	-	-	4.16	02/28/2022
Excess Return				-0.20	-1.51	-0.10	-	-	-	0.29	02/28/2022
STATE STREET GLOBAL ALL CAP	37,059,409	6.76		9.76	5.57	15.67	0.60	6.56	-	6.13	10/31/2016
MSCI ACWI ex USA ND				9.75	5.61	15.62	1.55	7.08	-	6.20	10/31/2016
Excess Return				0.01	-0.04	0.05	-0.94	-0.52	-	-0.08	10/31/2016

Ending	
	otion Inception Date Date
Emerging Markets 8,892,493 1.62 7.68 1.98 7.99 -8.10 4.30 2.06	2.20 06/30/201
MSCI Emerging Markets ND 7.86 4.71 9.83 -5.08 3.68 2.66	1.54 06/30/201
Excess Return -0.18 -2.73 -1.84 -3.02 0.62 -0.60	0.66 06/30/201
MFO JPMORGAN TR I EMERGING MKT 3,429,354 0.63 8.49 0.87 7.48 -10.44 5.08 3.94	2.64 06/30/201
MSCI Emerging Markets ND 7.86 4.71 9.83 -5.08 3.68 2.66	1.54 06/30/201
Excess Return 0.62 -3.83 -2.35 -5.36 1.39 1.28	1.09 06/30/201
MFO JPMORGAN TR IV EMERGING MK 5,463,139 1.00 7.01 3.08 8.79 -6.15	1.57 01/31/201
MSCI Emerging Markets ND 7.86 4.71 9.83 -5.08	1.99 01/31/201
Excess Return -0.85 -1.63 -1.04 -1.08	0.42 01/31/201
Total Private Equity 62,146,877 11.33 19.00 -1.42 -0.48 -1.74 5.70 11.66 12.16	1.48 06/30/200
MSCI ACWI (Net) +3% 11.83 8.84 25.81 8.91 15.04 11.15	0.78 06/30/200
Excess Return -13.25 -9.31 -27.55 -3.21 -3.39 1.01	0.70 06/30/200
MSCI ACWI (NET) +3% QLAG -2.68 4.09 24.37 10.09 9.64 10.77	0.21 06/30/200
Excess Return 1.26 -4.56 -26.11 -4.39 2.01 1.39	1.27 06/30/200
Diversified 29,659,495 5.41 -0.69 -0.20 0.76 4.86 8.87 10.30	0.35 06/30/200
MSCI AC World (Net) +3% 12.21 9.14 27.44 10.47 16.16 11.84	1.02 06/30/200
Excess Return -12.91 -9.34 -26.68 -5.61 -7.29 -1.54	0.67 06/30/200
MSCI AC World (Net)+3% QLag -2.74 4.66 25.55 11.31 10.46 11.49	0.46 06/30/200
Excess Return 2.04 -4.86 -24.80 -6.45 -1.59 -1.20	0.10 06/30/200
Diversified 29,659,495 5.41 -0.69 -0.20 0.74 4.68 8.42 10.09	0.25 06/30/200
Co-Investments 11,881,543 2.17 -3.20 0.16 4.00 12.49 19.77 16.57	5.54 11/30/201
MSCI AC World (Net) +3% 12.21 9.14 27.44 10.47 16.16 -	_ 11/30/201
Excess Return -15.41 -8.98 -23.44 2.02 3.61 -	_ 11/30/201
MSCI AC World (Net)+3% QLag -2.74 4.66 25.55 11.31 10.46 11.49	2.76 11/30/201
Excess Return -0.46 -4.50 -21.55 1.19 9.31 5.07	2.78 11/30/201
PRIVATE EQUITY CO-INVESTMENT P 11,881,543 2.17 -3.20 0.16 4.12 13.51 22.44 -	7.67 08/31/201
Venture Capital 19,322,519 3.52 -1.65 -1.48 -8.72 4.19 16.88 18.95	8.10 08/31/201
NASDAQ + 3% 15.41 12.95 59.62 13.46 26.29 -	- 08/31/201
Excess Return -17.05 -14.43 -68.34 -9.27 -9.40 -	- 08/31/201
NASDAQ + 3% QLag -2.13 13.73 39.27 12.96 18.48 -	- 08/31/201
Excess Return 0.48 -15.21 -47.99 -8.77 -1.60 -	- 08/31/201
Commonfund Venture Capital 19,322,519 3.52 -1.65 -1.48 -8.72 4.19 16.88 18.95	8.10 08/31/201
MSCI AC World (Net) + 3% 12.21 9.14 27.44 10.47 16.16 11.84	3.61 08/31/201
Excess Return -13.86 -10.62 -36.15 -6.28 0.72 7.11	4.49 08/31/201

Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Opportunistic Credit	1,283,320	0.23		1.88	3.79	7.64	8.56	7.34	8.79	8.78	10/31/2007
S&P/LSTA Lev Loan Index +2%				3.37	7.47	15.37	7.87	7.90	6.50	6.83	10/31/2007
Excess Return				-1.49	-3.68	-7.73	0.70	-0.56	2.29	1.95	10/31/2007
S&P/LSTA Lev +2% QLag				3.97	7.77	15.22	8.19	6.54	6.38	6.85	10/31/2007
Excess Return				-2.08	-3.98	-7.58	0.37	0.80	2.42	1.93	10/31/2007
OHA OPPORTUNISTIC	1,283,320	0.23		1.88	3.79	7.64	8.56	7.34	8.79	8.78	10/31/2007
Total Global Real Assets	42,454,553	7.74	5.00	3.94	3.92	2.75	10.73	7.57	7.31	7.93	07/31/2011
BBG US TIPS + 3%				5.48	3.50	7.00	1.98	6.24	5.49	5.08	07/31/2011
Excess Return				-1.54	0.42	-4.25	8.75	1.33	1.82	2.85	07/31/2011
BBG US TIPS + 3% QLAG				-1.87	-2.55	4.28	0.97	5.18	4.79	5.11	07/31/2011
Excess Return				5.81	6.47	-1.53	9.76	2.39	2.51	2.82	07/31/2011
Marketable Real Assets	26,128,896	4.76		3.70	3.09	1.18	4.66	7.41	5.91	6.86	07/31/2011
S&P Real Assets Index NTR				8.81	5.81	7.29	3.40	5.36	3.39	3.69	07/31/2011
Excess Return				-5.11	-2.72	-6.11	1.26	2.05	2.52	3.17	07/31/2011
CF SSGA REAL ASSET NL CTF CM5Q	26,128,896	4.76		3.70	3.09	1.18	8.17	8.24	3.87	3.45	04/30/2013
iShares TIPS Bond (TIP)				-					-		09/30/2017
Private Real Assets	16,325,657	2.98		4.27	5.20	5.21	19.49	9.02	7.54	0.65	09/30/2012
S&P Real Assets Index + 3%				9.59	7.37	10.49	6.50	8.51	6.49	6.63	09/30/2012
Excess Return				-5.32	-2.17	-5.28	13.00	0.50	1.05	-5.99	09/30/2012
S&P Real Assets Index + 3% Lag				-2.03	-1.69	8.81	6.92	5.49	5.78	6.36	09/30/2012
Excess Return				6.31	6.89	-3.60	12.57	3.53	1.75	-5.72	09/30/2012
ASIAN INFRASTRUCTURE & RELATED	777,703	0.14		31.05	29.35	41.19	19.00	6.03	-	-1.02	10/31/2014
MSCI World Infrastructure +3%				11.08	3.72	6.50	4.59	8.12	-	6.24	10/31/2014
Excess Return				19.97	25.63	34.68	14.41	-2.09	-	-7.26	10/31/2014
MSCI World Infra +3% Q Lag				-	-	-	-	-	-	-	10/31/2014
Excess Return				-	-	-	-	-	-	-	10/31/2014
COMMONFUND CAPITAL NATURAL RES	6,749,576	1.23		4.46	4.79	1.67	23.78	9.21	6.03	-0.61	09/30/2012
S&P Glb LargeMidCap+3%				1.57	5.33	1.33	-	-	-	-	09/30/2012
Excess Return				2.88	-0.54	0.34	-	-	-	-	09/30/2012
Natural Resources Partners X	7,924,239	1.44		2.99	4.34	5.29	16.47	8.08	-	9.89	10/31/2015
S&P Glb LargeMidCap+3%				1.57	5.33	1.33	-	-	-	-	10/31/2015
Excess Return				1.41	-0.98	3.97	-	-	-	-	10/31/2015
PANTHEON GLOBAL INFRASTRUCTURE	874,139	0.16		-3.39	-0.50	9.84	7.13	7.82	-	11.49	02/28/2014
MSCI World Infrastructure +3%				11.08	3.72	6.50	4.59	8.12	-	6.72	02/28/2014
Excess Return				-14.47	-4.21	3.34	2.53	-0.30	-	4.77	02/28/2014
MSCI World Infra +3% Q Lag				-	-	-	-	-	-	-	02/28/2014
Excess Return				-	-	-	-	-	-	-	02/28/2014

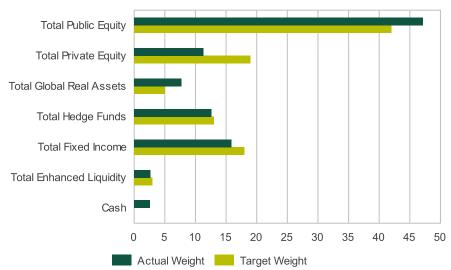
OHA Financial Assets | December 31, 2023

Account/Group         Ending Market Value USD         Ending Veight         Policy Months         Three Months           Diversifying Strategies         69,386,099         12.65         1.57           Total Hedge Funds         69,386,099         12.65         13.00         1.57	Fiscal YTD 6.60 6.60	One Year 10.16	Three Years	Five Years	Ten	Inception	Inception
		10.16		1 00.0	Years	to Date	Date
Total Hedge Funds 69,386,099 12.65 13.00 1.57	6.60		4.93	5.22	3.50	3.64	06/30/2011
		10.16	4.93	5.22	3.50	3.64	06/30/2011
90 Day T-Bill + 4%	4.69	9.35	6.47	5.98	5.32	5.07	06/30/2011
Excess Return -0.75	1.92	0.81	-1.54	-0.76	-1.82	-1.43	06/30/2011
CF GLOBAL ABSOLUTE ALPHA COMPA 26,593,114 4.85 1.22	3.64	6.89	3.31	4.05	2.73	3.02	06/30/2011
90 Day T-Bill + 4%	4.69	9.35	6.47	5.98	5.32	5.07	06/30/2011
Excess Return -1.10	-1.05	-2.46	-3.15	-1.93	-2.59	-2.05	06/30/2011
MFO JP MORGAN TRUST I RESEARC 4,791,256 0.87 2.89	4.72	11.31	-	-	-	6.59	02/28/2022
90 Day T-Bill + 4%	4.69	9.35	-	-	-	8.02	02/28/2022
Excess Return 0.57	0.04	1.96	-	-	-	-1.42	02/28/2022
MFO JPMORGAN TR I INCOME FD CL 9,178,666 1.67 4.97	5.27	7.19	-	_	-	0.44	02/28/2022
BBG US Aggregate 6.82	3.37	5.53	-	-	-	-2.83	02/28/2022
Excess Return -1.85	1.91	1.66	-	-	-	3.27	02/28/2022
MFO JPMORGAN TR I OPPORTUNISTI -	-	-	-	-	-		02/28/2022
S&P 500	-	-	-	-	-	-	02/28/2022
Excess Return -	-	-	-	-	-	-	02/28/2022
PIMCO TACTICAL OPPORTUNITIES O 28,823,062 5.25 0.64	10.24	14.72	7.31	6.68	-	6.65	01/31/2018
S&P/LSTA Lev Loan Index +2% 3.37	7.47	15.37	7.87	7.90	_	6.87	01/31/2018
Excess Return -2.73	2.76	-0.65	-0.56	-1.22	_	-0.23	01/31/2018
Fixed Income 101,700,261 18.54 5.81	3.42	6.20	-2.07	1.88	1.90	2.26	06/30/2011
Total Fixed Income 87,302,020 15.91 18.00 6.28	3.40	6.25	-2.14	2.01	1.97	2.32	06/30/2011
BBG US Aggregate 6.82	3.37	5.53	-3.31	1.10	1.81	2.01	06/30/2011
Excess Return -0.54	0.03	0.72	1.17	0.91	0.16	0.31	06/30/2011
CF STATE STREET AGGREGATE BOND 54,378,896 9.91 6.70	3.25	5.62	-3.48	1.02	_	0.79	10/31/2016
BBG US Aggregate 6.82	3.37	5.53	-3.31	1.10	_	0.94	10/31/2016
Excess Return -0.12	-0.11	0.09	-0.17	-0.08	_	-0.15	10/31/2016
JPM Open Cash	_		_	-	_	_	06/30/2011
JPM US Treasury 20+ Year ETF 4,988,301 0.91 -	_	_	_	_	_	-0.59	12/20/2023
ICE Bofa US treasury 20+ yrs	_	_	_	_	_	-	12/20/2023
Excess Return -	_	_	_	_	_	_	12/20/2023
MFO CORE PLUS BD FD CL R6 12,914,863 2.35 6.67	3.46	6.28	-2.49	1.72	_	1.41	09/30/2017
BBG US Aggregate 12,514,555 2.55 6.82	3.37	5.53	-3.31	1.10	_	0.95	09/30/2017
Excess Return -0.15	0.09	0.75	0.83	0.61	_	0.47	09/30/2017
MFO JPMORGAN TR II CORE BD FD 4,560,815 0.83 6.34	2.97	5.71	-2.76	1.57		1.36	09/30/2017
BBG US Aggregate 4,355,515 6.55	3.37	5.53	-3.31	1.10	_	0.95	09/30/2017
Excess Return -0.48	-0.39	0.18	0.56	0.46	_	0.42	09/30/2017

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
MFO JPMORGAN TR II HIGH YIELD	77,474	0.01		6.43	7.46	12.12	2.50	4.74	3.88	4.62	04/30/2012
Bloomberg High Yield 2% Capped				7.15	7.65	13.44	1.98	5.35	4.59	5.32	04/30/2012
Excess Return				-0.73	-0.19	-1.32	0.52	-0.62	-0.71	-0.70	04/30/2012
WAMCO SHORT-DATED HIGH YLDPORT	10,381,671	1.89		3.82	5.17	11.10	3.41	5.39	2.91	2.91	10/31/2013
ICE Bofa 1-5 yr BB US high				5.47	5.91	9.47	2.75	4.99	-	-	10/31/2013
Excess Return				-1.66	-0.74	1.62	0.66	0.40	-	-	10/31/2013
Total Enhanced Liquidity	14,398,242	2.62	3.00	3.01	3.79	5.37	0.59	2.09	-	1.90	05/31/2017
Bloomberg U.S. Treasury 1-3 Year				2.56	3.28	4.29	-0.10	1.28	-	1.19	05/31/2017
Excess Return				0.45	0.51	1.08	0.69	0.82	-	0.71	05/31/2017
CF STATE STREET 1-3 YEAR US CR	14,398,242	2.62		3.01	3.79	5.37	0.59	2.09	-	1.90	05/31/2017
BBG US Credit 1-3 Yrs				3.01	3.79	5.28	0.51	2.03	-	1.86	05/31/2017
Excess Return				-0.01	-0.00	0.09	0.09	0.07	-	0.03	05/31/2017
Cash	14,237,340	2.60	0.00	1.31	2.62	4.91	2.03	1.23	0.77	0.76	10/31/2013
90 Day T-Bill				1.37	2.76	5.35	2.47	1.98	1.32	1.30	10/31/2013
Excess Return				-0.06	-0.14	-0.44	-0.43	-0.75	-0.55	-0.54	10/31/2013
CASH				-	-	-	-	-	-	-	11/30/2016
Cash & Other Assets	0	0.00		0.00	0.00	0.00	-	-	-	0.00	06/30/2022
Cash & Other Assets	0	0.00		0.00	0.00	0.00	-	-	-	0.00	06/30/2022
Cash & Other Assets	214,606	0.04		-	-	-	-	-	-	-	06/30/2022
Cash & Other Assets	0	0.00		0.00	0.00	0.00	-	-	-	0.00	06/30/2022
Cash & Other Assets	387,216	0.07		1.21	2.49	5.15	-	-	-	4.24	06/30/2022
Cash & Other Assets	150,350	0.03		-	-	-	-	-	-	-	06/30/2022
OHA - CASH	13,485,168	2.46		1.32	2.64	4.92	-	-	-	4.07	06/30/2022

### **Asset Allocation Overview**

#### PROGRAM ACTUAL WEIGHTS vs. TARGET WEIGHTS

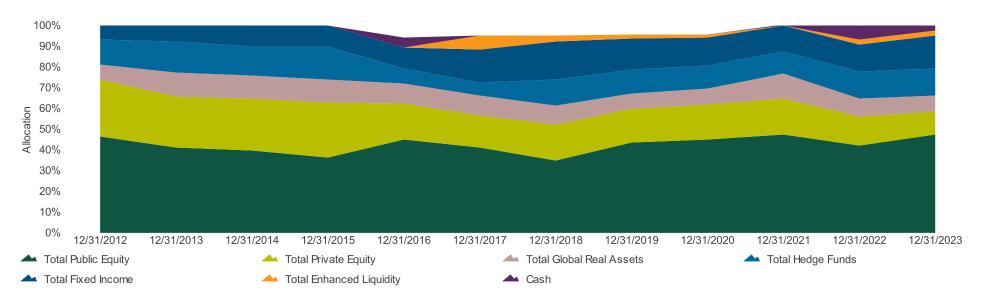


	Ending Market Value			
Program/Consolidation	GOF USD	Actual Weight	Target Weight	
Total Public Equity	258,631	47.15	42.00	
Total Private Equity	62,147	11.33	19.00	
Total Global Real Assets	42,455	7.74	5.00	
Total Hedge Funds	69,386	12.65	13.00	
Total Fixed Income	87,302	15.91	18.00	
Total Enhanced Liquidity	14,398	2.62	3.00	
Cash	14,237	2.60	0.00	
OHA Financial Assets	548,556	100.00		
OHA Financial Assets Percent				

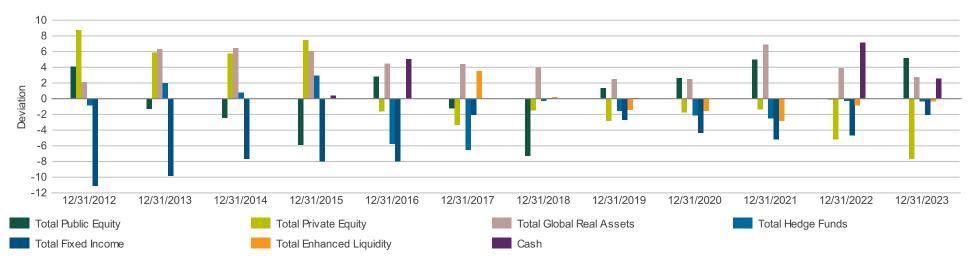
<sup>\*</sup>Market Values are represented in thousands.

<sup>\*</sup>Underlying assets of the fund have been included in the market value and allocation.

#### Allocation over Time



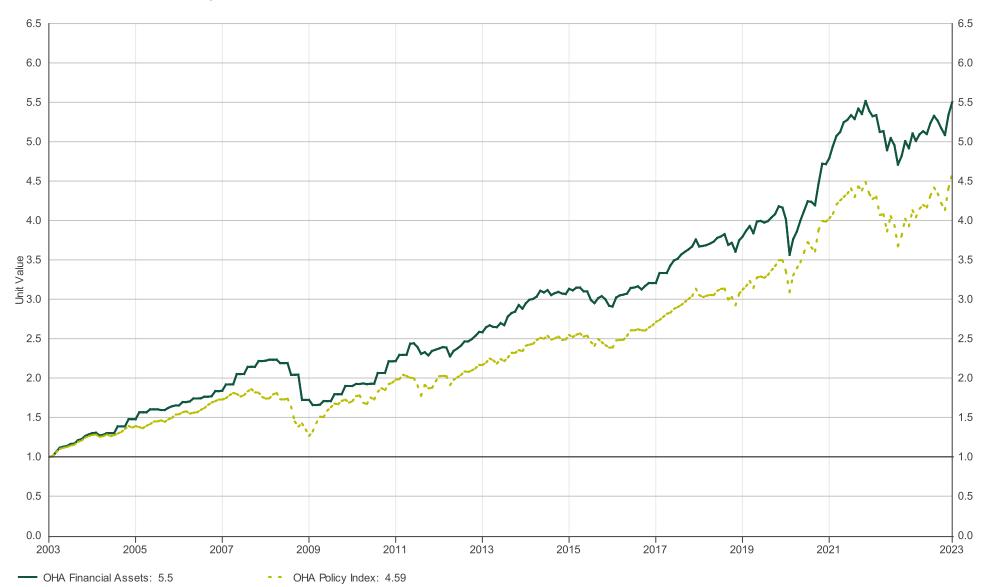
Deviation vs. Target Weights



23 of 141 | Investment Risk & Analytical Services Category: **Total Fund Gross of Fees** 

	12/31	1/2022					12/31/2023			
Account / Group	Market Value	Actual Weight	Dev vs. Target	Market Value	Actual Weight	Target Weight	Target Min	Target Max	Dev vs. Target	Dev vs. Target MV
OHA Financial Assets	494,211,890	100.00		548,555,636	100.00					
Total Public Equity	207,227,013	41.93	-0.07	258,630,506	47.15	42.00	22.00	55.00	5.15	28,237,139
Total Private Equity	68,172,243	13.79	-5.21	62,146,877	11.33	19.00	0.00	25.60	-7.67	-42,078,694
Total Global Real Assets	43,939,040	8.89	3.89	42,454,553	7.74	5.00	0.00	11.00	2.74	15,026,771
Total Hedge Funds	62,898,316	12.73	-0.27	69,386,099	12.65	13.00	6.40	19.20	-0.35	-1,926,134
Total Fixed Income	65,818,569	13.32	-4.68	87,302,020	15.91	18.00	11.00	22.00	-2.09	-11,437,995
Total Enhanced Liquidity	10,693,160	2.16	-0.84	14,398,242	2.62	3.00	0.00	10.00	-0.38	-2,058,427
Cash	35,463,548	7.18	7.18	14,237,340	2.60	0.00			2.60	14,237,340

### Growth Over Time - Inception to Date



### Market Value Summary - Three Months

	09/30/2023					12/31/2023
Account/Group	Market Value	Net Contribution*	Income	Fees	Appreciation	Market Value
OHA Financial Assets	513,361,671	1,921,879	4,950,253	78,121	28,321,833	548,555,636
Capital Appreciation	291,390,056	4,683,557	3,398,285	0	21,305,485	320,777,383
Total Public Equity	227,348,267	5,675,636	3,297,881	0	22,308,721	258,630,506
Total Global Equity	227,348,267	5,675,636	3,297,881	0	22,308,721	258,630,506
Global Equity	46,752,846	0	0	0	4,911,863	51,664,709
STRATEGIC SOLUTIONS GBL EQT	46,752,846	0	0	0	4,911,863	51,664,709
Developed Markets	173,712,246	4,254,724	3,078,531	0	17,027,803	198,073,305
Domestic Equity	111,123,324	4,573,538	1,204,594	0	12,349,194	129,250,650
Commonfund Open Cash	-	0	0	0	0	
JPM Equity Focus Fd Cl R6	-	0	0	0	0	-
JPM Large Cap Value Fd Cl R6	2,659,220	0	16,524	0	259,172	2,934,916
MFC JP MORGAN ETF TRUST EQUITY	18,234,417	-282,245	77,557	0	2,023,325	20,053,054
MFO J P MORGAN MUT FD GROWTH A	8,137,955	-321,807	0	0	1,147,602	8,963,750
MFO JP MORGAN TRUST I US EQUIT	20,820,868	968,056	73,147	0	2,458,722	24,320,793
MFO JP MORGAN TRUST I VALUE AD	4,234,008	1,508,116	117,040	0	473,506	6,332,669
MFO JPMORGAN TR I SMALL CAP BL	37,428	2,701,418	17,089	0	240,293	2,996,229
STATE STREET EQUITY 500 INDEX	56,999,429	0	903,236	0	5,746,575	63,649,239
International Equity	62,588,922	-318,813	1,873,938	0	4,678,608	68,822,654
JPM BetaBuilders Canada ETF	1,545,453	108,477	16,108	0	178,862	1,848,900
JPM Europe Dynamic Fund	10,417,367	-209,276	376,766	0	862,228	11,447,085
JPM International Focus R6	12,998,856	-175,830	304,245	0	1,210,604	14,337,875
JPM JAPAN ETF	3,864,612	-42,185	125,915	0	181,044	4,129,385
STATE STREET GLOBAL ALL CAP	33,762,635	0	1,050,904	0	2,245,870	37,059,409
Emerging Markets	6,883,176	1,420,912	219,350	0	369,055	8,892,493
MFO JPMORGAN TR I EMERGING MKT	3,161,086	0	56,430	0	211,837	3,429,354
MFO JPMORGAN TR IV EMERGING MK	3,722,090	1,420,912	162,920	0	157,218	5,463,139
Total Private Equity	64,041,788	-992,079	100,403	0	-1,003,236	62,146,877
Diversified	30,712,707	-843,460	49,021	0	-258,773	29,659,495
Diversified	30,712,707	-843,460	49,021	0	-258,773	29,659,495
Co-Investments	11,891,891	379,774	44,853	0	-434,976	11,881,543
PRIVATE EQUITY CO-INVESTMENT P	11,891,891	379,774	44,853	0	-434,976	11,881,543
Venture Capital	19,946,966	-296,219	6,529	0	-334,757	19,322,519
Commonfund Venture Capital	19,946,966	-296,219	6,529	0	-334,757	19,322,519
Opportunistic Credit	1,490,224	-232,174	0	0	25,270	1,283,320
OHA OPPORTUNISTIC	1,490,224	-232,174	0	0	25,270	1,283,320

### Market Value Summary - Three Months

	09/30/2023					12/31/2023
Account/Group	Market Value	Net Contribution*	Income	Fees	Appreciation	Market Value
Total Global Real Assets	41,529,402	-692,677	252,833	0	1,364,995	42,454,553
Marketable Real Assets	25,211,602	-15,165	0	0	932,459	26,128,896
CF SSGA REAL ASSET NL CTF CM5Q	25,211,602	-15,165	0	0	932,459	26,128,896
iShares TIPS Bond (TIP)	-	0	0	0	0	
Private Real Assets	16,317,800	-677,512	252,833	0	432,536	16,325,657
ASIAN INFRASTRUCTURE & RELATED	582,571	10,666	0	0	184,466	777,703
COMMONFUND CAPITAL NATURAL RES	6,843,235	-396,515	246,558	0	56,298	6,749,576
Natural Resources Partners X	7,945,922	-251,664	0	0	229,981	7,924,239
PANTHEON GLOBAL INFRASTRUCTURE	946,072	-39,999	6,275	0	-38,209	874,139
Diversifying Strategies	68,231,236	94,029	245,852	0	814,982	69,386,099
Total Hedge Funds	68,231,236	94,029	245,852	0	814,982	69,386,099
CF GLOBAL ABSOLUTE ALPHA COMPA	26,273,660	-0	0	0	319,454	26,593,114
MFO JP MORGAN TRUST I RESEARC	4,662,388	-1,558	127,548	0	2,878	4,791,256
MFO JPMORGAN TR I INCOME FD CL	8,656,473	95,588	118,304	0	308,302	9,178,666
MFO JPMORGAN TR I OPPORTUNISTI	-	0	0	0	0	-
PIMCO TACTICAL OPPORTUNITIES O	28,638,714	0	0	0	184,348	28,823,062
Fixed Income	101,784,905	-5,783,297	862,283	0	4,836,370	101,700,261
Total Fixed Income	87,804,310	-5,780,573	862,283	0	4,416,000	87,302,020
CF STATE STREET AGGREGATE BOND	50,964,359	0	605,605	0	2,808,932	54,378,896
JPM Open Cash	-	0	0	0	0	-
JPM US Treasury 20+ Year ETF	-	5,018,012	16,288	0	-45,999	4,988,301
MFO CORE PLUS BD FD CL R6	6,861,555	5,645,382	97,490	0	310,436	12,914,863
MFO JPMORGAN TR II CORE BD FD	19,905,540	-16,443,967	141,579	0	957,662	4,560,815
MFO JPMORGAN TR II HIGH YIELD	72,794	0	1,321	0	3,359	77,474
WAMCO SHORT-DATED HIGH YLDPORT	10,000,062	0	0	0	381,610	10,381,671
Total Enhanced Liquidity	13,980,595	-2,723	0	0	420,370	14,398,242
CF STATE STREET 1-3 YEAR US CR	13,980,595	-2,723	0	0	420,370	14,398,242
Cash	10,426,073	3,620,266	191,001	78,121	0	14,237,340
CASH	-	0	0	0	0	-
Cash & Other Assets	0	214,606	0	0	0	214,606
Cash & Other Assets	366,716	10,908	9,592	0	0	387,216
Cash & Other Assets	0	0	0	7,736	0	0
Cash & Other Assets	0	0	0	0	0	0
Cash & Other Assets	0	0	0	0	0	0
Cash & Other Assets	0	150,350	0	15,165	0	150,350

### Market Value Summary - Three Months

Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
OHA - CASH	10,059,357	3,244,402	181,409	55,220	0	13,485,168

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

### Market Value Summary - One Year

Account/Group	12/31/2022 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
OHA Financial Assets	494,211,890	-4,363,717	8,554,902	363,718	50,152,561	548,555,636
Capital Appreciation	275,399,256	298,900	4,035,334	0	41,043,892	320,777,383
Total Public Equity	207,227,013	5,180,723	3,548,251	0	42,674,519	258,630,506
Total Global Equity	207,227,013	5,180,723	3,548,251	0	42,674,519	258,630,506
Global Equity	42,503,697	-63,285	0	0	9,224,297	51,664,709
STRATEGIC SOLUTIONS GBL EQT	42,503,697	-63,285	0	0	9,224,297	51,664,709
Developed Markets	158,628,675	2,941,416	3,328,901	0	33,174,313	198,073,305
Domestic Equity	102,199,123	344,448	1,432,860	0	25,274,219	129,250,650
Commonfund Open Cash	-	0	0	0	0	-
JPM Equity Focus Fd Cl R6	-	17,398,701	0	0	-17,398,701	-
JPM Large Cap Value Fd Cl R6	-	2,592,937	43,399	0	298,581	2,934,916
MFC JP MORGAN ETF TRUST EQUITY	-	-776,795	77,557	0	20,752,291	20,053,054
MFO J P MORGAN MUT FD GROWTH A	10,971,637	-5,289,962	0	0	3,282,076	8,963,750
MFO JP MORGAN TRUST I US EQUIT	29,366,447	-10,961,667	274,539	0	5,641,474	24,320,793
MFO JP MORGAN TRUST I VALUE AD	11,415,114	-5,320,184	117,040	0	120,700	6,332,669
MFO JPMORGAN TR I SMALL CAP BL	36,300	2,701,418	17,089	0	241,422	2,996,229
STATE STREET EQUITY 500 INDEX	50,409,626	0	903,236	0	12,336,378	63,649,239
International Equity	56,429,552	2,596,968	1,896,041	0	7,900,094	68,822,654
JPM BetaBuilders Canada ETF	-	1,654,351	38,211	0	156,338	1,848,900
JPM Europe Dynamic Fund	9,836,072	-228,659	376,766	0	1,462,906	11,447,085
JPM International Focus R6	12,392,337	-174,049	304,245	0	1,815,342	14,337,875
JPM JAPAN ETF	2,161,127	1,345,325	125,915	0	497,018	4,129,385
STATE STREET GLOBAL ALL CAP	32,040,016	0	1,050,904	0	3,968,489	37,059,409
Emerging Markets	6,094,641	2,302,592	219,350	0	275,909	8,892,493
MFO JPMORGAN TR I EMERGING MKT	912,562	2,396,110	56,430	0	64,251	3,429,354
MFO JPMORGAN TR IV EMERGING MK	5,182,080	-93,518	162,920	0	211,658	5,463,139
Total Private Equity	68,172,243	-4,881,822	487,082	0	-1,630,627	62,146,877
Diversified	33,586,119	-4,169,803	221,288	0	21,891	29,659,495
Diversified	31,104,410	-1,688,094	217,078	0	26,101	29,659,495
INT'L PRIVATE EQUITY PARTNERS	2,481,709	-2,481,709	4,210	0	-4,210	-
Co-Investments	10,322,946	1,146,662	199,017	0	212,918	11,881,543
Pantheon Global Co-Investment	379,247	-379,132	1,762	0	-1,877	-
PRIVATE EQUITY CO-INVESTMENT P	9,943,699	1,525,794	197,255	0	214,795	11,881,543
Venture Capital	22,334,515	-1,091,326	6,529	0	-1,927,199	19,322,519
Commonfund Venture Capital	22,334,515	-1,091,326	6,529	0	-1,927,199	19,322,519

### Market Value Summary - One Year

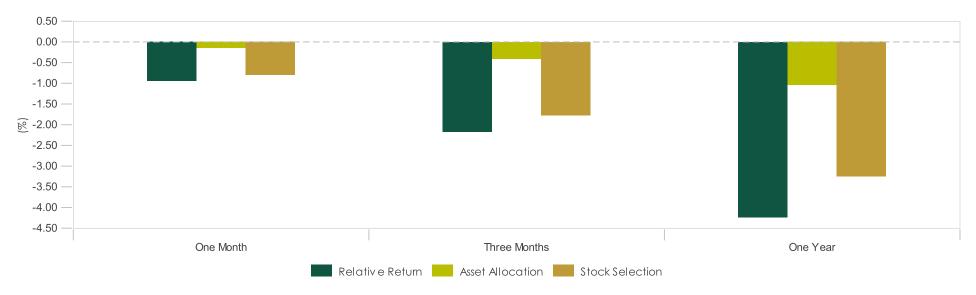
	12/31/2022					12/31/2023
Account/Group	Market Value	Net Contribution*	Income	Fees	Appreciation	Market Value
Opportunistic Credit	1,928,663	-767,355	60,249	0	61,764	1,283,320
OHA OPPORTUNISTIC	1,928,663	-767,355	60,249	0	61,764	1,283,320
Total Global Real Assets	43,939,040	-2,622,973	674,329	0	464,156	42,454,553
Marketable Real Assets	25,886,945	-61,079	46	0	302,983	26,128,896
CF SSGA REAL ASSET NL CTF CM5Q	25,886,945	-61,079	46	0	302,983	26,128,896
iShares TIPS Bond (TIP)	-	0	0	0	0	
Private Real Assets	18,052,096	-2,561,894	674,283	0	161,172	16,325,657
ASIAN INFRASTRUCTURE & RELATED	535,394	15,999	0	0	226,310	777,703
COMMONFUND CAPITAL NATURAL RES	8,202,917	-1,565,714	650,606	0	-538,233	6,749,576
Natural Resources Partners X	8,274,246	-754,179	0	0	404,172	7,924,239
PANTHEON GLOBAL INFRASTRUCTURE	1,039,539	-258,000	23,677	0	68,923	874,139
Diversifying Strategies	62,898,316	114,466	503,633	0	5,869,683	69,386,099
Total Hedge Funds	62,898,316	114,466	503,633	0	5,869,683	69,386,099
CF GLOBAL ABSOLUTE ALPHA COMPA	24,879,401	-0	0	0	1,713,713	26,593,114
MFO JP MORGAN TRUST I RESEARC	3,497,520	875,701	127,548	0	290,487	4,791,256
MFO JPMORGAN TR I INCOME FD CL	6,204,198	2,421,654	376,085	0	176,729	9,178,666
MFO JPMORGAN TR I OPPORTUNISTI	3,193,066	-3,182,889	0	0	-10,176	-
PIMCO TACTICAL OPPORTUNITIES O	25,124,132	0	0	0	3,698,930	28,823,062
Fixed Income	76,511,729	19,749,450	2,664,253	0	2,774,830	101,700,261
Total Fixed Income	65,818,569	16,758,837	2,664,253	0	2,060,361	87,302,020
CF STATE STREET AGGREGATE BOND	36,741,701	15,000,000	1,643,114	0	994,081	54,378,896
JPM Open Cash	-	0	0	0	0	-
JPM US Treasury 20+ Year ETF	-	5,018,012	16,288	0	-45,999	4,988,301
MFO CORE PLUS BD FD CL R6	5,897,755	6,690,734	317,867	0	8,506	12,914,863
MFO JPMORGAN TR II CORE BD FD	13,765,297	-9,949,909	682,056	0	63,372	4,560,815
MFO JPMORGAN TR II HIGH YIELD	69,098	0	4,928	0	3,448	77,474
WAMCO SHORT-DATED HIGH YLDPORT	9,344,718	0	0	0	1,036,954	10,381,671
Total Enhanced Liquidity	10,693,160	2,990,613	0	0	714,469	14,398,242
CF STATE STREET 1-3 YEAR US CR	10,693,160	2,990,613	0	0	714,469	14,398,242
Cash	35,463,548	-21,903,561	677,353	363,718	0	14,237,340
CASH	-	0	0	0	0	-
Cash & Other Assets	73,500	141,106	0	0	0	214,606
Cash & Other Assets	7,457,149	-7,117,311	47,377	0	0	387,216
Cash & Other Assets	0	0	0	58,566	0	0
Cash & Other Assets	0	0	0	63,285	0	0

### Market Value Summary - One Year

Account/Group	12/31/2022 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Cash & Other Assets	0	0	0	0	0	0
Cash & Other Assets	-502,515	652,865	0	61,079	0	150,350
OHA - CASH	28,435,414	-15,580,221	629,976	180,788	0	13,485,168

\*Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

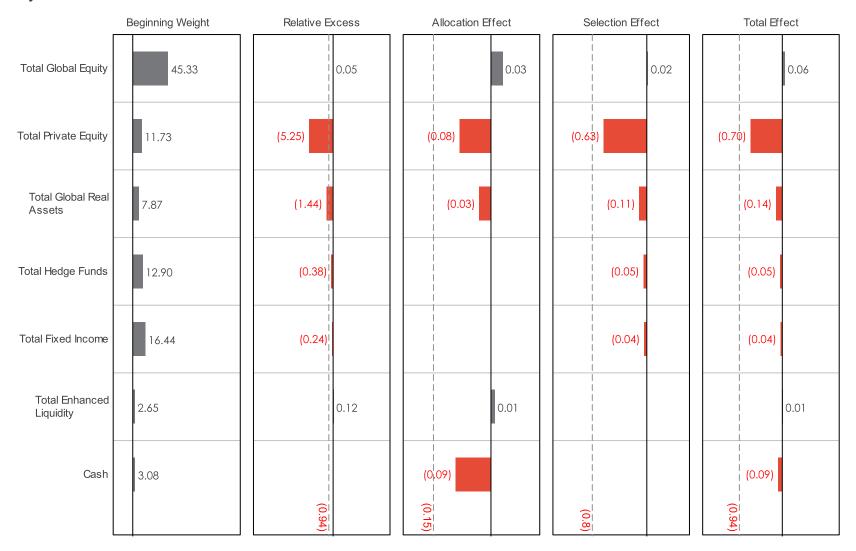
### Policy Level Attribution Overview



	Rate of Return			Relative	Relative	
Time Period	Group	Index	Relative	Asset Allocation	Stock Selection	Residual
One Month	2.97	3.95	-0.94	-0.15	-0.80	0.00
Three Months	6.42	8.78	-2.17	-0.41	-1.77	0.00
One Year	11.90	16.85	-4.24	-1.04	-3.25	0.02

The above Attribution Model is based on the Geometric methodology.

### Policy Level Attribution Detail - One Month



The above Attribution model is based on Geometric methodology. The chart depicts the Top & Bottom accounts/groups based on Total Management Effect. The vertical dotted line represents the total consolidated result for a given metric.

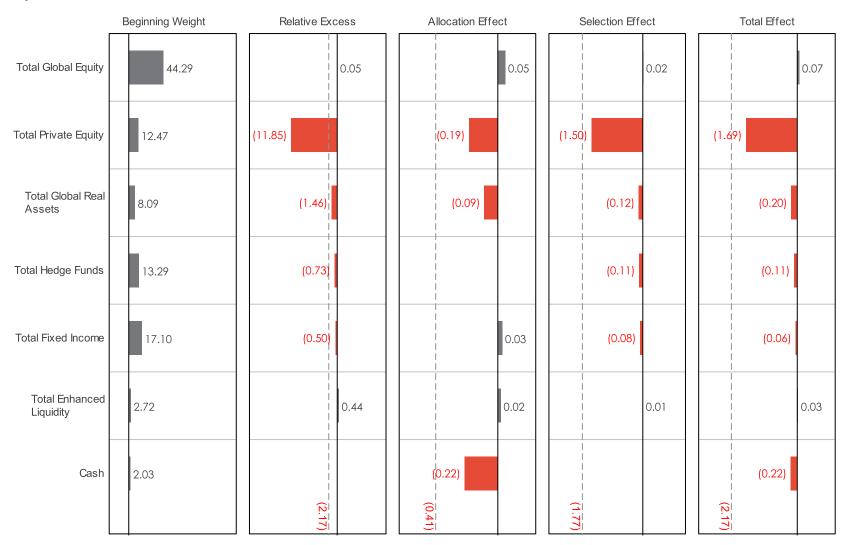
### Policy Level Attribution - One Month

	Weights	Weights Rate of Returns			Attribution Effects			
	Beginning Weights	Beginning Excess Weight	Return	Relative Excess Return	Relative Asset Allocation	Relative Stock Selection	Total Effect	
OHA Financial Assets	100.00	0.00	2.97	-0.94	-0.15	-0.80	-0.94	
OHA Policy Index	100.00		3.95					
Total Global Equity	45.33	3.33	4.86	0.05	0.03	0.02	0.06	
MSCI ACWI ND	42.00		4.80					
Total Private Equity	11.73	-7.27	-0.46	-5.25	-0.08	-0.63	-0.70	
MSCI ACWI (Net) +3%	19.00		5.05					
Total Global Real Assets	7.87	2.87	1.46	-1.44	-0.03	-0.11	-0.14	
BBG US TIPS + 3%	5.00		2.94					
Total Hedge Funds	12.90	-0.10	0.39	-0.38	0.00	-0.05	-0.05	
90 Day T-Bill + 4%	13.00		0.76					
Total Fixed Income	16.44	-1.56	3.57	-0.24	0.00	-0.04	-0.04	
BBG US Aggregate	18.00		3.83					
Total Enhanced Liquidity	2.65	-0.35	1.28	0.12	0.01	0.00	0.01	
BBG US Treasury: 1-3 Year	3.00		1.16					
Cash	3.08	-	0.43	-	-0.09	0.00	-0.09	

Residual 0.00

The above Attribution Model is based on the Geometric methodology.

### Policy Level Attribution Detail - Three Months



The above Attribution model is based on Geometric methodology. The chart depicts the Top & Bottom accounts/groups based on Total Management Effect. The vertical dotted line represents the total consolidated result for a given metric.

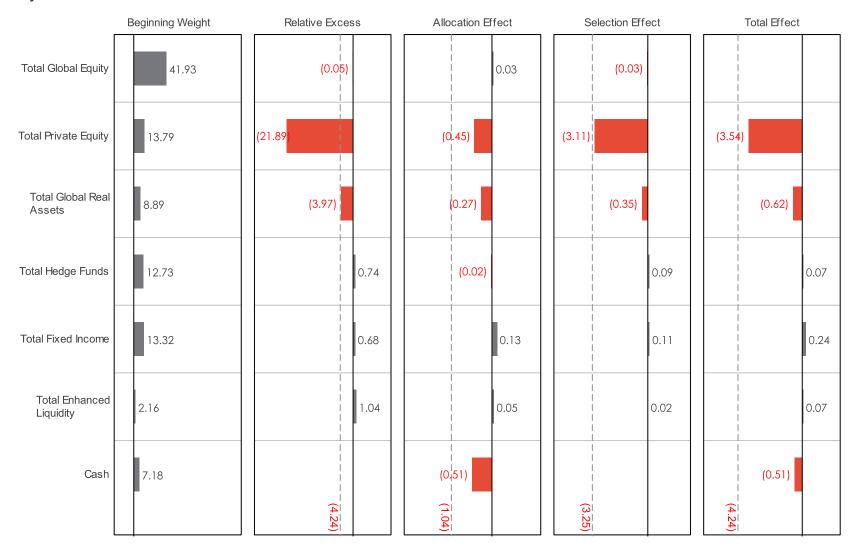
### Policy Level Attribution - Three Months

	Weights		Rate of Re	turns	Attribution Effects		
	Beginning Weights	Beginning Excess Weight	Return	Relative Excess Return	Relative Asset Allocation	Relative Stock Selection	Total Effect
OHA Financial Assets	100.00	0.00	6.42	-2.17	-0.41	-1.77	-2.17
OHA Policy Index	100.00		8.78				
Total Global Equity	44.29	2.29	11.09	0.05	0.05	0.02	0.07
MSCI ACWI ND	42.00		11.03				
Total Private Equity	12.47	-6.53	-1.42	-11.85	-0.19	-1.50	-1.69
MSCI ACWI (Net) +3%	19.00		11.83				
Total Global Real Assets	8.09	3.09	3.94	-1.46	-0.09	-0.12	-0.20
BBG US TIPS + 3%	5.00		5.48				
Total Hedge Funds	13.29	0.29	1.57	-0.73	-0.00	-0.11	-0.11
90 Day T-Bill + 4%	13.00		2.32				
Total Fixed Income	17.10	-0.90	6.28	-0.50	0.03	-0.08	-0.06
BBG US Aggregate	18.00		6.82				
Total Enhanced Liquidity	2.72	-0.28	3.01	0.44	0.02	0.01	0.03
BBG US Treasury: 1-3 Year	3.00		2.56				
Cash	2.03	-	1.31	-	-0.22	0.00	-0.22

Residual 0.00

The above Attribution Model is based on the Geometric methodology.

### Policy Level Attribution Detail - One Year



The above Attribution model is based on Geometric methodology. The chart depicts the Top & Bottom accounts/groups based on Total Management Effect. The vertical dotted line represents the total consolidated result for a given metric.

### Policy Level Attribution - One Year

	Weights		Rate of Return	Rate of Returns		Attribution Effects		
	Beginning Weights	Beginning Excess Weight	Return	Relative Excess Return	Relative Asset Allocation	Relative Stock Selection	Total Effect	
OHA Financial Assets	100.00	0.00	11.90	-4.24	-1.04	-3.25	-4.24	
OHA Policy Index	100.00		16.85					
Total Global Equity	41.93	-0.07	22.14	-0.05	0.03	-0.03	0.00	
MSCI ACWI ND	42.00		22.20					
Total Private Equity	13.79	-5.21	-1.74	-21.89	-0.45	-3.11	-3.54	
MSCI ACWI (Net) +3%	19.00		25.81					
Total Global Real Assets	8.89	3.89	2.75	-3.97	-0.27	-0.35	-0.62	
BBG US TIPS + 3%	5.00		7.00					
Total Hedge Funds	12.73	-0.27	10.16	0.74	-0.02	0.09	0.07	
90 Day T-Bill + 4%	13.00		9.35					
Total Fixed Income	13.32	-4.68	6.25	0.68	0.13	0.11	0.24	
BBG US Aggregate	18.00		5.53					
Total Enhanced Liquidity	2.16	-0.84	5.37	1.04	0.05	0.02	0.07	
BBG US Treasury: 1-3 Year	3.00		4.29					
Cash	7.18	-	4.91	-	-0.51	0.00	-0.51	

Residual 0.02

The above Attribution Model is based on the Geometric methodology.

### Greatest Asset Impact - Three Months

#### **TOP LARGEST HOLDINGS**

			12/31/2023	1	2/31/2023		
Asset Description	Sector/Industry	Country	Market Value	Gain/Loss	Weight	Base Return	Contribution to GOF
MFO STATE STREET INSTITUTIONAL I	Equity	United States	63,649,239	6,649,811	11.60	11.67	1.29
MFO STATE STREET INSTITUTIONAL I	Government Related	United States	54,378,896	3,414,537	9.91	6.70	0.66
CF STRATEGIC SOLUTIONS GLOBAL EQ	Equity	United States	51,664,709	4,911,863	9.42	10.51	0.95
MFO STATE STREET INSTITUTIONAL I	Equity	International (USD)	37,059,409	3,296,774	6.76	9.76	0.63
PIMCO TACTICAL OPPORTUNITIES OFF	Hedge Equity	United States	28,823,062	184,348	5.25	0.64	0.04
CF COMMONFUND GLOBAL ABSOLUTE AL	Hedge Equity	United States	26,593,114	1	4.85	-	0.00
CF SSGA REAL ASSET NL CTF CM5Q	Equity	United States	26,128,896	932,459	4.76	3.70	0.18
MFO JP MORGAN TRUST I US EQUITY	Equity	United States	24,320,793	2,531,869	4.43	12.07	0.49
MFC JP MORGAN ETF TRUST EQUITY F	Equity	United States	20,053,054	2,100,882	3.66	11.51	0.41
MFB NORTHERN INSTL FDS TREAS POR	Cash & Short Term Deriv.	United States	18,890,396	191,001	3.44	1.33	0.04
SubTotal			351,561,566	24,213,544	64.09	•	4.67

#### LARGEST POSITIVE IMPACT

Asset Description	Sector/Industry	Country	Market Value	Gain/Loss	Weight	Base Return	Contribution to GOF
MFO STATE STREET INSTITUTIONAL I	Equity	United States	63,649,239	6,649,811	11.60	11.67	1.29
CF STRATEGIC SOLUTIONS GLOBAL EQ	Equity	United States	51,664,709	4,911,863	9.42	10.51	0.95
MFO STATE STREET INSTITUTIONAL I	Government Related	United States	54,378,896	3,414,537	9.91	6.70	0.66
MFO STATE STREET INSTITUTIONAL I	Equity	International (USD)	37,059,409	3,296,774	6.76	9.76	0.63
MFO JP MORGAN TRUST I US EQUITY	Equity	United States	24,320,793	2,531,869	4.43	12.07	0.49
MFC JP MORGAN ETF TRUST EQUITY F	Equity	United States	20,053,054	2,100,882	3.66	11.51	0.41
MFO JPMORGAN INTERNATIONAL FOCUS	Equity	International (USD)	14,337,875	1,514,849	2.61	11.72	0.29
MFO JPMORGAN TR I	Equity	Europe Funds	11,447,085	1,238,994	2.09	11.99	0.24
MFO J P MORGAN MUT FD GROWTH ADV	Equity	United States	8,963,750	1,147,602	1.63	14.27	0.23
MFO JPMORGAN TR II CORE BD FD CL	Other Fixed Income	United States	4,560,815	1,099,242	0.83	7.74	0.21
SubTotal			290,435,624	27,906,422	52.95		5.40

12/31/2023

12/31/2023

#### LARGEST NEGATIVE IMPACT

			12/31/2023	•	12/31/2023		
Asset Description	Sector/Industry	Country	Market Value	Gain/Loss	Weight	Base Return	Contribution to GOF
PRIVATE EQUITY CO-INVESTMENT PAR	Private Equity	Global (USD)	8,487,540	-461,269	1.55	-5.14	-0.09
COMMONFUND CAPITAL VENTURE PARTN	Private Equity	United States	9,517,087	-215,543	1.73	-2.20	-0.04
COMMONFUND CAPITAL EMERGING MARK	Private Equity	United States	6,071,905	-193,647	1.11	-3.06	-0.04
COMMONFUND CAPITAL VENTURE PARTN	Private Equity	Global (USD)	9,805,432	-112,685	1.79	-1.11	-0.02
COMMONFUND INTL PRIVATE EQUITY	Private Equity	United States	2,449,359	-88,103	0.45	-3.47	-0.02
COMMONFUND CAPITAL PRIVATE EQUIT	Private Equity	United States	1,098,088	-43,365	0.20	-3.68	-0.01
PANTHEON GLOBAL SECONDARY FUND V	Private Equity	Global (USD)	4,122,764	-42,078	0.75	-1.01	-0.01
COMMONFUND INTERNATIONAL PRIVATE	Private Equity	United States	1,147,153	-38,653	0.21	-3.09	-0.01
PANTHEON EMERGING ASIA FUND VI L	Private Equity	Asia (USD)	1,791,655	-38,565	0.33	-2.09	-0.01
PANTHEON GLOBAL INFRASTRUCTURE F	Private Equity	United States	874,139	-31,934	0.16	-3.39	-0.01
SubTotal			45,365,122	-1,265,842	8.27	•	-0.25

#### **BEST PERFORMERS**

			12/31/2023		12/31/2023		
Asset Description	Sector/Industry	Country	Market Value	Gain/Loss	Weight	Base Return	Contribution to GOF
PRIVATE EQUITY PARTNERS 2004 (OF	Private Equity	Global (USD)	25,033	9,638	0.00	62.60	0.00
ASIAN INFRASTRUCTURE & RELATED R	Private Equity	United States	777,703	184,466	0.14	31.05	0.04
MFO J P MORGAN MUT FD GROWTH ADV	Equity	United States	8,963,750	1,147,602	1.63	14.27	0.23
MFO JP MORGAN TRUST I US EQUITY	Equity	United States	24,320,793	2,531,869	4.43	12.07	0.49
MFO JPMORGAN TR I	Equity	Europe Funds	11,447,085	1,238,994	2.09	11.99	0.24
MFO JPMORGAN INTERNATIONAL FOCUS	Equity	International (USD)	14,337,875	1,514,849	2.61	11.72	0.29
MFO STATE STREET INSTITUTIONAL I	Equity	United States	63,649,239	6,649,811	11.60	11.67	1.29
MFC JP MORGAN ETF TRUST EQUITY F	Equity	United States	20,053,054	2,100,882	3.66	11.51	0.41
MFC J P MORGAN EXCHANGE-TRADED F	Equity	United States	1,848,900	194,970	0.34	11.24	0.04
CF STRATEGIC SOLUTIONS GLOBAL EQ	Equity	United States	51,664,709	4,911,863	9.42	10.51	0.95
SubTotal			197,088,141	20,484,944	35.93		3.97

#### **WORST PERFORMERS**

			12/31/2023	1	2/31/2023		
Asset Description	Sector/Industry	Country	Market Value	Gain/Loss	Weight	Base Return	Contribution to GOF
PRIVATE EQUITY PARTNERS 2005 (OF	Private Equity	United States	58,416	-9,964	0.01	-14.57	-0.00
PRIVATE EQUITY CO-INVESTMENT PAR	Private Equity	Global (USD)	8,487,540	-461,269	1.55	-5.14	-0.09
IRISH SPECIALTY LOAN FUND III PL	Private Equity	Global (USD)	31,246	-1,676	0.01	-5.09	-0.00
PRIVATE EQUITY PARTNERS IX OFFSH	Private Equity	Global (USD)	63,491	-3,905	0.01	-4.35	-0.00
COMMONFUND CAPITAL PRIVATE EQUIT	Private Equity	United States	1,098,088	-43,365	0.20	-3.68	-0.01
COMMONFUND INTL PRIVATE EQUITY	Private Equity	United States	2,449,359	-88,103	0.45	-3.47	-0.02
PANTHEON GLOBAL INFRASTRUCTURE F	Private Equity	United States	874,139	-31,934	0.16	-3.39	-0.01
PANTHEON GLOBAL CO-INVESTMENT	Private Equity	Global (USD)	272,461	-8,743	0.05	-3.10	-0.00
COMMONFUND INTERNATIONAL PRIVATE	Private Equity	United States	1,147,153	-38,653	0.21	-3.09	-0.01
COMMONFUND CAPITAL EMERGING MARK	Private Equity	United States	6,071,905	-193,647	1.11	-3.06	-0.04
SubTotal			20,553,798	-881,259	3.75		-0.17
Total Fund Gross of Fees			548,555,636			6.42	

### **Risk Statistics**

	Three Months	Year to Date	Fiscal YTD	One Year	Three Years	Five Years	ITD
Return	6.42	11.90	5.12	11.90	5.24	8.82	8.53
Index Return	8.78	16.85	6.31	16.85	4.73	9.44	7.59
Excess Return	-2.36	-4.95	-1.19	-4.95	0.52	-0.61	0.94
Relative Excess Return	-2.17	-4.24	-1.12	-4.24	0.49	-0.56	0.88
Internal Rate of Return	6.44	11.95	5.16	11.95	-	-	-
Index Internal Rate of Return	8.79	16.88	6.35	16.88	-	-	-
Risk-free Return	1.41	5.26	2.80	5.26	2.25	1.91	1.41
Standard Deviation	-	7.93	-	7.93	8.53	10.28	8.76
Index Standard Deviation	-	10.68	-	10.68	11.15	11.42	9.41
Tracking Error	-	2.84	-	2.84	3.48	3.65	8.45
Relative Tracking Error	-	2.77	-	2.77	3.45	3.67	8.45
Information Ratio	-	-1.74	-	-1.74	0.15	-0.17	0.11
Relative Information Ratio	-	-1.53	-	-1.53	0.14	-0.15	0.10
Sharpe Ratio	-	0.84	-	0.84	0.35	0.67	0.81
Index Sharpe Ratio	-	1.08	-	1.08	0.22	0.66	0.66
M Squared	-	14.21	-	14.21	6.16	9.59	9.06
Sortino Ratio	-	1.55	-	1.55	0.52	0.97	1.24
Index Sortino Ratio	-	2.13	-	2.13	0.32	1.02	0.98
Treynor Ratio	-	8.98	-	8.98	4.02	8.06	13.47
Jensen's Alpha	-	-1.72	-	-1.72	1.01	0.43	3.90
Relative Volatility (Beta)	-	0.74	-	0.74	0.75	0.86	0.53
R Squared	-	0.99	-	0.99	0.94	0.90	0.32
Up Market Capture Ratio	74.56	70.78	74.28	70.78	78.24	80.64	35.52
Down Market Capture Ratio	82.42	75.94	70.60	75.94	77.13	86.51	61.26

### Risk Statistics by Program/Portfolio

, 0			Three Years							
	End Market					Relative Tracking				
	Value	Ending Weight	Return	Relative Excess	Standard Deviation	Error	Information Ratio	Sharpe Ratio		
OHA Financial Assets	548,555,636	100.00	5.24	0.49	8.53	3.45	0.15	0.35		
OHA Policy Index			4.73		11.15			0.22		
Capital Appreciation	320,777,383	58.48	6.75	-	12.42	-	-	0.36		
Total Public Equity	258,630,506	47.15	5.94	0.18	16.16	0.99	0.19	0.23		
MSCI ACWI ND		 	5.75		16.27			0.22		
Total Global Equity	258,630,506	47.15	5.94	0.18	16.16	0.99	0.19	0.23		
MSCI ACWI ND		 	5.75		16.27			0.22		
Global Equity	51,664,709	9.42	5.09	-0.62	16.24	1.42	-0.46	0.18		
MSCI ACWI ND		 	5.75		16.27			0.22		
STRATEGIC SOLUTIONS GBL EQT	51,664,709	9.42	5.09	-0.62	16.24	1.42	-0.46	0.18		
MSCI ACWI ND			5.75		16.27			0.22		
Developed Markets	198,073,305	36.11	7.17	-0.09	16.36	1.36	-0.07	0.30		
MSCI World ND			7.27		16.75			0.30		
Domestic Equity	129,250,650	23.56	9.90	1.26	16.82	1.31	1.04	0.46		
Russell 3000			8.54		17.46			0.36		
Commonfund Open Cash	0	0.00	-	-	-	-	-	-		
JPM Equity Focus Fd Cl R6	0	0.00	-	-	-	-	-			
S&P 500		 	-		-					
JPM Large Cap Value Fd Cl R6	2,934,916	0.54	-	-	-	-	-			
Russell 1000 Value			-		-					
MFC JP MORGAN ETF TRUST EQUITY	20,053,054	3.66	-	-	-	-	-			
S&P 500					-					
MFO J P MORGAN MUT FD GROWTH A	8,963,750	1.63	6.50	-1.46	20.38	2.70	-0.58	0.21		
Russell 3000 Growth			8.08		20.34			0.29		
MFO JP MORGAN TRUST I US EQUIT	24,320,793	4.43	10.17	0.15	17.06	2.16	0.08	0.46		
S&P 500			10.00		17.29			0.45		
MFO JP MORGAN TRUST I VALUE AD	6,332,669	1.15	10.96	1.98	16.56	3.55	0.61	0.53		
Russell 3000 Value			8.81		16.69			0.39		
MFO JPMORGAN TR I SMALL CAP BL	2,996,229	0.55	-	-	-	-	-	-		
Russell 2000			-		-					

OHA Financial Assets | December 31, 2023

					Three Y	'ears		
	End Market					Relative Tracking		
	Value	Ending Weight	Return	Relative Excess	Standard Deviation	Error	Information Ratio	Sharpe Ratio
STATE STREET EQUITY 500 INDEX	63,649,239	11.60	9.91	-0.08	17.28	0.07	-1.43	0.44
S&P 500			10.00		17.29			0.45
International Equity	68,822,654	12.55	2.59	-1.37	16.87	2.37	-0.60	0.02
MSCI EAFE ND			4.02		16.61			0.11
JPM BetaBuilders Canada ETF	1,848,900	0.34	-	-	-	-	-	-
MS Canada IMI			-		-			_
JPM Europe Dynamic Fund	11,447,085	2.09	-	-	-	-	-	-
MSCI Europe ND			-		-			-
JPM International Focus R6	14,337,875	2.61	-	-	-	-	-	-
MSCI EAFE ND			-		-			-
JPM JAPAN ETF	4,129,385	0.75	-	-	-	-	-	-
Morningstar Japan TME Benchmrk			-		-			-
STATE STREET GLOBAL ALL CAP	37,059,409	6.76	0.60	-0.93	16.85	2.42	-0.39	-0.10
MSCI ACWI ex USA ND			1.55		16.07			-0.04
Emerging Markets	8,892,493	1.62	-8.10	-3.19	18.26	3.27	-0.92	-0.57
MSCI Emerging Markets ND		 	-5.08		17.14			-0.43
MFO JPMORGAN TR I EMERGING MKT	3,429,354	0.63	-10.44	-5.65	18.94	5.29	-1.01	-0.67
MSCI Emerging Markets ND			-5.08		17.14			-0.43
MFO JPMORGAN TR IV EMERGING MK	5,463,139	1.00	-6.15	-1.13	18.20	3.22	-0.33	-0.46
MSCI Emerging Markets ND		l I	-5.08		17.14			-0.43
Total Private Equity	62,146,877	11.33	5.70	-2.95	10.62	18.38	-0.17	0.33
MSCI ACWI (Net) +3%			8.91		16.27			0.41
Diversified	29,659,495	5.41	4.86	-5.08	10.52	18.31	-0.30	0.25
MSCI AC World (Net) +3%			10.47		16.75			0.49
Diversified	29,659,495	5.41	4.68	-	10.66	-	-	0.23
Co-Investments	11,881,543	2.17	12.49	1.83	10.58	18.87	0.11	0.97
MSCI AC World (Net) +3%			10.47		16.75			0.49
PRIVATE EQUITY CO-INVESTMENT P	11,881,543	2.17	13.51	-	11.21	-	-	1.00
Venture Capital	19,322,519	3.52	4.19	-8.17	13.85	25.74	-0.36	0.14
NASDAQ + 3%			13.46		22.12			0.51
Commonfund Venture Capital	19,322,519	3.52	4.19	-5.69	13.85	20.96	-0.30	0.14
MSCI AC World (Net) + 3%			10.47		16.75			0.49
Opportunistic Credit	1,283,320	0.23	8.56	0.65	7.59	8.21	0.08	0.83
S&P/LSTA Lev Loan Index +2%		<u> </u>	7.87		3.83			1.47

OHA Financial Assets | December 31, 2023

			Three Years							
	End Market					Relative Tracking				
	Value	Ending Weight	Return	Relative Excess	Standard Deviation	Error	Information Ratio	Sharpe Ratio		
OHA OPPORTUNISTIC	1,283,320	0.23	8.56	-	7.59	-	-	0.83		
Total Global Real Assets	42,454,553	7.74	10.73	8.58	8.46	8.93	1.00	1.00		
BBG US TIPS + 3%			1.98		7.07			-0.04		
Marketable Real Assets	26,128,896	4.76	4.66	1.22	11.92	4.83	0.26	0.20		
S&P Real Assets Index NTR			3.40		12.44			0.09		
CF SSGA REAL ASSET NL CTF CM5Q	26,128,896	4.76	8.17	-	12.72	-	-	0.47		
iShares TIPS Bond (TIP)	0	0.00	-	-	-	-	-	-		
Private Real Assets	16,325,657	2.98	19.49	12.20	12.36	18.73	0.72	1.40		
S&P Real Assets Index + 3%			6.50		12.38			0.34		
ASIAN INFRASTRUCTURE & RELATED	777,703	0.14	19.00	13.78	22.76	24.44	0.59	0.74		
MSCI World Infrastructure +3%		 	4.59		14.40			0.16		
COMMONFUND CAPITAL NATURAL RES	6,749,576	1.23	23.78	-	16.79	-	-	1.28		
S&P Glb LargeMidCap+3%		 	-		-					
Natural Resources Partners X	7,924,239	1.44	16.47	-	10.18	-	-	1.40		
S&P Glb LargeMidCap+3%		l I	-		-			-		
PANTHEON GLOBAL INFRASTRUCTURE	874,139	0.16	7.13	2.42	6.39	15.20	0.17	0.76		
MSCI World Infrastructure +3%			4.59		14.40			0.16		
Diversifying Strategies	69,386,099	12.65	4.93	-	3.11	-	-	0.86		
Total Hedge Funds	69,386,099	12.65	4.93	-1.45	3.11	3.00	-0.51	0.86		
90 Day T-Bill + 4%		 	6.47		0.64			6.56		
CF GLOBAL ABSOLUTE ALPHA COMPA	26,593,114	4.85	3.31	-2.96	1.81	1.62	-1.94	0.59		
90 Day T-Bill + 4%		<u> </u>	6.47		0.64			6.56		
MFO JP MORGAN TRUST I RESEARC	4,791,256	0.87	-	-	-	-	-	-		
90 Day T-Bill + 4%			-		-					
MFO JPMORGAN TR I INCOME FD CL	9,178,666	1.67	-	-	-	-	-	-		
BBG US Aggregate			-		-					
MFO JPMORGAN TR I OPPORTUNISTI S&P 500	0	0.00	-	-	-	-	-	-		
PIMCO TACTICAL OPPORTUNITIES O	28,823,062	5.25	7.31	-0.52	5.99	5.51	-0.10	0.84		
S&P/LSTA Lev Loan Index +2%			7.87		3.83			1.47		
Fixed Income	101,700,261	18.54	-2.07	-	6.14	-	-	-0.70		
Total Fixed Income	87,302,020	15.91	-2.14	1.21	6.56	0.92	1.28	-0.67		
BBG US Aggregate			-3.31		7.14			-0.78		

					Three Y	'ears		
	End Market Value	Ending Weight	Return	Relative Excess	Standard Deviation	Relative Tracking Error	Information Ratio	Sharpe Ratio
CF STATE STREET AGGREGATE BOND	54,378,896	9.91	-3.48	-0.17	7.19	0.22	-0.75	-0.80
BBG US Aggregate			-3.31		7.14			-0.78
JPM Open Cash	0	0.00	-	-	-	-	-	-
JPM US Treasury 20+ Year ETF	4,988,301	0.91	-	-	-	-	-	-
ICE Bofa US treasury 20+ yrs			-		-			_
MFO CORE PLUS BD FD CL R6	12,914,863	2.35	-2.49	0.85	6.90	0.78	1.06	-0.69
BBG US Aggregate			-3.31		7.14			-0.78
MFO JPMORGAN TR II CORE BD FD	4,560,815	0.83	-2.76	0.58	6.57	0.89	0.63	-0.76
BBG US Aggregate			-3.31		7.14			-0.78
MFO JPMORGAN TR II HIGH YIELD	77,474	0.01	2.50	0.51	7.84	1.09	0.48	0.03
Bloomberg High Yield 2% Capped			1.98		8.24			-0.03
WAMCO SHORT-DATED HIGH YLDPORT	10,381,671	1.89	3.41	0.64	5.80	1.74	0.38	0.20
ICE Bofa 1-5 yr BB US high			2.75		5.71			0.09
Total Enhanced Liquidity	14,398,242	2.62	0.59	0.69	2.27	0.70	0.98	-0.73
BBG US Treasury: 1-3 Year			-0.10		2.13			-1.10
CF STATE STREET 1-3 YEAR US CR	14,398,242	2.62	0.59	0.09	2.27	0.09	0.98	-0.73
BBG US Credit 1-3 Yrs			0.51		2.30			-0.75
Cash	14,237,340	2.60	2.03	-0.42	0.63	0.11	-3.79	-0.34
90 Day T-Bill			2.47		0.67			0.33
CASH	0	0.00	-	-	-	-	-	_
Cash & Other Assets	0	0.00	-	-	-	-	-	-
Cash & Other Assets	0	0.00	-	-	-	-	-	-
Cash & Other Assets	214,606	0.04	-	-	-	-	-	-
Cash & Other Assets	0	0.00	-	-	-	-	-	-
Cash & Other Assets	387,216	0.07	-	-	-	-	-	-
Cash & Other Assets	150,350	0.03	-	-	-	-	-	
OHA - CASH	13,485,168	2.46	-	-	-	-	-	

<sup>\*</sup>The risk free index is the FTSE 3 Month US T Bill

Min -8.17 Max 13.78

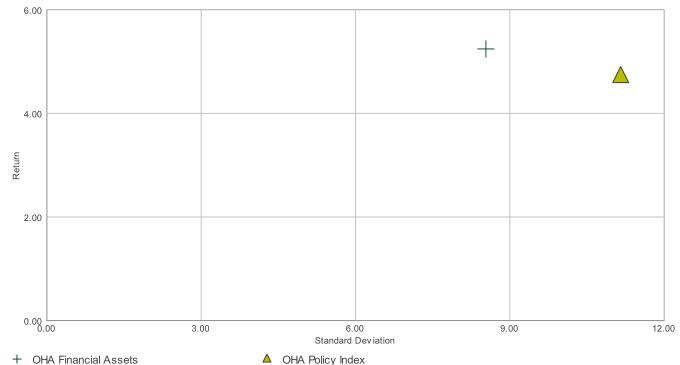
### Ex Post Risk Statistics Graphs

#### **RISK STATISTICS BY PROGRAM/PORTFOLIO**

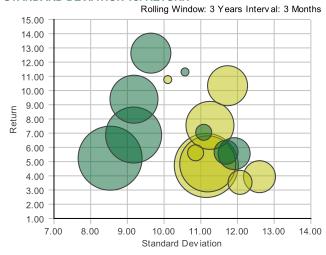
	Return		Standard D	eviation	Sharpe Ratio		
	Three Years	Five Years	Three Years	Five Years	Three Years	Five Years	
OHA Financial Assets	5.24	8.82	8.53	10.28	0.35	0.67	
OHA Policy Index	4.73	9.44	11.15	11.42	0.22	0.66	

<sup>\*</sup>The risk free index is the FTSE 3 Month US T Bill

#### **RISK STATISTICS SCATTER - THREE YEARS**



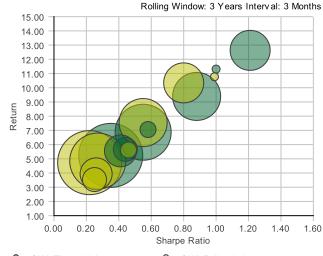
#### STANDARD DEVIATION vs. RETURN



OHA Financial Assets

OHA Policy Index

#### **SHARPE RATIO vs. RETURN**

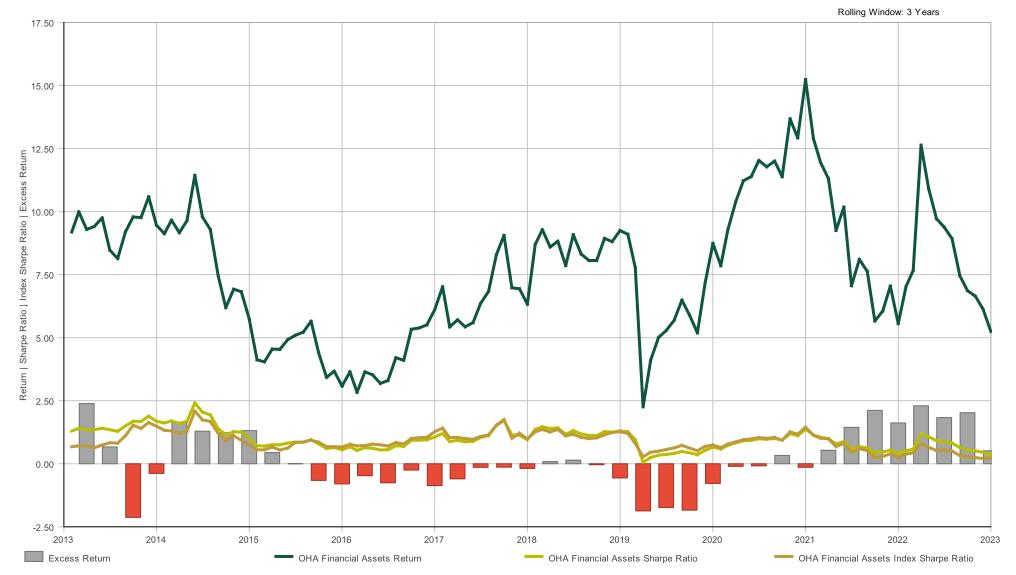


OHA Financial Assets

OHA Policy Index

### Ex Post Risk Statistics Graphs(2)

#### **RISK STATISTICS TIME SERIES**



OHA Financial Assets | December 31, 2023 NORTHERN TRUST

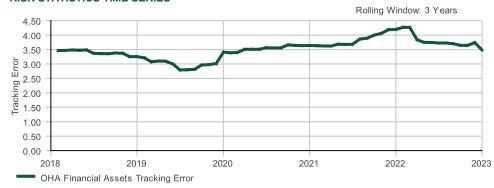
### Ex Post Risk Statistics Graphs(3)



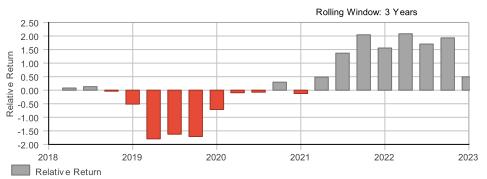
#### **RISK STATISTICS TIME SERIES**



#### **RISK STATISTICS TIME SERIES**



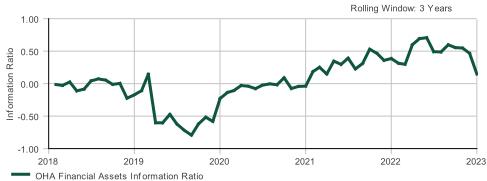
#### **RISK STATISTICS TIME SERIES**



#### **RISK STATISTICS TIME SERIES**



#### **RISK STATISTICS TIME SERIES**



### **Index Overview**

					Index Return	1			
Index Name	CCY	1 Mo	3 Mos	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
S&P 500	USD	4.54	11.69	26.29	26.29	10.00	15.69	13.42	12.03
DJW 5000 Composite Idx	USD	5.35	12.13	26.06	26.06	8.43	15.05	12.72	11.40
Russell 1000	USD	4.94	11.96	26.53	26.53	8.97	15.52	13.21	11.80
Russell 1000 Growth	USD	4.43	14.16	42.68	42.68	8.86	19.50	17.68	14.86
Russell 1000 Value	USD	5.54	9.50	11.46	11.46	8.86	10.91	8.32	8.40
Russell Midcap	USD	7.73	12.82	17.23	17.23	5.92	12.68	10.07	9.42
Russell 2000	USD	12.22	14.03	16.93	16.93	2.22	9.97	7.33	7.16
Russell 3000	USD	5.30	12.07	25.96	25.96	8.54	15.16	12.81	11.48
MSCI ACWI GD	USD	4.84	11.15	22.81	22.81	6.25	12.27	10.60	8.48
MSCI ACWI ex USA GD	USD	5.05	9.82	16.21	16.21	2.04	7.60	6.84	4.32
MSCI World GD	USD	4.94	11.53	24.42	24.42	7.79	13.37	11.30	9.18
MSCI EAFE GD	USD	5.33	10.47	18.85	18.85	4.53	8.69	7.43	4.78
MSCI Europe GD	USD	5.01	11.10	20.66	20.66	6.45	9.75	8.07	4.74
MSCI Emerging Markets GD	USD	3.95	7.93	10.27	10.27	-4.71	4.07	5.37	3.05
Bloomberg Global Agg (USD)	USD	4.16	8.10	5.72	5.72	-5.51	-0.32	0.62	0.38
BBG US Govt/Credit	USD	3.68	6.63	5.72	5.72	-3.53	1.41	1.52	1.97
BBG US Ag Gvt/Cr Intrmd	USD	2.32	4.56	5.24	5.24	-1.63	1.59	1.57	1.72
BBG US Long Govt/Credit	USD	7.90	13.24	7.13	7.13	-8.68	1.12	1.58	3.22
Bloomberg US TIPS	USD	2.69	4.71	3.90	3.90	-1.00	3.15	2.49	2.42
Bloomberg High Yield Corporate	USD	3.73	7.16	13.44	13.44	1.98	5.37	4.57	4.60
BBG Muni	USD	2.32	7.89	6.40	6.40	-0.40	2.25	2.56	3.03
ICE Bofa 1Yr US Treasury Note	USD	0.70	1.79	4.74	4.74	1.18	1.66	1.53	1.18
90 Day T-Bill	USD	0.45	1.37	5.35	5.35	2.47	1.98	1.83	1.32
FTSE WGBI Index	USD	4.20	8.08	5.19	5.19	-7.18	-1.39	-0.09	-0.31
JPM EMBI Global	USD	4.81	9.26	10.45	10.45	-3.14	1.94	1.99	3.06
NCREIF Open-End Divers Core GR	USD	-1.90	-1.90	-12.14	-12.14	7.13	5.65	6.37	8.16
HFR Fund of Funds Composite	USD	2.50	3.65	6.59	6.59	2.34	5.19	4.18	3.27
HFR Fund Weighted Composite	USD	2.63	3.64	7.57	7.57	4.34	7.01	5.47	4.54
S&P GSCI Commodity TR Index	USD	-	-	-	-	-	-	-	

Min -12.14 Max 42.68

## Equity Indices

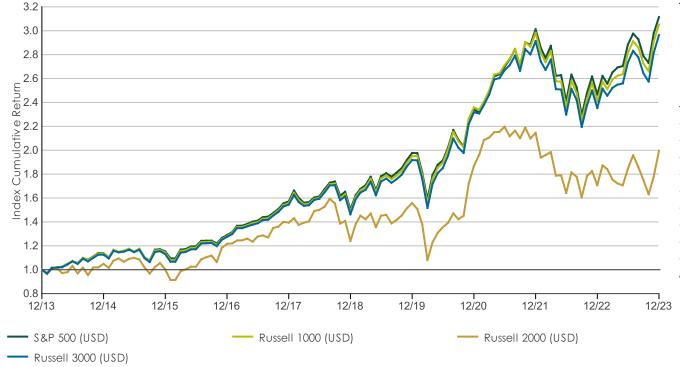
		Index Sharpe Ratio		Index Standard Deviation		Maximum Drawdown	
Index Name	CCY	3 Yrs	5 Yrs	3 Yrs	5 Yrs	3 Yrs	5 Yrs
S&P 500	USD	0.45	0.75	17.29	18.37	23.87	23.87
Russell 1000	USD	0.39	0.72	17.42	18.79	24.59	24.59
Russell 2000	USD	-0.00	0.34	21.11	24.02	26.83	30.61
Russell 3000	USD	0.36	0.70	17.46	18.97	24.62	24.62
DJW 5000 Composite Idx	USD	0.35	0.69	17.53	19.02	24.92	24.92
MSCI ACWI GD	USD	0.25	0.58	16.27	17.79	25.34	25.34
MSCI EAFE GD	USD	0.14	0.38	16.60	17.91	26.88	26.88
MSCI Emerging Markets GD	USD	-0.41	0.11	17.14	19.01	35.61	35.61

### QUARTERLY PERFORMANCE

Quarter	S&P 500	Russell 1000	Russell 2000	Russell 3000
Q4 '23	11.69	11.96	14.03	12.07
Q3 '23	-3.27	-3.15	-5.13	-3.25
Q2 '23	8.74	8.58	5.21	8.39
Q1 '23	7.50	7.46	2.74	7.18
Q4 '22	7.56	7.24	6.23	7.18
Q3 '22	-4.88	-4.61	-2.19	-4.46
Q2 '22	-16.10	-16.67	-17.20	-16.70
Q1 '22	-4.60	-5.13	-7.53	-5.28
Q4 '21	11.03	9.78	2.14	9.28
Q3 '21	0.58	0.21	-4.36	-0.10
Q2 '21	8.55	8.54	4.29	8.24
Q1 '21	6.17	5.91	12.70	6.35



#### **INDEX PERFORMANCE**



#### ANNUAL PERFORMANCE

Year	S&P 500	Russell 1000	Russell 2000	Russell 3000
2023	26.29	26.53	16.93	25.96
2022	-18.11	-19.13	-20.44	-19.21
2021	28.71	26.45	14.82	25.66
2020	18.40	20.96	19.96	20.89
2019	31.49	31.43	25.52	31.02
2018	-4.38	-4.78	-11.01	-5.24
2017	21.83	21.69	14.65	21.13
2016	11.96	12.05	21.31	12.74
2015	1.38	0.92	-4.41	0.48
2014	13.69	13.24	4.89	12.56

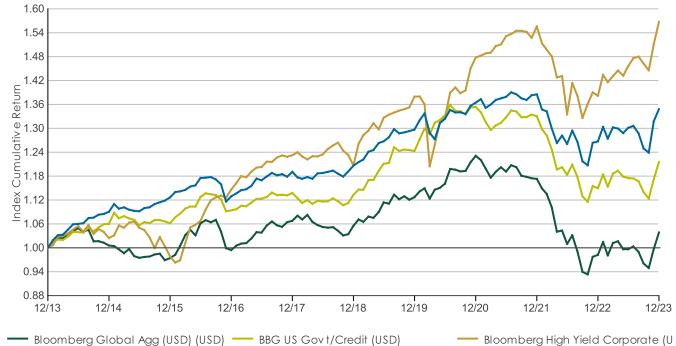
Min -20.44 Max 31.49

### Fixed Income Indices

#### **RISK STATISTICS**

	_	Index Sharpe Ratio		Index Standard Deviation		Maximum Drawdown	
Index Name	CCY	3 Yrs	5 Yrs	3 Yrs	5 Yrs	3 Yrs	5 Yrs
Bloomberg Global Agg (USD)	USD	-0.90	-0.30	8.65	7.44	24.19	24.19
BBG US Govt/Credit	USD	-0.81	-0.08	7.11	6.35	17.62	17.95
BBG US Ag Gvt/Cr Intrmd	USD	-0.85	-0.08	4.58	3.98	11.32	11.32
BBG US Long Govt/Credit	USD	-0.71	-0.06	15.35	13.95	35.78	37.24
Bloomberg US TIPS	USD	-0.46	0.20	7.07	6.17	13.61	13.61
Bloomberg High Yield Corporate	USD	-0.03	0.37	8.24	9.45	14.74	14.74
BBG Muni	USD	-0.36	0.05	7.38	6.43	13.19	13.19
ICE Bofa 1 Yr US Treasury Note	USD	-1.01	-0.26	1.05	0.96	1.96	1.96
90 Day T-Bill	USD	0.33	0.12	0.67	0.57	0.00	0.00

### INDEX PERFORMANCE



#### **QUARTERLY PERFORMANCE**

Quarter	Bloomberg Global Agg (USD)	BBG US Govt/Credit	Bloomberg High Yield Corporate	BBG Muni
Q4 '23	8.10	6.63	7.16	7.89
Q3 '23	-3.59	-3.00	0.46	-3.95
Q2 '23	-1.53	-0.93	1.75	-0.10
Q1 '23	3.01	3.17	3.57	2.78
Q4 '22	4.55	1.80	4.17	4.10
Q3 '22	-6.94	-4.56	-0.65	-3.46
Q2 '22	-8.26	-5.03	-9.83	-2.94
Q1 '22	-6.16	-6.33	-4.84	-6.23
Q4 '21	-0.67	0.18	0.71	0.72
Q3 '21	-0.88	0.04	0.89	-0.27
Q2 '21	1.31	2.42	2.74	1.42
Q1 '21	-4.46	-4.28	0.85	-0.35

Min -9.83 Max 8.10

#### **ANNUAL PERFORMANCE**

Year	Bloomberg Global Agg (USD)	BBG US Govt/Credit	Bloomberg High Yield Corporate	BBG Muni
2023	5.72	5.72	13.44	6.40
2022	-16.25	-13.58	-11.19	-8.53
2021	-4.71	-1.75	5.28	1.52
2020	9.20	8.93	7.11	5.21
2019	6.84	9.71	14.32	7.54
2018	-1.20	-0.42	-2.08	1.28
2017	7.39	4.00	7.50	5.45
2016	2.08	3.05	17.13	0.25
2015	-3.15	0.15	-4.47	3.30
2014	0.59	6.01	2.45	9.05

Min -16.25 Max 1

- BBG Muni (USD)

## Alternatives Indices

#### **RISK STATISTICS**

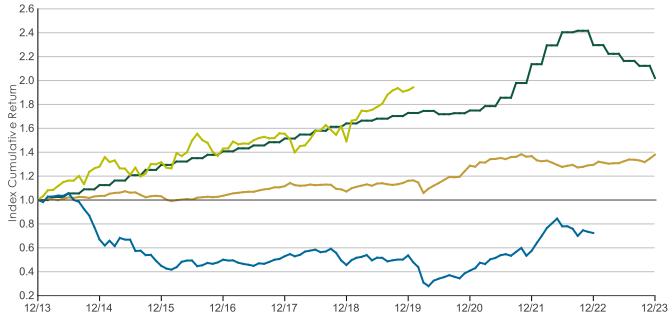
		Index Sharpe Ratio		Index Standard Deviation		Maximum Drawdown	
Index Name	CCY	3 Yrs	5 Yrs	3 Yrs	5 Yrs	3 Yrs	5 Yrs
NCREIF Op-End Div Core GR NonL	USD	0.28	0.31	9.43	7.45	16.39	16.39
FTSE NAREIT US Equity Index	USD	-	-	-	-	-	-
HFR Fund of Funds Composite	USD	0.02	0.54	4.30	6.05	7.98	9.04
HFR Fund Weighted Composite	USD	0.39	0.67	5.38	7.62	7.14	11.55
S&P GSCI Commodity TR Index	USD	-	-	-	-	-	-

#### **QUARTERLY PERFORMANCE**

Quarter	NCREIF Op-End Div Core GR NonL	FTSE NAREIT US Equity Index	of Funds	S&P GSCI Commodity TR Index
Q4 '23	-4.83		3.65	
Q3 '23	-1.90		0.54	
Q2 '23	-2.68		1.52	
Q1 '23	-3.17		0.75	
Q4 '22	-4.97		1.73	3.44
Q3 '22	0.52		-0.35	-10.31
Q2 '22	4.77		-3.96	2.01
Q1 '22	7.37		-2.76	33.13
Q4 '21	7.97		0.43	1.51
Q3 '21	6.63		0.73	5.22
Q2 '21	3.93		2.89	15.72
Q1 '21	2.11		2.03	13.55

Min -10.31 Max 33.13

#### **INDEX PERFORMANCE**



#### **ANNUAL PERFORMANCE**

Year	NCREIF Op-End Div Core GR NonL	FTSE NAREIT US Equity Index	HFR Fund of Funds Composite	S&P GSCI Commodity TR Index
2023	-12.02		6.59	
2022	7.47		-5.32	25.99
2021	22.17		6.20	40.35
2020	1.19		10.88	-23.72
2019	5.34	28.66	8.38	17.63
2018	8.35	-4.04	-4.02	-13.82
2017	7.62	8.67	7.76	5.77
2016	8.77	8.63	0.49	11.37
2015	15.02	2.83	-0.29	-32.86
2014	12.50	28.03	3.37	-33.06

Min -33.06 Max 40.35

--- NCREIF Op-End Div Core GR NonL (USD) FTSE NAREIT US Equity Index (USD) --- HFR Fund of Funds Composite (USD),

- S&P GSCI Commodity TR Index (USD)

### **Index Component Reporting**

#### INDEX COMPONENT WEIGHTS

_	Index Weights							
	Dec '23	Nov '23	Oct '23	Sep '23	Aug '23	Jul '23		
OHA Policy Index	100.00	100.00	100.00	100.00	100.00	100.00		
MSCI ACWI ND	42.00	42.00	42.00	42.00	42.00	42.00		
90 Day T-Bill + 4%	13.00	13.00	13.00	13.00	13.00	13.00		
Bloomberg U.S. Treasury 1-3 Year	3.00	3.00	3.00	3.00	3.00	3.00		
BBG US TIPS + 3%	5.00	5.00	5.00	5.00	5.00	5.00		
BBG US Aggregate	18.00	18.00	18.00	18.00	18.00	18.00		
MSCI ACWI (Net) +3%	19.00	19.00	19.00	19.00	19.00	19.00		

#### **INDEX TABLE**

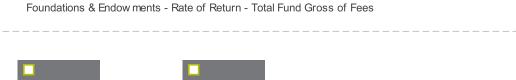
	Index Return							
Index Name	CCY	1 Mo	3 Mos	YTD	FYTD	1 Yr	3 Yrs	5 Yrs
OHA Policy Index	USD	3.95	8.78	16.85	6.31	16.85	4.73	9.44
MSCI ACWI ND	USD	4.80	11.03	22.20	7.26	22.20	5.75	11.72
90 Day T-Bill + 4%	USD	0.76	2.32	9.35	4.69	9.35	6.47	5.98
BBG US Treasury: 1-3 Year	USD	1.16	2.56	4.29	3.28	4.29	-0.10	1.28
BBG US TIPS + 3%	USD	2.94	5.48	7.00	3.50	7.00	1.98	6.24
BBG US Aggregate	USD	3.83	6.82	5.53	3.37	5.53	-3.31	1.10
MSCI ACWI (Net) +3%	USD	5.05	11.83	25.81	8.84	25.81	8.91	15.04

Min -3.31 Max 25.81

### Peer Group Rankings

20%

2.56





5.87

1.74

6.51

5.87

90th Percentile

<sup>\*</sup>Rank is in parenthesis

### SECTION 2

# **Total Public Equity**

Investment Risk & Analytical Services

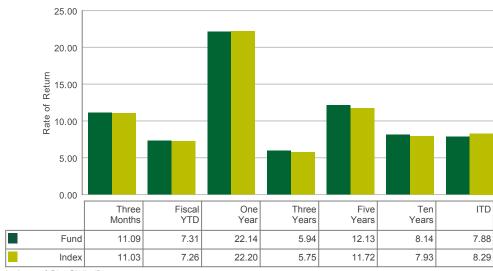
December 31, 2023

NORTHERN TRUST

Total Public Equity | December 31, 2023

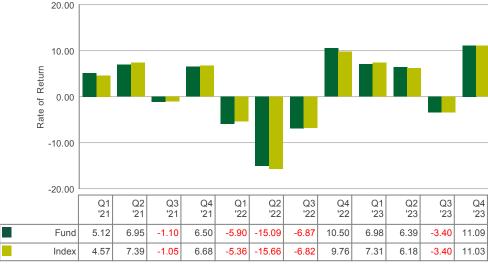
#### **Executive Summary**

#### TOTAL PUBLIC EQUITY TOTAL FUND GROSS OF FEES



Index: MSCI ACWI ND

#### TOTAL PUBLIC EQUITY ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: MSCI ACWI ND

#### **GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES**



RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	11.09	22.14	5.94	12.13
Index Return	11.03	22.20	5.75	11.72
Excess Return	0.05	-0.07	0.19	0.41
Standard Deviation	-	14.51	16.16	17.78
Index Standard Deviation	-	14.96	16.27	17.79
Tracking Error	-	0.81	1.00	1.00
Information Ratio	-	-0.08	0.19	0.41
Sharpe Ratio	-	1.16	0.23	0.57
Index Sharpe Ratio	-	1.13	0.22	0.55
Jensen's Alpha	-	0.38	0.20	0.39
Relative Volatility (Beta)	-	0.97	0.99	1.00
R Squared	-	1.00	1.00	1.00
Beginning MV (in 000s)	227,348	207,227	195,246	124,225
Net Contributions (in 000s)	5,676	5,181	206,949	206,949
Income (in 000s)	3,298	3,548	5,961	5,961
Appreciation (in 000s)	22,309	42,675	43,332	43,332
Ending MV (in 000s)	258,631	258,631	258,631	258,631

Index: MSCI ACWI ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

NORTHERN TRUST

Total Public Equity | December 31, 2023

### Investment Hierarchy

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Total Public Equity	258,630,506	100.00	42.00	11.09	7.31	22.14	5.94	12.13	8.14	7.88	06/30/2011
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	7.93	8.29	06/30/2011
Excess Return				0.05	0.06	-0.07	0.19	0.41	0.22	-0.41	06/30/2011
Total Global Equity	258,630,506	100.00		11.09	7.31	22.14	5.94	12.13	8.14	7.88	06/30/2011
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	7.93	8.29	06/30/2011
Excess Return				0.05	0.06	-0.07	0.19	0.41	0.22	-0.41	06/30/2011
Global Equity	51,664,709	19.98		10.51	7.37	21.72	5.09	10.81	-	7.51	06/30/2014
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	-	7.68	06/30/2014
Excess Return				-0.53	0.11	-0.48	-0.65	-0.91	-	-0.17	06/30/2014
STRATEGIC SOLUTIONS GBL EQT	51,664,709	19.98		10.51	7.37	21.72	5.09	10.81	-	7.31	06/30/2014
MSCI ACWI ND				11.03	7.26	22.20	5.75	11.72	-	7.68	06/30/2014
Excess Return				-0.53	0.11	-0.48	-0.65	-0.91	-	-0.37	06/30/2014
Developed Markets	198,073,305	76.59		11.38	7.51	22.98	7.17	12.86	8.91	10.12	04/30/2012
MSCI World ND Index				11.42	7.56	23.79	7.27	12.80	8.60	9.99	04/30/2012
Excess Return				-0.03	-0.05	-0.81	-0.10	0.06	0.30	0.13	04/30/2012
Domestic Equity	129,250,650	49.98		11.90	8.67	26.52	9.90	16.31	11.80	13.89	04/30/2012
Russell 3000				12.07	8.43	25.96	8.54	15.16	11.48	12.88	04/30/2012
Excess Return				-0.17	0.24	0.56	1.36	1.15	0.32	1.01	04/30/2012
Commonfund Open Cash				-	-	-	-	-	-	-	06/30/2012
JPM Equity Focus Fd Cl R6				-	-	-	-	-	-	-	05/24/2023
S&P 500				11.69	8.04	-	-	-	-	17.03	05/24/2023
Excess Return				-	-	-	-	-	-	-	05/24/2023
JPM Large Cap Value Fd Cl R6	2,934,916	1.13		10.37	6.72	-	-	-	-	13.19	05/24/2023
Russell 1000 Value				9.50	6.03	-	-	-	-	12.60	05/24/2023
Excess Return				0.87	0.69	-	-	-	-	0.59	05/24/2023
MFC JP MORGAN ETF TRUST EQUITY	20,053,054	7.75		11.51	-	-	-	-	-	6.83	07/31/2023
S&P 500				11.69	-	-	-	-	-	4.67	07/31/2023
Excess Return				-0.18	-	-	-	-	-	2.16	07/31/2023
MFO J P MORGAN MUT FD GROWTH A	8,963,750	3.47		13.52	9.89	40.37	6.50	20.49	15.30	16.39	04/30/2012
Russell 3000 Growth				14.09	10.28	41.21	8.08	18.85	14.33	15.11	04/30/2012
Excess Return				-0.57	-0.38	-0.84	-1.58	1.64	0.97	1.28	04/30/2012
MFO JP MORGAN TRUST I US EQUIT	24,320,793	9.40		12.07	8.90	27.31	10.17	-	-	15.54	08/31/2019
S&P 500				11.69	8.04	26.29	10.00	-	-	13.80	08/31/2019
Excess Return				0.38	0.86	1.02	0.17	-	-	1.74	08/31/2019

Total Public Equity | December 31, 2023

			_	% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
MFO JP MORGAN TRUST I VALUE AD	6,332,669	2.45		10.87	8.10	10.00	10.96	11.38	8.56	10.47	04/30/2012
Russell 3000 Value				9.83	6.36	11.66	8.81	10.84	8.28	10.31	04/30/2012
Excess Return				1.04	1.74	-1.65	2.15	0.53	0.29	0.16	04/30/2012
MFO JPMORGAN TR I SMALL CAP BL	2,996,229	1.16		12.22	6.24	15.71	-	-	-	-1.64	11/30/2021
Russell 2000				14.03	8.18	16.93	-	-	-	-2.38	11/30/2021
Excess Return				-1.81	-1.94	-1.22	-	-	-	0.73	11/30/2021
STATE STREET EQUITY 500 INDEX	63,649,239	24.61		11.67	8.03	26.26	9.91	15.59	-	14.17	10/31/2016
S&P 500				11.69	8.04	26.29	10.00	15.69	-	13.97	10/31/2016
Excess Return				-0.03	-0.01	-0.02	-0.09	-0.09	-	0.20	10/31/2016
International Equity	68,822,654	26.61		10.46	5.48	16.96	2.59	7.16	3.64	5.34	04/30/2012
MSCI EAFE ND				10.42	5.88	18.24	4.02	8.16	4.28	6.19	04/30/2012
Excess Return				0.04	-0.40	-1.28	-1.42	-1.01	-0.64	-0.85	04/30/2012
JPM BetaBuilders Canada ETF	1,848,900	0.71		11.24	6.31		-	-	-	11.18	05/24/2023
MS Canada IMI				10.73	6.63	-	_	_	_	11.38	05/24/2023
Excess Return				0.51	-0.31	-	-	-	_	-0.20	05/24/2023
JPM Europe Dynamic Fund	11,447,085	4.43		11.99	5.37	18.76	-	_	_	6.81	02/28/2022
MSCI Europe Index	, ,			11.05	5.55	19.89	-	_	_	5.24	02/28/2022
Excess Return				0.94	-0.17	-1.13	-	_	_	1.57	02/28/2022
JPM International Focus R6	14,337,875	5.54		11.72	4.87	17.19	-	-		3.09	02/28/2022
MSCI EAFE ND				10.42	5.88	18.24	-	_	_	4.39	02/28/2022
Excess Return				1.30	-1.01	-1.05	-	-	_	-1.31	02/28/2022
JPM JAPAN ETF	4,129,385	1.60		7.76	5.04	20.57	-	_	_	4.45	02/28/2022
Morningstar Japan TME Benchmrk	, ,			7.96	6.56	20.67	_	_	_	4.16	02/28/2022
Excess Return				-0.20	-1.51	-0.10	-	_	_	0.29	02/28/2022
STATE STREET GLOBAL ALL CAP	37,059,409	14.33		9.76	5.57	15.67	0.60	6.56	_	6.13	10/31/2016
MSCI ACWI ex USA ND				9.75	5.61	15.62	1.55	7.08	_	6.20	10/31/2016
Excess Return				0.01	-0.04	0.05	-0.94	-0.52	_	-0.08	10/31/2016
Emerging Markets	8,892,493	3.44		7.68	1.98	7.99	-8.10	4.30	2.06	2.20	06/30/2011
MSCI Emerging Markets ND	.,,			7.86	4.71	9.83	-5.08	3.68	2.66	1.54	06/30/2011
Excess Return				-0.18	-2.73	-1.84	-3.02	0.62	-0.60	0.66	06/30/2011
MFO JPMORGAN TR I EMERGING MKT	3,429,354	1.33		8.49	0.87	7.48	-10.44	5.08	3.94	2.64	06/30/2011
MSCI Emerging Markets ND	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			7.86	4.71	9.83	-5.08	3.68	2.66	1.54	06/30/2011
Excess Return				0.62	-3.83	-2.35	-5.36	1.39	1.28	1.09	06/30/2011
MFO JPMORGAN TR IV EMERGING MK	5,463,139	2.11		7.01	3.08	8.79	-6.15	_	-	1.57	01/31/2019
MSCI Emerging Markets ND	, ,,			7.86	4.71	9.83	-5.08	_	_	1.99	01/31/2019
Excess Return				-0.85	-1.63	-1.04	-1.08	_	_	-0.42	01/31/2019

NORTHERN TRUST

Total Public Equity | December 31, 2023

### Market Value Summary - Three Months

Association	09/30/2023	Not Contribution*	lanama	F	A	12/31/2023
Account/Group	Market Value	Net Contribution*	Income	Fees	Appreciation	Market Value
Total Public Equity	227,348,267	5,675,636	3,297,881	0	22,308,721	258,630,506
Total Global Equity	227,348,267	5,675,636	3,297,881	0	22,308,721	258,630,506
Global Equity	46,752,846	0	0	0	4,911,863	51,664,709
STRATEGIC SOLUTIONS GBL EQT	46,752,846	0	0	0	4,911,863	51,664,709
Developed Markets	173,712,246	4,254,724	3,078,531	0	17,027,803	198,073,305
Domestic Equity	111,123,324	4,573,538	1,204,594	0	12,349,194	129,250,650
Commonfund Open Cash	-	0	0	0	0	<u>-</u>
JPM Equity Focus Fd Cl R6	-	0	0	0	0	-
JPM Large Cap Value Fd Cl R6	2,659,220	0	16,524	0	259,172	2,934,916
MFC JP MORGAN ETF TRUST EQUITY	18,234,417	-282,245	77,557	0	2,023,325	20,053,054
MFO J P MORGAN MUT FD GROWTH A	8,137,955	-321,807	0	0	1,147,602	8,963,750
MFO JP MORGAN TRUST I US EQUIT	20,820,868	968,056	73,147	0	2,458,722	24,320,793
MFO JP MORGAN TRUST I VALUE AD	4,234,008	1,508,116	117,040	0	473,506	6,332,669
MFO JPMORGAN TR I SMALL CAP BL	37,428	2,701,418	17,089	0	240,293	2,996,229
STATE STREET EQUITY 500 INDEX	56,999,429	0	903,236	0	5,746,575	63,649,239
International Equity	62,588,922	-318,813	1,873,938	0	4,678,608	68,822,654
JPM BetaBuilders Canada ETF	1,545,453	108,477	16,108	0	178,862	1,848,900
JPM Europe Dynamic Fund	10,417,367	-209,276	376,766	0	862,228	11,447,085
JPM International Focus R6	12,998,856	-175,830	304,245	0	1,210,604	14,337,875
JPM JAPAN ETF	3,864,612	-42,185	125,915	0	181,044	4,129,385
STATE STREET GLOBAL ALL CAP	33,762,635	0	1,050,904	0	2,245,870	37,059,409
Emerging Markets	6,883,176	1,420,912	219,350	0	369,055	8,892,493
MFO JPMORGAN TR I EMERGING MKT	3,161,086	0	56,430	0	211,837	3,429,354
MFO JPMORGAN TR IV EMERGING MK	3,722,090	1,420,912	162,920	0	157,218	5,463,139

\*Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

NORTHERN TRUST

Total Public Equity | December 31, 2023

#### Peer Group Rankings



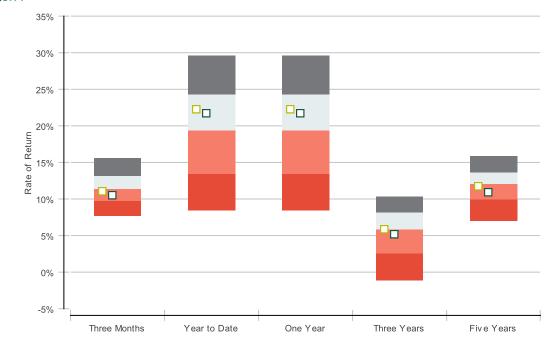
<sup>\*</sup>Rank is in parenthesis

# STRATEGIC SOLUTIONS GBL EQT

Investment Risk & Analytical Services

NORTHERN TRUST STRATEGIC SOLUTIONS GBL EQT | December 31, 2023

### Portfolio Windows EVEST ALL GLOBAL EQUITY



☐ STRATEGIC SOLUTIONS GBL EQT	10.51	(65)	21.72	(40)	21.72	(40)	5.09	(58)	10.81	(67)
☐ MSCI ACWI ND	11.03	(58)	22.20	(38)	22.20	(38)	5.75	(52)	11.72	(55)
10th Percentile	15.58		29.61		29.61		10.34		15.87	
1st Quartile	13.16		24.31		24.31		8.16		13.68	
Median	11.36		19.37		19.37		5.88		12.05	
3rd Quartile	9.78		13.45		13.45		2.54		9.99	
90th Percentile	7.68		8.44		8.44		-1.14		7.03	
Number of Observations	1,879		1,879		1,879		1,745		1,539	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	5.09	10.81	9.47
Index Return	5.75	11.72	10.05
Excess Return	-0.65	-0.91	-0.58
Relative Excess Return	-0.62	-0.82	-0.52
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	16.24	17.64	16.22
Index Standard Deviation	16.27	17.79	16.04
Tracking Error	1.42	1.45	3.65
Relative Tracking Error	1.42	1.42	3.60
Information Ratio	-0.46	-0.63	-0.16
Relative Information Ratio	-0.43	-0.58	-0.15
Sharpe Ratio	0.18	0.50	0.48
Index Sharpe Ratio	0.22	0.55	0.52
M Squared	5.10	10.89	9.38
Sortino Ratio	0.25	0.75	0.70
Index Sortino Ratio	0.31	0.83	0.76
Treynor Ratio	2.87	9.01	7.84
Jensen's Alpha	-0.60	-0.71	-0.36
Relative Volatility (Beta)	0.99	0.99	0.99
R Squared	0.99	0.99	0.95
Up Market Capture Ratio	97.99	96.16	98.23
Down Market Capture Ratio	100.83	100.56	100.86
Index: MSCLACWIND Pick Free Index: E	TOT 2 Manually 1	10 T D'''	

Index: MSCI ACWI ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO J P MORGAN MUT FD GROWTH A

Investment Risk & Analytical Services

MFO J P MORGAN MUT FD GROWTH A | December 31, 2023

#### NORTHERN TRUST

### Portfolio Windows EVEST US LARGE CAP GWTH EQUITY



MFO J P MORGAN MUT FD GROWTH A	13.52	(59)	40.37	(42)	40.37	(42)	6.50	(54)	20.49	(7)
Russell 3000 Growth	14.09	(44)	41.21	(36)	41.21	(36)	8.08	(37)	18.85	(21)
10th Percentile	16.26		47.84		47.84		10.91		19.81	
1st Quartile	15.03		44.06		44.06		8.93		18.32	
Median	13.83		38.79		38.79		6.87		17.08	
3rd Quartile	12.40		29.53		29.53		4.44		15.47	
90th Percentile	10.83		22.49		22.49		1.40		13.96	
Number of Observations	296		296		296		292		285	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	6.50	20.49	19.16
Index Return	8.08	18.85	17.03
Excess Return	-1.58	1.64	2.12
Relative Excess Return	-1.46	1.38	1.81
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	20.38	21.38	19.57
Index Standard Deviation	20.34	20.65	18.78
Tracking Error	2.74	3.07	2.92
Relative Tracking Error	2.70	2.97	2.84
Information Ratio	-0.58	0.54	0.73
Relative Information Ratio	-0.54	0.47	0.64
Sharpe Ratio	0.21	0.87	0.89
Index Sharpe Ratio	0.29	0.82	0.81
M Squared	6.49	19.86	18.45
Sortino Ratio	0.31	1.48	1.47
Index Sortino Ratio	0.42	1.34	1.29
Treynor Ratio	4.29	18.12	16.87
Jensen's Alpha	-1.41	1.09	1.47
Relative Volatility (Beta)	0.99	1.03	1.03
R Squared	0.98	0.98	0.98
Up Market Capture Ratio	93.56	107.48	113.42
Down Market Capture Ratio	100.23	99.69	99.64
Indam Decard 2000 Counts D		-4- 110 T.	

Index: Russell 3000 Growth. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JP MORGAN TRUST I US EQUIT

Investment Risk & Analytical Services

NORTHERN TRUST MFO JP MORGAN TRUST I US EQUIT | December 31, 2023

### Portfolio Windows



MFO JP MORGAN TRUST I US EQUIT	12.07	(21)	27.31	(9)	27.31	(9)	10.17	(37)	-	( - )
S&P 500	11.69	(27)	26.29	(15)	26.29	(15)	10.00	(42)	-	(-)
10th Percentile	13.66		27.04		27.04		11.39		16.77	
1st Quartile	11.79		22.55		22.55		10.58		15.62	
Median	11.19		18.91		18.91		9.66		14.48	
3rd Quartile	10.52		15.19		15.19		8.50		13.59	
90th Percentile	9.67		9.89		9.89		5.60		11.02	
Number of Observations	34		39		39		38		39	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	10.17	-	-
Index Return	10.00	-	-
Excess Return	0.17	-	-
Relative Excess Return	0.15	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	-	-
Standard Deviation	17.06	-	-
Index Standard Deviation	17.29	-	-
Tracking Error	2.22	-	-
Relative Tracking Error	2.16	-	-
Information Ratio	0.08	-	-
Relative Information Ratio	0.07	-	-
Sharpe Ratio	0.46	-	-
Index Sharpe Ratio	0.45	-	-
M Squared	10.28	-	-
Sortino Ratio	0.71	-	-
Index Sortino Ratio	0.68	-	-
Treynor Ratio	8.10	-	-
Jensen's Alpha	0.31	-	-
Relative Volatility (Beta)	0.98	-	-
R Squared	0.98	-	-
Up Market Capture Ratio	96.53	-	-
Down Market Capture Ratio	97.06	-	-
Inday: S&D 500 Disk Free Inday: ETSE 3	1 Manually 110 T D:	,,	

Index: S&P 500. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JP MORGAN TRUST I VALUE AD

Investment Risk & Analytical Services

MFO JP MORGAN TRUST I VALUE AD | December 31, 2023

### Portfolio Windows US EQUITY ALL VALUE



MFO JP MORGAN TRUST I VALUE AD	10.87	(1)	10.00	(84)	10.00	(1)	10.96	(1)	11.38	(1)
Russell 3000 Value	9.83	(1)	11.66	(1)	11.66	(1)	8.81	(1)	10.84	(1)
10th Percentile	-		-		-		-		-	
1st Quartile	-		-		-		-		-	
Median	-		-		-		-		-	
3rd Quartile	-		-		-		-		-	
90th Percentile	-		-		-		-		-	
Number of Observations	0		0		0		0		0	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	10.96	11.38	8.60
Index Return	8.81	10.84	8.16
Excess Return	2.15	0.53	0.45
Relative Excess Return	1.98	0.48	0.41
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	16.56	19.70	17.78
Index Standard Deviation	16.69	19.06	17.15
Tracking Error	3.52	3.27	2.88
Relative Tracking Error	3.55	3.37	2.97
Information Ratio	0.61	0.16	0.15
Relative Information Ratio	0.56	0.14	0.14
Sharpe Ratio	0.53	0.48	0.39
Index Sharpe Ratio	0.39	0.47	0.37
M Squared	11.02	11.07	8.36
Sortino Ratio	0.85	0.70	0.55
Index Sortino Ratio	0.62	0.70	0.54
Treynor Ratio	8.96	9.28	6.69
Jensen's Alpha	2.18	0.42	0.36
Relative Volatility (Beta)	0.97	1.02	1.02
R Squared	0.96	0.97	0.97
Up Market Capture Ratio	101.64	101.67	105.64
Down Market Capture Ratio	94.23	99.45	100.63

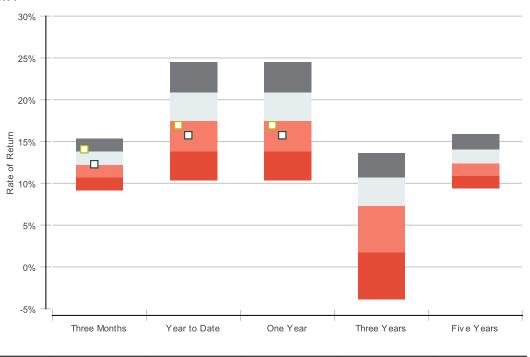
Index: Russell 3000 Value. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JPMORGAN TR I SMALL CAP BL

Investment Risk & Analytical Services

MFO JPMORGAN TR I SMALL CAP BL | December 31, 2023

### Portfolio Windows EVEST US SMALL CAP EQUITY



MFO JPMORGAN TR I SMALL CAP	12.22	(51)	15.71	(65)	15.71	(65)	-	( - )	-	( - )
Russell 2000	14.03	(23)	16.93	(56)	16.93	(56)	-	(-)	-	(-)
10th Percentile	15.32		24.50		24.50		13.59		15.87	
1st Quartile	13.81		20.88		20.88		10.71		14.03	
Median	12.25		17.48		17.48		7.29		12.41	
3rd Quartile	10.75		13.84		13.84		1.77		10.90	
90th Percentile	9.18		10.32		10.32		-3.87		9.39	
Number of Observations	589		588		588		578		557	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	-	-	-
Index Standard Deviation	-	-	-
Tracking Error	-	-	-
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	-	-	-
Index Sortino Ratio	-	-	-
Treynor Ratio	-	-	-
Jensen's Alpha	-	-	-
Relative Volatility (Beta)	-	-	-
R Squared	-	-	-
Up Market Capture Ratio	-	-	-
Down Market Capture Ratio	-	-	-

Index: Russell 2000. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# STATE STREET EQUITY 500 INDEX

Investment Risk & Analytical Services

NORTHERN TRUST STATE STREET EQUITY 500 INDEX | December 31, 2023

### Portfolio Windows



☐ STATE STREET EQUITY 500 INDEX	11.67	(50)	26.26	(42)	26.26	(42)	9.91	(47)	15.59	(39)
S&P 500	11.69	(49)	26.29	(42)	26.29	(42)	10.00	(46)	15.69	(38)
10th Percentile	17.33		45.23		45.23		12.97		18.35	
1st Quartile	14.28		35.27		35.27		11.24		16.59	
Median	11.63		21.30		21.30		9.62		14.68	
3rd Quartile	9.98		14.76		14.76		7.18		12.45	
90th Percentile	8.99		11.30		11.30		2.43		10.80	
Number of Observations	151		158		158		152		148	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	9.91	15.59	13.31
Index Return	10.00	15.69	13.42
Excess Return	-0.09	-0.09	-0.10
Relative Excess Return	-0.08	-0.08	-0.09
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	17.28	18.35	16.67
Index Standard Deviation	17.29	18.37	16.68
Tracking Error	0.06	0.10	0.12
Relative Tracking Error	0.07	0.09	0.12
Information Ratio	-1.43	-0.96	-0.84
Relative Information Ratio	-1.30	-0.85	-0.74
Sharpe Ratio	0.44	0.75	0.69
Index Sharpe Ratio	0.45	0.75	0.70
M Squared	9.91	15.61	13.32
Sortino Ratio	0.67	1.17	1.05
Index Sortino Ratio	0.68	1.17	1.06
Treynor Ratio	7.67	13.69	11.57
Jensen's Alpha	-0.08	-0.07	-0.08
Relative Volatility (Beta)	1.00	1.00	1.00
R Squared	1.00	1.00	1.00
Up Market Capture Ratio	99.70	99.54	99.37
Down Market Capture Ratio	100.08	100.01	100.03
Index: S&P 500 Pick Free Index: ETSE 2 M	Annth LIC T Di	,	

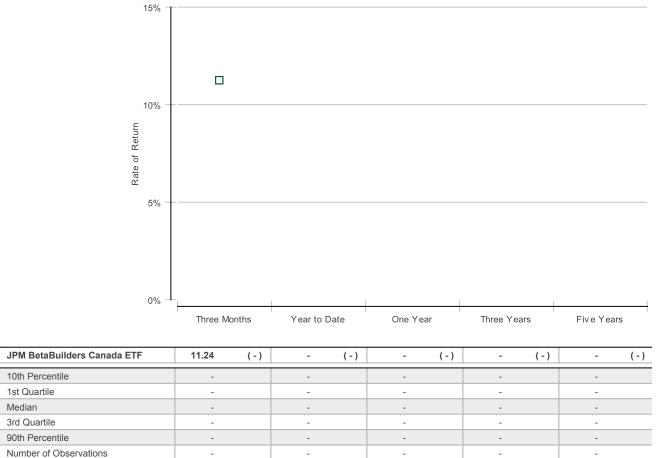
Index: S&P 500. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# JPM BetaBuilders Canada ETF

Investment Risk & Analytical Services

NORTHERN TRUST JPM BetaBuilders Canada ETF | December 31, 2023

### Portfolio Windows



*Ranl	k is	in 🎖	parent	hesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	-	-	-
Index Standard Deviation	-	-	-
Tracking Error	-	-	-
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	-	-	-
Index Sortino Ratio	-	-	-
Treynor Ratio	_	_	-
Jensen's Alpha	-	-	-
Relative Volatility (Beta)	-	-	-
R Squared	-	-	-
Up Market Capture Ratio	_	_	-
Down Market Capture Ratio	-	-	-

Index: MS Canada IMI. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# JPM Europe Dynamic Fund

Investment Risk & Analytical Services

NORTHERN TRUST

JPM Europe Dynamic Fund | December 31, 2023

### Portfolio Windows EVEST EAFE LARGE CAP EQUITY



■ JPM Europe Dynamic Fund	11.99	(19)	18.76	(46)	18.76	(46)	-	( - )	-	( - )
■ MSCI Europe ND	11.05	(32)	19.89	(30)	19.89	(30)	-	(-)	-	(-)
10th Percentile	13.23		22.14		22.14		8.65		11.49	
1st Quartile	11.51		20.30		20.30		6.21		10.28	
Median	10.12		18.38		18.38		4.21		9.08	
3rd Quartile	8.79		16.22		16.22		2.34		7.96	
90th Percentile	7.05		13.49		13.49		-1.19		6.95	
Number of Observations	223		223		223		210		194	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	-	-	-
Index Standard Deviation	-	-	-
Tracking Error	-	-	-
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	-	-	-
Index Sortino Ratio	-	-	-
Treynor Ratio	-	-	-
Jensen's Alpha	-	-	-
Relative Volatility (Beta)	-	-	-
R Squared	-	-	-
Up Market Capture Ratio	_	-	-
Down Market Capture Ratio	-	-	-

Index: MSCI Europe ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# JPM International Focus R6

Investment Risk & Analytical Services

NORTHERN TRUST

JPM International Focus R6 | December 31, 2023

### Portfolio Windows EVEST EAFE LARGE CAP EQUITY



	11.72	(21)	17.19	(66)	17.19	(66)	-	(-)	-	( - )
☐ MSCI EAFE ND	10.42	(44)	18.24	(52)	18.24	(52)	-	(-)	-	(-)
10th Percentile	13.23		22.14		22.14		8.65		11.49	
1st Quartile	11.51		20.30		20.30		6.21		10.28	
Median	10.12		18.38		18.38		4.21		9.08	
3rd Quartile	8.79		16.22		16.22		2.34		7.96	
90th Percentile	7.05		13.49		13.49		-1.19		6.95	
Number of Observations	223		223		223		210		194	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	
Excess Return	-	-	
Relative Excess Return	-	-	
Internal Rate of Return	-	-	
Index Internal Rate of Return	-	-	
Risk-free Return	-	-	
Standard Deviation	-	-	
Index Standard Deviation	-	-	
Tracking Error	-	-	
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	-	-	
Index Sortino Ratio	-	-	-
Treynor Ratio	-	-	
Jensen's Alpha	-	-	-
Relative Volatility (Beta)	-	-	
R Squared	-	-	
Up Market Capture Ratio	-	-	
Down Market Capture Ratio	-	-	

Index: MSCI EAFE ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# JPM JAPAN ETF

Investment Risk & Analytical Services

JPM JAPAN ETF | December 31, 2023 NORTHERN TRUST

#### Portfolio Windows **EVEST JAPAN LARGE CAP EQUITY**



☐ JPM JAPAN ETF	7.76	(49)	20.57	(46)	20.57	(46)	-	( - )	-	(-)
Morningstar Japan TME Benchmrk	7.96	(44)	20.67	(46)	20.67	(46)	-	(-)	-	(-)
10th Percentile	11.56		25.02		25.02		9.86		11.29	
1st Quartile	9.84		23.10		23.10		5.25		9.39	
Median	7.57		19.77		19.77		0.88		7.55	
3rd Quartile	6.09		17.69		17.69		-1.65		6.27	
90th Percentile	4.10		12.97		12.97		-5.21		4.30	
Number of Observations	47		47		47		46		44	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	_	_	_
Index Standard Deviation	_	_	_
Tracking Error	_	_	_
Relative Tracking Error	_	_	_
Information Ratio	_	_	_
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	_	_	_
Index Sortino Ratio	-	-	-
Treynor Ratio	-	-	-
Jensen's Alpha	-	-	-
Relative Volatility (Beta)			
	-	-	
R Squared	-	-	-
Up Market Capture Ratio	-	-	-
Down Market Capture Ratio	-	-	-

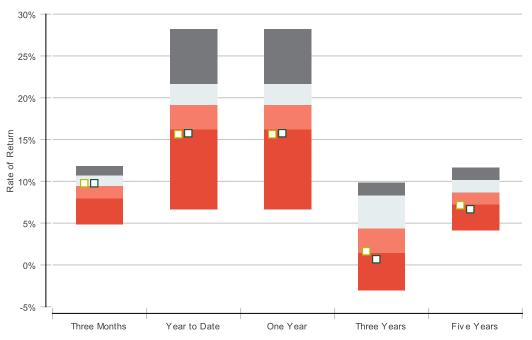
Index: Morningstar Japan TME Benchmrk. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# STATE STREET GLOBAL ALL CAP

Investment Risk & Analytical Services

NORTHERN TRUST STATE STREET GLOBAL ALL CAP | December 31, 2023

### Portfolio Windows NON-US DEVELOPED EQUITY MGRS.



☐ STATE STREET GLOBAL ALL CAP	9.76	(43)	15.67	(78)	15.67	(78)	0.60	(78)	6.56	(83)
MSCI ACWI ex USA ND	9.75	(43)	15.62	(78)	15.62	(78)	1.55	(75)	7.08	(76)
10th Percentile	11.84		28.18		28.18		9.84		11.68	
1st Quartile	10.74		21.64		21.64		8.30		10.19	
Median	9.46		19.14		19.14		4.37		8.69	
3rd Quartile	7.96		16.23		16.23		1.46		7.24	
90th Percentile	4.83		6.64		6.64		-3.05		4.15	
Number of Observations	107		105		105		106		102	

<sup>\*</sup>Rank is in parenthesis

3 Yrs	5 Yrs	7 Yrs
0.60	6.56	5.98
1.55	7.08	6.33
-0.94	-0.52	-0.35
-0.93	-0.49	-0.33
-	-	-
-	-	-
2.25	1.91	1.75
16.85	18.40	16.56
16.07	17.65	15.96
2.41	2.22	1.97
2.42	2.28	2.02
-0.39	-0.23	-0.18
-0.38	-0.21	-0.16
-0.10	0.25	0.26
-0.04	0.29	0.29
0.68	6.37	5.82
-0.14	0.37	0.37
-0.06	0.43	0.42
-1.58	4.49	4.10
-0.83	-0.58	-0.41
1.04	1.04	1.03
0.98	0.99	0.99
106.51	106.72	105.37
106.35	103.75	102.33
	0.60 1.55 -0.94 -0.93 2.25 16.85 16.07 2.41 2.42 -0.39 -0.38 -0.10 -0.04 0.68 -0.14 -0.06 -1.58 -0.83 1.04 0.98	0.60 6.56 1.55 7.08 -0.94 -0.52 -0.93 -0.49 2.25 1.91  16.85 18.40 16.07 17.65 2.41 2.22 2.42 2.28 -0.39 -0.23 -0.38 -0.21  -0.10 0.25 -0.04 0.29 0.68 6.37  -0.14 0.37 -0.06 0.43  -1.58 4.49 -0.83 -0.58  1.04 1.04 0.98 0.99

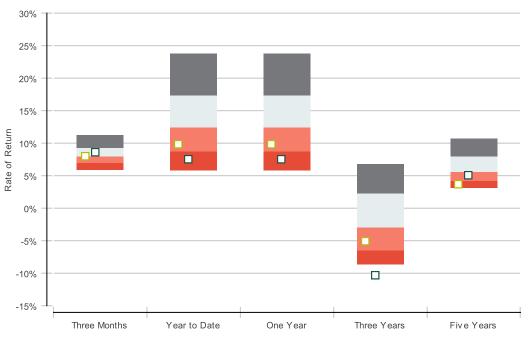
Index: MSCI ACWI ex USA ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JPMORGAN TR I EMERGING MKT

Investment Risk & Analytical Services

NORTHERN TRUST MFO JPMORGAN TR I EMERGING MKT | December 31, 2023

### Portfolio Windows EVEST EMERGING MARKETS



MFO JPMORGAN TR I EMERGING MKT	8.49	(39)	7.48	(83)	7.48	(83)	-10.44	(97)	5.08	(60)
MSCI Emerging Markets ND	7.86	(53)	9.83	(65)	9.83	(65)	-5.08	(65)	3.68	(81)
10th Percentile	11.21		23.73		23.73		6.75		10.70	
1st Quartile	9.24		17.33		17.33		2.28		7.93	
Median	7.93		12.48		12.48		-2.97		5.62	
3rd Quartile	6.99		8.77		8.77		-6.43		4.19	
90th Percentile	5.84		5.81		5.81		-8.60		3.15	
Number of Observations	547		547		547		511		464	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-10.44	5.08	6.35
Index Return	-5.08	3.68	4.98
Excess Return	-5.36	1.39	1.36
Relative Excess Return	-5.65	1.34	1.30
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	18.94	20.71	18.98
Index Standard Deviation	17.14	19.00	17.55
Tracking Error	5.31	5.79	5.36
Relative Tracking Error	5.29	5.78	5.34
Information Ratio	-1.01	0.24	0.25
Relative Information Ratio	-1.07	0.23	0.24
Sharpe Ratio	-0.67	0.15	0.24
Index Sharpe Ratio	-0.43	0.09	0.18
M Squared	-9.23	4.81	6.00
Sortino Ratio	-0.92	0.23	0.37
Index Sortino Ratio	-0.59	0.14	0.27
Treynor Ratio	-11.96	3.02	4.43
Jensen's Alpha	-5.00	1.51	1.39
•			
Relative Volatility (Beta)	1.06	1.05	1.04
R Squared	0.92	0.92	0.92
Up Market Capture Ratio	93.15	120.93	124.87
Down Market Capture Ratio	111.61	103.31	102.75
Index: MSCI Emerging Markets ND.	Risk Free Index: FT	SE 3 Month	US T Bill

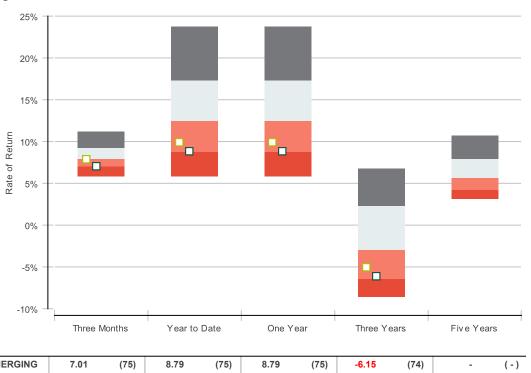
Index: MSCI Emerging Markets ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JPMORGAN TR IV EMERGING MK

Investment Risk & Analytical Services

NORTHERN TRUST MFO JPMORGAN TRIV EMERGING MK | December 31, 2023

### Portfolio Windows EVEST EMERGING MARKETS



MFO JPMORGAN TR IV EMERGING MK	7.01	(75)	8.79	(75)	8.79	(75)	-6.15	(74)	-	(-)
MSCI Emerging Markets ND	7.86	(53)	9.83	(65)	9.83	(65)	-5.08	(65)	-	(-)
10th Percentile	11.21		23.73		23.73		6.75		10.70	
1st Quartile	9.24		17.33		17.33		2.28		7.93	
Median	7.93		12.48		12.48		-2.97		5.62	
3rd Quartile	6.99		8.77		8.77		-6.43		4.19	
90th Percentile	5.84		5.81		5.81		-8.60		3.15	
Number of Observations	547		547		547		511		464	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-6.15	-	
Index Return	-5.08	-	
Excess Return	-1.08	-	
Relative Excess Return	-1.13	-	
Internal Rate of Return	-	-	
Index Internal Rate of Return	-	-	
Risk-free Return	2.25	-	
Standard Deviation	18.20	_	
Index Standard Deviation	17.14		
Tracking Error	3.24	_	
Relative Tracking Error	3.22		
Information Ratio	-0.33	_	
Relative Information Ratio	-0.35		
Totalive information realie	0.00		
Sharpe Ratio	-0.46	-	
Index Sharpe Ratio	-0.43	-	
M Squared	-5.66	-	
Sortino Ratio	-0.65	-	
Index Sortino Ratio	-0.59	-	
Treynor Ratio	-8.03	-	
Jensen's Alpha	-0.68	-	
Relative Volatility (Beta)	1.05	-	
R Squared	0.97	-	
Up Market Capture Ratio	103.86	-	
Down Market Capture Ratio	104.39	-	

Index: MSCI Emerging Markets ND. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

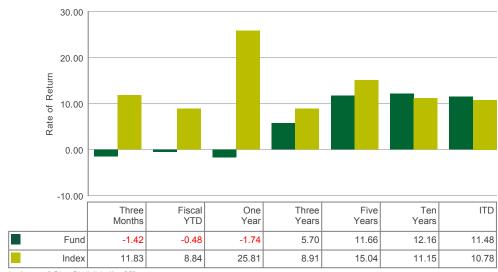
# **Total Private Equity**

Investment Risk & Analytical Services

NORTHERN TRUST Total Private Equity | December 31, 2023

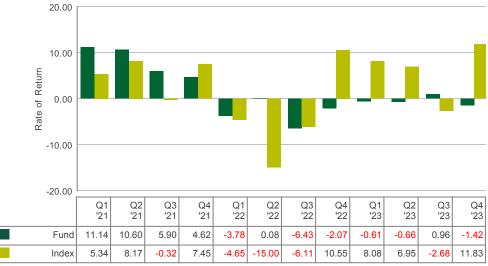
#### **Executive Summary**

#### TOTAL PRIVATE EQUITY TOTAL FUND GROSS OF FEES



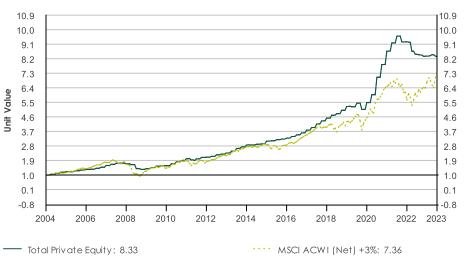
Index: MSCI ACWI (Net) +3%

#### TOTAL PRIVATE EQUITY ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: MSCI ACWI (Net) +3%

#### GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES



RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	-1.42	-1.74	5.70	11.66
Index Return	11.83	25.81	8.91	15.04
Excess Return	-13.25	-27.55	-3.21	-3.39
Standard Deviation	-	1.49	10.62	13.21
Index Standard Deviation	-	14.96	16.27	17.79
Tracking Error	-	15.94	18.66	20.07
Information Ratio	-	-1.73	-0.17	-0.17
Sharpe Ratio	-	-4.68	0.33	0.74
Index Sharpe Ratio	-	1.37	0.41	0.74
Jensen's Alpha	-	-5.54	3.47	8.29
Relative Volatility (Beta)	-	-0.06	0.06	0.15
R Squared	-	0.40	0.01	0.04
Beginning MV (in 000s)	64,042	68,172	75,358	62,605
Net Contributions (in 000s)	-992	-4,882	69,658	69,658
Income (in 000s)	100	487	710	710
Appreciation (in 000s)	-1,003	-1,631	-8,221	-8,221
Ending MV (in 000s)	62,147	62,147	62,147	62,147

Index: MSCI ACWI (Net) +3%. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

NORTHERN TRUST

Total Private Equity | December 31, 2023

### Investment Hierarchy

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Total Private Equity	62,146,877	100.00	19.00	-1.42	-0.48	-1.74	5.70	11.66	12.16	11.48	06/30/2004
MSCI ACWI (Net) +3%				11.83	8.84	25.81	8.91	15.04	11.15	10.78	06/30/2004
Excess Return				-13.25	-9.31	-27.55	-3.21	-3.39	1.01	0.70	06/30/2004
MSCI ACWI (NET) +3% QLAG				-2.68	4.09	24.37	10.09	9.64	10.77	10.21	06/30/2004
Excess Return				1.26	-4.56	-26.11	-4.39	2.01	1.39	1.27	06/30/2004
Diversified	29,659,495	47.72		-0.69	-0.20	0.76	4.86	8.87	10.30	10.35	06/30/2004
MSCI AC World (Net) +3%				12.21	9.14	27.44	10.47	16.16	11.84	11.02	06/30/2004
Excess Return				-12.91	-9.34	-26.68	-5.61	-7.29	-1.54	-0.67	06/30/2004
MSCI AC World (Net)+3% QLag				-2.74	4.66	25.55	11.31	10.46	11.49	10.46	06/30/2004
Excess Return				2.04	-4.86	-24.80	-6.45	-1.59	-1.20	-0.10	06/30/2004
Diversified	29,659,495	47.72		-0.69	-0.20	0.74	4.68	8.42	10.09	10.25	06/30/2004
Co-Investments	11,881,543	19.12		-3.20	0.16	4.00	12.49	19.77	16.57	15.54	11/30/2012
MSCI AC World (Net) +3%				12.21	9.14	27.44	10.47	16.16	-	-	11/30/2012
Excess Return				-15.41	-8.98	-23.44	2.02	3.61	-	-	11/30/2012
MSCI AC World (Net)+3% QLag				-2.74	4.66	25.55	11.31	10.46	11.49	12.76	11/30/2012
Excess Return				-0.46	-4.50	-21.55	1.19	9.31	5.07	2.78	11/30/2012
PRIVATE EQUITY CO-INVESTMENT P	11,881,543	19.12		-3.20	0.16	4.12	13.51	22.44	-	17.67	08/31/2018
Venture Capital	19,322,519	31.09		-1.65	-1.48	-8.72	4.19	16.88	18.95	18.10	08/31/2012
NASDAQ + 3%				15.41	12.95	59.62	13.46	26.29	-	-	08/31/2012
Excess Return				-17.05	-14.43	-68.34	-9.27	-9.40	-	-	08/31/2012
NASDAQ + 3% QLag				-2.13	13.73	39.27	12.96	18.48	-	-	08/31/2012
Excess Return				0.48	-15.21	-47.99	-8.77	-1.60	-	-	08/31/2012
Commonfund Venture Capital	19,322,519	31.09		-1.65	-1.48	-8.72	4.19	16.88	18.95	18.10	08/31/2012
MSCI AC World (Net) + 3%				12.21	9.14	27.44	10.47	16.16	11.84	13.61	08/31/2012
Excess Return				-13.86	-10.62	-36.15	-6.28	0.72	7.11	4.49	08/31/2012
Opportunistic Credit	1,283,320	2.06		1.88	3.79	7.64	8.56	7.34	8.79	8.78	10/31/2007
S&P/LSTA Lev Loan Index +2%				3.37	7.47	15.37	7.87	7.90	6.50	6.83	10/31/2007
Excess Return				-1.49	-3.68	-7.73	0.70	-0.56	2.29	1.95	10/31/2007
S&P/LSTA Lev +2% QLag				3.97	7.77	15.22	8.19	6.54	6.38	6.85	10/31/2007
Excess Return				-2.08	-3.98	-7.58	0.37	0.80	2.42	1.93	10/31/2007
OHA OPPORTUNISTIC	1,283,320	2.06		1.88	3.79	7.64	8.56	7.34	8.79	8.78	10/31/2007

NORTHERN TRUST Total Private Equity | December 31, 2023

### Market Value Summary - Three Months

Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Total Private Equity	64,041,788	-992,079	100,403	0	-1,003,236	62,146,877
Diversified	30,712,707	-843,460	49,021	0	-258,773	29,659,495
Diversified	30,712,707	-843,460	49,021	0	-258,773	29,659,495
Co-Investments	11,891,891	379,774	44,853	0	-434,976	11,881,543
PRIVATE EQUITY CO-INVESTMENT P	11,891,891	379,774	44,853	0	-434,976	11,881,543
Venture Capital	19,946,966	-296,219	6,529	0	-334,757	19,322,519
Commonfund Venture Capital	19,946,966	-296,219	6,529	0	-334,757	19,322,519
Opportunistic Credit	1,490,224	-232,174	0	0	25,270	1,283,320
OHA OPPORTUNISTIC	1,490,224	-232,174	0	0	25,270	1,283,320

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

NORTHERN TRUST Total Private Equity | December 31, 2023

### Market Value Summary - Six Months

Account/Group	09/30/2022 Market Value	Net Contribution*	Income	Fees	Appreciation	09/30/2023 Market Value
Total Private Equity	70,596,275	-4,859,644	506,719	0	-2,201,562	64,041,788
Diversified	34,903,657	-4,038,296	228,658	0	-381,313	30,712,707
Diversified	32,140,421	-1,504,681	219,984	0	-143,017	30,712,707
INT'L PRIVATE EQUITY PARTNERS	2,763,236	-2,533,615	8,674	0	-238,295	-
Co-Investments	10,247,365	975,649	157,164	0	511,714	11,891,891
Pantheon Global Co-Investment	382,005	-382,132	4,762	0	-4,635	-
PRIVATE EQUITY CO-INVESTMENT P	9,865,360	1,357,781	152,402	0	516,349	11,891,891
Venture Capital	23,451,337	-1,063,414	0	0	-2,440,957	19,946,966
Commonfund Venture Capital	23,451,337	-1,063,414	0	0	-2,440,957	19,946,966
Opportunistic Credit	1,993,916	-733,583	120,898	0	108,993	1,490,224
OHA OPPORTUNISTIC	1,993,916	-733,583	120,898	0	108,993	1,490,224

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

# PRIVATE EQUITY CO-INVESTMENT P

Investment Risk & Analytical Services

NORTHERN TRUST PRIVATE EQUITY CO-INVESTMENT P | December 31, 2023

### Asset Level Performance

					Rates of Return (Base)					
Asset Description	Country	Sector/Industry	12/31/2023 Market Value	12/31/2023 Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	
PANTHEON GLOBAL CO-INVESTM	Global (USD)	Private Equity	272,461	2.29	-3.10	-	-	-	-	
PRIVATE EQUITY CO-INVESTME	United States	Private Equity	3,121,542	26.27	2.64	9.97	9.97	-	-	
PRIVATE EQUITY CO-INVESTME	Global (USD)	Private Equity	8,487,540	71.43	-5.14	2.24	2.24	13.10	22.17	
Total	World	Total Fund Gross of Fees	11,881,543	100.00	-3.20	4.12	4.12	13.51	22.44	

# Commonfund Venture Capital

Investment Risk & Analytical Services

NORTHERN TRUST

Commonfund Venture Capital | December 31, 2023

### Asset Level Performance

				_	Rates of Return (Base)					
Asset Description	Country	Sector/Industry	12/31/2023 Market Value	12/31/2023 Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	
COMMONFUND CAPITAL VENTURE	United States	Private Equity	9,517,087	49.25	-2.20	-7.21	-7.21	4.39	15.64	
COMMONFUND CAPITAL VENTURE	Global (USD)	Private Equity	9,805,432	50.75	-1.11	-10.16	-10.16	3.92	18.09	
Total	World	Total Fund Gross of Fees	19,322,519	100.00	-1.65	-8.72	-8.72	4.19	16.88	

# OHA OPPORTUNISTIC

Investment Risk & Analytical Services

NORTHERN TRUST OHA OPPORTUNISTIC | December 31, 2023

### Asset Level Performance

					Rates of Return (Base)					
Asset Description	Country	Sector/Industry	12/31/2023 Market Value	12/31/2023 Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	
UNITED STATES DOLLARS	United States	Cash & Short Term Deriv.	0	0.00	-	-	-	-	-	
UNITED STATES DOLLARS - Pe	United States	Pending Cash	0	0.00	-	-	-	-	-	
BROAD STREET REAL ESTATE C	United States	Private Equity	138,358	10.78	-0.42	-1.46	-1.46	5.88	-4.93	
BROAD STREET SENIOR CREDIT	United States	Private Equity	522,965	40.75	2.35	10.91	10.91	7.78	7.73	
EUROPEAN ASSET VALUE OFFSH	United States	Private Equity	516,554	40.25	2.86	14.48	14.48	14.90	11.85	
IRISH SPECIALTY LOAN FUND	Global (USD)	Private Equity	31,246	2.43	-5.09	-17.46	-17.46	-4.96	-5.98	
OFFSHORE MEZZANINE PARTNER	Global (USD)	Private Equity	74,197	5.78	-1.94	-30.18	-30.18	-11.46	-6.06	
Total	World	Total Fund Gross of Fees	1,283,320	100.00	1.88	7.64	7.64	8.56	7.34	

# **Total Global Real Assets**

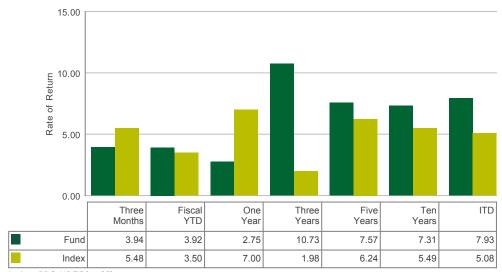
Investment Risk & Analytical Services

NORTHERN TRUST

Total Global Real Assets | December 31, 2023

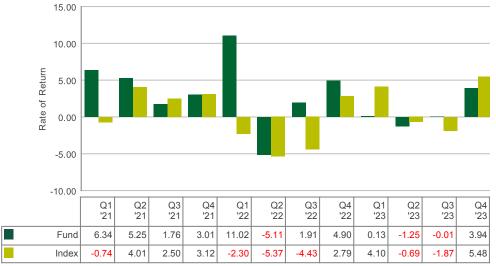
### **Executive Summary**

### TOTAL GLOBAL REAL ASSETS TOTAL FUND GROSS OF FEES



Index: BBG US TIPS + 3%

#### TOTAL GLOBAL REAL ASSETS ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: BBG US TIPS + 3%

### **GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES**



RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	3.94	2.75	10.73	7.57
Index Return	5.48	7.00	1.98	6.24
Excess Return	-1.54	-4.25	8.75	1.33
Standard Deviation	-	6.98	8.46	11.43
Index Standard Deviation	-	5.76	7.07	6.17
Tracking Error	-	4.62	8.79	10.85
Information Ratio	-	-0.92	1.00	0.12
Sharpe Ratio	-	-0.36	1.00	0.49
Index Sharpe Ratio	-	0.30	-0.04	0.70
Jensen's Alpha	-	-3.76	8.70	3.13
Relative Volatility (Beta)	-	0.91	0.47	0.69
R Squared	-	0.57	0.15	0.14
Beginning MV (in 000s)	41,529	43,939	32,800	31,999
Net Contributions (in 000s)	-693	-2,623	38,411	38,411
Income (in 000s)	253	674	842	842
Appreciation (in 000s)	1,365	464	3,201	3,201
Ending MV (in 000s)	42,455	42,455	42,455	42,455

Index: BBG US TIPS + 3%. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

NORTHERN TRUST

Total Global Real Assets | December 31, 2023

### Investment Hierarchy

						% Ra	ate of Return				
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Total Global Real Assets	42,454,553	100.00	5.00	3.94	3.92	2.75	10.73	7.57	7.31	7.93	07/31/2011
BBG US TIPS + 3%				5.48	3.50	7.00	1.98	6.24	5.49	5.08	07/31/2011
Excess Return				-1.54	0.42	-4.25	8.75	1.33	1.82	2.85	07/31/2011
BBG US TIPS + 3% QLAG				-1.87	-2.55	4.28	0.97	5.18	4.79	5.11	07/31/2011
Excess Return				5.81	6.47	-1.53	9.76	2.39	2.51	2.82	07/31/2011
Marketable Real Assets	26,128,896	61.55		3.70	3.09	1.18	4.66	7.41	5.91	6.86	07/31/2011
S&P Real Assets Index NTR				8.81	5.81	7.29	3.40	5.36	3.39	3.69	07/31/2011
Excess Return				-5.11	-2.72	-6.11	1.26	2.05	2.52	3.17	07/31/2011
CF SSGA REAL ASSET NL CTF CM5Q	26,128,896	61.55		3.70	3.09	1.18	8.17	8.24	3.87	3.45	04/30/2013
iShares TIPS Bond (TIP)				-	-		-	-	-	-	09/30/2017
Private Real Assets	16,325,657	38.45		4.27	5.20	5.21	19.49	9.02	7.54	0.65	09/30/2012
S&P Real Assets Index + 3%				9.59	7.37	10.49	6.50	8.51	6.49	6.63	09/30/2012
Excess Return				-5.32	-2.17	-5.28	13.00	0.50	1.05	-5.99	09/30/2012
S&P Real Assets Index + 3% Lag				-2.03	-1.69	8.81	6.92	5.49	5.78	6.36	09/30/2012
Excess Return				6.31	6.89	-3.60	12.57	3.53	1.75	-5.72	09/30/2012
ASIAN INFRASTRUCTURE & RELATED	777,703	1.83		31.05	29.35	41.19	19.00	6.03	-	-1.02	10/31/2014
MSCI World Infrastructure +3%				11.08	3.72	6.50	4.59	8.12	-	6.24	10/31/2014
Excess Return				19.97	25.63	34.68	14.41	-2.09	-	-7.26	10/31/2014
MSCI World Infra +3% Q Lag				-	-	-	-	-	-	-	10/31/2014
Excess Return				-	-	-	-	-	-	-	10/31/2014
COMMONFUND CAPITAL NATURAL RES	6,749,576	15.90		4.46	4.79	1.67	23.78	9.21	6.03	-0.61	09/30/2012
S&P Glb LargeMidCap+3%				1.57	5.33	1.33	-	-	-	-	09/30/2012
Excess Return				2.88	-0.54	0.34	-	-	-	-	09/30/2012
Natural Resources Partners X	7,924,239	18.67		2.99	4.34	5.29	16.47	8.08	-	9.89	10/31/2015
S&P Glb LargeMidCap+3%				1.57	5.33	1.33	-	-	-	-	10/31/2015
Excess Return				1.41	-0.98	3.97	-	-	-	-	10/31/2015
PANTHEON GLOBAL INFRASTRUCTURE	874,139	2.06		-3.39	-0.50	9.84	7.13	7.82	-	11.49	02/28/2014
MSCI World Infrastructure +3%				11.08	3.72	6.50	4.59	8.12	_	6.72	02/28/2014
Excess Return				-14.47	-4.21	3.34	2.53	-0.30	-	4.77	02/28/2014
MSCI World Infra +3% Q Lag				-	-	-	-	-	-	-	02/28/2014
Excess Return				-	-	-	-	-	-	-	02/28/2014

NORTHERN TRUST

Total Global Real Assets | December 31, 2023

### Market Value Summary - Three Months

Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Total Global Real Assets	41,529,402	-692,677	252,833	0	1,364,995	42,454,553
Marketable Real Assets	25,211,602	-15,165	0	0	932,459	26,128,896
CF SSGA REAL ASSET NL CTF CM5Q	25,211,602	-15,165	0	0	932,459	26,128,896
iShares TIPS Bond (TIP)	-	0	0	0	0	-
Private Real Assets	16,317,800	-677,512	252,833	0	432,536	16,325,657
ASIAN INFRASTRUCTURE & RELATED	582,571	10,666	0	0	184,466	777,703
COMMONFUND CAPITAL NATURAL RES	6,843,235	-396,515	246,558	0	56,298	6,749,576
Natural Resources Partners X	7,945,922	-251,664	0	0	229,981	7,924,239
PANTHEON GLOBAL INFRASTRUCTURE	946,072	-39,999	6,275	0	-38,209	874,139

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

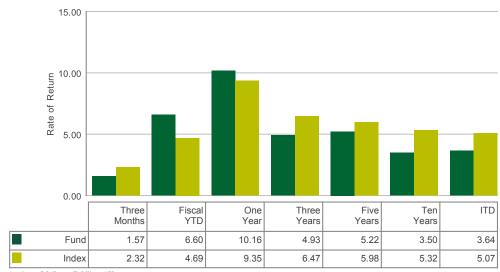
# Total Hedge Funds

Investment Risk & Analytical Services

Total Hedge Funds | December 31, 2023 NORTHERN TRUST

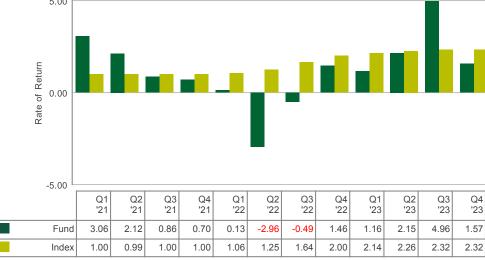
### **Executive Summary**

### TOTAL HEDGE FUNDS TOTAL FUND GROSS OF FEES



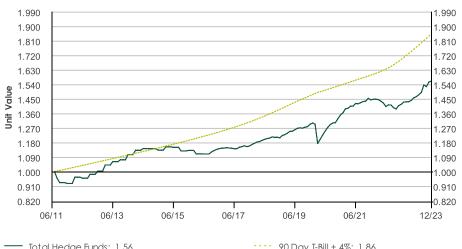
Index: 90 Day T-Bill + 4%

#### TOTAL HEDGE FUNDS ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: 90 Day T-Bill + 4%

#### GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES



Total Hedge Funds: 1.56 90 Day T-Bill + 4%: 1.86

RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	1.57	10.16	4.93	5.22
Index Return	2.32	9.35	6.47	5.98
Excess Return	-0.75	0.81	-1.54	-0.76
Standard Deviation	-	3.17	3.11	5.30
Index Standard Deviation	-	0.09	0.64	0.55
Tracking Error	-	3.14	3.02	5.30
Information Ratio	-	0.26	-0.51	-0.14
Sharpe Ratio	-	1.55	0.86	0.62
Index Sharpe Ratio	-	47.24	6.56	7.39
Jensen's Alpha	-	4.51	56.37	-4.64
Relative Volatility (Beta)	-	0.05	-10.57	2.06
R Squared	-	0.00	0.11	0.00
Beginning MV (in 000s)	68,231	62,898	47,444	45,584
Net Contributions (in 000s)	94	114	62,413	62,413
Income (in 000s)	246	504	663	663
Appreciation (in 000s)	815	5,870	-55,988	-55,988
Ending MV (in 000s)	69,386	69,386	69,386	69,386

Index: 90 Day T-Bill + 4%. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly NORTHERN TRUST

Total Hedge Funds | December 31, 2023

### Investment Hierarchy

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Total Hedge Funds	69,386,099	100.00	13.00	1.57	6.60	10.16	4.93	5.22	3.50	3.64	06/30/2011
90 Day T-Bill + 4%				2.32	4.69	9.35	6.47	5.98	5.32	5.07	06/30/2011
Excess Return				-0.75	1.92	0.81	-1.54	-0.76	-1.82	-1.43	06/30/2011
CF GLOBAL ABSOLUTE ALPHA COMPA	26,593,114	38.33		1.22	3.64	6.89	3.31	4.05	2.73	3.02	06/30/2011
90 Day T-Bill + 4%				2.32	4.69	9.35	6.47	5.98	5.32	5.07	06/30/2011
Excess Return				-1.10	-1.05	-2.46	-3.15	-1.93	-2.59	-2.05	06/30/2011
MFO JP MORGAN TRUST I RESEARC	4,791,256	6.91		2.89	4.72	11.31	-	-	-	6.59	02/28/2022
90 Day T-Bill + 4%				2.32	4.69	9.35	-	-	-	8.02	02/28/2022
Excess Return				0.57	0.04	1.96	-	-	-	-1.42	02/28/2022
MFO JPMORGAN TR I INCOME FD CL	9,178,666	13.23		4.97	5.27	7.19	-	-	-	0.44	02/28/2022
BBG US Aggregate				6.82	3.37	5.53	-	-	-	-2.83	02/28/2022
Excess Return				-1.85	1.91	1.66	-	-	-	3.27	02/28/2022
MFO JPMORGAN TR I OPPORTUNISTI				-	-	-	-	-	-	-	02/28/2022
S&P 500				-	-	-	-	-	-	-	02/28/2022
Excess Return				-	-	-	-	-	-	-	02/28/2022
PIMCO TACTICAL OPPORTUNITIES O	28,823,062	41.54		0.64	10.24	14.72	7.31	6.68	-	6.65	01/31/2018
S&P/LSTA Lev Loan Index +2%				3.37	7.47	15.37	7.87	7.90	-	6.87	01/31/2018
Excess Return				-2.73	2.76	-0.65	-0.56	-1.22	-	-0.23	01/31/2018

NORTHERN TRUST Total Hedge Funds | December 31, 2023

### Market Value Summary - Three Months

Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Total Hedge Funds	68,231,236	94,029	245,852	0	814,982	69,386,099
CF GLOBAL ABSOLUTE ALPHA COMPA	26,273,660	-0	0	0	319,454	26,593,114
MFO JP MORGAN TRUST I RESEARC	4,662,388	-1,558	127,548	0	2,878	4,791,256
MFO JPMORGAN TR I INCOME FD CL	8,656,473	95,588	118,304	0	308,302	9,178,666
MFO JPMORGAN TR I OPPORTUNISTI	-	0	0	0	0	-
PIMCO TACTICAL OPPORTUNITIES O	28,638,714	0	0	0	184,348	28,823,062

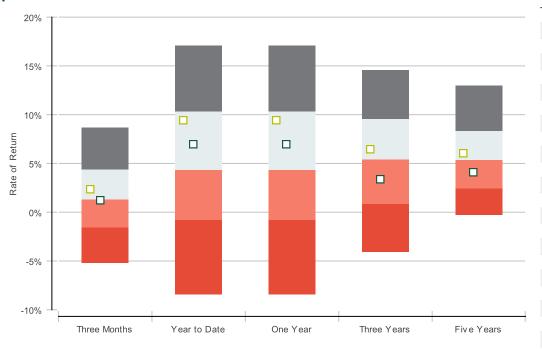
<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

# CF GLOBAL ABSOLUTE ALPHA COMPA

Investment Risk & Analytical Services

NORTHERN TRUST CF GLOBAL ABSOLUTE ALPHA COMPA | December 31, 2023

### Portfolio Windows EVEST ABSOLUTE RETURN



CF GLOBAL ABSOLUTE ALPHA COMPA	1.22	(51)	6.89	(39)	6.89	(39)	3.31	(65)	4.05	(62)
90 Day T-Bill + 4%	2.32	(41)	9.35	(29)	9.35	(29)	6.47	(43)	5.98	(44)
10th Percentile	8.69		17.09		17.09		14.54		12.99	
1st Quartile	4.40		10.37		10.37		9.56		8.35	
Median	1.29		4.35		4.35		5.41		5.37	
3rd Quartile	-1.57		-0.78		-0.78		0.86		2.41	
90th Percentile	-5.21		-8.41		-8.41		-4.09		-0.31	
Number of Observations	820		819		819		779		738	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	3.31	4.05	3.44
Index Return	6.47	5.98	5.83
Excess Return	-3.15	-1.93	-2.40
Relative Excess Return	-2.96	-1.83	-2.26
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	1.81	2.90	2.55
Index Standard Deviation	0.64	0.55	0.48
Tracking Error	1.63	2.88	2.53
Relative Tracking Error	1.62	2.87	2.52
Information Ratio	-1.94	-0.67	-0.95
Relative Information Ratio	-1.83	-0.64	-0.90
Sharpe Ratio	0.59	0.74	0.66
Index Sharpe Ratio	6.56	7.39	8.54
M Squared	2.62	2.32	2.07
Sortino Ratio	1.06	1.00	0.91
Index Sortino Ratio	-	-	-
Treynor Ratio	1.29	1.04	1.13
Jensen's Alpha	-2.29	-5.80	-4.14
Relative Volatility (Beta)	0.83	2.06	1.49
R Squared	0.00	0.00	0.00
Up Market Capture Ratio	49.67	65.10	54.78
Down Market Capture Ratio	0.00	0.00	0.00

Index: 90 Day T-Bill + 4%. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

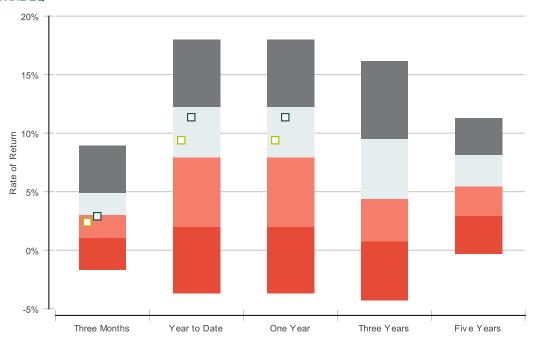
# MFO JP MORGAN TRUST I RESEARC

Investment Risk & Analytical Services

MFO JP MORGAN TRUST I RESEARC | December 31, 2023

### Portfolio Windows EVEST REL VAL MRK NEUTRAL EQ

NORTHERN TRUST



MFO JP MORGAN TRUST I RESEARC	2.89	(54)	11.31	(30)	11.31	(30)	-	( - )	-	(-)
90 Day T-Bill + 4%	2.32	(59)	9.35	(39)	9.35	(39)	-	(-)	-	(-)
10th Percentile	8.93		17.99		17.99		16.15		11.28	
1st Quartile	4.91		12.24		12.24		9.49		8.13	
Median	3.03		7.94		7.94		4.36		5.45	
3rd Quartile	1.04		2.00		2.00		0.76		2.95	
90th Percentile	-1.68		-3.71		-3.71		-4.30		-0.33	
Number of Observations	96		93		93		87		77	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	-	-	-
Index Standard Deviation	-	-	-
Tracking Error	-	-	-
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	_	-	-
Index Sortino Ratio	-	-	-
Treynor Ratio			
Jensen's Alpha	-	-	-
Jensen's Aipria	-	-	-
Relative Volatility (Beta)	-	-	-
R Squared	-	-	-
Up Market Capture Ratio	-	-	-
Down Market Capture Ratio	-	-	-

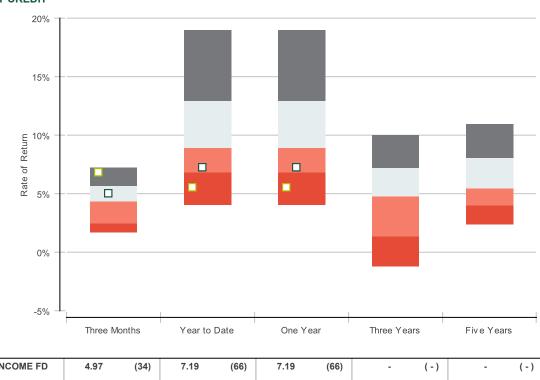
Index: 90 Day T-Bill + 4%. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JPMORGAN TR I INCOME FD CL

Investment Risk & Analytical Services

MFO JPMORGAN TR I INCOME FD CL | December 31, 2023

### Portfolio Windows EVEST MULTI-STRATEGY CREDIT



MFO JPMORGAN TR I INCOME FD CL	4.97	(34)	7.19	(66)	7.19	(66)	-	( - )	-	( - )
BBG US Aggregate	6.82	(20)	5.53	(85)	5.53	(85)	-	(-)	-	(-)
10th Percentile	7.23		18.96		18.96		10.01		10.94	
1st Quartile	5.68		12.91		12.91		7.22		8.05	
Median	4.35		8.90		8.90		4.75		5.47	
3rd Quartile	2.46		6.83		6.83		1.34		4.01	
90th Percentile	1.69		4.03		4.03		-1.24		2.39	
Number of Observations	48		48		48		42		34	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	-	-	-
Index Standard Deviation	-	-	-
Tracking Error	-	-	-
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	-	-	-
Index Sortino Ratio	-	-	-
Treynor Ratio	_	_	_
Jensen's Alpha	-	-	-
Relative Volatility (Beta)			_
R Squared	_	_	_
Tr. Oquarou			_
Up Market Capture Ratio	-	-	-
Down Market Capture Ratio	-	-	-

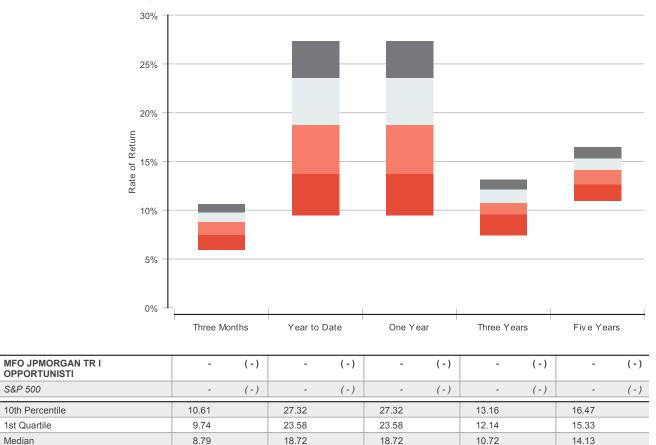
Index: BBG US Aggregate. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO JPMORGAN TR I OPPORTUNISTI

Investment Risk & Analytical Services

MFO JPMORGAN TR I OPPORTUNISTI | December 31, 2023 NORTHERN TRUST

### Portfolio Windows **EVEST US LARGE CAP CORE EQUITY**



13.73

9.44

366

9.55

7.42

355

12.68

10.96

334

*Rank is in	parenthesis
-------------	-------------

90th Percentile

Number of Observations

S&P 500

10th Percentile

1st Quartile

3rd Quartile

Median

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-	-	-
Index Return	-	-	-
Excess Return	-	-	-
Relative Excess Return	-	-	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	-	-	-
Standard Deviation	-	-	-
Index Standard Deviation	-	-	-
Tracking Error	-	-	-
Relative Tracking Error	-	-	-
Information Ratio	-	-	-
Relative Information Ratio	-	-	-
Sharpe Ratio	-	-	-
Index Sharpe Ratio	-	-	-
M Squared	-	-	-
Sortino Ratio	-	-	-
Index Sortino Ratio	-	-	-
To a Data			
Treynor Ratio	-	-	-
Jensen's Alpha	-	-	-
Relative Volatility (Beta)	-	-	-
R Squared	-	-	-
Up Market Capture Ratio	-	-	-
Down Market Capture Ratio	-	-	-

Index: S&P 500. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

7.46

5.93

366

13.73

9.44

366

# PIMCO TACTICAL OPPORTUNITIES O

Investment Risk & Analytical Services

### Portfolio Windows **EVEST MULTI-STRATEGY CREDIT**



PIMCO TACTICAL OPPORTUNITIES O	0.64	(99)	14.72	(17)	14.72	(17)	7.31	(25)	6.68	(32)
S&P/LSTA Lev Loan Index +2%	3.37	(61)	15.37	(16)	15.37	(16)	7.87	(17)	7.90	(28)
10th Percentile	7.23		18.96		18.96		10.01		10.94	
1st Quartile	5.68		12.91		12.91		7.22		8.05	
Median	4.35		8.90		8.90		4.75		5.47	
3rd Quartile	2.46		6.83		6.83		1.34		4.01	
90th Percentile	1.69		4.03		4.03		-1.24		2.39	
Number of Observations	48		48		48		42		34	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	7.31	6.68	-
Index Return	7.87	7.90	-
Excess Return	-0.56	-1.22	-
Relative Excess Return	-0.52	-1.13	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	-
Standard Deviation	5.99	8.80	-
Index Standard Deviation	3.83	7.18	-
Tracking Error	5.56	4.90	-
Relative Tracking Error	5.51	4.90	-
Information Ratio	-0.10	-0.25	-
Relative Information Ratio	-0.09	-0.23	-
Sharpe Ratio	0.84	0.54	-
Index Sharpe Ratio	1.47	0.83	-
M Squared	5.48	5.80	-
Sortino Ratio	1.65	0.66	-
Index Sortino Ratio	2.44	1.03	-
Treynor Ratio	7.77	4.66	-
Jensen's Alpha	1.49	-1.13	-
Relative Volatility (Beta)	0.65	1.02	-
R Squared	0.16	0.69	-
Up Market Capture Ratio	82.37	80.19	-
Down Market Capture Ratio	56.61	84.68	-
Index: S& D/I STA Lev Loan Index +20/	Diak Eroo Indov:	ETCE 2 M	anth LIC T

Index: S&P/LSTA Lev Loan Index +2%. Risk Free Index: FTSE 3 Month US T Bill
Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

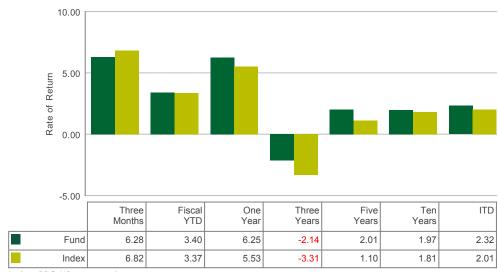
# **Total Fixed Income**

Investment Risk & Analytical Services

Total Fixed Income | December 31, 2023 NORTHERN TRUST

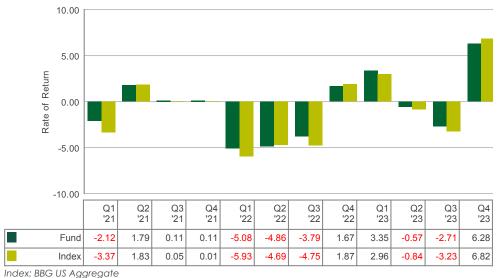
### **Executive Summary**

### TOTAL FIXED INCOME TOTAL FUND GROSS OF FEES



Index: BBG US Aggregate

#### TOTAL FIXED INCOME ROLLING QUARTERS TOTAL FUND GROSS OF FEES



#### GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES



Total Fix ed Income: 1.33 BBG US Aggregate: 1.28

RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	6.28	6.25	-2.14	2.01
Index Return	6.82	5.53	-3.31	1.10
Excess Return	-0.54	0.72	1.17	0.91
Standard Deviation	-	7.61	6.56	5.99
Index Standard Deviation	-	8.13	7.14	6.11
Tracking Error	-	0.70	0.92	2.30
Information Ratio	-	1.04	1.28	0.39
Sharpe Ratio	-	0.13	-0.67	0.02
Index Sharpe Ratio	-	0.03	-0.78	-0.13
Jensen's Alpha	-	0.68	0.70	0.84
Relative Volatility (Beta)	-	0.93	0.91	0.91
R Squared	-	1.00	0.99	0.86
Beginning MV (in 000s)	87,804	65,819	59,723	64,641
Net Contributions (in 000s)	-5,781	16,759	84,106	84,106
Income (in 000s)	862	2,664	3,441	3,441
Appreciation (in 000s)	4,416	2,060	-65,697	-65,697
Ending MV (in 000s)	87,302	87,302	87,302	87,302

Index: BBG US Aggregate. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly NORTHERN TRUST

Total Fixed Income | December 31, 2023

### Investment Hierarchy

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Total Fixed Income	87,302,020	100.00	18.00	6.28	3.40	6.25	-2.14	2.01	1.97	2.32	06/30/2011
BBG US Aggregate				6.82	3.37	5.53	-3.31	1.10	1.81	2.01	06/30/2011
Excess Return				-0.54	0.03	0.72	1.17	0.91	0.16	0.31	06/30/2011
CF STATE STREET AGGREGATE BOND	54,378,896	62.29		6.70	3.25	5.62	-3.48	1.02	-	0.79	10/31/2016
BBG US Aggregate				6.82	3.37	5.53	-3.31	1.10	-	0.94	10/31/2016
Excess Return				-0.12	-0.11	0.09	-0.17	-0.08	-	-0.15	10/31/2016
JPM Open Cash				-	-	-	-	-	-	-	06/30/2011
JPM US Treasury 20+ Year ETF	4,988,301	5.71		-	-	-	-	-	-	-0.59	12/20/2023
ICE Bofa US treasury 20+ yrs				-	-	-	-	-	-	-	12/20/2023
Excess Return				-	-	-	-	-	-	-	12/20/2023
MFO CORE PLUS BD FD CL R6	12,914,863	14.79		6.67	3.46	6.28	-2.49	1.72	-	1.41	09/30/2017
BBG US Aggregate				6.82	3.37	5.53	-3.31	1.10	-	0.95	09/30/2017
Excess Return				-0.15	0.09	0.75	0.83	0.61	-	0.47	09/30/2017
MFO JPMORGAN TR II CORE BD FD	4,560,815	5.22		6.34	2.97	5.71	-2.76	1.57	-	1.36	09/30/2017
BBG US Aggregate				6.82	3.37	5.53	-3.31	1.10	-	0.95	09/30/2017
Excess Return				-0.48	-0.39	0.18	0.56	0.46	-	0.42	09/30/2017
MFO JPMORGAN TR II HIGH YIELD	77,474	0.09		6.43	7.46	12.12	2.50	4.74	3.88	4.62	04/30/2012
Bloomberg High Yield 2% Capped				7.15	7.65	13.44	1.98	5.35	4.59	5.32	04/30/2012
Excess Return				-0.73	-0.19	-1.32	0.52	-0.62	-0.71	-0.70	04/30/2012
WAMCO SHORT-DATED HIGH YLDPORT	10,381,671	11.89		3.82	5.17	11.10	3.41	5.39	2.91	2.91	10/31/2013
ICE Bofa 1-5 yr BB US high				5.47	5.91	9.47	2.75	4.99	-	-	10/31/2013
Excess Return				-1.66	-0.74	1.62	0.66	0.40	-	-	10/31/2013

NORTHERN TRUST

Total Fixed Income | December 31, 2023

### Market Value Summary - Three Months

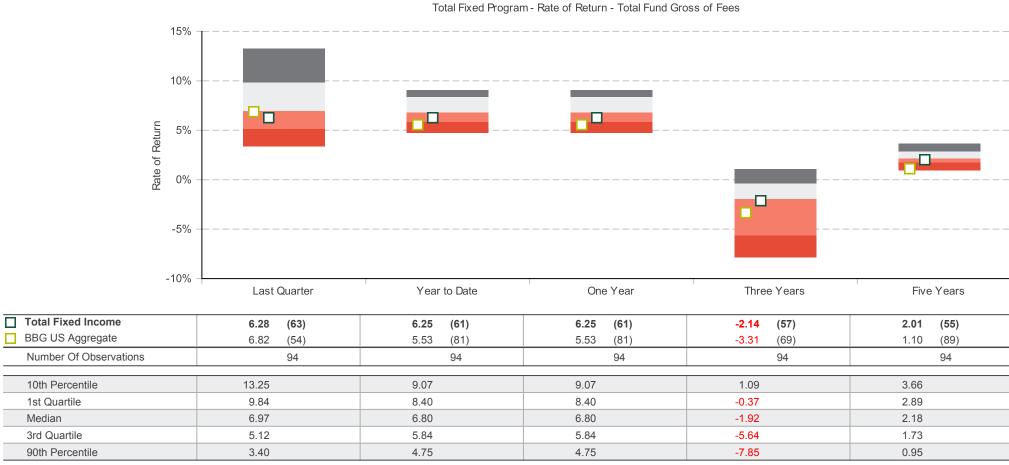
Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Total Fixed Income	87,804,310	-5,780,573	862,283	0	4,416,000	87,302,020
CF STATE STREET AGGREGATE BOND	50,964,359	0	605,605	0	2,808,932	54,378,896
JPM Open Cash	-	0	0	0	0	-
JPM US Treasury 20+ Year ETF	-	5,018,012	16,288	0	-45,999	4,988,301
MFO CORE PLUS BD FD CL R6	6,861,555	5,645,382	97,490	0	310,436	12,914,863
MFO JPMORGAN TR II CORE BD FD	19,905,540	-16,443,967	141,579	0	957,662	4,560,815
MFO JPMORGAN TR II HIGH YIELD	72,794	0	1,321	0	3,359	77,474
WAMCO SHORT-DATED HIGH YLDPORT	10,000,062	0	0	0	381,610	10,381,671

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

NORTHERN TRUST

Total Fixed Income | December 31, 2023

### Peer Group Rankings



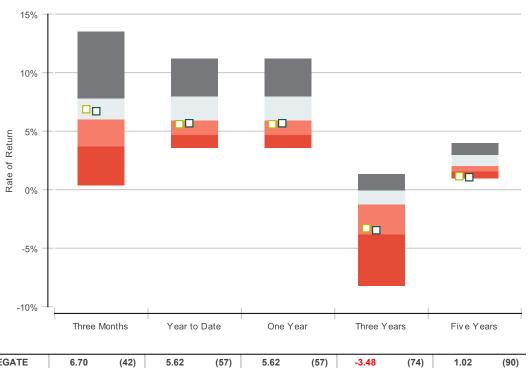
<sup>\*</sup>Rank is in parenthesis

# CF STATE STREET AGGREGATE BOND

Investment Risk & Analytical Services

NORTHERN TRUST CF STATE STREET AGGREGATE BOND | December 31, 2023

### Portfolio Windows US FIXED INCOME MANAGER



CF STATE STREET AGGREGATE BOND	6.70	(42)	5.62	(57)	5.62	(57)	-3.48	(74)	1.02	(90)
☐ BBG US Aggregate	6.82	(40)	5.53	(57)	5.53	(57)	-3.31	(74)	1.10	(89)
10th Percentile	13.51		11.18		11.18		1.32		3.96	
1st Quartile	7.78		7.96		7.96		-0.05		2.96	
Median	6.02		5.93		5.93		-1.26		2.03	
3rd Quartile	3.68		4.68		4.68		-3.82		1.59	
90th Percentile	0.36		3.55		3.55		-8.23		0.95	
Number of Observations	161		154		154		147		144	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-3.48	1.02	1.18
Index Return	-3.31	1.10	1.29
Excess Return	-0.17	-0.08	-0.11
Relative Excess Return	-0.17	-0.08	-0.10
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	7.19	6.16	5.37
Index Standard Deviation	7.14	6.11	5.32
Tracking Error	0.22	0.21	0.20
Relative Tracking Error	0.22	0.21	0.20
Information Ratio	-0.75	-0.38	-0.53
Relative Information Ratio	-0.78	-0.38	-0.53
Sharpe Ratio	-0.80	-0.14	-0.11
Index Sharpe Ratio	-0.78	-0.13	-0.09
M Squared	-3.44	1.03	1.19
Sortino Ratio	-1.01	-0.20	-0.15
Index Sortino Ratio	-0.99	-0.18	-0.12
Treynor Ratio	-5.69	-0.88	-0.56
Jensen's Alpha	-0.14	-0.07	-0.10
Relative Volatility (Beta)	1.01	1.01	1.01
R Squared	1.00	1.00	1.00
Up Market Capture Ratio	100.66	101.18	100.75
Down Market Capture Ratio	101.62	101.79	101.96
Index: BBC UC Assessments Biologram	ETO E 0 14	45 UO T D:	,

Index: BBG US Aggregate. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# MFO CORE PLUS BD FD CL R6

Investment Risk & Analytical Services

MFO CORE PLUS BD FD CL R6 | December 31, 2023

### NORTHERN TRUST

### Portfolio Windows US FIXED INCOME MANAGER



■ MFO CORE PLUS BD FD CL R6	6.67	(43)	6.28	(47)	6.28	(47)	-2.49	(63)	1.72	(72)
☐ BBG US Aggregate	6.82	(40)	5.53	(57)	5.53	(57)	-3.31	(74)	1.10	(89)
10th Percentile	13.51		11.18		11.18		1.32		3.96	
1st Quartile	7.78		7.96		7.96		-0.05		2.96	
Median	6.02		5.93		5.93		-1.26		2.03	
3rd Quartile	3.68		4.68		4.68		-3.82		1.59	
90th Percentile	0.36		3.55		3.55		-8.23		0.95	
Number of Observations	161		154		154		147		144	

<sup>\*</sup>Rank is in parenthesis

Return	RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Excess Return 0.83 0.61 - Relative Excess Return 0.85 0.61 - Internal Rate of Return Index Internal Rate of Return Risk-free Return 2.25 1.91 -  Standard Deviation 6.90 6.08 - Index Standard Deviation 7.14 6.11 - Tracking Error 0.78 1.31 - Relative Tracking Error 0.78 1.31 - Relative Information Ratio 1.06 0.47 - Relative Information Ratio 1.09 0.46 -  Sharpe Ratio -0.69 -0.03 - Index Sharpe Ratio -0.78 -0.13 - M Squared -2.65 1.71 -  Sortino Ratio -0.90 -0.05 - Index Sortino Ratio -0.99 -0.18 -  Treynor Ratio -0.99 -0.18 -  Treynor Ratio -0.99 -0.18 -  Relative Volatility (Beta) 0.96 0.97 - R Squared 0.99 0.95 -  Up Market Capture Ratio 98.24 104.07 -	Return	-2.49	1.72	-
Relative Excess Return       0.85       0.61       -         Internal Rate of Return       -       -       -         Index Internal Rate of Return       -       -       -         Risk-free Return       2.25       1.91       -         Standard Deviation       7.14       6.11       -         Index Standard Deviation       7.14       6.11       -         Tracking Error       0.78       1.31       -         Relative Tracking Error       0.78       1.31       -         Information Ratio       1.06       0.47       -         Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared <td< td=""><td>Index Return</td><td>-3.31</td><td>1.10</td><td>-</td></td<>	Index Return	-3.31	1.10	-
Internal Rate of Return	Excess Return	0.83	0.61	-
Index Internal Rate of Return   2.25   1.91   -	Relative Excess Return	0.85	0.61	-
Risk-free Return       2.25       1.91       -         Standard Deviation       6.90       6.08       -         Index Standard Deviation       7.14       6.11       -         Tracking Error       0.78       1.31       -         Relative Tracking Error       0.78       1.31       -         Information Ratio       1.06       0.47       -         Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Internal Rate of Return	-	-	-
Standard Deviation       6.90       6.08       -         Index Standard Deviation       7.14       6.11       -         Tracking Error       0.78       1.31       -         Relative Tracking Error       0.78       1.31       -         Information Ratio       1.06       0.47       -         Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Index Internal Rate of Return	-	-	-
Index Standard Deviation       7.14       6.11       -         Tracking Error       0.78       1.31       -         Relative Tracking Error       0.78       1.31       -         Information Ratio       1.06       0.47       -         Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Risk-free Return	2.25	1.91	-
Index Standard Deviation       7.14       6.11       -         Tracking Error       0.78       1.31       -         Relative Tracking Error       0.78       1.31       -         Information Ratio       1.06       0.47       -         Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -				
Tracking Error         0.78         1.31         -           Relative Tracking Error         0.78         1.31         -           Information Ratio         1.06         0.47         -           Relative Information Ratio         1.09         0.46         -           Sharpe Ratio         -0.69         -0.03         -           Index Sharpe Ratio         -0.78         -0.13         -           M Squared         -2.65         1.71         -           Sortino Ratio         -0.90         -0.05         -           Index Sortino Ratio         -0.99         -0.18         -           Treynor Ratio         -4.92         -0.20         -           Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -	Standard Deviation	6.90	6.08	-
Relative Tracking Error       0.78       1.31       -         Information Ratio       1.06       0.47       -         Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Index Standard Deviation	7.14	6.11	-
Information Ratio         1.06         0.47         -           Relative Information Ratio         1.09         0.46         -           Sharpe Ratio         -0.69         -0.03         -           Index Sharpe Ratio         -0.78         -0.13         -           M Squared         -2.65         1.71         -           Sortino Ratio         -0.90         -0.05         -           Index Sortino Ratio         -0.99         -0.18         -           Treynor Ratio         -4.92         -0.20         -           Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -	Tracking Error	0.78	1.31	-
Relative Information Ratio       1.09       0.46       -         Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Relative Tracking Error	0.78	1.31	-
Sharpe Ratio       -0.69       -0.03       -         Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Information Ratio	1.06	0.47	-
Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -	Relative Information Ratio	1.09	0.46	-
Index Sharpe Ratio       -0.78       -0.13       -         M Squared       -2.65       1.71       -         Sortino Ratio       -0.90       -0.05       -         Index Sortino Ratio       -0.99       -0.18       -         Treynor Ratio       -4.92       -0.20       -         Jensen's Alpha       0.63       0.59       -         Relative Volatility (Beta)       0.96       0.97       -         R Squared       0.99       0.95       -         Up Market Capture Ratio       98.24       104.07       -				
M Squared -2.65 1.71 -  Sortino Ratio -0.90 -0.05 - Index Sortino Ratio -0.99 -0.18 -  Treynor Ratio -4.92 -0.20 - Jensen's Alpha 0.63 0.59 -  Relative Volatility (Beta) 0.96 0.97 - R Squared 0.99 0.95 -  Up Market Capture Ratio 98.24 104.07 -	Sharpe Ratio	-0.69	-0.03	-
Sortino Ratio	Index Sharpe Ratio	-0.78	-0.13	-
Index Sortino Ratio         -0.99         -0.18         -           Treynor Ratio         -4.92         -0.20         -           Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -	M Squared	-2.65	1.71	-
Index Sortino Ratio         -0.99         -0.18         -           Treynor Ratio         -4.92         -0.20         -           Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -				
Treynor Ratio         -4.92         -0.20         -           Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -	Sortino Ratio	-0.90	-0.05	-
Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -	Index Sortino Ratio	-0.99	-0.18	-
Jensen's Alpha         0.63         0.59         -           Relative Volatility (Beta)         0.96         0.97         -           R Squared         0.99         0.95         -           Up Market Capture Ratio         98.24         104.07         -				
Relative Volatility (Beta) 0.96 0.97 - R Squared 0.99 0.95 -  Up Market Capture Ratio 98.24 104.07 -	Treynor Ratio	-4.92	-0.20	-
R Squared 0.99 0.95 - Up Market Capture Ratio 98.24 104.07 -	Jensen's Alpha	0.63	0.59	-
R Squared 0.99 0.95 - Up Market Capture Ratio 98.24 104.07 -				
Up Market Capture Ratio 98.24 104.07 -	Relative Volatility (Beta)	0.96	0.97	-
The state of the s	R Squared	0.99	0.95	-
The state of the s				
D M. J. J. O J D. J.	Up Market Capture Ratio	98.24	104.07	-
Down Market Capture Ratio 92.74 96.35 -	Down Market Capture Ratio	92.74	96.35	-

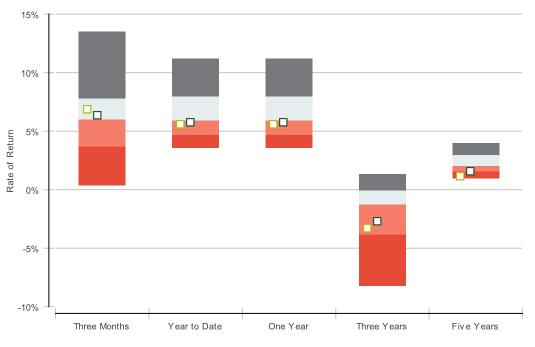
Index: BBG US Aggregate. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

## MFO JPMORGAN TR II CORE BD FD

Investment Risk & Analytical Services

NORTHERN TRUST MFO JPMORGAN TR II CORE BD FD | December 31, 2023

### Portfolio Windows US FIXED INCOME MANAGER



■ MFO JPMORGAN TR II CORE BD FD	6.34	(47)	5.71	(56)	5.71	(56)	-2.76	(65)	1.57	(76)
☐ BBG US Aggregate	6.82	(40)	5.53	(57)	5.53	(57)	-3.31	(74)	1.10	(89)
10th Percentile	13.51		11.18		11.18		1.32		3.96	
1st Quartile	7.78		7.96		7.96		-0.05		2.96	
Median	6.02		5.93		5.93		-1.26		2.03	
3rd Quartile	3.68		4.68		4.68		-3.82		1.59	
90th Percentile	0.36		3.55		3.55		-8.23		0.95	
Number of Observations	161		154		154		147		144	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	-2.76	1.57	-
Index Return	-3.31	1.10	-
Excess Return	0.56	0.46	-
Relative Excess Return	0.58	0.46	-
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	-
Standard Deviation	6.57	5.81	-
Index Standard Deviation	7.14	6.11	-
Tracking Error	0.89	0.94	-
Relative Tracking Error	0.89	0.95	-
Information Ratio	0.63	0.49	-
Relative Information Ratio	0.65	0.48	-
Sharpe Ratio	-0.76	-0.06	-
Index Sharpe Ratio	-0.78	-0.13	-
M Squared	-3.19	1.55	-
Sortino Ratio	-0.99	-0.09	-
Index Sortino Ratio	-0.99	-0.18	-
Treynor Ratio	-5.47	-0.37	-
Jensen's Alpha	0.08	0.41	-
Relative Volatility (Beta)	0.91	0.94	-
R Squared	0.99	0.98	-
Up Market Capture Ratio	93.25	100.56	-
Down Market Capture Ratio	92.10	95.26	-
Index: BBC LIS Aggregate Pick Free Index:	ETCE 2 Mar	45 UO T D	

Index: BBG US Aggregate. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

## MFO JPMORGAN TR II HIGH YIELD

Investment Risk & Analytical Services

NORTHERN TRUST MFO JPMORGAN TR II HIGH YIELD | December 31, 2023

# Portfolio Windows EVEST US HIGH YIELD FIXED INC.



■ MFO JPMORGAN TR II HIGH YIELD	6.43	(58)	12.12	(67)	12.12	(67)	2.50	(55)	4.74	(84)
☐ Bloomberg High Yield 2% Capped	7.15	(20)	13.44	(34)	13.44	(34)	1.98	(76)	5.35	(59)
10th Percentile	7.42		14.49		14.49		4.24		6.68	
1st Quartile	7.04		13.76		13.76		3.41		6.07	
Median	6.62		12.91		12.91		2.59		5.57	
3rd Quartile	5.92		11.70		11.70		2.02		5.00	
90th Percentile	4.45		10.27		10.27		1.36		4.42	
Number of Observations	242		242		242		235		227	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	2.50	4.74	3.92
Index Return	1.98	5.35	4.56
Excess Return	0.52	-0.62	-0.63
Relative Excess Return	0.51	-0.59	-0.61
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	7.84	9.25	8.03
Index Standard Deviation	8.24	9.44	8.16
Tracking Error	1.09	1.22	1.06
Relative Tracking Error	1.09	1.22	1.06
Information Ratio	0.48	-0.50	-0.60
Relative Information Ratio	0.47	-0.48	-0.57
Sharpe Ratio	0.03	0.31	0.27
Index Sharpe Ratio	-0.03	0.36	0.34
M Squared	2.51	4.79	3.96
Sortino Ratio	0.05	0.40	0.35
Index Sortino Ratio	-0.04	0.49	0.46
Treynor Ratio	0.27	2.90	2.23
Jensen's Alpha	0.48	-0.50	-0.54
Relative Volatility (Beta)	0.95	0.97	0.98
R Squared	0.98	0.98	0.98
Up Market Capture Ratio	96.31	90.81	91.11
Down Market Capture Ratio	91.97	96.71	98.71
Index: Bloomhera High Vield 2% Canned	Dials Eron Indo	W FTOF 2	A 4 = 4/-

Index: Bloomberg High Yield 2% Capped. Risk Free Index: FTSE 3 Month US T Bill

Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# SECTION 32

# WAMCO SHORT-DATED HIGH YLDPORT

Investment Risk & Analytical Services

December 31, 2023

NORTHERN TRUST WAMCO SHORT-DATED HIGH YLDPORT | December 31, 2023

# Portfolio Windows EVEST US HIGH YIELD FIXED INC.



WAMCO SHORT-DATED HIGH YLDPORT	3.82	(98)	11.10	(85)	11.10	(85)	3.41	(26)	5.39	(57)
☐ ICE Bofa 1-5 yr BB US high	5.47	(81)	9.47	(96)	9.47	(96)	2.75	(44)	4.99	(76)
10th Percentile	7.42		14.49		14.49		4.24		6.68	
1st Quartile	7.04		13.76		13.76		3.41		6.07	
Median	6.62		12.91		12.91		2.59		5.57	
3rd Quartile	5.92		11.70		11.70		2.02		5.00	
90th Percentile	4.45		10.27		10.27		1.36		4.42	
Number of Observations	242		242		242		235		227	

<sup>\*</sup>Rank is in parenthesis

RISK STATISTICS	3 Yrs	5 Yrs	7 Yrs
Return	3.41	5.39	4.58
Index Return	2.75	4.99	4.16
Excess Return	0.66	0.40	0.42
Relative Excess Return	0.64	0.38	0.41
Internal Rate of Return	-	-	-
Index Internal Rate of Return	-	-	-
Risk-free Return	2.25	1.91	1.75
Standard Deviation	5.80	7.85	6.79
Index Standard Deviation	5.71	6.79	5.83
Tracking Error	1.74	1.99	1.81
Relative Tracking Error	1.74	2.04	1.85
Information Ratio	0.38	0.20	0.23
Relative Information Ratio	0.37	0.19	0.22
Sharpe Ratio	0.20	0.44	0.42
Index Sharpe Ratio	0.09	0.45	0.41
M Squared	3.39	4.92	4.18
Sortino Ratio	0.29	0.59	0.55
Index Sortino Ratio	0.13	0.62	0.57
Treynor Ratio	1.20	3.09	2.50
Jensen's Alpha	0.67	0.06	0.14
Relative Volatility (Beta)	0.97	1.13	1.13
R Squared	0.91	0.95	0.94
Up Market Capture Ratio	100.41	108.20	112.09
Down Market Capture Ratio	90.55	104.18	106.53
Index: ICE Pota 1.5 vr. PR IIS high	Dial: Franchischer: FTS	E 0 Ma 4/2	110 T D:

Index: ICE Bofa 1-5 yr BB US high. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

# SECTION 33

# **Total Enhanced Liquidity**

Investment Risk & Analytical Services

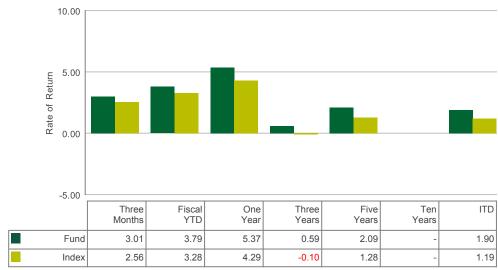
December 31, 2023

NORTHERN TRUST

Total Enhanced Liquidity | December 31, 2023

### **Executive Summary**

### TOTAL ENHANCED LIQUIDITY TOTAL FUND GROSS OF FEES



Index: BBG US Treasury: 1-3 Year

### TOTAL ENHANCED LIQUIDITY ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: BBG US Treasury: 1-3 Year

### GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES



RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	3.01	5.37	0.59	2.09
Index Return	2.56	4.29	-0.10	1.28
Excess Return	0.45	1.08	0.69	0.82
Standard Deviation	-	2.22	2.27	2.22
Index Standard Deviation	-	2.36	2.13	1.89
Tracking Error	-	0.90	0.70	1.70
Information Ratio	-	1.20	0.98	0.48
Sharpe Ratio	-	0.05	-0.73	0.08
Index Sharpe Ratio	-	-0.41	-1.10	-0.33
Jensen's Alpha	-	0.91	0.68	0.66
Relative Volatility (Beta)	-	0.86	1.00	0.76
R Squared	-	0.85	0.88	0.40
Beginning MV (in 000s)	13,981	10,693	6,307	11,583
Net Contributions (in 000s)	-3	2,991	8,127	2,386
Income (in 000s)	0	0	0	0
Appreciation (in 000s)	420	714	-2	-2
Ending MV (in 000s)	14,398	14,398	14,398	14,398

Index: BBG US Treasury: 1-3 Year. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

NORTHERN TRUST

Total Enhanced Liquidity | December 31, 2023

# Investment Hierarchy

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Total Enhanced Liquidity	14,398,242	100.00	3.00	3.01	3.79	5.37	0.59	2.09	-	1.90	05/31/2017
Bloomberg U.S. Treasury 1-3 Year				2.56	3.28	4.29	-0.10	1.28	-	1.19	05/31/2017
Excess Return				0.45	0.51	1.08	0.69	0.82	-	0.71	05/31/2017
CF STATE STREET 1-3 YEAR US CR	14,398,242	100.00		3.01	3.79	5.37	0.59	2.09	-	1.90	05/31/2017
BBG US Credit 1-3 Yrs				3.01	3.79	5.28	0.51	2.03	-	1.86	05/31/2017
Excess Return				-0.01	-0.00	0.09	0.09	0.07	-	0.03	05/31/2017

NORTHERN TRUST

Total Enhanced Liquidity | December 31, 2023

## Market Value Summary - Three Months

Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Total Enhanced Liquidity	13,980,595	-2,723	0	0	420,370	14,398,242
CF STATE STREET 1-3 YEAR US CR	13,980,595	-2,723	0	0	420,370	14,398,242

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

# SECTION 34

# Cash

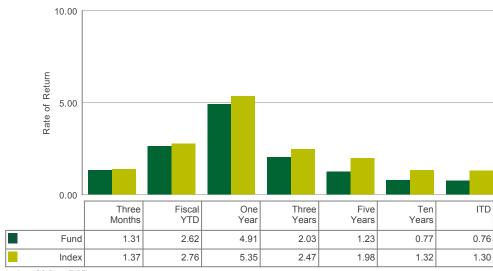
Investment Risk & Analytical Services

December 31, 2023

NORTHERN TRUST Cash | December 31, 2023

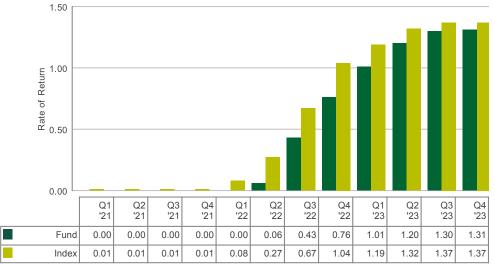
### **Executive Summary**

### **CASH TOTAL FUND GROSS OF FEES**



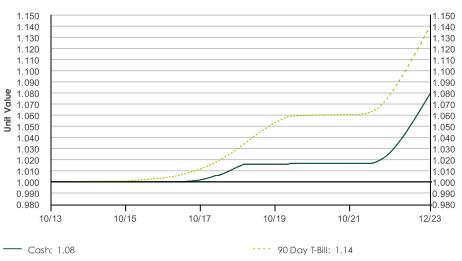
Index: 90 Day T-Bill

### CASH ROLLING QUARTERS TOTAL FUND GROSS OF FEES



Index: 90 Day T-Bill

### GROWTH OVER TIME - INCEPTION TO DATE - TOTAL FUND GROSS OF FEES



RISK STATISTICS	3 Mos	1 Yr	3 Yrs	5 Yrs
Return	1.31	4.91	2.03	1.23
Index Return	1.37	5.35	2.47	1.98
Excess Return	-0.06	-0.44	-0.43	-0.75
Standard Deviation	-	0.15	0.63	0.56
Index Standard Deviation	-	0.09	0.67	0.57
Tracking Error	-	0.07	0.11	0.23
Information Ratio	-	-5.96	-3.79	-3.26
Sharpe Ratio	-	-2.37	-0.34	-1.21
Index Sharpe Ratio	-	1.02	0.33	0.12
Jensen's Alpha	-	-0.35	-0.20	-0.73
Relative Volatility (Beta)	-	0.14	-0.05	0.83
R Squared	-	0.03	0.01	0.11
Beginning MV (in 000s)	10,426	35,464	0	130
Net Contributions (in 000s)	3,620	-21,904	12,839	12,839
Income (in 000s)	191	677	1,403	1,403
Appreciation (in 000s)	0	0	-5	-5
Ending MV (in 000s)	14,237	14,237	14,237	14,237

Index: 90 Day T-Bill. Risk Free Index: FTSE 3 Month US T Bill Category: Total Fund Gross of Fees. Calculation Frequency: Monthly

NORTHERN TRUST

Cash | December 31, 2023

# Investment Hierarchy

				% Rate of Return							
Account/Group	Ending Market Value USD	Ending Weight	Policy Weight	Three Months	Fiscal YTD	One Year	Three Years	Five Years	Ten Years	Inception to Date	Inception Date
Cash	14,237,340	100.00	0.00	1.31	2.62	4.91	2.03	1.23	0.77	0.76	10/31/2013
90 Day T-Bill				1.37	2.76	5.35	2.47	1.98	1.32	1.30	10/31/2013
Excess Return				-0.06	-0.14	-0.44	-0.43	-0.75	-0.55	-0.54	10/31/2013
CASH				-	-	-	-	-	-	-	11/30/2016
Cash & Other Assets	0	0.00		0.00	0.00	0.00	-	-	-	0.00	06/30/2022
Cash & Other Assets	0	0.00		0.00	0.00	0.00	-	-	-	0.00	06/30/2022
Cash & Other Assets	214,606	1.51		-	-	-	-	-	-	-	06/30/2022
Cash & Other Assets	0	0.00		0.00	0.00	0.00	-	-	-	0.00	06/30/2022
Cash & Other Assets	387,216	2.72		1.21	2.49	5.15	-	-	-	4.24	06/30/2022
Cash & Other Assets	150,350	1.06		-	-	-	-	-	-	-	06/30/2022
OHA - CASH	13,485,168	94.72		1.32	2.64	4.92	-	-	-	4.07	06/30/2022

NORTHERN TRUST Cash | December 31, 2023

## Market Value Summary - Three Months

Account/Group	09/30/2023 Market Value	Net Contribution*	Income	Fees	Appreciation	12/31/2023 Market Value
Cash	10,426,073	3,620,266	191,001	78,121	0	14,237,340
CASH	-	0	0	0	0	-
Cash & Other Assets	0	214,606	0	0	0	214,606
Cash & Other Assets	366,716	10,908	9,592	0	0	387,216
Cash & Other Assets	0	0	0	7,736	0	0
Cash & Other Assets	0	0	0	0	0	0
Cash & Other Assets	0	0	0	0	0	0
Cash & Other Assets	0	150,350	0	15,165	0	150,350
OHA - CASH	10,059,357	3,244,402	181,409	55,220	0	13,485,168

<sup>\*</sup>Net Contributions include Cash Contributions/Distributions, Security Deliveries/Receipts, Fees/Fee Rebates, Inter Account transfers for Consolidations & Benefits Payments. Copied History or Backloaded Data may not display the correct Contributions/Withdrawals creating misrepresentation.

# SECTION 35

# Appendix

Investment Risk & Analytical Services

December 31, 2023

NORTHERN TRUST

OHA Financial Assets | December 31, 2023

### Disclaimer(s)

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of Morgan Stanley Capital International Inc.("MSCI") and Standard & Poor's, a division of The McGraw-Hill Companies, Inc.("S&P") and is licensed for use by The Northern Trust Corporation and its wholly owned subsidiaries. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

The Dow Jones Wilshire Indexes are calculated, distributed and marketed by Dow Jones & Company, Inc. pursuant to an agreement between Dow Jones and Wilshire and have been licensed for use. All content of the Dow Jones Wilshire Indexes © 2005 Dow Jones & Company, Inc. & Wilshire Associates Incorporated.

Standard and Poor's including its subsidiary corporations ("S&P") is a division of the McGraw-Hill Companies, Inc. Reproduction of S&P Index Alerts in any form is prohibited except with the prior written permission of S&P. Because of the possibility of human or mechanical error by S&P sources, S&P or others, S&P does not guarantee the accuracy, adequacy, completeness or availability of any information and is not responsible for any errors or omissions or for the results obtained from the use of such information. S&P gives not express or implied warranties, including, but not limited to, any warranties or merchantability or fitness for a particular purpose or use. In no event shall S&P be liable for any indirect, special or consequential damages in connection with subscriber's or others' use of S&P Index Alerts.

All MSCI equity characteristic results except for Dividend Yield, Price to Book Value, Price to Cash Earnings and Price Earnings Ratio were calculated by The Northern Trust Company.

FTSE ® is a trade mark of London Stock Exchange Plc and The Financial Times Limited and is used by FTSE under license. All rights in the FTSE Indices vest in FTSE and/or its licensors. Neither FTSE nor its licensors accept any liability for any errors or omissions in the FTSE Indices or underlying data.

The Merrill Lynch Indices are used with permission. Copyright 2007, Merrill Lynch, Pierce, Fenner & Smith Incorporated. All rights reserved. The Merrill Lynch Indices may not be copied, used, or distributed without Merrill Lynch's prior written approval.

The Citi Index data is provided to you on an "AS IS" basis and you agree that use of the index data is at your sole risk. Citi Index makes no representations or warranties, express or implied, to you or any other person or entity, including without limitation any warranty of merchantability, originality, suitability or fitness for a particular purpose of the index data or any other matter and no warranty is given that the index data will conform to any description thereof or be free of omissions, errors, interruptions or defects. 4. In no event shall Citi Index be liable to you or any other person or entity for any direct, incidental, indirect, special or consequential damages (including, without limitation,

lost profits or revenues, loss of data, loss of use or claims of third parties), arising out of or in any manner in connection with your use of (or inability to use) the index data, whether or not you have been advised of, or otherwise might have anticipated the possibility of, such damages. Without limitation on the foregoing, you acknowledge that the index data may be incomplete or condensed, is for information purposes only and is not intended as, and shall not be construed to be, an offer or solicitation with respect to the purchase or sale of any security. All opinions and estimates provided constitute judgments as of their respective dates and are subject to change without notice. Such data, information, opinions and estimates are furnished as part of a general service, without regard to your particular circumstances, and Citi Index shall not be liable for any damages in connection therewith. Citi Index is not undertaking to manage money or act as a fiduciary with respect to your accounts or any of your managed or fiduciary accounts and you acknowledge and agree that the index data does not and shall not serve as the primary basis for any investment decisions made with respect to such accounts.

iShares® and BlackRock® are registered trademarks of BlackRock, Inc. and its affiliates ("BlackRock") and are used under license. BlackRock has licensed certain trademarks and trade names of BlackRock to The Northern Trust Company. The Northern Trust Company's products and services are not sponsored, endorsed, sold, or promoted by BlackRock, and BlackRock makes no representations or warranties related to such products or services either to The Northern Trust Company or any other person or entity, including but not limited to the advisability of investing in the products of The Northern Trust Company. BlackRock has no obligation or liability in connection with the operation, marketing, trading or sale of the products or services from The Northern Trust Company.

Please note that this report has been prepared using best available data. This report may also contain information provided by third parties, derived by third parties or derived from third party data and/or data that may have been categorized or otherwise reported based upon client direction - Northern Trust assumes no responsibility for the accuracy, timeliness or completeness of any such information. If you have questions regarding third party data or direction as it relates to this report, please contact your Northern Trust relationship team.

INVESTMENT ADVICE NOTICE: The data and analysis contained in this report is for informational purposes only. In providing the information contained herein, The Northern Trust Company is not undertaking to provide "investment advice" or to give advice in a fiduciary capacity for purposes of the Employee Retirement Income Security Act of 1974, as amended. Nothing in this report is intended as, or should be understood as, a recommendation to hire, retain, or terminate an investment manager or engage in any purchase or sale transaction with such a manager or any fund that it manages. The Northern Trust Company and/or its affiliates may have business relationships with one or more investment managers or funds for included in this report, and may receive compensation for providing custody, administration, banking, brokerage, foreign exchange or other services to such investment managers or funds. The Northern Trust Company and its affiliates shall have no responsibility for the consequences of investment decisions made in reliance on information contained in this report.

PHONE (808) 594-1888

### FAX (808) 594-1865

### **Committee on Resource Management**

Trustee John Waihe'e IV, At-Large - Chair

Trustee Luana Alapa, Moloka'i / Lāna'i - Vice Chair

Members

Trustee Dan Ahuna, *Kaua'i / Ni'ihau* Trustee Kaleihikina Akaka, *O'ahu* Trustee Keli'i Akina, *At-Large* 

Trustee Brickwood Galuteria, *At-Large* Trustee Carmen Hulu Lindsey, *Maui* Trustee J. Keoni Souza, *At-Large* Trustee Mililani Trask, *Hawai'i Island* 



# STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS

### MEETING OF THE COMMITTEE ON RESOURCE MANAGEMENT (RM)

DATE: Wednesday March 6, 2024

**TIME**: 10:00 a.m.

**PLACE**: Remote Meeting by Interactive Conference Technology

and in-person at OHA Mauli Ola Boardroom

Nā Lama Kukui 560 N. Nimitz Hwy. Honolulu, HI. 96817

viewable at https://www.oha.org/livestream OR

Listen by phone: (213) 338-8477, Webinar ID: 863 4000 3303

This virtual meeting can be viewed and observed via livestream on OHA's website at www.oha.org/livestream or listened to by phone at: (213) 338-8477, Webinar ID: 863 4000 3303. A physical meeting location, open to members of the public who would like to provide oral testimony or view the virtual meeting, will be available at 560 N. Nimitz Hwy., Suite 200, Honolulu HI 96817.

### **AGENDA**

- I. Call to Order
- II. Approval of Minutes
  - A. February 7, 2024
- III. Unfinished Business None
- IV. New Business
  - A. The Native Hawaiian Trust Fund (NHTF) Investment Portfolio Review for the Quarter Ending December 31, 2023
  - B. Consequent Capital Management
    - 1. Recommendations for the Native Hawaiian Trust Fund (NHTF)
  - C. Presentation by Administration on Event Sponsorship Grants
- V. Announcements
- VI. Adjournment

If you need an auxiliary aid/service or other accommodation due to a disability, please contact Everett Ohta at (808) 594-1988 or by email at everetto@oha.org as soon as possible. Requests made as early as possible have a greater likelihood of being fulfilled. Upon request, this notice is available in alternate/accessible formats.

Meeting materials for this meeting will be available for the public to view 48 hours prior to this meeting at OHA's main office located at 560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817. Meeting materials will also be available to view at OHA's neighbor island offices and will be posted to OHA's website at: <a href="https://www.oha.org/rm">www.oha.org/rm</a>.

In the event that the livestream or the audiovisual connection is interrupted and cannot be restored, the meeting may continue as an audioonly meeting through the phone and Webinar ID listed at the beginning of this agenda. Meeting recordings and written meeting minutes are posted to OHA's website.



Independent Board Consultant for the Office of Hawaiian Affairs' Native Hawaiian Trust Fund

Wednesday, March 6, 2024 10:00 a.m. HST

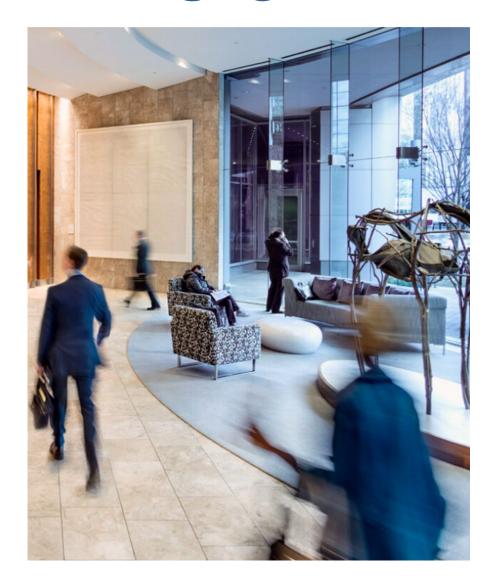
# MEETING AGENDA

- 1. BACKGROUND INFORMATION
- 2. UPDATE ACTIVITIES
- 3. POLICY REVIEW & RECOMMENDATIONS
- 4. GLOSSARY TERMS

# Separate Document

 Investment Policy Statement Revision (proposed)

# A B O U T U S



- Independent investment advisory firm registered with the Securities & Exchange Commission
- Established in 2016 from the acquired assets of Gray & Company, an institutional consulting firm founded in 1991
- Office in Honolulu, HI, and corporate headquarters located in Atlanta, GA
- Full-service minority owned investment advisor serving institutional investor clients, including cities, labor unions, hospital systems, universities, and mission-specific non-profit organizations
- Comprehensive and holistic approach to investment advisory services including support of underrepresented and underutilized investment managers to provide diversity to our clients' portfolios.

# REVIEW AND UPDATE ON INVESTMENT EDUCATION

### **Investment Education Review**

- Investment Program Observations
- Overview and Governance
- o Resourcing
- o Investment Program and Portfolio Design
- Asset Classes

# **Investment Oversight Preview**

- Common Fund Conference, March 10-12, 2024
- RMC March 20, 2024: Education and Discussion
- RMC April 17, 2020: PIMCO; State Street
- RMC May 1, 2024: Northern Trust
- RMC May 22, 2024: JP Morgan; Goldman Sachs
- RMC June 26, 2024: Top Tier
- RMC July 10, 2024: Commonfund

# Define the Objective

# Takeaways:

# Specific

- Targeted returns (inflation +5% annually)
- Supporting spending needs (5% annually)

### General

- Preserve corpus
- Meet or exceed specified benchmark returns
- Minimize risks through diversification

Institutional Vision for the Investment Program

Establish a robust investment program to perform through different market environments and across different OHA leadership regimes such that the activities are governed by established (in advanced) policies and guidelines, that evolve through an accepted process approved by the BOT under governing laws and regulations.

Section 2.1: Prioritized Investment Objectives. The overall objectives of the Fund are in the following order of priority:

- To grow the Fund's assets consistently by at least inflation plus five percent annually (Consistent Capital Growth)
- To invest in a manner that seeks to ensure the continuous preservation of purchasing power of the overall portfolio (Capital Preservation)
- To achieve a portfolio return that meets or exceeds the return of the Fund's Policy Portfolio Benchmark on a net of fee basis over a long time horizon (Benchmark Outperformance)
- To diversify the portfolio by asset type, security (issuer) and Investment Manager to reduce the volatility of returns (Adequate Diversification)

# Immediate Needs

# Takeaways:

Based on preliminary review, several areas of the OHA investment program need immediate attention,

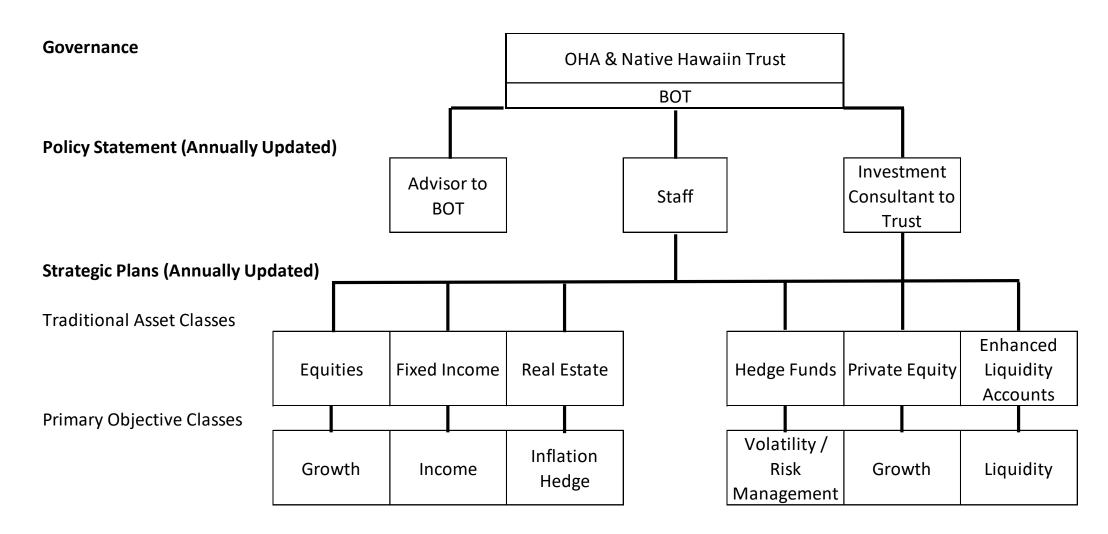
- Revise governance authority to the BOT
- Hire Investment Consultant/OCIO
- Conduct Asset Allocation Study
- Execute Private Markets Strategy
- Design/Implement Investment Portfolio

- Investment Policy Statement
- See draft revisions and discussion items
- Consider replacing Manager of Managers structure
- Governance directed to the BOT and RMC
- Hire Consultant/OCIO
- Centralize investment oversight and accountability
- Consider the nature of OHA for appropriate type of consultant services to meet long-term objectives
- o Interim solutions to address immediate needs
- Conduct Asset Allocation Study
- o Identify capital market returns for 10-year horizon
- Optimize OHA asset mix to expected capital market returns to achieve long-term success
- Executive Private Markets Strategy
- Resume making commitments to private markets
- Determine strategic plan for private market opportunities
- Establish a pacing model for future program growth
- Design/Implement Investment Portfolio
- o Establish holistic portfolio parameters and structure
- Manage risks and opportunities within total portfolio

# Organizational Structure

# Takeaway:

# Match portfolio governance to organizational functions



# Investment Program Approaches

# Takeaways:

OHA currently implements its oversight of the NHTF through a Manager of Managers approach

- Advisor firms build independent portfolios
- Investment discretion with Advisors/Managers
- Performance reporting convoluted
- Opaque accountability for results

Several approaches to consider.

- Traditional Investment Consultant
- Outsourced CIO
- Internal Management

- **1. Manager-of-Managers Approach**: In this approach, the asset owner hires several specialized investment management firms (Advisor) to oversee portions of the fund's assets.
- Advisor chosen for specific asset class or investment style expertise.
- Asset owner oversees Advisor, which manages investments directly.
- Asset owner diversifies strategies and risk through Advisors
- 2. Traditional Investment Consultant: An investment consultant works with asset owners to form an investment strategy. The investment consultant is responsible for reviewing the asset owner's investment program from policies to asset allocation to portfolio design and manager selection.
- Typical role is non-discretionary for investment decisions
- Investment consultant can be a generalist or specialist
- 3. Outsourced Chief Investment Officer (OCIO): Asset owner hires an Outsourced Chief Investment Officer to provide bespoke investment strategy This can include a mix of the above strategies and more innovative or niche investment opportunities.
- Execution of investment program discretion given to the OCIO
- Asset owner retains governance, policy, and oversight
- Often a less expensive approach to gain access to top strategies
- **4. Internal Management/ In-House:** Some asset owners choose to manage their investments in-house, building a team of investment professionals to make decisions across different asset classes.
- Saves on external management fees
- Greater control over investment decisions
- Requires significant internal expertise and infrastructure

# Investment Policy Statement Review

# Takeaways:

Review IPS in attached document

- Manager of Managers
- Role of BOT, RMC, OHA Staff
- Other items

- Investment Policy Statement
- Written for a program structure not best practice and evolving
- Discretion for investment decisions siloed with MoM service providers
- Reporting and accountability inadequate given fiduciary role of the Board of Trustees
- Role of Consultants
- Service of investment consultants with different expertise not utilized; for example, an alternative consultant
- Specialty reports such as liquidity, asset allocation, private market pacing possible
- Roles and responsibilities with the primacy of the RMC and Board for the investment program can be more explicitly stated

# Observations: Portfolio Design

# Takeaways:

Portfolio designed under an **OHA regime** that no longer exists

- Accountability evolved from Trustees to OHA staff to somewhat unclear structure
- Asset classes are reasonable but limited insight to portfolio risks and management
- Advisory Committee no longer functional and never a best practice

Manager of Manager approach not **best practice** with discretion siloed and unintended exposure overlaps

- MoM permitted with limited communication and accountability
- Mandates designed without an investment consultant or staff to coordinate and communicate

- Portfolio asset classes and structure are reasonable
- Review of portfolio design given that the portfolio was designed and executed under previous OHA leadership that is no longer represented
- Asset allocation study and rebalance should be on a regular schedule and conducted by staff or a consultant
- MoM should be considered for an alternative structure
- Discretion of decisions needs to be coordinated
- Review of investment opportunities and strategies should be conducted through an established process and ongoing with clear communication to the RMC and Board for review and possible approval
- Risk assessment and management should be a primary aspect of portfolio design and management

- A -

**Advisor**: In the NHTF, an advisor refers to each fiduciary "manager- of-managers" firm hired to exercise investment discretion over a portion of the NHTF assets within the parameters set forth in its mandate.

**Asset allocation:** Implementation of an investment strategy that attempts to balance risk versus reward by adjusting the percentage of each asset in an investment portfolio according to the investor's risk tolerance, goals and investment time frame. The focus is on the characteristics of the overall portfolio.

**Asset Allocator**: An organization or individual that conducts asset allocation of dividing the capital in an investment portfolio among stocks, bonds, alternatives, and cash. The goal is to align your asset allocation with your tolerance for risk and time horizon.

**Asymmetric Distribution:** Asymmetrical distribution is a situation in which the values of variables occur at irregular frequencies and the mean, median, and mode occur at different points. An asymmetric distribution exhibits skewness. In contrast, a Gaussian or normal distribution, when depicted on a graph, is shaped like a bell curve and the two sides of the graph are symmetrical.

- B -

**Beta**: A measure of a stock's volatility in relation to the overall market. By definition, the market, such as the S&P 500 Index, has a beta of 1.0, and individual stocks are ranked according to how much they deviate from the market. A stock that swings more than the market over time has a beta above 1.0. If a stock moves less than the market, the stock's beta is less than 1.0.

- B -

**Black Swan Events:** A black swan is an unpredictable event that is beyond what is normally expected of a situation and has potentially severe consequences. Black swan events are characterized by their extreme rarity, severe impact, and the widespread insistence they were obvious in hindsight.

- C -

**CBOE Volatility Index (VIX):** The CBOE Volatility Index (VIX) is a real-time index that represents the market's expectations for the relative strength of near-term price changes of the S&P 500 Index (SPX). Because it is derived from the prices of SPX index options with near-term expiration dates, it generates a 30-day forward projection of volatility. Volatility, or how fast prices change, is often seen as a way to gauge market sentiment, and in particular the degree of fear among market participants.

**Code of Ethics**: OHA Trustees, OHA officers, and OHA employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of their investment program, or that could impair their ability to make impartial decisions.

**Compound Returns:** The compound return is the rate of return, usually expressed as a percentage, that represents the cumulative effect that a series of gains or losses has on an original amount of capital over a period of time. Compound returns are usually expressed in annual terms, meaning that the percentage number that is reported represents the annualized rate at which capital has compounded over time.

**Consistent capital growth**: This is the primary objective of the NHTF and is achieved by investing prudently in a wide range of asset classes to achieve proper diversification, thereby reducing volatility.

-- D -

**Discretionary investment management** is a form of investment management in which buy and sell decisions are made by a portfolio manager or investment counselor for the client's account. The term "discretionary" refers to the fact that investment decisions are made at the portfolio manager's discretion. This means that the client must have the utmost trust in the investment manager's capabilities.

**Dispersion of Returns:** Dispersion is often interpreted as a measure of the degree of uncertainty, and thus risk, associated with a particular security or investment portfolio.

**Distribution of Returns:** A probability distribution is a statistical function that describes all the possible values and likelihoods that a random variable can take within a given range. This range will be bounded between the minimum and maximum possible values, but precisely where the possible value is likely to be plotted on the probability distribution depends on a number of factors. These factors include the distribution's mean (average), standard deviation, skewness, and kurtosis.

**Diversification**: Diversification is a risk management strategy that creates a mix of various investments within a portfolio. A diversified portfolio contains a mix of distinct asset types and investment vehicles in an attempt to limit exposure to any single asset or risk. The rationale behind this technique is that a portfolio constructed of different kinds of assets will, on average, yield higher long-term returns and lower the risk of any individual holding or security.

**Down Capture Ratio**: The down-market capture ratio is a statistical measure of an investment manager's overall performance in down-markets. It is used to evaluate how well an investment manager performed relative to an index during periods when that index has dropped. The ratio is calculated by dividing the manager's returns by the returns of the index during the down-market and multiplying that factor by 100.

- E -

**External Providers**: Experts that advise and counsel OHA to satisfy the "prudent person" standard established as adequate controls and fulfills the oversight responsibilities regarding the external providers as outlined in its mandate.

- F -

**Fiduciary Responsibility:** A fiduciary is a person or organization that acts on behalf of another person or persons, putting their clients' interests ahead of their own, with a duty to preserve good faith and trust. Being a fiduciary thus requires being bound both legally and ethically to act in the other's best interests.

**Fixed Income**: A fixed-income security is an investment that provides a return through fixed periodic interest payments and the eventual return of principal at maturity. Unlike variable-income securities, where payments change based on an underlying measure, such as short-term interest rates, the returns of a fixed-income security are known.

- H -

**Hedge Fund**: A hedge fund is a limited partnership of private investors whose money is managed by professional fund managers who use a wide range of strategies, including leveraging or trading of non-traditional assets, to earn above-average investment returns. Hedge fund investment is often considered a risky alternative investment choice and usually requires a high minimum investment or net worth, often targeting wealthy clients.

- | -

**Infrastructure**: Infrastructure is defined as the basic physical systems of a business, region, or nation and often involves the production of public goods or production processes. Examples of infrastructure include transportation systems, communication networks, sewage, water, and school systems. Investments in infrastructure tend to be costly and capital-intensive, but vital to a region's economic development and prosperity. Projects related to infrastructure improvements may be funded publicly, privately, or through public-private partnerships.

- | -

**Investment Consultant**: An investment consultant is a financial professional who provides investors with investment products, advice, and/or planning. Investment consultants do in-depth work on formulating investment strategies for clients, helping them fulfill their needs and reach their financial goals. Many financial advisors and financial planners would be considered investment consultants.

**Investment Policy Statement (IPS)**: An IPS is a document drafted between a portfolio manager and a client that outlines general rules for the manager. This statement provides the general investment goals and objectives of a client and describes the strategies that the manager should employ to meet these objectives. Specific information on matters such as asset allocation, risk tolerance, and liquidity requirements are included in an investment policy statement.

- L -

Long-Term Objective: The investment portfolio shall be designed with the objective of protecting principal while earning a rate of return that is targeted to meet or exceed the real spending rate and the strategic benchmark index of the Fund over the long term in order to preserve the Fund's assets and ensure that sufficient liquidity will be available to cover future cash requirements; long-term is typically defined as over 1-year, but is often considered over five years for institutional investors with similarly matching lengths for liabilities and obligations.

**Liquidity**: Core liquidity refers to the cash and other financial assets that banks possess that can easily be liquidated and paid out as part of operational cash flows (OCF). Examples of core liquidity assets would be cash, government (Treasury) bonds, and money market funds.

**Liquidity Requirement**: Maintain adequate liquidity to meet all anticipated expenditures after sufficient notice. - M -

**Manager**: In the NHTF a manager refers to any portfolio manager selected by the Advisor (Manager of Manager) to invest the Fund's assets.

**Manager of Managers (MoM)**: A manager of managers (MoM) approach is a type of oversight investment strategy whereby a manager chooses managers for an investment program and regularly monitors their performance; in the NHTF, the MoM is referred to as the Advisor.

- M -

**Market Cycle**: Market cycles include both a rising and a declining market; generally, a rising market will be defined as a period of at least two consecutive quarters of rising stock prices and a declining market will be defined as a period of at least two consecutive quarters of declining stock prices; therefore, a Market Cycle (the minimum period of evaluation) shall be at least one year and more typically three to six years.

**Material**: Material news is news that might affect the value of its securities or influence investors' decisions. It is any type of news that directly relates to moving the company's share price up or down or influences an investment decision.

- O -

**Outsourced CIO (OCIO)**: An outsourced chief investment officer (OCIO) is a third-party provider that manages investment-related responsibilities for the clients of wealth management, investment management, and consulting firms. OCIOs assume multiple responsibilities related to investment management, particularly by evaluating portfolio managers and providing financial advisors with access to those managers.

- P -

**Private Equities**: Private equity describes investment partnerships that buy and manage companies before selling them. Private equity firms operate these investment funds on behalf of institutional and accredited investors. Private equity funds may acquire private companies or public ones in their entirety or invest in such buyouts as part of a consortium. They typically do not hold stakes in companies that remain listed on a stock exchange.

**Prudent Person**: A standard, defined as investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.

- P -

**Public Equities**: Stocks are basically an equity investment that represent ownership in a company. This entitles the holder of a company's equity to part of its earnings and assets. Public equity is a stock that is bought and sold through a public market such as the New York Stock Exchange or the London Stock Exchange.

- R -

**Regulatory Compliance Requirement**: Compliance with all existing and future applicable state and federal regulations.

**Risk Management**: Risk management involves identifying, analyzing, and accepting or mitigating uncertainty in investment decisions. Put simply, it is the process of monitoring and dealing with the financial risks associated with investing. Risk management essentially occurs when an investor or fund manager analyzes and attempts to quantify the potential for losses in an investment, such as a moral hazard, and then takes the appropriate action (or inaction) to meet their objectives and risk tolerance.

- S -

**Securities:** The term "security" refers to a fungible, negotiable financial instrument that holds some type of monetary value. A security can represent ownership in a corporation in the form of stock, a creditor relationship with a governmental body or a corporation represented by owning that entity's bond; or rights to ownership as represented by an option.

**Standard Deviation:** Standard deviation is a statistical measurement that looks at how far a group of numbers is from the mean. Put simply, standard deviation measures how far apart numbers are in a data set. This metric is calculated as the square root of the variance.

- S -

**Standard of Care**: For the NHTF, the standard of care used is the "prudent person" standard, defined as investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.

- T -

**Tail Risk**: Tail risk is a form of portfolio risk that arises when the possibility that an investment will move more than three standard deviations from the mean is greater than what is shown by a normal distribution. Tail risks include events that have a small probability of occurring and occur at both ends of a normal distribution curve.

-U -

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

- V -

**Variance:** A variance is the average of the squared differences from the mean. To figure out the variance, calculate the difference between each point within the data set and the mean. Once you figure that out, square and average the results.

**Volatility**: the NHTF may experience a drawdown of principal, although over a full market cycle, the Advisors in aggregate are expected to produce a total annual return that will exceed inflation as measured by the Consumer Price Index (CPI) by five percent. It is anticipated that the Fund will experience an annualized average volatility of approximately 13% annually with a maximum rolling 12-month annualized volatility of roughly 20% over a market cycle.

# DISCLOSURE STATEMENT

Consequent Capital Management, LLC ("Consequent") is located at 1050 Queen Street, Suite 100, Honolulu, HI 96814 and our headquarters is located at 3344 Peachtree Road NE, Suite 800, Atlanta, GA 30326. This presentation is for informational purposes only and does not constitute a complete description of Consequent's investment services or performance. This presentation is in no way a solicitation or offer to sell investment advisory services except, where applicable, in states where we are registered or where an exemption or exclusion from such registration exists. Information throughout this site, whether stock quotes, charts, articles, or any other statement or statements regarding market or other financial information, is obtained from sources which providers shall be liable for any errors or inaccuracies, regardless of cause, or the lack of timeliness of, or for any delay or interruption in the transmission thereof to the user. THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, AS TO ACCURACY, COMPLETENESS, OR RESULTS OBTAINED FROM ANY INFORMATION POSTED ON THIS OR ANY "LINKED" presentation. Moreover, no client or prospective client should assume that any such discussion serves as the receipt of, or a substitute for, personalized advice from an investment professional. Consequent is not a law or accounting firm, and no portion of the presentation content should be interpreted as legal, accounting or tax advice. Please remember that different types of investments involve varying degrees of risk, and there can be no assurance that the future performance of any specific investment or investment strategy will be profitable or equal any historical performance level(s). Please call Consequent Capital Management, LLC at 404-883-2500 if you have any questions about this presentation or if you would like a free copy of Consequent's most recent Form ADV.



## **Honolulu Office**

1050 Queen Street · Suite 100 · Honolulu, HI · 96814

# **Corporate Headquarters Office**

3344 Peachtree Road NE  $\cdot$  Suite 800  $\cdot$  Atlanta, GA  $\cdot$  30326

**P:** (404) 883-2500

**E:** info@consequentgroup.com ·

W: consequentgroup.com

### NATIVE HAWAIIAN TRUST FUND

### INVESTMENT POLICY STATEMENT

The following is a true, correct, and complete copy of the Investment Policy Statement (IPS) that was duly adopted by the Office of Hawaiian Affairs Board of Trustees at its meeting held on August 12, 2021 and is in full force and effect as of the date written below.

Lehua Wokaza

Sep 23, 2021

Date

Lehua Itokazu Board Secretary Office of Hawaiian Affairs

First Reading: August 5, 2021 Second Reading: August 12, 2021

### **Table of Contents**

Section 1. Introduction and Scope	4
Section 2. General Objectives	5
Section 3. Standards of Care	6
Section 4. Delegation of Authority	6
Section 5. Asset Allocation Guidelines and Long Term Targets	9
Section 6. Cash Holdings	12
Section 7. Pooled/Commingled Investments/Mutual Funds	12
Section 8. Permissible Investments	13
Section 9. Prohibited Investments	16
Section 10. Derivatives Policy	16
Section 11. Voting of Proxies	16
Section 12. Trades, Exchanges & Valuation	16
Section 13. Procedures for Selecting and Reviewing Investment Advisors	17
Section 14. Liquidity Policy	18
Section 15. Errors & Omissions	19
Section 16. Adding New Asset Classes	19
Section 17. Interpretation	19
Section 18. Hawai'i Direct Investment Policy (HDIP)	19
Section 19. Enhanced Liquidity Account Investments	20
Section 20. Investment Risk Management Policy	21

#### Distribution;

9- Each OHA Trustee via Asset & Resource Management

- Committee 1- OHA BOT Secretary
- 1- OHA Chief Executive Officer
- 1- OHA Chief Operating Officer
- 1- OHA Chief Financial Officer
- 1- OHA Controller
- 1- OHA Chief Investment Officer
- 1-OHA Investment Consultant
- 5- Each Investment Advisor/Non-Marketable Alternatives Provider
- 1- Custodian

### THE OFFICE OF HAWAIIAN AFFAIRS NATIVE HAWAIIAN TRUST FUND INVESTMENT POLICY STATEMENT

#### **OBJECTIVES AND POLICY GUIDELINES**

#### **Section 1. Introduction and Scope**

1.1 <u>Introduction</u>. This statement governs the investment of assets held in the Office of Hawaiian Affairs Native Hawaiian Trust Fund (the "Fund").

This Policy Statement is set forth so that the Board of Trustees ("BOT") of the Office of Hawaiian Affairs ("OHA"), OHA Staff, Investment Consultant, Investment Advisors and Investment Managers (where appropriate), and beneficiaries may be made aware of the investment policy with regard to the investment of the Fund's assets, the investment objectives, and the expectations and requirements with respect to the ongoing management of the Fund's assets.

- 1.2 The Trust. OHA's mission is to mālama (protect) Hawai'i's people and environmental resources and the Trust Fund's assets, toward ensuring the perpetuation of the culture, the enhancement of lifestyle and the protection of entitlements of Native Hawaiians, while enabling the building of a strong and healthy Hawaiian people and nation, recognized nationally and internationally. The overall goal of the Fund is to provide superior investment returns to sustain the beneficiaries in perpetuity and to uphold OHA's mission.
- 1.3 <u>Purpose of the Investment Policy Statement</u>. In keeping with the fiduciary requirements and obligations of all parties involved in managing the Fund under existing Federal and State laws, the purposes of this Policy Statement (the "Statement") are to provide the:
  - a) BOT, OHA staff, Consultant and Advisors with a clear and mutual understanding of the Fund's philosophy, investment objectives and policies;
  - b) Advisors with guidance, objectives and limitations in investing the Fund's assets; and
  - c) BOT with a meaningful basis to evaluate the Advisors' performance in order to meet the BOT's fiduciary responsibility to monitor prudently the Fund's investments.

This Statement represents the BOT's philosophy regarding the investment of the Fund's assets. The BOT will review and revise the Statement as needed to ensure that it continues to reflect the BOT's expectations and objectives. All of the BOT's modifications or amendments to the Statement shall be made in writing and will be provided to all Investment Advisors and Consultants.

It is also intended that the investment policies be sufficiently specific to be meaningful, but adequately flexible to be practicable. It is further understood that all performance standards and return objectives in this Statement are intended as evaluation tools for determining whether to continue to retain the Advisors. The parties understand that the Advisors cannot give assurance of actual investment results and that the Advisors understand that the BOT will terminate its relationship with an Advisor based on a determination that the Advisor is not achieving the performance standards.

1.4 <u>Manager-of-Managers Approach</u>. The BOT has elected to employ Advisors in an outsourced manager-of-managers investment approach, without necessarily bundling custodial services. There is a preference for a full discretionary approach to invest across multiple asset classes. When necessary to achieve the Fund's objectives, the BOT may hire an Advisor with a non-Manager-of-Managers approach or to manage assets with a specific asset class mandate. Under the outsourcing agreement, the Advisors will assume certain BOT fiduciary responsibilities as set forth in the applicable agreement(s) between the Advisors and the BOT. The Advisors are accountable for the prudent management of all assets subject to their oversight and, where applicable, will make all key investment decisions, such as tactical asset allocation and manager selection, within the context set by this Statement and in adherence to the duties and powers set forth in the applicable management, advisory, or trust agreements. The BOT

still maintains responsibility for imposing guidelines, targets and asset allocation constraints as set forth in this Statement, and for monitoring the Advisors to ensure they act prudently and adhere to all aspects of the Statement. [Consider appropriateness of the MoM approach given the decentralized decision-making, lack of holistic portfolio design and implementation, and limitations of practical oversight. Possible to maintain external discretion of certain investment functions in an OCIO or Investment Consultant approach with other external service providers under the governance and control of the BoT.]-CCM

1.5 Spending Policy. The annual amount withdrawn from the Fund shall constitute no more than five percent (5%) annually of the Fund's market value, excluding any Fiscal Reserve spending, using the methodology specified in the OHA Native Hawaiian Trust Fund Spending Policy. The calculation of the maximum withdrawal amounts are set forth in the Native Hawaiian Trust Fund Spending Policy and Fiscal Reserve Withdrawal Guidelines. [Note the policy explicitly limits spending to previous 20 quarters average; consider any revisions, particularly if the NHTF will be needed to contribute to future spending projects]-CCM

#### **Section 2. General Objectives**

- 2.1 Prioritized Investment Objectives. The overall objectives of the Fund are in the following order of priority:
  - a) To grow the Fund's assets consistently by at least inflation plus five percent annually (Consistent Capital Growth); [consider inflation average over 3 or 5 years in target return]-CCM
  - b) To invest in a manner that seeks to ensure the continuous preservation of purchasing power of the overall portfolio (Capital Preservation) through full market cycles;
  - c) To achieve a portfolio return that meets or exceeds the return of the Fund's Policy Portfolio Benchmark on a net of fee basis over a long time horizon (Benchmark Outperformance); and
  - d) To diversify the portfolio by asset type, security (issuer) and Investment Manager to manage the volatility of returns (Adequate Diversification) for the portfolio over a long time horizon.
- 2.2 <u>Long-Term Objective</u>. Consistent capital growth is the primary objective of the Fund. The investment portfolio shall be designed with the objective of protecting principal while earning a rate of return that is targeted to meet or exceed the real spending rate and the strategic benchmark index of the Fund over the long term in order to preserve the Fund's assets and ensure that sufficient liquidity will be available to cover future cash requirements. Consistent capital growth is achieved by investing prudently in a wide range of asset classes to achieve proper diversification, thereby reducing volatility. Since the Advisors will focus on long-term capital appreciation, the Fund may experience a drawdown of principal, although over a full market cycle, the Advisors in aggregate are expected to produce a total annual return that will exceed inflation as measured by the Consumer Price Index (CPI) by five percent. It is anticipated that the Fund will experience an annualized average volatility of approximately 13% annually with a maximum rolling 12-month annualized volatility of roughly 20% over a market cycle.

All parties named in this Statement shall carry out their business in compliance to all existing and future applicable state and federal regulations (Regulatory Compliance Requirement) and for assets subject to their discretion maintain adequate liquidity to meet all anticipated expenditures after sufficient notice (Adequate Liquidity Requirement).

- 2.3 <u>Definition of Market Cycle</u>. Throughout this Statement the term "market cycle" is used. Market cycles include both a rising and a declining market. Generally, a rising market will be defined as a period of at least two consecutive quarters of rising stock prices and a declining market will be defined as a period of at least two consecutive quarters of declining stock prices. Therefore, a Market Cycle (the minimum period of evaluation) shall be at least one year and more typically three to six years.
- 2.1 <u>Definition of Investment Consultant, Investment Advisor and Investment Manager</u>. Throughout this Statement the terms Investment "Consultant", Investment "Advisor" and Investment "Manager" are used. Consultant shall refer to the entity hired by the OHA Chief Executive Officer ("CEO") to assist OHA staff and BOT in overseeing the Fund and to monitor and evaluate the Advisors; "Advisor" shall refer to each Fiduciary (typically utilizing the "manager-

of-managers" approach) hired by the BOT to exercise investment discretion over a portion of the Fund's assets within the parameters set forth in the Statement; and "Manager" shall refer to any portfolio manager selected by the Advisors to invest the Fund's assets. [consider restructuring portfolio approach with a OCIO or traditional Investment Consultant with Specialty Asset Class Consultants and other External Providers, when appropriate]-CCM

#### Section 3. Standards of Care

- 3.1 Board of Trustees and OHA Staff. The standard of care applied to the BOT and OHA internal staff assigned to the Fund shall be the "prudent person" standard, defined as follows: "Investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived." The BOT may rely upon the expert advice and counsel of its external providers to satisfy the "prudent person" standard provided the BOT has established adequate controls and fulfills its oversight responsibilities regarding the external providers as outlined in this Statement.
- 3.2 External Providers. The standard of care applied to all external providers (i.e., Consultant, Advisors (indirectly Investment Managers hired by the Advisors [consider revision]-CCM), and Custodian) shall be as set forth in the agreement between the BOT or CEO[consider oversight directly to BOT or RMC]-CCM as appropriate, and each external provider. The BOT will negotiate a standard for the Investment Advisors that is similar in effect to the "prudent expert" standard, defined as: "Investments shall be managed with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims".
- 3.3 <u>Code of Ethics</u>. OHA Trustees, OHA officers, and OHA employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of their investment program, or that could impair their ability to make impartial decisions. OHA Trustees and employees involved in the investment process shall disclose any material interests in financial institutions with which they conduct business. They shall further disclose any personal financial/investment positions that could be related to the performance of the investment portfolio. OHA employees and officers shall refrain from undertaking personal investment transactions with entities that conduct business with the Fund. Should any Trustees have personal involvement with any direct investment transaction or any perceived conflicts of interest, the Trustee should disclose the involvement immediately and be recused from discussions and votes on said investment. OHA Trustees, officers, and employees shall abide by the Standard of Conducts established under Chapter 84 of the Hawai'i Revised Statues and the code of ethics stated in the OHA Bylaws and, where appropriate, the OHA Employee Handbook and the BOT Executive Policy Manual.

#### **Section 4. Delegation of Authority**

The Office of Hawaiian Affairs Native Hawaiian Trust Fund maintains a structured and organized process in implementing its investment program. To accomplish the mission, objectives and desired investment returns of the Fund, the Board of Trustees has delegated authority to various individuals and organizations.

- 4.1 BOT Composition. The BOT currently consists of representatives from:
  - a) O'ahu
  - b) Kaua'i and Ni'ihau
  - c) Moloka'i and Lana'i
  - d) Hawai'i
  - e) Maui
  - f) At large (4)
- 4.2 <u>BOT Responsibilities</u>. The BOT recognizes that it may not possess sufficient expertise to manage directly the assets of the Fund. The BOT, therefore, employs the services of various external experts to act as Fiduciaries-Consultants, Advisors and/or Custodians and seeks advice from independent parties. The BOT does rely on this expertise in carrying out its responsibility to oversee the overall management of the Fund's assets, and will meet quarterly to review the performance of the Fund and the activities of the external providers for reasonable consistency with the objectives of the Fund as set forth in this Statement. [emphasis] CCM When necessary, the BOT will provide

guidance to the investment process. BOT may delegate the execution of certain of its responsibilities [BOT should not delegate responsibilities to others, but can provide for the execution of its responsibilities to other parties with provisions for governance, oversight, accountability, and transparency]-CCM to the CEO to assist with the implementation of this Statement. BOT responsibilities include, but are not limited to:

- a) Approve the Investment Policy Statement and all modifications to the Statement;
- b) Approve Advisors and Non-Marketable Alternatives Providers.-CCM;
- c) Monitor results of all Fund assets as a whole and those assigned to each Advisor. The BOT shall include in its quarterly assessment such topics as: economic outlook, portfolio diversification, asset allocation and structure, Advisors' strategies, potential risks, and the performance of the overall portfolio as well as each of the Fund's asset classes versus its benchmark rate of return and peer institutions;
- d) Review quarterly reports regarding the activities of Advisors, Consultant, Investment Advisory Committee and OHA staff overseeing the Fund;
- e) Review quarterly reports from the Custodian and Advisors regarding the composition of each Advisor's assets under management versus the Fund's strategic target and the asset class strategies of each Advisor;
- f) Review the quarterly report of the Consultant regarding the performance of the Fund and the Advisors;
- g) As necessary, review the Fund's strategic direction or significant issues impacting the Fund or Fiduciaries, and take action as appropriate;
- h) Attend a minimum of two investment educational events held in Hawai'i per year-[CCM emphasis]; and
- i) Attend out-of-State training, educational or due diligence events –[CCM emphasis] that are approved by the Chairperson of the BOT.
- 4.3 <u>Duties of the Consultant, Investment Advisory Committee, CEO and OHA Staff</u>. The duties of the Consultant will be as set forth in the agreement entered into between the BOT and the Consultant. [consider that th Investment Advisory Committee is outdated and not functioning; so remove]-CCMThe duties of the CEO, OHA staff, Investment Advisory Committee and Consultant will be set forth in the OHA Native Hawaiian Trust Fund Operational Procedures. The BOT is responsible for approving these Operational Procedures and for reviewing and approving all investment decisions not made by an Advisor. The Consultant and OHA staff are responsible for assisting the BOT in the execution of their responsibilities. Duties of the Consultant and OHA staff jointly include, but are not limited to:
  - a) Monitor the performance of each Advisor's portfolio as frequently as market conditions dictate, including review of the Advisor's monthly reports;
  - b) Aggregate as necessary and monitor the performance of the Fund's investment portfolios monthly and prepare quarterly performance and Advisor activity reports for review by the RMC;
  - c) Monitor the monthly reconciliation of the portfolio positions and valuations among the Custodian and Advisors (OHA staff only);
  - d) Seek to ensure that assets are invested in accordance with the requirements specified in this Statement;
  - e) Recommend to the RMC and implement operational procedures that will enhance the investment program of the Fund and ensure that proper internal controls are implemented to safeguard the assets of the Fund, including preparing Investment Guideline Summaries for each of the Advisors;
  - f) Recommend benchmarks for approval to the RMC;
  - g) Prepare periodic market-cycle and annual reviews of the Fund's investments and the Advisors' performance, including findings from annual due diligence visits for presentation to the BOT;
  - h) Conduct onsite due diligence of the Advisors and Custodian biennial or as frequent as necessary;
  - 1)
  - j) Evaluate the reasonableness of recommendations of Advisors and Non-Marketable Alternatives Providers regarding investment decisions and policies requiring the approval of the RMC.
  - k) Evaluate and recommend Direct Investments in Hawaii for the approval of the CEO and BOT [not part of the CCM mandate], as appropriate;
  - l) Manage the Fund's Enhanced Liquidity Account assets awaiting disbursement to OHA consistent with the

Operational Procedures reviewed by the CFO and approved by the CEO [not part of the CCM mandate]; and

- m) Evaluate and recommend (OHA staff and Consultant) new Advisors for the approval by the BOT;
- n) Maintain knowledge of current trends and conditions with respect to investment management through continuing education.

4.4 <u>Duties of the Advisors [redefine Advisors away from the MoM approach]-CCM</u>. The duties of the Advisors shall be as set forth in the agreements entered into between the BOT and the Advisors, and will explicitly include this Statement as an addendum. The Advisors act as Fiduciaries of the Fund for the assets they have under management. Duties of the Advisors include, but are not limited to:

- a) Invest the assets of the Fund within the constraints of the Statement while adhering to the investment management style, concepts and principles for which they were retained by the BOT. Advisors are responsible for tactical asset allocation and manager selection unless otherwise stated in the management and/or trust agreement with OHA;
- b) Where applicable per the Advisor management agreement, [for all investment decisions requiring the CEO's approval]-review how this works and revise.-CCM, recommend specific investments and provide strategic and/or tactical investment advice to the BOT, CEO, OHA staff, and Consultant as appropriate to render a decision that will achieve the Fund's investment objectives;
- Seek to achieve best execution and price for all transactions effected on behalf of the Fund with brokers and dealers qualified to execute institutional orders on an ongoing basis and if appropriate, facilitate the recapture of commissions on behalf of the Fund;
- d) Reconcile within tolerance limits monthly accounting, transaction, valuation and asset summary data with the Custodian's transactions, valuations and holdings, including resolving any discrepancies with the Custodian;
- e) For investments where a market value is not available, assist the Custodian as necessary in finding appropriate pricing sources or establishing fair value procedures.
- f) Report to the BOT on all material matters pertaining to their firm's ownership, investment style and philosophy, changes in personnel and performance relevant to the management of the Fund. Items relevant to the Fund include those that would have a direct or indirect impact on the ability of the Advisor to continue to provide a high level of service;
- g) Vote the proxies of invested companies (or delegate the vote to Managers), as they deem appropriate, although the BOT reserves the right to vote proxies in separately managed accounts if it so chooses;
- h) Periodically conduct capital market studies and make recommendations to the BOT regarding changes to the Statement and strategic asset allocation targets and ranges based on the risk/return objectives of the Fund and the economic and market outlook. The timing of these analyses, and either reaffirmation or recommendation of modifications to this Statement, shall be as agreed upon with the BOT, but normally every two to five years, but no less frequently than every six years;
- Select qualified Investment Managers, and monitor existing Managers' style consistency and performance at least monthly, including due diligence of those Managers regarding personnel, ownership, risk management and the investment process;
- Negotiate fee arrangements and other contract terms with the investment Managers on behalf of the Fund and report the results to the RMC for approval;
- k) Communicate with the Consultant and/or OHA staff on at least a monthly basis regarding actions taken, or any material changes, issues or circumstances warranting attention including performance of the Fund, market conditions and outlook, manager-turnover, Managers' or Advisor's staff turnover, etc;
- l) Prepare quarterly and present at least biennially executive summary report to the BOT as requested by the Consultant or OHA staff including performance versus benchmarks, asset allocation, economic outlook, fees, Manager summary, and any other significant issues impacting the Fund;
- m) Assist the Consultant and OHA staff in preparing Investment Guideline Summaries for the approval of the RMC covering the assets under their management and annually prepare a compliance and derivatives usage report (Each Advisor's Investment Guideline Summary will govern the assets under their management in conjunction with the Investment Policy Statement and the Investment Management Agreement between the

Advisor and OHA);

- n) Host an biannual onsite comprehensive and/or topical due diligence for the Consultant and OHA staff and
  officials and as requested provide portfolio analytics and style consistency adherence at the manager-level
  for the Advisor's commingled vehicles;
- o) Negotiate and arrange for brokerage and any applicable recordkeeping services;
- p) Render special projects at the request of the BOT, the Consultant or OHA staff; and
- q) Provide certain other services, as described elsewhere in this Statement, such as investment training, market research, educational programs, analytical tools, etc.
- 4.5 <u>Duties of the Custodian</u>. The duties of the Custodian shall be as set forth in the agreement between the BOT and the Custodian. In addition to other responsibilities contained in that agreement the Custodian will:
  - a) Provide complete custody and depository services for the Fund's assets including obtaining market values or fair values for all assets on at least a monthly basis;
  - b) Provide a monthly report of transactions by the Advisors and, where applicable, by OHA (Enhanced Liquidity Account) as set forth in the Custody agreement;
  - c) Provide audited monthly and annual accounting statements for all the Fund's assets and transactions;
  - d) Collect all interest income, dividends and principal realization and properly report them in all accounting statements:
  - e) Disperse funds to cover expenses, accept funds from OHA or the Advisors, and disperse funds to OHA or the Advisors as properly instructed by CEO or OHA staff, and properly report these transactions in all accounting statements and periodically to the RMC and BOT; and
  - f) Reconcile monthly accounting, transaction and asset summary data and communicate and resolve any discrepancies with the Advisors.

#### Section 5. Asset Allocation Guidelines and Long Term Targets

• The BOT prefers Advisors who can construct and manage a portfolio encompassing multiple strategic asset classes using a Manager-of-Manager approach-[review approach for appropriateness]-CCM and utilize the Fund's strategic target index as their primary benchmark (strategic target weight times strategic benchmark index return for each strategic asset class). The purpose of the strategic target asset allocation is to provide an optimal mix of investments that has the potential to produce the desired returns with the least amount of fluctuation in the overall value of the investment portfolio. The minimum and maximum levels listed below are targeting guidelines as opposed to absolute barriers; Advisors should bring asset allocations which are outside of their approved targeting range back to the range per their rebalancing policy. The Traditional and Alternative Assets Advisors are not responsible for Hawai'i Direct Investments and the Enhanced Liquidity Account. The Alternatives Advisor may hedge the under or over exposure to asset classes with barriers to entry and exit (Non-Marketable Alternatives) with similar liquid (marketable) asset classes (e.g. hedge underexposure to targeted private equity using traditional equity or marketable equity alternatives).

There is no specific asset allocation target to Hawai'i Direct Investments, however, asset allocation concerns will weigh into consideration when evaluating any other capital investments. It is expected that Hawai'i commercial real estate will remain a substantial portion of the Fund given OHA's legacy and identity as a Native Hawaiian organization.

#### 5.1 Asset Allocation.[need to run a top-down asset allocation study]-CCM

Asset Class Portfolios	Maximum	Minimum	Strategic Target	Benchmark Index	Primary Objective
Traditional Global Equities	55%	22%	42%	MSCI ACWI	Growth
Traditional Global Fixed Income	22%	11%	18%	Bloomberg US Aggregate	Income
Traditional Global Real Assets	11%	0%	5%	US TIPS +3%	Inflation Hedge
Total Traditional Assets	88%	33%	65%		
	Al	ternative A	sset Classes		
Hedge Funds	19.2%	6.4%	13%	3-Month T-Bills +4%	Volatility Management
Private Markets*	25.6%	0%	19%	MSCI ACWI +3%	Growth
Total Alternative Assets	44.8%	6.4%	32%		
	Enh	anced Liqu	idity Accou	nt	
Enhanced Liquidity	10%	0%	3%	1-3 Year Treasury	Liquidity
Total Financial Assets			100%		
					<u> </u>
	Hav	waiʻi Direct	Investment	s	
Hawai'i Direct Investments		No Target		CPI +5%	Total Return
*The Private Market allocation will	consist of the pre	vious Non-Marke	etable Equity, Cre	ledit, and Real Assets & Opportunistic portfolios	

The Strategic Targets for the Asset Classes listed in the table above multiplied by the benchmarks recommended by [the Consultant]-when? CCM and approved by the RMCconstitute the Policy Portfolio. The table below regroups the Asset Classes by their primary objective.

Asset Class Portfolios	Maximum	Minimum	Strategic Target		
	Growth				
Traditional Global Equities	55%	22%	42%		
Private Markets	25.6%	0%	19%		
Total Growth	80.6%	22%	61%		
	Income				
Traditional Global Fixed Income	22%	11%	18%		
Total Income	22%	11%	18%		
Vol	atility Management				
Hedge Funds	19.2%	6.4%	13%		
]	Inflation Hedge				
Traditional Global Real Assets	11%	0%	5%		
Total Inflation Hedge	11%	0%	5%		
	Liquidity				
Enhanced Liquidity	10%	0%	3%		
Hawa	i'i Direct Investments				
Hawai'i Direct Investments		No Target			

All Hawai'i-based Direct Investments are excluded from the discretionary Manager-of-Managers framework. [consider for revised approach]-CCM The OHA staff with the assistance of [the Consultant]-none current-CCM will be responsible for the due diligence, performance monitoring and reporting of such investments. For Hawai'i commercial real estate, OHA chooses to utilize internal management of the assets. Management shall formulate and implement an overall strategy incorporating both economic and cultural focus. Internal management will also leverage the expertise of OHA's Real Estate Advisory Committee and external real estate consultant. [not part of CCM mandate]

Private Market investments are accomplished outside of the discretionary Advisor framework as the Advisors do not have investment discretion over these assets. Approved Non-Marketable Alternatives Providers will provide OHA staff and [the Consultant] with sufficient information and analyses to evaluate their investment recommendations. The information may include Manager due diligence reports and portfolio analytics so that. [revisit this approach and produce a full program with pacing model and strategic plan]-CCMIt is recognized that there may be underinvestment or overinvestment in these illiquid asset classes due to the timing of capital calls and distributions.

5.2 <u>Benchmarks</u>. Each Advisor will use the primary strategic benchmark index listed in their Investment Guideline Summary as a guide in managing assets under their control. The strategic asset allocation targets and ranges, performance benchmarks, and additional investment guidelines are also set forth in each Advisor's Investment Guideline Summary or Investment Management Agreement. As necessary, the Consultant will recommend changes to the strategic targets, ranges, performance benchmarks, and any additional guidelines and the RMC must approve those changes before they become effective..

Every new product of an Advisor must be assigned to one of the above asset classes as agreed upon between the Advisor and OHA Staff and/or the Consultant, with notification of the RMC. In addition, each investment may have a custom benchmark different from that of the asset class as agreed upon with the Consultant. The secondary benchmark is the Consumer Price Index (CPI) plus 5.0% annually for the Fund as a whole. The Consultant will also recommend, in consultation with each Advisor, peer manager and peer institution benchmarks and these will be approved by the RMC. Besides reporting portfolio performance versus these portfolio benchmarks, the Advisors shall report investment results on individual funds or portfolios versus their custom benchmarks.

The BOT recognizes that the actual asset allocation of the Fund may vary between or even outside of the minimum and maximum in the short term depending on market conditions and/or tactical asset allocation shifts. Asset classes not contemplated above or elsewhere in this Policy may be added to the Fund upon approval in writing by the BOT. The Advisors will only be responsible for meeting the investment objectives applicable to the portion of the Fund entrusted to such Advisors. [revise approach from siloed MoM approach]-CCM

Rebalancing Policy. The primary purposes of rebalancing are to (1) ensure that the Fund's actual asset allocation does not drift too far from the strategic asset allocation; and (2) improve the performance of the Fund. Any agreement entered into with an Investment Advisor sets forth a rebalancing policy satisfactory to the BOT. There is no specific asset allocation target to Hawai'i Direct Investments, however, asset allocation concerns will weigh into consideration when evaluating any capital investment.

#### **Section 6. Cash Holdings**

It is the policy of the Fund that the Advisors fully invest the assets of the Fund under their control except to accommodate large cash flows. Unhedged cash and equivalents may be held in the Fund for defensive purposes at the Advisor's discretion during abnormal market conditions [portfolio should be fully invested]-CCM. The equity portion of the Advisor's portfolio should strive to maintain less than [2% more appropriate]-CCM of the portfolio in cash equivalents, unless the cash is hedged to achieve the appropriate asset class exposure.

Cash equivalents maximize liquidity and safety of principal. Maturities should be short enough that cash equivalents can be liquidated with a limited loss of principal. The following types of cash equivalents are eligible for investment:

- a) Money market mutual funds (2a7) which invest solely in U.S. Treasury and government agency securities;
- b) Deposits which are 100% federally insured or collateralized with U.S. government or agency securities with a market value of at least 100% of the face amount of the certificate;
- c) U.S. Treasury bills and short-term U.S. government agency securities;
- d) Overnight repurchase agreements collateralized with U.S. government or agency securities with a market value of at least 102% of the face amount; and
- e) Commercial paper of the highest two grades as rated by a nationally recognized rating agency.

#### Section 7. Pooled/Commingled Investments/Mutual Funds

Commingled investment vehicles where there is a pooling of securities owned by multiple clients for diversification, risk reduction, or cost benefits, include mutual funds, trust funds, private placements, and limited

partnerships, and are explicitly permissible. Although private placements and limited partnerships are exempt from both federal and state securities registration, they are considered appropriate vehicles for the Fund.

#### **Section 8. Permissible Investments**

8.1 <u>Asset Class Definitions, Objectives, Permissible Instruments, Strategies, & Requirements.</u> Investments in each asset class listed in Section 5, except for those investments excluded from the Advisors' responsibility, must be well diversified as defined below and in the Investment Guideline Summary or Investment Management Agreement of each Advisor. Advisors, as Fiduciaries, must exercise prudence in all matters and invest solely for the benefit of the Fund. For each asset class, the Advisors will retain Managers who invest in separate accounts or in commingled vehicles. An Advisor may select itself, an affiliated Manager, or an external Manager. [potentially high conflict of interest]-CCM Advisors may also retain Managers to provide "active overlay" strategies that use securities, currencies and derivative instruments, including but not limited to forwards, options, futures contracts, options, currency forwards, futures contracts and swaps (e.g. interest rate, credit default and total return) to replicate an index or combination of indexes. [consider that overlay managers should be at the portfolio level if not intrinsic to the fund manager's strategy, and approval with the RMC]- CCMThe overlay strategies will seek to (a) manage Fund exposure to various asset classes, (b) manage overall Portfolio risk, and (c) under certain conditions, enhance total return with tightly controlled leverage constraints.

Each Advisor must demonstrate that it has the capability to manage the risks involved in each asset class. Key to controlling risks is the ability to conduct robust ongoing due diligence on the Managers it selects and the ability to measure, manage and report portfolio risks, including issuer concentration, market, credit, duration, liquidity, leverage, currency and other major risks. The Consultant, with the assistance of OHA staff and the Advisors, must document the investment restrictions and risk controls for the portfolio of each Advisor in the Investment Guideline Summaries. The Advisors are not allowed to leverage the Fund's assets at the portfolio level without prior written approval of the BOT, although individual managers or commingled vehicles in certain asset classes and strategies may employ leverage under controlled conditions. [rewrite policy to revised approach]-CCM Risk hedging in each asset class is explicitly permitted, including currency risks relative to the benchmark index and temporarily hedging the exposure in an illiquid asset class with a similar liquid asset class.

- a) Traditional Global Equity Common & Preferred Stocks and Un-levered Equity Derivatives. The primary role of traditional global equity is to seek to provide total return in excess of inflation, consistent with the appropriate benchmark index. Traditional equity may be actively managed in diversified portfolios of long only positions and/or long and short positions netting to approximately 100% long, be passively managed, utilize active overlay strategies, or be managed in any combination of active, passive and overlay strategies. The goal of an actively managed stock portfolio will be to achieve a net return after fees in excess of its benchmark index with comparable risk. Securities should be publicly owned and traded actively enough to insure liquidity without significantly adverse effects on price due to rapid sale. The Advisor should diversify the portfolio by geography—domestic and international, both developed and emerging markets, by investment style--value and growth, by manager, by approach—quantitative versus fundamental, by sector and industry, and capitalization--small, mid and large. An Advisor may select itself or an affiliated Manager in this asset class. [consider revising guideline]-CCM
- b) <u>Traditional Global Fixed Income Cash Equivalents, Bonds, Loans and Un-levered Fixed Income Derivatives</u>. The primary role of Global Fixed Income is to seek to: 1) generate income while diversifying the investment assets, 2) provide a safe, stable return, and 3) provide a deflationary hedge. The fixed income asset class may include, but is not limited to the following components:
  - a) Cash equivalents;
  - b) US core credit including investment grade corporate, asset-backed, municipals and mortgage securities;
  - c) High-yield securities and liquid loans; and
  - d) Foreign government securities, investment grade foreign corporate debt denominated in US dollars or foreign currencies from both emerging markets and developed countries.

Advisors should ensure that managers are carefully managing portfolio duration, convexity, yield curve structure, sector exposure, issuer concentration, credit quality, non-U.S. securities, and currency risk to achieve a balanced and

reasonable risk budget relative to the benchmark index for the fixed income portfolio. An Advisor may select itself or an affiliated Manager in this asset class. [reconsider the guideline]-CCM

Global Real Assets – Real Estate Investment Trusts (REITs) and Treasury Inflation Protected Securities (TIPS). The primary role of global real estate is to seek to provide total return in excess of inflation, consistent with an appropriate real estate benchmark index. The Managers selected by the Advisors must have demonstrated a favorable record in managing real estate portfolios. The public real estate asset portfolio of the Fund may be comprised of commingled pools and/or a portfolio of real estate investment trusts (REITs), which are well diversified by property type and geographic location. Advisors shall invest in instruments which comprise a portfolio well diversified by the four main property types, including office, retail, industrial, and multifamily residential, as well as by geographic region, and tenancy/leasing structure. If a real estate investment is made via a commingled vehicle, the prospectus or operating guidelines of that vehicle will serve as the operative policy. The Advisors are responsible for ensuring that the selected vehicle or portfolio has adequate risk controls in place and that the Manager is investing according to the operative policy. The Advisors may also invest in TIPS as a diversifier, or if they believe that they provide a better value than REITs, as an inflation hedge. An Advisor may select itself or an affiliated Manager in this asset class. [reconsider the guideline)-CCM c)

d) Low Volatility Marketable Alternatives - Funds of Hedge Funds, Individual Hedge Funds, Commodity Funds, and Mutual and Exchange Traded Funds employing alternative strategies. The primary role of this asset class is to seek to provide a consistently positive return source above the risk free rate that has low volatility and low correlation to the other asset classes, and the secondary role is to provide an inflation hedge through a commodity allocation. This asset class consists of a diversified portfolio of hedge fund strategies deemed appropriate by the Advisor for this role, including but not limited to macro, commodity trading advisors, relative value, opportunistic, global tactical asset allocation, distressed, and opportunistic. The Alternatives Advisor may utilize funds of hedge funds, a portfolio of individual hedge funds, mutual funds or market neutral overlay strategies designed to achieve a consistently positive return above the risk free rate. The Alternatives Advisor may select itself or an affiliate as the fund-of-funds Manager or as one or more of the hedge fund Managers. The Alternatives Advisor is responsible for ensuring that the selected vehicle has adequate risk controls in place. The Alternatives Advisor will seek to ensure that Managers invest according to the offering memorandum or partnership agreement. The Alternatives Advisor may select Managers that utilize reasonable amounts of leverage at the fund-of-funds level and Managers that utilize reasonable leverage within their individual hedge funds. The liquidity requirements for individual hedge funds or hedge fund-of-funds will be defined in the Advisor's Investment Guideline Summary. Advisors should seek to avoid direct or indirect investments in funds with redemption gates or side pockets, as well as funds which lack reasonable transparency consistent with the investment strategy. Advisors should also avoid any funds with excessive fees in relation to market practice and/or expected returns, or terms which do not align the interests of the Manager with the client, as well as those that have the majority of assets in illiquid investments. [consider how these strategies contribute to other allocations]-CCM

The primary role of the commodities allocation is to seek to provide a consistently positive return above inflation with a low or negative correlation to the other asset classes. Commodities provide an inflation hedge and should consist of a diversified portfolio of energy, metal, agricultural and other commodities, including but not limited to oil, natural gas, grains, metals, and livestock. The Alternatives Advisor may utilize separate accounts or commingled funds using a single Manager or a multi-manager approach. The Alternatives Advisor should utilize strategies that have at least monthly liquidity under normal conditions and further liquidity guidelines will be specified in the Advisor's Investment Guideline Summary. The Alternatives Advisor may select an affiliate as the Manager-of-Managers or as one of the Managers. reconsider the guideline)-CCM The Alternatives Advisor is responsible for ensuring that the selected Managers have adequate risk controls in place, especially for separately managed accounts. The Alternatives Advisor will seek to ensure that Managers utilizing funds invest according to the offering memorandum or partnership agreement.

e) Non-Marketable Equity Alternatives – Private Equity Funds, Funds of Private Equity Funds, Equity Hedge Funds, and Cash Equivalents & Overlay Strategies. The primary role of Non-Marketable Equity Alternatives is to seek to provide enhanced total return to traditional equity through vehicles which may have limited liquidity and/or utilize leverage and derivatives, but employ strategies which go beyond the long only equity portfolio. Equity Alternatives include, but are not limited to, investments in private equity, venture capital, portable alpha, and long- biased equity hedge funds. The Alternatives Advisor may utilize hedge funds that correlate to the equity markets or

overlay strategies such as portable alpha to hedge an underexposure to the targeted level of Non-Marketable Equity Alternatives, and hold cash temporarily to meet capital calls. The Alternatives Advisor may select itself or an affiliated Manager to hedge an underexposure in this asset class. reconsider the guideline)-CCM The CEO may approve funds of private equity funds, which consist of funds making primary and/or secondary investments in underlying private equity funds as well as some direct investments. These funds are managed for returns with low correlation to returns in the traditional equity markets, and with very little liquidity. Assets invested in these private funds are generally illiquid for five to ten or more years. The RMC needs to invest the Fund's assets in a consistent long-term approach so as to limit the vintage year risk where there is a wide range of performance depending on the year the fund is launched. The Non-Marketable Alternatives Providers will seek to ensure that general partners invest according to the offering memorandum or partnership agreement. The Providers are responsible for ensuring that the selected vehicle has adequate risk controls in place and invests within the stated style and the scope of its offering memorandum or partnership agreement. Due to the long-term nature of a private equity investment, the measurement period for complete evaluation will be over a ten-year period. A ten-year return is intended to cover at least one complete market cycle, and is consistent with the average term of private equity fund-of-funds investments. The OHA staff and Consultant will evaluate and the RMC must approve all investments in Non-Marketable funds within this asset class.

Non-Marketable Credit Alternatives — Mezzanine Debt Funds, Specialty Loan Funds, Distressed Debt Funds, and Credit Hedge Funds. The primary role of Non-Marketable Credit Alternatives is to seek to provide enhanced total return to traditional credit through vehicles which may have limited liquidity and/or utilize leverage and derivatives, but provide access to fixed income strategies with higher return potential. Credit alternatives include, but are not limited to mezzanine debt, bank loans, distressed debt, special situations, portable alpha, and hedge funds utilizing credit strategies. These strategies should have returns with moderate correlation to traditional fixed income returns and low correlation to the other asset classes. The Non-Marketable Alternatives Providers are responsible for ensuring that their selected vehicles have adequate risk controls in place and that their selected vehicles conform to the offering memorandum or partnership agreement. The Alternatives Advisor may select itself or an affiliated Manager to hedge an underexposure in this asset class using credit hedge funds, overlay strategies, or traditional credit strategies. reconsider the guideline)-CCMThe OHA staff and Consultant will evaluate and theRMC must approve all investments in Non-Marketable funds within this asset class.

Non-Marketable Real Assets & Opportunistic Alternatives — Natural Resource Funds, Infrastructure Funds, Commodity Funds, Master Limited Partnerships (MLP's) and unique investments that do not fit into another Asset Class. The primary role of Non-Marketable Real Assets & Opportunistic Alternative investments is to seek to provide an inflation hedge, and the secondary role is to provide enhanced total return above Traditional Real Assets by committing capital for ten years or more to private market real asset strategies. Real assets include, but are not limited to real estate, TIPS, commodities, and natural resources. The OHA Staff and Consultant will evaluate and the RMC must approve all investments in Non-Marketable funds within this asset class. The Alternatives Advisor may hedge target exposure using such marketable assets as MLP's, CTA's, REITs, TIPS, overlay strategies, or mutual and exchange-traded funds utilizing real asset strategies. The Alternatives Advisor may select itself or an affiliated Manger to hedge underexposure in this asset class. reconsider the guideline)-CCM

a) <u>Hawai'i Direct Investments</u>. The primary role of Hawai'i Direct Investments is to seek a total return of five percent in excess of inflation from Hawai'i commercial real estate. This asset class also includes the OHA corporate headquarters and private equity and debt investments with significant operations in Hawai'i All direct real estate investments must be made within the context of the Direct Investment Policy Statement.[not part of CCM mandate]

#### Section 9. Prohibited Investments

The following investments are prohibited. Should a prohibited transaction occur, the Advisor must report it immediately after discovery to the Consultant and OHA staff, who will report it at the next BOT meeting.

- 9.1 <u>Self-Dealing Transactions.</u> Managers cannot purchase or hold any security of the Advisor who selected them, unless permitted by law.
- 9.2 <u>Financial Institution Deposits including CDs.</u> Direct deposits may not exceed the Federal Deposit Insurance Corporation insurance limit unless they are 100% collateralized by eligible U.S. government securities or fully covered by a surety bond.
- 9.3 <u>Letter Stock</u>. Letter stock and other unregistered equity securities are prohibited except in the alternative asset classes.

#### **Section 10. Derivatives Policy**

This Derivatives Policy applies to all investments with the exception of those permitted in funds in the alternative asset classes. Investments in derivatives shall not create a leverage effect on portfolio returns and must be consistent with the asset class they are in. Structured securities, futures, forwards, total return swaps, interest rate swaps, credit default swaps, options and other derivatives are permitted only if they are used in a defensive hedging manner (e.g. to hedge a currency, equitize cash, or to create an overlay strategy or structured fixed income portfolio). Advisors will be required to report on a periodic basis (at least annually) to the BOT on their use of derivatives for any purpose and to assure compliance with this Policy.

#### **Section 11. Voting of Proxies**

The BOT has delegated the authority to Advisors and Managers to vote proxies. For separately managed accounts (not pooled vehicles), the BOT reserves its right to exercise its proxy rights when it so chooses and to vote the proxies of invested companies as it deems appropriate. The proxy voting review process and guidelines are set forth in the OHA Native Hawaiian Trust Fund Operational Procedures.

#### Section 12. Trades, Exchanges & Valuation

- 12.1 <u>Selling or Exchanging Securities</u>. Investment Managers may sell or exchange securities in the course of daily management of specific funds. The goal of all such trades is to maximize portfolio performance while maintaining an appropriate risk profile.
- 12.2 <u>Marking to Market</u>. To account for market fluctuations and volatility, the Custodian or its agent (independent pricing agent) will mark to market all securities at least monthly. When market values are not available, the Custodian will follow the prevailing best practices regarding fair valuation. If a significant market event takes place during the month that impacts the value of the portfolio, the Custodian or its agent will determine the impact on the portfolio.

# Section 13. Procedures for Selecting and Reviewing Investment Advisors

- 13.1 <u>Review Process</u>. Fund investments will be managed by professional <u>Advisors and Managers</u> except to the extent the BOT specifically delegates investment authority for other strategies for which the Fund's <u>Advisors</u> do not have specific expertise under the <u>Manager-of-Managers' approach</u> or for OHA's Enhanced Liquidity Account. When the BOT elects to retain a new <u>Investment Advisor(s)</u>, it will instruct OHA staff and the Consultant to conduct a search for the <u>Advisor</u> and issue a public notice on OHA's website. HRS §103D-102(b)(2)(F) specifically exempts investment from the State procurement process. The selection process will include, but not be limited to, the following:
  - a) [The Consultant] will perform a review of the universe of available candidates for the specific assignment and provide a list of best-in-class Advisors to OHA staff from a formal screening process of qualified candidates.
  - b) The initial list will consist of either eight to ten Advisors, but may be fewer depending on the investment approach.
  - c) OHA procurement will review the list of candidates ensuring that they meet OHA's compliance standards.
  - d) The Consultant will provide OHA staff performance and risk statistics as available and applicable as well as a summary of each Advisor.
  - e) OHA staff and the Consultant will evaluate the Advisors and shorten the list to four candidates.
  - f) The Consultant will request each qualifying candidate to provide information which will include but is not limited to three-year, five-year, and ten-year performance record, as available, and the associated risks taken to achieve the returns, the quality and stability of the investment personnel and process of each company, adherence to philosophy/style and the fees charged by each company.
  - g) OHA staff and the Consultant will provide a summary of the responses received, which will include a list of evaluation criteria to be approved by the RMC for the BOT. At least two finalists will be selected to make an oral presentation to the BOT.
  - h) Final selection will be approved by the BOT.
  - i) Timing of funds to Advisors will be based on the asset allocation, availability of funds, and structure of the investment.
  - OHA staff will be responsible for coordinating the contract execution with any external Advisor or Manager approved by the BOT.
- 13.2 <u>Selection Criteria for Advisors</u>. Criteria will be established for each Advisor search undertaken by the BOT and will be tailored to the BOT's needs. These criteria are applicable to discretionary Manager-of-Managers and may not necessarily be applicable for the Enhanced Liquidity Account Manager. In general, eligible <u>Advisors</u> will possess attributes including, but not limited to, the following:
  - a) For Manager-of- Manager searches, the firm must exhibit capabilities to offer Manager-of-Manager programs across a variety of asset classes and are capable of utilizing qualified Hawai'i-based Managers;
  - b) For specific asset class searches, the firm must be experienced in managing money for institutional clients in the asset class/product category/investment style specified by the BOT;
  - The firm must have a minimum five-year history with managing institutional assets, demonstrate continuity of key personnel,; shorter-term histories will be considered for entire portfolio management teams that have portable track records from predecessor firms;
  - d) The firm must display a record of stability in retaining and attracting qualified investment professionals, as well as a record of managing asset growth effectively, both in gaining and retaining clients;
  - e) The firm must have an asset base sufficient to accommodate the Fund's portfolio: Manager of Managers should have at least \$20 billion of discretionary institutional assets under management; the Fund's portfolio should represent no more than 5% of the firm's total asset base for any Advisor; [reconsider guideline]-CCM
  - f) The firm must demonstrate adherence to the investment style sought by the BOT, and adherence to the firm's stated investment discipline;
  - g) The firm should promote good governance in its proxy voting policy and adhere to best practice standards regarding transparency, manager fee structure, leverage, and liquidity in the alternative asset classes;

- h) The firm's fees should be competitive with industry standards for each product category and overall;
- i) The firm must comply with the "Duties of the Investment Advisors" outlined in this Statement and should conform to GIPS (Global Investment Performance Standards) for performance reporting;
- j) The firm must be able to offer investment education programs to the BOT and OHA staff at least once a year; and
- k) The firm must be able to provide analytics tools and/or reports necessary for OHA staff and Consultant to monitor and analyze asset allocation, risk, and manager performance.
- 13.3 <u>Criteria for Advisor Review and Monitoring</u>. The BOT reserves the right to terminate an <u>Investment Advisor</u> at any time with reasonable notice as defined in the contract between the BOT and the <u>Investment Advisor</u>. Grounds for termination may include, but are not limited to:
  - a) Failure to comply with the guidelines agreed upon for the management of the Fund's assets; including holding restricted securities and conducting prohibited transactions;
  - b) Failure to achieve performance objectives specified in this Statement or the Advisor's contractual guidelines;
  - c) Significant deviation from the Advisor's stated investment philosophy/style and/or process.
  - d) Loss of key personnel or significant ownership changes that create instability in the organization;
  - e) Evidence of illegal or unethical behavior by the Investment Advisor;
  - f) Lack of willingness to cooperate with reasonable requests by the BOT, Investment Consultant or OHA staff for information, meetings or other material;
  - g) Loss of confidence by the BOT; and
  - h) A change in the Fund's asset allocation program which necessitates a shift of assets to another process or style.

The presence of any one, or a combination of these, factors will be carefully reviewed by the BOT, but will not necessarily result in an automatic termination.

- 13.4 <u>Performance Monitoring.</u> The OHA staff and Consultant shall monitor monthly statements and receive quarterly performance reports from the <u>Advisors</u>. The <u>Advisors</u> shall monitor, at least monthly, the investment results of each Manager under contract to determine whether or not that Manager is performing up to the standard required by the benchmark of performance specified in the Manager's contract.
- 13.5 <u>Advisors Total Return Comparison.</u> The BOT expects that each <u>Advisor's</u> total portfolio performance over a market cycle will meet or exceed the benchmark index established for that Advisor.
- 13.6 <u>Total Portfolio Returns.</u> The BOT expects that the Fund's combined investment results over a market cycle will be in the top 50% of a nationally recognized universe of foundations and endowments with similar sized portfolios.
- 13.7 <u>Asset Class Returns.</u> Specific asset class investment results shall be measured against benchmarks as detailed in the Advisor's Investment Guideline Summary.
- 13.8 <u>Advisor Alerts.</u> <u>Advisors</u> are expected to keep the BOT, OHA staff and Consultant informed of any material changes in their respective firms (i.e. change in personnel, ownership, policy, etc.).
- 13.9 <u>Termination.</u> If at any time the standard required is not being met by an <u>Advisor</u>, the BOT will determine what action will be taken toward the <u>Investment Advisor</u>. The decision to terminate an <u>Investment Advisor</u> shall be by majority vote of the BOT present at the meeting subject to the contractual agreement.

#### **Section 14. Liquidity Policy**

The Redemption liquidity of the total Trust Fund will be maintained with a minimum 65% of the Fund's assets able to be liquidated at market value under normal conditions on at least a quarterly basis (advance notification and some

restrictions may apply) [review policy]-CCM. Investments with liquidity less than quarterly require the approval of the CEO. At least 50% of the total Trust Fund's assets must be liquid on at least a monthly basis at market value without restriction or advance notice longer than five business days [review policy]-CCM under normal conditions. The Liquidity requirements for each Advisor and the assets under their management will be specified in their Investment Guideline Summaries and/or Investment Management Agreements.

#### **Section 15. Errors & Omissions**

The Advisor is to correct any material violation of the provisions of this Statement within a reasonable time period upon discovery. The Advisor will reimburse the Fund for a realized loss resulting from a material violation as agreed in the contract between the BOT and the Advisor.

#### Section 16. Adding New Asset Classes

The [Investment Consultant] with the assistance of OHA staff will work with the Advisors to assign each investment (e.g. fund) to an asset class portfolio, a custom benchmark index, and a peer manager universe. If the Advisor proposes an investment that does not fit into one of the approved asset classes listed in Section 5, the Advisor will prepare a written recommendation to the OHA staff / Consultant justifying the investment. The recommendation must include a description, of the new asset class, rationale for including the new investment, historical returns and risk statistics, liquidity, analysis of impact on the risk/return of the Fund, the benchmark index and manager peer universe. OHA staff and the consultant will provide a recommendation to the BOT. Adding a new asset class will require the approval of the BOT. [consider language for strategies]-CCM

#### **Section 17. Interpretation**

This Statement will be incorporated as an addendum in the agreements between the OHA BOT and each Advisor. In the event of any conflict or inconsistency between the terms of the agreement and this Statement, other than the Section 4.4 Duties of the Investment Advisors and anything designated as a Fundamental Investment Policy, the terms of the agreement with the Advisor shall govern.

# Section 18. Hawai'i Direct Investment Policy (HDIP) [not in CCM mandate]

The primary role of the HDI asset class is to create financially viable Hawai'i commercial real estate holdings while also protecting and preserving Hawai'i lands and their cultural significance. OHA's Hawai'i commercial real estate portfolio will seek to generate a total return (Income and Capital Appreciation) to meet OHA's spending requirements while also preserving purchasing power for future generations. OHA will make capital investments to enhance, maintain, and protect existing improvements on its Hawai'i commercial real estate holdings and consider real estate acquisitions and monetization where compelling and for strategic reasons.

A secondary objective targets equity and/or debt positions in private companies based in Hawai'i as further guided by the OHA Economic Development Policy and BOT-approved lending programs for Native Hawaiians. Investments other than corporate real estate and BOT-approved lending programs must be approved by a supermajority vote of the BOT.

All direct investments should demonstrate the ability to generate current income and capital gains consistent with the asset class benchmark index and Fund's long-term objective.

- 18.2 <u>Delegation of Authority.</u> All final acquisition, development, and/or disposition decisions of Hawai'i direct investments must be approved by the BOT. The BOT delegates to the CEO the authority to:
  - a) Administer the HDIP and approve and implement procedures to carry it out;
  - b) Delegate duties to OHA staff as necessary to fulfill and implement this policy;
  - c) Deny opportunities that do not satisfy current policy, guidelines, and/or criteria approved by the BOT;
  - d) Execute contract and agreements;
  - e) Conduct investment due diligence, negotiations, and on-going performance monitoring;
  - f) Structure real estate financing terms for approval by the BOT;
  - g) As necessary, oversee and manage the operational functions associated with each investment, including selecting and terminating service providers, negotiating leases and setting fee schedules (including marketbased lease terms for OHA occupied space), obtaining and approving permits, licensing, and leasing, approving tenant improvements, sub-leases, evictions, use and service agreements, and making all other operational decisions associated with the investment; and
  - h) Determine when to segregate assets to fund acquisitions and to place those assets with OHA staff to invest in the Enhanced Liquidity Account (ELA) until acquisitions are closed. These funds do not count toward the spending limit on annual transfers to the ELA

The BOT reserves the right to approve all other decisions not listed above.

#### 18.3 Permissible Investments

#### Hawai'i Real Estate

- a) Hawai'i commercial real estate strategies seek to create financially viable properties owned by OHA focusing on total return to meet current spending requirements.
- b) The objective for Hawai'i commercial real estate strategies is to outperform, net of commissions and fees, a blend of real estate indices that reflect the holdings of the Fund. The performance will be monitored regularly and evaluated over rolling five and ten-year periods.
- c) Only real property that is Hawai'i commercial real estate property is included in the Fund.
- d) OHA may finance real estate acquisition or capital improvements with a mortgage. The property may be pledged as collateral under a non-recourse structure to OHA. Any amount of recourse back to OHA, including an OHA guarantee, will be considered a use of capital and therefore be subjected to the OHA's Debt Management Policy.
- e) The market valuation of Hawai'i commercial real estate is determined by biennium appraisals conducted by a reputable independent appraisal firm and that value will be utilized until the next appraisal. Before the first appraisal, the market value of the asset is assumed to equal its acquisition cost.

#### Other Investments

- a) Includes income and growth-oriented strategies with significant operations in Hawai'i which are managed in an integrated manner to meet the long-term spending objectives of OHA.
- b) BOT-approved lending programs for Native Hawaiians.

## **Section 19. Enhanced Liquidity Account Investments [not in CCM mandate]**

The BOT has authorized the use of an Enhanced Liquidity Account (ELA) utilizing primarily short-term and intermediate-term U.S. government and agency securities, TIPS, MLP's, liquid alternative risk premia strategies, and passive beta strategies to manage OHA's short-term (less than 18 months) cash flow. The ELA may be managed internally by OHA staff or externally by a registered investment advisor. The primary objectives of the ELA are to expedite the ability to meet fiscal obligations and efficiently manage short-term cash needs; a secondary objective is to provide a highly liquid, low volatility, low or anti-correlating asset to the Fund. As such, OHA may hold up to 10% of the net assets of the Fund in the ELA. The custody of short-term investment assets shall remain with OHA's Fund Custodian.

19.1	<u>Permissible</u>	Investments.	. Assets held	within the E	LA must hav	ve no less than	n monthly liq	uidity under norma	1

conditions. Passive index mutual funds, passive exchange-traded funds, passive institutional commingled funds, liquid alternative risk premia strategies, short-term U.S. government and agency securities, cash, and cash equivalents are permitted. A list of allowable investment vehicles for each asset class must be reviewed by the CFO and Consultant, approved by the CEO, and presented to the BOT for review. OHA staff or its external Manager may only select from this Approved List of investments vehicles in the ELA.

- 19.2 <u>Asset Allocation and Rebalancing.</u> The investments should be highly liquid with low volatility. Under normal conditions, the ELA's assets should be targeted no more than 2.0 percentage points (absolute) away from the strategic target allocation set forth in the ELA Manager's Investment Guideline Summary or Investment Management Agreement. OHA staff and the Consultant will devise a targeting and rebalancing process with a maximum tolerance approved by the CEO. If managed internally, OHA staff will execute the process; otherwise the external Manager will execute the process. Decisions to target the asset allocation outside of the maximum 2.0% tolerance shall be reviewed by the Investment Advisory Committee and/or CFO, approved by the CEO, and reported to the BOT prior to implementation.
- 19.3 <u>Internal Controls.</u> Internal operational controls and procedures relating to short-term investments shall be outlined in the OHA Native Hawaiian Trust Fund Operational Procedures.
- 19.4 Advisor and Manager Selection. The BOT will approve OHA staff under the supervision of the CFO and CEO as the Advisor and an external Manager to manage the ELA. The external Manager may not have full investment discretion; therefore, provisions relating to discretionary Advisors in this Statement may not necessarily apply to the ELA Manager. The duties of the ELA Manager shall be established based on the Investment Management Agreement between the Manager and the BOT. BOT presentations by four finalists are not necessary for ELA Manager selection.
- 19.5 <u>ELA Policy Benchmark & Investment Guidelines.</u> The Policy performance benchmark for the ELA shall be the combination of market indexes and the risk free rate as set forth in the Manager's Investment Guideline Summary or Investment Management Agreement, which will also establish investment guidelines for managing the account.

#### Section 20. Investment Risk Management Policy

The Native Hawaiian Trust Fund Investment Risk Management Policy is designed to ensure that there are risk control measures in place to identify, monitor, and manage the level of risks and to balance the long-term expected risk and return objectives of the Fund investment portfolio. The OHA Board of Trustees ("BOT") recognizes that the undertaking of risks is generally unavoidable in investment management. The purpose of this policy is not to eliminate risks, but to understand the risks through the implementation of disciplined processes and procedures. Risk control measures include continuous monitoring and timely reporting by OHA staff to ensure the effectiveness of OHA's investment risk management system. This Policy is not intended to provide an exhaustive list of risks or provide a comprehensive list of process and procedures to identify and mitigate risks. Rather, this policy provides generally accepted approaches to risk management that can be implemented through investment guidelines and operational policies and procedures.

#### **Risk Management**

Key risk factors may stem from internal or external sources. The assessment of risk may be both qualitative and quantitative. The OHA staff and Consultant shall conduct an annual qualitative risk assessment identifying key risk factors, sources of risk, risk mitigants, and remediation plan, if necessary, to manage these risks. OHA staff shall also provide quantitative risk reporting to the BOT using commonly accepted quantitative risk reporting measures on a quarterly basis. Risk management measures may include the following:

- 1) Establish internal policies and procedures to minimize operational and legal risks;
- 2) Establish investment guidelines for eligible investments, diversification, rebalancing, liquidity, leverage, and use of derivatives;
- 3) Annual reporting of portfolio volatility (measured using standard deviation of returns) and expected volatility

- and return provided by the Investment Advisors;
- 4) Annual reporting of tracking error for OHA's liquid assets;
- 5) Annual reporting of leverage, currency risk, concentration risk, and liquidity risk;
- 6) Annual external financial audit by a reputable independent audit firm; and
- 7) Periodic review of the Investment Policy Statement and Risk Management Policy as necessary to assess the relevance and effectiveness of these policies.

#### **Implementation**

It is the responsibility of OHA's BOT to ensure that risk management policies and procedures are in place to identify, monitor, and manage investment risk. It is the OHA staff's responsibility to implement internal procedures and continuously monitor the investment portfolio and Advisor activities to ensure policy and guideline compliance. OHA staff shall rely on most recent data available provided by the Custodian and Advisors to analyze risk statistics and provide risk reporting. A risk management review shall be provided to the BOT by the Investment Consultant on an annual basis, or more frequently as needed.

Adopted 5/29/03 (ARM 03-05); amended 10/24/08 (ARM 08-04); amended 8/3/09 (ARM 09-07); amended 4/15/10 (ARM 10-02); amended 9/27/12 (ARM 12-08); amended 6/19/14 (ARM 14-03); amended 8/24/17 (RM 17-08); amended 9/19/19 (RM 19-13); amended 08/12/21 (RM 21-10).

PHONE (808) 594-1888

#### FAX (808) 594-1865

#### Committee on Resource Management

Trustee John Waihe'e IV, At-Large - Chair

Trustee Luana Alapa, Moloka'i / Lāna'i - Vice Chair

Members

Trustee Dan Ahuna, *Kaua'i / Ni'ihau* Trustee Kaleihikina Akaka, *O'ahu* Trustee Keli'i Akina, *At-Large* 

Trustee Brickwood Galuteria, At-Large Trustee Carmen Hulu Lindsey, Maui Trustee J. Keoni Souza, At-Large Trustee Mililani Trask, Hawai'i Island



### STATE OF HAWAI'I OFFICE OF HAWAIIAN AFFAIRS

### MEETING OF THE COMMITTEE ON RESOURCE MANAGEMENT (RM)

DATE: Wednesday March 6, 2024

**TIME**: 10:00 a.m.

**PLACE**: Remote Meeting by Interactive Conference Technology

and in-person at OHA Mauli Ola Boardroom

Nā Lama Kukui 560 N. Nimitz Hwy. Honolulu, HI. 96817

viewable at https://www.oha.org/livestream OR

Listen by phone: (213) 338-8477, Webinar ID: 863 4000 3303

This virtual meeting can be viewed and observed via livestream on OHA's website at www.oha.org/livestream or listened to by phone at: (213) 338-8477, Webinar ID: 863 4000 3303. A physical meeting location, open to members of the public who would like to provide oral testimony or view the virtual meeting, will be available at 560 N. Nimitz Hwy., Suite 200, Honolulu HI 96817.

#### **AGENDA**

- I. Call to Order
- II. Approval of Minutes
  - A. February 7, 2024
- III. Unfinished Business None
- IV. New Business
  - A. The Native Hawaiian Trust Fund (NHTF) Investment Portfolio Review for the Quarter Ending December 31, 2023
  - B. Consequent Capital Management
    - 1. Recommendations for the Native Hawaiian Trust Fund (NHTF)
  - C. Presentation by Administration on Event Sponsorship Grants
- V. Announcements

#### VI. Adjournment

If you need an auxiliary aid/service or other accommodation due to a disability, please contact Everett Ohta at (808) 594-1988 or by email at everetto@oha.org as soon as possible. Requests made as early as possible have a greater likelihood of being fulfilled. Upon request, this notice is available in alternate/accessible formats.

Meeting materials for this meeting will be available for the public to view 48 hours prior to this meeting at OHA's main office located at 560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817. Meeting materials will also be available to view at OHA's neighbor island offices and will be posted to OHA's website at: <a href="https://www.oha.org/rm">www.oha.org/rm</a>.

In the event that the livestream or the audiovisual connection is interrupted and cannot be restored, the meeting may continue as an audioonly meeting through the phone and Webinar ID listed at the beginning of this agenda. Meeting recordings and written meeting minutes are posted to OHA's website.







### **New Event Grant Process**

### Need:

- Enable Trustees to efficiently respond to sponsorship requests
- Compliance with §10-17 Grants;
   Conditions & Qualifications
- Transparency and equity in ALL event grant awarding & processes ('Ahahui, Legacy Sponsorships & Trustee Sponsorships)





### **New Event Grant Process**

### Features:

- Hoʻākoakoa Lāhui
- \$5,000 to \$25,000 awards
- Application open YEAR-ROUND
- Simple online application
- One award per FY, per organization
- Launch April 1, 2024



# Rolling Applications:

Community request for event funding

Trustee directs organization to online application

Organization submits application online

Grants Program reviews application for eligibility

# **Quarterly Grant Awards:**

Board of Trustees
votes on Event
Grant awards,
approving
additional budget if
needed

Administration
submits Action
Item with all ranked
eligible
applications &
available budget

Finance Dept.
identifies budget
available (line-item
or event grant
category)

Grants Program
ranks eligible
applications based
on criteria

# Per Scheduled Event:

Agreement signed, payment disbursed, & Administration staff attendee assigned

Communication
Paia coordinates
publicity & event
attendance

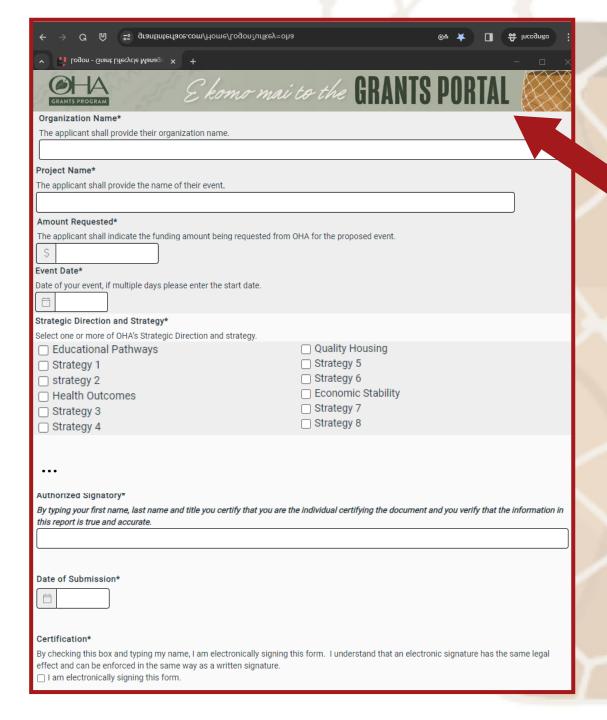
Trustees attend events as available

Administration staff attendee & Grants Program complete monitoring & evaluation report



# **Eligibility Requirements:**

- Complete application
- Nonprofit, community-based organization
- Event consistent with OHA purpose: The betterment of conditions of Native Hawaiians
- Event serving Native Hawaiians
- OHA funds not used for entertainment or perquisites
- Applicable licenses and permits applied for/ received
- Agree to OHA monitoring and evaluation at the event





# Simple Online Application

# **Application Evaluation** Criteria:

(for ranking)

- Event Services/ Activities (Flyer, agenda, etc.)
- Alignment to MiMO Strategic Plan
- Estimated number of total attendees and Native Hawaiians attendees
- Opportunity for OHA Public Recognition
- Geographic distribution

