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**University Health System
Pension Trust**

Investment Practices Review

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Table of Contents

Tab 1	Executive Summary
Tab 2	Statement of Investment Policy
Tab 3	Asset Allocation
Tab 4	Investment Fee & Commission Review
Tab 5	Governance Process
Tab 6	Investment Manager Selection & Monitoring

Callan LLC

- Callan was founded as an employee-owned investment consulting firm in 1973. Today, the firm serves sponsors of defined benefit and defined contribution plans, endowments, foundations, insurers, hospitals, health care systems, and nuclear decommissioning trusts, as well as other large institutional asset pools. Callan's institutional investor clients oversee more than \$2.3 trillion in combined assets for which the firm provides discretionary and non-discretionary services.
- Callan conducted an **Investment Practices Review** on behalf of the University Health System Pension Trust (the "Pension Trust") in accordance with the Texas Government Code §802.109. The following documentation was obtained and reviewed in order to complete the review:
 - Pension Bylaws (2004)
 - Investment Policy Statement (2019)
 - Asset-Liability Study (2017)
 - Investment Management Fee Review (2019)
 - Meeting Minutes (2019 – 2020)
 - Quarterly Performance Measurement Reports (2015 – 2020)
 - Manager Search Due Diligence Reports (2015 – 2020)
 - Texas Pension Review Board – Curriculum Guide for Minimal Educational Training (2016)
- Callan has served as the Pension Trust's investment consultant since 2008. Responsibilities include providing advice and counsel to the Trustees with respect to strategic planning, plan implementation, monitoring and evaluation, alternative investment program design and implementation, and continuing education.
- Callan has served as the University Health System Retiree Health Trust's (the "OPEB Trust") investment consultant since 2018. Responsibilities include providing advice and counsel to the Trustees with respect to strategic planning, plan implementation, monitoring and evaluation, and continuing education.
- Callan is deemed an independent firm based on guidance provided by the Texas Pension Review Board. Callan is not directly or indirectly involved in managing the assets of the Pension or OPEB Trusts nor is it responsible for selecting or terminating investment managers.

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Executive Summary

Investment Practices Review – Summary Matrix

SUMMARY	CURRENT STATUS	OPINION/COMMENTS
Statement of Investment Policy	●	<ul style="list-style-type: none"> — The University Health System Pension Trust (the “Pension Trust”) maintains a written Investment Policy Statement (the “IPS”) that includes the following five components: 1. roles and responsibilities; 2. investment objectives; 3. statement of investment policy; 4. administrative and review procedures; and 5. investment guidelines. Compliance with the IPS appears adequate. — The IPS is clearly and thoroughly written, and serves as an effective guide that offers an objective course of action to be followed during periods of market disruption when emotional responses might otherwise motivate less prudent actions. — Consider reviewing the IPS at least annually to ensure that it continues to be appropriate in accordance with changes to the Pension Trust and the capital market environment.
Asset Allocation	●	<ul style="list-style-type: none"> — Strategic asset allocation is reviewed every three to five years. The last asset-liability study was completed in 2017. — The asset-liability study is used to test the current asset allocation target (and its accompanying expected return and risk) against the current rate environment, growth in liabilities, and market risks, and then compares that allocation to alternate asset mixes with higher and lower levels of risk and return. — The Pension Trust is a well-diversified portfolio which has withstood challenging market conditions while achieving the target rate of return on assets. The asset-liability evaluation process is aligned with industry best practices.
Investment Fee & Commission Review	●	<ul style="list-style-type: none"> — The Pension Trust maintains appropriate policies & procedures to account for and control investment expenses. — The Board conducts an investment management fee review every three years. The last fee review was completed in 2019. — Investment management fees are reasonable in comparison to industry peers. — The Pension Trust employs one separate account investment manager that generates commissions. In 2019, the total commission dollars and cents-per-share reported were \$57,921 and \$0.04, respectively. — Total commissions generated appear reasonable and aligned with industry norms.

● – Within Expectations
(No concerns)

● – Notable
(Noteworthy but no concerns)

● – Cautionary
(Noteworthy with concerns)

● – Under Review
(Action Required)

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Investment Practices Review – Summary Matrix

SUMMARY	CURRENT STATUS	OPINION/COMMENTS
Governance Process	●	<ul style="list-style-type: none"> — The Pension Trust is administered by a Board of Trustees, approved by the System’s Board of Managers, and consists of nine professionals. Two Trustees are appointed from System Administrative Staff, two Trustees are appointed from the System Board of Managers, and five Trustees are appointed who either reside or work in Bexar County. — The qualifications & career experience of the leadership team and Board is considered high relative to industry peers. — The University Health System Pension Bylaws state that Trustees may not serve more than four consecutive four-year terms, or more than sixteen years. The tenure of several trustees is approaching or exceeds the stated term limit. — Consider adopting the Texas Pension Review Board’s educational training requirements and drafting a “Continuing Educational Requirements” policy summarizing the hours of education required and method to report compliance.
Investment Manager Selection & Monitoring	●	<ul style="list-style-type: none"> — The Board utilizes a process for investment manager selection that embodies the principles of procedural due diligence. Accordingly, when selecting investment managers, the Board employs a competitive search process. Compliance with the selection process is satisfactory. — The Board reviews both net-of-fee and gross-of-fee manager performance on a quarterly basis relative to benchmarks and peers. The quarterly monitoring process includes both quantitative and qualitative criteria, and appears adequate. — All Trustees are required to disclose any actual or potential conflict of interest and refrain from voting or using his or her influence on the manager selection and monitoring process, if a conflict exists. The conflict of interest policy is reasonable.
Overall Assessment	●	<ul style="list-style-type: none"> — The Pension Trust’s investment policy, asset allocation, investment fees and commissions, governance process, and manager search and monitoring procedures appear sufficient with no material issues at this time.

● – Within Expectations
(No concerns)

● – Notable
(Noteworthy but no concerns)

● – Cautionary
(Noteworthy with concerns)

● – Under Review
(Action Required)

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Statement of Investment Policy

Investment Practices Review

STATEMENT OF INVESTMENT POLICY

Does the system have a written investment policy statement (IPS)?

- The University Health System Pension Trust (the “Pension Trust”) **maintains a thoroughly written Investment Policy Statement** (the “IPS”) that includes investment policies, objectives, guidelines and restrictions.
- The Pension Trust’s IPS incorporates the following five components:
 1. Descriptions of roles and responsibilities for the Board of Trustees (the “Board”), investment managers, and consultants;
 2. An outline of the Pension Trust’s target asset allocation, including a brief description of the process used to develop it, and the rationale for the level of risk and diversification being employed;
 3. An outline of the manager structure, including a description of the Pension Trust’s rationale for the number and types of strategies;
 4. Guidelines and processes for the evaluation, selection and rebalancing of managers, including quantitative and qualitative criteria;
 5. An outline of the process used by the Board to evaluate the ongoing appropriateness of all managers and asset classes. This includes identifying the specific index benchmarks, peer universes, and time periods for evaluating performance.

Are the roles and responsibilities of those involved in governance, investing, consulting, monitoring and custody clearly outlined?

- The IPS clearly defines the roles and responsibilities of the Board, investment managers and investment consultant.
- **Consider adding a description of the roles and responsibilities of the Custodian, Actuary and Legal Counsel to the IPS.**

Is the policy carefully designed to meet the real needs and objectives of the retirement plan? Is it integrated with any existing funding or benefit policies? Does the policy take into account the current funded status of the plan, the specific liquidity needs associated with the difference between expected short-term inflows and outflows, the underlying nature of the liabilities being supported?

- The Pension Trust’s funded status is one of several factors that impacts the Board’s investment policy decision. One half of the funded status equation is the pension liability, which is dependent on the Pension Trust’s benefit formula but also on the demographics of the underlying population. The age, health, education level, and gender of covered participants informs their longevity and translates into the Pension Trust’s cash flow profile, which is discounted in order to estimate the actuarial liability. The liability measurement is highly sensitive to the characteristics of the underlying population as well as the demographic trends expected over time.
- The Board examines the Pension Trust’s funded status alongside the size of annual benefit accruals (i.e. richness of benefits), the projected workforce needs, the availability and stability of cash contributions, regulatory requirements, liquidity needs, time horizon, and risk tolerance.
- The liability and demographic profiles suggest the Pension Trust has a sufficiently long time horizon in which to assume investment risk in order to pursue return.
- Liquidity needs are low, given the contribution policy of normal cost plus closed amortization of the unfunded liability. Contributions are projected to be in excess of outflows for the next 7-8 years. Net outflow is expected to turn modestly positive (below 2% of assets) at the end of 10 years.
- Based on the 2017 asset-liability study, the funded status is projected to improve over the next 10 years, rising from 64% to 76%.

Investment Practices Review

STATEMENT OF INVESTMENT POLICY

Is the policy written so clearly and explicitly that anyone could manage a portfolio and conform to the desired intentions?

- **The IPS is clearly and thoroughly written**, and serves as an effective guide that offers an objective course of action to be followed during periods of market disruption when emotional responses might otherwise motivate less prudent actions.
- The IPS includes the key elements of an effective policy including investment goals and objectives, roles and responsibilities, asset allocation targets and ranges, a rebalancing policy, investment guidelines and restrictions, performance measurement criteria, and statements describing the risk tolerance, time horizon and liquidity requirements of the Pension Trust.

Does the policy follow industry best practices? If not, what are the differences?

- The IPS anticipates issues related to governance, strategic planning & implementation, and monitoring & reporting. The IPS also establishes accountability to specific entities that serve on behalf of the participants and beneficiaries of the Pension Trust.
- **The IPS is considered to be aligned with industry best practices.**

Does the IPS contain measurable outcomes for managers? Does the IPS outline over what time periods performance is to be considered?

- **The IPS contains measurable outcomes for managers.** Over rolling three-year periods, the nominal rate of return earned by each active public market investment manager is expected to:
 - Exceed the nominal rate of return of an index composed of the types of securities that typically comprise the investment manager's universe; and
 - Be sufficient to place the account for which the investment manager is responsible in a competitive ranking (above median) relative to a peer group of managers.
- The time frame for evaluating the performance of real estate and private equity is rolling five-year periods while rolling one-year periods are used to evaluate the passive S&P 500 Index allocation.
- Performance of each investment manager is based on quarterly time-weighted returns and net of investment management fees.

Is there evidence that the system is following its IPS? Is there evidence that the system is not following its IPS?

- **Compliance with the IPS is adequate.**
- No exceptions were noted.

What practices are being followed that are not in, or are counter to, written investment policies and procedures?

- No exceptions were noted.

Investment Practices Review

STATEMENT OF INVESTMENT POLICY

Are stated investment objectives being met?

- The primary objective of the Pension Trust is to ensure that the investment program meets its financial responsibilities to provide benefits for its members. As such, the Pension Trust strives to:
 - Earn a nominal return that meets or exceeds the actuarial assumed rate of return on investments (currently, 7.0 percent);
 - Protect the investment portfolio from severe extended declines in asset value during periods of adverse market conditions, by prudent diversification of assets;
 - Ensure adequate liquidity is available to meet all benefit payments and other cash requirements;
 - Ensure total portfolio risk is controlled through diversification by asset class, investment approach and by individual investments within each asset class;
 - Ensure the assets of the investment program are invested in a manner that minimizes and controls the costs incurred in administering and managing the assets.
- **The performance results, liquidity profile, risk profile and investment management costs of the Pension Trust is in accordance with the objectives outlined above.**

Will the retirement fund be able to sustain a commitment to the policies under stress test scenarios, including those based on the capital markets that have actually been experienced over the past ten, twenty, or thirty years?

- The Pension Trust's investment consultant uses ProVal, a software system from Wintech, to model plan liabilities and conduct integrated asset-liability studies on a periodic basis, typically every 3-5 years.
- Within these studies, the consultant conducts "what if" scenario testing, both on the asset side (capital market scenarios) and the liability side (benefit, funding and demographic changes).
- The capital market simulation model incorporates serial correlation and correlations that vary by economic scenarios. Simulated worse case scenarios (defined as above or at the 95th percentile) typically involve a breakdown in correlations (most assets decreasing together resulting in a correlation of 1.0 with each other), a prolonged bear equity market, and/or high inflation.
- Lastly, the simulation analysis has been supplemented with scenario testing to "shock-test" the portfolio against possible economic climates. The pre-defined scenarios typically represent low probability events (very high inflationary environment, a Japan-esque deflationary spiral, and a prolonged period of stagflation) that fall somewhere in the tail of the simulated distribution of results.

Investment Practices Review

STATEMENT OF INVESTMENT POLICY

Will the investment managers be able to maintain fidelity to the policy under the same scenarios?

- **The investment restrictions for separate account investment managers are clearly defined.**
- Each investment manager must adhere to the guidelines established by the Board. Any investment manager seeking exemption from any of the restrictions must obtain a special agreement from the Board in advance of any investment outside of these guidelines.
- In the case of pooled investment vehicles (mutual funds, commingled funds and limited partnerships), the investment guidelines and restrictions defined and detailed by the pooled vehicle will govern, but in general it is expected that those vehicles, when utilized, will generally comply with the restrictions identified in the IPS.

How often is the policy reviewed and/or updated? When was the most recent substantial change to the policy and why was this change made?

- The Board and the investment consultant typically reviews and updates the IPS on a biennial basis.
- **The last IPS review was completed in 2019.** Modifications included consolidating the investment policy statements of the Pension Trust and OPEB Trust into a single document given the similarities between the two Trusts and the Board's oversight of both asset pools.
- **Consider reviewing the IPS at least annually to ensure that it continues to be appropriate in accordance with changes to the Pension Trust and the capital market environment.**

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Asset Allocation

Investment Practices Review

ASSET ALLOCATION – PROCESS

Does the system have a formal and/or written policy for determining and evaluating its asset allocation? Is the system following this policy?	<ul style="list-style-type: none"> — The University Health System Pension Trust (the “Pension Trust”) has a written Investment Policy Statement (the “IPS”) with policies and procedures designed to address risk-return objectives, roles and responsibilities, asset allocation, and monitoring requirements. The Board reviews the IPS on an biennial basis to evaluate necessary changes as well as the compliance of the governance process with the criteria in the IPS. Compliance with the IPS appears adequate.
Who is responsible for making the decisions regarding strategic asset allocation?	<ul style="list-style-type: none"> — The Board is directly responsible for making decisions regarding the strategic asset allocation of the Pension Trust.
How is the system’s overall risk tolerance expressed and measured? What methodology is used to determine and evaluate the strategic asset allocation?	<ul style="list-style-type: none"> — The Pension Trust’s risk tolerance is expressed in the strategic asset allocation and it is measured using the asset-liability process when the Board is evaluating current and alternate target allocations. — The goals over the long term are to fully fund the pension obligations and maintain a reasonable projected level of pension contributions. The risk tolerance is the balance between those two goals and is reflected in the amount of volatility in returns exhibited by the target allocation. — The asset-liability study process is used to determine and evaluate the strategic allocation. In summary, this study utilizes updated liability information from the actuary in conjunction with a stochastic modeling process utilizing the investment consultant’s capital market assumptions. By evaluating the behavior of both the liabilities and the assets over thousands of potential capital market outcomes, the Board is able to evaluate different target allocations and determine which are the best fit within the Board’s risk tolerance and desire for return.
How often is the strategic asset allocation reviewed?	<ul style="list-style-type: none"> — Strategic asset allocation is reviewed every three to five years.
Do the system’s investment consultants and actuaries communicate regarding their respective future expectations?	<ul style="list-style-type: none"> — Yes. During the asset-liability process the investment consultant and the actuary (Willis Towers Watson) communicate regarding the interest rate assumptions, capital market assumptions, and current and projected liabilities in order to produce an asset-liability study that provides the Board with a complete view of their current asset allocation/risk posture in addition to alternative allocations with different risk and return characteristics. — Were there to be a significant change to the benefits structure or plan design for the Pension Trust, the actuary and the investment consultant would further communicate to understand the impact of those changes.

Investment Practices Review

ASSET ALLOCATION – PROCESS

How does the current assumed rate of return used for discounting plan liabilities factor into the discussion and decision-making associated with setting the asset allocation? Is the actuarial expected return on assets a function of the asset allocation or has the asset allocation been chosen to meet the desired actuarial expected return on assets?

- For many years the Pension Trust maintained an expected rate of return of 7.5%. This was reduced to 7.0% in 2017 largely in response to further declines in the capital market expectations that the investment consultant utilized in the asset-liability process.
- The Pension Trust has determined that the actuarial expected rate of return should be a fair and attainable assumption that can be justified by current capital market assumptions (evaluated over a 10-year future time horizon), the use of active management in the portfolio and, importantly, the ability of the Pension Trust to attain the targeted rate of return.
- The asset-liability study is used to test the current asset allocation target (and its accompanying expected return and risk) against the current rate environment, growth in liabilities, and expected rate and market risks, and then compares that allocation to alternate asset allocations with higher and lower levels of risk and return. Using this framework, the decision to reduce the actuarial expected rate of return (and thus the discount rate) is evaluated in both an asset and liability framework.
- The Board has not maintained a higher expected rate of return in order to reduce the plan's liabilities.
- **The Board has been committed to the long-term obligations assumed by the Pension Trust. Both the history of contributions and the time dedicated by the Board to evaluate and invest the assets of the Pension Trust reflect this fact.**

Is the asset allocation approach used by the system based on a specific methodology? Is this methodology prudent, recognized as best practice, and consistently applied?

- The investment consultant develops projections of capital market performance at the start of each year. These projections are a key component of the Pension Trust's asset allocation studies, incorporating the economic and financial environment in which pension plans and investment managers operate.
- The investment consultant integrates information on past capital market performance, key economic indicators, and the market insights of senior professionals to develop projections that are sound, defensible and consistent. Individual asset classes (equities, fixed income, cash, real estate and alternative investments) are analyzed as part of a larger system, acknowledging both the interaction between asset classes and the influence of larger macroeconomic events such as inflation or recession on the entire structure of capital markets. The stochastic modeling of the asset allocations being evaluated, and the Pension Trust's liabilities result in a distribution of potential events. This stochastic approach allows the Board to evaluate both the expected and potential outcomes of funded status and required contributions.
- **The Pension Trust's process is consistent with industry norms, and has been executed in a similar fashion by the investment consultant on behalf of institutional investors for over three decades.**

Does the system implement a tactical asset allocation? If so, what methodology is used to determine the tactical asset allocation?

- **The Pension Trust does not employ tactical asset allocation.**

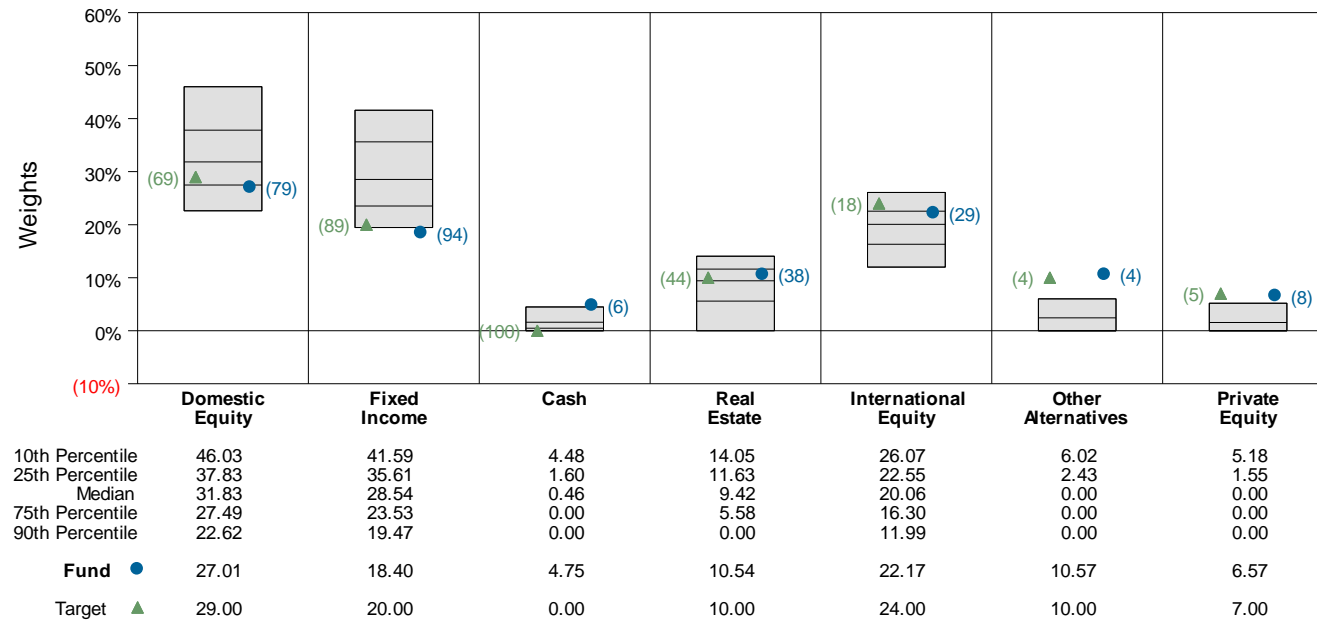
Investment Practices Review

ASSET ALLOCATION – PROCESS

How does the asset allocation compare to peer systems?

- The investment consultant conducts an asset-liability study for the Pension Trust approximately every three to five years. The asset allocation that has been adopted by Board is a balance between risk management, return goals and management of expected contributions. The table below provides a comparison between the Pension Trust target allocation (the green triangle), the Pension Trust actual allocation on March 31, 2020 (blue circle) and a peer group comprising Callan's public fund database comprised of client and non-client portfolios between \$100 million and \$1 billion in asset size. The Pension Trust maintains a target allocation to domestic equity that is below median (less risk seeking), but a domestic fixed income allocation that is also below median (less risk averse). The remainder of the portfolio is highly diversified with allocations to real estate, private equity, alternative beta investments and international (non-U.S. equity).
- **The Pension Trust's diversified portfolio has enabled the portfolio to weather challenging market conditions and still achieve the target rate of return on the assets.**

Asset Class Weights vs Callan Public Fund Spons- Mid (100M-1B)



Investment Practices Review

ASSET ALLOCATION – EXPECTED RISK & RETURN

What is the expected risk and expected rate of return of each asset class?

- The Pension Trust's investment consultant develops projections of capital market performance at the start of each year. These projections are a key component of asset allocation studies, incorporating the economic and financial environment in which pension plans and investment managers will operate. The consultant integrates information on past capital market performance, key economic indicators, and the market insights of senior professionals to develop projections that are sound, defensible and consistent. Individual asset classes (equities, fixed income, cash, real estate and alternative investments) are analyzed as part of a larger system, acknowledging both the interaction between asset classes and the influence of larger macroeconomic events such as inflation or recession on the entire structure of capital markets.
- The capital market projections consist of projected returns and two measures of risk – standard deviation and correlation – for each of the 18 asset classes and inflation. The projections for returns, standard deviations and correlations are for the ten-year period from 2020 through 2029. A ten-year period is chosen to capture a full market cycle. The investment consultant's 2020 capital market assumptions are shown below.

Asset Class	Index	PROJECTED RETURN			PROJECTED RISK	
		1-Year Arithmetic	10-Year Geometric*	Real	Standard Deviation	Projected Yield
Equities						
Broad U.S. Equity	Russell 3000	8.55%	7.15%	4.90%	18.10%	2.00%
Large Cap U.S. Equity	S&P 500	8.35%	7.00%	4.75%	17.70%	2.10%
Small Cap U.S. Equity	Russell 2500	9.25%	7.25%	5.00%	21.20%	1.55%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.10%	7.25%	5.00%	20.50%	3.10%
Developed ex-U.S. Equity	MSCI World ex USA	8.70%	7.00%	4.75%	19.70%	3.25%
Emerging Market Equity	MSCI Emerging Markets	10.25%	7.25%	5.00%	25.70%	2.65%
Fixed Income						
Short Duration Govt/Credit	Bloomberg Barclays 1-3 Yr G/C	2.70%	2.70%	0.45%	2.10%	2.85%
Core U.S. Fixed	Bloomberg Barclays Aggregate	2.80%	2.75%	0.50%	3.75%	3.40%
Long Government	Bloomberg Barclays Long Gov	2.55%	1.80%	-0.45%	12.50%	3.40%
Long Credit	Bloomberg Barclays Long Cred	3.75%	3.25%	1.00%	10.50%	5.05%
Long Government/Credit	Bloomberg Barclays Long G/C	3.25%	2.75%	0.50%	10.60%	4.45%
TIPS	Bloomberg Barclays TIPS	2.50%	2.40%	0.15%	5.05%	3.15%
High Yield	Bloomberg Barclays High Yield	5.10%	4.65%	2.40%	10.25%	7.30%
Global ex-U.S. Fixed	Bloomberg Barclays Gbl Agg xUSD	1.30%	0.90%	-1.35%	9.20%	2.05%
Emerging Market Sovereign Debt	EMBI Global Diversified	4.70%	4.35%	2.10%	9.50%	6.70%
Other						
Core Real Estate	NCREIF ODCE	7.05%	6.25%	4.00%	14.00%	4.75%
Private Equity	Cambridge Private Equity	12.00%	8.50%	6.25%	27.80%	0.00%
Hedge Funds	Callan Hedge FOF Database	5.25%	5.00%	2.75%	8.70%	0.00%
Commodities	Bloomberg Commodity	4.50%	2.75%	0.50%	18.00%	2.25%
Cash Equivalents	90-day T-bill	2.25%	2.25%	0.00%	0.90%	2.25%
Inflation						
	CPI-U		2.25%		1.50%	

Investment Practices Review

ASSET ALLOCATION – EXPECTED RISK & RETURN

What are the strategic allocations?

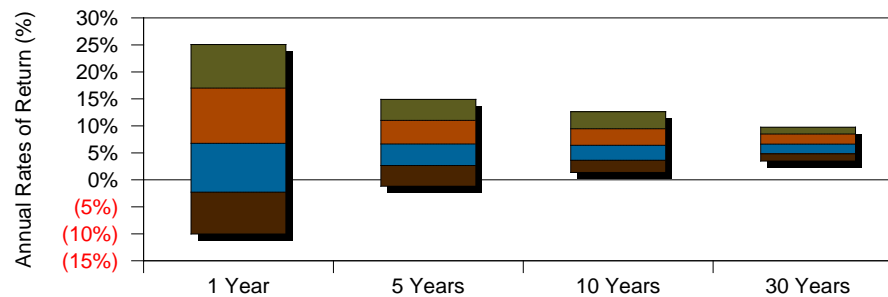
— The Pension Trust’s strategic asset allocation policy includes:

Large Cap US Equity	19%
Small/Mid Cap US Equity	10%
Non-US Equity	24%
Core Fixed Income	20%
Private Equity	7%
Absolute Return	10%
Core Real Estate	10%
Total	100%

How is this risk measured and how are the expected rates of return determined? What is the time horizon?

- The Pension Trust’s ten-year geometric mean return totals 6.6% and the projected standard deviation totals 12.9%. The overall risk of the Pension Trust is evaluated more broadly as the projected volatility of the funded status which is projected during the asset-liability study process.
- The chart below shows the range of projected returns for one, five, ten and thirty years for the Pension Trust’s target mix. The target return is typically reviewed annually for changes due to changes in the capital market assumptions and is evaluated over a 10-year annualized period.

Range of Projected Rates of Return
UHS DB Trust



10th Percentile	25.1%	14.9%	12.6%	9.8%
25th Percentile	17.0%	11.0%	9.5%	8.5%
Median	6.8%	6.6%	6.4%	6.6%
75th Percentile	(2.3%)	2.7%	3.6%	4.8%
90th Percentile	(10.0%)	(1.2%)	1.4%	3.5%

Investment Practices Review

ASSET ALLOCATION – EXPECTED RISK & RETURN

What mix of assets is necessary to achieve the plan's investment return and risk objectives?

— As detailed above, the Pension Trust's target allocation is:

Large Cap US Equity	19%
Small/Mid Cap US Equity	10%
Non-US Equity	24%
Core Fixed Income	20%
Private Equity	7%
Absolute Return	10%
Core Real Estate	10%
Total	100%

What consideration is given to active vs. passive management?

- The Board views the decision to utilize active vs. passive management as one that is specific to each asset class. During the portfolio construction and implementation discussions, each asset class is examined in terms of active investment managers' ability to reliably add value over an index on a net of fees basis. Certain asset classes (e.g., U.S. large cap equity) have shown to be areas where investment managers have struggled to add excess returns over a benchmark net of fees due to the efficiency of the asset class. Other asset classes (e.g., U.S. fixed income, U.S. small cap, non-U.S. equity and alternative assets like real estate and private equity) have shown over time that active management is rewarded either due to inherent inefficiencies in the asset class or the inability to access a passive product.
- The Board employs an evaluation process for the active managers in the portfolio and continues to follow that process.
- Underperforming managers are examined and interviewed in order to understand if a change is necessary. The Board also evaluates the fees paid to active managers to determine their suitability. Recent efforts in that area have yielded reduced fees on three managers.

Is the approach used by the system to formulate asset allocation strategies sound, consistent with best practices, and does it result in a well-diversified portfolio?

- The Pension Trust is well diversified both compared to peers and on an absolute basis.
- The Board has made the decision to maintain a slightly lower allocation to equities and instead add diversifying asset classes like private real estate, private equity and alternative beta/liquid alternatives strategies. The addition of these strategies that are less correlated to the volatility of equity markets has allowed the Board to pursue the growth of the pension portfolio in order to meet future benefit obligations without relying on a heavy allocation to equities only.
- **The process to arrive at that diversified portfolio has been consistently applied and implemented.**

Investment Practices Review

ASSET ALLOCATION – CASH FLOW & LIQUIDITY

How are alternative and illiquid assets selected, measured and evaluated?

- The Board utilizes the manager research and consulting team of its investment consultant for the identification, evaluation and measurement of the alternative and private markets asset managers within the Pension Trust.
- The investment consultant's process for evaluating the asset managers stems from bottom-up research on appropriate managers given the Pension Trust's size, governance and goals. The manager research team conducts onsite interviews and due diligence in order to determine both the prior performance of the managers as well as the strength of team, risk controls and future return prospects.
- On an ongoing basis the quarterly private equity reports typically incorporate performance metrics such as IRR, TVPI, DPI, and RVPI as well as summary fund-level data such as Commitment, Paid-In Capital, Distributions, NAV, and Total Value. The investment consultant benchmarks this data using public market equivalent (PME) comparisons and quartile rankings against the Refinitiv/Cambridge database. Reports include portfolio exposures by strategy type, geographic region, and GICS sector.
- For the real estate portfolio, given that the Pension Trust's investments are in high-quality core properties in a pooled fund, the quarterly reporting focuses on sector and geographic distributions, the split between income and appreciation in the total return, and overlying impacts of the economy on the portfolio.
- Liquid alternative investments in the portfolio are more time consuming to evaluate as the underlying investments are more fluid. The investment consultant's manager research team has dedicated specialists that conduct ongoing reviews of these strategies in the context of their unique characteristics and report that research to the Board on a regular basis.

Are the system's alternative investments appropriate given its size and level of investment expertise? Does the IPS outline the specific types of alternative and illiquid investments allowed, as well as the maximum allocation allowable?

- Yes, the Pension Trust's allocation to alternative investments is appropriate given the Pension Trust's size, governance and desire to create a diversified portfolio.
- The IPS outline the specific allocations to private equity, private real estate and alternative beta/liquid alternative investments with maximum allowable investments for each.
- The Board has maintained an allocation as closely as possible relative to the target given the illiquidity associated with these investments.

Investment Practices Review

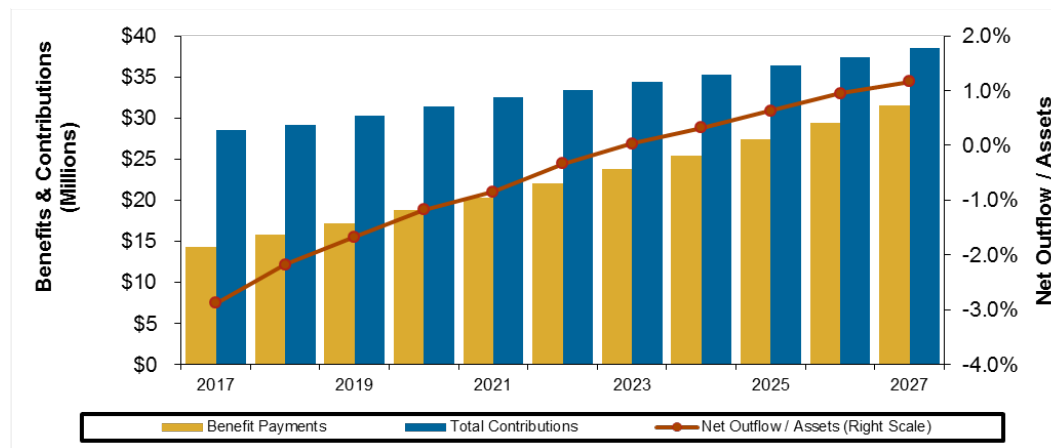
ASSET ALLOCATION – CASH FLOW & LIQUIDITY

What valuation methodologies are used to measure alternative and illiquid assets? What alternative valuation methodologies exist and what makes the chosen method most appropriate?

- Each of the alternative asset managers has their own valuation methodologies which are consistent with industry practice and accounting best practices. For those investments where liquid, observable market pricing is not available (private equity and private real estate), the managers conduct an appraisal process consistent with what is detailed in their fund documentation and is transparent to the funds' investors. For private equity investments the performance fee is typically measured on realized gains and not "paper" gains. The only outflows would typically occur on realized investments and the sale price would be the valuation price. For real estate investments where there are both inflows and outflows in a pooled fund, the investment manager utilizes a combination of internal and external appraisals on the properties to insure that all investors are treated equally coming into or going out of the fund. The investment consultant maintains a dedicated team of eight professionals whose role is to evaluate these complex investments from initial research, client implementation and ongoing monitoring. A deep knowledge of the fee structures, valuation methodologies and risk controls is part of that research effort.

What are the plan's anticipated future cash flow and liquidity needs? Is this based on an open or closed group projection?

- The Pension Trust's final average pay feature was closed to new employees hired after June 30, 2012. Only the cash balance feature is available to employees hired after that date. The expected contributions to the plan exceed expected benefits over the ten years projected at the time of the 2017 asset-liability study.



When was the last time an asset-liability study was performed?

- The last asset-liability study was completed in 2017.

Investment Practices Review

ASSET ALLOCATION – CASH FLOW & LIQUIDITY

How are system-specific issues incorporated in the asset allocation process? What is the current funded status of the plan and what impact does it have? What changes should be considered when the plan is severely underfunded, approaching full funding, or in a surplus? How does the difference between expected short-term inflows (contributions, dividends, interest, etc.) and outflows (distributions and expenses) impact the allocation? How does the underlying nature of the liabilities impact the allocation (e.g. pay-based vs. flat \$ benefit, automatic COLAs, DROP, etc.)?

- Issues specific to the Pension Trust are incorporated into the asset-liability study process by using the Pension Trust's specific liabilities, future liability accruals, current and future mix between active and retired participants, and assumptions. By utilizing the Pension Trust's specific characteristics, the investment consultant is able to recreate the actuarial valuation and use that model to stress test different combinations of asset returns, contributions and risk outcomes.
- The current funded status of the Pension Trust is approximately 70%. At the time of the 2017 asset liability study the funded status was projected to be over 75% at the end of the ten-year forecast period. The recent market volatility has impacted that funded status as asset values have changed.
- The Board has not had to consider changes to the plan structure due to severe underfunding because of their continued dedication to a healthy level of annual contributions. Were severe underfunding to happen, it is expected that the Board would continue to utilize the asset-liability study process as in previous years and identify a combination of asset allocation and contribution levels that would improve the funded status of the plan.
- Regarding the difference between inflows and outflows, the chart on the prior page details the projected contributions and benefit payments on an annual basis through the projection period of the asset-liability study and the Board has committed to a level of contributions in excess of expected benefit payments. This "cash flow positive" approach is also expected to further increase the funded status over time.
- Lastly, the 2012 change from a final average pay benefit to a cash balance benefit removed much of the variability in liabilities that had existed prior to 2012. In a cash balance benefit structure, the future obligation is tied to a crediting rate applied to employee compensation rather than a variable benefit tied to service, compensation and potential future benefit increases.

What types of stress testing are incorporated in the process?

- During the asset-liability study process, the investment consultant utilizes a stochastic approach that models 2000 simulations of results over time. The process also utilizes specific "downside event" modeling that looks at the performance of different target asset allocations over one-, two- and three-year downside market events to see how those events would impact funded status. The goal of this stress testing is to thoughtfully approach the asset allocation process not only from an "expected event" perspective, but also an awareness of what "tail risk" or downside events could do to the relevant evaluation measure (funded status).

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Investment Fee & Commission Review

Investment Practices Review

INVESTMENT FEE & COMMISSION REVIEW

Do the system's policies describe the management and monitoring of direct and indirect compensation paid to investment managers and other service providers? What direct and indirect investment fees and commissions are paid by the system?

- **The obligation to review and monitor the direct compensation to investment managers is implicit in the roles and responsibilities section of the IPS dedicated to the investment consultant.**
- As a matter of practice, the consultant has regularly reviewed and reported to the Board on fees paid for investment management by the Pension Trust and has assisted in taking advantage of lower fees when they can be negotiated.
- **The 2019 fee review (included in the Appendix) is the most recent report.** Prior to the report, the fee for one of the non-U.S. equity managers was negotiated to use a lower cost share class. Subsequent to the report, the fees of two of the alternative beta/liquid alternatives managers were negotiated to a lower rate.
- There is only one separate account within the Pension Trust that would report commissions. That manager, Columbus Circle, provided the following commissions on a total dollar and cents-per-share basis for the account:
 - 2018 - \$45,824 in total and \$0.04/share
 - 2019 - \$57,921 in total and \$0.04/share

Who is responsible for monitoring and reporting fees to the board? Is this responsibility clearly defined in the system's investment policies?

- **Investment and administrative expenses are monitored and reported by the controller of the University Health System.** The controller attends Board meetings and provides a quarterly summary of financial statements to the Trustees.
- The IPS states that the Board has a duty to monitor and defray reasonable investment and administrative expenses.
- The investment consultant conducts an annual investment manager fee benchmarking review comparing fees to peers of similar style.

Are all forms of manager compensation included in reported fees?

- **All forms of manager compensation are included in the reported fees.**

How do these fees compare to peer group and industry averages for similar services? How are the fee benchmarks determined?

- The 2019 Pension Trust Fee Review is included in the Appendix.
- **Investment management fees appear reasonable relative to peers.**

Investment Practices Review

INVESTMENT FEE & COMMISSION REVIEW

Does the system have appropriate policies and procedures in place to account for and control investment expenses and other asset management fees?

- **The Pension Trust has appropriate policies and procedures in place to account for and control investment expenses and other asset management fees.**
- The Board considers the ongoing evaluation and consideration of fees in an absolute context, versus peers, and in terms of value-added to the system as an important obligation as a fiduciary. While a specific, detailed policy is not included in the IPS, the history of work on the part of the Board to evaluate the fees evidenced by the 2018 reduction in custody fee, ongoing annual investment management fee reviews, and negotiation of lower fees when available, demonstrates a dedication to the effective management of fees in the Pension Trust.

What other fees are incurred by the system that are not directly related to the management of the portfolio?

- The Board would consider investment management, custodial, consulting, actuarial and legal fees directly related to the investment of the portfolio as reasonable to charge to the Pension Trust.
- The pension administration of the plan is completed by University Health System administrative staff and is not billed separately to the Pension Trust. No other fees are charged to the Pension Trust.

How often are the fees reviewed for reasonableness?

- **The Board conducts a fee review every three years.** The last fee review was conducted in August 2019. Subsequent to that review the Board was able to negotiate fee reductions on three of the investments in the Pension Trust.

Is an attorney reviewing any investment fee arrangements for alternative investments?

- No.

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Governance Process

Investment Practices Review

GOVERNANCE – TRANSPARENCY

Does the system have a written governance policy statement outlining the governance structure? Is it a standalone structure or part of the IPS?

- **Section I of the IPS (Background) as well as the Pension Bylaws (Preamble) include a description of the governance structure.**
- The Pension Trust is administered by a Board of Trustees approved by the System's Board of Managers, and consists of seven to nine individuals. Two Trustees are appointed from System Administrative Staff, two Trustees are appointed from the System Board of Managers and three to five Trustees are appointed who either reside or work in Bexar County.

Who is responsible for monitoring and reporting fees to the board? Is this responsibility clearly defined in the system's investment policies?

- **Investment and administrative expenses are monitored and reported by the controller of the University Health System.** The controller attends Board meetings and provides a quarterly summary of financial statements to the Trustees.
- The IPS states that the Board has a duty to monitor and defray reasonable investment and administrative expenses.
- The investment consultant conducts an annual investment manager fee benchmarking review comparing fees to peers of similar style.

How often are board meetings? What are the primary topics of discussion? How much time, detail, and discussion are devoted to investment issues?

- **Board meetings occur quarterly, or more frequently as needed,** and include Trustees, University Health System Administrative Staff and the investment consultant.
- Board meetings are scheduled from 2:30 to 4:30 p.m. on the second Thursday of the third month following quarter-end.
- Each meeting dedicates at least 60 minutes to investment related topics which may include a presentation or review of the following: annual actuarial report; annual external audited financial statements; quarterly financial statements, and quarterly investment performance.
- Reports are provided in advance of scheduled meetings so that the Trustees have adequate time to review material prior to attendance.

Are meeting agendas and minutes available to the public? How detailed are the minutes?

- The Trustees have been appointed to serve under the System's Board of Managers. The agenda and meeting minutes of the Board of Managers are posted to the UHS Public Notices and Reports website portal. A pension summary is included in the meeting minutes.
- Meeting minutes of the Board of Pension Trustees are drafted at the conclusion of each meeting, and then approved at the following meeting.
- The minutes include a summary of attendance, a detailed review of investment performance, and any additional topics addressed.

Investment Practices Review

GOVERNANCE – INVESTMENT KNOWLEDGE/EXPERTISE

<p>What are the backgrounds of the board members? Are there any investment – related educational requirements for board members?</p>	<ul style="list-style-type: none"> — The Pension Trust is currently governed by a nine-member Board of Pension Trustees appointed by the System's Board of Managers. Four of the Trustees have earned the right to use the Chartered Financial Analyst designation. Membership includes the following (with years of tenure as a Trustee listed in parenthesis): David Wallace, CFA (+15), Stephan Klaffke, CFA (+15), Ira Smith (+15), Robert Enberg (+10), Carlos Resendez (+10), Kevin Harris, CFA (+10), Christa Maxwell, CFA (+1), Theresa Scepanski (+10) and Reed Hurley (+5). — The Chairman, David Wallace, CFA serves as chief investment officer for a registered investment advisor, and the Vice-Chairman, Stephan Klaffke, CFA formerly served as a US equity portfolio manager for a financial services company. The Secretary/Treasurer, Reed Hurley, serves as the chief financial officer of the University Health System. The educational qualifications and career experience of the leadership team and Board is considered high relative to industry peers. — The University Health System Pension Bylaws state that Trustees may not serve more than four consecutive four-year terms, or more than sixteen years. The tenure of several trustees is approaching or exceeds the stated term limit.
<p>What training is provided and/or required of new board members? How frequently are board members provided investment – related education?</p>	<ul style="list-style-type: none"> — Per the Texas Pension Review Board's Minimal Educational Training Program, a new trustee is required to complete at least seven credit hours of training in core content within the first year of service while a continuing trustee is required to complete at least four credit hours of continuing education in either core or non-core content areas within each two-year period after the first year of service. — While formal adoption of the continuing educational requirements remains outstanding, Trustees appear to have reasonable access to educational resources through the Pension Trust's investment consultant. — Consider adopting the Texas Pension Review Board's minimum educational training requirements and drafting a "Continuing Educational Requirements" policy summarizing the hours of education required and method to report compliance.
<p>What are the minimum ethics, governance, and investment education requirements? Have all board members satisfied these minimum requirements?</p>	<ul style="list-style-type: none"> — Trustees are required to conduct themselves pursuant to a very high level of care under the law. The standard is very similar to the standard of care required by ERISA. Trustees must act solely in the interest of the plan participants and beneficiaries and for the exclusive purpose of the Pension Trust. — Educational qualifications are not required for membership. — No exceptions were noted.
<p>Does the system apply adequate policies and/or procedures to help ensure that all board members understand their fiduciary responsibilities?</p>	<ul style="list-style-type: none"> — Section II of the IPS (Roles and Responsibilities) and Article III of the Pension Bylaws clearly describes the Trustees' fiduciary responsibility. — Policies and procedures appear adequate.

Investment Practices Review

GOVERNANCE – INVESTMENT KNOWLEDGE/EXPERTISE

What is the investment management model (i.e. internal vs. external investment managers)?

- Trustees appoint investment managers for the Pension Trust by contracting for professional investment management services.

Does the board receive impartial investment advice and guidance?

- **The Pension Trust’s investment consultant safeguards against personal bias through oversight and peer review.**
- Every manager search or strategic planning project undertaken for the Pension Trust is a collective effort involving the Board, general consultant, a team of specialty consultants, and ultimately a peer-oversight committee comprised of senior consultants. A Manager Search Committee, composed of more than a dozen senior consultants, verifies the accuracy, completeness and objectivity of all methods used in the manager screening process.
- Separately, a Client Policy Review Committee composed of over a dozen veteran consultants, evaluates all strategic planning reports (asset-liability and manager structure studies) before they are submitted to the Board.
- A separate business unit of the investment consultant provides investment manager clients with research, education, performance measurement, and database and analytical tools. The business unit maintains its own personnel, as well as its own profit-and-loss accounting system. Annually, quarterly, and upon request, the consultant furnishes the Board with a complete list of all investment managers who have professional relationships with the investment consultant.

How frequently is an RFP issued for investment consultant services?

- **The last request for proposal (RFP) for investment consultant services was issued in 2008.**

How is the leadership of the board and committee(s), if any, selected?

- Each year at the first quarterly meeting following the appointment or reappointment of Trustees by the System’s Board of Managers, the Trustees elect a Chair, a Vice-Chair and a Secretary/Treasurer. Officers are elected to serve one-year terms.

Investment Practices Review

GOVERNANCE – ACCOUNTABILITY

Who is responsible for making decisions regarding investments, including manager selection and asset allocation? How is authority allocated between the full board, a portion of the board (e.g. an investment committee), and internal staff members and/or outside consultants? Does the IPS clearly outline this information? Is the board consistent in its use of this structure/delegation of authority?

- Responsibilities of the Board include the following:
 - Reallocating the assets among investment managers if the overall asset allocation policy limits have been exceeded;
 - Selecting, retaining and replacing professional service providers, investment managers and plan trustees; and
 - Monitoring and evaluating the conduct and performance of each investment managers
- Trustees appoint investment managers for the Pension Trust by contracting for professional investment management services.
- Committees are authorized but not utilized. The full Board participates in all decision-making responsibilities.
- **The IPS and Pension Bylaws clearly describe the Board’s decision-making process and delegation of investment authority.**
- The Board is consistent in its use of this structure of authority.

Does the system have policies in place to review the effectiveness of its investment program, including the roles of the board, internal staff and outside consultants?

- **Independent third parties conduct audits of the Pension Trust.**
- The Pension Plan Audit produced by Garza/Gonzalez & Associates and Actuary Audit produced by Willis Towers Watson are up to date.
- Wells Fargo Institutional Retirement and Trust serves as the Custodian. Principal Financial Group completed the acquisition of Wells Fargo & Company in July 2019..

Investment Practices Review

GOVERNANCE – ACCOUNTABILITY

Is the current governance structure striking a good balance between risk and efficiency?	<ul style="list-style-type: none"> — The composition of the Board of Pension Trustees includes multiple current and former investment professional practitioners. The educational qualifications and career experience of the Board is considered high relative to industry peers. — Investment decisions are thoroughly vetted and reviewed by all Trustees, and decisions are made in a prudent fashion.
What controls are in place to ensure policies are being followed?	<ul style="list-style-type: none"> — The System's Board of Managers delegates authority to the Pension Board of Trustees, and provides oversight of their decision-making process and ensures that policies and procedures are followed. — Two members of the System's Board of Managers serve as Pension Trustees providing ongoing oversight. — The Chairman and / or Administrative Staff provide frequent formal reports to the System's Board of Managers. — Reports including quantitative and qualitative data are retained by both the investment consultant for seven years. — All investment decisions are thoroughly documented and summarized in meeting minutes.
How is overall portfolio performance monitored by the board?	<ul style="list-style-type: none"> — Quarterly the Board reviews and evaluates reports on the investment performance of the Pension Trust. — The evaluations begins with an overview of the Pension Trust's asset allocation at the broad asset class level. This is followed by a top down performance attribution analysis which analyzes the Pension Trust's performance relative to the performance of the fund's policy target asset allocation. The Pension Trust's historical performance is then examined relative to funds with similar objectives. Performance of each asset class is then evaluated relative to the asset class performance of other funds. Finally, a summary is presented of the holdings of the Pension Trust's investment managers, and the returns of those managers over various recent periods.
How often are the investment governance processes reviewed for continued appropriateness?	<ul style="list-style-type: none"> — The Board and the investment consultant review investment processes every other year when updating the IPS.

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**Investment Manager Selection
& Monitoring**

Investment Practices Review

INVESTMENT MANAGER SELECTION & MONITORING

Who is responsible for selecting investment managers?

- The Board is directly responsible for selecting investment managers.

How are the managers identified as potential candidates?

- After beginning with the broadest possible universe of candidates, the Pension Trust's investment consultant narrows the field using Board-specified screening criteria to screen its proprietary database for candidates that best meet the Board's objectives.
- The Board and consultant do not rely on a buy list. This approach may unnecessarily narrow the field of managers, forcing the Board to choose from options that may not be the most appropriate fit.

What are the selection criteria for including potential candidates?

- **The Board utilizes a process for investment manager selection that embodies the principles of procedural due diligence.** Accordingly, when selecting investment managers, the Board will employ a competitive search process, including the following steps:
 - Formulation of specific search criteria that reflect the requirements for the investment manager role under consideration;
 - Identification of qualified candidates from the manager search database maintained by the consultant;
 - Analysis of qualified candidates in terms of:
 - Quantitative characteristics, such as CFA GIPS-compliant composite return data, risk-adjusted rates of return and relevant portfolio characteristics;
 - Qualitative characteristics, such as key personnel, investment philosophy, investment strategy, research orientation, decision-making process, and risk controls; and
 - Organizational factors, such as type and size of firm, ownership structure, client-servicing capabilities, ability to obtain and retain clients, and fees.
- It is the preference of the Board that investment manager candidates for selection have a minimum strategy track record of five years. Also, the preference of the Board is that the specific product/vehicle under review have a minimum track record of five years, but in both cases the Board may determine to consider managers with strategy or product track records of less than five years under certain circumstances.

Investment Practices Review

INVESTMENT MANAGER SELECTION & MONITORING

What are the selection criteria when deciding between multiple candidates?

- The Board conducts due diligence interviews with each finalist candidate under consideration.
- Final selection between candidates takes into consideration the Board's confidence in the investment philosophy and approach, the depth, structure and experience of the investment team, the portfolio construction process, and the strength of the historical track record relative to expectations. Fees are also scrutinized for competitiveness.

How does the selection process address ethical considerations and potential conflicts of interest for both investment managers and board members?

- **Actual or potential conflicts of interest are governed by Policy No. 2.12 of the System's Policies and Regulations Manual, titled "Conflicts of Interest."**
- In accordance with the policy, Trustees are required to avoid any personal or financial interest in the transactions, appointments, and contracts of the Trust.

Who is responsible for developing and/or reviewing investment consultant and/or manager contracts?

- **Legal counsel is responsible** for the evaluation of contractual relationships with the investment consultant and investment managers.

What is the process for monitoring individual and overall fund performance?

- Quarterly the Board reviews and evaluates reports on the investment performance of the Pension Trust.
- The evaluations begins with an overview of the Pension Trust's asset allocation at the broad asset class level. This is followed by a top down performance attribution analysis which analyzes the Pension Trust's performance relative to the performance of the fund's policy target asset allocation. The Pension Trust's historical performance is then examined relative to funds with similar objectives. Performance of each asset class is then evaluated relative to the asset class performance of other funds. Finally, a summary is presented of the holdings of the Pension Trust's investment managers, and the returns of those managers over various recent periods.

Investment Practices Review

INVESTMENT MANAGER SELECTION & MONITORING

Who is responsible for measuring the performance?

- **The Pension Trust's investment consultant calculates performance for the Trust.**
- The investment consultant's performance measurement calculation for US equity separate accounts and all mutual funds utilizes a daily, time-weighted rate of return methodology that is consistent with the CFA Institute's Global Investment Performance Standards (GIPS).
- For all other account types, the consultant calculates returns based on the Modified BAI (Bank Administration Institute) methodology which also is consistent with GIPS standards and recommendations.

What benchmarks are used to evaluate performance?

- The following benchmarks are used to evaluate the performance of the Pension Trust's investment managers:
 - US Large Cap – S&P 500 Index
 - US SMID Cap Value – Russell 2500 Value Index
 - US SMID Cap Growth – Russell 2500 Growth Index
 - Non-US Equity – MSCI ACWI ex US Index
 - US Core & Core Plus Fixed Income – Bloomberg Barclays Aggregate Index
 - Real Estate – NFI ODCE
 - Absolute Return – LIBOR +5% or LIBOR +4%
 - Private Equity – Russell 3000 +3%

What types of performance evaluation reports are provided to the board? Are they provided in a digestible format accessible to trustees with differing levels of investment knowledge and expertise?

- Quarterly reports are typically available within 4-6 weeks from the close of a quarter.
- The Pension Trust's quarterly performance reports provide a host of risk, return and attribution diagnostics to aid with the on-going evaluation of both the total fund and individual investment managers. The contents of each report include the following:
 - Market overview
 - Asset allocation comparisons
 - Total fund attribution analysis
 - Total fund ranking on an absolute and asset allocation adjusted basis
 - Forward looking risk analysis
 - Asset class risk/reward profile and rankings
 - Investment manager summaries including returns, risk, risk-adjusted returns, style analysis, portfolio characteristics, active share and portfolio attribution
- The report is simple and accessible and in a format that Trustees with differing levels of investment knowledge can understand.

Investment Practices Review

INVESTMENT MANAGER SELECTION & MONITORING

<p>How frequently is net-of-fee and gross-of-fee investment manager performance reviewed? Is net-of-fee and gross-of-fee manager performance compared against benchmarks and/or peers?</p>	<p>— The Board reviews both net- and gross-of-fee manager performance on a quarterly basis relative to benchmarks and peers.</p>
<p>What is the process for determining when an investment manager should be replaced?</p>	<ul style="list-style-type: none"> — The investment consultant recommends placing a manager on probation or a watch list if that manager is consistently underperforming. — Although performance is an important indicator of value added, several other factors may contribute to the Board's decision to terminate an investment manager relationship such as: significant personnel turnover, rapid asset growth or contraction, change in philosophy, portfolio construction discipline, portfolio characteristics, portfolio turnover or regulatory, and/or litigation issues. Similarly, an ownership change or change in business philosophy or approach (e.g., rapid expansion in range of product offerings, distribution channels) may warrant termination.
<p>How is individual performance evaluation integrated with other investment decisions such as asset allocation and investment risk decisions?</p>	<ul style="list-style-type: none"> — The Board approaches asset allocation and investment manager selection from a risk budgeting perspective. — Risk budgeting is the rank ordering of asset classes in a portfolio with respect to the confidence the Board holds for active management to outperform passive exposure, and then spending a "budget" for active management risk to get the biggest bang for the buck. — The Board believes that active management has the greatest potential to add value in less efficient markets such as small cap and international equity, and the least potential in large cap equity. The Board "spends" their active management budget first in small cap and international equity, and focuses on passive strategies to gain exposure in the more efficient market segments like large cap equity.

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Appendix – Investment Manager Fee Study

August 20, 2019



University Health System Pension Trust

Investment Management Fee Review

Brian Smith, CFA

Senior Vice President, Consultant

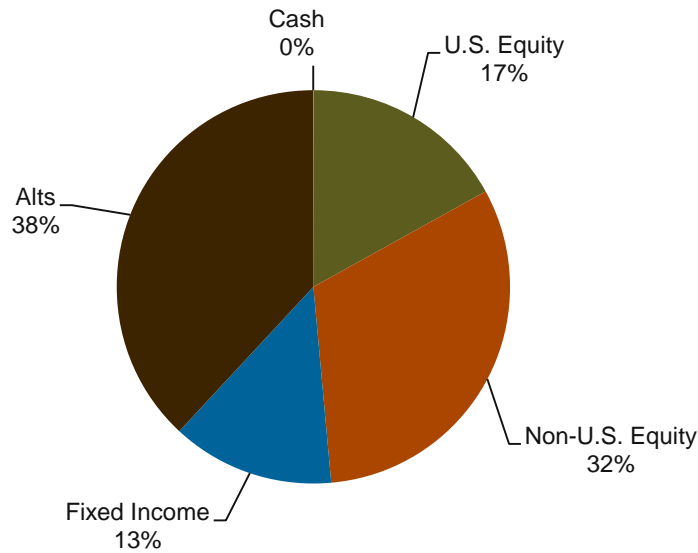
Bill Emmett

Senior Vice President, Consultant

Effective Annual Fees – Across Total Fund

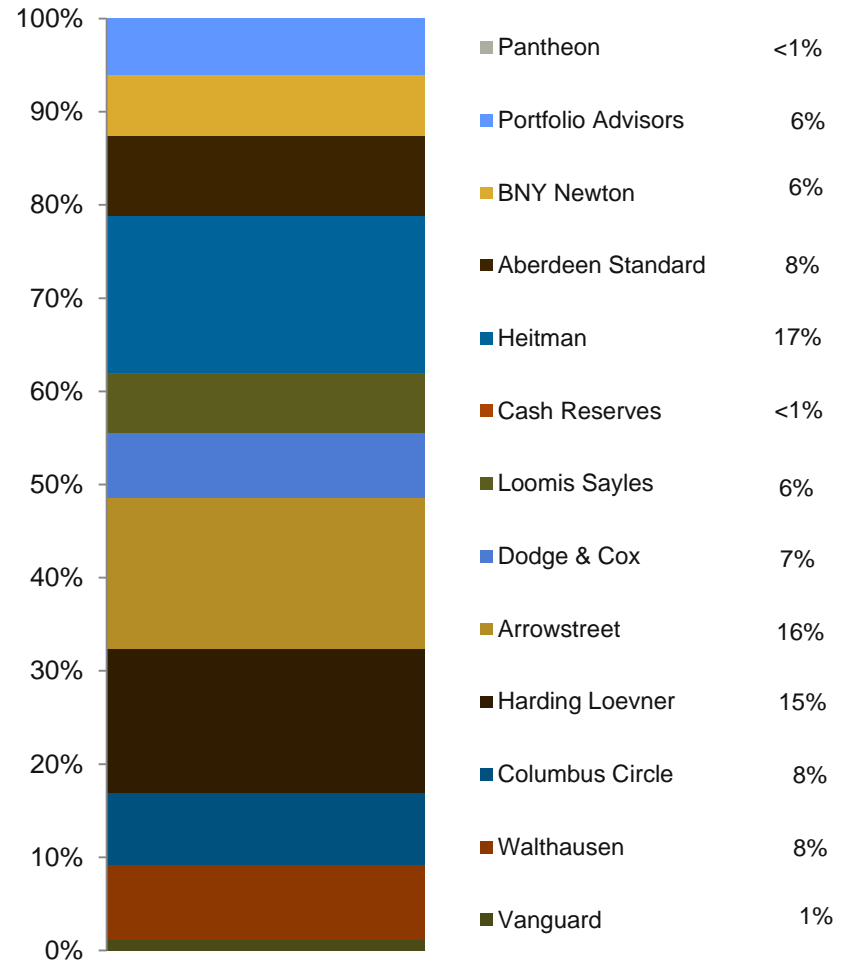
By Asset Class Distribution

(\$2,578,488 in total investment management fees)



By Investment Manager Distribution

(59 total basis points at \$439,045,759*)

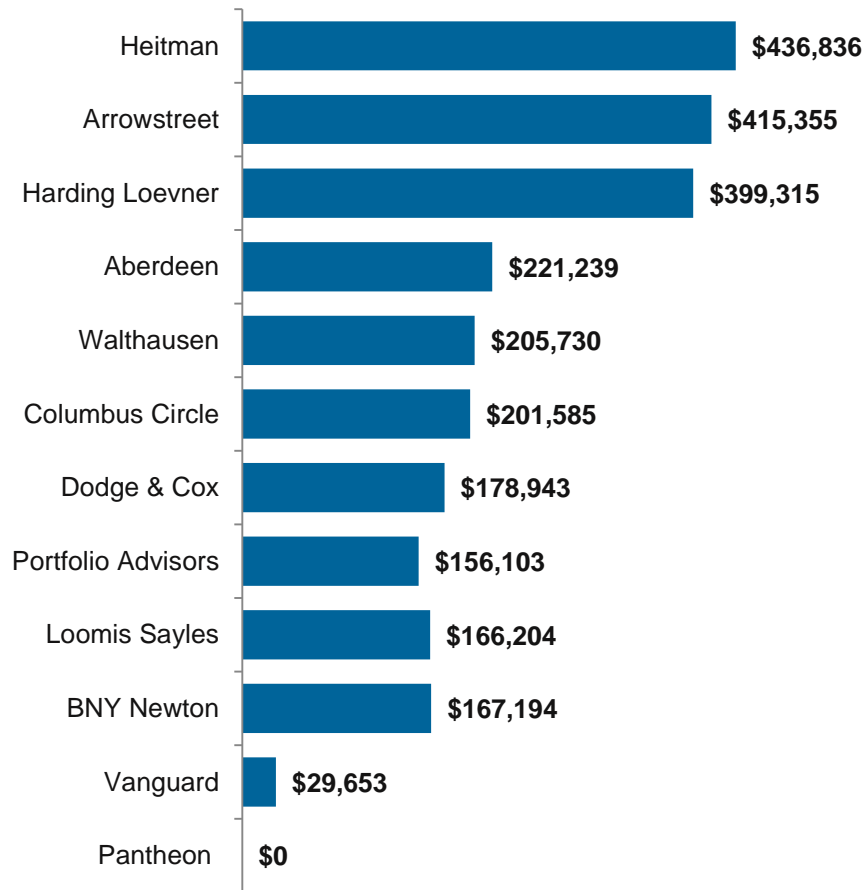


*As of June 30, 2019

Effective Annual Fees – Across Total Fund

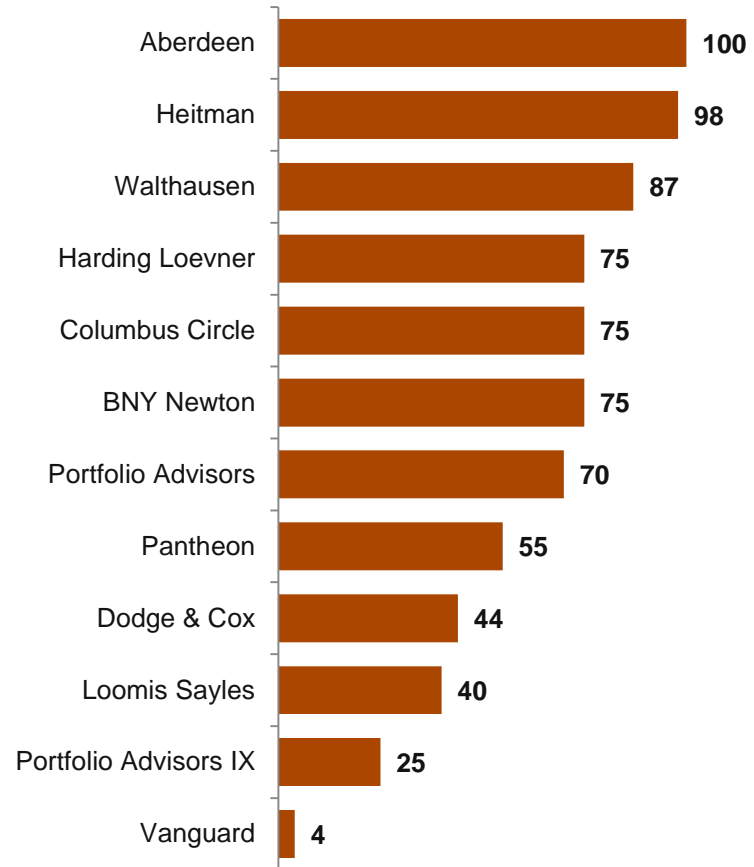
By Effective Annual Fee (Dollars)

(\$2,578,488 in total investment management fees)



By Effective Annual Fee (Basis Points)

(59 total basis points at \$439,045,759*)



*As of June 30, 2019

Effective Annual Fees – Peer Group Rankings

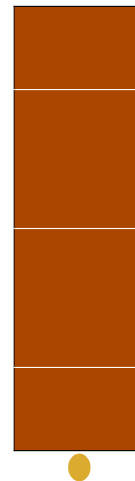
	4 th Quartile (Lowest)	3 rd Quartile (Below Median)	2 nd Quartile (Above Median)	1 st Quartile (Highest)
U.S. Equity				
Vanguard	●	○	○	○
Walthausen	○	○	●	○
Columbus Circle	●	○	○	○
Non-U.S. Equity				
Harding Loevner	●	○	○	○
Arrowstreet	○	○	○	●
Fixed Income				
Dodge & Cox	●	○	○	○
Loomis Sayles	●	○	○	○
Real Estate & Alternatives				
Heitman America	○	●	○	○
Aberdeen Standard	○	○	○	●
BNY Newton	●	○	○	○
Portfolio Advisors	○	●	○	○

U.S. Equity – Effective Annual Fees

S&P 500
Index Group



Small/Mid
Growth Group



Small/Mid
Value Group



Vanguard
\$84,723,651*

10th Percentile	0.110
25th Percentile	0.050
Median	0.040
75th Percentile	0.040
90th Percentile	0.028

● Fee (Rank) 0.035 (81)

Columbus Circle
\$26,877,990*

10th Percentile	1.00
25th Percentile	1.00
Median	0.94
75th Percentile	0.85
90th Percentile	0.81

● 0.75 (93)

Walhausen
\$23,764,054*

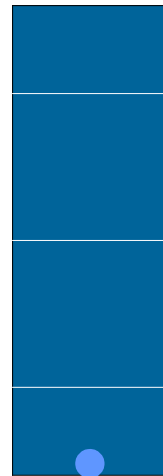
10th Percentile	0.98
25th Percentile	0.90
Median	0.85
75th Percentile	0.76
90th Percentile	0.67

● 0.86 (32)

*Mandate size as of June 30, 2019

Non-U.S. Equity – Effective Annual Fees

**Non-US
Equity Group**
(Mutual Funds)



**Non-US
Equity Group**



Harding Loevner
\$53,242,039*

10th Percentile	2.05
25th Percentile	1.48
Median	1.10
75th Percentile	0.87
90th Percentile	0.70

● Fee (Rank) 0.75 (75)

Arrowstreet
\$52,362,377*

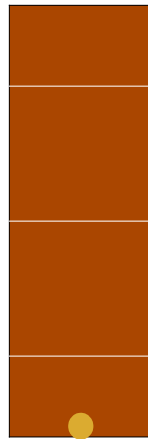
10th Percentile	0.80
25th Percentile	0.75
Median	0.70
75th Percentile	0.63
90th Percentile	0.55

● Fee (Rank) 0.79 (15)

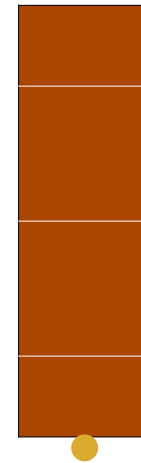
*Mandate size as of June 30, 2019

Fixed Income – Effective Annual Fees

**Core Fixed
Income Group
(Mutual Funds)**



**Core Plus Fixed
Income Group
(Mutual Funds)**



Dodge & Cox*
\$42,605,563

Loomis Sayles*
\$42,616,431

10th Percentile
25th Percentile
Median
75th Percentile
90th Percentile

1.55
1.10
0.77
0.50
0.40

1.55
1.10
0.77
0.50
0.40

● Fee (Rank) 0.42 (88)

● 0.39 (92)

*Mandate size as of June 30, 2019

Alternatives – Effective Annual Fees

Open End Core Commingled Real Estate

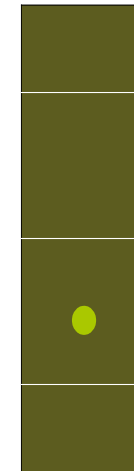


Heitman*
\$44,648,401

10th Percentile	1.36
25th Percentile	1.20
Median	1.00
75th Percentile	0.95
90th Percentile	0.94

Fee (Rank) ● 0.98 (55)

Alternative Investments Database



Portfolio Advisors*
\$21,006,282

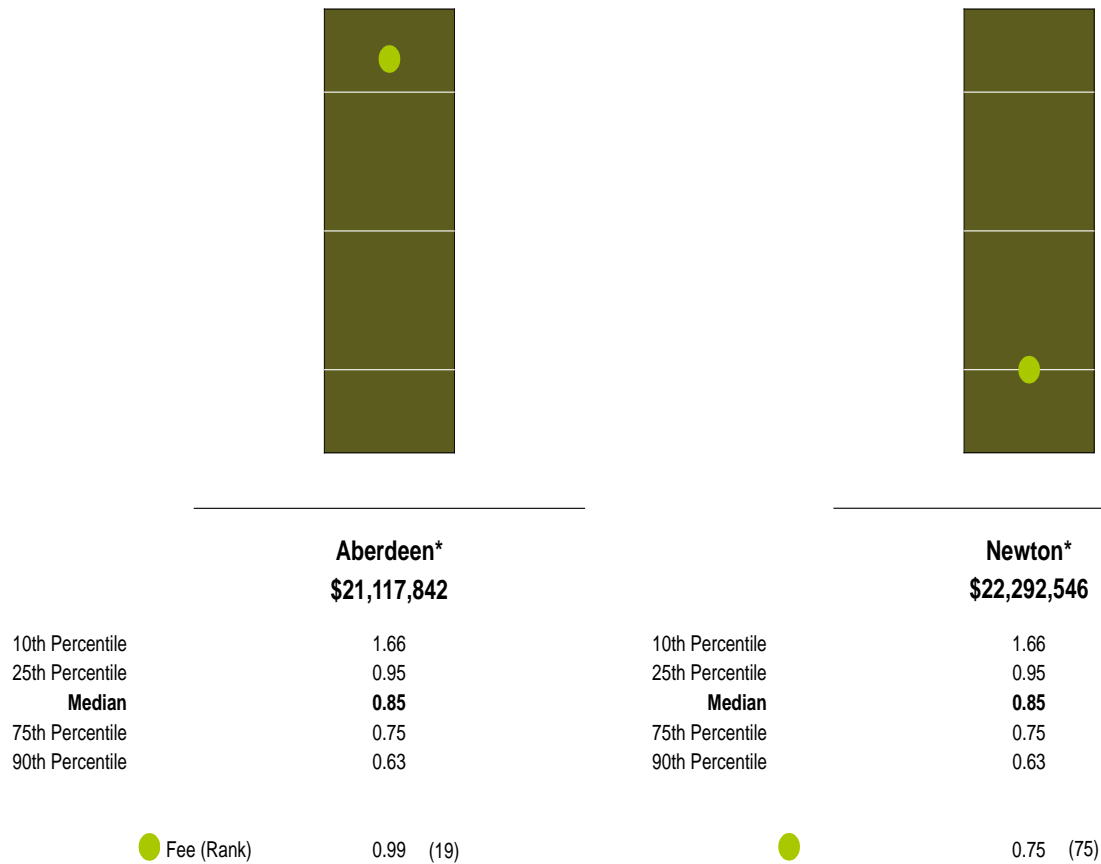
10th Percentile	1.50
25th Percentile	1.04
Median	0.85
75th Percentile	0.55
90th Percentile	0.48

Fee (Rank) ● 0.70 (65)

*Mandate size as of June 30, 2019

Alternatives – Effective Annual Fees

MAC Absolute Return (Gross)



*Mandate size as of June 30, 2019

Total Fund – Effective Annual Fees

Manager	Assets	Current Weight	Fee %	Effective Annual Fee
Domestic Equity	\$135,365,695	30.83%	0.32%	\$436,969
Vanguard Institutional Index	\$84,723,651	19.30%	0.035%	\$29,653
Walthausen	\$23,764,054	5.41%	0.86%	\$205,730
First	\$5,000,000		0.90%	
Next	\$20,000,000		0.85%	
Next	\$25,000,000		0.75%	
Over	\$50,000,000		0.65%	
Columbus Circle	\$26,877,990	6.12%	0.75%	\$201,585
Manager	Assets	Current Weight	Fee %	Effective Annual Fee
Fixed Income	\$85,221,994	19.41%	0.40%	\$345,147
Dodge & Cox	\$42,605,563	9.70%	0.42%	\$178,943
Natixis Loomis Sayles	\$42,616,431	9.71%	0.39%	\$166,204
Manager	Assets	Current Weight	Fee %	Effective Annual Fee
International Equity	\$105,604,416	24.05%	0.75%	\$814,671
Harding Loevner	\$53,242,039	12.13%	0.75%	\$399,315
Arrowstreet	\$52,362,377	11.93%	0.79%	\$415,355
First	\$50,000,000		0.80%	
Next	\$50,000,000		0.65%	
Thereafter			0.55%	

Fee Calculations are estimated based on the most recent available data, and do not reflect actual manager invoices.

Total Fund – Effective Annual Fees

Manager	Assets	Current Weight	Fee %	Effective Annual Fee
Alternative Investments	\$112,688,719	25.67%	0.87%	\$981,372
Heitman America Real Estate Trust	\$44,648,401	10.17%	0.98%	\$436,836
First	\$10,000,000		1.10%	
Next	\$15,000,000		1.00%	
Next	\$25,000,000		0.90%	
Aberdeen Standard Investments	\$21,117,842	4.81%	0.99%	\$221,239
First	\$20,000,000		1.00%	
Next	\$30,000,000		0.90%	
BNY Newton Global Return	\$22,292,546	5.08%	0.75%	\$167,194
Portfolio Advisors Private Equity	\$24,629,930	5.61%	0.63%	\$156,103
Fee PAPEF VI, VII, VIII	\$21,006,282		0.70%	\$147,044
Fee PAPEF IX	\$3,623,648		0.25%	\$9,059
Pantheon	\$0	0.00%	0.55%	\$0
Cash & Cash Equivalent	\$164,933	0.04%	0.20%	\$330
Total Fund	\$439,045,757	100.00%	0.59%	\$2,578,488

Fee Calculations are estimated based on the most recent available data, and do not reflect actual manager invoices.