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MAY 2023

Fort Worth Employees' Retirement Fund

Investment Program Review

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Introduction

Verus Advisory (“Verus”) was recently retained by the Board of Trustees of the Fort Worth Employees’ Retirement Fund (“FWERF” or the “Fund”) to conduct an investment program review in satisfaction of the requirements stated in Texas Government Code Section 802.109 (Investment Practices and Performance Reports).

Verus is an institutional investment consulting firm acting as an independent reviewer of FWERF’s overall investment program. We conducted a thorough programmatic review, utilizing the aggregate experience of a team of investment professionals assigned to this project.

Pursuant to the evaluation criteria outlined in Texas Government Code Section 802.109(a)(5) and (b), the report will outline all relevant findings in the review of the following topics:

- Policy compliance;
- Asset allocation;
- Investment Fees & trading costs;
- Governance Process’ related to investment activities;
- Investment manager initial due diligence and monitoring;
- Comprehensive Equity asset class review;
- Comprehensive Fixed Income asset class review;
- Comprehensive Alternatives asset class review

Procedures for the investment programs review

Verus reviewed the Texas statute and defined the scope of services for the review to cover all applicable sections. Verus conducted a 1–2-hour interview with key members of the FWERF team over a two-week period. The goal of the interviews was to identify the policies and procedures documented in the Investment Policy Statement (IPS), due diligence policy, and all other relevant policies.

Verus conducted an in-depth review of several policies and procedures outlined in the section below. Documents were reviewed for reasonableness in managing the Fund, sufficient compliance and oversight, and potential areas of improvement.

Interviews

Verus’ consulting team, including Joseph Abdou, CFA and Eileen Neill, CFA, conducted conference calls with the FWERF executive team and Board Chairman during the months of September and October 2022 to better understand the overall structure, philosophies, process, resources and concerns. Specifically, we spoke with:

Board of Trustees
Leadership
Investments
Operations

Doug Wilson (Chair)
Benita Harper (CEO)
Derrick Dagnan (CIO)
Robert Hulme (Director of Operations)

Document Review

Based on our experience, we are familiar with industry best practices for institutional public fund investors to follow in the development and implementation of a successful investment program. Therefore, we defined the scope of our mandate to be to assess the reasonableness of the practices associated with each program element listed above and to offer recommendations on identified areas of potential improvement.

In addition to Staff and Trustee interviews to ensure compliance with policies and procedures, Verus reviewed all policy documents during the due diligence review to ensure all policies and procedures reflect best practices. The following documents were reviewed and will be outlined in the following section:

- Investment Policy Statement (IPS);
- Due Diligence Policy;
- Administrative Rules;
- Ethics Policy;
- MWBE Policy;
- Placement Agent Policy;
- Securities Lending Policy;
- Compliance Annual Report
- Investment Implementation Procedures

Executive Summary

In our view, FWERF is a well-managed pension fund with a disciplined adherence to their policies and procedures, a strong and ethical culture, clear decision-making processes, and a reasonable investment strategy. We found no critical impairments that would jeopardize the health of the Fund. FWERF recently conducted a review of the Investment Policy Statement and has implemented best in class policies and procedures for the Fund.

The Board delegated investment manager selection and due diligence to staff, which is a common theme among large public pension plans. The Board maintains oversight through an outsourced third-party investment compliance monitoring firm. This third party conducts ongoing discussions and reviews with staff; specifically, the CIO and Executive director, and reports to the Board annually unless more time sensitive issues arise. Compliance oversight is critical when the Board delegates investment manager decisions due to possible conflicts of interest; however, FWERF avoids these conflicts through external compliance checks.

Managing key person risk is one concern which arose during our review. During the review process two key executives left the organization. FWERF does not have a policy around key person risk but might benefit from such a policy should the unlikely event of having multiple employees leave in a short period of time occur again. Furthermore, Verus believes having a formalized performance review process for the Executive Director and CIO should be considered to avoid any ambiguity in the process.

Summary of Recommendations

During the Investment Policy Review, Verus found no severe deficiencies in the policy or processes that would require immediate action or attention. In the following table, we will summarize the secondary considerations FWERF should consider.

Section	Description
Investment Policy Statement	<ul style="list-style-type: none"> - Add fiduciary language for the Board, Investment Committee, and Executive Director detailing each needs to make decisions in the best economic interests of the Fund’s participants and their beneficiaries.
Ethics Policy	<ul style="list-style-type: none"> - Add language to review the policy every 5-years to confirm the policy is up to date.
Due Diligence Policy	<ul style="list-style-type: none"> - Upon further discussion with staff and the Board, the Due Diligence policy was removed from the Fund’s governance manual prior to 2020. The Policy was never removed from the website. The Board has directed staff to remove the antiquated policy from the website.
Benchmarking	<ul style="list-style-type: none"> - Update a manager benchmark in Emerging Markets to better reflect their opportunity set.
Miscellaneous	<ul style="list-style-type: none"> - Establish formal procedure to review the Chief Investment Officer & Executive Director, which can be articulated in a separate policy document related to operational risk management.

Policy Review

We reviewed a series of FWERF’s policies for reasonableness, structure, and compliance. The primary focus was the Investment Policy Statement (IPS) which governs most investment related practices. The following is a summary of our findings regarding the IPS:

Investment Policy Statement (effective date: 8/24/22)

The IPS serves as a strategic guide in the planning and implementation of an investment program. The IPS also informs the appropriate asset allocation, implementing an investment program with internal and/or external managers, monitoring performance, risk management, and appropriate reporting. A well-structured and implemented IPS can drive success in an investment program.

The IPS is a highly customized document that is uniquely tailored to the preferences, attitudes, and situation of each plan. The IPS is custom to the Fund’s needs but should be evaluated periodically to ensure it is up to

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date with the most recent and best-in-class policies for FWERF. FWERF has updated the IPS 4 times in the past 5 years, indicating they are committed to maintaining the validity of the document.

Prior to the due diligence review, FWERF made updates to the IPS in August 2022. The update added language regarding the Chief Investment Officer (CIO)'s duty. The CIO collaborates with the Executive Director, Investment Committee, Board, and Service Providers on developing and implementation of investments, procedures, and the policies. The addition of this language serves as another example of FWERF reviewing policies and procedures in a timely and enhanced manner.

A significant change made to the IPS that represents best practices was the establishment of a “benchmark philosophy” that outlines all applicable guidelines for selecting an appropriate benchmark for various asset classes and investment strategies. Again, the implementation of a benchmark philosophy removes ambiguity surrounding what benchmarks are chosen and serves as another best-in-class enhancement to the IPS.

Verus reviewed FWERF's current IPS and adherence to the policy through discussions with staff and the Board Chair. The following table lists key policy guidelines, whether the Fund was in compliance, and our recommendation to attain compliance for those areas where we determined non-compliance.

IPS Section	Description	In Compliance	Suggestions
Investment Objectives	Do investment objectives align with long term strategic objectives of the Fund?	Y	N/A
	Risk controls addressed?	Y	N/A
	Cost controls?	Y	N/A
Duties and Responsibilities	Board of Trustees – Review Policies	Y	N/A
	Board of Trustees – Review actions taken by FWERF executive management	Y	N/A
	Board of Trustees – Establish long term objective of the Fund	Y	N/A
	Board of Trustees – Oversight of Fund given investment delegation	Y	N/A
	Board of Trustees – Set strategic asset allocation, objectives & benchmarks	Y	N/A
	Investment Committee – Review and provide commentary to board regarding investment activities and process	Y	N/A
	Investment Committee – Review appropriateness of investment activities (annually)	Y	N/A
	Investment Committee – Review service providers	Y	N/A
	Investment Committee – Review investment performance	Y	N/A

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IPS Section	Description	In Compliance	Suggestions
	Executive Director – Assumes oversight of operations and management of FWERF	Y	N/A
	Executive Director – Monitors compliance of the investment program	Y	N/A
	Executive Director – Evaluates investment performance of the Fund	Y	N/A
	Executive Director – Given authority to execute legal documents	Y	N/A
	Executive Director – Reviews and authorizes use of service providers by investment staff	Y	Language should be clearer to ensure IC is aware and in agreement with the need for service providers
	Chief Investment Officer – Assumes responsibility and authority of investment program	Y	N/A
	Chief Investment Officer – ensures compliance with IPS and Implementation Procedures policy	Y	N/A
	Chief Investment Officer – Acts ethically and as a Fiduciary	Y	This language is assumed for the Board, IC, and ED but spelled out for the CIO. It should either be included for all parties or assumed for the CIO as well
	Chief Investment Officer – Establish investment procedures, due diligence process, and maintain policies through recommendations to the investment committee	Y	N/A
	General Counsel – Compliance & Legal oversight	Y	N/A
	General Counsel – Conduct legal due diligence related to Fund investments	Y	N/A
	General Counsel – Given appropriate leeway to recommend outside legal counsel	Y	N/A
	Investment Staff – Given duty to assist CIO in all investment matters	Y	N/A
	Investment Staff – “Utilizes special skill and expertise in an effort to accomplish long-term objective of this Policy”	Y	Vague language- recommend shortening this language to ensure IPS compliance
Compliance	Compliance lead by the Fund’s General Counsel	Y	N/A

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IPS Section	Description	In Compliance	Suggestions
	Compliance may be outsourced to an external service provider	Y	N/A
	Maintain regulatory knowledge of investment program and investment program adherence	Y	N/A
	Standardized quarterly and annual reports	N	Language should be included if an external service provider is utilized, they have authority to create compliance reporting (Board confirmed reviewing in next IPS revision)
Service Providers	General Consultant – Review Policy documents	Y	N/A
	General Consultant – Performance Reporting	Y	N/A
	General Consultant – Evaluate managers/provide investment attributes of portfolio and managers	Y	N/A
	External Investment Advisor – Review investment strategies, risks, portfolio construction, and all operational matters	Y	N/A
	Discretionary External Investment Advisor – Assume responsibility for portfolio construction, sourcing, selection, and termination of Investment managers	Y	N/A
	External Investment Managers – Provide discretion to invest in the Manager’s strategy	Y	N/A
	Master Custodian – Given responsibility to collect Income and maintain securities, and manage cash in a STIF	Y	N/A
Asset Allocation Strategy	Define investable asset classes	Y	N/A
	Define Asset allocation policy Targets & Ranges	Y	N/A
	Give timeline for Asset Allocation Review	Y	N/A
	Clearly define rebalancing policy	Y	N/A
Investment Return Objectives and Benchmarks	Benchmarks – Establish a benchmark philosophy and define benchmarks for each asset class and the policy index in compliance with the philosophy	Y	N/A
	Benchmarks – Develop As allocated benchmark to review the effectiveness of the investment programs and decisions of investment staff	Y	N/A

IPS Section	Description	In Compliance	Suggestions
	Total Fund performance – Define expectations of total fund performance versus policy benchmark	Y	N/A
	Total Fund Performance – Define expectations of total fund performance versus peer universe (accounting for asset allocation differences)	Y	N/A
Investment Monitoring	To be reviewed at least annually with focus on long-term results.	Y	N/A
	Manager Termination – Failing to adhere to the Investment Policy Statement	Y	N/A
	Manager Termination – Failure to perform satisfactorily to stated style or investment process	Y	Policy references investment return section which is only related to total fund and not individual strategies or asset classes

Investment Implementation Procedures (effective date: 2/9/21)

FWERF implemented the Investment Implementation Procedures in February of 2021 when the Investment committee delegated manager selection and monitoring to the CIO. The Investment Implementation Procedures include the authority limits delegated to the CIO, the investment philosophy, and detailed communication and reporting requirements for oversight. This document is comprehensive and allows the CIO the necessary authority to manage a complex pension Fund, while maintaining significant reporting and communication requirements to the Investment committee. With the monthly, quarterly, and annual communication and reporting requirements the Investment Committee is continually updated and reviews the actions of the CIO against these procedures.

The Investment Implementation Procedures document was recently created and is scheduled to be reviewed in 2023/2024. Verus sees no deficiencies in the Investment Implementation Procedures.

Specific findings regarding the Investment Implementation Procedures and adherence to the policy are summarized below:

Investment Implementation Procedure Section	Description	In Compliance	Suggestions
Purpose	Clearly defined purpose and requirement of adherence	Y	N/A
	The Ethics Policy will be updated periodically if and as needed	Y	Policy to be reviewed every 3-5 years
Authority Limits	Set reasonable limits of delegated authority	Y	N/A

Investment Implementation Procedure Section	Description	In Compliance	Suggestions
	Specifies Fiduciary duty of CIO and Staff	Y	N/A
	Board oversight process – Engagement of third-party compliance consultant to monitor investment activities	Y	N/A
Investment Philosophy	Properly addresses the Investment Philosophy of the Fund	Y	N/A
	Identifies time-period for evaluation	Y	N/A
	Addresses risk as well as returns	Y	N/A
	Identifies roles of various asset classes	Y	N/A
Communication Requirements	The CIO or investment staff provides investment activity at scheduled monthly Investment Committee meetings	Y	N/A
	Provide quarterly a third-party performance report from the Investment Consultant or Custodian	Y	N/A
	Provide quarterly detailed review of economic and market conditions, asset allocation, risk, return, Fund liquidity, asset class performance, and review performance attribution	Y	N/A
	Annually provide report regarding investment management costs	Y	N/A
Investment Implementation Procedures – Traditional Assets/ Liquid Alternative Assets/ Private Alternative Assets	Sections address portfolio construction, risks, underlying allocations, sourcing, manager selection, and review criteria for each asset class or grouping.	Y	N/A

Ethics Policy (effective date: 10/24/18)

Upon review, we found FWERF’s Ethics Policy to be thorough and comprehensive with sufficient requirements to effectively monitor compliance. The following table lays out the reporting requirements

designed to enforce compliance and whether we were able to obtain demonstrative evidence of compliance. Specific findings regarding the Ethics policy and adherence to the policy are summarized below:

Ethics Policy Section	Description	In Compliance	Suggestions
Purpose	Clearly defined purpose and requirement of adherence	Y	N/A
	New Trustees are educated regarding the Ethics Policy	Y	N/A
	The Ethics Policy will be updated periodically if and as needed	Y	No set timeframe for policy review. We believe it should be reviewed every 5 years to ensure the policy is up to date.
Definitions	All relevant terms are defined	Y	N/A
	Gift policy defined	Y	N/A
Rules of Conduct	Influential Gifts	Y	N/A
	Engage in financial transactions for his/her personal business with a person he/she inspects or supervises	Y	N/A
	Addresses potential conflicts of interest	Y	N/A
Policy for No-Contact Period	Ensure No-contact period adherence for anything other than contact regarding the ordinary course of business	Y	N/A
	In General, during no-contact period trustees should not accept gifts	Y	This should be expanded to Fund employees as well
Gifts	Addresses solicitation of gifts, permissible gifts/disclosures, gifts through intermediaries and prospective vendors.	Y	N/A
Conflicts and Disclosure Requirements	Address conflicts of interests for Trustees, Executive Director, Deputy Directors, and General Counsel and its disclosures.	Y	The CIO, while a possible deputy director, should be included in the conflict-of-interest section
Additional Ethical Principles	Addresses family member of Trustees being employed by the Fund	Y	N/A
	Addresses financial interest disclosure	Y	N/A
Special Rules Governing Contracts and Claims	In general, employees and Trustees are prevented from working for in-services vendors	Y	N/A
Enforcement	Any complaint or potential violation has proper procedures for review and	Y	N/A

Ethics Policy Section	Description	In Compliance	Suggestions
	consequences up to and including termination (for staff).		

Asset Allocation

Strategic asset allocation is widely viewed as the primary driver of institutional investor’s returns. As such, FWERF’s IPS identifies the Board as having ultimate responsibility for the asset allocation with guidance from investment staff, consultant, and general counsel. The Investment Committee will review asset allocation at least annually. The strategic asset allocation is reviewed every 3-5 years through an in-depth Asset Liability Study to evaluate the risks and return profiles of several asset allocations ranging from conservative to aggressive. The study is conducted to determine if FWERF’s current asset allocation is still in line with the risk/return objectives of the Fund, and to make any changes to the strategic allocation for the upcoming 3–5 year time period.

Annually, FWERF reviews the asset allocation through the general consultant’s Capital Market Assumptions. The capital market assumptions utilize the general consultant’s 10-year forecasted risks, returns, and correlations for all of FWERF’s asset classes. The resulting analysis is reviewed by investment staff to determine if the Investment Committee needs to review and decide on interim adjustments to the asset allocation.

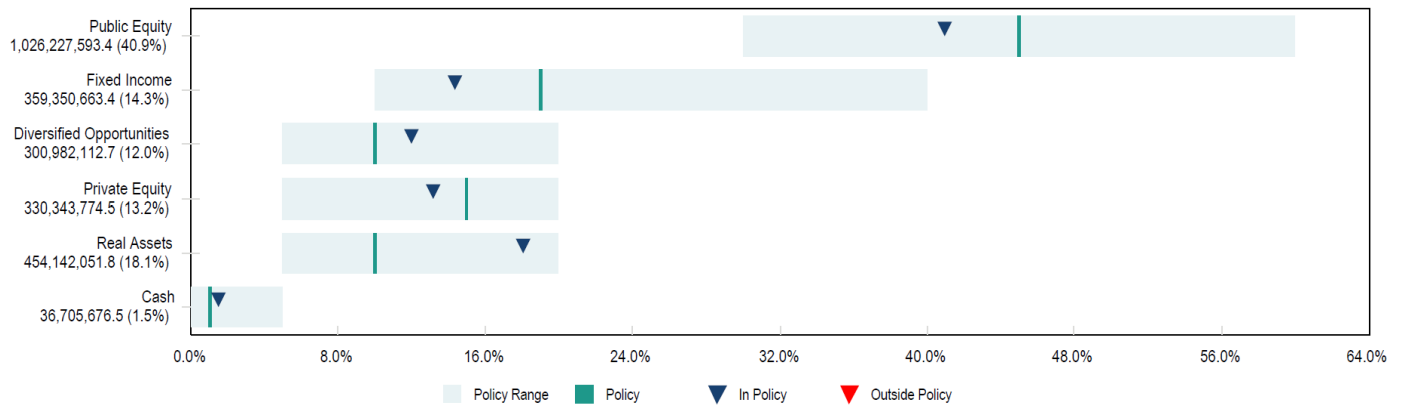
Tactical asset allocations are sometimes employed to take advantages of anomalies in markets. The CIO will present the tactical asset allocation opportunity and should base investment actions on a specific investment thesis or rationale. However, any investment actions are bounded by constraints set by the Board. Per the IPS, FWERF is not allowed to deviate from the ranges stated in the IPS for tactical asset allocation.

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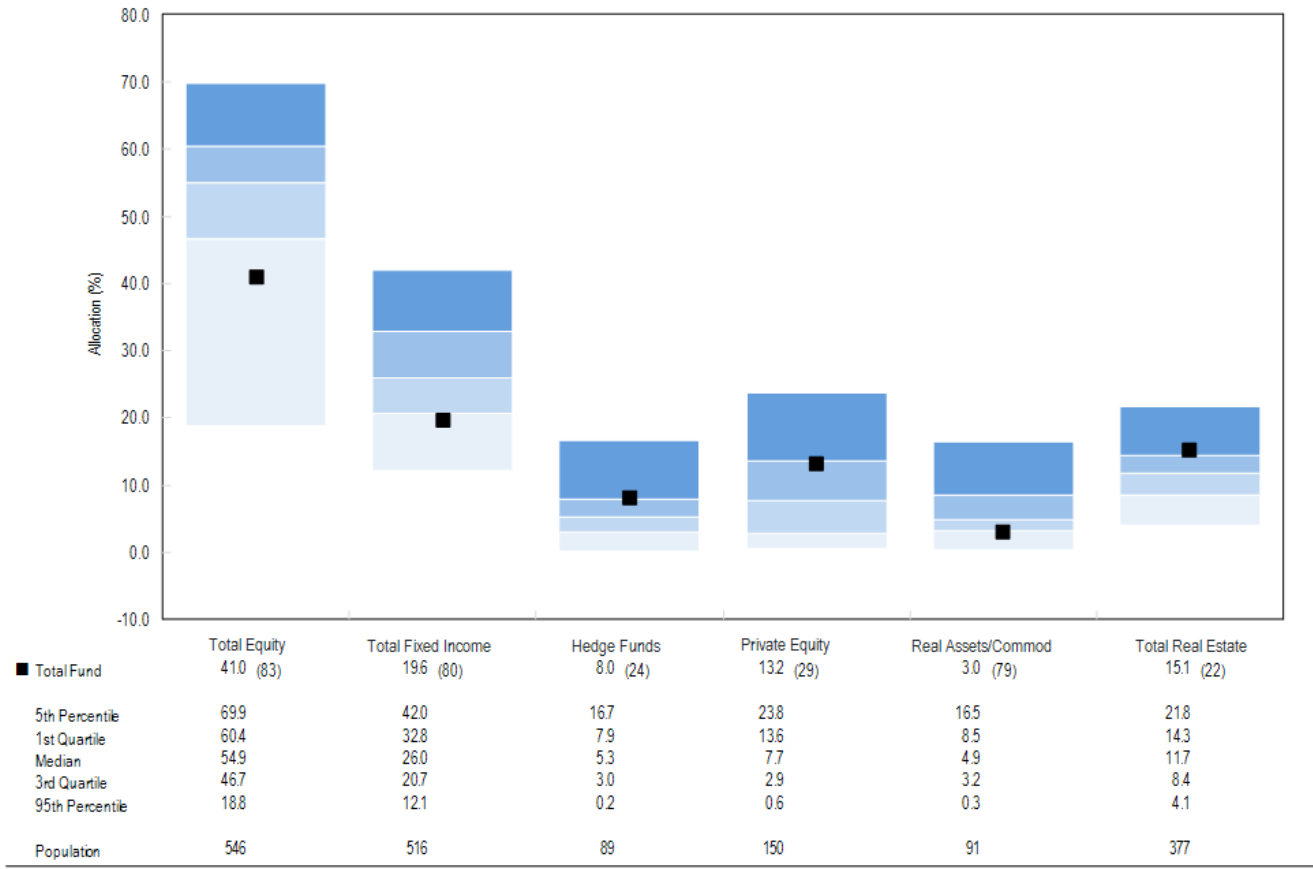
FWERF's current (9/30/22) strategic asset allocation targets are shown below.

Asset Class	Policy Target	Minimum	Maximum
Equity	42%	30%	60%
Fixed Income	16%	10%	40%
Cash	1%	0%	5%
Private Equity	18%	5%	25%
Real Assets	13%	5%	20%
Diversified Opportunities	10%	5%	15%
Total Fund	100%		

The current allocation is within policy limits as shown below. It is important to note, some illiquid asset classes, such as Real Assets and Private Equity are lagged and can look overweight or underweight significantly during turbulent markets with large market shifts.



Asset allocation versus Peers (9/30/2022)



Parentheses contain percentile rankings.

Source: Verus, PARis

FWERF has focused their allocation to illiquid asset classes such as Real Estate, Hedge Funds, and Private Equity. The Fund is in or close to the top quartile for those asset class exposures. The result is less Public Equity and Fixed Income than peers. The focus on illiquid investments is not surprising given their high forecasted return (shown in the capital market assumptions below).

Verus conducted a mean-variance analysis on FWERF’s current policy allocation, using our proprietary capital market assumptions to determine a range of potential outcomes within which the Fund’s performance could reasonably be expected to fall.

	FWERF	CMA's (10 Yr)			
		Return (g)	Return (a)	Standard Deviation	Sharpe Ratio (a)
Global Equity	42.0	7.4	8.7	17.1	0.32
Total Equity	42				
Core Fixed Income	16.0	4.3	4.4	4.6	0.24
High Yield Corp. Credit	0.0	6.4	7.0	11.2	0.33
Total Fixed Income	16				
Core Real Estate	5.0	5.8	6.5	12.6	0.25
Value Add Real Estate	5.0	7.8	8.9	15.5	0.36
Infrastructure	3.0	7.8	9.1	17.3	0.34
Total Real Assets	13				
Hedge Fund	5.0	4.6	4.9	7.7	0.21
Private Equity	18.0	9.2	12.1	25.8	0.34
Private Credit	5.0	8.2	9.0	13.0	0.44
Total Non-Public Investments	28				
Cash	1.0	3.3	3.3	1.2	-
Total Allocation	100				

	FWERF
Mean Variance Analysis	
Forecast 10 Year Return	7.5
Standard Deviation	13.0
<i>Return/Std. Deviation</i>	<i>0.6</i>
<i>1st percentile ret. 1 year</i>	<i>-18.7</i>
Sharpe Ratio	0.37

Based on this analysis, the Fund's expected average annualized return for the next 10 years is 7.5% with a 13.0% standard deviation and a Sharpe Ratio of 0.37. These metrics indicate a strategic asset allocation that is well-aligned with FWERF's policy objectives, particularly to exceed the Fund's discount rate assumption (7.0%).

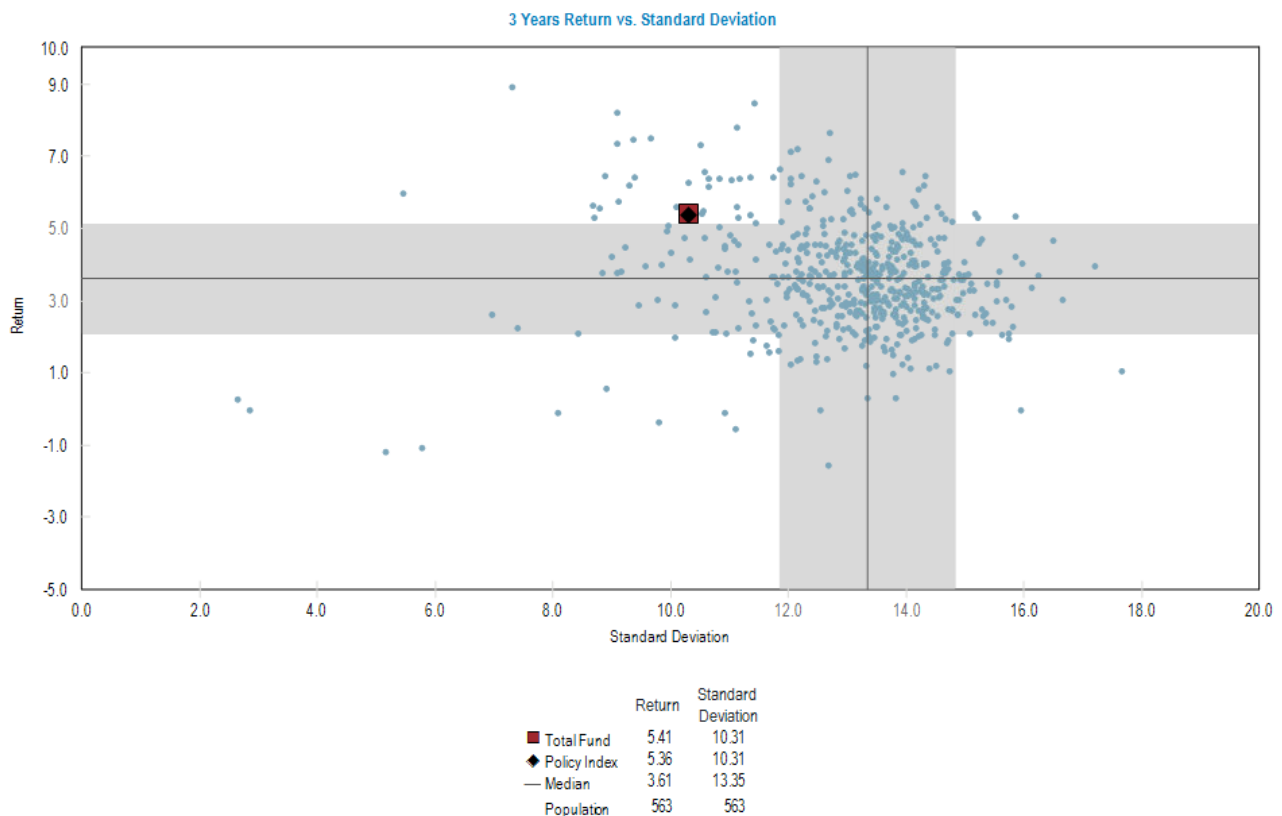
Typically, asset allocation accounts for upwards of 90% of performance and risk. In the U.S., publicly-sponsored plans have varying funding levels, maturity levels, as well as different abilities, and willingness, to take risks. Given this, many peer plan's asset allocations appear significantly different from FWERF's asset allocation. However, we can use peers as a comparison to gauge if FWERF's performance is reasonable given its asset allocation and risk profile. The table below examines FWERF's performance versus benchmark and peers for the time period ended September 30, 2022.

	1 Yr	3 Yr	5 Yr	10 Yr
Total Fund	-8.8%	5.4%	5.1%	6.4%
Policy Index	-10.3%	5.1%	5.0%	6.3%
Percentile Peer Ranking	25 th	39 th	54 th	64 th

Performance as of 9/30/22. Peer group – InvMetrics Public DB >\$1B, Peer group population 68

Based on these performance comparisons, Verus views FWERF’s performance as being in line with expectations. The strategy has beat the Policy Index for the 1, 3, 5, and 10-year time periods, indicating superior manager selection and tactical shifts from their asset allocation. The Fund has a significant allocation to private, alternatives and illiquid investments, which have performed well despite the recent downturn in public markets. The Fund is slightly under median in the 5 and 10-year time periods due to allocation differences compared to its peers.

As mentioned previously, plans in the universe may look different for a variety of reasons. One way of reviewing the effectiveness of a plan is to compare risk and returns for the plan versus the universe. The chart below depicts risk-adjusted returns for the fund and policy and universe.



Based on this analysis, the Fund’s actual returns and standard deviation are nearly equal to that of the Policy Index, but compare favorably versus the overall universe. The crosshairs in the chart above show the

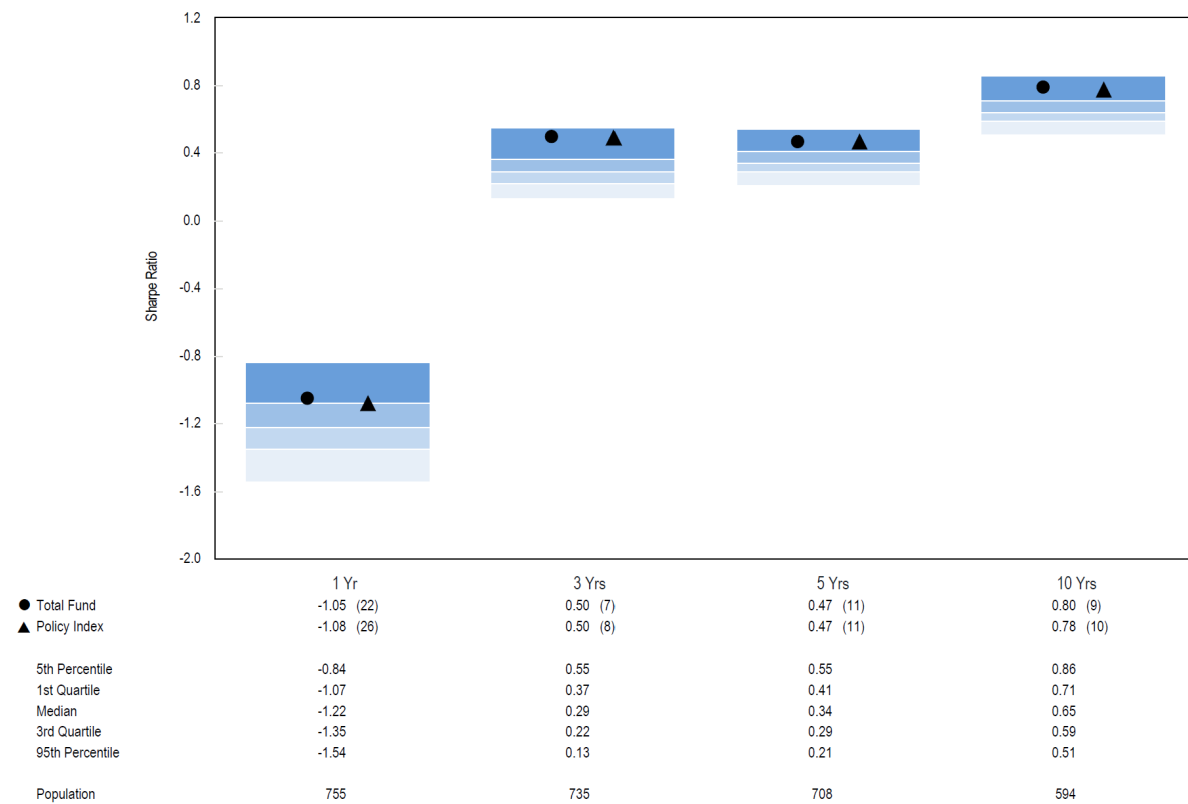
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universe median. The Fund returned 180 bps above the median peer, while taking less risk (i.e., a standard deviation of 10.31% vs 13.35%). FWERF's high usage of illiquid investments is responsible for both the higher total return and lower standard deviation for this time period. Most private investments are independently valued annually, with adjustments made quarterly throughout the year. As a result, prices (and therefore, returns) are smoothed versus public markets. An example of this can be seen in 2022, when public markets reacted negatively to inflation and multiple rate hikes while private markets appeared more stable.

Another metric which allows us to compare performance per unit of risk is the Sharpe ratio¹. The chart below shows FWERF's Sharpe ratio as compared with peers.

Total Fund
Sharpe Ratio Ranking (Net of Fees)

Fort Worth Employees' Retirement Fund Asset Class Plan
Period Ending: September 30, 2022



Similar to what we noted in the risk/return analysis, FWERF's Sharpe ratio for both the Policy Index and Total Fund are in the top quartile of an appropriate peer universe for all shown time periods. The total fund had a 10-year Sharpe ratio of 0.8, 1 bps behind its Policy Index, but well ahead of the median peer Sharpe ratio (0.65) indicating a successful implementation of its policy adjusted for risk.

¹ The Sharpe ratio is the portfolio's excess return over a risk-free rate divided by the portfolio standard deviation

Portfolio Structure

Active vs. Passive Management

FWERF believes in the value add of active management but does have meaningful passive exposure within its public equities in recognition of the high degree of market efficiency in this asset class. The Fixed Income, Real Estate, Diversified Opportunities, Private Equity, and Real Assets asset classes are 100% active management. This is due to the nature of private investments, and opportunities for potential alpha within Fixed Income.

The table below shows the amount of passive exposure in the Fund through September 30, 2022. Some passive exposure exists to balance out unintended risk factor exposure within the portfolio, for example adding passive value exposure to balance active growth managers within domestic equity.

Passive Investments

Global Equity Passive	31.8%
Cash	1.5%
Total Passive	33.3%

Active Investments

Global Equity	9.2%
Fixed Income	14.3%
Private Equity	13.2%
Diversified Opportunities	12.0%
Real Assets	18.1%
Total Active	66.8%

Manager Evaluation

The FWERF board has delegated manager evaluation and selection authority to the CIO. This is defined in the Investment Implementation Procedures which are reviewed by the Investment Committee. As a result, FWERF has a separate due diligence policy to highlight the policies and procedures that need to be followed regarding manager selection. The Board, as fiduciary, will review this policy every two years to assure its accuracy and relevance and will amend the policy as needed to maintain a best-in-class process.

Manager Selection

A former Due Diligence Policy which guided the manager selection process was replaced by the detailed Investment Implementation Procedures which directs the CIO to use delegated authority for manager selection, sourcing, monitoring, and oversight functions.

Manager selection and sourcing is unique to three asset groupings (traditional assets, liquid alternative assets, and private assets). Each asset grouping has its own criteria outlined in the Investment Implementation Procedures. Verus' assessment of the Investment Implementation Procedures indicate

there is sufficient criteria and risk controls to guide the CIO to making decisions for each individual asset class.

Furthermore, there is sufficient communication and reporting criteria outlined within the Investment Implementation procedures to allow the Investment Committee to oversee the CIO in their delegated authority. This includes monthly reporting on pipeline, watch lists, quarterly third-party performance reporting, and quarterly reviews of asset allocation, risk, performance, and costs of the Fund.

Benchmarking

FWERF utilizes a combination of benchmarking approaches to help measure the ongoing effectiveness of its investment program, as described below. Further, benchmarking is reviewed periodically with the Investment Committee, with the latest review conducted in 2022. The review is conducted to ensure FWERF has the best available benchmarks for its managers, asset classes, and Policy Index. We consider it best practices to review benchmarks every 3-5 years to ensure all benchmarks remain relevant and up to date.

Public Markets

The Fund’s public markets investments are predominately passive and benchmarked against the broad market indexes they are designed to replicate. Public markets benchmarks found in the IPS and FWERF performance report are listed below.

<i>Investment Strategy/Asset Class</i>	<i>Benchmark</i>
Public Equity	MSCI AC World Index
NTAM R1000 Growth	Russell 1000 Growth Index
WCM Focused International	MSCI AC World ex USA Index
Wellington International Horizons	MSCI AC World ex USA Index
William Blair Emerging SC Growth	MSCI EM Index
William Blair Leaders	MSCI EM Index
NTAM ACWI IMI	MSCI AC World IMI Index
Equity Brokerage Account	N/A
Fixed Income	Bloomberg U.S. Aggregate Index
American Century Total Return Bond	Bloomberg U.S. Aggregate Index
Garcia Hamilton Aggregate	Bloomberg U.S. Aggregate Index
PIMCO Core Fixed Income TR	Bloomberg U.S. Aggregate Index

We believe these benchmarks are broadly appropriate. We recommend changing the William Blair Emerging Markets Small Cap Growth benchmark to the MSCI Emerging Markets Small Cap Growth Index to ensure the manager is evaluated versus an appropriate style benchmark. We further believe the use of peer universe data provides useful information by comparing each fund to a relevant peer universe of actively managed strategies. While useful for reviewing investment managers, it is less relevant for total asset classes, as the structure for asset classes can vary significantly for various public funds based on their investment philosophies.

Private Equity

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FWERF concluded a benchmarking study in 2022, in which the Fund changed their private equity benchmark. Prior to 2022, the Fund was using a public market equivalent benchmark (Russell 3000 +3% 1-qtr lagged.) The Fund changed to a peer-based benchmark (Cambridge Associates All PE 1-qtr lagged,) as it was more appropriate and better reflected current investment opportunities as well as provides the Board a better understanding of Staff's private equity strategy implementation decisions.

Diversified Opportunities

In 2022, FWERF also changed the Diversified Opportunities benchmark to better align with its benchmark philosophy. Prior to the review, the Fund was using a public markets equivalent benchmark of 50% Bloomberg US High Yield/50% Credit Suisse leveraged loan Index. During the benchmark review, the benchmark was changed to better reflect the attributes of the Diversified Opportunities asset class. The current benchmark is 70% Cliffwater Direct Lending Index: Senior only/ 30% Bloomberg US High Yield – 2% issuer capped. The new benchmark reflects a better alignment with the mix of public to private investments within the Diversified Opportunities asset class.

Total Fund

The Total Fund uses a blended benchmark based on the individual strategy benchmarks, weighted by the policy allocation to each. This is a typical approach that we believe is reasonable and appropriate.

Investment Management Fees

FWERF fees were evaluated from public fee disclosures, the Annual Comprehensive Financial Report, and investment performance reports. Fees are in line with expectations for each asset class. Typically, we see higher fees for asset classes such as Diversified Opportunities and Private Equity, which is the case for the Fund. These asset classes require managers to engage in expanded activities to add value, such as financially re-engineering company balance sheets or obtaining Board seats to effect change necessary to unlock hidden or potential value. As a result, they typically charge a higher fee for their services.

The fee schedule below was pulled from the September 2022 investment performance report. The fees are shown on a quarterly basis.

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Name	% of Portfolio	Market Value	Estimated Annual Fee (%)
Public Equity	40.92	1,026,227,593	0.21
WM Blair Emerging SC Gr Inst (WESJX)	0.65	16,377,597	1.25
NTAM ACW IM Index (CF)	11.10	278,430,251	0.02
NTAM Collective R1000 Growth F (CF)	3.41	85,555,849	0.02
Wellington International Horizons (SA)	3.44	86,303,206	0.60
WCM Focused International (SA)	3.08	77,123,334	0.75
Equity Brokerage Account	17.26	432,903,013	0.09
Fixed Income	14.33	359,350,663	0.25
American Century Total Return Bond	6.01	150,605,670	0.25
Garcia Hamilton Aggregate (SA)	3.18	79,825,630	0.20
PIMCO Core Fixed Income Total Return (SA)	4.01	100,568,677	0.34
Fixed Income Brokerage	1.13	28,350,686	0.04
Diversified Opportunities	12.00	300,982,113	1.24
ERF Hedge Funds	8.05	201,879,664	1.56
Opportunistic Credit	0.87	21,891,608	0.73
Public Credit	3.08	77,210,840	0.56
Loomis Sayles & Company LP High Yield (SA)	1.78	44,609,667	0.44
Stone Harbor EM Debt Inst (SHMDX)	1.30	32,601,173	0.71
Private Equity	13.17	330,343,775	1.14
Other Private Equity	12.29	308,273,931	1.19
Venture Capital Private Equity	0.88	22,069,844	0.50
Real Assets	18.11	454,142,052	0.71
Private Real Estate	15.10	378,700,712	0.77
Core Real Estate	7.59	190,213,951	0.65
Non Core Real Estate	7.52	188,486,761	0.90
Other Real Assets	3.01	75,441,340	0.41
Harvest Fund Advisors MLP Alpha (SA)	1.42	35,711,313	0.75
Real Assets Brokerage	0.88	21,970,187	0.18
Real Assets LP	0.71	17,759,840	-
Cash	1.46	36,705,676	-
Cash Control (SA)	1.46	36,705,676	-
Total Fund	100.00	2,507,751,872	0.55

Verus' believes FWERF's investment management fees are reasonable based upon our review and knowledge of fees incurred by other public funds. Trading costs were not evaluated in our review as trading within separate accounts is delegated to investment managers. FWERF does not conduct any internal portfolio management or trading activities.

Disclosures

With respect to assessing investment-related disclosures, we reviewed a sample of recent annual reports for other public pension plans, including CalPERS, Texas Municipal Employees Retirement System, Contra Costa County Employees Retirement Association, and Houston Firefighters. While there were variances in presentation style and format, each plan covered similar information within the following broad categories.

- Management discussion
- Summary of investments
- Investment returns
- Managers and investment fees
- Top holdings

In absolute and relative terms, we found FWERF's disclosures to be a reasonable and sufficient representation of its investment program.