August 31, 2020

Ms. Theresa Taylor
Chair of the Investment Committee
California Public Employees' Retirement System
400 P Street
Sacramento, CA 95814

Re: Consultant Trust Level and Program Reviews

Wilshire's 2020 program reviews takes a broader, more holistic approach (versus previous reports which examined asset class programs individually) with an emphasis on how the various programs combine to influence Total Fund results. The review process included virtual onsites with both video conference and teleconference discussions with senior team members across the following programs and functional areas:

- Research & Strategy Group
- Trust Level Portfolio Management
- Global Equity
- Global Fixed Income
- Opportunistic Strategies
- Real Assets – general oversight

These formal discussions have been supplemented with regular conference calls with the Managing Investment Directors (MIDs) and key investment personnel throughout the year to discuss team structure, portfolio construction, positioning, and performance. This opinion letter starts with an organizational review that is consistent across each program, followed by a summary and review of the individual programs, and wraps up with an appendix of the scores for each program consistent with past annual reviews.

Organization

In evaluating the quality of an asset management organization, Wilshire assesses factors contributing to the stability of the organization and the alignment of incentives between the team and the organization's long-term objectives. This year's overall Organization score (see appendix) is materially impacted by the resignation of the Chief Investment Officer (CIO). While the Board has been clear in the strategic direction driven by the approved portfolio asset allocation, the process of making the significant number of investment decisions associated with implementing that strategic portfolio is now in flux. Wilshire is confident that senior Investment Office (INVO) professionals, including the Deputy Chief Investment Officer (DCIO) acting as the interim CIO, are capable investors who understand the complexities and nuances of managing a large pool of capital. Nevertheless, the search for a permanent CIO cannot help but be a distraction for the broader organization, and Wilshire's evaluation reflects that reality. There is substantial room for improvement in the overall evaluation score, but that will require meaningful continuity in investment team leadership.

Wilshire's score does take into account positive impacts from the filling of the new DCIO role, and new Managing Investment Directors (MIDs) in Private Equity and Real Assets. As evidence of CalPERS' strong senior team, the former MID of Global Equities assumed the DCIO position for total fund strategy, ensuring a level of continuity and the ability to provide oversight of the Global Equity portfolio until the second DCIO position is filled. However, that impact is overwhelmed by the uncertainty driven by the recently vacated CIO position, as well as negative impacts from the departure of other senior staff members such as the MID of Real Assets and Investment Directors (IDs) in various asset classes.

The impact from potential changes in the structure of the investment teams and their resulting compensation contributes to that elevated uncertainty as well. There are a few pending retirements that will require backfilling through recruitment or promotion, and it is critical to ensure that sufficient resources are in place to execute on the Board's strategic investment decisions. While the departure of the CIO and pending retirements highlight instability for INVO staffing and gives Wilshire pause, we also believe that this is also an opportunity to continue shaping INVO culturally and strategically to focus on Total Fund performance. During this period, it is absolutely crucial to maintain a focus on Investment Belief #4 – long-term value creation requires effective management of three forms of capital: financial, physical and human; and #10 - strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives. Wilshire remains attuned to the uncertainty in the current environment, and the organizational score reflects that.

Ensuring that CalPERS continues to have the tools necessary to recruit and retain qualified, diverse candidates should be a strong focus. As a governmental entity, CalPERS faces some unique organizational risks that for-profit enterprises have greater flexibility in managing, such as the inability to provide employees direct and indirect ownership opportunities. These long-term forms of incentives are common within private sector investment organizations and can serve as significant retention tools. The absence of such compensation structures can expose the organization to the increased risk of losing intellectual capital at the INVO Senior Staff level to asset managers and other financial institutions. We do note that the organization has made strides to adjust pay scales to be more competitive in the marketplace, as well as aligning incentive compensation with Total Fund performance objectives. This includes a Long-Term Incentive Plan designed around exceeding the overall Fund's 7% return target, which helps align Staff incentives with those of the plan stakeholders.

During fiscal year 2020, we saw continuing evidence of a commitment to breaking down asset class silos and focusing on improving Total Fund performance. This includes centralizing study of the overarching strategic direction for the portfolio within the **Research & Strategy Group (RSG)**, which provides economic analysis and quantitative research to evaluate investment opportunities across INVO. Research projects include analysis of equity valuation signals for portfolio management, evaluating the efficacy of the diversification properties of fixed income in a low interest rate environment, and examining expected premiums in private markets. This information is utilized by senior investment staff through the Investment Management Committee to assess opportunities and align individual investment program positioning to support the Total Fund objective.

RSG was instrumental in the investment strategy review, which evaluated all of the active risks taken in the Total Fund. This resulted in concentrating on those strategies where CalPERS believes it has a sustainable edge to drive outperformance. This rationalization of strategies is well aligned with Investment Belief #7 - CalPERS will take risk only where they have a strong belief they will be rewarded for it, and #8 – Costs matter and need to be effectively managed. Sustainable investment research will also be a focus for the RSG and they will liaise with the interim MID for Board Governance & Sustainability.

With the departure of the MID for Sustainable Investments (SI) in early 2020, SI will no longer act as a standalone team. In liaison with the interim MID for Board Governance & Sustainability, some former SI team members and others from INVO have formed a newly integrated sustainable investment research function within the RSG and will be responsible for providing weekly reports and case studies of how ESG issues are impacting asset values, including cases of fossil fuel asset impairment / write-downs.

The role of **Trust Level Portfolio Management (TLPM)** within INVO has changed quite a bit over the last fiscal year. The last program review in 2019 highlighted the functions for this program:

- Strategic Asset-Liability Management
- Dynamic Asset Allocation
- Portfolio Strategy Research
- Investment Manager Engagement
- Total Fund Business & Analytical Services

In total, 62 full time employees (FTE) ranging from MID to support staff were responsible for covering all 5 of these important functions. Senior management continued to reshape this team over the last 12 months and the current TLPM program is tasked with the following functions:

- Strategic Asset-Liability Management
- Execution Services and Strategy (ESS) - migrated from the Opportunistic Strategies program
- Affiliate Fund Management - migrated over from the Global Equity program

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Given the reduced scope of the program, the resources associated with it has also decreased to a total of 28 FTE working across these functions, which includes an open MID position supported by 5 ID's. Before discussing the current scope of the program, it is important to briefly discuss the migration of the other functional areas and where they currently reside within INVO:

1. Dynamic Asset Allocation – As part of the active management review, many of the strategies within this sleeve of the portfolio were reduced or eliminated (MAC investments). Going forward, any dynamic tilts in the portfolio reside with the CIO, after input from RSG and the IMC, rather than within TLPM. With the recent resignation of the CIO, that responsibility falls to the interim CIO. It will be important to monitor how a new permanent CIO will manage this aspect of total portfolio construction.
2. Portfolio Strategy Research – As summarized above, this group was pulled out of TLPM and turned into a centralized function supporting the whole of INVO. The RSG will also help support TLPM with capital market assumption research in service to the asset-liability management process.
3. Investment Manager Engagement – This function oversees investment manager selection and assessment including the Emerging Manager program. This was originally a function housed within Global Equity that was slated to transition to TLPM during FY 2020. Due to the overall restructuring of TLPM, that transition was reversed and this remains a function with the Global Equity program.
4. Total Fund Business and Analytical Services – This team now resides under the DCIO rather than as a separate function within TLPM.

The remaining function of the group is the Strategic Asset Liability Management that focuses on implementing the strategic asset allocation set by the Board, and investment views that come out of the RSG. TLPM will also continue to manage the ALM process (in collaboration with RSG) and has been a key part in delivering education on the market environment and expectations to the Investment Committee.

In addition to managing the strategic implementation of the ALM, two other areas were rolled into TLPM:

1. Execution Services & Strategy (ESS) - The ESS platform is designed to reduce operational risk by centralizing trading to a large extent for both Global Fixed Income and Global Equity. Formerly this was managed within the OS (Opportunistic Strategies Program), however with a focus on execution for the Total Fund it made more practical sense to place this within TLPM. The overall day to day functions of this group (14 FTE) are not affected by where it officially resides, as centralized execution and financing was already the mandate of the group.

2. Affiliate Investment Programs - AIP used to operate within the Global Equity program even though the investment programs include global equities, fixed income and real

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assets. The largest asset pools include the California Employers' Retiree Benefit Trust ($11.5 billion), the Public Employees' Long-Term Care Fund ($5.4 billion) and the Judges' Retirement System II Fund ($2.0 billion). AIP responsibilities also include the supervision of two Supplemental Income Plans (SIP) within a defined contribution platform with $1.7 billion in participant assets. Combining AIP with the PERF portfolio made sense from a structural standpoint given some of the synergies that go into the ALM process for those portfolios. Given the mandate of TLPM to manage and implement the PERF ALM process, moving it to TLPM was a logical choice. The integration of AIP with PERF will be a continued initiative for the group going forward.

In terms of the evaluation for TLPM, Wilshire views many of the changes positively as a more focused scope on implementation should make results easier to evaluate and repeat or adjust. The de-emphasis on actively managed strategies within TLPM increased our scoring as this keeps the focus of the team on the Total Fund vision. Our implementation score also increased with ESS rolled into the team along with some additional resources from other programs to help manage AIP and overall portfolio implementation. At the team level, we have slightly lowered our score given the upcoming retirement of the current MID and the replacement still to be announced. However, there is the potential to increase the score in subsequent reviews with a higher level of investment staff stability.

Utilizing Wilshire's standard manager research scoring framework, Wilshire's qualitative assessment of the Program places it in the 4th decile which is the same as last year's review. With the decrease in scope of this program, including the transition of the RSG to a separate centralized team, it may not necessitate a formal review going forward. Wilshire will work with the Board and Staff to determine best practices as it pertains to formal review going forward.

INVO has focused a significant amount of time on improving the management of liquidity for the Total Fund. A centralized liquidity dashboard provides INVO with a holistic view on liquidity sources and uses over different time horizons. This allows CalPERS to optimize liquidity management on an ongoing basis. Taking advantage of the most efficient and least costly sources of liquidity will be critical for implementing and maintaining some of the strategies discussed as part of the "7% Solution." Wilshire views this enhancement very positively and an improvement in the overall management of the portfolio. Additionally, summary reporting on liquidity is available to the Investment Committee to enhance oversight.

Other initiatives being undertaken are the increased utilization of the Board approved authority to invest in **Opportunistic Strategies (OS)**. This program will be discussed in more detail below, but it is worth highlighting as one of the key strategies deploying capital in idiosyncratic investment areas to improve Total Fund returns.

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Global Equity

The Global Equity (GE) Program's mandate is to efficiently deliver low cost global equity beta to the PERF, which provides the Fund strategic exposure to global growth and the equity risk premium. Equity returns on an absolute basis were challenged over the last fiscal year, primarily due to the global pandemic sell off in the first quarter of 2020, but on a relative basis the GE portfolio team was able to add value relative to the benchmark, netting a positive 21 basis points of relative return. Staff manages the portfolio within a narrow risk budget (i.e. tracking error) and this risk budget aligns with continuation of moving the GE portfolio away from a portfolio that contains material active management. Of the $206.2 billion within GE, $199.3 billion is now invested in index-oriented accounts which equates to 96.6% of the portfolio. This is an increase of over 20% compared to June 2019 when index-oriented accounts comprised 75.8% of the portfolio.

The GE team realized a decrease in headcount of 10 individuals since the previous fiscal year and has one remaining open IO III position. This decrease is not a concern given that the resources were moved to other areas as part of the centralization of the Research & Strategy Group (RSG) as well as to critical areas of overall portfolio implementation that is now managed within TLPM. Given that the GE portfolio is so heavily index oriented, the need for dedicated research staff within the team is not as important and having the ability to tap into the RSG provides adequate coverage.

As can be seen in the chart below, the GE portfolio exceeded its benchmark by 0.21% in the 2019-2020 fiscal year and by an annualized 0.04% and 0.2% over the latest five and ten year fiscal year periods, while underperforming over the last three years. The portfolio has also contributed very strong absolute returns over the ten-year period (9.7% annualized), which no longer includes the Global Financial Crisis of 2008-2009. The strong relative performance over the last year has improved our evaluation of the forecasting success for the GE team compared to last year.

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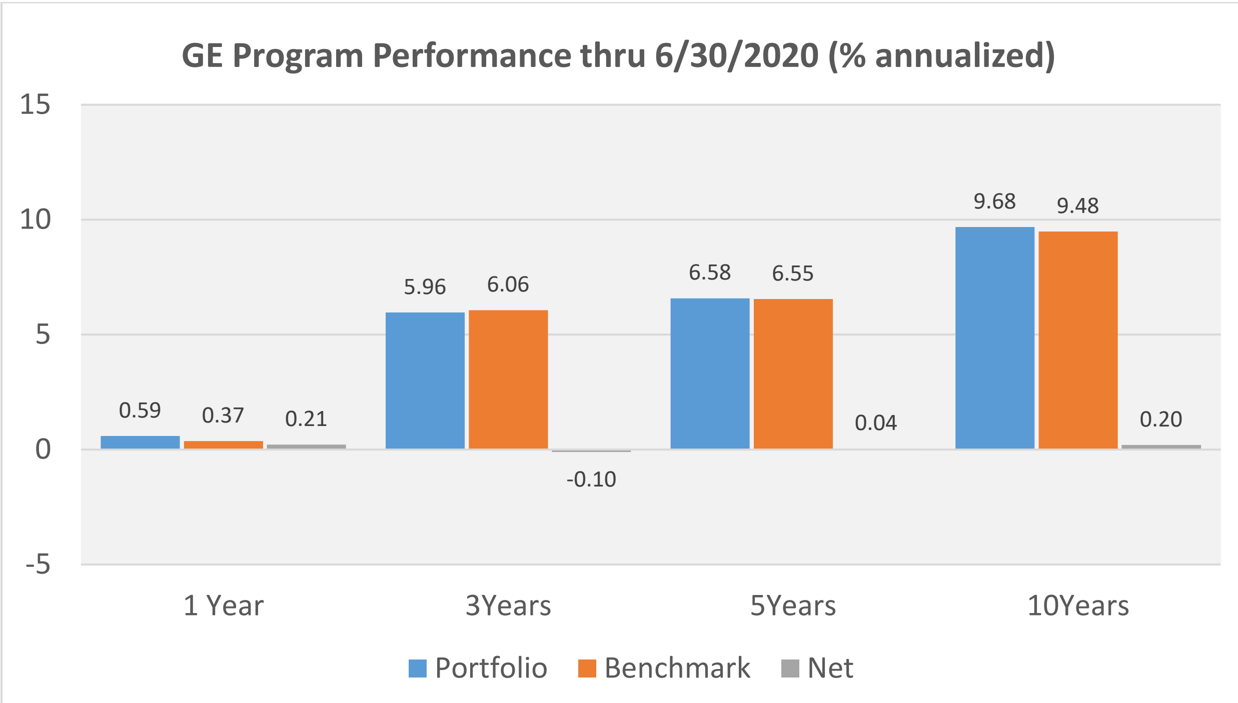

The overall construction of the GE portfolio is now predominately index-oriented with the elimination of a majority of the actively managed strategies across the portfolio. As can be seen in the table below, there was a 20.8% increase in index-oriented strategies that resulted from a corresponding reduction in Traditional, Alt Beta, Activist, and the Emerging Managers program. The change in the overall construction of the portfolio did not change the scoring as the portfolio was already highly rated and these changes continued an evolution that we noted in last year's review. It should be noted that the Emerging Manager Program returned to GE oversite after having been temporarily shifted into the TLPM program during fiscal 2018-2019.

June 2020 vs. June 2019

Managed	Index Oriented	Traditional (Active)	Alt Beta (Active)	Activist (Active)	Emerging Managers (Active)	Total
Internally	20.80%	-2.40%	-7.60%	0.00%	0.00%	10.80%
Externally	0.00%	-8.90%	0.00%	-0.30%	-1.60%	-10.80%
Total	20.80%	-11.30%	-7.60%	-0.30%	-1.60%	0.00%

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As of June 2020

Managed		Traditional (Active)	Alt Beta (Active)	Activist (Active)	Emerging Managers (Active)	Total
Internally	96.60%	0.00%	0.50%	0.00%	0.00%	97.10%
Externally	0.00%	2.60%	0.00%	0.00%	0.20%	2.90%
Total	96.60%	2.60%	0.50%	0.00%	0.20%	100.00%

One of the major challenges that investors faced during the drawdown events that transpired this year related to lack of liquidity across all areas of the market, which resulted in extremely high trading costs. In our discussions with the GE team, one of the accomplishments noted during the fiscal year was how staff dealt with market volatility and trading. During market dislocations like we experienced, rebalancing thresholds are typically exceeded, and staff is tasked with trying to weigh the cost-benefit of trading the portfolio at elevated costs versus increasing tracking error in the portfolio. Senior management gave the GE team sufficient flexibility to trade the portfolio intelligently (which in practice they have always had), as the magnitude of the trades given the volatility in the markets was larger than in years past. The ability of the team to implement the portfolio smartly in the face of this volatility is reflected in an increased score with regards to portfolio implementation.

From an attribution standpoint there is typically an inverse correlation between the need for attribution and a portfolio that is increasingly passive. The GE team continues to benefit from robust attribution capabilities that provide actionable information to help them manage to their modest risk budget.

The GE performance in the table below decomposes the overall segment into the subcomponents (Cap Weighted, and Factor Weighted). The recent performance of both subcomponents has been positive on a relative basis over the last fiscal year.

	Asset Value ($Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	VaR ($Billion)	5-Year Ratios Sharpe	Info
PUBLIC EQUITY	$ 206.2	18.0%	0.6%	6.0%	6.6%	9.7%	$ 40.7	0.4	0.1
Public Equity Policy Benchmark		17.8%	0.4%	6.1%	6.6%	9.5%		0.4	0.0
Public Equity - Cap Weighted	$ 148.3	20.4%	1.8%	6.1%	6.6%	9.7%	$ 32.2	0.4	0.0
FTSE Global All Cap Custom Index Net		20.2%	1.7%	6.2%	6.6%	9.5%		0.4	0.0
Public Equity - Factor Weighted	$ 57.9	12.0%	-2.6%	-.-%	-.-%	-.-%	$ 9.2	N/A	N/A
MSCI ACWI Select Factor Weighted Index		11.9%	-2.7%	-.-%	-.-%	-.-%		N/A	N/A

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Utilizing Wilshire's standard manager research scoring framework, Wilshire's qualitative assessment of the Program places it in the 3rd decile. While this is the same score as last year, it reflects a reduction in the organizational score and information gathering resources. Overall, the score continues to reflect the strong and appropriately sized team still in place after some recent changes and success at managing the evolving portfolio in the face of unprecedented volatility in 2020.

Global Fixed Income

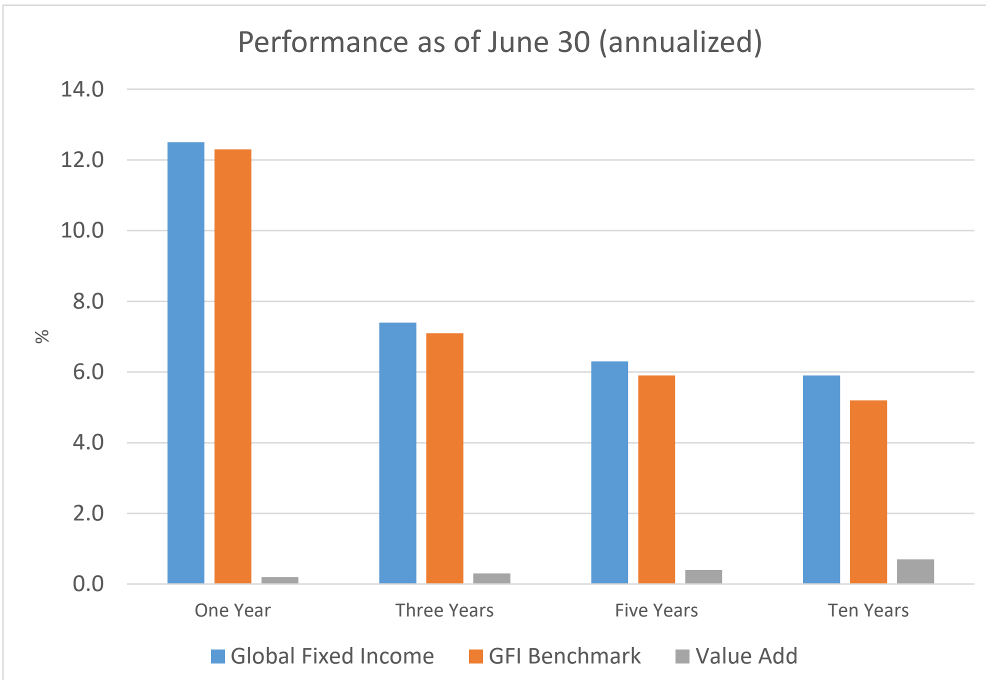
The CalPERS Global Fixed Income (GFI) Program is designed to diversify equity risk for the total fund and provide current income and liquidity. The Program is actively managed with 96.4% of the $109.9 billion in assets managed internally by staff, and the remaining 3.6% outsourced to external managers. The review process included discussions with senior staff members of each fixed income segment within the GFI Program. Review topics included Program investment process, personnel and resource management, as well as investment and risk management procedures.

We believe the Global Fixed Income Program is managed in an effective and risk-conscious manner, leveraging the deep expertise of the senior management team. It is important to note that the total size of the internal GFI team has declined and, in Wilshire's view, represents a risk factor to ensuring continuity of the demonstrated investment success of the portfolio. This has occurred with movement of some staff to other internal groups such as RSG, and while this is a positive for cooperation at the Total Fund level, it does detract somewhat from GFI resources. Senior GFI staff members continue to contribute a meaningful amount of time to various sub-committees designed to find ways to improve Total Fund performance. Staff's participation in these cross-functional initiatives provides important insights and is a reflection of their dedication to the success of the plan. This additional demand on the staff's time reinforces the need for efficient resource management, particularly with respect to recruiting and retaining talent for the organization.

The MID – Global Fixed Income understands this dynamic and is actively looking to build out and strengthen the team. The risk is mitigated by the experience level of the senior fixed income staff (AIM's and above) which provides a level of assurance that the successful implementation of the global fixed income program will continue.

GFI is broken down into three component segments: 1) Treasuries, 2) Spread sectors, and 3) High Yield. The roles and characteristics of each segment are sufficiently distinct that separating them during the asset allocation optimization process allowed for more efficient portfolio construction. Treasuries offer very high levels of liquidity and have offered solid protection against equity drawdowns, but experience direct sensitivity to interest rate changes. High yield bonds behave more like equities in bear markets but offer a significant pickup in yield versus other instruments and some diversification in more typical markets. Spread sectors represent the bulk of the portfolio and balance interest rate sensitivity with higher quality credit risk. This granularity allows for a higher level of flexibility in the asset allocation process to help achieve CalPERS' investment objectives.

The chart below shows the Program's historical performance relative to its benchmark.



Being the single best performing asset class in the portfolio during this turbulent fiscal year, the CalPERS GFI program generated positive value-add across all periods and added 20 bps over the benchmark for the most recent one-year period. The Program again benefited substantially from its longer duration exposure (vs. core fixed income) during FY 2020 as the dramatic shift down in the level of interest rates through the end of fiscal year 2020 boosted absolute performance of the fixed income portfolio. The Board should be aware that this tailwind for performance will be difficult to replicate as interest rates reach a lower bound, and this has implications for asset allocation strategy. Wilshire expects this to be a key topic of discussion during the upcoming ALM cycle.

The 12-month rolling returns and 3-year rolling correlation with Global Equity are shown in the following charts. Together, these demonstrate the strategic role the GFI portfolio plays in diversifying equity returns over different market cycles throughout the past 20 years.

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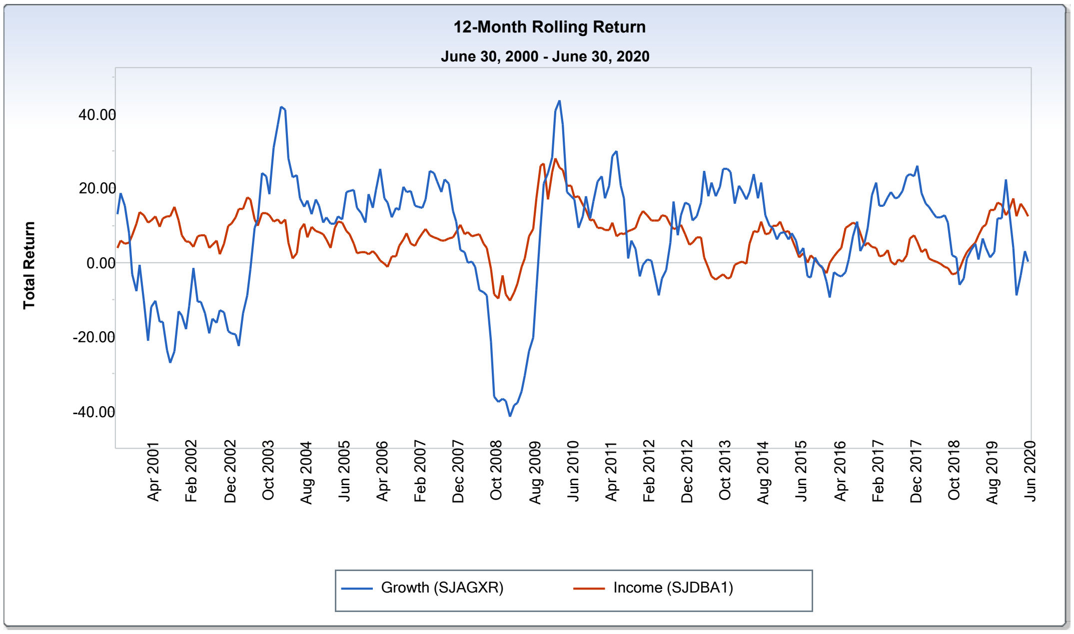

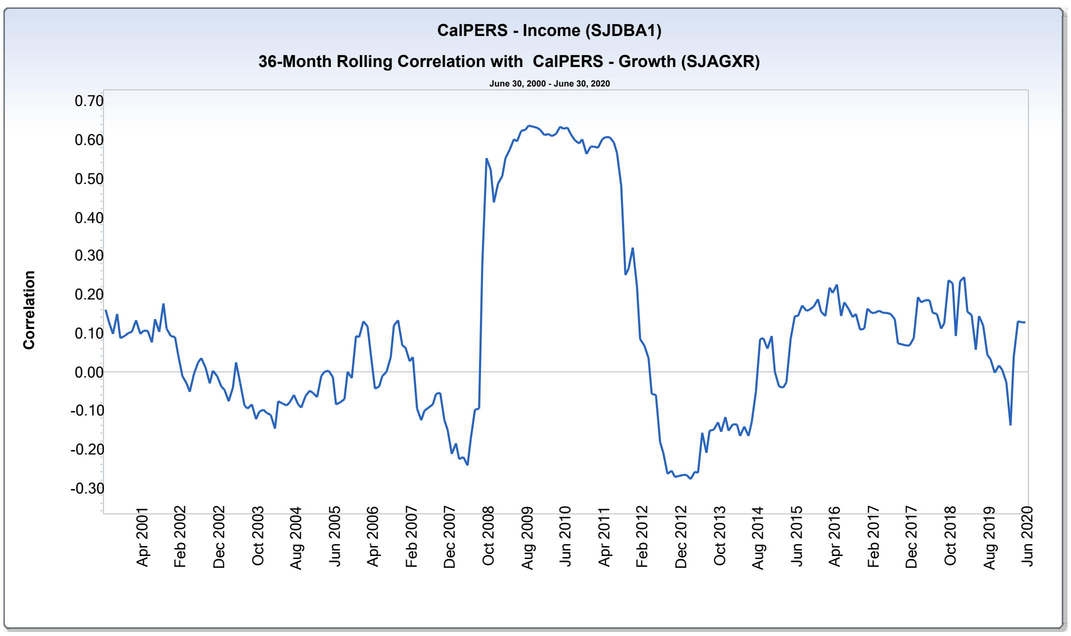

The underlying active strategies in the fixed income portfolio (Structured Securities, Credit, Sovereign) broadly outperformed over one, three, and five years. This has been a consistent theme and one reason for the continuation of internal active management within fixed income. The Total Fund active strategy review conducted this fiscal year did result in the elimination of certain sector strategies that were not expected to help achieve the stated objectives for the Total Fund. An ongoing, critical look into strategy efficacy from a Total Fund perspective is an important process that should be regularly undertaken.

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The GFI portfolio has consistently demonstrated a level of forecasting success as evidenced by the positive relative returns for the portfolio as a whole, which continues to rank very positively in Wilshire's evaluation. The portfolio construction approach is very well aligned with Investment Beliefs #1 – Liabilities, #2 – Long-Term Horizon, and #7 – Risk vs. Reward. The portfolio construction score did not change this year, as Wilshire would like to observe how, or if, the active risk positioning shifts.

The investment approach of the total GFI program remains consistent with its key strategic objective of providing income, stability, and equity risk diversification within the Total Fund. At the same time, GFI has outperformed its benchmark consistently through both sub-sector relative value decisions and tactical positioning. GFI portfolios have taken advantage of alpha generating opportunities in different markets, while maintaining relatively prudent risk positioning over time.

Utilizing our standard manager research scoring framework, Wilshire's qualitative assessment of the Program places it in the 3rd decile. While this is the same score as last year, it reflects a reduction in the organizational score and information gathering resources. Overall, the score continues to reflect the strong team in place and clear success at managing the portfolio as charged.

Opportunistic Strategies

The Opportunistic Strategies Program (OS) was established to invest in strategies that may not fit into one specific asset class / type, but possess characteristics that present relative value opportunities to enhance Total Fund performance. OS had three business lines last year, which included Execution Services and Strategy (ESS), Enhanced Beta and Opportunistic investments. The ESS business line was moved to the Trust Level Portfolio Management (TLPM) Program, reducing the OS team from 23 people to 8 (7 current and 1 open position). In addition, the previous MID of the OS Program has moved to the newly created RSG, transitioning the position to a senior member of the OS team. The new MID has extensive experience investing in Enhanced Beta and Opportunistic investments. However, given the new focus on opportunistic investments to take advantage of the recent dislocation in the market, the size of the team is considered small to completely build out a portfolio of strategies such as private credit. It will be important to ensure that the team's efforts are supported by broader INVO resources, particularly leveraging the insights of the Private Equity and Global Fixed Income teams.

OS investments have been focused throughout this past year on expanding the private credit sector, while taking advantage of the meaningful dislocations in the public credit sector that took place in March 2020. The Program has identified and categorized the relevant investment strategies as follows:

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- Bank Loans and CLO
- Public Markets Dislocation
- Middle Market Direct Lending
- Specialty Lending
- Liquidity Financing
- Real Estate Financing
- Structured Products and Whole Loans

The OS team has been evaluating opportunities within these strategies and has gathered a significant amount of knowledge with respect to their potential for risk adjusted return. The new MID is well-versed in credit due diligence and capital structuring, and has identified multiple managers within the space that present a wide range of opportunities for investment into funds as well co-investments. While the Program is still in its ramp-up phase, particularly with respect to these newly identified opportunities, the team has successfully managed the existing Enhanced Beta investments, composed of largely high quality CLOs and other structured finance strategies.

Last year Wilshire noted that as the OS Program ramps up, it will be important to develop a framework for generating ideas, establishing a governance process and implementing the strategies in a collaborative way from a Total Fund Perspective. To this end, the Total Fund Policy has been revised to include a 5% maximum (versus 3% previously) for the OS Program as a whole, as well as allocation ranges for the underlying strategies noted above. Staff Authority Limits with respect to different types of investment vehicles have also been specified. The portfolio construction process is less prescriptive due to the opportunistic nature of the investments. However, positive improvements have been made towards establishing the necessary governance process and the team is sourcing opportunities across the sub-strategies to achieve a diversified portfolio.

Wilshire notes that this Program is undergoing a significant change in its focus, particularly with respect to its investments in private credit. Therefore, it will be important to continue to closely monitor the Program's implementation process, as well as ensure that the strategic direction taken is consistently supported throughout the Total Fund.

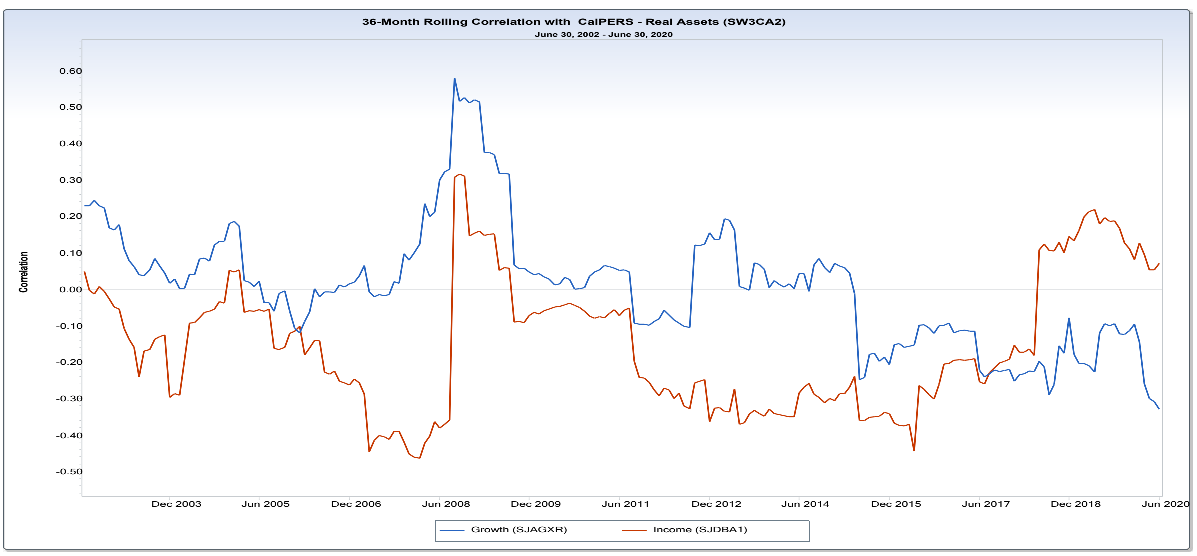
Wilshire's qualitative assessment of the OS Program remains as a 4th decile. Overall, we believe that the OS program continues to be led by talented staff, with a focus on enhancing the Total Fund performance by identifying opportunities in non-traditional asset classes. However, with the recent departure of the CIO, it will be important to see whether the Program will stay the course in building out the new portfolio.

Real Assets

Wilshire acts in a general oversight role with the Real Assets portfolio in order to provide the Board with a holistic view of the entire portfolio. This is meant to supplement the work that is provided by the dedicated real assets consultant, who will provide an in depth evaluation under separate cover. Further, Wilshire provides consultant oversight specifically related to Forestland, but that is a portion of the portfolio that has decreased in size and impact and as such does not warrant separate evaluation. Wilshire's work in Real Assets involves regular discussions with the MID to understand high-level investment initiatives, portfolio construction, performance attribution, and how risk is being managed in the portfolio.

Wilshire has been regular attendee at the Real Asset Investment Committee (RAIC), which discusses, debates, and ultimately approves portfolio transactions. Wilshire role in those meetings provides an additional layer of oversight on total Real Asset portfolio performance and strategic planning.

The strategic role of the Real Assets Program is to provide stable cash flows, serve to provide long-term inflation protection and act as a diversifier for equity risk. The 5-year correlation between the returns of the Real Assets Program and global equities has been low, measured at -0.24. It is important to note that asset class correlations are unstable and that in times of crisis they tend to increase. This is evident in the following chart that plots the rolling 3-year correlation of the Real Assets program relative to both the Growth and Income portfolios. Broadly, each has exhibited low levels of correlation outside of the late 2008, early 2009 period. More recently, the correlation with equity returns has moved lower while that to Income has increased.



Performance of the Real Asset portfolio was additive to the Total Fund for the last fiscal year on both an absolute and relative basis. This performance was primarily driven by the Real Estate portfolio, as both Infrastructure and Forestland lagged behind the benchmark. As with any private asset class, shorter term returns do not fully capture the performance of a program. As

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the table shows, the longer term results have lagged the policy benchmark with challenges in the Real Estate portfolio and the legacy impact of Forestland.

	Asset Value ($Billion)	Quarter	1-Year	3-Year	5-Year	10-Year
REAL ASSETS	**$ 44.1**	**-1.6%**	**4.6%**	**5.4%**	**5.9%**	**8.8%**
Real Assets Policy Benchmark		0.8%	3.9%	5.7%	7.0%	9.6%
Real Estate	**$ 37.4**	**-0.8%**	**5.5%**	**5.2%**	**6.1%**	**9.5%**
CalPERS Custom Real Estate Benchmark		0.8%	3.9%	5.8%	7.5%	10.5%
Infrastructure	**$ 5.4**	**-6.2%**	**0.2%**	**10.3%**	**10.0%**	**13.8%**
CalPERS Custom Infrastructure Benchmark		0.8%	3.9%	5.6%	5.6%	5.9%
Forestland	**$ 1.3**	**-3.3%**	**-0.1%**	**-3.1%**	**-3.7%**	**-2.4%**
CalPERS Custom Forestland Benchmark		0.8%	3.9%	4.7%	4.1%	5.2%

The Real Assets team incorporates an appraisal policy, which utilizes independent 3rd party appraisals as the basis for determining fair market value. With the uncertainty facing the real estate market in general, and retail in particular, there exists risk for property write-downs over this coming fiscal year. The new MID is focused on positioning the portfolio for the current challenging environment, while being cognizant to realize value where possible and refrain from sales in a market with limited transaction volume at depressed prices.

As discussed in previous reviews, the Real Assets program has focused on higher quality, stable income producing assets to a larger degree than seen prior to the credit crisis, which should provide greater diversification during risk-off market environments. Wilshire believes that Real Assets is appropriately structured to meet its strategic objectives and improve both the risk-adjusted returns of the Total Fund and relative results versus the Program benchmark.

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Appendix - Evaluation Scores for all Programs

CalPERS Global Equity	Tier	Letter
Total Qualitative Score	3rd	B

	Weight	Tier	Letter
Organization	**20%**	**5th**	**C**
FIRM	***50%***	**7th**	**D**
Quality and Stability of Senior Management			
Quality of Organization			
Ownership/Incentives			
TEAM	***50%***	**3rd**	**B**
Stability of Investment Professionals			
Quality of Team			
Commitment to Improvement			
Information Gathering	**20%**	**3rd**	**B**
Information Resources			
Depth of Information			
Breadth of Information			
Forecasting	**20%**	**3rd**	**B**
Clear & Intuitive Forecasting Approach			
Repeatable Process			
Strength, Clarity, and Intuitiveness of Valuation Methodology			
Forecasting Success			
Unique Forecasting Approach			
Portfolio Construction	**20%**	**1st**	**A**
Risk Budgeting/Control			
Defined Buy/Sell Discipline			
Consistency of Portfolio Characteristics			
Implementation	**10%**	**2nd**	**A**
Resources			
Liquidity			
Compliance/Trading/Monitoring			
Attribution	**10%**	**1st**	**A**
Depth of Attribution			
Integration of Attribution			

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CalPERS Global Fixed Income	Weight	Tier	Letter
Total Qualitative Score		3rd	B
	Weight	**Tier**	**Letter**
Organization	20%	5th	C
FIRM	*50%*	7th	D
Quality and Stability of Senior Management			
Quality of Organization			
Ownership/Incentives			
TEAM	*50%*	4th	B
Stability of Investment Professionals			
Quality of Team			
Commitment to Improvement			
Information Gathering	20%	1st	A
Information Resources			
Depth of Information			
Breadth of Information			
Forecasting	20%	2nd	A
Clear & Intuitive Forecasting Approach			
Repeatable Process			
Strength, Clarity, and Intuitiveness of Valuation Methodology			
Forecasting Success			
Unique Forecasting Approach			
Portfolio Construction	20%	2nd	A
Risk Budgeting/Control			
Defined Buy/Sell Discipline			
Consistency of Portfolio Characteristics			
Implementation	10%	2nd	A
Resources			
Liquidity			
Compliance/Trading/Monitoring			
Attribution	10%	2nd	A
Depth of Attribution			
Integration of Attribution			

Wilshire

CalPERS Opportunistic Strategies		Tier	Letter
Total Qualitative Score		4th	B

	Weight	Tier	Letter
Organization	**20%**	**5th**	**C**
FIRM	***50%***	**7th**	**D**
Quality and Stability of Senior Management			
Quality of Organization			
Ownership/Incentives			
TEAM	***50%***	**3rd**	**B**
Stability of Investment Professionals			
Quality of Team			
Commitment to Improvement			
Information Gathering	**20%**	**3rd**	**B**
Information Resources			
Depth of Information			
Breadth of Information			
Forecasting	**20%**	**3rd**	**B**
Clear & Intuitive Forecasting Approach			
Repeatable Process			
Strength, Clarity, and Intuitiveness of Valuation Methodology			
Forecasting Success			
Unique Forecasting Approach			
Portfolio Construction	**20%**	**3rd**	**B**
Risk Budgeting/Control			
Defined Buy/Sell Discipline			
Consistency of Portfolio Characteristics			
Implementation	**10%**	**3rd**	**B**
Resources			
Liquidity			
Compliance/Trading/Monitoring			
Attribution	**10%**	**4th**	**B**
Depth of Attribution			
Integration of Attribution			

Wilshire

CalPERS Trust Level Portfolio Management	Tier	Letter
Total Qualitative Score	4th	B

	Weight	Tier	Letter
Organization	30%	6th	C
FIRM	*50%*	7th	D
Quality and Stability of Senior Management			
Quality of Organization			
Ownership/Incentives			
TEAM	*50%*	4th	B
Stability of Investment Professionals			
Quality of Team			
Commitment to Improvement			
Information Gathering	18%	3rd	B
Information Resources			
Depth of Information			
Breadth of Information			
Forecasting	18%	5th	C
Clear & Intuitive Forecasting Approach			
Repeatable Process			
Strength, Clarity, and Intuitiveness of Valuation Methodology			
Forecasting Success			
Unique Forecasting Approach			
Portfolio Construction	18%	3rd	B
Risk Budgeting/Control			
Defined Buy/Sell Discipline			
Consistency of Portfolio Characteristics			
Implementation	9%	2nd	A
Resources			
Liquidity			
Compliance/Trading/Monitoring			
Attribution	9%	4th	B
Depth of Attribution			
Integration of Attribution			