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July 30, 2018

Mr. Henry Jones
Chair of the Investment Committee
California Public Employees' Retirement System
400 Q Street
Sacramento, CA 95814

Re: Opportunistic Strategies Program Review

Dear Mr. Jones,

You requested Wilshire's initial review of the Opportunistic Strategies (OS) program. The Program is in its build-out phase and is, therefore, expected to evolve as its role is integrated from the perspective of the Trust Level Portfolio Management (TLPM) program. In our review, Wilshire reviewed OS materials and discussed the Program's structure and goals with Staff.

Overview

The goal of the OS program is to bring additional value-add to the CalPERS' total fund by identifying compelling investment opportunities across asset classes and capital structures. The program can invest in strategies that may not fit into one specific asset class / type, but potentially possess characteristics that present relative value opportunities to enhance total fund performance.

The OS program currently has three business lines: Execution Services & Strategy (ESS), Enhanced Beta, and Opportunistic. The ESS function serves the same function as previously managed within the Global Equity program. The Enhanced Beta and Opportunistic portfolios are both designed to invest in strategies that present superior relative value return / risk profiles.

Since the OS program was just launched in 2017, this year's initial review focuses on the structure and key characteristics of the Program. As the Program becomes more established and both the Enhanced Beta and the Opportunistic portfolios become fully scaled / implemented, future program reviews will include Wilshire's scoring model utilized for other CalPERS' program reviews. For the purposes of this initial review, Wilshire will touch on the

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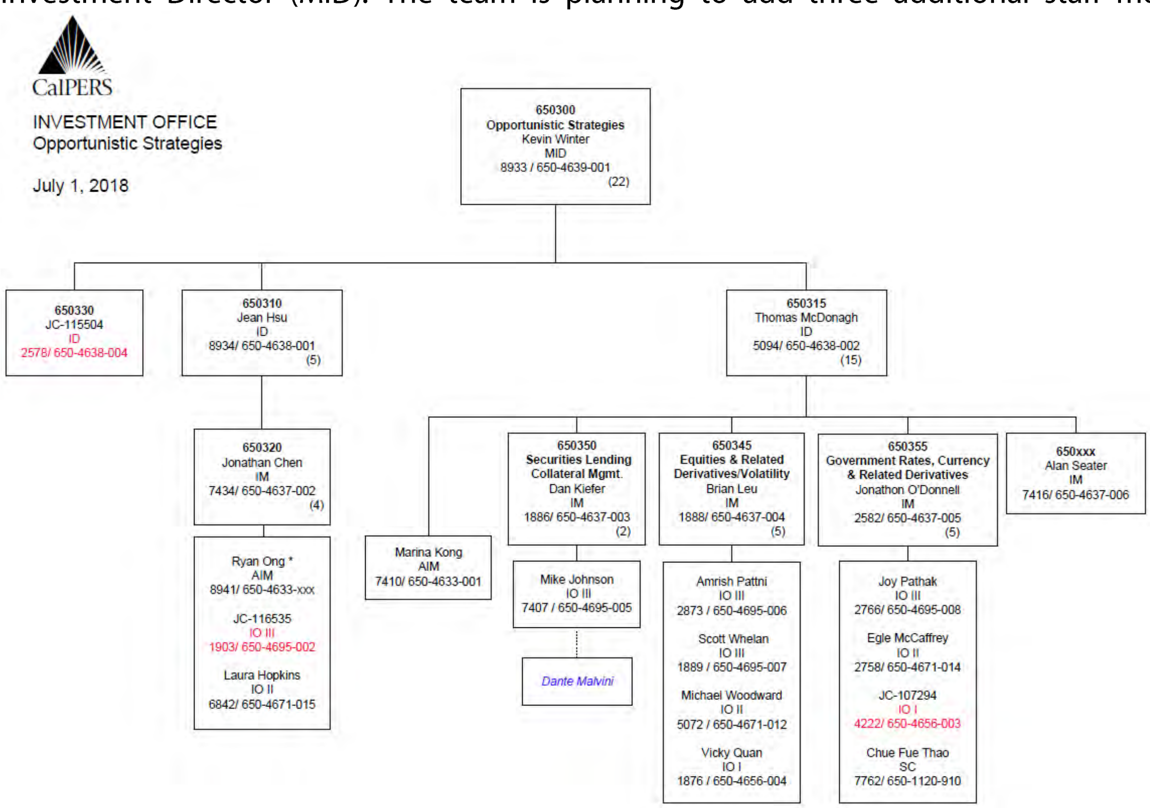
existing and planned OS program structure with respect to the below listed categories of due diligence.

- Organizational structure and governance model
- Strategy - research, analysis, model development, implementation
- Risk positioning and Implementation
- Environmental, Social and Governance (ESG) integration

Governance and Organizational Structure

The OS program is governed by the CalPERS Total Fund Investment Policy, which provides the framework under which CalPERS' assets are managed. The Enhanced Beta portion of the program is further guided by the Low Duration Fixed Income Program policies, as well as the Investment Policies, Procedures and Guidelines (IPPGs) of the Low Liquidity Enhanced Return (LLER) program. These IPPGs specify the responsibilities, risk parameters and restrictions of the program. Wilshire and the CalPERS Investment Committee recently reviewed these policies and guidelines.

The OS team is comprised of 22 staff members, under the direction of a dedicated Managing Investment Director (MID). The team is planning to add three additional staff members.



While the MID oversees all three functions of the OS program, the team has dedicated responsibilities between the ESS and Enhanced Beta / Opportunistic portfolios. As of now, four IMs and seven IOs are responsible for the ESS portfolio. The ESS function had been managed within the Global Equities program and was moved into the OS program during the 2017-2018 fiscal year. The transition included a change in MID in charge of the team. The impact of this transition is not yet clear but with any transition, there is increased turnover risk. The stability of the team going forward will be a key aspect of our future reviews.

As for the Enhanced Beta and the Opportunistic teams, additional resources will be important as the program expands, particularly in generating new opportunistic investment ideas and working with the TLPM program to manage total fund liquidity.

Strategy

The OS program has three business lines as specified above.

Execution Services & Strategy (**ESS)** - Centralized hub for efficient execution of CalPERS' trading operations across equity securities, derivatives, lending and currency markets. The goal is to reduce operational risk by centralizing transactions across the asset class silos.

Enhanced Beta – LIBOR / futures based strategies that can generate enhanced returns through structuring and the use of synthetic securities. These include highly rated collateralized loan obligations (CLOs) and short-term rate-based credit instruments. This portfolio is expected to be scalable and focused on opportunities where the potential for capital loss is very low. The portfolio is also expected to coordinate with the Trust Level Portfolio Management (TLPM) program in liquidity and leverage management. The Enhanced Beta portfolio currently has investments in select strategies, with the goal of scaling up to 2-3x the current size.

Opportunistic – Pursue truly opportunistic investments resulting from shorter-term market valuation or structural anomalies. These investments may be outside of the defined asset classes and, therefore, unsuitable as strategic allocations, but present additional return potential for the total fund. The program will work closely with TLPM in terms of funding potential strategies, in order to allocate active risk efficiently across the total fund.

Risk Positioning and Implementation

As of now, the program has investments in the Enhanced Beta portfolio and is in the process of shoring up strategies for the Opportunistic portfolio. Risk profiles for the two portfolios are distinct. The Enhanced Beta portfolio will be invested in relatively low risk, low duration but enhanced return profile through structuring, both from financial and credit underwriting perspectives. The Opportunistic portfolio is expected to take structural risks in the market, with a higher return / risk profile compared to the Enhanced Beta portfolio. The Opportunistic

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portfolio may work with external strategic partners to efficiently identify opportunities in the market and / or to quickly implement CalPERS' ideas. The implementation of this process will depend on specific investment ideas and Wilshire expects this to be a key area of focus in future reviews.

As for the ESS portfolio, the team is responsible for achieving best possible execution for trades that occur within liquid markets, securities with narrow bid/ask spreads, exchange-traded and cleared securities, and trades with shorter settlement periods. The ESS team also has oversight of structural alpha opportunities, such as enhanced securities lending and the implementation of the volatility harvesting strategy. The team has expanded the securities lending mandate to utilize non-cash collateral to increase alpha opportunities.

The team is considering streamlining the existing order management system, as well as improving lines of communication across its internal clients. To that goal, they are exploring breaking down physical team location silos to have proximity between the ESS team and the GE / GFI teams. Wilshire views this initiative as positive and will look to assess its effectiveness going forward. Overall, while a significant part of the OS program staff are dedicated to this function, Wilshire views additional trading expertise and resources as an important factor to ensure the success of the ESS team.

ESG Integration

At this point, given that the program has yet to be fully built out, its focus on ESG integration into the portfolio is not yet clear. As the portfolio strategies are implemented, the OS program should leverage its close coordination with TLPM in measuring its ESG factor impact on the total fund.

Conclusion

Though still in its early stages, Wilshire views the build out of the OS program positively. The investment portfolio profile and implementation processes will evolve going forward, and to some extent by definition should continue to change as the market does. However, CalPERS has strong internal expertise to manage the current strategies. As the program expands, Wilshire will assess in detail on an ongoing basis the effectiveness of resource allocation, and the efficiency of coordination with TLPM to add value across the total fund.

Should you require anything further or have any questions, please do not hesitate to contact us.

Best regards,