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November 30, 2016

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

Re: Review of Tobacco Restrictions

Dear Mr. Jones:

You requested Wilshire's opinion with respect to CalPERS' tobacco investment restrictions. We believe that an understanding of the expected return, risk, and costs associated with the current or alternative restrictions when viewed through the lens of CalPERS Investment Beliefs can provide a framework for understanding the potential impacts and making a decision.

It is critical to note that the "success" of any option chosen by the Investment Committee will only be known after a long period of time and many confounding events or variables may occur along the way that change the actual outcome in an unexpectedly positive or negative way. **Thus, Wilshire feels that the Investment Committee should focus on using a reasonable process to weigh the merits of the various options, rather than trying to predict the future outcome of the options presented.**

On a regular basis, Wilshire provides CalPERS an estimate of the impact of the various divestments/restrictions that have affected the investment portfolio. Reiterating a point that we make each year, these analyses are forensic in nature and do not pass judgement or comment on the political, social, health, or moral merits of any of the divestment activities.

Current State

Currently, CalPERS does not permit investment in tobacco-related securities within internally managed portfolios. External managers may invest in tobacco-related securities, even though their benchmarks do not include tobacco-related securities. Since the CalPERS Investment Committee decided to implement the tobacco restrictions in 2000, the estimated opportunity cost of the tobacco restriction has been

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$3.68 billion, as noted in Wilshire's Tobacco Divestment Analysis, presented as an attachment to this agenda item.

Wilshire believes that CalPERS' current state is an important factor for the Investment Committee to consider. Any change from the current state implies that the future state is "better" in some way – presumably with higher expected returns or lower expected volatility.

Expected Return

While CalPERS has experienced material opportunity costs over the period in which the tobacco restrictions have been in place, there is no guarantee that future returns will emulate the past. Though Wilshire forecasts returns for 10 and 30 year periods for a variety of asset classes, we do not forecast returns for individual industries, as we do not believe that we have unique insight into the expected relative returns of any one industry versus other industries (i.e. the broader market).

Even though the MSCI AC World Tobacco index exhibits certain fundamental characteristics that might be attractive relative to the MSCI AC World index (higher dividend yield, higher profitability), there are other characteristics that are relatively less attractive (P/E, P/BV). It is fairly certain that the performance of tobacco-related securities will differ from the broad benchmark in the future. **However, it is impossible to know with any degree of certainty, *a priori,* if tobacco-related securities will outperform or underperform the broad market.**

Expected Risk

Quantitatively, the exclusion of tobacco-related securities has an impact on the expected volatility. CalPERS has decided to take on equity volatility as a part of its asset allocation. The exclusion of tobacco-related securities has a small impact on the expected total volatility as the restricted portfolio is marginally less diversified than the broad market. However, the difference in forecasted total volatility is small – Wilshire's risk systems project total risk of 12.67% for the tobacco-free index versus 12.59% for the unrestricted index - given the size of the restricted securities relative to the broad market portfolio (1.45% of the broad equity benchmark). Wilshire projects the annual tracking error (a measure of the magnitude of the difference between the restricted equity portfolio and the broad equity benchmark) to be 0.168%. However, the tracking error estimate is symmetrical. **It is equally likely that the restricted portfolio outperforms the broad market as it is that it underperforms the broad market.**

Qualitatively, there are other risks associated with tobacco-related securities that are not captured by traditional risk management systems. While the risk of litigation – a significant decision factor in the original decision to impose restrictions – seems to have waned, other risks are still present. For example, the tobacco industry is facing a significant secular decline in the number of tobacco product users that seems unlikely to reverse given anti-smoking education, in some cases supported by meaningful taxes on tobacco products. **Even though all industries face risks that are not fully captured in a quantitative framework, the risks facing the tobacco industry appear meaningful.**

Costs

Unlike expected return or risk, costs can be estimated with greater certainty. Staff estimates that the costs to reinvest in tobacco-related equity securities would be $11 million and the costs related to force the external managers to divest of tobacco-related securities would be $2.8 million. Depending on the timing of the trades, these costs could be higher or lower than these estimates. **However, whatever their size, it is known with certainty that there will be explicit costs associated with trading activity.**

Investment Beliefs

Having discussed the tobacco restriction using a return/risk/cost framework – all of which would be true for any investor – it is important to put this topic into a CalPERS-specific context. Wilshire believes that CalPERS Investment Beliefs are an appropriate tool for this and the Investment Beliefs were, in fact, designed to help the Investment Committee navigate challenging decisions such as this one.

Wilshire deems the following Investment Beliefs as relevant:

- *Investment Belief 7: "CalPERS will only take risk where we have a strong belief we will be rewarded for it."* As discussed above, the quantitative view of risk would hold that the additional diversification would likely benefit CalPERS. However, the magnitude of the additional diversification is slight. Additionally, tobacco-related securities could outperform or underperform the broad market in the future. Last, the qualitative risks, including a secular decline in tobacco use, can't be captured in such a quantitative measure.
- *Investment Belief 9: "Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error."* As noted above, tracking error simply implies that a difference exists between the restricted portfolio and the broad market portfolio. It does not pass judgement on which will perform better on a relative basis.
- *Investment Belief 2: "A long time horizon is a responsibility and an advantage."* More specifically, one of the sub-beliefs states that CalPERS may: *"Take advantage of factors that materialize slowly such as demographic trends."* If the tobacco industry is seeing a long-term decline in its product use, as consumers become more aware of the dangers posed by smoking or as a result of

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meaningful regulations and taxes, avoiding tobacco-related securities might be a way to take advantage of a slowly materializing risk factor.

- *Investment Belief 8: "Costs matter and need to be effectively managed."* While estimated trading costs of $2.8 million or $11 million are not significant costs relative to the total size of the PERF and could be dwarfed by any performance differences between the restricted portfolio and the broad market portfolio, both are meaningful numbers when contemplated relative to the size of the average annual benefit of a CalPERS beneficiary ($31,524). While there is a compelling argument that both risk and return may benefit from reversing the investment restriction, neither is certain. Estimates of transaction costs, on the other hand, come with much greater predictive certainty.
- *Investment Belief 4: "Long-term value creation requires effective management of three forms of capital: financial, physical, and human."* Engaging investee companies is in CalPERS' DNA. Fully divesting of an entire industry is a tactic that has only rarely been used. CalPERS' current hybrid approach permits ownership in portfolios managed by external managers, which would permit CalPERS to engage with tobacco companies. Indeed, since tobacco-related securities are excluded (rightly so in light of the divestment objective) from CalPERS equity benchmarks, any investment in tobacco-related securities made by an external manager would show that position as an overweight. Currently, CalPERS focuses its engagement processes on the overweight securities in its portfolio. Thus, tobacco companies would be "engage-able" under the current restriction.

Conclusion

Staff has recommended reinvesting in tobacco-related securities to create a portfolio that has additional diversification. There is clearly an academic argument that portfolios with significantly restricted opportunity sets are likely to be less risk-return efficient relative to the broad market over a long period of time – this argument is supported by much of CalPERS experience with these activities. **From a pure, theoretical view, Wilshire would recommend this option and, had CalPERS not previously divested from these securities, would not recommend initiating such investment restrictions.**

However, this decision is more nuanced than an academic argument and there is no clear "right" answer from an investment perspective. The decision will certainly affect the return and the risk of the portfolio – but those effects cannot be known in advance with any real precision. The realization of a cost in moving from the current structure is certain, although the amount may vary modestly from the estimate.

Additionally, CalPERS' Investment Beliefs can be used to help guide the Investment Committee as it makes this decision. This is precisely the intent of the Investment

Beliefs, which were drafted without regard to tobacco or any other particular issues in mind

Using CalPERS Investment Beliefs and a return/risk/cost framework, Wilshire believes that any of the three options presented by Staff is prudent, provided that CalPERS fiduciary council does not contradict this view due to a particular legal interpretation. Certainly, there are arguments that could be made in support of any of the three.

Wilshire looks forward to discussing this topic during the Investment Committee meeting. Should you require anything further or have any questions, please do not hesitate to contact us.

Best regards,

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