MEMORANDUM

TO: Members of the Investment Committee, CalPERS

FROM: Meketa Investment Group **DATE:** September 19, 2022

RE: Semi-Annual Private Equity Performance Review as of June 30, 2022

In our role as the Board Private Equity Consultant, Meketa Investment Group ("Meketa") conducted a semi-annual performance review of the Private Equity Portfolio ("the Portfolio") for the period ended June 30, 2022¹ based on data provided by State Street and selected reports from Staff. This memorandum provides Portfolio performance data and information on key policy parameters, along with observations on staff activities during the time period.

Performance

Reviewing the 1-year period, Private Equity, as well as other asset classes, had strong performance in the last half of 2021, but had more muted returns (or declines) in the first half of 2022. CalPERS' Portfolio performance for the 1-year period has indeed come down (43.8% one year ago), but at 21.3% remains one of the strongest performing asset classes at CalPERS. Performance over longer time periods has continued to improve compared to a year ago. Indeed, the Portfolio outperformed the Policy Benchmark across all time periods except the 10-year, where it was slightly below.

Private Equity Performance as of June 30, 20221

	1 Year (%)	3 Y ear (%)	5 Year (%)	10 Year (%)
CalPERS PE Portfolio ²	21.3	18.3	15.7	13.5
Policy Benchmark³	8.3	15.8	13.9	13.8
FTSE Global All Cap + 150 bp4	8.3	15.8	13.7	12.2
Excess vs. Policy Benchmark	13.0	1 2.5	1.8	-0.2
Excess vs. FTSE Global All Cap + 150 bps	13.0	1 2.5	2.0	1.3

¹ State Street's CalPERS Private Equity performance analysis for the period ended June 30, 2022, reported with a 1-quarter lag.

² Source: State Street. CalPERS returns are reported as time-weighted.

The current Policy Benchmark is a Custom FTSE Global All Cap ex-Tobacco Net of Tax Index + 150 basis points, lagged by one quarter. Previous benchmark was blend FTSE US + FTSE AW ex US + 3% lagged 1 quarter from September 2011 to June 2018, Wilshire 2500 ex-tobacco +3% between July 2009 and September 2011, and the Custom Young Fund Index prior to July 2009.

⁴ Figures are one quarter lagged, time weighted. FTSE Global All Cap returns are based on the FTSE Global All Cap Index + 150 basis points through October 2011, the FTSE Global All Cap Net of Tax (US RIC) Index + 150 basis points through March 2015, and thereafter on the FTSE Global All Cap ex-Tobacco Net of Tax Index + 150 basis points.

As we have noted in prior reports, private equity performance is reported with a significant delay compared to publicly traded assets. As such, the Portfolio and the Policy Benchmark performance as of June 30, 2022 are each reported with a one-quarter lag (i.e., values through March 31, 2022). Additionally, private equity asset values tend to be less volatile, both in up as well as down markets, compared to publicly traded asset values. In other words, private equity assets tend to fall less in declining public equity markets and increase more slowly in rapidly rising public equity markets.

The Portfolio's NAV as of June 30, 2022 was \$52.8 billion, an increase of \$1.3 billion (net of cash flows) compared to the December 31, 2021 NAV of \$49.0 billion. The current NAV represents 12.0% of the Total Fund, compared to the 8% target¹. As we noted above, the Portfolio's NAV is calculated based upon March 31, 2022 values, while the overall CalPERS portfolio includes publicly traded assets valued as of June 30, 2022. We would expect that when June 30, 2022 private equity values are received, the Portfolio's NAV (net of cash flows) will have some decrease from March 31, 2022 values.

Strategy²

	NAV (\$M)	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Buyouts	38,135	22.4	18.6	16.7	14.4
Credit	1,786	11.2	7.3	5.9	7.0
Growth/Expansion	9,807	19.2	21.2	17.0	14.9
Opportunistic	2,154	24.3	19.6	15.7	14.5
Venture	836	37.2	24.6	18.9	11.6
Other ³	131	NA	NA	NA	NA
CalPERS PE Portfolio	52,848	21.3	18.3	15.7	13.5

While the total Portfolio 1-year performance was lower than our report at the same time last year (21.3% vs. 43.8% previously), the Portfolio has continued to perform well. Across longer time periods, the Portfolio's performance has continued to improve compared to a year ago. Buyouts is the key driver for the Portfolio and its performance has improved, providing attractive returns overall. Opportunistic, Venture, and Growth/Expansion strategies have generated particularly strong returns in recent periods, while Credit continues to be a drag on performance across all time periods.

¹ In November 2021, the Board approved a 13% target allocation (effective July 2022) for the Portfolio.

² Source: State Street. All trailing returns included in this report are time-weighted.

³ Includes currency and stock holdings.

Structure¹

	NAV (\$M)	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Customized Investment Accounts	9,889	19.0	17.7	15.4	12.0
Co-Investments / Direct	5,381	20.7	14.9	15.0	12.6
Fund of Funds / Secondaries	1,700	23.7	14.2	11.2	10.9
Funds	35,747	22.0	19.2	16.3	14.1
Other ²	131	NA	NA	NA	NA
CalPERS PE Portfolio	52,848	21.3	18.3	15.7	13.5

The Portfolio's performance improvement has occurred broadly across strategies in the Portfolio. The 3-, 5-, and 10-year performance has generally improved compared to prior reports. The Funds portfolio is the largest by structure, and the key driver of overall Portfolio performance. The CIA and Co-Investment portfolios have also shown improvement compared to prior year, as those portfolios continue to mature. Notably, the Fund of Funds portfolio has shown some improvement in performance, particularly for the 1-, 3-, and 5-year periods, but remains burdened by their higher fee loads.

Performance by Geography³

	NAV (\$M)	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
United States	38,374	23.7	19.1	15.8	13.6
Developed International	11,876	18.2	20.5	20.2	16.5
Emerging Markets	2,468	5.6	7.1	7.1	9.0
Other ⁴	131	NA	NA	NA	NA
CalPERS PE Portfolio	52,848	21.3	18.3	15.7	13.5

US investments continue to be the primary driver of the Portfolio and have performed well across all time periods. Additionally, Developed International, primarily Europe, has been a strong contributor to returns over time. Certain managers in the region have provided strong performance over the years. Emerging Markets has been a laggard, in part due to the prior use of fund of funds (with comparatively high fees) to gain exposure to the region.

¹ Source: State Street. All trailing returns included in this report are time-weighted.

² Includes currency and stock holdings.

³ Source: State Street.

⁴ Includes currency and stock holdings.

Implementation

As has been presented to the Board, Staff has developed and has been executing against its Strategic Plan. The Strategic Plan has also been updated to reflect the increased asset allocation target, 13% from 8%, for Private Equity. The Strategic Plan includes several metrics designed to track progress around commitment pacing, portfolio diversification, exposure to co-investments, manager concentration, and performance.

- → Consistent capital deployment Staff has been working to get their average annual commitment pace to their long-term target, while also being mindful of vintage diversification and manager quality.
- → Increase cost efficiency No/low fee co-investments and Customized Investment Accounts are an important and growing portion of the Portfolio.
- → Add diversification to the Portfolio Staff has been adding more Mid-Market Buyout, Growth Equity, and Venture strategies to complement the Portfolio's Large and Mega Buyout exposure.
- → Maintain and enhance relationships with high quality managers Staff has been able to invest meaningful capital with highly sought-after managers.

For the first half of 2022, Staff completed 34 commitments totaling \$9.5 billion¹, and 69 commitments totaling \$17.0 billion from July 2021 through June 2022, which is in-line with the Strategic Plan. Staff completed an aggregate \$2 billion, or approximately 21% of aggregate commitments, of no/low fee co-investments (5) and Customized Investment Accounts (9) in the first half of 2022 by leveraging CalPERS' size and scale. Additionally, Staff has looked to add exposure to Growth/Expansion and Mid-size Buyouts in order to complement the existing exposure in Large and Mega Buyouts.

Key Policy Parameters

The Portfolio is compliant with key parameters related to strategy diversification as shown in the table below. As stated previously, in November 2021 the Portfolio's asset target was increased to 13% from 8% and is effective July 1, 2022.

Strategy	NAV ² (\$M)	Percent of Total NAV (%)	CalPERS Target (%)	Target Range (%)
Buyout	38,135	72.2	70	60-80
Credit	1,786	3.4	5	0-10
Growth/Expansion	9,807	18.6	15	5-20
Opportunistic	2,154	4.1	10	0-15
Venture	836	1.6	1	0-7
Other ³	131	0.2	NA	NA
Total Portfolio	52,848	12.04	8 5	+/- 4

¹ See Appendix for list of investments completed in the first half of 2022.

² Source: State Street.

³ Includes currency and stock holdings.

⁴ PE portfolio NAV as a percent of total CalPERS portfolio as of 6/30/22.

⁵ In November 2021, the Board approved a 13% target allocation (effective July 2022) for the Portfolio.

Conclusion

The Portfolio has continued to show strong performance recently, and longer-term performance figures have also shown improvement. The Portfolio's returns now exceed the Policy Benchmark over the 1-, 3-, and 5-year time periods, and are just below the 10-year benchmark. Additionally, the Portfolio, as a percent of CalPERS' total portfolio, has increased from 6.3% in June 2020, to 12% as of June 2022 and has reached over \$52 billion in size. Asset growth has been driven by both strong underlying performance and Staff's activities to enhance the Portfolio by sourcing attractive investments with high-conviction managers.

While CalPERS faces challenges in building the Portfolio, it also has opportunities given its scale, experience, and large investment team. Staff has continued to focus on deploying capital to build a high-quality and well diversified portfolio while also utilizing lower cost investment structures will help mitigate overall fees.

The Appendix includes a list of investments completed during the first half of 2022, as well as some data and commentary on the private equity asset class for the first quarter of 2022.

Please do not hesitate to contact us if you have guestions or require additional information.

SH/JC/SPM/jls

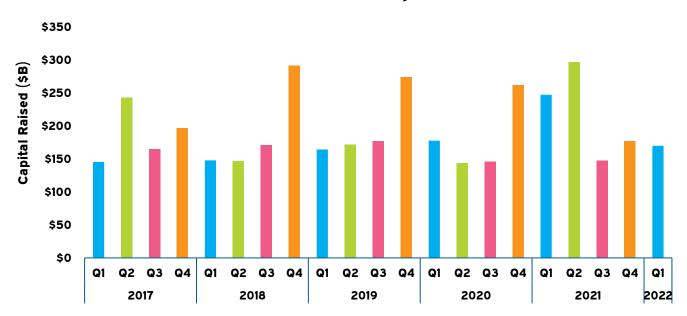
Attachment

CalPERS Private Equity Completed Investments – H1 2022

			·	Commitment
Investment	Date Signed	Geography	Strategy	(\$M)
Welsh Carson XIV	January 2022	US	Buyout	400
Muir Woods Partners (CIA)	January 2022	US	Buyout	250
Clearlake Capital Partners VII	January 2022	US	Buyout	350
Base 10 III	January 2022	Global	Venture	50
Project TB (Co-Investment)	January 2022	US	Buyout	9
Project Jedi (Co-Investment)	January 2022	US	Buyout	150
Project Minerva (Co-Investment)	January 2022	US	Buyout	305
Permira VIII	February 2022	Global	Buyout	735
Butterfly III	February 2022	US	Buyout	125
Francisco Partners VII	February 2022	US	Buyout	450
Francisco Agility III	February 2022	US	Buyout	100
CapVest Partners V	February 2022	Europe	Buyout	341
PSG Europe II	February 2022	Europe	Growth Equity	114
Green Equity Investors IX	March 2022	US	Buyout	500
Jade Equity Investors II	March 2022	US	Buyout	150
Project Mint (Co-Investment)	March 2022	Europe	Buyout	87
Q Street (CIA)	March 2022	US	Buyout	50
Lightspeed XIV	March 2022	Global	Venture	100
Lightspeed Select V	March 2022	Global	Venture	100
Lightspeed Opportunity II	March 2022	Global	Venture	200
Veritas VIII	March 2022	US	Buyout	625
CL Pacific Co-Invest (CIA)	March 2022	Global	Buyout	500
Q Street (CIA)	April 2022	US	Buyout	200
EQT Nordic Bear (CIA)	April 2022	Europe	Buyout	150
Arlington VI	April 2022	US	Buyout	300
Redwood Lane Capital (CIA)	May 2022	US	Buyout	225
Project Emblem (Co-Investment)	May 2022	US	Growth Equity	75
Thoma Bravo XV	May 2022	US	Buyout	600
Silver Lake Partners VII	June 2022	Other	Growth	350
Advent International GPE X	June 2022	Global	Buyout	750
Bessemer Venture Partners XII	June 2022	Global	Venture	115
Bessemer Venture Partners Forge	June 2022	Global	Venture	35
Rubicon Partners (CIA)	June 2022	Europe	Buyout	472
Bay State Partners (CIA)	June 2022	US	Buyout	250
California Partners Co-Invest (CIA)	June 2022	US	Buyout	250

Private Equity Market Commentary – Q1 2022

Global Fundraising¹

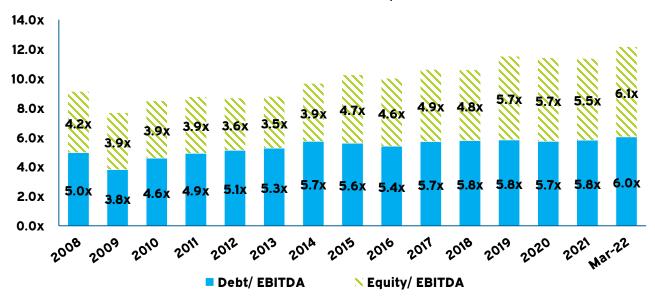


Fundraising activity for private equity funds in the first quarter of 2022 decreased by 4% compared to the previous quarter, with \$169.7 billion raised. It also marked the lowest fundraising total for a first quarter since 2019 and a decrease of 31% from the same period in 2021. The number of fund closings also decreased 44%, to 339 funds, relative to the previous quarter and 54% compared to Q1 2021. The first quarter of 2022 represents the fewest amount of fund closings in a quarter over the last five years. While 2021 was an exceptional year for private equity markets, there are signs of moderation of activity in Q1 2022. While the post-COVID boost in fundraising activity has come to an end, evidence may now be growing of a sustained slowdown on the back of macroeconomic and geopolitical concerns resulting from Russia's invasion of Ukraine, inflationary pressures, and rising energy prices. That said, there is a record number of private equity funds in market, as of the start of April 2022. There are currently 2,650 funds² looking to raise \$966 billion in capital, which is equivalent to 1.62x the level of trailing twelve month ("TTM") global private equity fundraising. Of the funds in market, 1,113 are yet to reach their first close, which equates to 42% of the total and 61.5% of the total capital targeted.

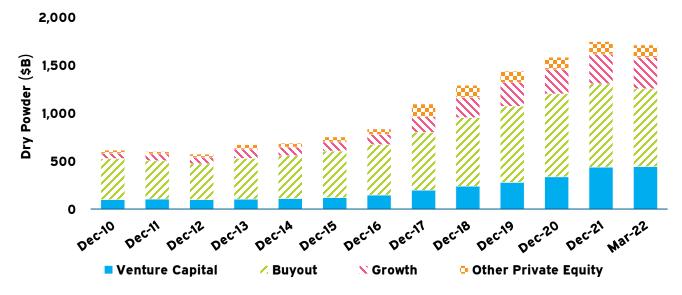
¹ Source: Preqin.

² Includes Buyout, Growth, Fund of Funds, Secondaries, and Other Private Equity (Balanced, Co-Investment, Direct Secondaries, Hybrid, PIPE, and Turnaround). It excludes Venture Capital.

Purchase Price Breakdown, All LBOs1



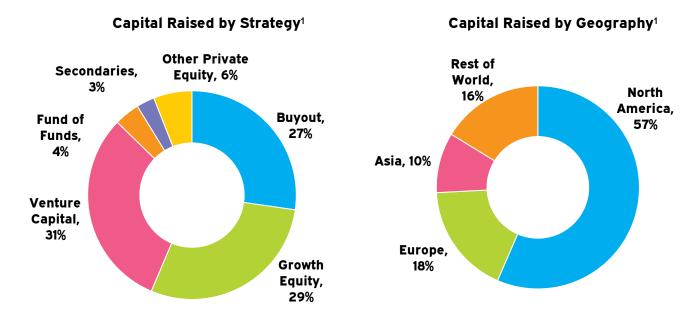
Dry Powder by Fund Type²



Relative to 2021, the average private equity purchase price multiple increased from 11.4x EBITDA to 12.2x EBITDA in the first quarter of 2022. Equity contribution (relative to total purchase price) has slightly increased to approximately 50% from 49% in 2021, indicating that total purchase prices now comprise equal amounts of equity and debt. Dry powder levels dipped by approximately 2% from Q4 2021 but still remain at all-time highs. Dry powder will remain high as long as more capital is being raised than is being deployed, and in the near-term, investors may expect to continue to see high purchase prices as a result of the high levels of capital competing for deals.

¹ Source: S&P.

² Source: Preqin.



Venture Capital (31% of all private equity capital raised) and Growth Equity (29%) funds outpaced Buyout funds as the most popular private equity sub-strategies during the first quarter of 2022. Buyout funds dipped from 38% of capital raised in Q4 2021 to 27% in the first quarter of 2022. Venture Capital strategies, as a percentage of total capital raised, increased by 5% from Q4 2021, and Growth Equity funds jumped 2% from 27% of private equity capital raised in Q4 2021. Fund of Funds, Secondaries, and Other Private Equity, which includes co-investment and hybrid vehicles, also increased from 9% to 13%, collectively, through the first quarter compared to the previous quarter, driven in part by growing appetite from LPs in co-investment opportunities.

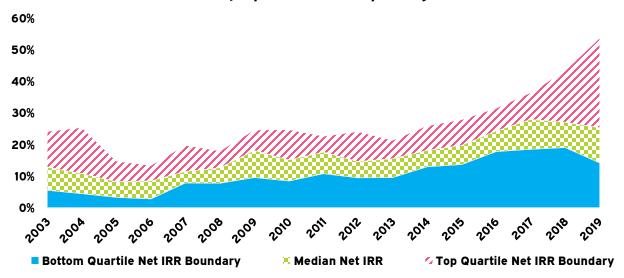
North America-focused vehicles continued to represent the majority of funds raised during the first quarter, representing 57% of total capital. However, this is a notable decrease from the 69% in the prior quarter. Alternatively, commitments to Europe and Rest of World increased by 4% and 10%, respectively, during the first quarter. Overall, private equity investors continued to favor commitments to North America-focused funds, but investor appetite for Europe and Rest of World remained strong, specifically for non-Venture Capital funds. The majority (78%) of capital raised for Venture Capital funds went to North America-focused funds in Q1 2022.

¹ Source: Preqin.

Private Equity	/ Performance b	y Horizon ¹
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	Private		Venture	
Horizon	Equity (%)	Buyout (%)	Capital (%)	Growth Equity (%)
1 Year to 12/2021	34.8	34.9	46.8	34.6
3 Years to 12/2021	25.5	26.6	30.8	25.8
5 Years to 12/2021	21.6	22.5	23.0	23.1
10 Years to 12/2021	17.8	18.9	17.1	18.7

Private Equity Performance by Vintage Year²



Recent private equity returns have been very strong, with Private Equity generating a 34.8% IRR over the past year, following the outbreak of the COVID-19 pandemic in Q1 2020 and write-downs across most portfolios at that time related to the associated uncertainty. In general, performance has been strong in each vintage year since the Global Financial Crisis. Buyout, Venture Capital, and Growth Equity funds have all generally performed well over the various horizons on an absolute basis, with Venture funds outperforming Buyout and Growth funds over the past year. The spread between first and third quartile performance in private equity has grown consistently since the Global Financial Crisis; 2007 vintage funds reported a 11.9% spread while 2019 vintage funds reported a 39.6% spread.

¹ Source: Preqin Horizon IRRs as of 12/31/2021. Data as of 3/31/2022 not yet available.

² Source: Pregin Global Quartile Returns as of 3/31/2022.