

MEMORANDUM

TO: Members of the Investment Committee, CalSTRS
FROM: Meketa Investment Group
DATE: August 31, 2022
RE: Semi-Annual Private Equity Performance Review as of March 31, 2022 – OPEN SESSION

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 March 31, 2022, based on data provided by State Street and selected reports from staff. This memorandum provides the Portfolio performance data and information on key policy parameters, along with observations on staff activities during the time period.

Performance

Private Equity continued to appreciate over the trailing six months ended March 31, 2022, albeit at a slower rate than seen during the market recovery in the second half of 2020 and through 2021. CalSTRS’ Portfolio and the Benchmarks have generated strong positive returns for the 1-year period, primarily driven by returns posted in the first half of the period. Performance of the Portfolio and the Benchmarks across longer time periods (5 and 10 years) has also decreased slightly from six months prior. The Program’s performance exceeds the Custom Benchmark for each time horizon below and the Custom State Street Index for all time periods except for modest underperformance over the 1-year period.

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
CalSTRS PE Program	24.2	24.2	19.8	14.7	13.9
<i>Custom State Street Index¹</i>	25.1	22.3	18.6	14.1	13.9
<i>Custom Benchmark²</i>	7.5	15.5	13.5	11.7	NA
Excess vs. Custom State Street Index ³	↓ 0.9	↑ 1.9	↑ 1.3	↑ 0.6	↑ 0.0
Excess vs. Custom Benchmark ³	↑ 16.7	↑ 8.8	↑ 6.3	↑ 3.1	NA

Given the long-term nature of the Private Equity Program, we believe the 1-year performance figures are not meaningful. As we have noted in other reports, private equity performance is reported with a significant delay compared to publicly traded assets.

¹ Reflects the customized PE Index methodology discussed in the updated Private Equity Investment Policy. Utilized to assess Program performance for periods less than 10 years. Calculated by State Street.

² Custom Benchmark as of July 2019 is MSCI ACWI IMI plus 1.5%. Calculated by State Street. Utilized to assess Program performance for periods of 10 years or more. The Custom Benchmark is customized for certain investment restrictions such as tobacco.

³ Arrows indicate program outperformance or underperformance against the respective benchmark.



In recent years, the Private Equity Program performance has steadily improved against both Benchmarks, with the “positive spread” generally increasing over time. There remains relatively little capital remaining in vintages prior to 2011, while performance of the more recent vintages have been very strong and are driving current performance.

The Portfolio’s NAV as of March 31, 2022, was \$47.0 billion, an increase of \$2.0 billion (net of cash flows), compared to the September 30, 2021, NAV of \$44.5 billion. Overall, the Portfolio had generated \$9.2 billion of value in the year since March 31, 2021. The current NAV represents 14.5% of the Total Fund, compared to the long-term target of 13%, as the Private Equity Program has grown nearly 29% since March 31, 2021.

Strategy^{1,2}

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Buyouts	↓ 26.8	↑ 25.5	↑ 20.9	↑ 15.3	↑ 13.4
SSGX – Custom Buyouts ³	27.2	22.5	18.9	14.2	12.8
Venture	↓ 8.7	↓ 26.6	↓ 23.1	↓ 18.0	↓ 24.2
SSGX – Custom Venture Capital ³	22.2	34.8	27.6	19.1	35.3
Debt Related	↓ 15.0	↓ 9.9	↓ 9.1	↓ 10.1	↓ 10.2
SSGX – Custom Debt Related ³	17.0	11.9	10.3	10.7	10.5
Special Mandates	↑ 32.9	↑ 23.2	↓ 16.3	↓ 9.8	↓ 7.4
SSGX – Special Mandates ⁴	24.5	19.9	16.9	12.9	11.6
CalSTRS PE Program	24.2	24.2	19.8	14.7	13.9

The rebound in performance from COVID-19 lows is evident across the portfolio with all strategies experiencing significant increases since early 2020. On an absolute basis, all strategies generated strong double-digit returns over the most recent 1-year period, except for Venture which was pulled down by roughly flat performance over the last six months following very strong returns in previous periods.

On a relative basis, Buyouts (which represent the majority of the program’s assets and are driving program results) have outperformed their custom benchmark over all time periods, except for the trailing 1-year. Special Mandates have outperformed their custom benchmark over the latest 1-year and 3-year periods, but have underperformed over the longer term. Venture and Debt Related strategies have generally underperformed across trailing periods.

¹ Strategy classifications reflect the newly adopted categorizations and the Customized PE Index methodology discussed in the updated Private Equity Investment Policy. Multi-Strategy and Longer-Term Strategy performance is not included as performance is not yet meaningful.
² Arrows indicate program outperformance or underperformance against benchmarks.
³ SSGX custom benchmark returns were calculated by State Street for each listed strategy.
⁴ SSGX – Buyouts Index (not customized) minus 200 basis points.



Structure

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Fund Investments	23.8	23.7	19.0	14.3	14.1
Co-Investments	26.0	27.3	26.0	18.3	12.5
CalSTRS PE Program	24.2	24.2	19.8	14.7	13.9

The Fund portfolio is the largest portfolio by structure, and the key driver of overall performance. The Co-Investment program has been a strong contributor to performance and has been steadily increasing as a percent of the total Program, increasing from 15.2% one year ago to 18.2% currently.

Performance by Geography

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
North America	↓ 25.8	↓ 24.3	↓ 19.4	↓ 14.7	↓ 13.7
<i>SSGX – US Funds¹</i>	26.4	24.6	20.3	15.9	14.0
Non-North America	↓ 19.1	↑ 24.0	↑ 21.2	↑ 14.7	↑ 14.9
<i>SSGX – Non-US¹</i>	20.3	21.3	18.5	14.3	13.0
CalSTRS PE Program	24.2	24.2	19.8	14.7	13.9

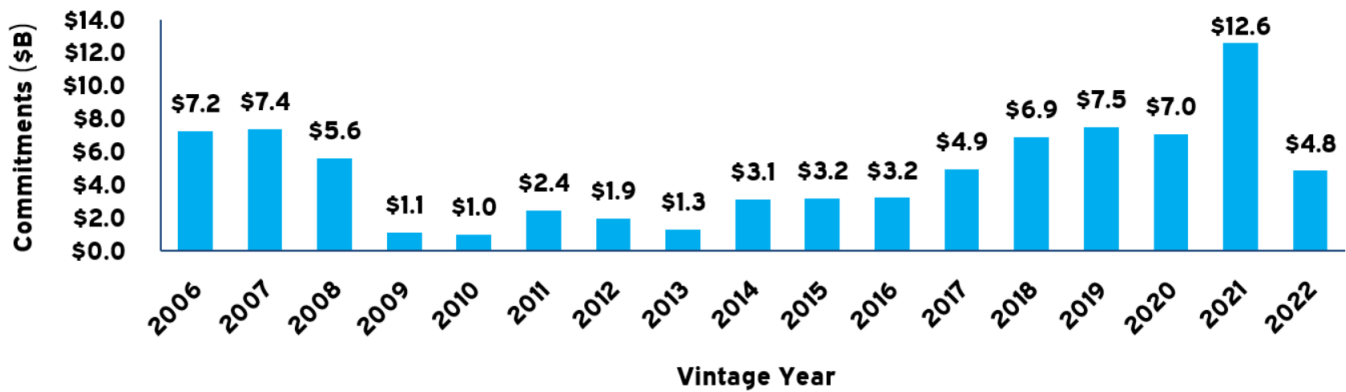
While the Program has been primarily driven by the North America investments, representing the largest proportion of capital, but slightly trailed the US fund benchmark despite very high absolute returns. Non-North America investments have been a strong contributor to absolute and relative returns over time, though slightly underperformed over the trailing 1-year period.

¹ SSGX benchmark returns were calculated by State Street for each listed region. Matching SSGX benchmarks for Developed (Non-US) and Non-Developed market investments are not available.

Implementation

For the first half of 2022, Staff completed 38 commitments totaling \$5.1 billion¹, and 71 commitments totaling \$8.8 billion from July 2021 through June 2022. Staff continues to increase its emphasis on no/low fee co-investments by leveraging CalSTRS' size, scale and reputation.

The chart below shows CalSTRS' commitments by vintage year.



Overall, CalSTRS has increased its commitments to the asset class significantly in recent years. Staff has sought to maintain diversification across a number of dimensions while maintaining a focus on high quality managers. Note that the year of commitment may not be consistent with vintage year depending on when fund capital was first called or invested.

Key Policy Parameters

The Portfolio is compliant with key parameters related to strategy diversification as demonstrated in the table below.

Strategy ^{2,3}	NAV (\$M)	Percent of Total NAV (%)	CalSTRS Interim Target (%)	Target Range (%)
Buyouts	35,142	74.8	71	60-85
Venture Capital	4,734	10.1	10	0-15
Debt Related	2,476	5.3	10	5-20
Longer-Term Strategy	1,237	2.6	2	0-5
Special Mandates	2,184	4.6	6	0-8
Multi-Strategy	1,233	2.6	1	0-5
Total Program	47,007	14.5⁴	13	NA

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

² Strategy classifications reflect recently adopted categorizations. Updated interim targets and ranges were adopted in February 2022 and will be reflected in future reports.

³ Commitments to secondary, private liquidation, co-investments, and other sub-strategies are allocated based on their strategy.

⁴ Estimated PE exposure as of March 31, 2022.



Conclusion

The Private Equity portfolio's performance was positive over the prior six months but short-term performance has cooled off from the very strong returns seen during the 2020-2021 recovery from the COVID-19 pandemic lows. Net of cash flows, the portfolio generated \$2.0 billion of gains since our prior report, and \$9.2 billion of gains since March 31, 2021. Private equity industry transaction volume remains robust and fundraising remains generally strong despite a slowing in 2022. The Program's investment pace remained strong in the first half of 2022 and Staff has focused on remaining highly disciplined with manager selection, while increasing their emphasis on no/low cost co-investments as part of the Collaborative Model. Investment pace is expected to moderate slightly in the second half of 2022 as staff maintains highly selective with manager selection and potentially targets the lower end of the annual commitment pacing budget.

CalSTRS faces challenges in building the Program, but also has opportunities given its scale, experience, and large investment team. Staff's continued focus on deploying capital through lower cost investment structures will help mitigate overall fees. Changes to the private equity policy adopted in February 2022 expanded the range of investment opportunities and empowers CalSTRS staff to more fully pursue the Collaborative Model going forward.

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 questions or require additional information.

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Attachment

CalSTRS Private Equity Completed Investments – H1 2022

Investment	Date Signed	Geography	Strategy	Commitment ¹ (\$M)	Commit./ NAV (bps) ²
Invesco New & Next Gen V	January 2022	North America	Special Mandate	125	27
AlpInvest C. Fund II (SSMA)	January 2022	Global	Buyout	300	64
Arsenal Capital Partners VI	January 2022	North America	Buyout	200	43
Arsenal Growth Fund I	January 2022	North America	Buyout	50	11
Advent Global Technology II	January 2022	Global	Buyout	100	21
NEA 18	January 2022	North America	Venture Capital	40	9
NEA 18 Venture Growth Equity	January 2022	North America	Venture Capital	60	13
Permira VIII (P8)	January 2022	Global	Buyout	350	74
Co-Investment	January 2022	North America	Buyout	125	27
Co-Investment	January 2022	Europe	Buyout	113	24
Co-Investment	January 2022	North America	Buyout	75	16
Co-Investment	January 2022	Europe	Buyout	1	0
Thoma Bravo Discover Fund IV	February 2022	North America	Buyout	100	21
Thoma Bravo Fund XV	February 2022	North America	Buyout	300	64
Riverwood Capital Partners IV	February 2022	North America	Buyout	125	27
WCAS XIV	February 2022	North America	Buyout	200	43
Francisco Partners Agility III	February 2022	North America/ Europe	Buyout	100	21
Francisco Partners VII	February 2022	North America/ Europe	Buyout	300	64
JMI Equity XI	February 2022	North America	Buyout	225	48
Co-Investment	February 2022	North America	Buyout	125	27
Rubicon Technology Partners IV	March 2022	North America	Buyout	100	21
Co-Investment	March 2022	North America	Buyout	6	1
Co-Investment	March 2022	Europe	Buyout	50	11
Co-Investment	March 2022	North America	Buyout	84	18
Advent International GPE X	April 2022	Global	Buyout	300	64
Orbimed Private Investments IX	April 2022	North America	Venture Capital	75	16
Orbimed Royalty & Credit Opps. IV	April 2022	North America	Debt Related	75	16

¹ Commitments for Discretionary Co-Investment SMAs represent approved amounts. Co-Investments represent committed rather than approved amounts.

² Delegated authority limits are now stated as a percentage of PE NAV at the time of investment with a 2% limit for undiversified vehicles and 4% limit for diversified vehicles.



CalSTRS Private Equity Completed Investments – H1 2022 (continued)

Investment	Date Signed	Geography	Strategy	Commitment ¹ (\$M)	Commit/ NAV (bps) ²
Hg Saturn 3	April 2022	Europe	Buyout	120	26
Co-Investment	April 2022	North America	Venture Capital	25	5
Co-Investment	April 2022	North America	Multi-Strategy	7	1
Co-Investment	April 2022	Europe	Buyout	150	32
Oak HC / FT V	May 2022	Global	Venture Capital	100	21
Strategic Partners IX	May 2022	Global	Buyout	250	53
Co-Investment	May 2022	Europe	Buyout	33	7
Co-Investment	May 2022	North America	Buyout	150	32
Co-Investment	May 2022	North America	Buyout	100	21
Apollo Investment Fund X	June 2022	Global	Buyout	300	64
Co-Investment	June 2022	North America	Buyout	125	27

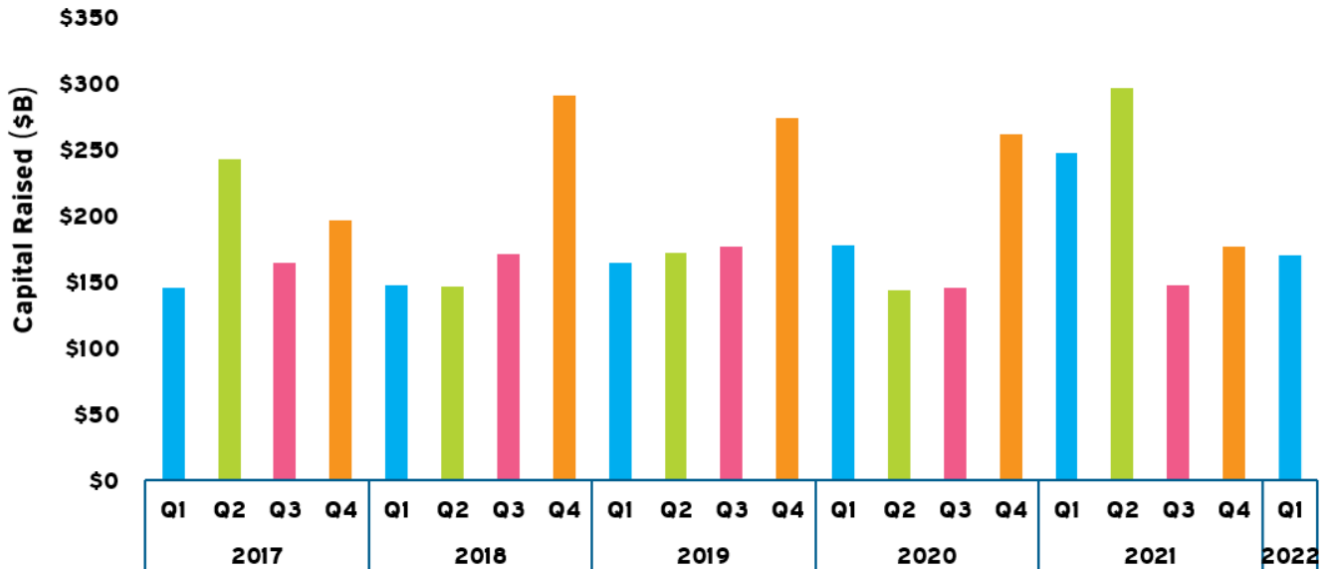
¹ Commitments for Discretionary Co-Investment SMAs represent approved amounts. Co-Investments represent committed rather than approved amounts.

² Delegated authority limits are now stated as a percentage of PE NAV at the time of investment with a 2% limit for undiversified vehicles and 4% limit for diversified vehicles.



Private Equity Market Commentary – Q1 2022

Global Fundraising¹



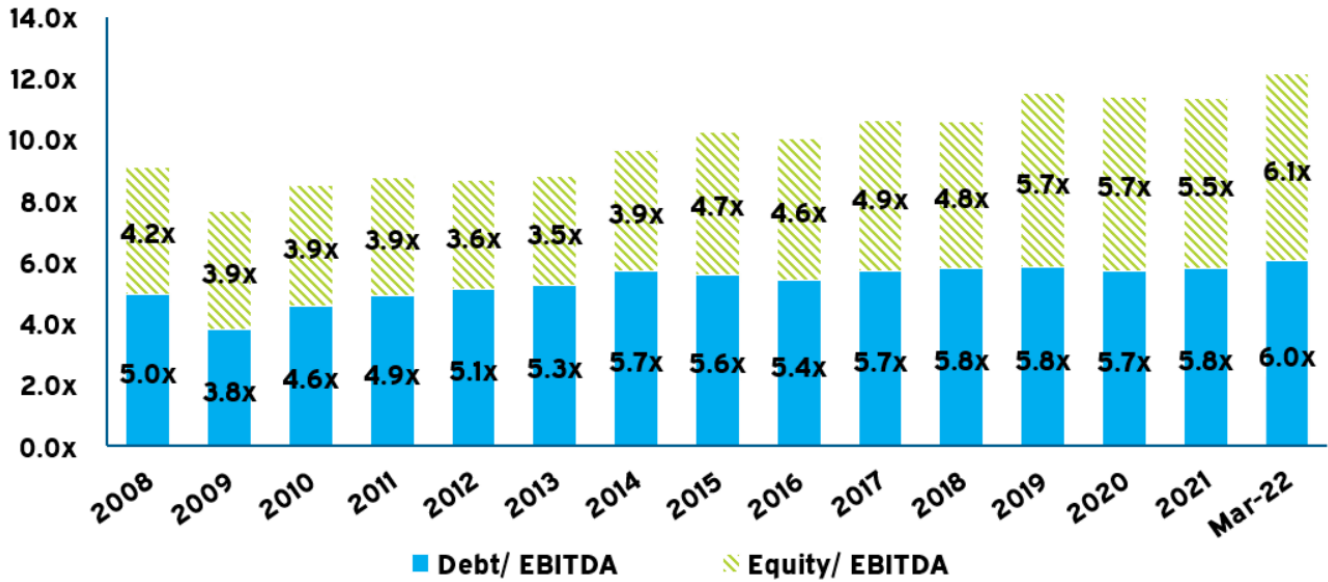
Fundraising activity for private equity funds in the first quarter of 2022 decreased by 4% compared to the previous quarter, with \$169.7 billion raised. It also marked the lowest fundraising total for a first quarter since 2019 and a decrease of 31% from the same period in 2021. The number of fund closings 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.

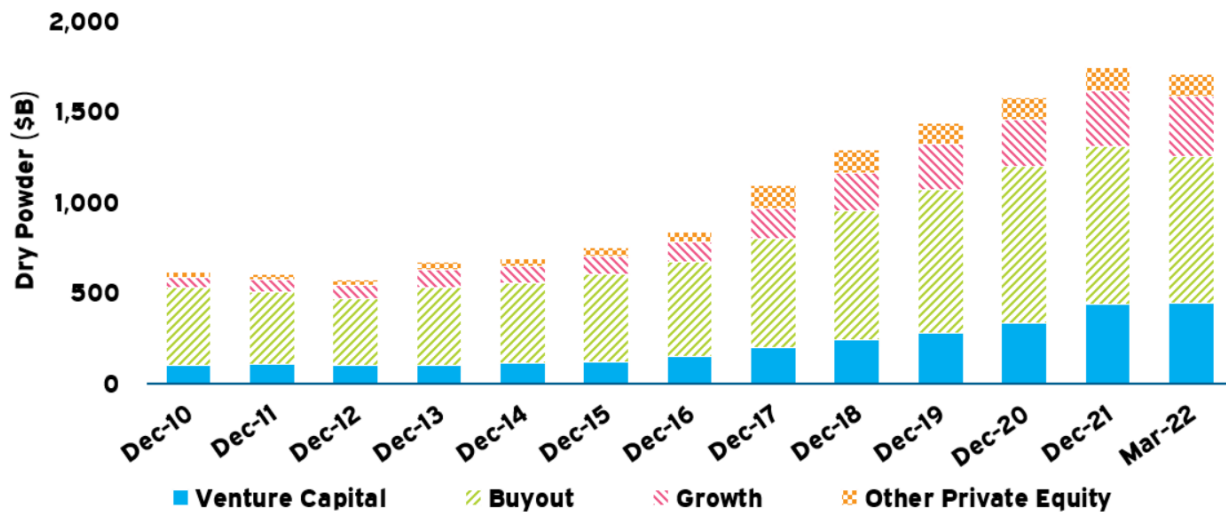
² Includes Buyout, Growth, Fund of Funds, Secondaries, and Other Private Equity (Balanced, Co-Investment, Direct Secondaries, Hybrid, PIPE, and Turnaround). It excludes Venture Capital.



Purchase Price Breakdown, All LBOs¹



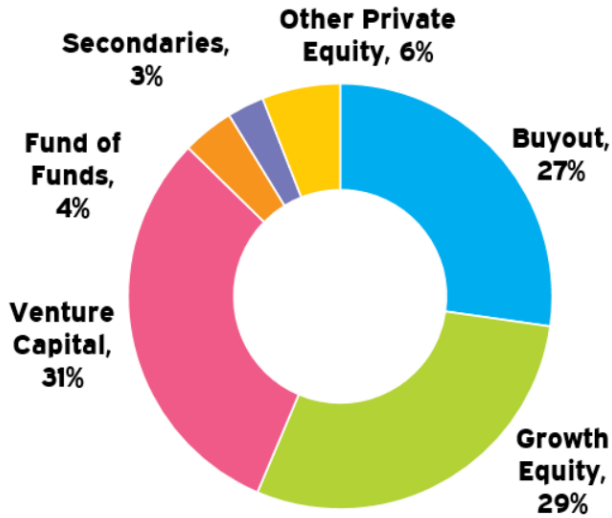
Dry Powder by Fund Type²



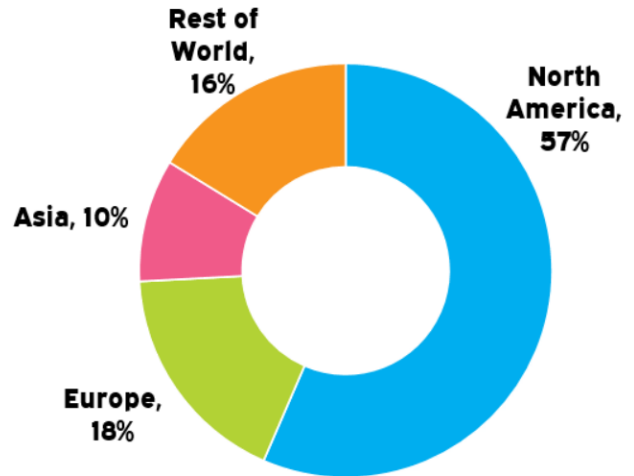
Relative to 2021, the average private equity purchase price multiple increased from 11.4x EBITDA to 12.2x EBITDA in the first quarter of 2022. Equity contribution (relative to total purchase price) has slightly increased to approximately 50% from 49% in 2021, indicating that total purchase prices now 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.

Capital Raised by Strategy¹



Capital Raised by Geography¹



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.

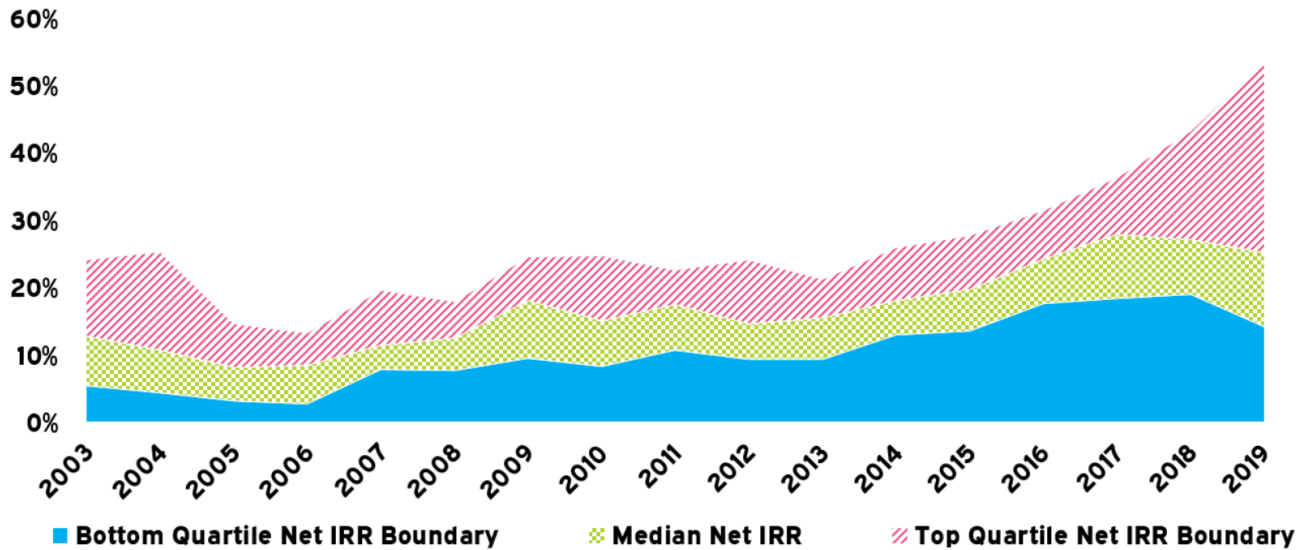
North America-focused vehicles continued to represent the majority of funds raised during the first quarter, representing 57% of total capital. However, this is a notable decrease from the 69% in the prior quarter. Alternatively, commitments to Europe and Rest of World increased by 4% and 10%, respectively, 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 by Horizon¹

Horizon	Private Equity (%)	Buyout (%)	Venture 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: Preqin Global Quartile Returns as of 3/31/2022.