PitchBook

2022

As of Q3 2022 with
preliminary Q4 2022 data

GLOBAL

Fund Performance Report

PitchBook

Contents

Horizon IRRs by strategy*

	Q4 2022**	1-year	3-year	5-year	10-year
Private equity	-0.2%	4.1%	22.3%	18.6%	16.5%
Venture capital	-0.8%	-6.7%	25.2%	20.9%	16.6%
Real estate	0.4%	16.0%	13.0%	11.1%	12.4%
Real assets	4.5%	18.7%	10.9%	8.6%	7.8%
Private debt	0.4%	5.3%	7.9%	7.7%	8.2%
Funds of funds	0.8%	1.0%	23.0%	18.1%	14.3%
Secondaries	-0.3%	12.5%	17.9%	15.8%	13.3%
Private capital	**0.5%**	**6.1%**	**18.1%**	**15.3%**	**13.9%**

Source: PitchBook • **Geography:** Global
*Yearly horizons are as of September 30, 2022
**Preliminary quarterly return

An accompanying Excel file contains additional charts and all underlying data for this report.

***PitchBook Benchmarks** (as of Q3 2022 with preliminary Q4 2022 data) may be found here. The quarterly report provides greater detail than the Fund Performance Report, with granular IRR, multiple, and PME breakouts for Global, North America, Europe, Private Equity, Venture Capital, Real Estate, Real Assets, Private Debt, Funds of Funds, and Secondaries. Both Excel and PDF versions are available.*

PitchBook Data, Inc.

John Gabbert Founder, CEO

Nizar Tarhuni Vice President, Institutional Research and Editorial

Daniel Cook, CFA Head of Quantitative Research

Institutional Research Group

Analysis

Hilary Wiek, CFA, CAIA
Senior Strategist
hilary.wiek@pitchbook.com

Tim Clarke
Lead Analyst, Private Equity
tim.clarke@pitchbook.com

Anikka Villegas
Analyst, Fund Strategies & Sustainable Investing
anikka.villegas@pitchbook.com

Juliet Clemens
Analyst, Fund Strategies
juliet.clemens@pitchbook.com

Max Navas
Analyst, Venture Capital
max.navas@pitchbook.com

Nicolas Moura, CFA
Analyst, EMEA Private Capital
nicolas.moura@pitchbook.com

Data

Zane Carmean, CFA, CAIA
Lead Analyst, Quantitative and Funds Research

pbinstitutionalresearch@pitchbook.com

Publishing

Report designed by **Chloe Ladwig** and **Jenna O'Malley**

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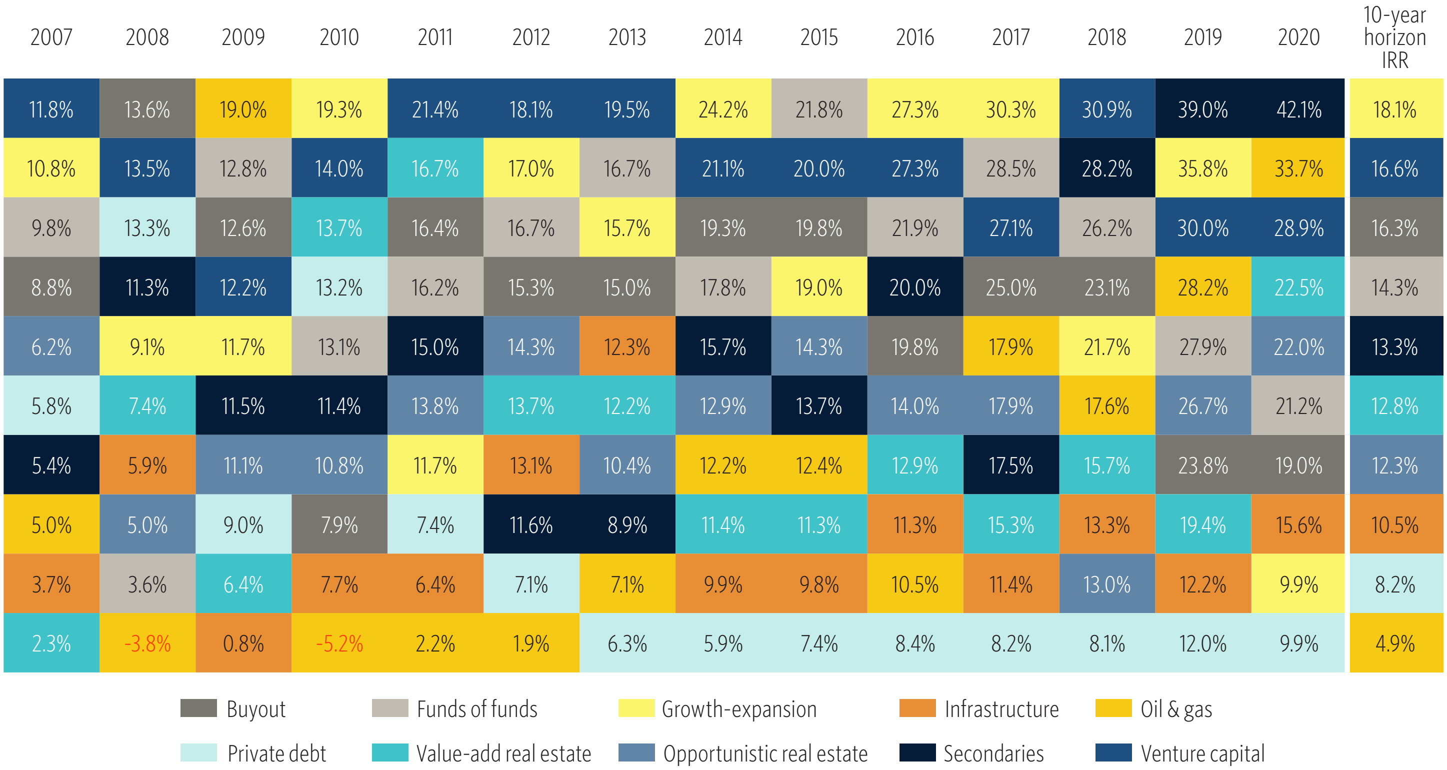
Click here for PitchBook's report methodologies.
Click here for PitchBook's private market glossary.

PitchBook

Overview

Private market strategies' pooled IRR comparisons by vintage year*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

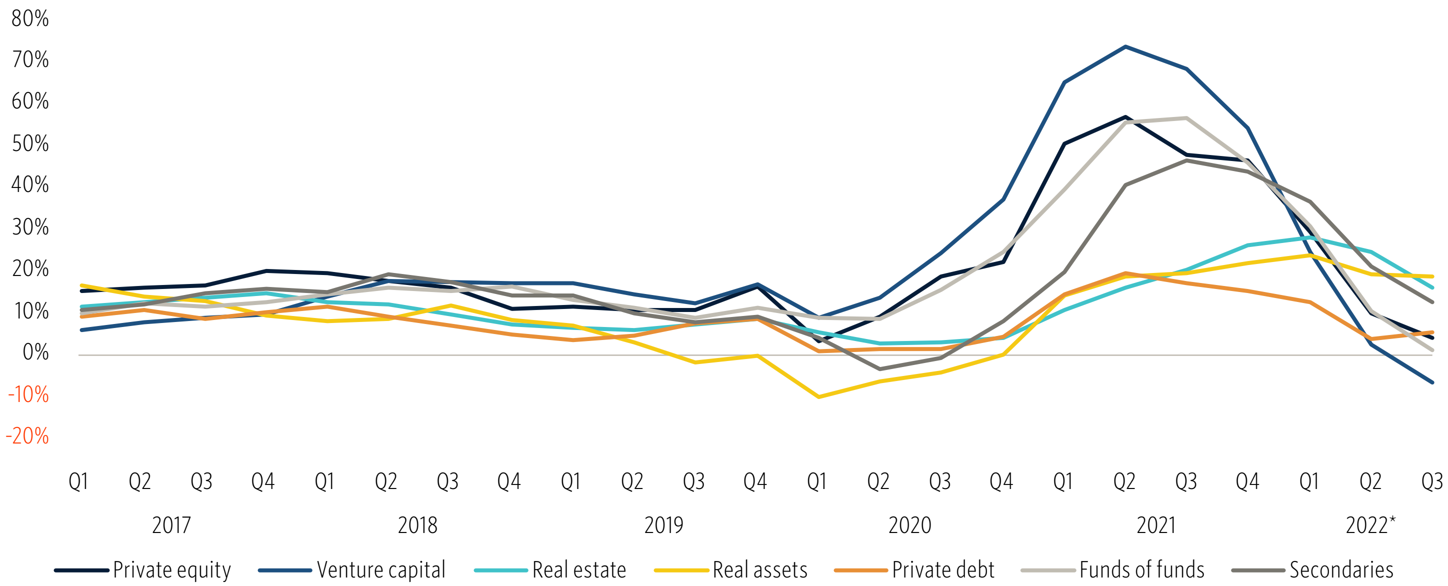
Hilary Wiek, CFA, CAIA
Senior Strategist

"May you live in interesting times." This quote, which has a rather vague history, is often cited as an ancient Chinese curse.[1] Well here we are, and times are interesting. 2022 will be remembered for inflation, stock market corrections, a whole lot of uncertainty about what things are worth in the private markets, and anxiety around which would come first—the public markets coming back up or private markets finally capitulating to new, lower marks. Through Q3 2022, the one-year return of the MSCI World Index was -19.6%, so it was natural to think that in a world where people have choices between public and private assets, arbitrage should cause private market assets to bear some relation to what has occurred in public markets. Private capital, however, was up 6.1% in the 12 months through September 2022. We do have preliminary results showing that private capital was up 0.5% in the fourth quarter, lagging the MSCI World's 9.8% quarterly result, so while the vast gap between public and private markets will not be closed by this variance, there does appear to have been at least some recognition that the regime that took private markets to historically high levels has come to an end.

While the returns of every private capital strategy were well above historical levels throughout 2021, the quarters since have shown more divergence. While real estate and real assets are still well ahead of their 10-year averages, venture capital and private equity are lagging far behind. Venture, which just three quarters prior had posted a one-year horizon IRR of 54.3%, was down to -6.7% by September 2022. We had reported concerns in 2021 that much of the VC boost was coming from net asset value (NAV) markups rather

1: "May You Live In Interesting Times," Quote Investigator, Garson O'Toole, n.d., accessed May 1, 2023.

PitchBook Indexes: Rolling one-year horizon IRRs by strategy



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

than distributions, in contrast with most historical periods. We called out the risk of these paper valuations never being realized. Then came three quarters in a row of VC funds posting negative quarterly returns, driven by declines in RVPI.

Secondaries, which had been benefiting nicely from buying assets at a discount and then immediately marking them up to NAVs, are seeing those valuations come back down, resulting in negative returns in Q3 and, preliminarily, in Q4. Real estate, despite suffering markedly in the 2022 fundraising environment because of concerns about rising interest rates and their impact on the asset class, saw returns hold up at least through Q2. Q3 saw the first negative result in nine quarters for real estate, but it was a decline of only 0.7%, and preliminary results are indicating an uptick of 0.4% in Q4. Real assets has been on a tear with no signs of that trend reversing. For 10 quarters in a row, real assets, which is largely made of up infrastructure funds, has posted quarterly returns between 1.7% and 7.2%, with the full-year through September coming in at 18.7%, well ahead of its 10-year horizon IRR of 7.8%.

When it comes to the dispersion of fund returns, VC continues to lead the pack with a 20.8% difference between the top quartile and bottom quartile boundaries. Private debt, while recently having a heyday in the absence of syndicated loans, still has the tightest fund outcomes—only a 5.5% gap between the top and bottom quartiles. These figures include all funds in vintages between 2004 and 2017, so some of the range of outcomes is explained by throwing funds from the global financial crisis into the same graphic as the ones that were invested through less stressful periods. Either way, it is important to recognize that the median returns of a benchmark may not be anything like the experience an investor has with any particular fund for a long list of reasons.

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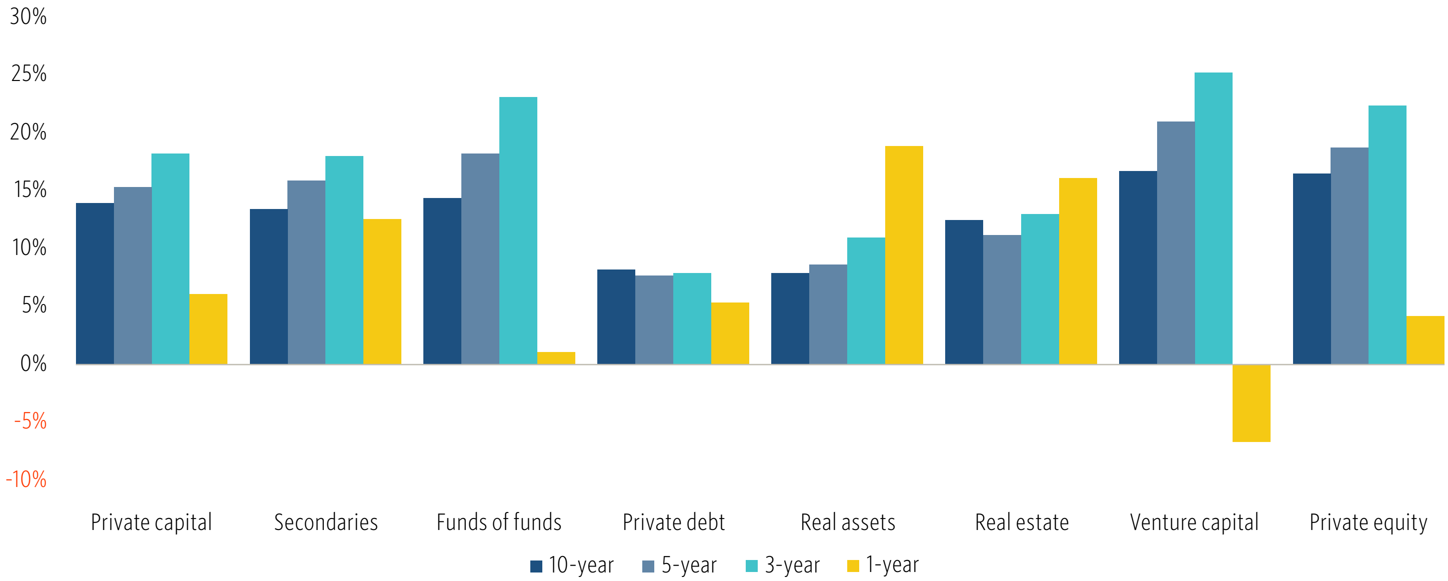
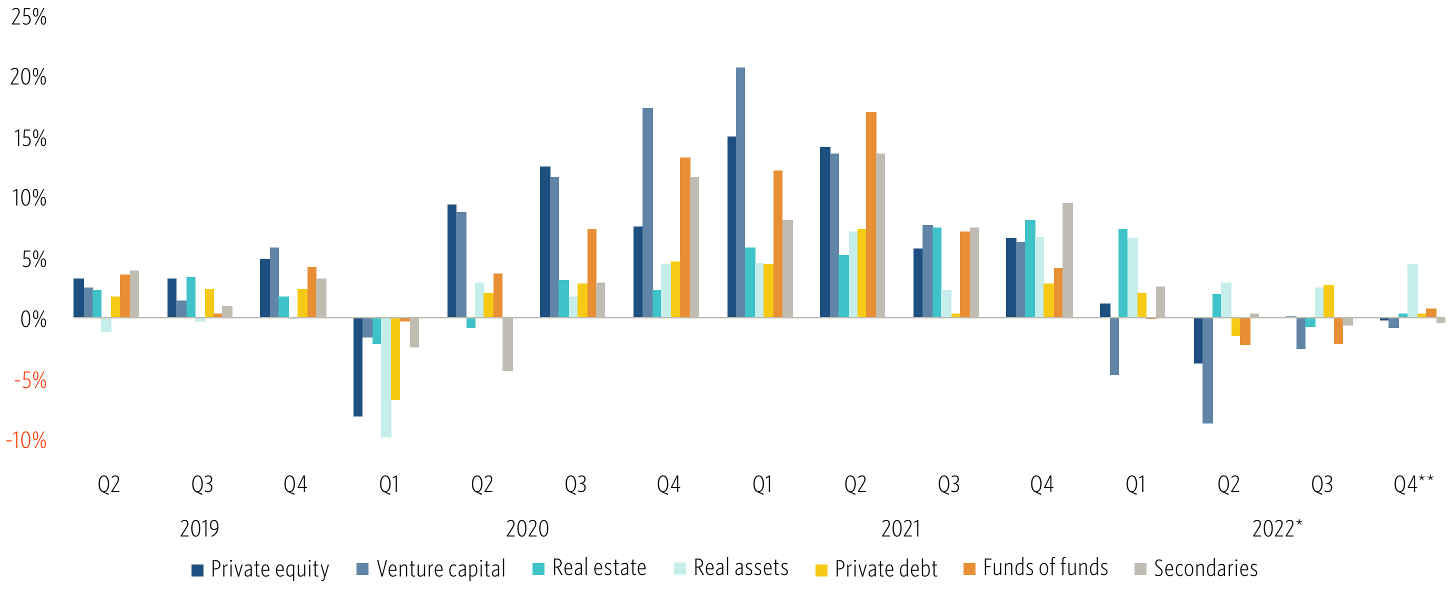
PitchBook Indexes: Private capital funds horizon IRRs by strategy*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

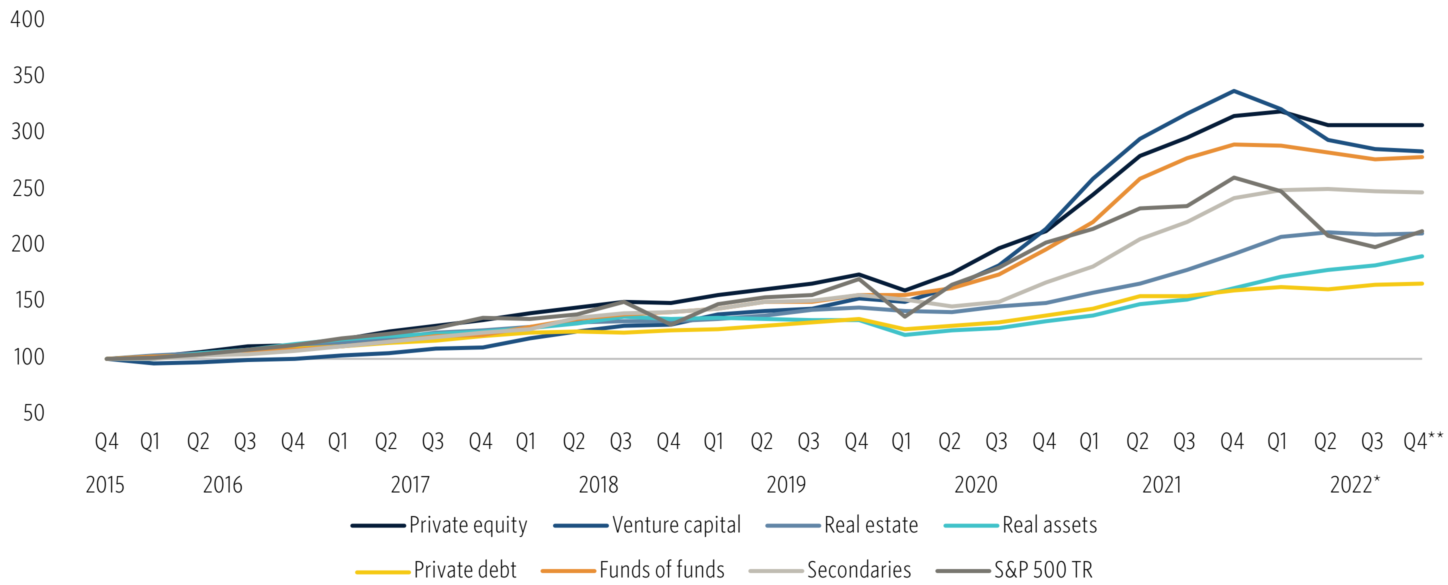
PitchBook Indexes: Private capital funds quarterly returns by strategy



Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

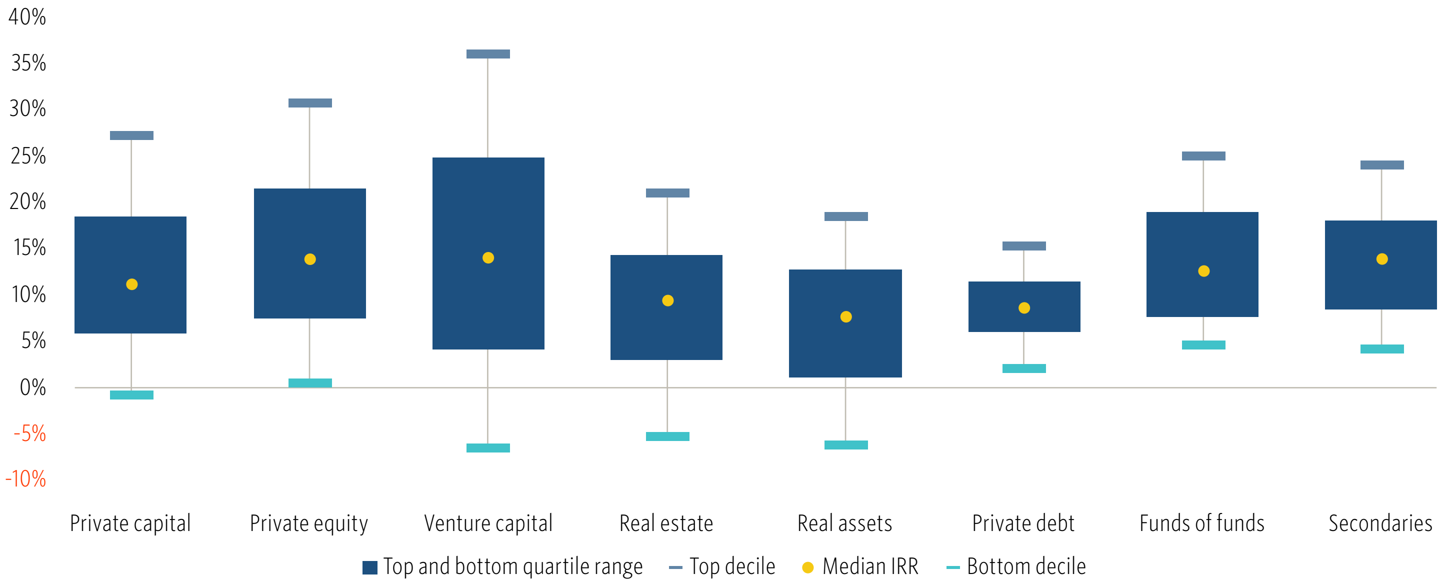
PitchBook

Performance of PitchBook Private Market Indexes



Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

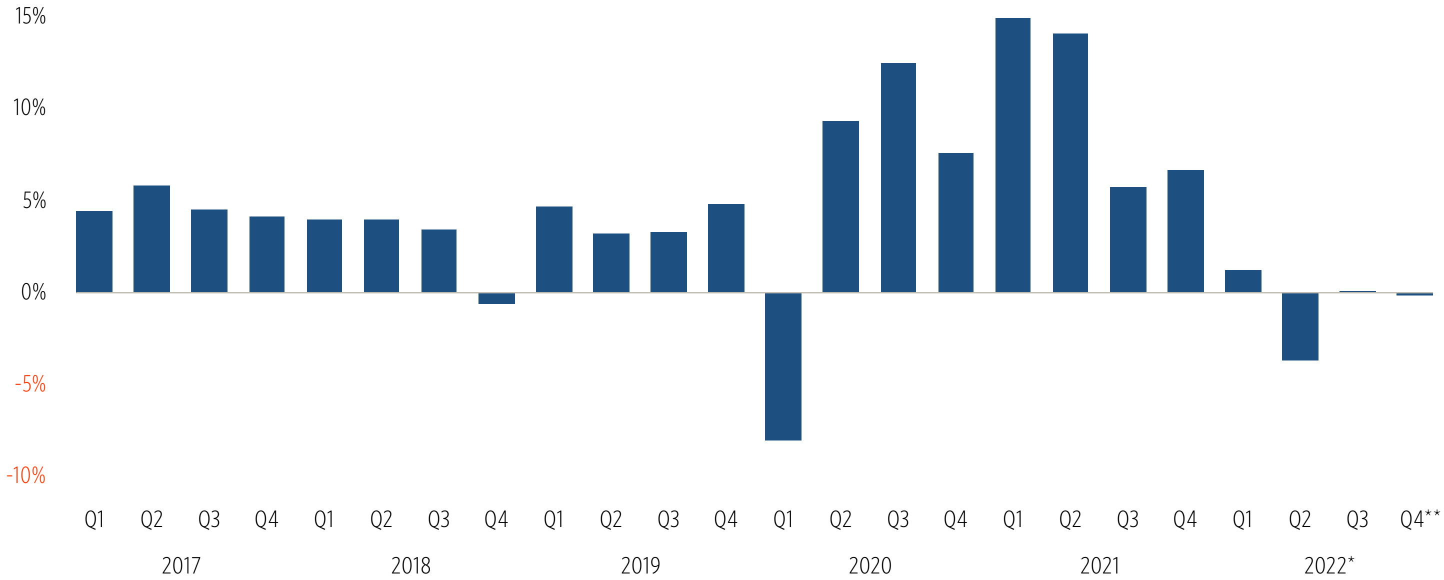
Fund performance dispersion (vintage years 2004-2017)*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Private equity

PitchBook Indexes: PE funds quarterly returns



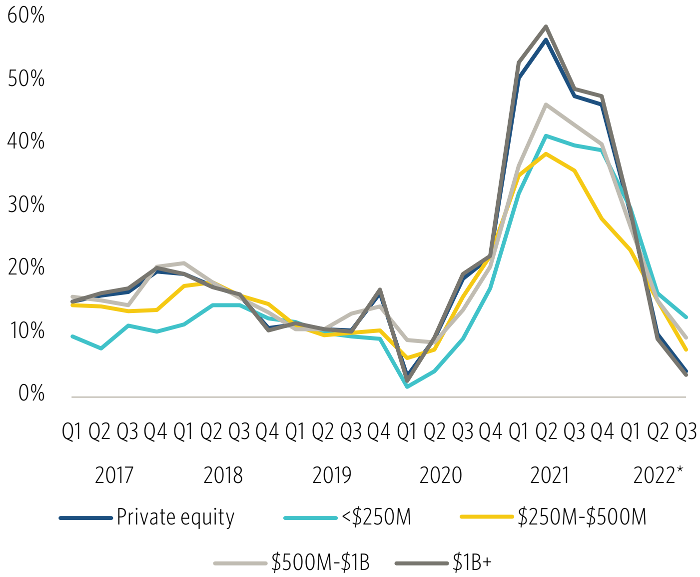
Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

Nicolas Moura, CFA
Analyst, EMEA Private Capital

Global PE fund performance for Q3 2022 came in at 0.1% following a -3.7% return in Q2 and a low 1.2% in Q1. Our preliminary estimate for Q4 2022 is -0.2%, anticipating continued subdued performance for PE funds. Sponsors will take some consolation in the sense that 2022 PE fund returns were still substantially better than the -18.1% return of the MSCI World Index.

For PE funds, the increase in interest rates has led to higher borrowing costs, thus making it more expensive to use leverage, which is expected to eat into fund returns. In addition, PE holdings have been re-rated to the downside with the higher discount factor leading to lower buyout multiples being paid for assets. The combination of tougher credit conditions and lower-valued assets has led to NAV markdowns. Moving forward, there will be more pressure for GPs to focus on EBITDA expansion, rather than financial engineering through leverage, to fetch higher exit multiples if they are to provide the higher returns seen in 2020 and 2021.

PitchBook Indexes: PE funds rolling one-year horizon IRR by size bucket

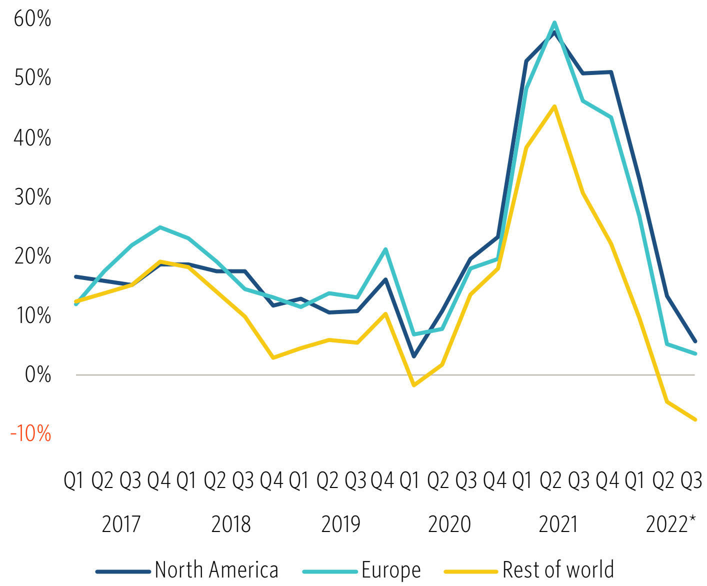


Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Interestingly, when dissecting PE fund returns by size bucket, we notice that in the past few quarters the largest size grouping, funds of more than $1 billion, returned the lowest performance. This is a change from some periods of historical performance, during which the larger the fund size was, the higher the returns it would yield. The average quarterly rolling one-year IRR since 2009 for funds under $250 million was 11.7%; for funds between $250 million and $500 million it was 13.3%; for funds between $500 million and $1 billion it was 14.5%; and finally, for funds above $1 billion, it was 15.3%. This recent crossover for large funds could be explained by two factors: First, the larger the fund, particularly for those run by publicly traded PE firms, the more emphasis there is on transparency of disclosure, which translates into the fund having to mark down its assets to better reflect market conditions. Second, larger funds tend to house larger companies, larger companies are most likely to exit via an IPO, IPOs often provide higher exit multiples, and there have been very few IPOs in the past year.

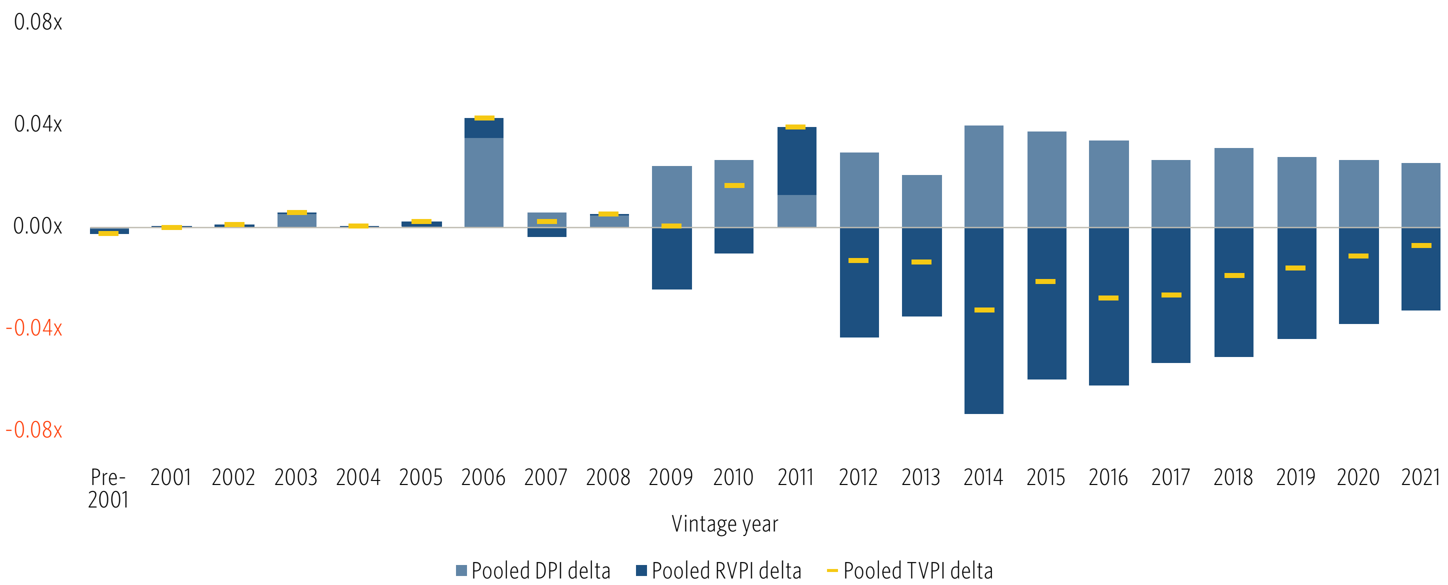
Regionally, PE funds in North America have been the most resilient, returning 5.9% in the year through Q3 2022, while Europe returned 3.7% and the rest of the world returned -7.3%. This is in line with the drops we have seen in buyout multiples across the industry as Europe's multiples fell faster and harder than those in North America for various reasons, which we outline in our [Q2 2023 Analyst Note: Exploring European Buyout Multiples].

PitchBook Indexes: PE funds rolling one-year horizon IRRs by region



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

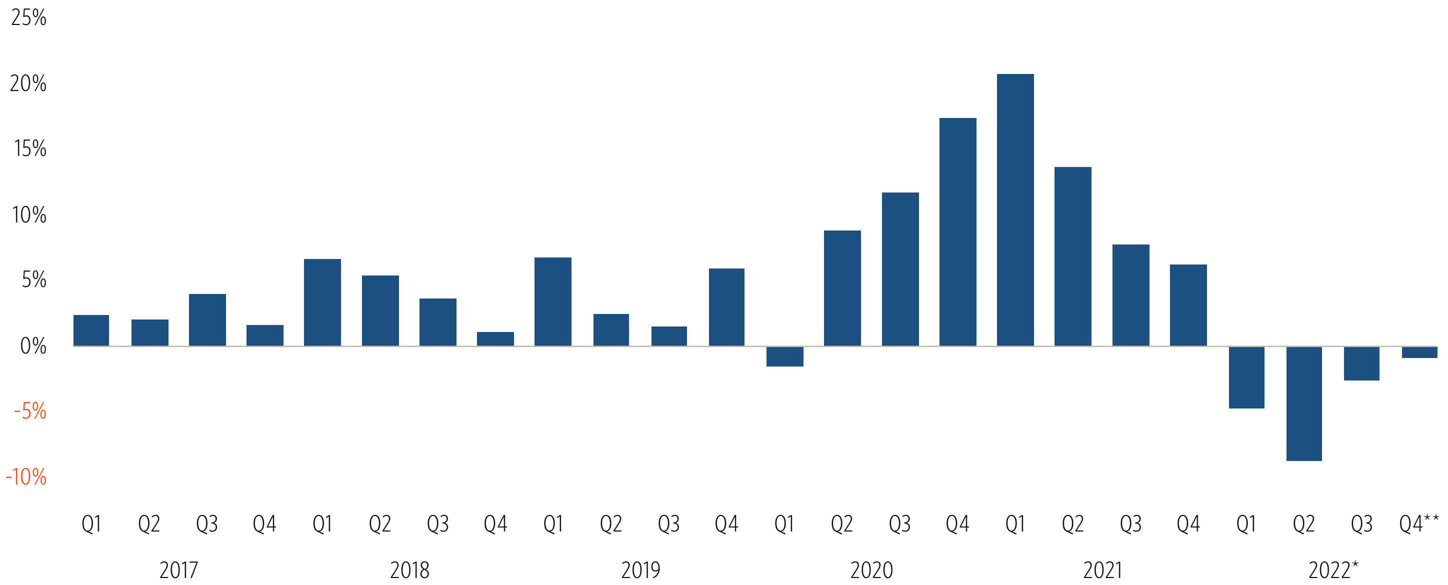
PE funds Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Venture capital

PitchBook Indexes: VC funds quarterly returns



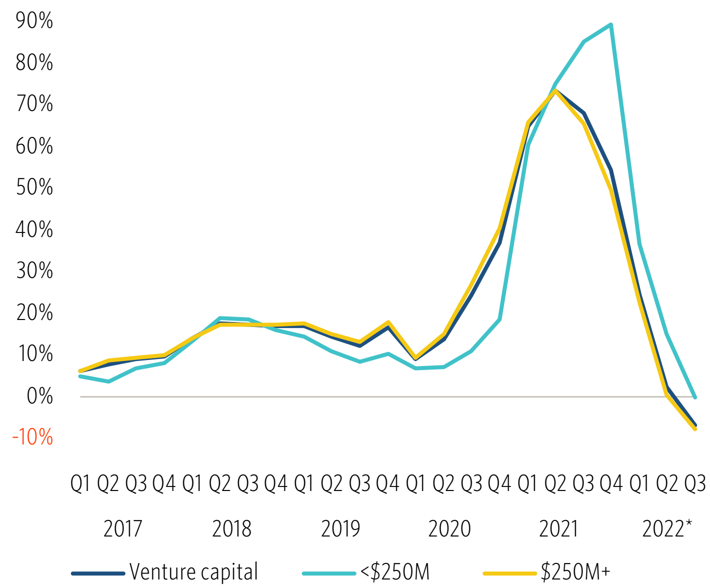
Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

Max Navas
Analyst, Venture Capital

Macroeconomic shifts resulting from rising inflation, rising interest rates, and public market volatility have led VCs to devalue the growth-at-all-costs startup mentality and mark down their portfolios accordingly. For the first time in more than a decade, quarterly returns for VC funds have been negative for three consecutive quarters, with the preliminary Q4 return of -0.8% indicating a fourth. Quarterly returns bottomed out in Q2 at -8.7%, and although they have been inching closer to positive returns since, it's unlikely that 2019 to 2021 vintage funds that invested during the VC swell will be able to achieve historical TVPI figures between 2x and 3x, having to combat the reconciliation of public and private valuations.

Zooming out, the one-year horizon IRR for VC funds dropped to -6.7% in Q3 2022, the lowest value we've seen since Q3 2009. This decade-plus record low was driven largely by the poor performance of funds over $250 million, which are more exposed to the median late- and venture-growth-stage pre-money valuation declines of 22.9% and 64.4%, respectively, measured from their 2021 record highs to Q1 2023. Funds under $250 million are better suited to earlier stages given

PitchBook Indexes: VC funds rolling one-year horizon IRRs by size bucket

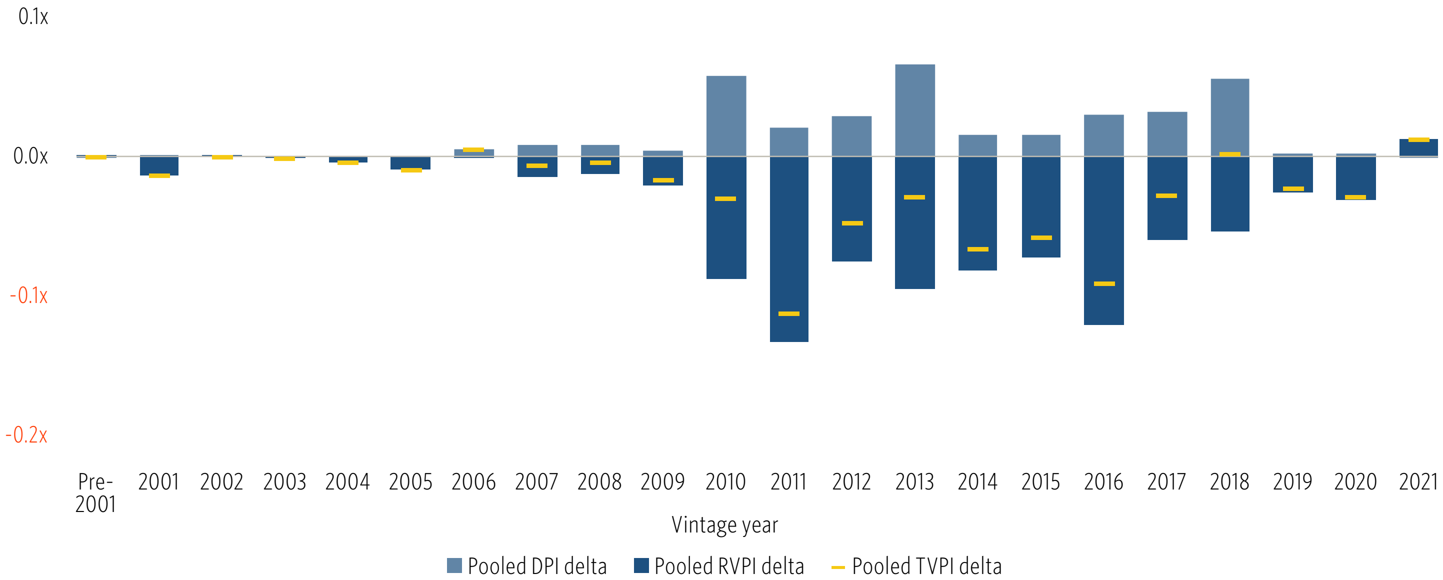


Source: PitchBook • **Geography:** Global
*As of September 30, 2022

check size limitations; this size bucket has seen a continued increase in median seed-stage pre-money valuations, rising to a record $13.0 million in Q1 2023. For more in-depth coverage of these trends, see our recent Q1 2023 PitchBook-NVCA Venture Monitor.

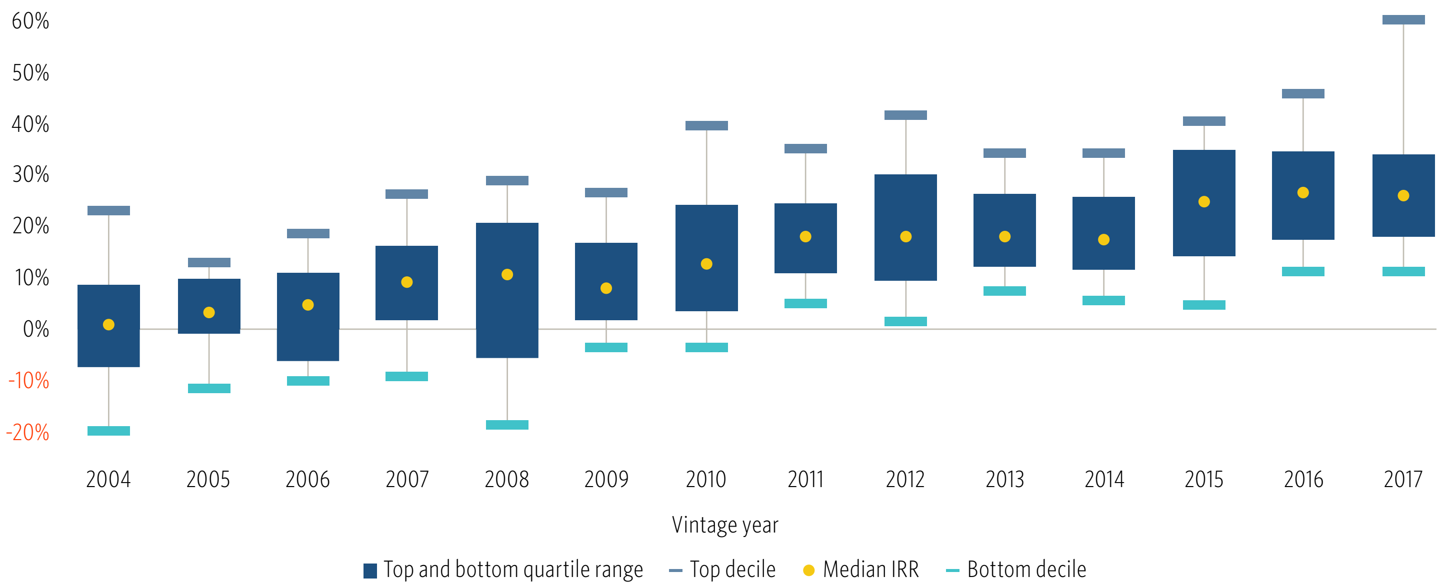
Despite the recent negative one-year IRRs, longer time periods still reflect the benefits of the global swell in venture capital activity from 2020 through early 2022. The three-year, five-year, and 10-year VC horizon IRRs boast the strongest returns among all private capital returns at 25.2%, 20.9%, and 16.6%, respectively. The stellar returns of VC have not been universal, however; funds from vintage years 2004 to 2017 had a gap of 20.8% between the top and bottom quartile range, the widest spread of all private market strategies, highlighting the risk of VC. VC returns can vary so widely because GPs expect a few investments to drive the majority of their returns. Without a home run, funds can perform poorly.

VC funds Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

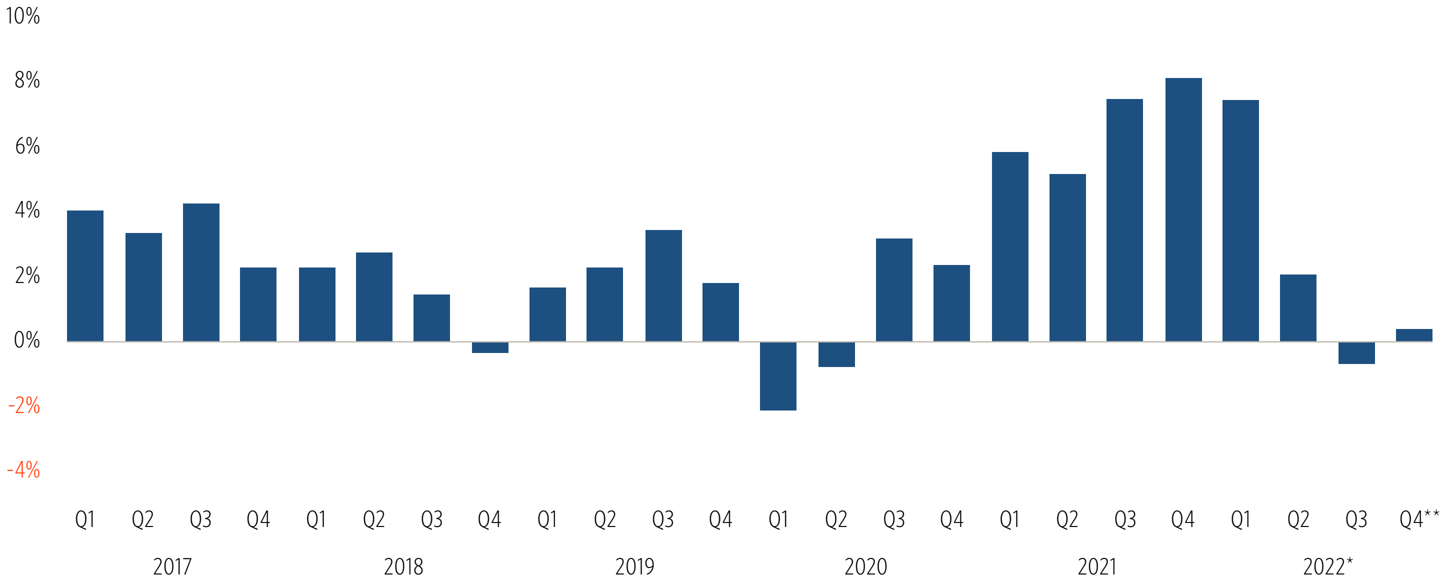
VC fund performance dispersion (vintage years 2004-2017)*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Real estate

PitchBook Indexes: Real estate funds quarterly returns



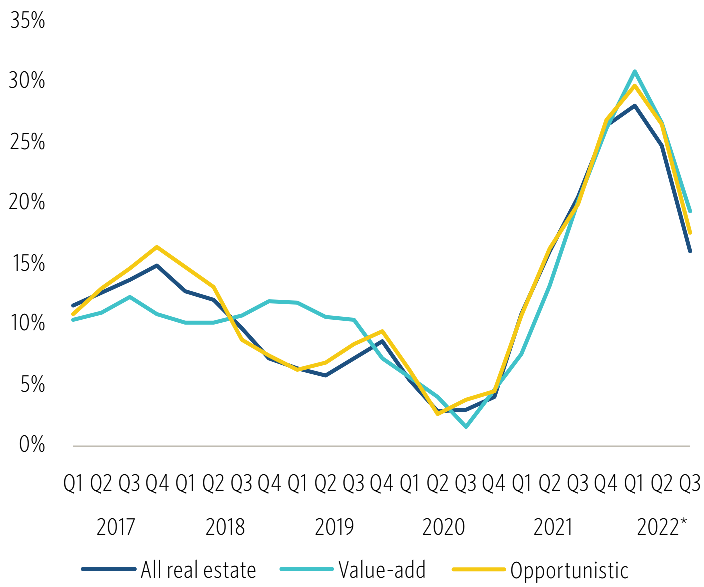
Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

Anikka Villegas
Analyst, Fund Strategies & Sustainable Investing

While still well above three-, five-, and 10-year real estate fund returns, the 16.0% rolling one-year IRR through Q3 2022 for real estate was 8.6% lower than the 24.2% reported in the previous quarter, which itself was down from Q1 2022. More granularly, the Q3 quarterly return for real estate was -0.7%, the first negative return since the first two quarters of 2020. The downward trajectory indicates that private real estate funds may have begun to internalize the headwinds that plagued public real estate beginning in January 2022 as covered in our H2 2022 Global Real Estate Report. Among those headwinds are high interest rates, persistent inflation, a potential recession, and corrections in certain pockets of the real estate market in the US and Europe. Even if the preliminary Q4 return of 0.4% holds, that will be among the lowest real estate returns of the decade. But it should still be recognized that the Q3 one-year IRR was the second highest of all private capital strategies during the period.

Breaking down the high-level returns data, North American real estate has been faring better than European real estate despite experiencing many of the same headwinds. The

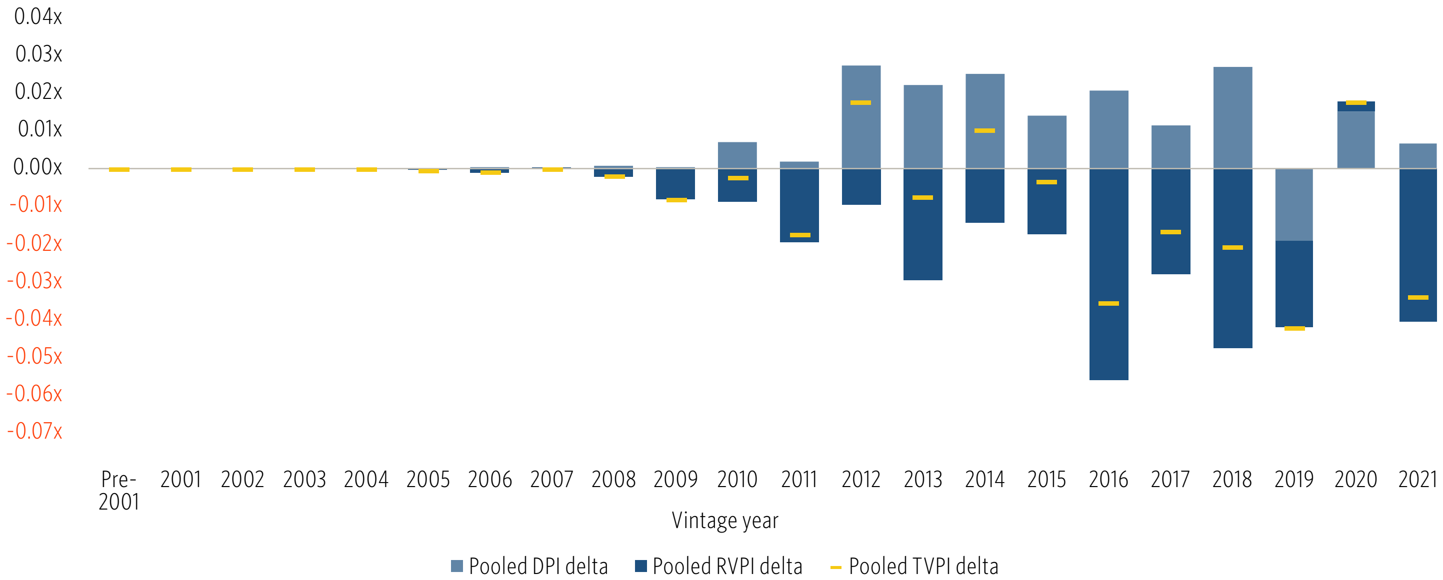
PitchBook Indexes: Real estate rolling one-year horizon IRR by type*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

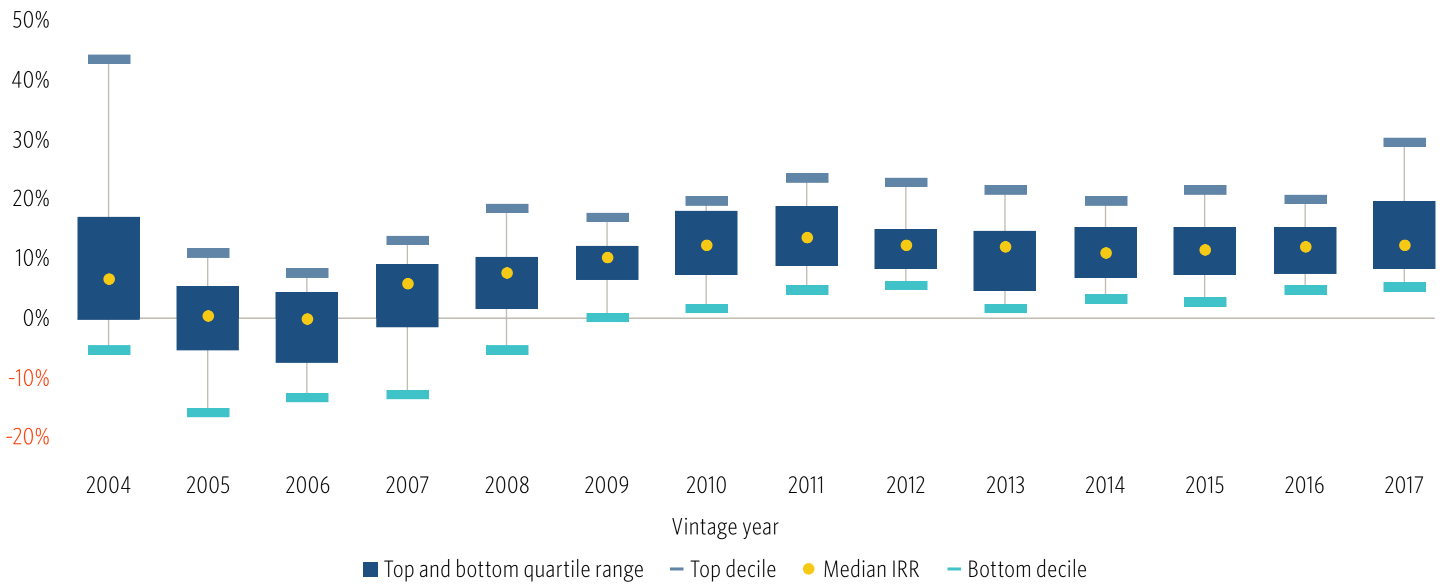
former logged a -0.1% quarterly return and a 19.3% one-year horizon IRR through Q3 2022, while the latter had a -3.9% quarterly return and a 3.6% one-year horizon IRR per our Real Estate Benchmarks Report as of Q3 2022. By real estate strategy, the value-add and opportunistic strategies were in the lead for one-year horizon IRRs as of Q3, at 19.3% and 17.5%, respectively, with the distressed strategy trailing at 11.1%. However, the quarterly returns had distressed faring the best as the only strategy with a return above zero, at 2.1%. Given the signs of economic deterioration, distressed investors are anticipating excellent buying opportunities, with the hope being that these strategies may be entering an era of relative outperformance.

Real estate funds Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

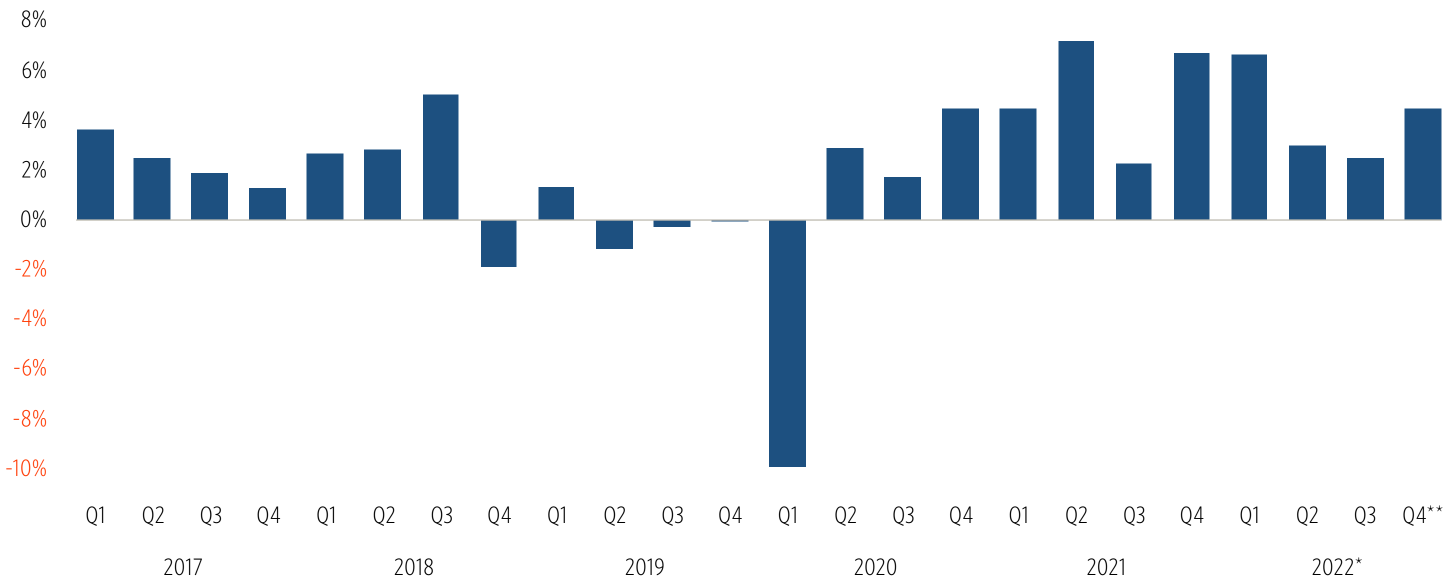
Real estate funds IRR dispersion (vintage years 2004-2017)*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Real assets

PitchBook Indexes: Real assets funds quarterly returns



Source: PitchBook • **Geography:** Global
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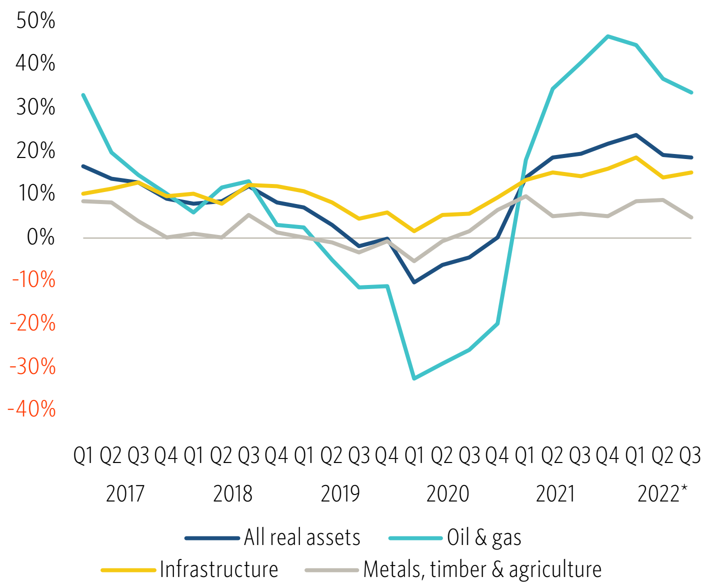
**Q4 2022 data is preliminary

Anikka Villegas
Analyst, Fund Strategies & Sustainable Investing

Real assets achieved the highest one-year IRR through Q3 2022 of any private capital strategy, at 18.7%—only slightly worse than the previous quarter's phenomenal 19.2%. In contrast, all other strategies except private debt saw returns lower than the prior quarter by at least 5.0%. It appears that infrastructure, widely regarded as a low-volatility and counter-cyclical asset class, is serving its intended purpose in LP portfolios. Its one-year return through Q3 2022 was 15.2%, which marked the seventh straight quarter of midteens year-over-year returns while the returns of other asset classes peaked and fell. Despite being a much smaller portion of the overall real assets AUM, the 33.7% one-year horizon IRR of oil & gas provided a significant upward force on overall real assets returns. Despite continuing to fall from Q4 2021's highs, an outcome driven largely by oil & gas prices, recent returns are still above pre-pandemic zeniths.

Quarterly returns suggest that real assets performance will hold strong through the end of 2022 with a 2.5% return on the books for Q3 and a 4.5% preliminary return for Q4. While not record-breaking for the asset class, the Q3 quarterly return

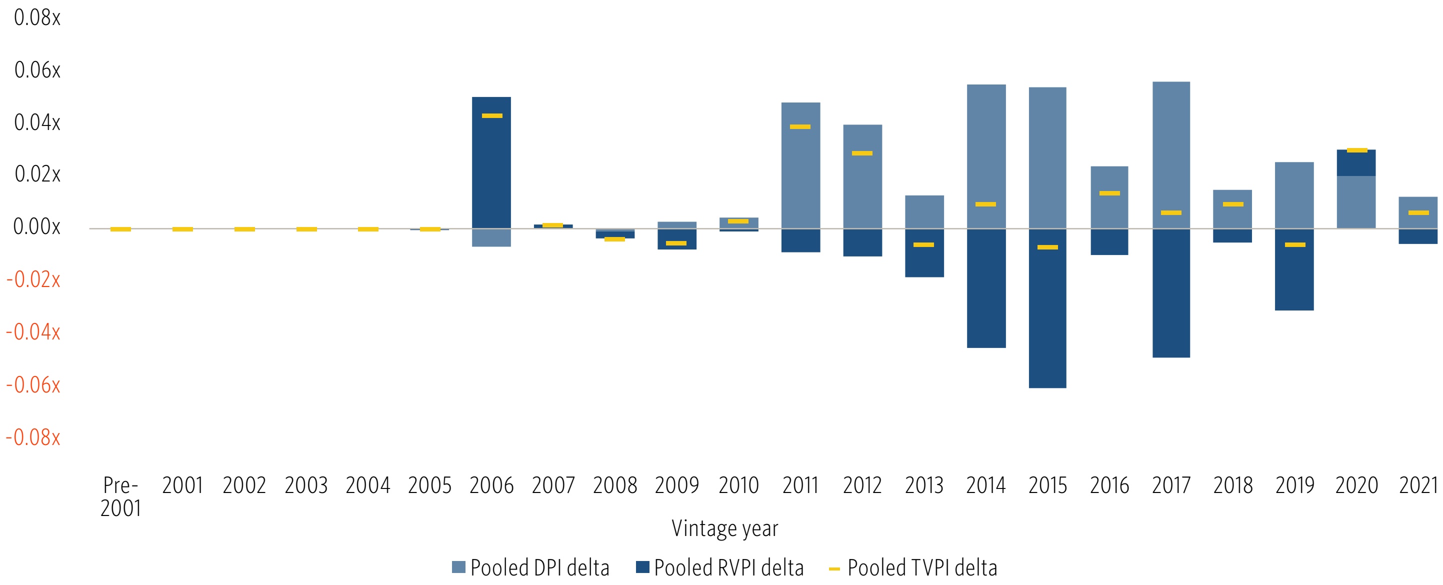
PitchBook Indexes: Real assets rolling one-year horizon IRR by type



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

is the second highest of all private capital strategy returns in that period, and the Q4 preliminary number is the highest in the next. North American funds' recent outperformance continued into Q3, notching a 20.8% one-year IRR compared to Europe's 13.0% per our [Real Assets Benchmarks Report as of Q3 2022](). However, quarterly returns indicate a convergence of North American and European performance is on the horizon, with the former at 2.5% and the latter at 2.1%. This is likely attributable in large part to oil & gas funds—over 90% of which are US-domiciled—seeing returns come back to earth as prices normalized. Quarterly returns for oil & gas came in at 2.0% in Q3, while infrastructure returns were higher for the first time in several quarters at 3.0%.

Real assets funds Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



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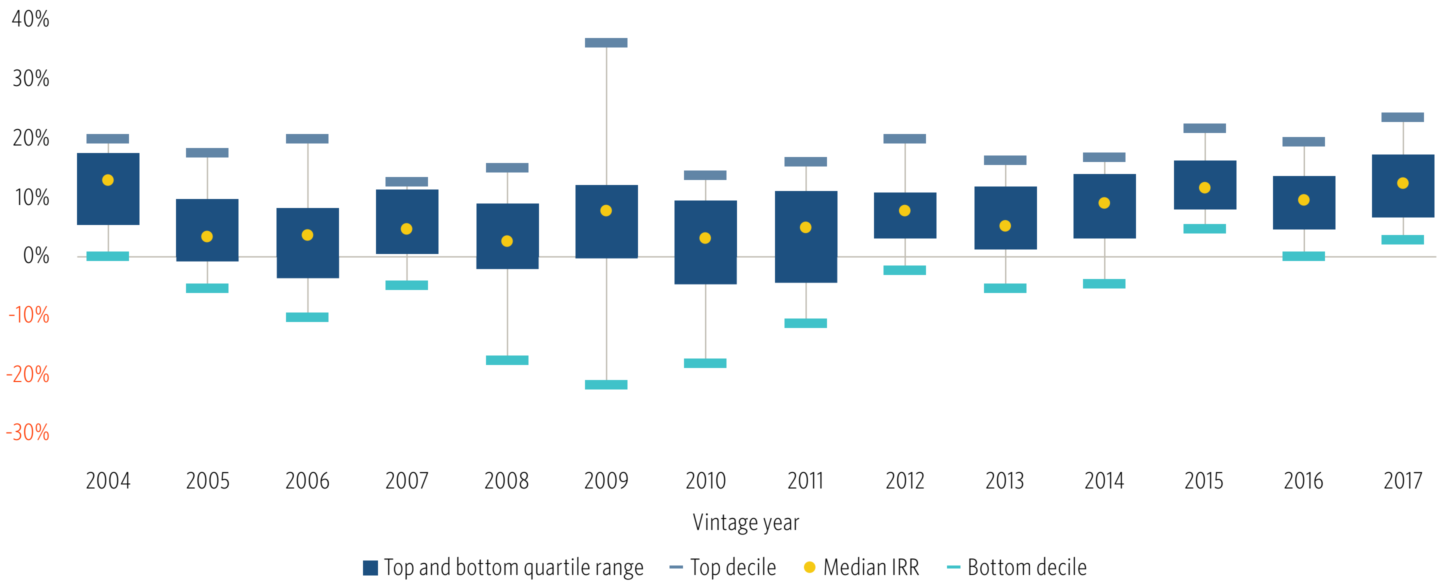
*As of September 30, 2022

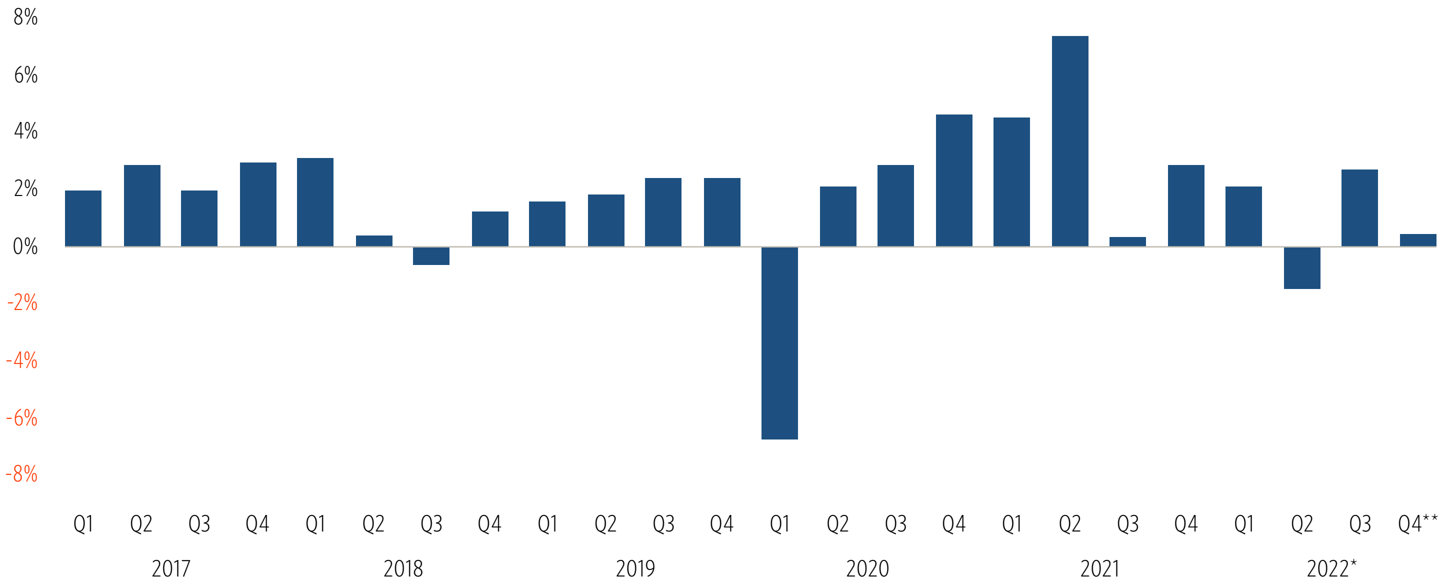
Real assets funds IRR dispersion (vintage years 2004-2017)*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Private debt

PitchBook Indexes: Private debt funds quarterly returns



Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

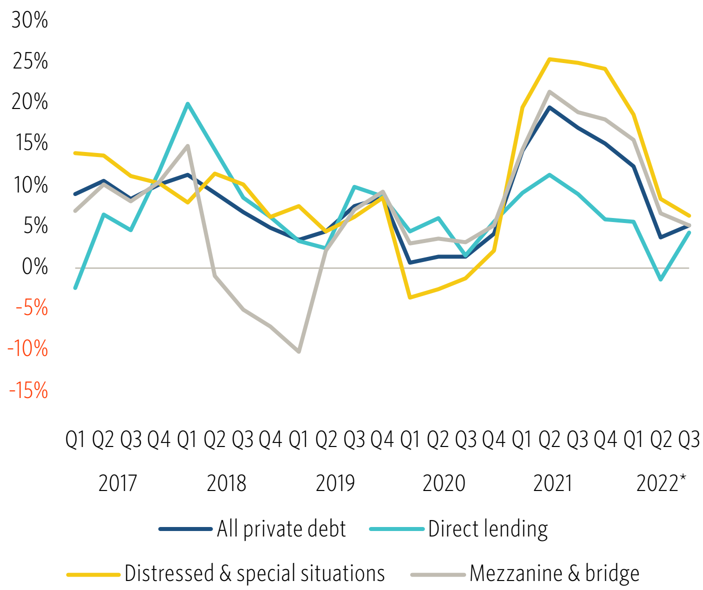
Tim Clarke
Lead Analyst, Private Equity

Private debt has proven its mettle as an effective hedge in a rising interest rate environment. Floating rate loans, which comprise most private debt holdings and the more liquid leveraged loan market, held up well in 2022. The Morningstar LSTA US Leveraged Loan Index returned -0.6% for the year as compared with -15.7% for high-grade corporate bonds and -18.1% for the S&P 500. This is just the third time that loans have beaten stocks and bonds in the 25-year life of the LSTA Index.

Private debt funds returned 2.7% in Q3 2022, a strong rebound from the -1.5% return recorded in Q2. Our preliminary data for Q4 2022 points to another gain of 0.4%. While this is below private debt's median quarterly return of 2.2%, it was tied for third-best relative to other private market strategies. The top of the private markets league table is unfamiliar territory for private debt, which has lagged its equity counterparts in most time periods.

The setup for private debt is promising. Since mid-2022, the syndicated loan market traditionally used by private issuers and sponsors has been dormant; private debt has taken over as the financing of choice, and these trends have continued into 2023. The number of leveraged buyouts (LBOs) financed by private debt in

PitchBook Indexes: Private debt funds rolling one-year horizon IRRs by type*

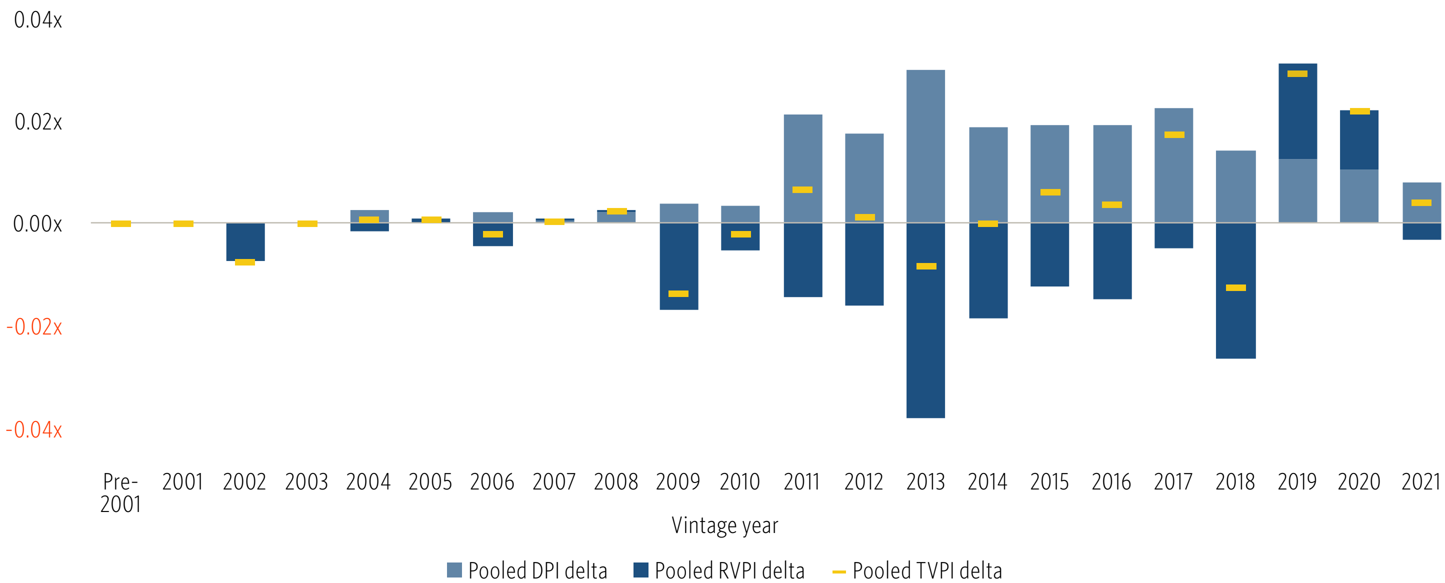


Source: PitchBook • **Geography:** Global
*As of September 30, 2022

2023 outnumbered those done in the broadly syndicated market by 72-to-four as of March 28, 2023, according to PitchBook-LCD. Just as the syndicated market began to show signs of recovery, the reentry was upended by the Silicon Valley Bank meltdown. Eventually banks will return to give private credit a run for its money, but until then, many private credit funds are paying current distributions to LPs at or above 10%, consistent with the yield-to-maturity rates on new issues for B-rated companies, which in March 2023 averaged 11.0%.

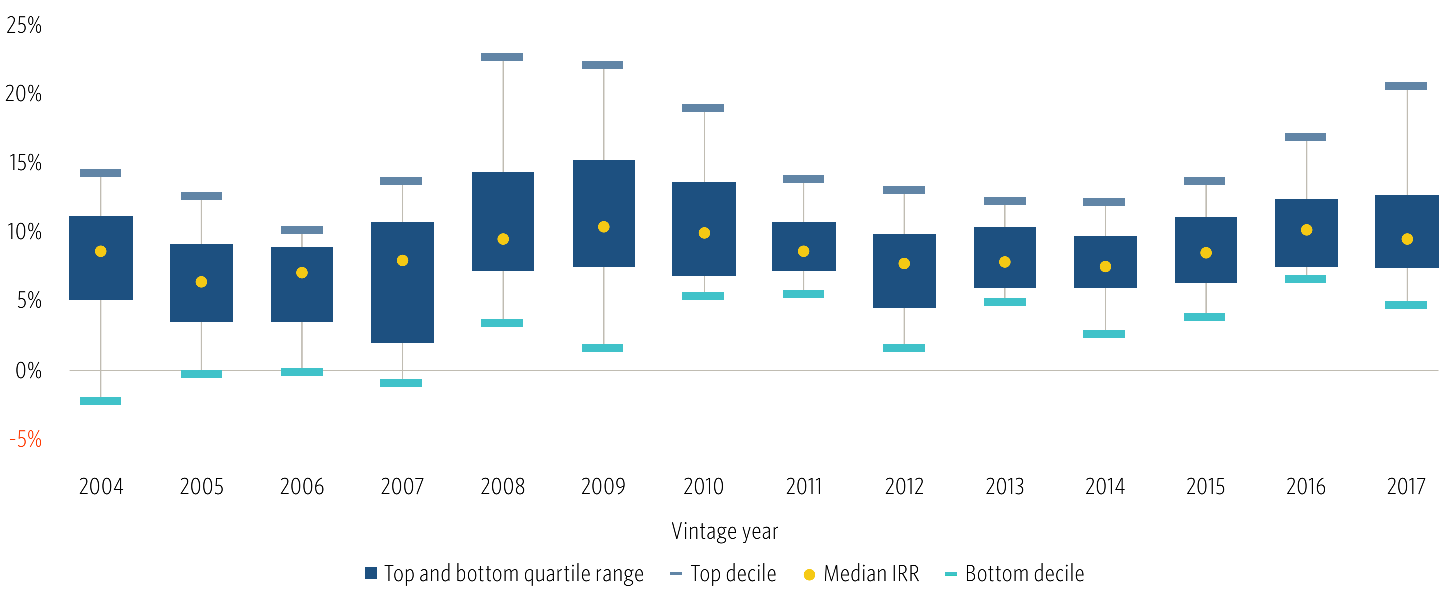
The primary risk to future returns is an adverse cycle in credit quality and loan defaults that leads to losses. PitchBook-LCD data shows that default rates on US leveraged loans hit a 22-month high in March 2023, highlighted by three relatively large private bankruptcies from Diamond Sports, Loyalty Venture, and Catalina Marketing. This took the trailing 12-month total to $18.4 billion, or 1.32% of overall market value. That is still well below the 10-year median credit default rate on leveraged loans of approximately 2%, but the gap is closing quickly.

Private debt funds Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

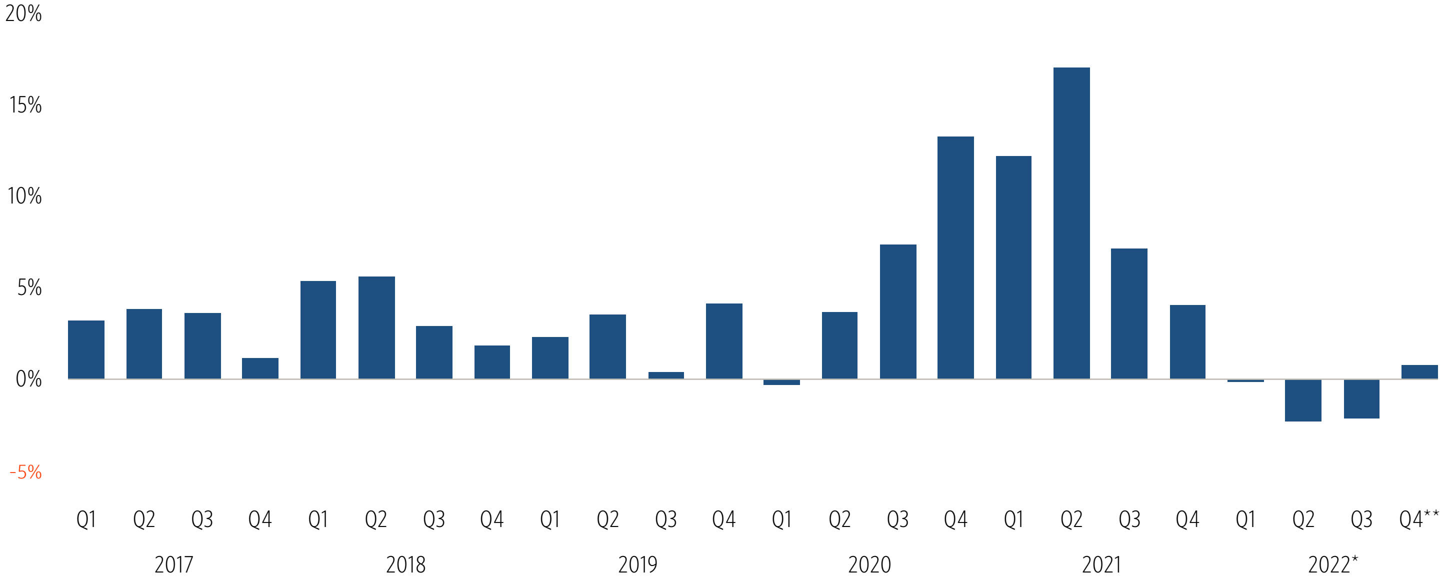
Private debt funds performance dispersion (vintage years 2004-2017)*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

Funds of funds

PitchBook Indexes: FoF quarterly returns



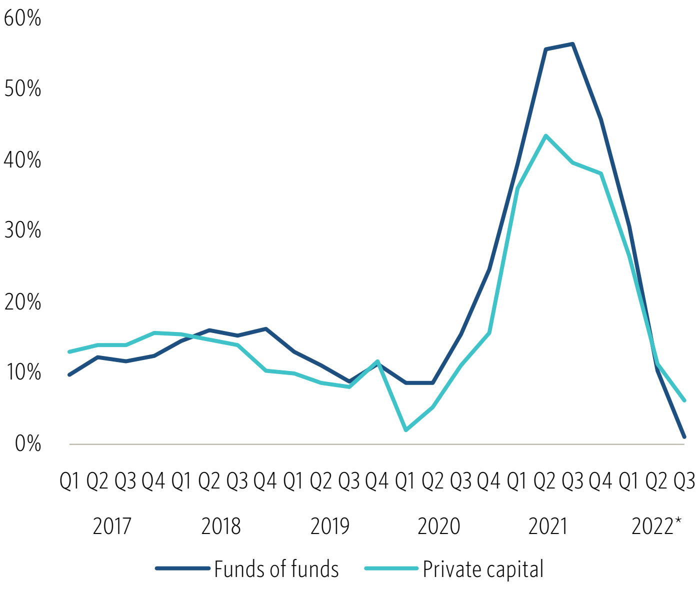
Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

Juliet Clemens
Analyst, Fund Strategies

In Q2 2022, nine consecutive quarters of FoF outperforming private capital overall came to an end. In Q3, the negative gap widened by a considerable margin—the private capital rolling one-year IRR was 6.1%, while FoF generated 1.0%. Preliminary single-quarter results for Q4, however, show a 0.8% FoF return, which is ahead of the private capital preliminary figure of 0.5%. The FoF one-year horizon IRR is significantly lower than the three-year, five-year, and 10-year horizon IRRs, indicating that FoF are currently performing well below historic levels; comparing the one-year return of 1.0% to the three-year horizon IRR figure of 23.0% illustrates the severity of this divergence. Based on our knowledge of the various strategies, it seems likely that the extended outperformance of FoF until recently was due to an overweight in VC, which also explains the recent underperformance.

According to PitchBook's 2022 FoF Benchmarks (as of Q3 2022), the one-year horizon IRR for VC FoF was 0.9% through the period, a stark disparity from the three-year figure of 33.5%. Looking more recently and more granularly, these funds had a Q3 2022 quarterly return of -4.3%, an indication

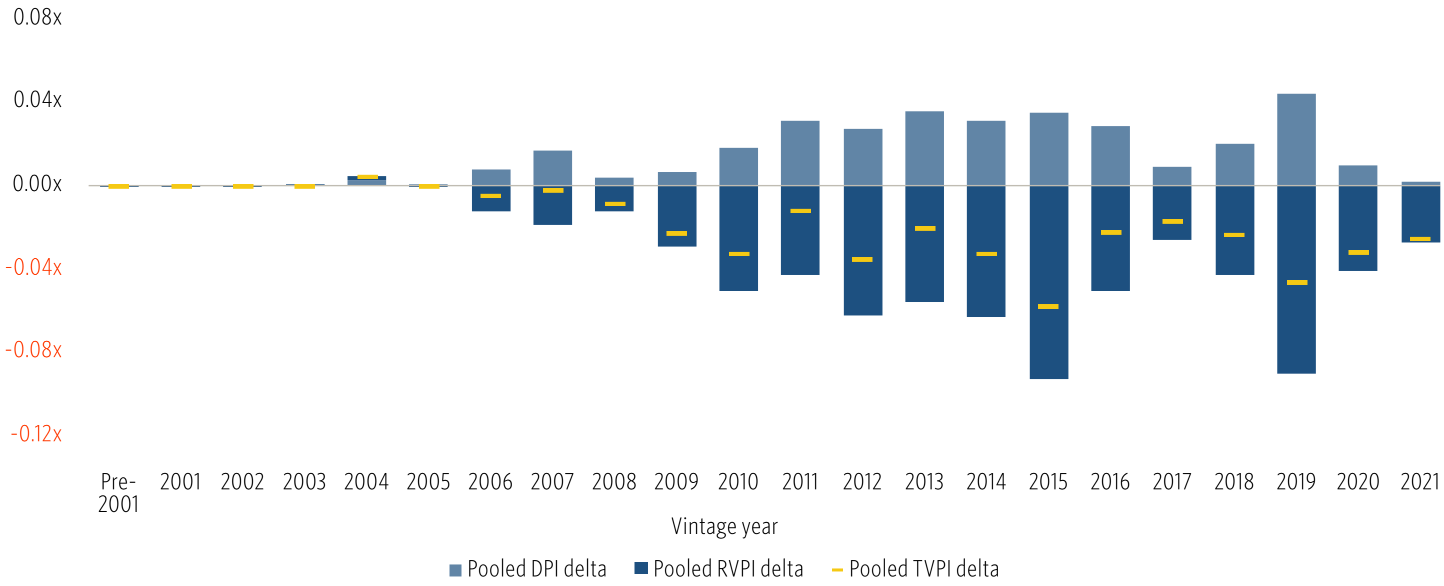
PitchBook Indexes: FoF rolling one-year horizon IRR



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

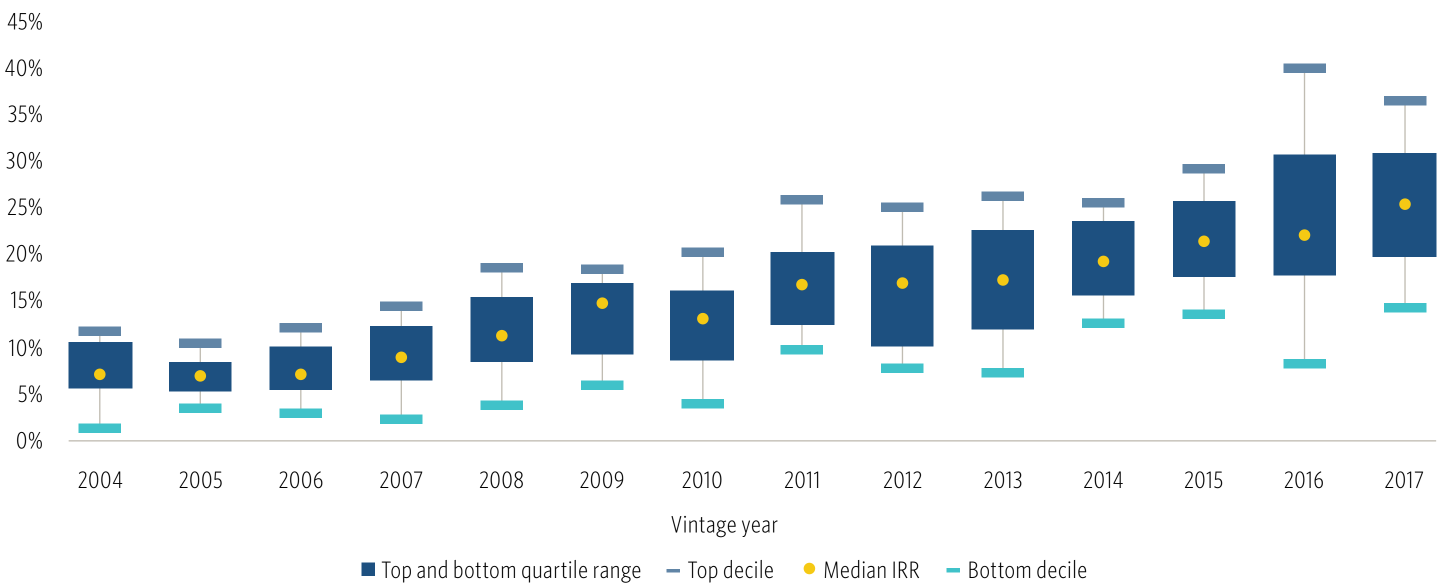
that as historically very high performance drops out of the one-year figures, we will see a sudden drop overall as these new, negative results take over. Switching to dedicated PE FoF, the one-year IRR figure delivered -0.1%, and Q3 returns came in at -1.4%, reflecting the unusually low results of the direct private equity universe as covered in the private equity section of this report. Real estate FoF were the best-performing of all FoF strategies, generating a one-year horizon IRR of 11.2% and a Q3 return of 2.9%, though as noted in our H2 2022 Global Real Estate Report, this may be due to the fact that private real estate values had not yet priced higher interest rates and slower growth into their valuation calculations.

FoF Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



Source: PitchBook • **Geography:** Global
*As of September 30, 2022

FoF IRR dispersion (vintage years 2004-2017)*

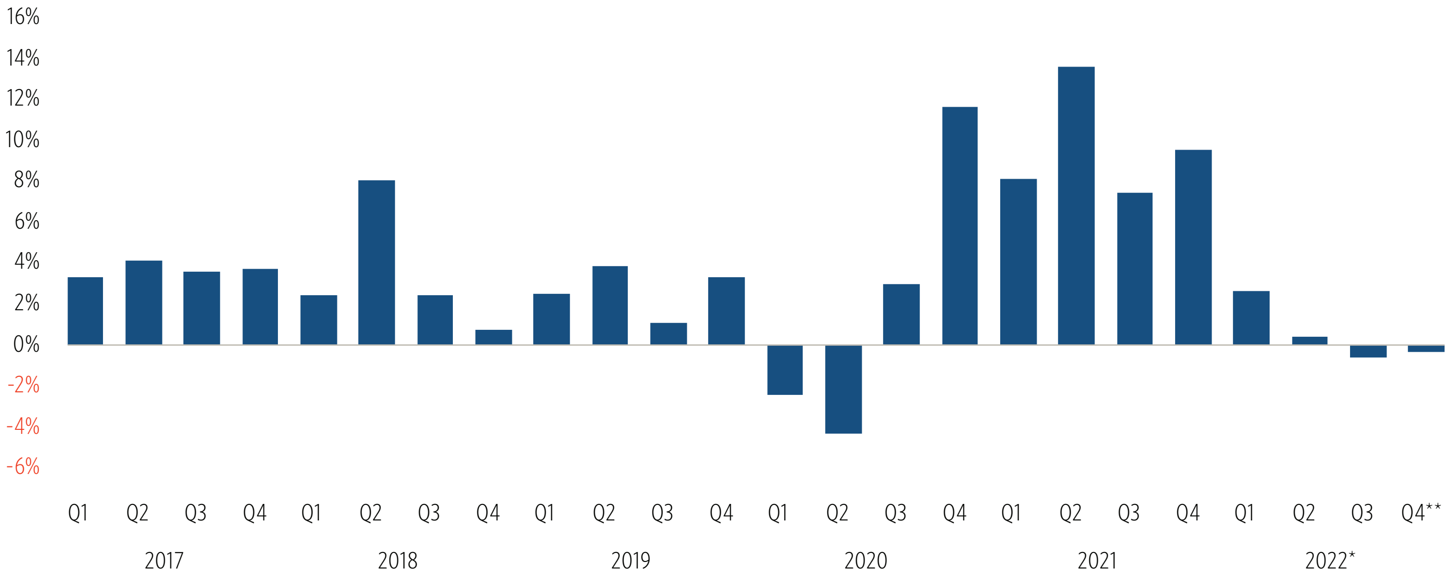


Source: PitchBook • **Geography:** Global
*As of September 30, 2022

PitchBook

Secondaries

PitchBook Indexes: Secondaries funds quarterly returns



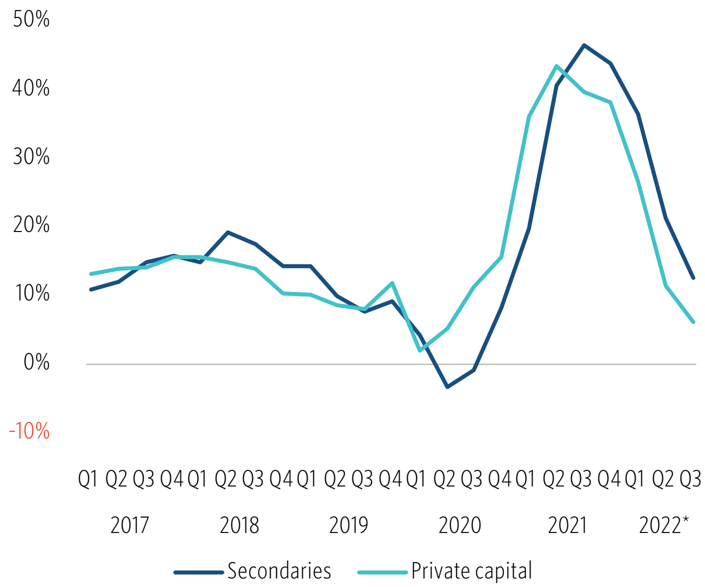
Source: PitchBook • **Geography:** Global
*As of December 31, 2022
**Q4 2022 data is preliminary

Juliet Clemens
Analyst, Fund Strategies

Despite the fact that secondaries were one of the only available avenues allocators had for liquidity in 2022, during the second half of the year there were two difficult choices: to sell their portfolio stakes at steep discounts to NAV, significantly reducing their cash return, or to hold out for better market conditions, which would extend hold times and put downward pressure on IRR figures. Neither option was ideal, but secondaries funds were there to provide liquidity should it be possible to agree upon a price. For more on the dynamics of the secondaries market, please refer to our Q2 2023 Analyst Note: The Evolution of Private Market Secondaries.

After a phenomenal 2021, secondaries fund returns declined dramatically in 2022, with Q1 returning 2.6%, Q2 posting 0.4%, and Q3 going negative to -0.6%. Preliminary data suggests that the declines may not yet be over, with current figures showing -0.3% for the strategy. The free ride of buying at a discount and immediately marking up the secondaries positions to NAV disappeared as the underlying GPs began marking down their portfolios. It is typically inadvisable to get too excited about secondary fund returns until a vintage is about five years into its lifespan when some realized returns have been distributed

PitchBook Indexes: Secondaries rolling one-year horizon IRRs



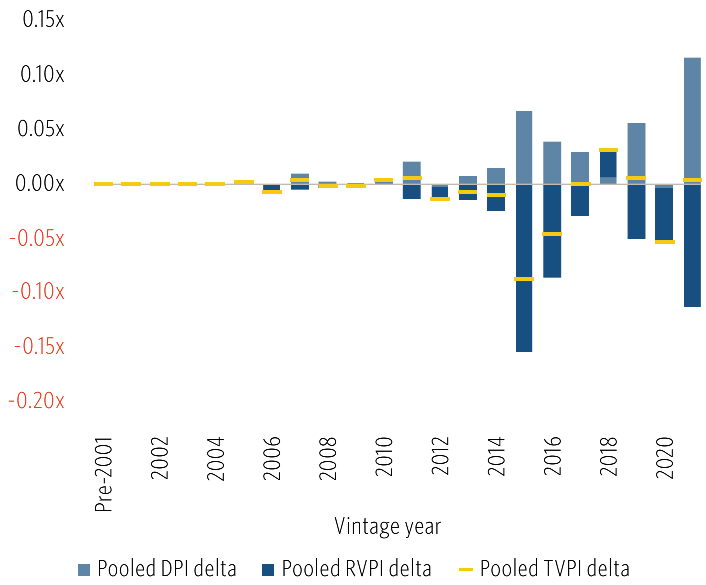
Source: PitchBook • **Geography:** Global
*As of September 30, 2022

and the longer-term holdings have been held for enough time to get a sense of where they are headed.

PitchBook

Through Q3 2022, secondaries delivered a one-year IRR figure of 12.5%, outperforming the overall private capital fund universe by a 6.4% margin. However, these returns reflect a significant decline from the peak of 46.4% notched just a year prior in Q3 2021. With that said, the level of performance was also highly dependent on substrategy, as shown in the data presented in [PitchBook's Q3 2022 Secondaries Benchmarks](). Unsurprisingly, VC secondaries took the biggest hit, generating a -9.0% one-year horizon IRR and an even more foreboding -13.9% quarterly return in Q3 2022. PE secondaries, on the other hand, fared much better than those of VC, with a 12.6% one-year IRR and a 4.9% Q3 figure. European secondary returns turned negative in Q3 at -3.7%—likely due to the ongoing difficulties posed by the Russia-Ukraine war in 2022—while North American secondaries generated a milder 0.8% during the same period. The outperformer of the various substrategies was real asset secondaries, which garnered one-year IRRs of 15.8% with a Q3 return of 10.6%. This could be due to the strategy's perceived inflation-hedging abilities.

Secondaries funds Q2 2022 to Q3 2022 change in pooled cash flow multiples by vintage*



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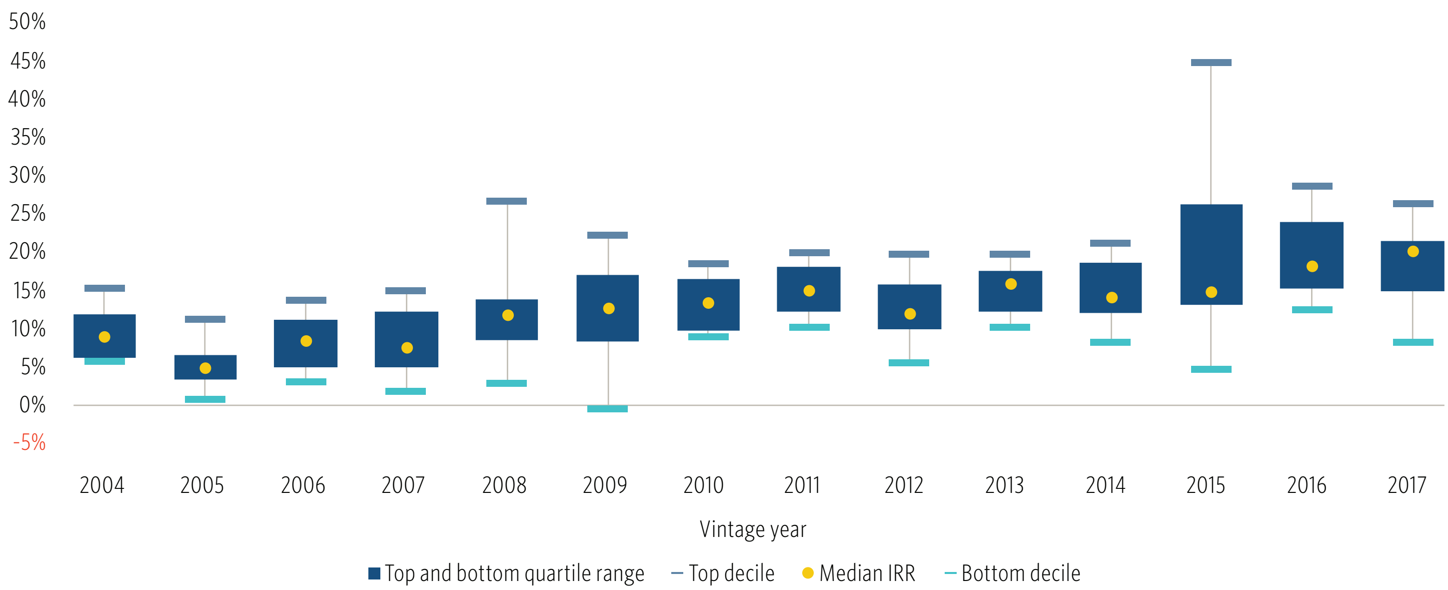
Secondaries fund IRR dispersion (vintage years 2004-2017)*



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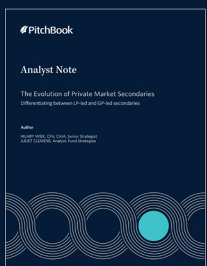
Additional research

Private markets



Q2 2023 Analyst Note: The Evolution of Private Market Secondaries

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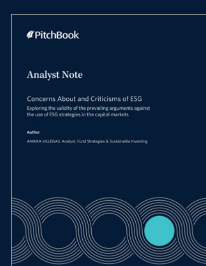

Q1 2023 Analyst Note: Concerns About and Criticisms of ESG

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