Verus

OCTOBER 3, 2023

Second Quarter Total Fund Review and Private Markets Update

Alameda County Employees Retirement Association

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Total fund review

U.S. economics summary

— Real GDP increased at a 2.0% rate in the first quarter of 2023 (1.8% growth year-over-year). The slowdown reflected weaker inventory buildups and slower business investment. Despite loftier inflation and higher interest rates, many economic signals are positive and/or improving.

— Inflation fell further in the U.S., with June CPI coming in at a surprisingly low 3% year-over-year and Core CPI at 4.8%. Weaker energy prices have had a large impact on overall inflation levels, though prices appear to also be softening across many other types of goods and services, suggesting milder inflation is not solely an energy story.

— The U.S. consumer has shown resiliency, with spending moving along at a moderate pace—at 2.1% year-over-year in May. These consumption patterns will be worth watching, as spending is the largest driver of economic growth.

— The Fed released its annual banking stress test results, which was applicable to the "too big to fail" class of banks. Results helped ease banking concerns as all 23 banks passed.

— The unemployment rate remained very tight at 3.6% in June. The workforce appears to be experiencing a healthy, and possibly low pain, rebalancing of resources. Many workers are returning to the workforce at the same time that fewer job openings are posted. Both of these effects reduce the mismatch between the total number of workers available relative to available jobs.

— Consumer sentiment improved slightly during the second quarter by most measures but remains pessimistic. The University of Michigan Consumer Sentiment survey showed that the outlook has improved due to factors such as the debt ceiling resolution and falling inflation.

	Most Recent	**12 Months Prior**
Real GDP *(YoY)*	1.8% *3/31/23*	3.7% *3/31/22*
Inflation *(CPI YoY, Core)*	4.8% *6/30/23*	8.9% *6/30/22*
Expected Inflation *(5yr-5yr forward)*	2.3% *6/30/23*	2.1% *6/30/22*
Fed Funds Target Range	5.00–5.25% *6/30/23*	1.50–1.75% *6/30/22*
10-Year Rate	3.81% *6/30/23*	2.98% *6/30/22*
U-3 Unemployment	3.6% *6/30/23*	3.6% *6/30/22*
U-6 Unemployment	6.9% *6/30/23*	6.7% *6/30/22*

Equity environment

— Global equities persisted in their upward trajectory during Q2 (MSCI ACWI +6.2%). Domestic equities (S&P 500 +8.7%) outperformed both international developed (MSCI EAFE +3.0%) and emerging markets (MSCI EM +0.9%).

— U.S. equities rallied for a third consecutive quarter as mega-cap technology stocks remained top performers. A surge in AI-focused hype helped drive an expansion in the valuations of large tech firms including Nvidia and Apple – which became the first company to exceed $3 trillion in market cap.

— The effects of currency movements on portfolio performance was mixed during Q2. Varying central bank approaches to inflation have contributed to much uncertainty around the path of the U.S. dollar and therefore heightened volatility for investors with unhedged currency exposure. During the past year, currency movement led to a -2.5% loss for investors with unhedged exposure to international developed equity (MSCI EAFE unhedged +18.8%, MSCI EAFE hedged +21.3%).

— Growth stocks (+12.8%) again outpaced value (+4.1%), bringing the year-to-date performance differential to +23.9%. Over recent years, style factors (ex: small vs large, value vs growth) have exhibited some of the wildest swings in history.

— The Cboe VIX implied volatility index moved to surprisingly low levels, despite broad expectations of recession, ongoing risks of regional bank contagion, and other not-yet-known consequences of central bank liquidity withdrawal from the financial system. The index fell from 18.7% to 13.6% during the second quarter.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	8.7%		19.6%	
U.S. Small Cap (Russell 2000)	5.2%		12.3%	
U.S. Equity (Russell 3000)	8.4%		19.0%	
U.S. Large Value (Russell 1000 Value)	4.1%		11.5%	
US Large Growth (Russell 1000 Growth)	12.8%		27.1%	
Global Equity (MSCI ACWI)	6.2%	6.2%	16.5%	17.5%
International Large (MSCI EAFE)	3.0%	5.0%	18.8%	21.3%
Eurozone (EURO STOXX 50)	4.1%	4.5%	36.3%	34.7%
U.K. (FTSE 100)	2.4%	0.0%	14.0%	10.9%
Japan (TOPIX)	4.2%	16.0%	19.4%	31.2%
Emerging Markets (MSCI Emerging Markets)	0.9%	1.6%	1.8%	3.4%

Source: Russell Investments, MSCI, STOXX, FTSE, JPX, as of 6/30/23

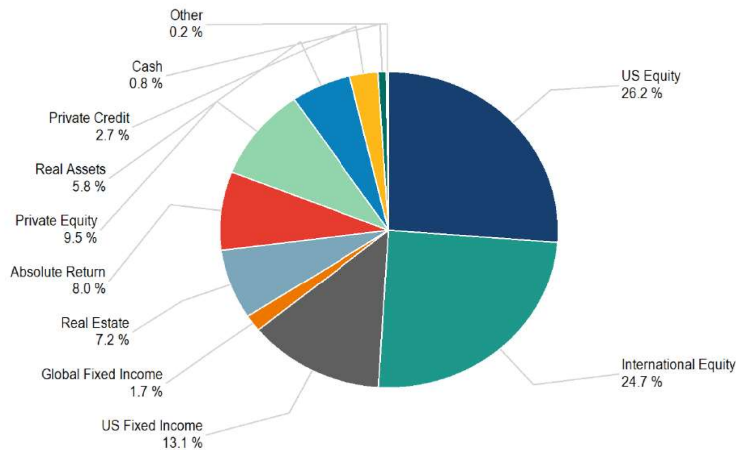
Fixed income environment

- The 10-year U.S. Treasury yield increased during the quarter from 3.48% to 3.81%, reversing the decline experienced during Q1. Despite an additional rise in short-term interest rates, longer-term interest rates remain anchored. This has resulted in the most deeply inverted yield curve since the early 1980s at -1.06% (10-year Treasury yield minus 2-year Treasury yield).
- The Federal Reserve opted to keep interest rates stable in June, but signaled two more rate hikes were ahead in 2023. Some referred to this messaging as a "hawkish pause". Despite cooling inflation, the Fed appears concerned about strong ongoing labor market conditions and persistent monthly price rises. Markets are pricing in a high likelihood of a +25bps July hike.
- Historically, equities and bonds have experienced negative correlation (moved in opposite directions through time). In 2022, both equities and bonds suffered losses as the Fed continued tightening monetary policy. Following the failure of SVB, the asset classes seems to have resumed negative correlation behavior.
- During the second quarter, higher quality credit and U.S. Treasuries saw mild losses. Riskier credit performed very well as credit spreads have stayed surprisingly tight. Longer duration investment grade corporate bonds disappointed, returning -0.3%.
- Despite concerns related to the future path of Federal Reserve rate hikes, interest rate volatility declined during the quarter as indicated by the ICE BofA "MOVE" Index, which measures the volatility priced into U.S. Treasury bonds. While inflation has moderated in recent quarters, the market may need to price in additional rate hikes should it remain above the Federal Reserve's target of roughly 2%, which could contribute to further volatility.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(0.8%)	(0.9%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(0.6%)	0.0%
U.S. Treasuries (Bloomberg U.S. Treasury)	(1.4%)	(2.1%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	1.7%	9.1%
Bank Loans (S&P/LSTA Leveraged Loan)	3.1%	10.7%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	2.5%	11.4%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	2.2%	7.4%
Mortgage-Backed Securities (Bloomberg MBS)	(0.6%)	(1.5%)

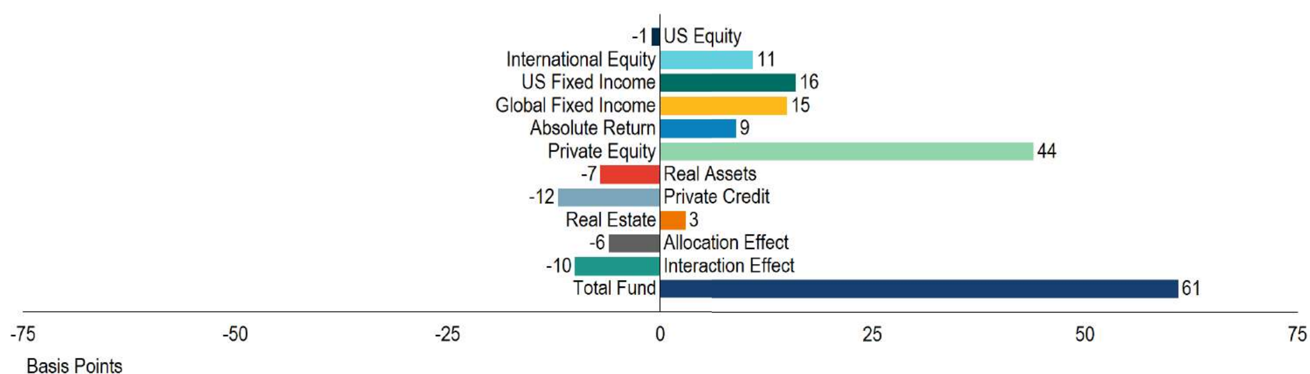
Source: Bloomberg, as of 6/30/23

Asset allocation



	Current Balance ($)	Current Allocation (%)	Policy (%)	Difference (%)	Within IPS Range?
US Equity	2,853,893,285	26.2	24.0	2.2	Yes
International Equity	2,687,657,348	24.7	24.0	0.7	Yes
US Fixed Income	1,420,377,147	13.1	12.0	1.1	Yes
Global Fixed Income	187,822,220	1.7	2.0	-0.3	Yes
Real Estate	784,806,577	7.2	9.0	-1.8	Yes
Absolute Return	872,575,176	8.0	8.0	0.0	Yes
Private Equity	1,030,884,251	9.5	11.0	-1.5	Yes
Real Assets	633,773,073	5.8	6.0	-0.2	Yes
Private Credit	292,318,676	2.7	4.0	-1.3	Yes
Cash	89,080,640	0.8	0.0	0.8	Yes
Other	23,399,848	0.2	0.0	0.2	Yes
Total	**10,876,588,241**	**100.0**	**100.0**		

Total fund attribution – FY 2023



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	18.89%	18.95%	-0.06%	-0.01%	0.00%	0.00%	-0.01%
International Equity	13.41%	13.08%	0.33%	0.11%	-0.06%	0.01%	0.06%
US Fixed Income	0.33%	-0.94%	1.27%	0.16%	-0.20%	0.03%	-0.01%
Global Fixed Income	3.71%	-2.49%	6.20%	0.15%	0.02%	-0.03%	0.14%
Absolute Return	4.60%	3.69%	0.92%	0.09%	-0.05%	-0.02%	0.02%
Private Equity	-1.68%	-4.74%	3.07%	0.44%	0.14%	-0.10%	0.47%
Real Assets	3.94%	4.30%	-0.36%	-0.07%	0.05%	-0.04%	-0.06%
Private Credit	9.32%	12.78%	-3.46%	-0.12%	-0.10%	0.04%	-0.18%
Real Estate	-9.70%	-9.97%	0.28%	0.03%	0.14%	0.00%	0.17%
Total	**7.80%**	**7.19%**	**0.61%**	**0.77%**	**-0.06%**	**-0.10%**	**0.61%**

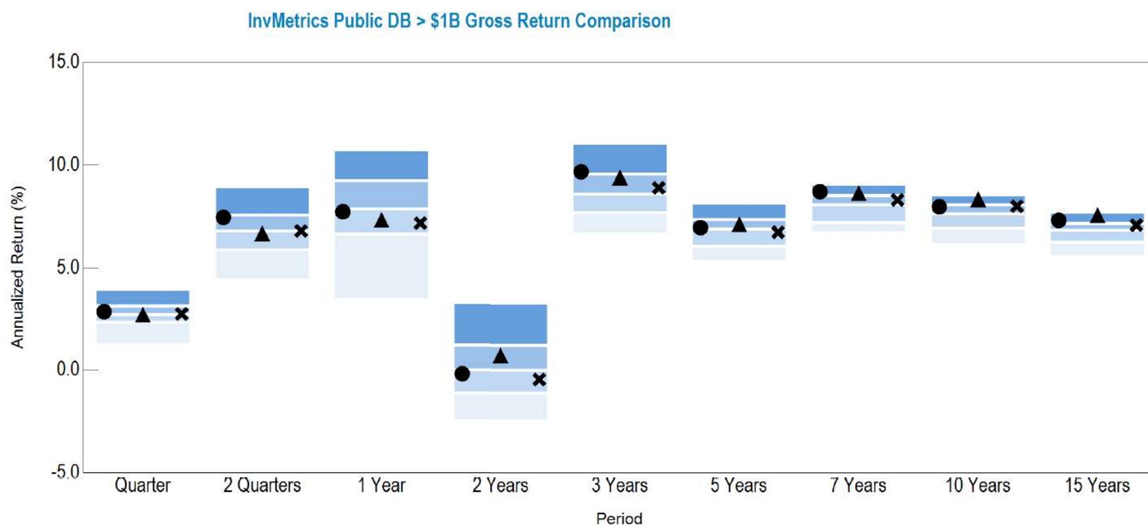
Total fund and composite performance

	Market Value ($)	% of Portfolio	3 Mo (%)	6 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund*	**10,876,588,241**	**100.00**	**2.83**	**7.46**	**7.73**	**9.67**	**6.96**	**8.70**	**7.97**	**9.35**	**Sep-85**
Policy Index			*2.69*	*6.67*	*7.33*	*9.39*	*7.12*	*8.64*	*8.33*	*9.63*	*Sep-85*
Total Fund w/o Overlay*	**10,853,188,393**	**99.78**	**2.81**	**7.41**	**7.72**	**9.71**	**6.98**	**8.72**	**7.99**	**9.35**	**Sep-85**
US Equity*	**2,853,893,285**	**26.24**	**8.15**	**15.74**	**18.89**	**13.90**	**11.18**	**13.46**	**12.22**	**11.68**	**Sep-85**
Russell 3000			*8.39*	*16.17*	*18.95*	*13.89*	*11.39*	*12.86*	*12.34*	*11.25*	*Sep-85*
International Equity*	**2,687,657,348**	**24.71**	**2.56**	**11.18**	**13.41**	**7.76**	**4.56**	**7.65**	**5.99**	**7.80**	**Dec-90**
MSCI ACWI ex USA IMI Gross			*2.61*	*9.48*	*13.08*	*7.85*	*3.87*	*6.78*	*5.36*	*6.05*	*Dec-90*
Total Fixed Income*	**1,608,199,367**	**14.79**	**-0.39**	**2.99**	**0.73**	**-2.05**	**1.71**	**1.96**	**2.78**	**6.55**	**Sep-86**
Fixed Income Blend			*-0.78*	*2.34*	*-0.20*	*-3.79*	*0.36*	*0.36*	*1.39*	*5.57*	*Sep-86*
US Fixed Income*	**1,420,377,147**	**13.06**	**-0.59**	**2.65**	**0.33**	**-2.61**	**1.91**	**2.02**	**3.02**	**6.48**	**Sep-86**
Bloomberg US Aggregate TR			*-0.84*	*2.09*	*-0.94*	*-3.97*	*0.77*	*0.44*	*1.52*	*5.40*	*Sep-86*
Global Fixed Income*	**187,822,220**	**1.73**	**1.14**	**5.59**	**3.71**	**-1.87**	**0.11**	**0.96**	**1.50**	**5.75**	**Nov-01**
FTSE WGBI TR			*-1.79*	*1.66*	*-2.49*	*-6.49*	*-2.04*	*-1.79*	*-0.48*	*2.97*	*Nov-01*

Total fund and composite performance (continued)

	Market Value ($)	% of Portfolio	3 Mo (%)	6 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Absolute Return*	**872,575,176**	**8.02**	**2.06**	**2.24**	**4.60**	**10.55**	**4.41**	**4.43**	**4.08**	**4.04**	**Sep-11**
Absolute Return Blend			*1.48*	*2.24*	*3.64*	*5.03*	*3.32*	*3.65*	*3.82*	*3.88*	*Sep-11*
Private Equity*	**1,030,884,251**	**9.48**	**2.37**	**4.32**	**-1.68**	**24.42**	**15.47**	**16.14**	**15.81**	**7.04**	**Nov-08**
Private Equity Blend			*2.04*	*2.74*	*-4.74*	*21.70*	*15.51*	*16.81*	*15.92*	*17.15*	*Nov-08*
Real Assets*	**633,773,073**	**5.83**	**-0.40**	**1.29**	**3.94**	**15.29**	**3.63**	**3.37**	**-0.31**	**-0.93**	**Sep-11**
Real Asset Blend			*-1.50*	*0.04*	*4.30*	*14.66*	*5.62*	*6.91*	*6.16*	*5.98*	*Sep-11*
Private Credit*	**292,318,676**	**2.69**	**2.07**	**5.20**	**9.32**	**9.38**	**--**	**--**	**--**	**6.53**	**Oct-19**
S&P/LSTA Leveraged Loan Index +1.75%			*3.59*	*7.40*	*12.78*	*8.22*	*5.98*	*6.48*	*5.90*	*6.27*	*Oct-19*
Cash*	**89,080,640**	**0.82**	**1.24**	**2.53**	**3.81**	**1.49**	**1.54**	**1.40**	**1.01**	**2.98**	**Sep-85**
91 Day T-Bills			*1.17*	*2.25*	*3.59*	*1.26*	*1.47*	*1.33*	*0.95*	*3.05*	*Sep-85*
Real Estate*	**784,806,577**	**7.22**	**-2.88**	**-5.70**	**-9.70**	**8.01**	**6.68**	**7.23**	**9.32**	**7.05**	**Mar-86**
Real Estate Blend			*-2.68*	*-5.76*	*-9.97*	*7.99*	*6.50*	*6.97*	*8.74*	*7.74*	*Mar-86*
Overlay*	**23,399,848**	**0.22**	**12.00**	**34.94**	**25.61**	**--**	**--**	**--**	**--**	**-53.11**	**Jul-21**

Total fund peer universe comparison



Return (Rank)	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years		15 Years	
5th Percentile	3.91		8.93		10.74		3.28		11.05		8.12		9.05		8.53		7.71	
25th Percentile	3.12		7.59		9.26		1.22		9.59		7.35		8.51		8.07		7.15	
Median	2.71		6.81		7.88		0.00		8.60		6.88		8.08		7.65		6.84	
75th Percentile	2.33		5.88		6.64		-1.10		7.71		6.05		7.23		6.94		6.26	
95th Percentile	1.26		4.42		3.42		-2.46		6.66		5.32		6.71		6.13		5.53	
# of Portfolios	79		78		77		76		76		76		75		71		67	
● Total Fund	2.83	(37)	7.46	(30)	7.73	(55)	-0.17	(56)	9.67	(22)	6.96	(45)	8.70	(15)	7.97	(34)	7.31	(15)
▲ Policy Index	2.69	(51)	6.67	(55)	7.33	(66)	0.73	(33)	9.39	(30)	7.12	(36)	8.64	(20)	8.33	(13)	7.56	(6)
✕ Allocation Index	2.73	(46)	6.80	(51)	7.18	(68)	-0.44	(66)	8.89	(39)	6.73	(57)	8.30	(35)	7.99	(34)	7.08	(30)

Watch List

Manager	Date on Watchlist	Reason	Product Inception Date
Mondrian	12/1/22	As of 6/30/23, Since Inception net return of 5.6% vs. benchmark (MSCI ACWI ex-US) return of 6.0% and MSCI ex-US Value return of 5.6%; 10-year gross-of-fees return (4.6%) places Mondrian in 86th percentile of ACWI ex-US Large Cap Value Equity Universe. Firm has consistently been in bottom 2 deciles of that universe over all cumulative time series.	November, 2003
Templeton	12/1/22	Organizational change and underperformance. As of 6/30/23 data, Since Inception net return of 4.5% vs benchmark (MSCI ACWI ex-US Small Cap) return of 4.4% and MSCI ACWI ex-US Value return of 4.3%.; 10-year gross-of fees return (5.4%) places Templeton in the 99th percentile of ACWI ex- US Small Cap managers.	April, 2011
TCW	3/1/23	Underperformance and organizational change (recent retirements and team shift). Underperformance vs. Russell 1000 Growth benchmark occurred over 1, 3, 5, and 10-year periods, placing the firm in the lowest quartile versus peers over majority of cumulative time periods.	June, 1999

Absolute return review

Hedge fund market review

Hedge funds see cash flows start to increase as returns stabilize

— Performance for Q1 (0.7% for the HFRI Composite) modest with many strategies up between 0.7% and 1.5% for the quarter.

— Investors added $9.1 billion in Q1 2023 in a stark reversal of the net flows trend from 2022 (which saw outflows of approximately $40 billion). This comes on the heels of strong inflows in Q1 and the best period of inflows since 2013-2015, which suggests that most investors were using their hedge fund allocations as a source of liquidity rather than exiting the space.

— Hedge funds generally saw positive performance in Q4 2022 and Q1 2023 led by event driven strategies. Macro strategies, which had been strong through Q3 2022 was the only major HFRI strategy with negative returns in both Q4 and Q1.

HFRI STRATEGY RETURNS, LAST 4 QUARTERS

Source: HFR

QUARTERLY NET FLOWS TO HEDGE FUNDS

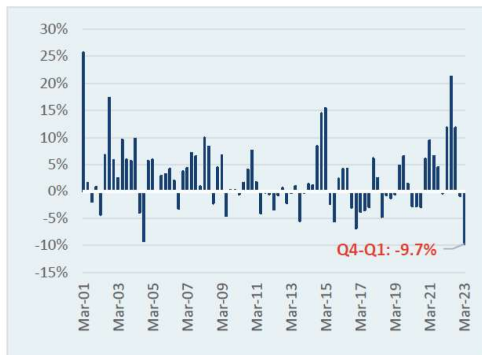
Source: HFR

CTAs – reversal of fortune

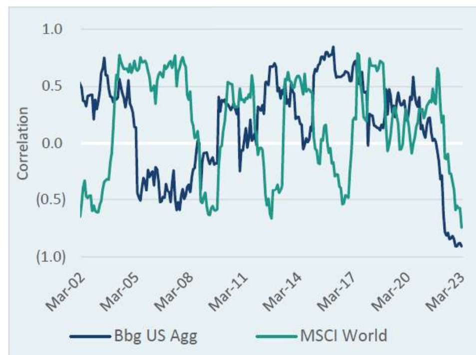
In 2021 and for most of 2022, systematic CTA strategies were the top performing hedge fund strategy. Trend following paid off after several years of mediocre returns from 2016-2020. This periodicity is typical of trend following/CTA type strategies, and the end of 2022 and first quarter of 2023 are a great example of the weak points for these strategies. CTA strategies, as proxied by the SocGen CTA Index, had their worst performance ever over a consecutive quarter period from Q4 '22 through Q1 '23, with data going back to 2000.

The source of pain is obvious when looking at their intermediate-term correlations to stocks and bonds, each of which were simultaneously at their all time most negative since 2000. Rolling 3-year performance for CTAs vs other strategy types is in the midst of reversing after COVID drawdowns begin to roll off and CTAs have suffered from the recent reversals in both stocks and bonds. As intermediate (6-12 month) trends in markets begin to flatten out and the first half of 2022 rolls off, look for CTA positioning to level out and potentially support further moves higher if they continue as they need to cover shorts or add to longs.

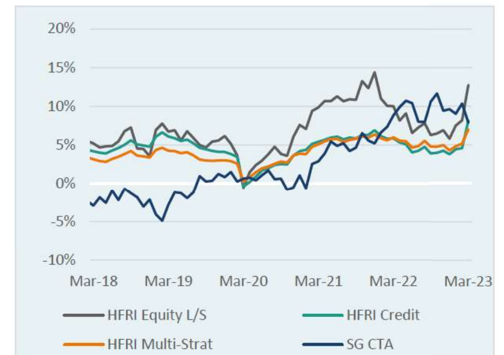
ROLLING 6-MONTH RETURNS FOR CTA INDEX



12-MONTH CORRELATION VS CTA INDEX



CUMULATIVE RETURN LAST 12 MONTHS

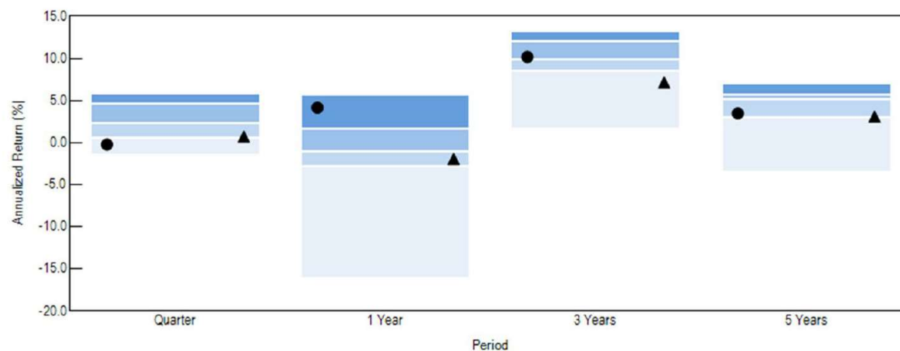


Source: HFR, MPI, Morningstar. SocGen, Data as of 9/30/2022

ACERA Absolute Return performance

	Ending March 31, 2023																
	Market Value ($)	% of Portfolio	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	Inception (%)	Inception Date
Absolute Return*	**852,044,092**	**100.0**	**-0.2**	**-0.2**	**-0.2**	**4.2**	**10.2**	**3.5**	**4.0**	**6.1**	**15.0**	**-0.6**	**1.8**	**-2.2**	**3.9**	**Sep-11**
Absolute Return Blend			*0.7*	*0.7*	*0.7*	*-1.9*	*7.2*	*3.1*	*3.8*	*-5.3*	*6.2*	*10.9*	*8.4*	*-4.0*	*3.8*	*Sep-11*

InvMetrics All DB Hedge Funds Gross Return Comparison
Ending March 31, 2023



	Return (Rank)							
5th Percentile	5.7		5.7		13.2		6.9	
25th Percentile	4.6		1.8		12.1		5.8	
Median	2.4		-1.1		10.0		5.2	
75th Percentile	0.6		-2.8		8.6		3.1	
95th Percentile	-1.4		-16.1		1.7		-3.4	
# of Portfolios	127		115		109		93	
● **Absolute Return**	-0.2	(91)	4.2	(8)	10.2	(50)	3.5	(74)
▲ **Absolute Return Blend**	0.7	(75)	-1.9	(63)	7.2	(81)	3.1	(76)

Private equity and debt market review and outlook

Observations driving Verus outlook

Executive summary

Private equity deal activity remains weak in the face of rising interest rates. Rising interest rates and falling public market indexes in 2022 are having a direct impact on the current pricing environment. In many cases, with the cost of debt rising, the proportion of equity has also risen. Multiples are coming down, and, until a more stable environment has been established, deal activity will likely remain subdued. Though deal activity is down broadly, transactions for high quality assets and add-ons still occur.

Exit activity is down a considerable margin, year over year. Considering falling market values, sponsors are opting to retain their portfolio companies instead of selling them at less favorable prices. Public listings were closed due to the decline in public equities and risk premiums in 2022, but upcoming IPOs and market rebound could lead to increased IPO activity.

A higher rate for longer scenario may benefit prospective investors. Deal activity may pick up alongside motivations borne out of stress and liquidity in a weak macro-environment. Investors who can creatively handle complex situations and cater to seller preferences may find opportunities in stressed situations. Buyers will have leverage in these negotiations and will push for friendlier deal terms and may benefit from discounted purchase prices. We expect distressed opportunities to increase but not to the level of prior market downturns.

With decreasing premiums on risk, outflows from equities have occurred. Fundraising has decreased across most of U.S. Private Equity and Venture Capital, especially in the late-stage. LPs who remain active may find a multitude of benefits from the tough fundraising environment, and GPs who remain active may find less competitive markets to be beneficial.

Direct lending is more attractive than prior years despite increasing attention from the investor community. Floating rate debt benefits from higher base rates. Pullback from bank broadly syndicated loans has culminated into opportunities for Private Credit lenders who now have more power in negotiating wider spreads, better documentation, and stronger downside protection. Increasing attention to the space from GPs and both institutional and retail investors may eventually lead to future overcrowding.

Liquidity needs may result in an uptick of alternatives to full monetization events. Fundraising difficulties have caused GPs to lean into alternative avenues of generating liquidity for their existing LP base, one being continuation vehicles. GP-led secondary investors may benefit from persisting capital overhang that may widen with increasing GP-led supply. The execution of minority sales may also increase for GPs who desire to prolong their ownership in anticipation of a more favorable exit environment.

Industry-wide efforts in DEI and ESG are gaining traction. Many fund managers have begun to incorporate of Diversity, Equity and Inclusion (DEI) and Environmental, Social, and Governance (ESG) policies and programs into both corporate governance and investment strategies, although there is a considerable portion of the investor community, both GPs and LPs, and state regulators who remain anti-ESG. Despite traction in DEI initiatives, representation amongst senior ranks will take time to culminate.

Outlook summary

Outlook		
Unattractive	Neutral	Attractive
○	◑	●

Strategy	Stage	'22	'23	Commentary
Private Credit	*Senior Debt*	◑	●	Lenders are benefitting from higher base rates and pricing at wider spreads, better documentation, and more protection without having to take on risky borrowers. New capital inflows may compress spreads and loosen covenants / terms, although any overcrowding effect is yet to be seen in the figures currently observed, such as fundraising and total spreads over base rates. Regardless of any newfound competition, differentiated and narrowly focused strategies may mitigate competition.
	Subordinated Capital	◑	◑	Higher returns can be achieved through increased equity participation and higher spreads, but this also comes with higher risk. Borrowers are increasingly using subordinated debt for financing acquisitions and growth capital. The pricing for this investment has gotten better with some structures offering cash payments instead of in-kind payments.
	Credit Opportunities	●	●	Attractive pricing and target returns in niche markets with less correlated drivers and better risk-adjusted returns benefit credit opportunities. Flexible capital solutions help borrowers with liquidity challenges and company growth initiatives since senior lenders have tighter underwriting standards. Companies are now opting for private financing instead of relying on regional banks.
	Stressed / Distressed	◑	◑	We remain positive on investment managers who can generate strong returns through all economic cycles, with an expectation that returns may increase alongside stress and/or distressed opportunities. A meaningful distressed for control ("DFC") opportunity is not yet broadly present and the likelihood of one in the coming years is uncertain. Strong companies have options to stay afloat and lenders are more willing to amend and extend loans to troubled companies, reducing the distressed opportunity set. Irrespective of market environment, we find the distressed for control thesis to be less compelling given the execution risk and volatility, though we remain favorable on special situations funds that could execute on distressed for control as a smaller allocation of a total fund that can execute on stress.
Secondaries		◑	◑	More supply is expected in GP-led secondaries because of challenges, such as unfavorable exit markets, maturity walls, capital needs, and prolonged ownership desires, while there may be less supply in LP-led secondaries due to a diminishing denominator effect. Discounts have risen YoY to a point where deal activity has picked up. Secondaries remain a strong option for budding private equity programs in need of a J-curve mitigant and immediate diversification.

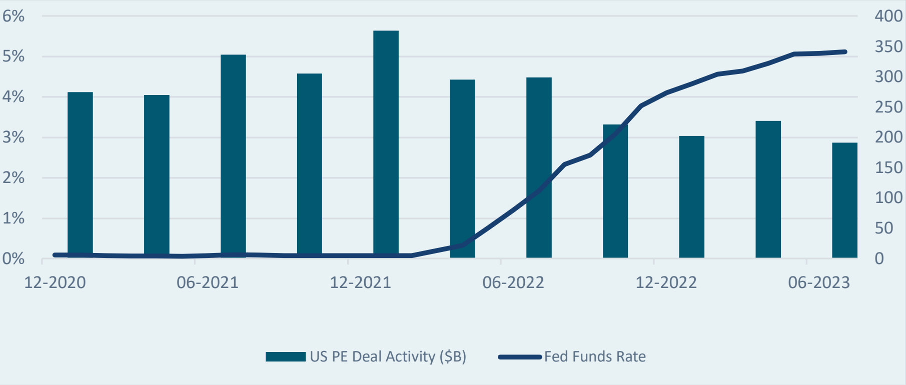
Outlook summary

Outlook		
Unattractive	Neutral	Attractive
○	◐	●

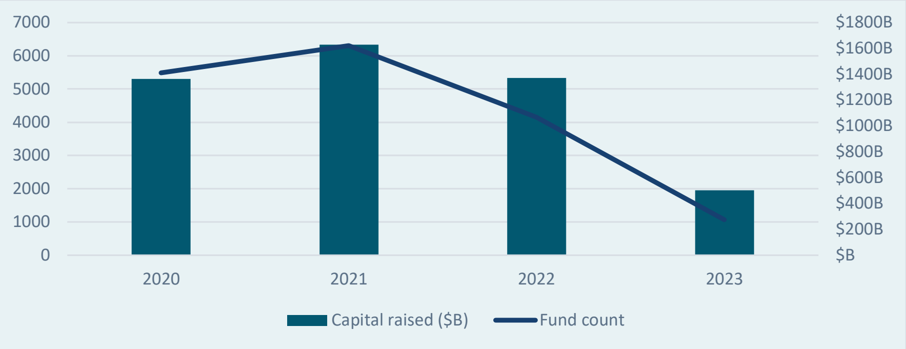
Strategy		Stage	'22	'23	Commentary
Buyout	*U.S.*	*Small/Mid Mkt*	●	●	Market instability can affect small businesses, making owners more likely to sell even as valuations decline. The difficult macroeconomic situation is leading larger funds to pursue smaller acquisitions. Companies are focusing on improving their businesses instead of growing, so add-on activity will continue to be a path to exit for the smaller market. Managers who focus on value can handle complex situations and benefit from market distress. The current macro environment suits growth managers who invest in minority positions with small checks and no debt financing. It also suits managers who can provide creative, non-dilutive solutions to companies in need of liquidity.
		Large Mkt	◐	◐	Interest rate rises will impact over-levered, large market companies and deter capital deployment, resulting in return degradation. Economic challenges create buying opportunities, but with higher interest rates and surplus cash, GPs need to be cautious, leading to more capital concentration for quality companies. Given their scale and cost cutting optionality, large market companies may find resiliency through a downturn.
	Euro		◐	◐	The headwinds troubling the pan-European market may lead to valuation resets to prior marks that crept higher in certain regions (e.g. UK and Nordics). Fragmented capital markets and resilient fundraising may limit European investors' chances to benefit from the buying opportunity.
Venture Capital		*Early Stage*	◐	◐	Companies must prove progress in product development, product-market fit, and strong traction to get equity financing. With dwindling capital availability and more stringent deal terms, investors wield an upper hand at the deal negotiation table.
		Late Stage	○	○	Headwinds continue to challenge the market. Late-stage deal activity is being pressured due to the closed IPO window and high demand for capital. Market narratives of strong returns during downturns haven't convinced traditional and nontraditional investors due to unclear VC deal metrics. VCs are investing carefully in companies that are strong enough to survive and have a clear path to high growth. Investors must be weary of valuation pullbacks in a drawn-out higher rate environment.

Spotlight

US PE DEAL ACTIVITY VS COSTLIER DEBT



PRIVATE CAPITAL FUNDRAISING



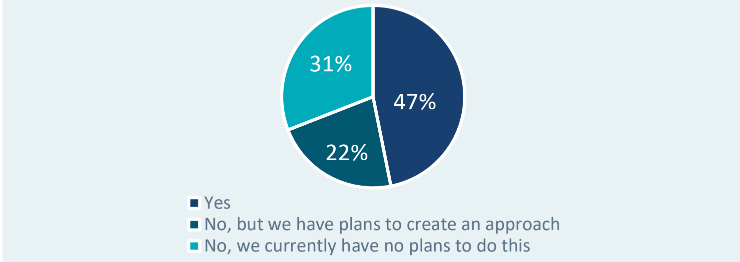
Source: Pitchbook Q2 2023 & Fed Reserve System & Lead Left / Refinitiv Q2 23

Environmental, social, and governance

Some traction in ESG implementation across the industry

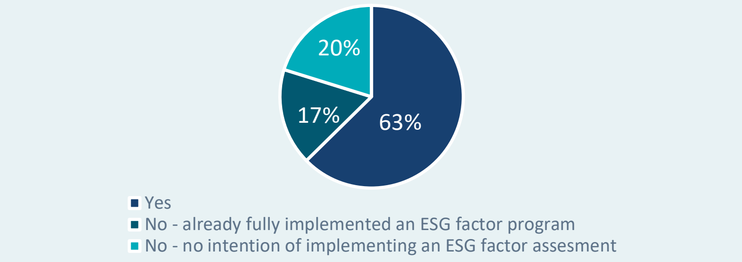
- ESG implementation has increased in recent years with LPs requiring GPs to incorporate ESG considerations in long-term investment decisions, although there is a considerable portion of the LP community who are indifferent or anti-ESG. A Pitchbook survey of 178 LPs reported 69% of respondents currently have or are having plans to include a fund manager's implementation of an ESG risk factor framework as part of their diligence. In 2021, 15% of respondents had no plans of doing so. This number increased to 31% in 2023.
- ESG implementation amongst GPs has increased alongside LP attention, with 80% of respondents (210 GPs) either planning to or have already increased attention to ESG risk factors in the work they do as an organization. Respondents' key focus area in regards to sustainability in an investment context consisted of ESG impacts (58%), improving investment returns (23%), improving portfolio company performance (12%), and mitigating risks (8%). The results suggest the necessity of LP deliberation regarding the purpose of an ESG fund commitment.
- Prospective LPs must manage performance expectations when allocating to the space. PRI signatory funds have underperformed their non-signatory counterparts in most vintages, suggesting either that ESG-driven value drivers takes time to culminate or that ESG initiatives harm investment performance (Pitchbook).
- Impact investing (i.e. allocating with dual goals of achieving financial returns and ESG promotion) is gaining traction, with 63% of Pitchbook survey respondents offering Impact strategies and another 13% in process of developing an Impact strategy. Energy, Climate, and Agriculture are receiving the most focus.
- With Federal regulators taking a pro-ESG stance since 2021, anti-ESG legislation on the state level received considerable traction and 19 bills became law as of June of 2023 (Pleiades Strategy). Anti-ESG regulation may deter ESG adoption in some pockets of the industry.

LPS PLANS TO INCREASE ATTENTION TO GP ESG IMPLEMENTATION



Source: Pitchbook 2022 year-end

GP PLANS TO INCREASE ATTENTION TOWARDS ESG RISK FACTORS



Source: Pitchbook 2022 year-end

Diversity, equity, and inclusion

Increased DEI awareness across the industry

— DEI advocacy and action continues to increase across the industry, leading to further diversity representation. Examples include women representation in senior investment roles in U.K. incorporated firms with $100M+ in AUM nearly doubling from 6% in 2018 to 11% in 2023 (BVCA and Level 20) and women representation amongst the partner level in VC increasing from 11% in 2016 to 19% in 2022 (Deloitte).

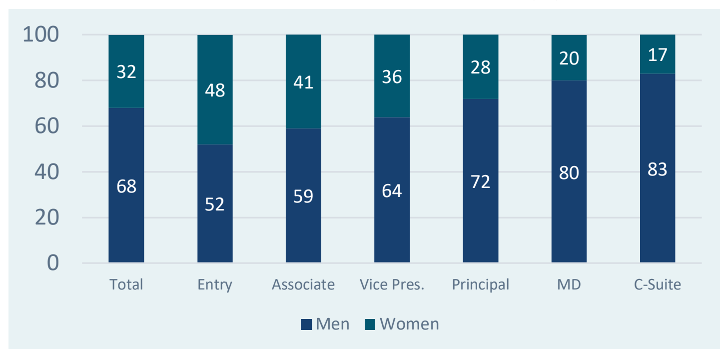
— Changes in diversity amongst senior leadership in established PE firms has been slow but is notably increasing within the junior ranks (women in mid-level roles in UK PE increased YoY from 20% to 24% and in junior-level roles, 33% to 38% (BVCA and Level 20)).

— A survey conducted across ILPA DIA signatories observed meaningful participation in DEI-minded practices, such as the conduction of unconscious bias training (60%+) and implementing diversity targets for applicant pools when communicating with recruiters (75%). Private equity firms are increasingly partnering with Employee Resource Groups, such as NASP, PEWIN, SEO, Toigo, and WAVE, who will assist in diversity recruitment (22%), and reaching out directly to college students (12%).

— Growth in ILPA DIA membership can be used as a proxy for industry wide DEI awareness. The endeavor launched in December 2020 with 46 founding signatories and has grown to 279+ organizations. A similar trend can be observed in VC. In a Deloitte survey (315 GPs), VC firms with a diversity strategy increased from 15% in 2016 to 44% in 2020, and VC firms with an inclusion strategy increased from 17% in 2016 to 44% in 2022.

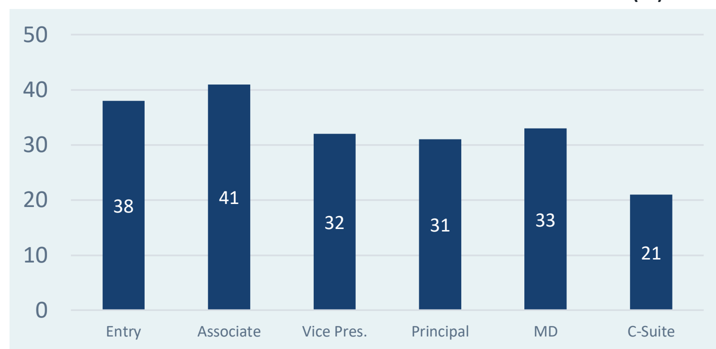
— Female founders are finding increased success raising capital for startups from Venture Capital. Companies with at least one female founder constituted 28.1% of US VC deal values, up from 17.6% in 2022.

GENDER REPRESENTATION BY ROLE IN PE GLOBALLY (%)



Source: McKinsey 2022

SHARE OF NON-WHITE EXTERNAL HIRES IN US AND CANADA (%)



Source: McKinsey 2022

U.S. returns – Direct funds

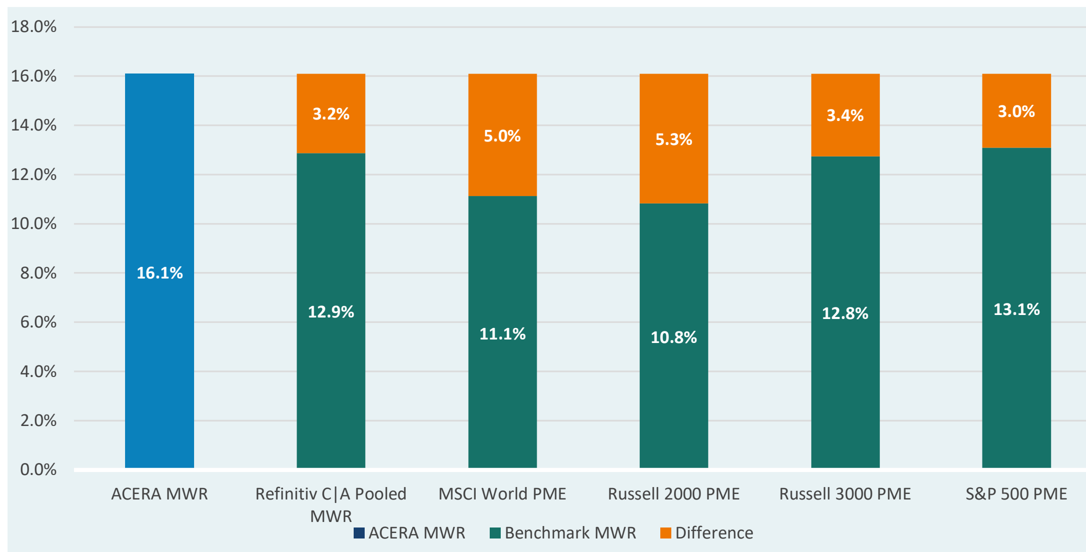
U.S. Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization ($B)
Private Equity Pooled Returns							
U.S. Venture Capital	(20.8)	24.9	22.5	18.7	12.2	2,344	588.2
U.S. Growth Equity	(14.4)	23.3	22.1	18.5	15.6	415	454.3
U.S. Buyouts	(0.3)	20.0	17.5	16.9	15.2	1,081	1,762.6
U.S. Debt-Related	5.3	15.3	12.3	11.3	11.8	542	573.5
U.S. All Private Equity *	**(7.4)**	**20.9**	**18.5**	**16.7**	**14.1**	**4,382**	**3,378.5**
Public Index							
S&P 500	(18.1)	7.7	9.4	12.6	9.8		
Russell 3000	(19.2)	7.1	8.8	12.1	9.9		
Bloomberg Aggregate	(13.0)	(2.7)	0.0	1.1	3.1		
Outperformance							
All PE Outperformance*	11.8	13.8	9.7	4.5	4.2		
Debt-Related Outperformance	18.3	18.0	12.3	10.3	8.7		

** All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.*

Source: Refinitiv as of December 31, 2022

ACERA performance: Private Equity

ACERA PRIVATE EQUITY MONEY WEIGHTED RETURNS VS. BENCHMARKS



ACERA recommended PE funds across vintage years 2008-2020 have returned 16.1%; outperforming the relative benchmarks.

MONEY-WEIGHTED RETURNS (“MWR”) ARE FOR THE PERIOD FROM 2008 TO 2022 YEAR-END

Vintage Years	Number of discrete fund investments	Cumulative Commitments ($M)	Cumulative Paid-In ($M)	Cumulative Distributions ($M)	Unrealized Value ($M)	Total Value ($M)	DPI	TVPI	RVPI	PIC
2008-2020	57	$1,419.3	$1,289.5	$1,245.2	$939.8	$2,185.0	0.97x	1.69x	0.73x	0.91x

Private real assets market review and outlook

Key themes for 2023

Observations driving our outlook

What’s next for inflation…

In our Outlook last year, we said the following “We believe inflation will likely begin falling later in 2022” and though that turned out to be true, we came to that conclusion because we believed the Fed would choke off the pressures of inflation. Coming into 2023, it appeared as though inflation would continue to retreat lower, albeit slowly, but unexpected price increases have complicated the picture. There are now banking instability issues, geopolitics, a softening economy and a dozen other headline issues weighing on investors' minds. But staying on inflation, we believe the Fed will do what it says and keep policy tight until inflation returns to their target level. We do not want to be on the other side of that trade. We expect rates to stay higher for longer and that could present challenges and opportunities across private markets which have broadly failed to adjust equity values for the new higher rate environment.

Values remain elevated across infrastructure

Infrastructure was one of the few bright spots in 2022 as valuations held-up and transaction activity was robust. In a year when inflation and rising interest rates depressed equity and debt valuations, slowed transaction activity and disrupted capital markets, real assets (excl. real estate) performed remarkably well. The issue we see today is that valuations are stretched, debt costs are going up, but equity valuations have yet to adjust to a higher interest rate environment. A slowing of transaction activity would be one sign that sponsors are becoming more price sensitive. Until we see valuations adjust lower, especially in core/core plus infrastructure, we would be cautious about putting fresh capital into the asset class.

Declining interest in natural resources looks to continue

Commodity-related investments experienced a marked rebound in performance in 2021 and 2022, following years of disappointing performance. It was a vindication of sorts, in that when inflation finally took hold, the asset class delivered on the promise of providing an inflation hedge. After years of declining interest from investors, oil and gas companies rode high as they outperformed every other sector in the equity universe. And yet, with all this renewed attention, the fundraising environment for natural resource funds remains bleak. The challenging market for exits among oil/gas companies, the global trends in ESG and the declining rate of inflation, among other factors, has resulted in muted interest from institutional investors.

Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Core Infrastructure	Performance in core infrastructure was strong in 2022, as capital flowed into the sector and valuations improved, especially for energy-related assets. Along with performance, the high inflationary environment increased LP interest in the asset class. Fundraising continues to increase as more managers offer evergreen fund structures. We expect the higher interest rate environment to be a headwind to valuations and would not be surprised to see write-downs beginning to ripple through the open-end market in 2023. While relatively resilient to recessionary forces, sub-sectors linked to GDP like transportation and logistics may also face challenges.	— Strong fundraising trends in infrastructure has elevated valuations and increased competition for high quality assets. — Infrastructure assets provide varying degrees of inflation protection. While some assets have contracted annual revenue increases tied to CPI, many others have pre-determined increases at 2-3% or no adjustments at all. — Core assets are sensitive to interest rates and with inflation trending down, increased costs of capital could erode margins and push valuations lower.	Entry today is less attractive given rich valuations and an elevated interest rate environment. We prefer allocations to value-add, although core can still maintain defense characteristics from sectors less exposed to GDP risk. We would recommend waiting on new commitments to core open-end infrastructure funds until we get a better sense for the path of interest rates and/or we begin to see funds adjust valuations lower to account for the higher cost of capital environment.	**Negative**
Value-add Infrastructure	Transaction activity has been robust the past 12 months, despite the rising rate environment. As inflation slows and cost of capital stays elevated, we would expect that to cool as buyers adjust valuations lower. There remains a significant capital need for more modern infrastructure in order to keep up with the digital economy and electrification of the grid. We would be cautious about strategies that expose investors to technology risk and/or commercialization risk in both sectors.	— Many GPs that have been successful in the sector have grown rapidly, raising $15+ billion-dollar funds. Deploying this amount of capital while still delivering alpha becomes a challenge for most private market managers. — Increased interest rates will have two affects: eroding margins as the cost of debt increases and increasing cap rates as investors demand a higher equity return. The change in expectations around what is “market value” is likely to slow transactions.	The asset class offers a compelling return profile that aligns well with long duration pools of capital. Value-add infrastructure comes with higher operational/execution risk than core so investors should expect a broader range of outcomes and greater emphasis on manager selection. Given the shift in interest rate environment, we expect valuations to improve but that transition could be bumpy.	**Neutral**
Energy Transition	New development projects of renewable assets will continue to accelerate as solar and wind farms are now the cheapest form of new build electricity. Outside of traditional solar & wind, there are potentially higher returning opportunities for newer technologies such as battery storage and CC&S. Policies like the Inflation Reduction Act will act as a catalyst, increasing adoption and making technologies more viable. Growth in electric vehicles is expected to strain our existing power generation capabilities and transmission infrastructure which presents an investment opportunity but does challenge the transition away from hydrocarbons.	— The market is becoming more competitive with over 4x as much capital fundraised today as compared to the last decade. — Several approaches that reduce our carbon emissions such as green hydrogen and carbon capture technology are nascent and commercially unproven. Investments in this space will take venture-like risk and rely on significant cost reductions as well as favorable policy regimes to be successful.	Energy demand growth will increase opportunities in the energy transition sector but the opportunity to achieve an attractive return remains difficult given competition. Sectors like EV infrastructure and Distributed Energy Resources offer decreased technology risk and attractive markets for growth. Tailwinds for the strategy make for interesting opportunities though we are seeing risk underpriced in the marketplace so backing the right manager will be critical.	**Neutral**

Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Mining	There has been a lot of hype around demand growth in industrial metals as the transition to clean energy moves forward. Notable price jumps in metals/minerals like Lithium, Cobalt and Copper over the past few years as demand has surged lend credibility to the story. We see the same long-term trends as others and have been positive on the sector for many years. Industrial metals did soften in 2022 and are down so far in 2023 though long-term the tailwinds of demand appear intact. That said, a global economic slowdown and uncertainty around China consumption has put near-term pressure on many mining commodities. We still prefer the tailwinds of mining to petroleum but would not be surprised if prices cool off in 2023.	— Global GDP growth and the economy in China are the two biggest risks in the sector. China represents a disproportionately large buyer of industrial metals, so its economy and industrial output have a large impact on metal prices. — Recycling, substitution and more efficient extraction methods are always a concern as commodity prices move higher. High commodity prices tend to end the same way, with lower commodity prices as either demand falls or with unexpected surges in supply. — Investors need to be keenly aware of the jurisdictions that they have exposure to, and the companies track record on ESG issues.	Longer-term, we believe the demand outlook looks favorable for several industrial metals. We would not be surprised to see near-term price weakness as new supply comes online but that could be a more interesting entry point. The mining majors are flush with cash which could trigger an M&A cycle which would be good for the junior miners. However, there are a host of idiosyncratic risks in funding mining operations outside of the macro-economic environment. We will look for skilled GPs with a track record of successfully managing these risks while generating attractive returns.	**Positive**
Timberland	Timberland was up 12.9% in 2022, most of which was appreciation driven. Unlike other commodity sectors that experienced meaningfully higher prices, sawtimber prices, at least for southern pine, were up a modest 1.6% in 2022. Income, as a component of the NCREIF Timberland return, was actually lower in 2022 than it was in 2021. Land values went up in 2022 due to lower discount rates but we question how sustainable that will be if cash flows are flat to negative YoY. Housing starts have collapsed in the past 12 months as mortgage rates more than doubled, which is a bearish sign for lumber demand. Overall, we do not see returns keeping up with their 2021 and 2022 levels for the asset class.	— Projected lower inflation levels, slowing housing construction and higher input costs are just some of the issues creating headwinds for the asset class. The Southern U.S. timber region has yet to see the sawtimber price appreciation that other regions have experienced and appear set to miss out on the surging lumber prices that hit consumer the last few years. — Liquidity has been an issue for the asset class for the better part of a decade and fundraising trends have yet to improve to the point that we could see transactions becoming robust.	Despite the last two years of above average returns, we would continue to avoid allocations to timberland. There are more attractive options available in real assets and many that have cash flows that justify the higher valuation. Fundraising has been slow to non-existent for closed-end timber funds for several years which has resulted in a slow transaction market.	**Negative**

Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Agriculture	After several years of flat cropland prices, 2021 and 2022 saw a meaningful jump in land values on the back of higher commodity prices. Supply disruptions from Covid and more recently, the War in Ukraine, sent grain prices to multi-decade highs that have begun to stabilize in 2023. Fundraising has been slow in the last few years as income returns remained unattractive, and investors favored other asset classes. Still, agriculture investments remain a reasonable hedge against inflation and provide a stable return profile from land appreciation and yield. Structural drivers are making agriculture more attractive as global demand rises and the amount of arable land remains relatively stable.	— Agriculture is a highly illiquid asset class that is not suited to tactical investment opportunities. The asset class does look more attractive today, relative to recent history, but enthusiasm should be tempered given the long hold periods (>10 years) and volatile commodity prices. We would recommend diversifying across crop types and geography within the U.S. — The War in Ukraine has revealed the extent to which Eastern Europe and Ukraine have been major suppliers of certain grains and their disruptions impact on global commodities. It has also highlighted the risk that comes from investing outside stable markets like the U.S. While Ukraine was not a preferred destination for U.S. institutional investors in agriculture, the returns available in emerging economies are not high enough to overcome the currency and economic/political risk.	Agriculture crops are broadly broken down into row and permanent crops with row crops benefiting the most from recent supply disruptions. Row crops also make up around 75% of all acreage planted in the U.S. so liquidity and market depth is greater, relative to permanent crops. That said, row crops have lower income potential and less value-add optionality. For investors seeking pure-play cropland investments, we would recommend diversifying across row and permanent crops focused on the U.S. market. The fragmented nature of farmland in the U.S. has made scaling a challenge so we would be weary of strategies seeking to deploy large pools of capital (>$1B). We also view agriculture investments where crop and land are a component of a broader value-add investment strategy as attractive.	**Neutral**

Real assets performance as of 12/31/22

	1-Year	3-Year	5-Year	10-Year	Since Inception
Natural Resources Funds	**19.57%**	**21.30%**	**7.21%**	**1.43%**	**1.16%**
S&P Global Natural Resources Index [1]	*15.32%*	*13.00%*	*9.80%*	*6.88%*	*6.70%*
Infrastructure Funds	**8.48%**	**11.87%**	**12.09%**		**11.46%**
S&P Global Infrastructure Index [1]	*-1.40%*	*2.39%*	*3.62%*	*3.71%*	*3.71%*
Liquid Pool Funds	**7.01%**	**7.90%**	**5.18%**	**0.15%**	**0.41%**
Bloomberg Commodity Index [1]	*17.13%*	*13.02%*	*8.04%*	*0.74%*	*0.75%*
Total Real Assets	**8.19%**	**9.55%**	**6.27%**	**1.11%**	**1.25%**
Blended Real Assets Benchmark [2]	*5.87%*	*7.14%*	*5.68%*	*6.46%*	*6.25%*

[1] *Benchmarks: Identical cash flows invested in the appropriate benchmarks through the life of the portfolio up through 12/31/2022. Analysis provided by Solovis.*

[2] *Blended Real Assets Benchmark calculated on a time-weighted return basis. Blended returns are weighted as follows: 60% S&P Global Infrastruture Index, 35% S&P Global Natural Resources Index, and 5% Bloomberg Commodity Index.*

Appendix

Fund of Funds returns

Fund of Funds by Geography	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization ($B)
Private Equity Pooled Returns							
U.S. Fund of Funds	(11.5)	25.5	19.9	15.3	11.4	519	173.0
Europe Fund of Funds	(12.3)	13.0	10.7	9.9	9.4	67	31.4
Global Fund of Funds **	(17.5)	17.3	15.2	13.0	12.0	85	35.7
All Fund of Funds	**(12.0)**	**21.4**	**17.3**	**14.1**	**11.2**	**745**	**266.8**
Public Index							
Russell 3000	(19.2)	7.1	8.8	12.1	9.9		
MSCI Europe	(15.1)	1.4	1.9	4.6	6.5		
MSCI ACWI	(18.4)	4.0	5.2	8.0	8.0		
Outperformance							
U.S. Fund of Funds (1)	7.7	18.4	11.1	3.1	1.6		
Europe Fund of Funds (2)	4.9	13.8	10.5	5.5	2.4		
Global Fund of Funds ** (3)	(17.5)	17.3	15.2	13.0	12.0		

*** Global Funds invest across the globe, without any targeted regions for investment.*
(1) Performance vs. Russell 3000 index.
(2) Performance vs. MSCI Europe index.
(3) Performance vs. MSCI ACWI index.
Source: Refinitiv as of December 31, 2022