Private Infrastructure Outlook 2024

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AUTHORS

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EXECUTIVE SUMMARY

2023 was unlike any year in private infrastructure's relatively short history. Fundraising slowed, deal flow was subdued and many investors began questioning valuations, given the volatile macro environment and relatively stable performance of the asset class.

In this Outlook, we cover the following topics:

Macro and Valuations: Inflation and rising rates impacted most private asset class fundamentals. However, the essential nature of the services provided by core infrastructure assets resulted in the asset class remaining relatively resilient and cycle agnostic. Rising rates, which have impacted all asset classes, are only part of the equation for private infrastructure's valuations. Long-term macro trends and the potential for inflation adjusted cash flows deserve consideration when valuing these assets.

Deal Market: Infrastructure M&A activity has been relatively muted over the past year as sellers have not easily found buyers capable of meeting their expectations on valuation due in part to (1) rising debt costs given current interest rate levels, (2) more limited capital availability for both strategic and financial buyers and (3) generally resilient fundamentals of private infrastructure which is allowing sellers to be patient.

Capital Raising: Rising rates and the resulting denominator impact subdued fundraising activity in 2023. Anecdotally allocations to infrastructure generally remain low (or zero) with many investors still planning additional allocations, especially in light of more recent stabilizing market conditions. The benefits of diversification provided by infrastructure continue, in our opinion, to be highly attractive, with the asset class historically providing investors with uncorrelated returns.

Outlook: Current deal pipeline is significant and well beyond existing dry powder, providing attractive investment opportunities particularly from the energy transition and need to modernize, replace and decarbonize existing infrastructure assets. For the first time in this maturing asset class, capital expenditure ("capex") is expected to outpace depreciation for at least the next decade, resulting in a robust pipeline for those investors who remain well-capitalized.

MACRO ENVIRONMENT AND VALUATIONS

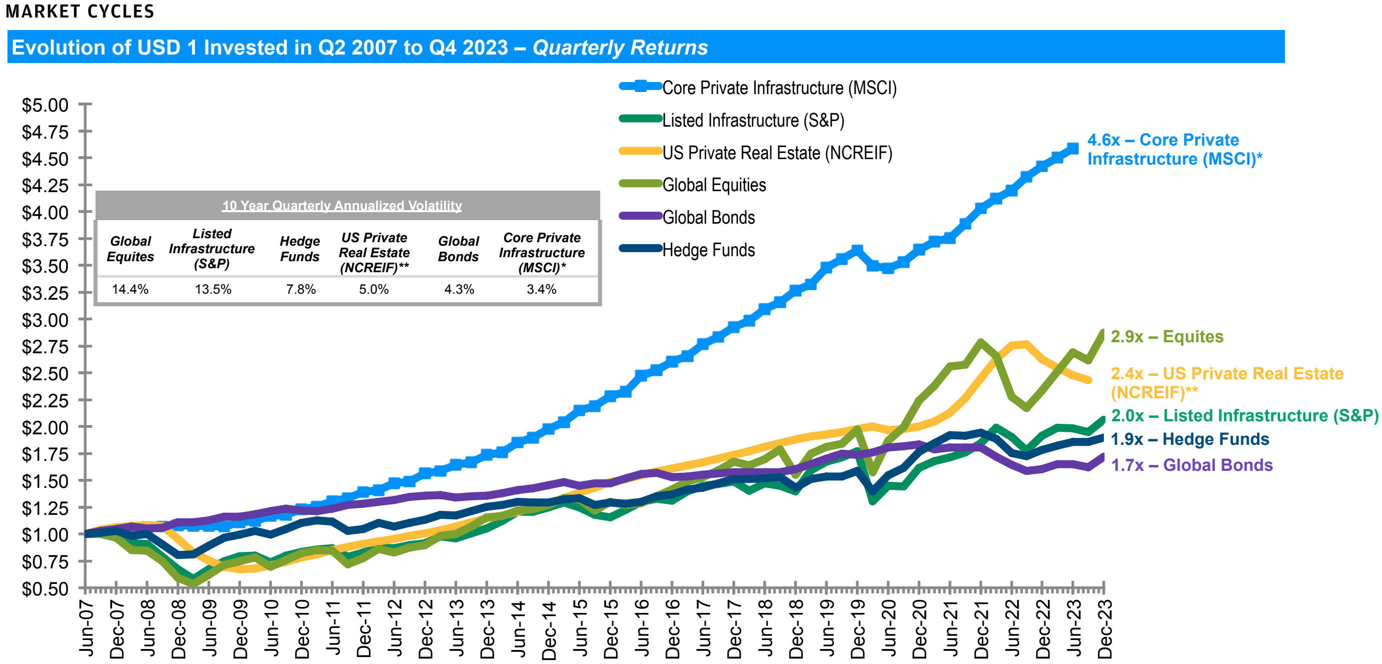
The essential nature of the services provided by core private infrastructure has generally resulted in the asset class remaining relatively resilient and "cycle agnostic" through times of economic stress including recent macro uncertainty. Figure 1 shows the long-term resilience in the MSCI Global Private Infrastructure Index through the Global Financial Crisis and more recently through COVID, with the multiple on invested capital (MOIC) at 4.6x as of Q2 2023 (latest available from MSCI). This resilience of infrastructure cash flows is particularly evident for those core assets with long term capital structures in place. In addition, core infrastructure assets typically benefit from robust inflation protection in the form of inflation adjusted cash flows or allowed returns linked to inflation. Explicit inflation protection in the form of inflation-linked contractual terms, for example prices charged to liquid bulk storage customers, or power prices paid for generation and transmission, also provides visibility on future cashflows in challenging macro-economic circumstances.

Inflation Protection Example

An example of implicit inflation protection has been seen in the reported increases of allowed returns for utilities[2]. Returns on equity (ROE) requested in the 116 gas and electric US rate cases pending as of the end of Q3 2023 ranged from 9.30% - 12.95%. This compares with gas and electric ROE determinations in 2019 (used as a comparison given the uncertainty during and post-COVID) authorized by state public utility commissions ranging in a narrower band from 8.91% to 10.25%[3,4]. Regulatory lag has been cited as a concern in many rate cases since 2020, with companies in the US citing inflation in materials, labor, and insurance premiums as key drivers in rate case proceedings. Although it is too early to determine whether authorizations in the coming months will match the requests made by utilities in the US, there have been numerous cases since inflation began to trend upwards post-COVID, where the applicable public service commissions have approved inflation-related ratemaking adjustments[5]. Figure 2, from the JPMorgan Asset Management Guide To Alternatives for Q4 2023 shows the historical link between inflation and utilities' allowed returns and illustrates that utility costs remain relatively affordable as a percentage of overall disposable income from a historical perspective, indicating that there is still potential headroom for utilities to increase costs without impacting volumes.

Another example of inflation being passed through both implicitly and explicitly for core private infrastructure can be seen in the rail leasing industry. Rent in the rail leasing industry is typically broken down into capital and maintenance rent, where the former rarely has explicit inflation linkage but the latter is usually laid out in contract terms and has seen significant pricing increases linked to inflation over the past two years. Additional implicit inflation protection in the capital rent portion of revenues often comes from the way in which customers analyze the decision of whether to buy or lease locomotives. This choice for customers is usually based on the difference in cost, which is a factor of both financing and new build alternatives, where buying a fleet of locomotives involves an often prohibitively large capital outlay in comparison to renting. As a result, new lease rates are expected to continuously normalize to align with interest rates, thereby implicitly protecting against rate rises and inflation.

FIGURE 1: CORE PRIVATE INFRASTRUCTURE HAS HISTORICALLY DELIVERED AN UNCORRELATED LOW VOLATILITY RELATIVE RETURN PROFILE THROUGH MARKET CYCLES

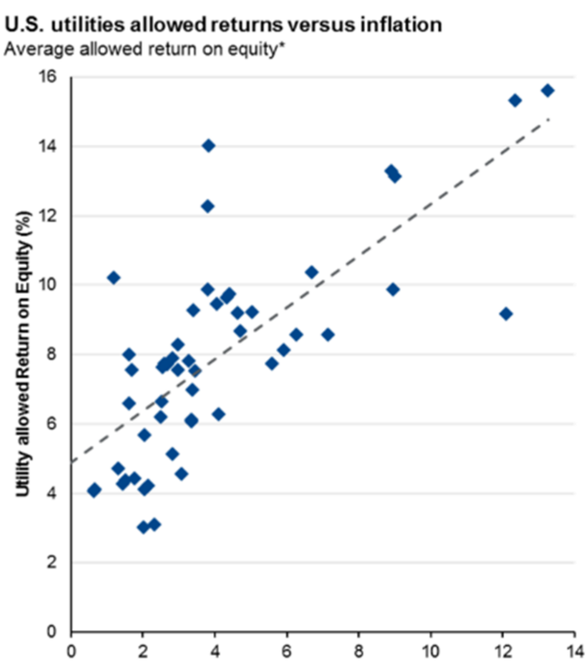


Source: Bloomberg, MSCI, NCREIF. *MSCI data only available through Q2 2023. **NCREIF US Private Real Estate data only available through Q3 2023. MSCI global quarterly private infrastructure total return index for core private infrastructure. Global equities & global bonds, are measured by MSCI World and Barclays Global Agg, respectively. Real Estate data from NCREIF ODCE Index. All series are total return indices (reinvestment of yield) and in local currency; Data as of Q3-2023. Past performance is not a reliable indicator of current and future results. Indices do not include fees or operating expenses and are not available for actual investment.

The overall macro-outlook across asset classes has been complicated by compressed risk premia, especially for real assets. The higher interest rate environment over the past year and a half has led to core private infrastructure equity risk premium dropping to an estimated 5.5% at the end of 2023 as seen in Figure 3. However, as discussed further below, this in part reflects the resilience of private infrastructure fundamentals in the recent market environment relative to other asset classes, with the average equity risk premium for core private infrastructure since 2000 estimated at 7.0%.

The long-term nature of core private infrastructure assets and their useful economic and physical lives means that debt tenors are often relatively long, in many cases fixed for well over 10 years. As such, long-term assumptions on rates for refinancing are used, which often remain stable in the case of near-term macro-economic headwinds as well as tailwinds. This drives a stability in assumptions used, underpinning generally lower anticipated sensitivity in valuations to short-term interest rate changes. As a result, the core infrastructure discount rate did not drop in the 2020/2021 COVID crisis in the same way that many other private asset classes' discount rates did, meaning that less of a reset of discount rates is now required as base rates have increased.

FIGURE 2: UTILITY PROFITABILITY AND HOUSEHOLD SPENDING



Source: JPMorgan Asset Management, Guide to Alternatives, Q4 2023.

Another key factor in valuations is the ability to pass costs through to consumers. This often provides a benefit to cash flows in the same period as rising rates and inflation, although in some cases there is a lag to the ability to pass through costs. As a result of this strength in cash flows, valuations in our view are likely to remain relatively stable based on current interest rate and inflation expectations. Ultimately, the strong fundamentals underpinning the asset class are, in our opinion, driving solid performance and resilient valuations.

DEAL MARKET

Infrastructure M&A activity has been relatively muted over the past year, with the number of deals and aggregate value of deals having dropped from over 2,650 and approximately USD 420bn respectively in 2022 to approximately 2,000 deals representing less than USD 310Bn in 2023, as reported by Preqin[6]. In our view, this happened for two main reasons:

Debt Costs

Market volatility over the past year, including the various equity sell-offs seen in 2023, exacerbated the capital deficit that has been growing since the onset of fiscal tightening and the increase in the cost of debt for businesses globally. In addition, it has led to a number of delayed sales as sellers have not easily found buyers capable of meeting their expectations on valuation due in part to the current cost of debt.

Capital Raising

As mentioned previously, the capital raising environment was challenged across all asset classes, including infrastructure, in 2023. There has been a general flight to quality across industries from banks and institutions resulting in higher risk, non-core, sectors being the most challenged within the private infrastructure asset class. There is still a notable amount of dry powder for closed-ended higher risk strategies, however they have in particular been impacted by the rising debt costs mentioned above which has limited deployment. We expect the fundraising environment to improve in 2024 as we begin to see a likely reversal in the denominator effect.

OUTLOOK

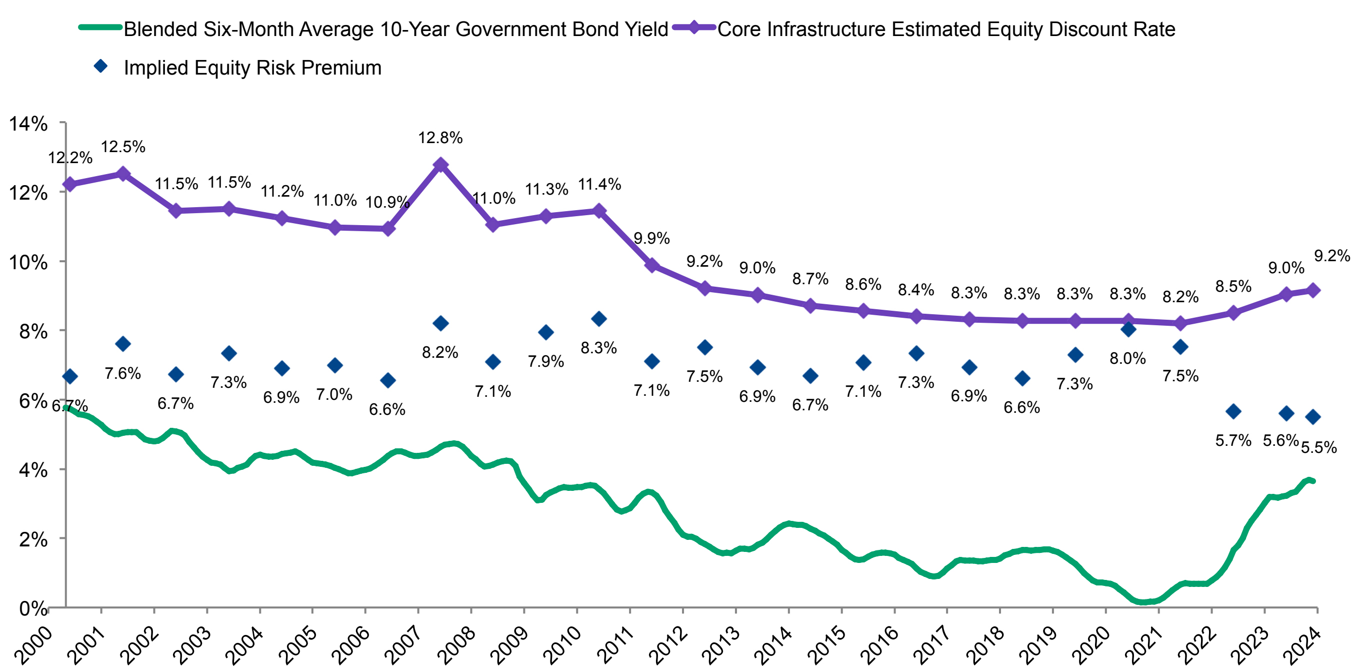
Capital projects are a hallmark of this sector in ordinary course, with the current pipeline likely being significant and well beyond existing dry powder. This is expected to provide attractive investment opportunities, magnified by the energy transition and the need to modernize, replace and decarbonize existing infrastructure assets. We also expect new transactions to require significant follow-on investment due to the dynamics of the energy transition and given the huge need for capital, which has been scarce over the past year. For the first time in this maturing asset class, capex is expected to outpace depreciation for at least the next decade, resulting in a robust pipeline for those investors who remain well-capitalized. This could lead to an upswing in the number of financial and corporate sellers looking to exit due to an inability to meet capital requirements for the energy transition. We believe that there is currently not enough capital allocated for the energy transition, an issue which we will be exploring in future papers. Ultimately however, capital availability is secondary to the fact that the energy transition is central to the outlook for infrastructure as an asset class. In particular, we note that business models must be developed taking into consideration the energy transition, with returns underpinned by the lack of access to capital across markets given the current market and macro elements that have demonstrated a need for higher returns across asset classes.

We expect the asset class will continue to provide attractive relative risk/return characteristics and a diversifying role in overall portfolios in 2024 in conjunction with a likely improvement in the overall macro, capital raising, and transaction market dynamics.

Below we address our observations on the opportunities and risks in select sub sectors.

Regulated Utilities are in our view likely to see a continued increase in the range of allowed equity returns, as already evidenced in the US by the increase in the range from 2019 to 2023 of over 220 basis points, of which approximately 190 basis points was an increase in the top end of the range to 12.95%[3,4]. This is expected to benefit disproportionately the larger scale utilities who are able to reduce the volatility in their costs and are more easily able to replenish their rate base. Given the implicit anticipated inflation protection provided by utilities, this presents an opportunity for investors who are able to keep up with capital plans and build on large

FIGURE 3: ESTIMATED CORE PRIVATE INFRASTRUCTURE EQUITY RISK PREMIUM (ERP)



Source: JPMorgan Asset Management, MSCI, Bloomberg, KPMG, quarterly data as at Q4 2023. *KPMG market risk premium only available up to Q3 2023, MSCI Core Private Infrastructure data only available up to Q2 2023. Discount rates are estimated. Equity risk premia represent the difference between the core infrastructure discount rate and the geographically 6-month weighted average yields across the US, EU, and UK. Data as of Q3 2023.

scale platforms. Table 1 shows JPMAM's view that the median expected return for Regulated Utilities in 2024 is 9%, this is 100bps above the previous median expected return for 2023, reflecting higher expected allowed equity returns and the pass through of the impact of higher rates and inflation.

Power Generation can be seen from Table 1 as being expected in JPMAM's view to provide a 2024 median return near the top of the potential long-term range across both merchant and contracted power generation for traditional and renewable generation. In particular, this reflects the opportunity set in power generation with respect to the energy transition. Decarbonization is expected to continue being a theme with electrification expected to support steady power demand growth in the near term, which in turn is expected to result in more being invested in improving transmission systems and processes. While offshore wind power generation has recently struggled with rising costs, higher rates, contract mismatch issues, and supply chain delays putting projects at risk, this is more reflective of developmental risks rather than already operating projects.

Further opportunities in the power generation sector are expected within traditional generation and renewable power generation, as consumer demand continues to rise. Traditional thermal power generation is expected to remain a requirement as the need for reliable power through the energy transition increases. Near term, thermal generation will continue to facilitate bringing more intermittent renewable power online as grids struggle to keep up with de-centralization of power production.

Transportation assets have generally had a higher historical cashflow volatility and economic sensitivity compared with other private infrastructure investment opportunities due to their volumetric exposures. In light of this, the risk-return relationship for transportation assets puts them closer to a value-add growth orientation as opposed to a core asset profile in our view. This was evidenced in the COVID-19 pandemic where transportation assets saw the greatest relative drawdowns and time to recover to pre-pandemic levels relative to other infrastructure sub-sectors.

TABLE 1: EXPECTED SUB-SECTOR RISK, RETURNS, AND CASH YIELDS FOR 2024[1]

Sector	Long term relative risk assessment[2]	Long term expected cash yield	2024 expected cash yield	Long term expected return	2024 median expected return
PPP, PFI, Social (operational)[3]	Low	3-5%	3-6%	5-7%	6%
Regulated utilities	Low-medium	3-6%	3-6%	7-10%	9%
Contracted power generation - renewables[4]	Low-medium	5-7%	5-6%	6-9%	8%
Contracted power generation - traditional[4]	Low-medium	5-8%	6-8%	7-11%	9%
Passenger rail	Medium	6-8%	6-8%	7-12%	9%
Toll roads	Medium	3-6%	3-5%	8-12%	9%
Midstream	Medium	5-9%	4-7%	8-15%	10%
Airports	Medium	3-5%	3-5%	10-15%	10%
Seaports	Medium-high	4-8%	3-6%	10-15%	11%
Freight rail	Medium-high	7-10%	8-10%	11-15%	12%
Digital infrastructure[6]	High	4-7%	4-7%	6-13%	11%
Merchant power generation - renewables[5]	High	3-7%	4-7%	10-13%	12%
Merchant power generation - traditional[5]	High	3-7%	4-7%	10-15%	14%

Source: JPMAM Infrastructure Research, as of Q1-2024, reflecting expected 1-year TSR for operational assets

1 Core infrastructure consists of mature assets with established operational histories in transparent and consistent regulatory environments.

2 Assumes sector average loan-to-value ratios, ranging between 40% and 80%.

3 PPP stands for Public Private Partnership and PFI stands for Private Finance Initiative; both terms describe assets with government guaranteed payment mechanisms.

4 Assumes contract length of 10 or more years.

5 Generally not appropriate for core infrastructure investing, presented for comparison purposes only. Merchant renewables median expected return is driven by demand and capital availability rather than true fundamentals while traditional merchant power returns are likely to trend up in the mid-term with scarcity of supply, volatility in markets, and market restructuring. Near term returns are expected to be elevated vs historical returns due to high power prices however this will moderate in the mid-term as claw-backs and windfall taxes take effect.

6 Digital infrastructure includes but is not limited to telecoms towers, data centres, and fibre optic networks (lit and dark) The expected returns are for illustrative purposes only and are subject to significant limitations. An investor should not anticipate achieving actual returns similar to the expected returns shown above. Because of the inherent limitations of the expected returns, potential investors should not rely on them when making a decision on whether or not to invest in the strategy. Infrastructure investments are subject to significant risks. While J.P. Morgan believes that infrastructure investments have compelling risk and return characteristics, past performance is no guarantee of future results, and any risk or return analyses should not be relied upon. Risk/return continuums and other relative comparisons are based on J.P. Morgan's analysis of information available to it on project developments in the referenced asset classes, and such information may not be accurate or complete. Specific investments shown are for illustrative purposes only, and you should not assume that similar investments will be available to or, if available, will be selected for investment.

Digital infrastructure has been garnering interest for a while with many asset types within the sector having more of a value-add growth orientation as well as a crossover with real estate for many large-scale assets rather than a core infrastructure risk profile. Valuations across the sector have been volatile and the last year has seen a number of high-profile ventures face on-going challenges due to rising rates, cost inflation, and reduced customer demand, thereby depressing expected returns. The sector has been additionally constrained by large capital needs in a quest for market share among growth-oriented strategies. Although there is potential within digital infrastructure for investors seeking higher returns, the long-term relative risk assessment is still generally considered by us to be too high relative to more traditional core private infrastructure.

CONCLUSION

In our view, core private infrastructure is expected to provide strong uncorrelated risk adjusted returns, consistent cash yield, and inflation protection through 2024 and long term. The asset class has continued to showcase cycle agnostic behavior, largely due to the essential nature of the services provided, and we expect volatility to remain low and support steady growth in the multiple on invested capital (MOIC). Macro headwinds and valuations will remain important factors for investors to consider as they invest in the asset class. Those that took a long-term, prudent approach to valuation and capital structure management have the potential to sustain performance. Finally, there is a significant requirement for continued investment in the asset class, providing an on-going opportunity for investors to achieve the target benefits of private infrastructure even if the broader macro and market environment "normalize" in 2024.

Sources:

1 IMF, World Economic Outlook, *Resilient Global Economy Still Limping Along, With Growing Divergences*, Pierre-Olivier Gourinchas, October 2023

2 S&P Global Market Intelligence, *US Energy Utilities Seek Almost $24B In Pending Rate Cases*, Lisa Fontanella, October 2023

3 S&P Global Market Intelligence, *A Deep Dive Into US Gas ROE Authorizations In 2019*, Lisa Fontanella, February 2020

4 S&P Global Market Intelligence, *Electric ROE Authorizations Drift Lower in H1'20 As Virus Worries Continue*, Lisa Fontanella, August 2020

5 S&P Global Market Intelligence, *Inflation Rearing Its Head In Electric, Gas, General Rate Cases Nationwide*, Dan Lowrey, October 2022

6 Preqin, *https://pro.preqin.com/analysis/deals/infrastructure*, accessed January 2nd 2024

Infrastructure Investments

Investing in infrastructure assets or debt associated with infrastructure involve a variety of risks, not all of which can be foreseen or quantified, and which include, among others: the burdens of ownership of infrastructure; local, national and international economic conditions; the supply and demand for services from and access to infrastructure; the financial condition of users and suppliers of infrastructure assets; risks related to construction, regulatory requirements, labor actions, health and safety matters, government contracts, operating and technical needs, capital expenditures, demand and user conflicts, bypass attempts, strategic assets, changes in interest rates and the availability of funds which may render the purchase, sale or refinancing of infrastructure assets difficult or impracticable; changes in environmental laws and regulations, investments in other funds, troubled infrastructure assets and planning laws and other governmental rules; changes in energy prices; negative developments in the economy that may depress travel activity; force majeure acts, terrorist events, under-insured or uninsurable losses; and other factors which are beyond the reasonable control of the Fund or the Investment Adviser. Many of these factors could cause fluctuations in usage, expenses and revenues, causing the value of the Investments to decline and negatively affecting the Fund's returns.

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