

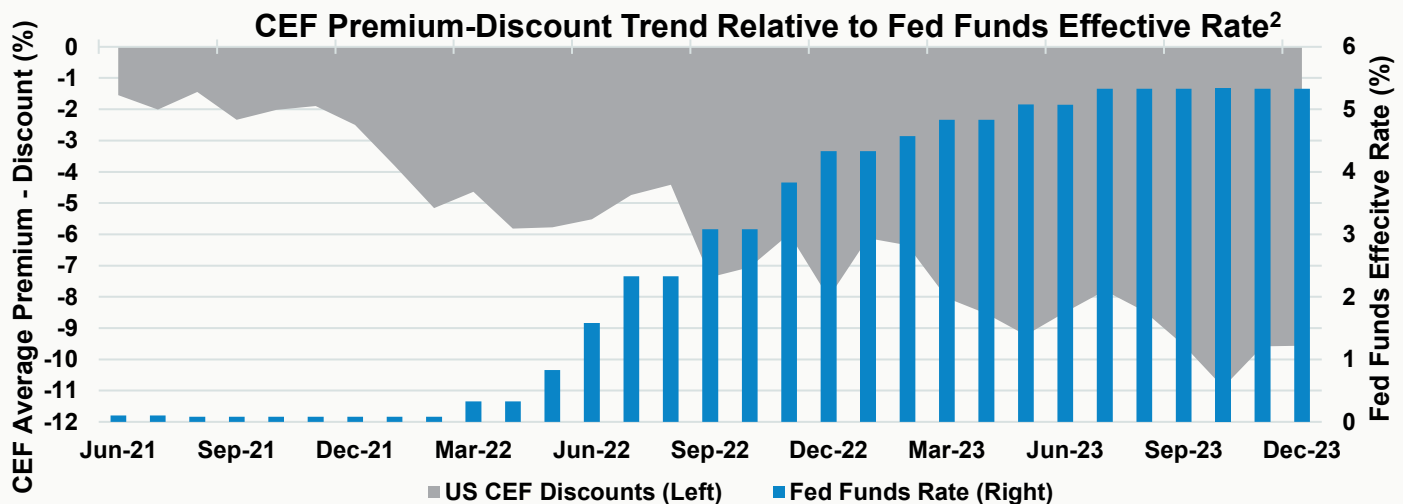
## Investor Insights

## If rates fall, how might that impact Closed-End Fund discounts?

**Key Takeaways**

- Closed-end funds are currently trading at wide discounts which appears to be related, at least in part, to the rise in the federal funds rate over the past 24 months.
- Based on our analysis, closed-end fund discounts tend to narrow after the Federal Reserve (the “Fed”) adopts accommodative monetary policy and rates decline.
- Closed-end funds may be an attractive investment if the Fed cuts rates in 2024.

While 2022 was marked by the Fed raising interest rates at a historic pace<sup>1</sup>, a more measured pace of rate hikes in 2023 accompanied healthy returns across various asset classes and investment vehicles. As it stands, the Fed has held the federal funds target rate steady since July of ‘23, and the race is on to determine what will happen next to interest rates themselves, as well as the downstream impacts of any such changes. While federal funds futures and bond yields have begun to price in expectations of Fed rate cuts in 2024, closed-end fund (“CEF”) discounts, a measure of current market price relative to the net asset value, still stand at historically wide levels. The chart below not only illustrates deep discounts across CEFs as of 12/31/23, but also how the widening of discounts corresponded with the rise in the federal funds rate since June of 2021.



With rates so high and discounts so wide, the question many investors are pondering is what will happen to these discounts if and when the Fed begins to cut rates? To help answer this question, we analyzed the last three rate cutting periods to determine which are most appropriate for comparison to today's economic environment. From there, we took a closer look at interest rate cuts during the identified period(s) and the corresponding change in closed-end fund discounts to help investors understand what may be lurking around the corner.

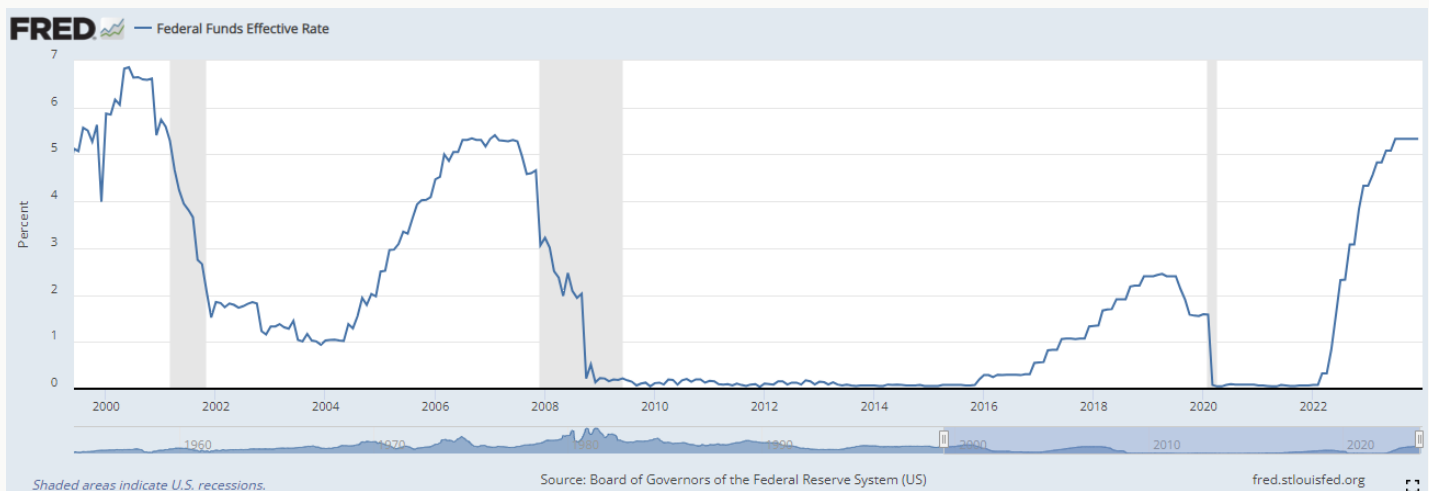
1. World Economic Forum: [link to webpage](#).

2. As of 12/31/23; Source: Morningstar Direct—US CEF All Category; Federal Reserve Bank of New York—Federal Funds Effective Rate.

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## Which rate cutting period is most comparable?

Since the year 2000, there have been three rate-cutting periods precipitated by the Fed (illustrated below): 1) 01/2001 – 06/2003; 2) 09/2007 – 12/2008; and 3) 08/2019 – 03/2020. We analyzed these three periods in their length, high/low federal funds rate, equity fund flows, market concentration, corresponding economic conditions, as well as exogenous events that occurred simultaneously.



When you think back to each of these time periods, most investors will remember the infamous economic crashes that coincided: the dot-com bubble of the early 2000s, the housing market crash of 2008, and the coronavirus pandemic that broke out in 2020. Economic crashes aside, these three market events were anything but similar. Take the pandemic for example. The coronavirus outbreak was an exogenous event that impacted the financial markets but was not a product of capital market machinations. Similarly, while the questionable lending and credit rating practices that lead to the housing market crash are tangentially related to the stock market, the underpinnings of that market crash are buried far deeper than the tech stock speculation that led to the dot-com collapse.

The shocks to the capital markets spurred by the housing market crash and coronavirus pandemic further stand out from that of the dot-com bubble due to the corresponding risk-off investment sentiment experienced during those periods. While equity funds (US and international) continued to have net positive investment throughout the early aughts (\$91bn annual net inflow on average from 2001-2003), equity fund flows decreased in 2008 (\$73bn net outflow) and were even further down (\$170bn outflow on average) from 2020-2021<sup>3</sup>. This is all to say that while many factors can influence demand for certain investments, the relationship between interest rates and investment demand was far more complicated in 2008-09 and 2020, and we therefore believe the rate cutting period during the early aughts is a more useful comparison to today's economy.

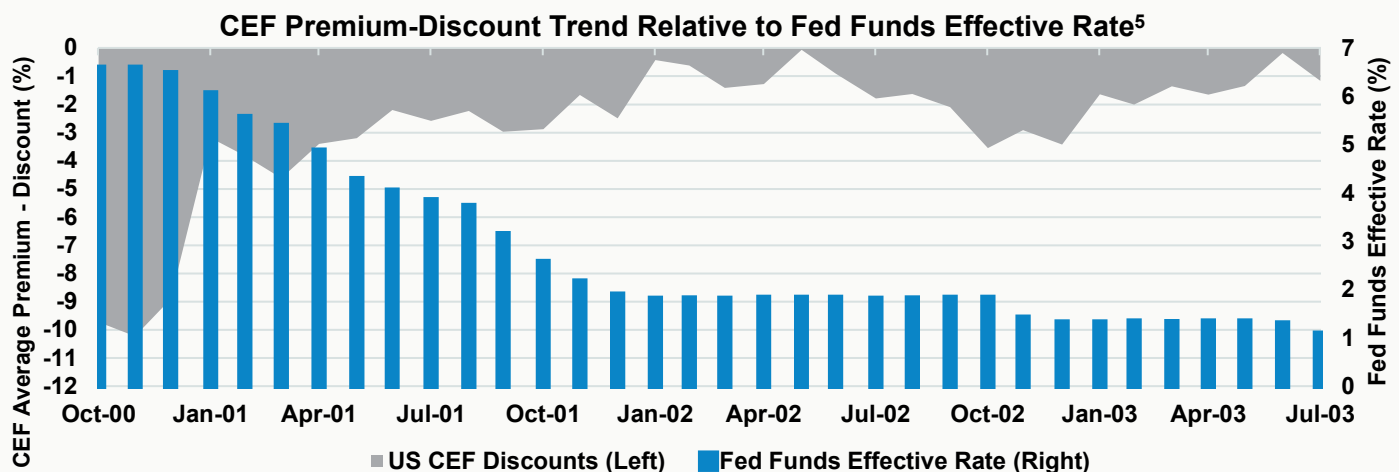
3. Source: Morningstar Direct. Calendar year net fund flows for US and international equity funds within US Open-end Funds and ETFs excluding Money Market Funds, Funds of Funds, Feeder Funds, and obsolete funds.

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Which brings us to our last reason for highlighting the early aughts—current equity market concentration levels haven't been this high since the dot-com bubble. In fact, the S&P 500 Index is more concentrated than it has ever been. Over the last 35 years, the average weight of the top 10 stocks in the S&P 500 Index has been 21%. During the dot-com bubble, the combined weight of the top 10 stocks peaked at 27% while the current figure stands at nearly 31% (as of 12/31/23)<sup>4</sup>. Further, the high concentration of US equity market capitalization both during the dot-com period and right now is heavily dominated by technology stocks. This is not to suggest that we're on the precipice of a market crash, but with the stock market, economic conditions, and interest rates all intertwined, we believe this supports the notion that the rate cutting period of the early 2000s may be a useful guide when considering what might happen should the fed begin to cut rates in 2024.

### Closed-End Fund Discounts as Rates Fall

Zooming in on the period in the early 2000s (featured below), you'll notice a clear relationship between the effective federal funds rate decreasing (measured by the right vertical axis), and CEF discounts narrowing (measured by the left vertical axis). In fact, running a correlation analysis between all US CEF discounts and the effective federal funds rates during this period results in a correlation of -0.80, representing a material negative correlation.



Stepping back from the data, we always want to ensure there's a sound theoretical case that supports the relationship we're seeing. To do so, think about two hallmarks of the closed-end fund vehicle, relative to both exchange-traded funds ("ETFs") and mutual funds: 1) CEFs typically have higher yields, and 2) CEFs can take on more leverage. Both of these differentiating qualities, in theory, are negatively impacted by higher interest rates, and in turn, positively impacted by lower interest rates. For example, the relative appeal of a high-yielding investment decreases as the federal funds rate rises.

4. Source: Morningstar Direct—S&P 500 % Asset in Top 10 Holdings, September 1989 – December 2023.

5. As of 12/31/23; Source: Morningstar Direct—US CEF All Category; Federal Reserve Bank of New York—Federal Funds Effective Rate.

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The corollary is also true; the benefit of a high-yielding investment is far greater as the federal funds rate falls toward zero and there are fewer investments offering high yields. Secondly, the benefit of taking on leverage is hampered by higher costs of borrowing, which are directly tied to the federal funds rate. Suffice to say that this logical reasoning aligns with the aforementioned data analysis, suggesting that lower interest rates may make the CEF vehicle more attractive than ETFs and open-end mutual funds, in turn driving demand higher, increasing market prices, and narrowing discounts.

Ultimately, it's unlikely that any single market factor solely drives CEF discount compression and expansion, but rather a confluence of factors influence these prices and discounts. However, CEF discounts have historically compressed considerably following relative or absolute lows. In fact, over the past 20 years the median daily CEF discount in the six months following a relative low (lowest in two-year period) is 6.6% above that low point. Further, CEF discounts on average, only remain within one standard deviation of relative lows for 25 days<sup>6</sup>. All in all, while it's unclear when the Fed will cut rates and how direct the path toward lower discounts will be, history has shown that discounts typically narrow considerably after hitting relative lows.

6. Source: Morningstar Direct—daily premium/discount US CEF All Category, January 2004 – December 2023. Relative lows defined as lowest US CEF All discount within a two-year period (i.e. 2004-2005, 2006-2007, etc.).

### Disclosures:

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**Additional Disclosures:**

*Investing in closed-end funds involves risk; principal loss is possible. Closed-end funds shares may frequently trade at a discount or premium to their net asset value (NAV). When sold, shares may be worth more or less than the purchase price or the NAV. Liquidity is limited to secondary market supply and demand.*

*Open-end mutual funds, exchange-traded funds, and CEFs are different types of investment vehicles with different expense structures and different inflows/outflows and distribution requirements. All investments carry a certain degree of risk and there is no assurance that an investment will provide positive performance over any period of time.*

*Past performance is no guarantee of future results.*

**Definitions:**

**Correlation:** a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate). Ranges from -1 (perfectly negative correlation) to 1 (perfectly positive correlation).

**Standard Deviation:** a statistic that measures the dispersion of a dataset relative to its mean.

**S&P 500 Index:** The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States