

The Not-So-Great Rate Reset

Nov 2022

Since the implementation of zero interest-rate policy or ZIRP, the question has been, “How will markets handle a return to some kind of normalcy in rates?” In responding to this question, we’ve looked at it from two different perspectives: slowly, limiting the sticker shock on fixed income portfolios as rates move gradually and portfolio income has the potential to offset impacts to principal; or quickly, causing pain across financial markets as price depreciation accelerates beyond the income offset.

No one could foresee that a global pandemic followed by a bout of inflation not seen since the late 1970s would serve as the catalyst for the move higher in rates, thus providing the answer. We’re in the midst of the latter scenario (an unprecedented dramatic move higher in rates) and the markets have felt it thoroughly to the tune of the worst performance we’ve seen in the Bloomberg US Aggregate Bond Index in its history, at a time when equity markets are suffering as well.

Consider that the 2-year Treasury has increased by 375 basis points (bps) and the 10-year Treasury yield has increased by 254 bps since the beginning of the year. Since the turn of the century, the next highest move in yield through an October month-end has been 131 bps for the 2-year (in 2005) and 117 bps for the 10-year (in 2009). But where does that leave fixed income markets at this point?

It is often said that history is a great teacher and that we can learn from all that has come before us. While this is true in some instances, when it comes to financial markets it must be taken with a grain of salt. We can look at other periods of Federal Reserve tightening but must consider each unique scenario and how they differ. We are in an unprecedented setting: there is not another period when central banks have been removing accommodations by stepping away from ZIRP and undoing quantitative easing. So, while we can examine prior Fed tightening in search of answers for the coming months, we do not have a crystal ball and cannot predict what may come. The events that we cannot predict usually create the most chaos in the financial markets and global economy (Long Term Capital Management in 1998, Orange County bankruptcy in 1994, 2022 Russian invasion of Ukraine), and we’re not here to predict what’s coming next.

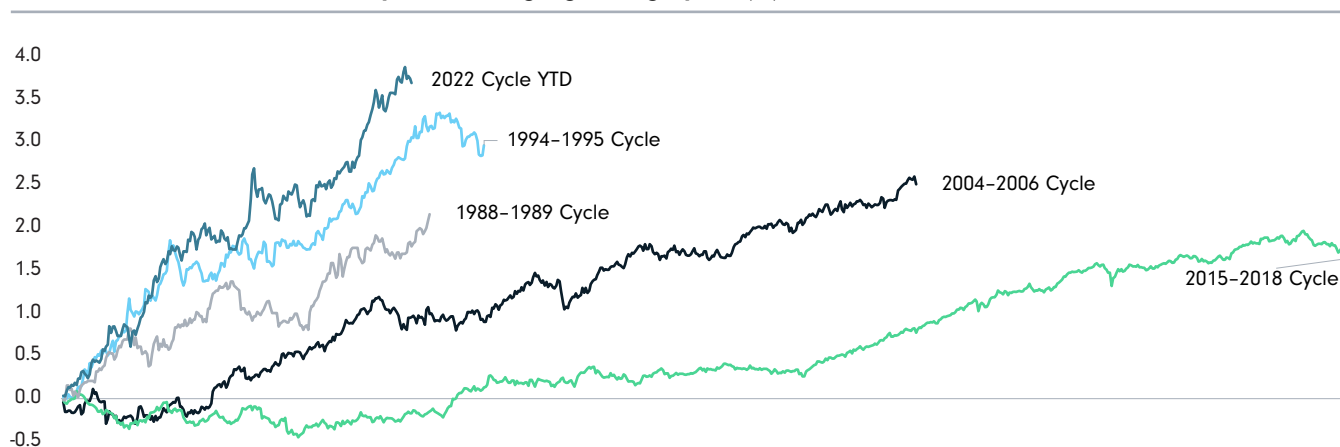
That being said, let’s examine the past four Fed tightening cycles and use that bit of history to theorize what we might see in the coming months. As previously referenced, there are two scenarios for rate hike cycles – slowly and quickly – both of which are outlined in Exhibit 1. Exhibit 2 illustrates the pace of rate increases over the same periods, providing an image of the rocket-like trajectory we’ve seen this year.

Exhibit 1 – Historical Rates Hike Cycles, Bloomberg US Aggregate Bond Index

Period	Rate Increase	Coupon Return (%)	Price Return (%)	Total Return (%)*
Slowly				
2004–2006	425 bps	4.92	-2.17	2.76
2015–2018	225 bps	2.94	-0.93	2.01
Quickly				
1994–1995	300 bps	7.51	-9.08	-1.57
1988–1989	325 bps	7.44	-2.47	-4.97
Mar – Oct 2022	300 bps	1.60	-12.40	-10.80

*Periods greater than one year are annualized. Source: Bloomberg Barclays. Specific measuring dates – 2004–2006 (30 June 2004–29 June 2006), 2015–2018 (16 December 2015–19 December 2018), 1994–1995 (4 February 1994–1 February 1995), 1988–1989 (31 March 1988–23 February 1989), March–October 2022 (16 March 2022–31 October 2022).

Exhibit 2 – Increase in 2Y Treasury Yield During Tightening Cycles (%)



Source: Bloomberg.

The exhibits show that during periods of Fed tightening, price return is impacted due to the relationship between bond yields and prices (as yields go up, prices go down and vice versa). Exhibit 1 illustrates that the income component of fixed income can mitigate the impact of price fluctuations to a certain degree. If we are in a period of rapidly climbing interest rates (1994, 2022), income is not able to outpace the impact on pricing. The 1988-1989 period stands out due to the significantly higher coupon return combined with a less impactful price impact. Unfortunately for fixed income markets, the current tightening cycle coincides with a historic low in interest rates and the inability to offset the damage from price depreciation. When rates are increasing at a slower pace, even lower coupon environments like the 2015-2018 period (nine increases of 25 bps over a three-year period, starting from the range of zero to 0.25%) can compensate for the price impact since the move higher in rates is far more gradual. It is a similar story with the 2004-2006 period, when a steady regimen of 25 bps increases from the FOMC over 17 meetings and two years pushed rates higher.

As the Fed approaches its terminal fed funds rate and expectations shift to a pause in tightening or even the legendary “pivot,” the opportunity in fixed income is close to the best it has been since the global financial crisis. We believe it’s a given that we will see negative numbers in the coming months as the Fed searches for a stopping point in the current cycle, but to quote Winston Churchill, “Now is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.”

We can’t and won’t try to predict how the Fed will respond to incoming economic data over the coming months and how it could influence any kind of “pivot” or pause, but for this exercise, we must make some assumptions to provide any kind of insight.

Let's assume the Fed reaches its terminal rate of roughly 4.75% to 5.00% sometime in Q1 2023 and the Treasury yield curve reaches some level of stability. Using the Bloomberg US Aggregate Bond Index as a proxy, the index is currently generating a yield of 5.01% with a duration of 6.11 years, as of October 31. In Exhibit 3, we compare this to the index characteristics at the end of previous rate hiking cycles.

Exhibit 3 – Yields and Duration During Rate Hiking Cycles

	29 Mar 1988 to 23 Feb 1989	4 Feb 1994 to 1 Feb 1995	30 Jun 2004 to 29 Jun 2006	16 Dec 2015 to 19 Dec 2018
Starting 10Y Treasury Yield (%)	8.53	5.74	4.58	2.30
Ending 10Y Treasury Yield (%)	9.32	7.66	5.19	2.99
Ending Yield to Worst (%)	9.91	7.97	5.85	3.35
Ending Duration	4.55 years	4.81 years	4.81 years	5.95 years
Cycle Performance (%)	4.97	-1.59	2.76	2.14
3Y Forward Performance (%)	11.03	7.78	6.52	4.96

Source: Bloomberg.

What we can see from past tightening cycles is that the move higher in the 10-year Treasury was less extreme compared to the current cycle. Consider that during the 1988, 1994, 2004 and 2015 cycles, the 10-year Treasury climbed 79 bps (roughly 9.3% higher), 192 bps (33.4% higher), 61 bps (13.3% higher) and 69 bps (30.0% higher), respectively. The 10-year Treasury has increased 258 bps (170% higher) since the beginning of 2022 through October month-end and most likely has some room to run higher before we reach the end of this hiking cycle. This extreme move higher has resulted in a significant decrease in bond prices as well as an attractive yield from a broad-based investment grade portfolio. But with the volatility that fixed income markets have experienced since the beginning of the year comes great opportunity.

No one can predict what is going to happen in the coming months but longer duration, strongly diversified fixed income portfolios are in a better position than they have been in many years. Compare the yield to worst (YTW) for the Bloomberg US Aggregate Bond Index at the end of October (5.01%) to the average since the turn of the century (3.57%), since the Financial Crisis (2.68%) and since the end of the last tightening cycle (2.20%). Because of this not-so-great rate reset, fixed income portfolios are now positioned to deliver income, something that has been lacking over the last several years. The aforementioned analysis is focused on the index – consider that an active manager has the ability to look beyond index-eligible securities to add value while maintaining a true core portfolio of investment grade securities.

The Diamond Hill Core Bond strategy's current YTW is 6.38% and has an average duration of 5.61 years (as of 31 Oct 2022) while investing only in investment grade securities, positioning the portfolio as an attractive alternative to the index at a time when fixed income is in a position to deliver actual income for a change.

Sector in focus – US Investment Grade Corporates

If fixed income markets in general have been challenging, then it has been downright disastrous for the US investment grade corporate market. The S&P 500 is down -17.72% year-to-date through October and the Bloomberg US Corporate Bond Index has lost -19.56%.

While the corporate index hangs like an albatross around the neck of the Bloomberg US Aggregate Bond Index, the Treasury and securitized indexes are doing their best to limit the damage, down -14.30% and -14.69%, respectively.

Since the beginning of the year, the corporate index has lost -22.04% from a price standpoint while only generating 2.48% via income. The corporate sector began the year with a duration of 8.60 years, much longer than Treasury (7.07 years) and securitized (4.63 years), so it was far more sensitive to the dramatic shift higher in interest rates.

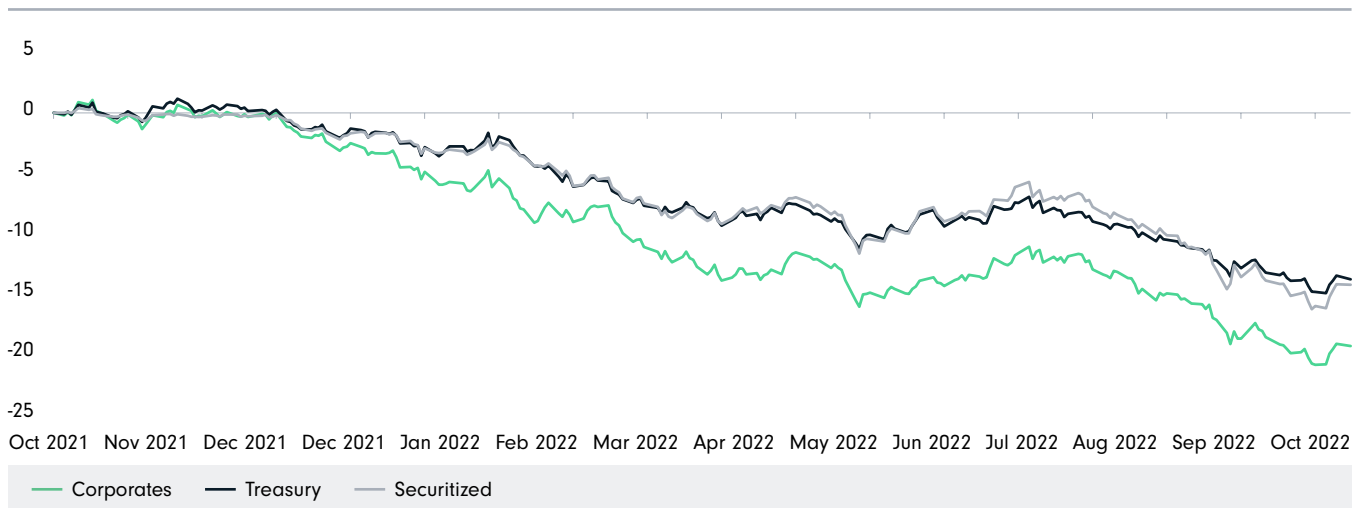
Issuance in the investment grade corporate sector is down 9% year over year with the market experiencing 65 days with zero issuance through October, a new record. And the average maturity of new issuance is down from previous years to 9.1 years, compared to 11.1 years just last month, 11.0 years for 2021, 12.6 years for 2020 and 11.8 years in 2019, reflecting the impact of rising rates.

Exhibit 4 – Average Price for the Bloomberg US Corporate Index (\$)



Source: Bloomberg.

Exhibit 5 – Average Price for the Bloomberg US Corporate Bond Index (\$)



Source: Bloomberg.

Bond Math 101 – Bond Price Movements to Changes in Interest Rates

The frequent reference to the formulaic relationship between interest rates and bond prices is often quoted but rarely explained. Below is a simple example that serves to provide some insight into why the inverse relationship exists between bonds and interest rates.

In the table, the bond in question pays a 5% coupon, has a par value of \$1 million and will pay down over a 12-month period in equal monthly installments (\$50,000) before the final principal payment of \$1 million.

The payment structure is broken down into three interest rate scenarios: rates hold at 5%, drop to 4% and increase to 6%. Using the bond price formula, the present value of each payment is calculated using the three interest rate scenarios and added together to determine the present value of future payments in those scenarios.

$$\text{Bond Price} = \frac{c}{(1+i)} + \frac{c}{(1+i)^2} + \dots + \frac{c}{(1+i)^n} + \frac{M}{(1+i)^n}$$

# Payment	Coupon/Principal	Discount Calculation	Interest Rate @ 5%	Interest Rate @ 4%	Interest Rate @ 6%
			PV of Payment (\$)	PV of Payment (\$)	PV of Payment (\$)
1	50,000	$50,000 / (1+i)$	47,619	48,077	47,170
2	50,000	$50,000 / (1+i)^2$	45,351	46,228	44,500
3	50,000	$50,000 / (1+i)^3$	43,192	44,450	41,981
4	50,000	$50,000 / (1+i)^4$	41,135	42,740	39,605
5	50,000	$50,000 / (1+i)^5$	39,176	41,096	37,363
6	50,000	$50,000 / (1+i)^6$	37,311	39,516	35,248
7	50,000	$50,000 / (1+i)^7$	35,534	37,996	33,253
8	50,000	$50,000 / (1+i)^8$	33,842	36,535	31,371
9	50,000	$50,000 / (1+i)^9$	32,230	35,129	29,595
10	50,000	$50,000 / (1+i)^{10}$	30,696	33,778	27,920
11	50,000	$50,000 / (1+i)^{11}$	29,234	32,479	26,339
12a - Interest	50,000	$50,000 / (1+i)^{12}$	27,842	31,230	24,848
12b - Principal	1,000,000	$1,000,000 / (1+i)^{12}$	556,837	624,597	496,969
		Total	1,000,000	1,093,851	916,162
		Price	100.00	109.39	91.62

For illustrative purposes only.

Bloomberg US Aggregate Bond Index measures the performance of investment grade, fixed-rate taxable bond market and includes government and corporate bonds, agency mortgage-backed, asset-backed and commercial mortgage-backed securities (agency and non-agency). **Bloomberg US Corporate Bond Index** measures the performance of the US investment grade fixed-rate taxable corporate bond market. **Bloomberg Treasury Bond Index** measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. **Bloomberg US Securitized Index** measures the performance of the securitized sector of the Bloomberg US Aggregate Bond Index. The indexes are unmanaged, include net reinvested dividends, do not reflect fees or expenses (which would lower the return) and are not available for direct investment. Index data source: Bloomberg Index Services Limited. See diamond-hill.com/disclosures for a full copy of the disclaimer.

S&P 500 Index measures the performance of 500 large companies in the US.

The views expressed are those of Diamond Hill as of November 2022 and are subject to change without notice. These opinions are not intended to be a forecast of future events, a guarantee of future results or investment advice. Investing involves risk, including the possible loss of principal. Past performance is not a guarantee of future results.