Market Briefing

From:	Edward Toy – Director, Investment Specialist (edward.toy@riskreg.com)
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Subject:	Market Recap for Year-End 2023 and Potential Impact on U.S. Insurance Company Investments

Introduction

Coming into 2023, the Federal Reserve Board (the "Fed") had been aggressively increasing interest rates with a goal of taming a sharp spike in inflation. Expectations were high that this would lead to an economic recession either in 2023 or early 2024. Equity markets had dropped dramatically in 2022, recognizing both higher interest rates and the prospects for weaker corporate earnings as well as significant increases in defaults. Market volatility was up with all these factors. This market volatility continued into and throughout 2023 as markets struggled to find a consistent direction. Sentiment moved back and forth between continued interest rate increases by the Fed to rein in inflation and expectations that the Fed would overshoot the target, resulting in a recession and then leading to a need for the Fed to rapidly lower interest rates. This turmoil was punctuated by other specific events and drivers. One was the turmoil that was driven by several bank failures. A second was the growing sentiment of companies and individuals to not return to their traditional office spaces. This Market Briefing reviews some of the key market metrics and discusses what were the likely impacts on U.S. insurance company investments and investment strategies. Additionally, this briefing will help U.S. insurance regulators prepare for and review market impacts to U.S. insurance company financial statements for 2023 as they become available in the next few months.
[The data for U.S. insurance company investments was all based on Financial Statement Data submitted to the NAIC and acquired via S&P Capital IQ, which is a unit of S&P Global. Market data was acquired via the Federal Reserve Bank of St. Louis.]

U.S. Insurer Invested Assets

	Insurance Industry		Life Insurers		P&C Insurers		Health Insurers	
	2021	2022	2021	2022	2021	2022	2021	2022
	(as a percent of Unaffiliated Long Term Assets)							
Total Bonds	75.01	75.50	79.42	78.69	63.98	66.75	82.21	84.75
Corporate (plus Loans)	43.05	43.63	51.34	51.20	25.04	26.62	33.97	35.16
Governments	13.92	13.65	9.52	9.01	23.08	23.69	22.05	21.74
Structured	17.49	17.70	18.13	18.01	15.23	15.91	23.95	26.33
Mortgages and Real Estate	10.70	11.42	15.14	16.01	1.71	1.87	0.23	0.30
Equities (Preferred and Common)	10.38	8.91	1.56	1.22	30.38	27.05	13.24	10.48
Schedule BA	3.91	4.17	3.88	4.08	3.93	4.34	4.32	4.47
	(as a percent of Surplus)							
Equities (Preferred and Common)			13.85	11.41	43.02	40.50	13.65	10.63
Schedule BA			34.57	38.03	5.56	6.49	4.46	4.54

Before diving into the specific market details, a quick review of U.S. insurance company investments is useful. Investment portfolios consist primarily of fixed income investments, with about 75% of unaffiliated long-term assets in bonds and more than 11% in mortgage loans. The fair market value of investments with fixed coupons was significantly impacted by higher interest rates in 2022. Investments with longer maturities, and likely longer duration, would have been impacted more. Investments in equities are also significant, though the exposure as a percent of assets is not that material for Life companies. The percentage of reported equity exposure decreased in 2022 which is not surprising given the 19.4% decline in the S&P 500 in that year. Less transparent in terms of their equity market risk are those investments reported on Schedule BA. These tend to lean heavily to equity-type risk, but also include some fixed income-like instruments. Investments in private equity funds which represent a sizeable percentage of those reported on Schedule BA face some of same pressures on valuations as publicly traded equities, though changes in valuations may be recognized differently.

	Insurance Industry		Life Insurers		P&C Insurers		Health Insurers	
	2021	2022	2021	2022	2021	2022	2021	2022
Bond Portfolio Maturity Score	12.49	12.64	14.38	14.44	8.02	8.43	7.73	8.08
1 or less	9.72%	9.05%	6.88%	6.49%	16.67%	14.80%	15.17%	17.13%
1 to 5	30.12%	30.78%	25.28%	25.94%	41.08%	42.17%	45.61%	42.59%
5 to 10	28.18%	27.08%	27.32%	26.35%	30.29%	28.91%	29.69%	28.10%
10 to 20	15.24%	16.24%	18.36%	19.23%	8.17%	9.52%	5.31%	6.90%
greater than 20	16.75%	16.85%	22.16%	21.99%	3.79%	4.60%	4.22%	5.29%
Greater than 10 year	31.99%	33.09%	40.51%	41.22%	11.96%	14.12%	9.53%	12.18%

A key consideration for bond portfolios is the duration, and therefore interest rate risk, of the holdings. Duration is not reported on the investment schedules, but expected maturity dates are. While different variables impact the actual duration of individual holdings, maturity can be a reasonable indicator of exposure to longer duration assets. The average maturity score for Life insurers has been increasing in recent years and was almost 14.5 years as of year-end 2022. Property & Casualty ("P&C") insurers and Health insurers maintained considerably shorter portfolios, but they also lengthened some in 2022.

	Insurance Industry		Life Insurers		P&C Insurers		Health Insurers	
	2021	2022	2021	2022	2021	2022	2021	2022
Bond Portfolio Credit Sore	1.46	1.44	1.52	1.50	1.32	1.30	1.38	1.34
NAIC 1	62.57%	63.27%	56.78%	57.41%	76.88%	77.52%	72.38%	74.25%
NAIC 2	31.64%	31.58%	37.34%	37.21%	17.76%	18.03%	20.63%	20.09%
NAIC 3	3.53%	3.13%	3.78%	3.46%	2.72%	2.21%	4.19%	3.31%
NAIC 4	1.70%	1.50%	1.52%	1.38%	2.08%	1.74%	2.49%	2.08%
NAIC 5	0.41%	0.45%	0.42%	0.48%	0.43%	0.39%	0.20%	0.17%
NAIC 6	0.14%	0.07%	0.15%	0.06%	0.12%	0.09%	0.11%	0.09%
Below Investment Grade	5.79%	5.15%	5.88%	5.38%	5.35%	4.44%	6.99%	5.65%

Based on the distribution of bond holdings across the broad categories of NAIC Designations, credit quality in the bond portfolios has remained relatively stable. Holdings of below investment grade bonds declined in 2022 while holdings of bonds in the triple-B category stayed relatively stable. Of potential interest, and perhaps deserving of special focus, would be those with a BBB-minus rating since those would be most at risk of downgrade in an economic downturn to below investment grade. For P&C and Health insurers, below investment grade bonds are held at the lower of cost or market. Life insurers can carry them at amortized cost as long as the bonds are not in default. In addition to changes in interest rates, another significant factor impacting the fair market value of bonds is the spread over risk free rates. The market based credit spread that can be expected varies depending on expectations of default.

(000's)	Insurance Industry		Life Insurers		P&C Insurers		Health Insurers	
New Data Collection beginning 2022	2021	2022	2021	2022	2021	2022	2021	2022
Collateral Loans								
Affiliated	9,656,948	11,844,349	8,372,771	10,925,699	679,771	489,395	604,406	429,255
Unaffiliated	7,480,816	6,656,176	6,593,296	6,015,176	886,985	638,222	535	2,777
Residuals								
Affiliated	n/a	8,163,410	n/a	3,182,761	n/a	4,771,871	n/a	208,779
Unaffiliated	n/a	3,564,512	n/a	2,532,121	n/a	829,889	n/a	202,501

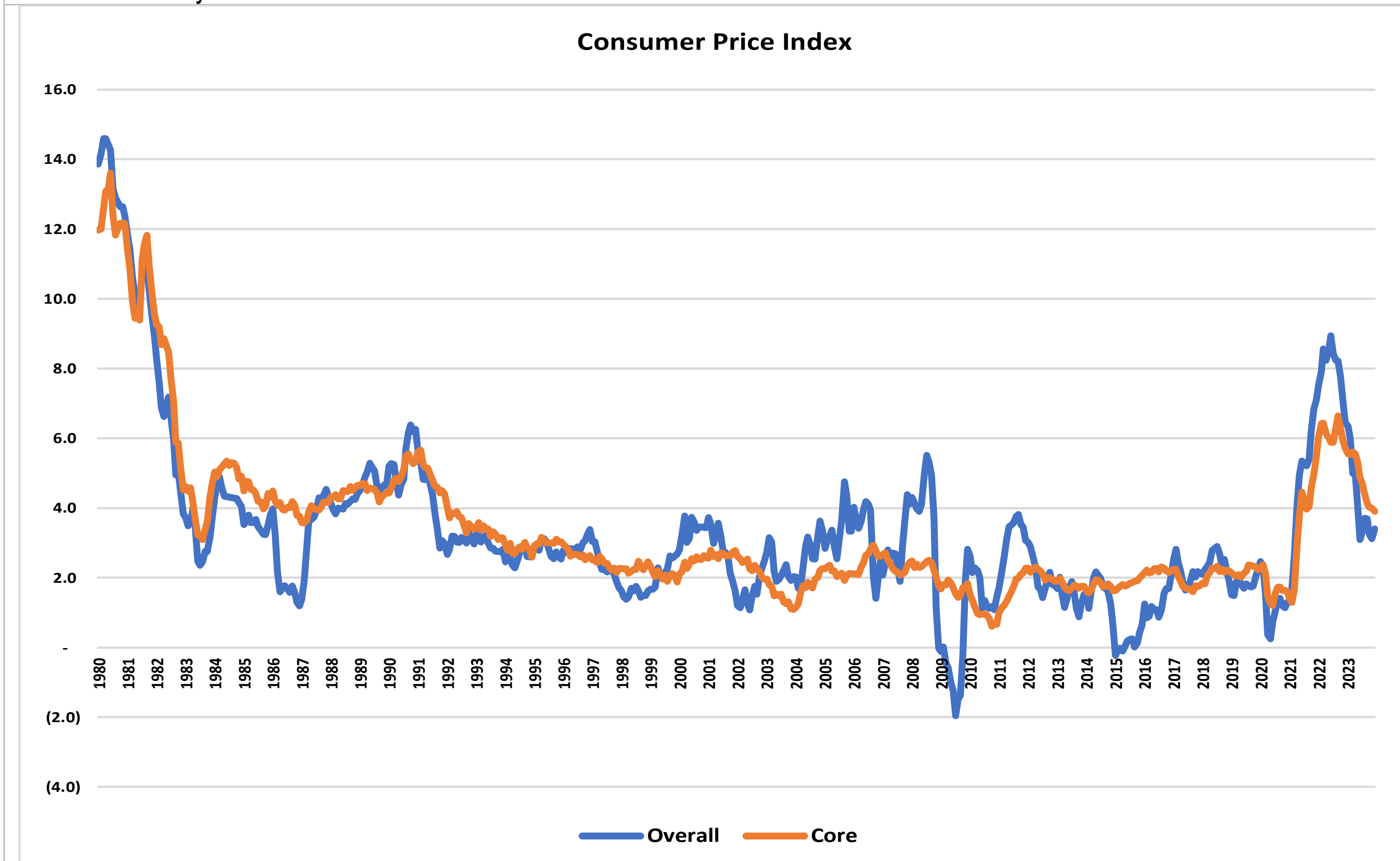
While investments in bonds, mortgage loans and common stock represent the bulk of invested assets, other asset types occasionally garner heightened interest among regulators. Two recent examples are Collateral Loans, which are reported on Schedule BA, and Residuals, which had been reported on Schedule D as either Bonds or Common Stock but beginning in 2022 were also reported on Schedule BA. Collateral Loans are structured as fixed income-like instruments but in many cases the assets pledged as collateral may be equities. Residuals are likewise fixed income instruments. As the first tranche to absorb losses from a Structured Security transaction, valuations will be significantly impacted by even small upticks in defaults of the underlying assets.

(000s)	Insurance Industry		Life Insurers		P&C Insurers		Health Insurers	
Derivatives	2021	2022	2021	2022	2021	2022	2021	2022
Carrying Value	37,736,738	17,514,973	37,746,812	17,571,469	(5,318)	(58,548)	(4,755)	2,053
Fair Value	49,650,980	7,200,853	49,719,960	7,242,872	(22,753)	(32,725)	(46,227)	(9,293)

Life insurance companies are significant participants in the derivatives markets. Activity tends to concentrated in two areas. One is in interest rate hedging strategies. The second is in equity hedges against crediting rates for different annuity products. The significant increase in interest rates and drop in equity markets in 2022 impacted both of those hedging strategies. Since these are hedging strategies, there should have been an offsetting change in the hedged instrument. However, significant volatility which did continue throughout 2023 may impact the effectiveness of those strategies.

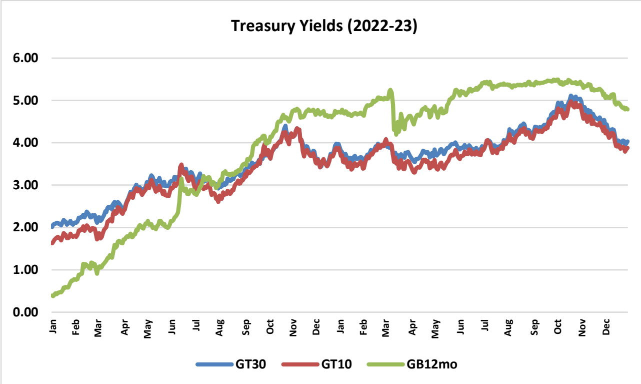
Inflation

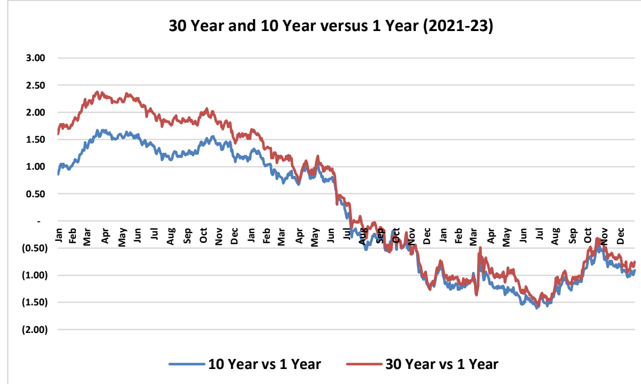
A continuing headline in 2023 was inflation, as indicated by year over year percentage changes in the Consumer Price Index ("CPI"). The CPI began increasing at the end of 2021, reaching levels in 2022 that had not been seen since the 1980s. Here I focus on two metrics – the Overall CPI and the Core CPI. The Core CPI excludes food and energy as those two contributors to CPI can be very volatile from month to month. The jump in both of the CPI metrics were largely driven initially by supply chain issues that were a continuing holdover from the COVID-19 Pandemic in 2020. However, other factors contributed such as a spike in oil prices that was related to the Russian invasion of Ukraine. Housing costs were also a significant component as population migrations overtook available supply. Overall CPI peaked in June of 2022 at 9.1%. Core CPI peaked a few months later, in September, at 6.6%. The Fed began taking aggressive action in early 2022, raising the target range for Fed Funds repeatedly. The pressure on borrowing rates did slowly lead to moderation in both of the metrics. Overall CPI came down to 3.4% and Core CPI to 3.9% by December 2023. This continues to exceed the Fed's stated target of 2.0% inflation. The Fed's policy response in 2022 also led many economists and market participants to believe that the risks of a recession were high. This concern has since declined and more recent surveys of economists *(Wall Street Journal – "It Won't Be a Recession, It Will Just Feel Like One". 1/14/24)* indicate that expectations for a recession are considerably lower.



Interest Rates

With the last increase by the Fed in July 2023, the Fed Funds target stood at 5.25% to 5.50%. With the significant resulting decline in inflation, a developing consensus in the marketplace is that the Fed will begin to lower interest rates in 2024. At the most recent meeting of Fed policymakers in December 2023, the Fed did note in its official statement that continued moderation in inflation could result in interest rate decreases later in 2024. Comments from members of the Fed and reported by various media sources since December have emphasized the need to see further declines in inflation before any decreases.

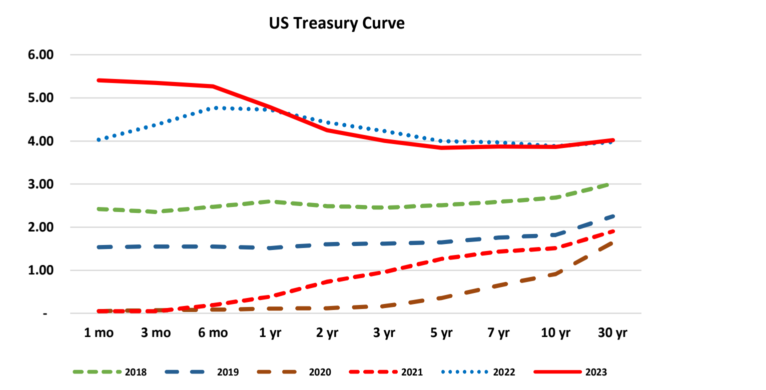


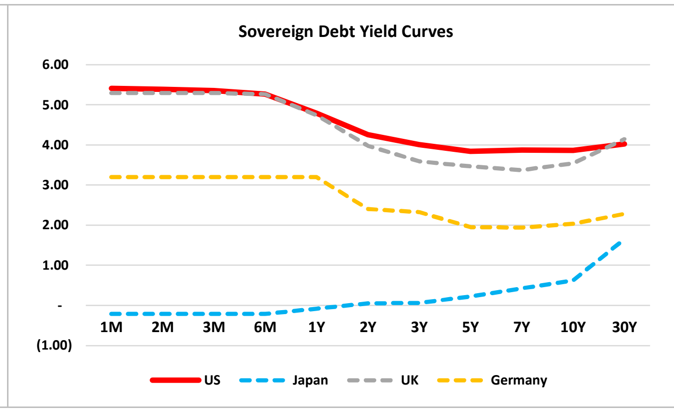


While the Fed increased the Fed Funds target aggressively in 2022 and into 2023, the market throughout that time period contemplated the likelihood of a recession that longer term would push the Fed to lower interest rates quickly. The result was an inverted yield curve in which longer term Treasury yields were lower than those on shorter maturities. Inverted yield curves are not commonplace. In the last 40 years, the Treasury yield curve has been inverted less than ten times, and each time this generally was not by a significant amount and lasted only a few months. Using the differential between the 30-year and 10-year Treasuries to the 1-year Treasury as a measure, the Treasury yield curve first became inverted in July 2022. The steepest point of inversion was in June 2023 when the negative spread was by approximately 150 basis points. After that there was a relatively rapid flattening until the negative spread was only 50 basis points before a reversal in the trend to a differential of a little more than 80 basis points at the end of the year. This is slightly more than what it was at the end of 2022.

Interest rates as represented by the Treasury yield curve continue to be high in comparison with where they were from 2008 until 2020, when the Fed acted in the wake of the COVID-19 Pandemic. Substantial portions of insurance companies' fixed income investments were made prior to 2020. With the increases in interest rates of 2022 that have been sustained through 2023, the fair market value of those investments was negatively impacted. A comparison of the overall fair market value of Bond portfolios in comparison with carrying value likely will show that fair market values are materially lower than carrying value. For longer dated holdings this may be by a substantial amount. This may have significantly impacted liquidity planning at many insurance companies. Most bond investments are carried at amortized cost on the assumption that they can be held until maturity. If that turns out not to be the case and the assets need to be sold, the sale could be at a significant realized loss which would then also impact Surplus. This is a dramatically different scenario than what may have been the case a few years ago.

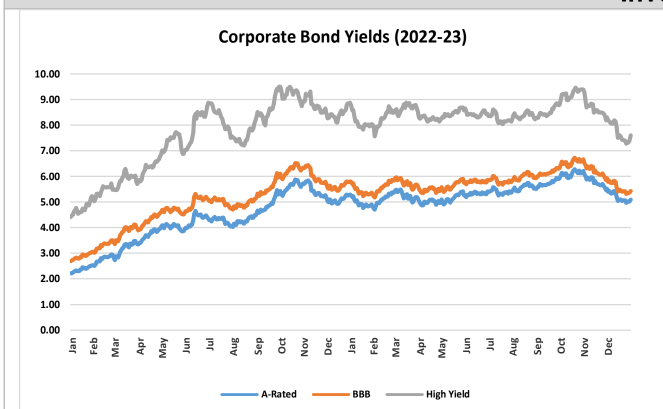
Certain specific asset classes may also have been impacted in other ways. Residential Mortgage-Backed Securities ("RMBS") are susceptible to significant changes in cash flows based on prepayments of the underlying mortgage loans. As interest rates rose, prepayments may have declined resulting in substantially less cash inflows in comparison with what insurance companies were expecting. This would also impact the fair market value of RMBS as they become longer dated holdings that are valued off of the longer end of the yield curve. Additionally, Bank Loans are typically floating rate instruments. As shorter-term interest rates rose even more than longer term interest rates, the cost to those borrowers increased significantly. This would negatively impact the borrowers' cash flows and their creditworthiness. These conditions may make it more difficult for Bank Loan borrowers to refinance at maturity.

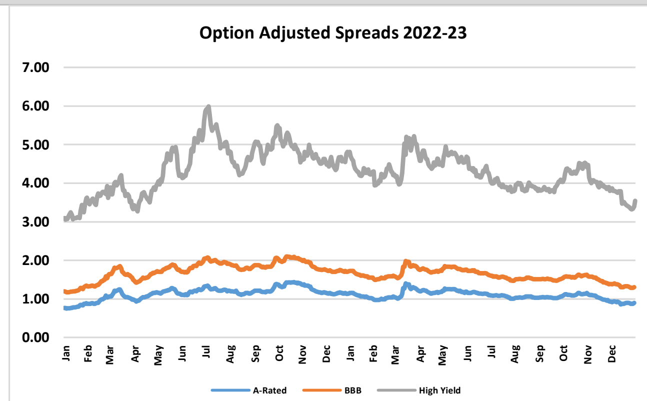




The curve inversion has the potential for creating significant anomalies in the fair market value of different instruments. One area for special focus is interest rate related derivatives used in hedging. Different interest rate hedging strategies may be impacted in different ways as the value of longer dated swaps will differ from shorter dated ones, and derivatives that use shorter duration risk to offset longer duration risk may be affected in unusual ways. There were significant changes in the fair market value of different interest rate hedging instruments at the end of 2022. Dramatic curve inversions such as this may impact determinations of hedge effectiveness both for economic and Statutory Accounting purposes. U.S. insurer holdings of bonds issued by non-U.S. entities are not that significant, but investments in those will be impacted differently and to different degrees. Different interest rate markets have also impacted foreign currency exchange rates. Any non-U.S. dollar investment that has not been hedged effectively will see material differences in valuations.

Investment Yields

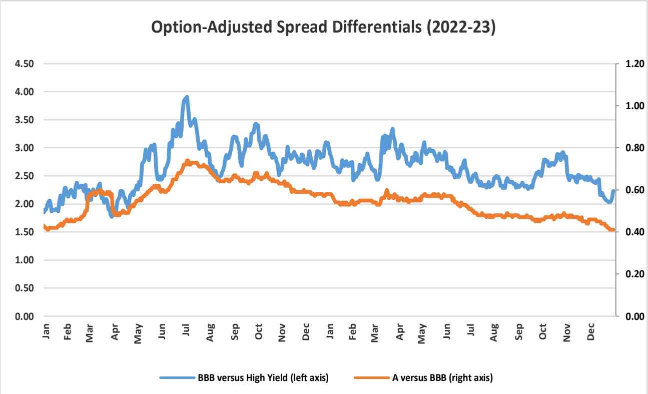


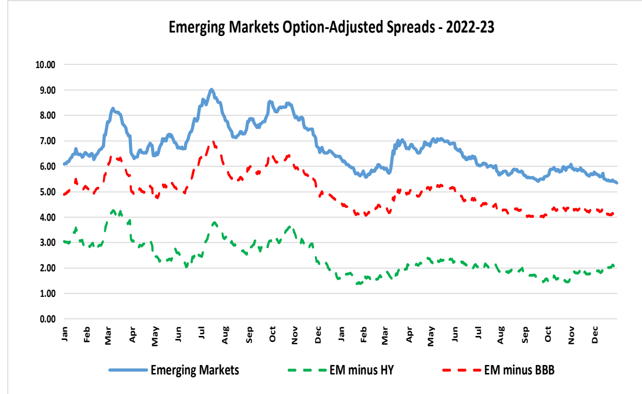


In 2022, Corporate Bond yields rose both because of the rise in Treasury yields and a widening in credit spreads. This was the case across all credit qualities. By the end of 2022, yields on A-rated and BBB-rated Corporate Bonds were around 6%. Both of those stayed relatively stable throughout 2023 before sliding at the end of the year to around 5%. There was some volatility in credit spreads for those two benchmarks over the two years. However, variation from year to year was not significant. The trend line for high yield bonds was different, whether focusing on the overall yield or the credit spread. This is due to more significant shifting sentiments for the likelihood of default. In the summer of 2022, high yield credit spreads spiked to 600 basis points before moderating to around 450 basis points by the end of 2022. While there continued to be significant volatility in this measure through 2023, the trend was generally downwards and ended 2023 at about 350 basis points. As was the case for other metrics, this reflects decreasing concerns about a recession and that realized defaults in 2022 and 2023, while they were higher, were not as high as some had feared.

The general trends in credit spreads are also reflected in the differentials between credit qualities. The differential between A-rated and BBB-rated Bonds rose from 40 basis points to 75 basis points in July of 2022, and by then end of 2023 was back to 40 basis points. Not surprisingly, the differential between high yield and BBB-rated Bonds is considerably more volatile. While this differential is significantly lower than its peak of 400 basis points back in July 2022 and the 300 basis points at the end of 2022, it is still higher than where it started in 2022. At the end of 2023, it was at about 230 basis points.

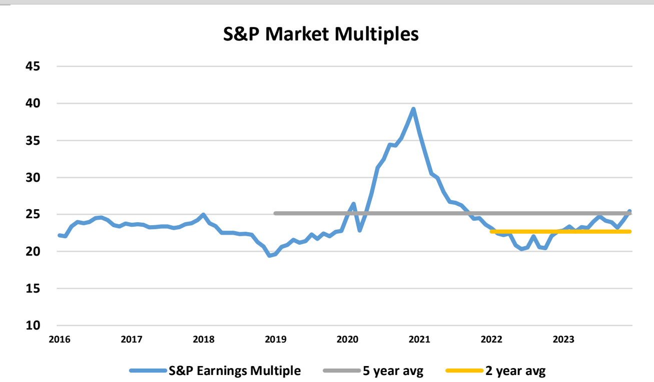
An additional comparison worth considering is the Emerging Markets Debt index. This consists of the debt instruments at the weaker end of investment grade and just below investment grade credit qualities. Option-Adjusted spreads also spiked in 2022, which is also reflected in the differential to U.S. Corporate Bond indices. In all of these measures, these metrics have trended back to levels at the beginning of 2022 or better.





There is more to be considered. One key item is what is going to happen with interest rates. An inverted yield curve is an anomaly, the current inverted yield curve has already lasted longer than most past incidences. If the Fed holds short-term interest rates steady or only lowers them slightly, what will happen to longer term interest rates? If the economy does avoid a recession and is navigated to a "soft landing", there is reason to think that any lowering of interest rates does not have to be significant and would also be gradual. That argues that market expectations would need to necessarily shift and the pressures that have kept long-term interest relatively low would moderate, leading to long-term interest rates rising. A more typical yield curve has 30-year and 10-year Treasury yields about 150 basis points higher than the 1-year Treasury yield. An increase of 150 basis points on the longer end of the yield curve, on top of the increase that already occurred in 2022 and stayed in place in 2023, would further impact the fair market value of an U.S. insurance company's Bond holdings. This would be especially the case for Life insurers given their tendency to invest in longer dated Bonds to match liabilities.

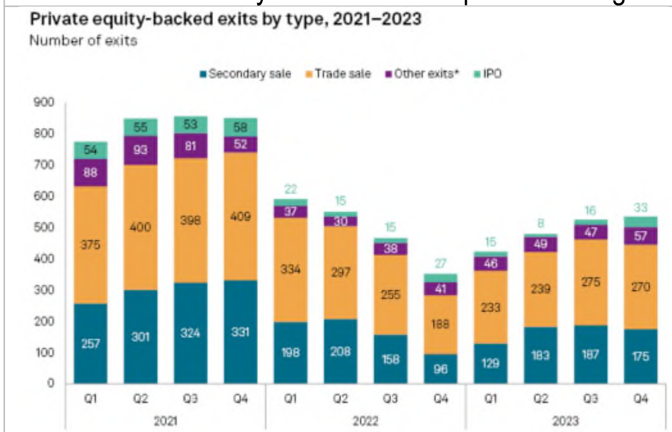
Equities



While equity holdings are less significant as an asset class for U.S. insurance companies, fair market values are more volatile. Carrying values are also at fair market value, which therefore has a more immediate impact on an insurer's capital and surplus.

In 2022, the S&P 500 declined 19.4% and at one point was down 25% from year-end 2021. This decline was reflected in the dollar exposure to common stock which declined by more than 10% from 2021 to 2022. In 2023, the S&P 500 more than reversed the 2022 decline, closing the year up 24.2%. It would not be surprising to see year-end reported exposure to have also reversed the 2022 decline. The performance of equity markets can be typically tied to different measures including price-earnings multiples. In the graph on the right above, the market multiple for the S&P 500 trended upwards in 2023. It is now roughly in line with the most recent five-year average. This reflects stronger expectations for earnings growth in the near term furture.

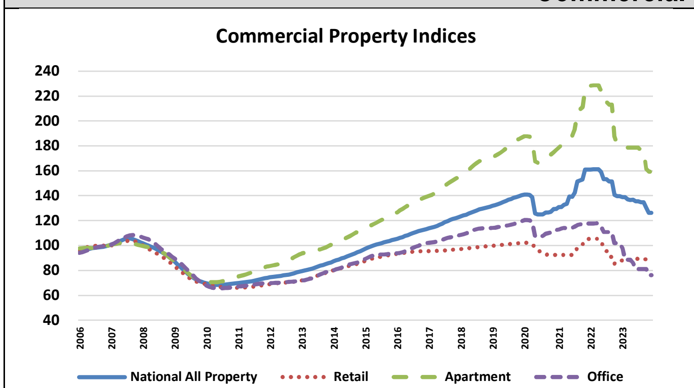
As noted earlier, what may have occurred with insurance industry holdings on private equity funds is more difficult to gauge. Valuations of many private equity funds did not follow the downturn in public equity markets in 2022. This raised many questions among analysts. However, there may have been reasonable justifications for that. Will the signficant improvement in public equities in 2023 be reflected in fund valuations? One measure that suggests otherwise is information on private equity exits. This is tracking of private equity fund sales of their underlying holdings. This can happen through two main avenues – secondary sales and initial public offerings. S&P recently published data that it had acquired from Prequin.



Source: S&P. Data from Prequin

This data shows that 2022 exits were significantly lower in 2022 as compared with 2021 and did not materially recover in 2023. While this may reflect on valuations of private equity funds, it also leads to questions about distributions to fund partners, including insurance companies. Distributions to fund partners can only occur when the fund managers can sell assets. An additional layer on top of lower distributions from private equity funds is if capital calls on unfunded commitments may have increased in the last two years.

Commercial Real Estate Values



Source: Various including NCREIF and Green Street.

As U.S. insurance company investments in real estate related assets have increased over time, albeit mostly in the form of mortgage loans, commercial real estate valuations have become a more material consideration. The last two years have seen significant declines in the national index data. All Property measures declined 9% to 10% in 2023. The worst performer was Office which was down 25%. Apartment, which had seen a significant rise after the Pandemic, declined 12%. Retail, which has been struggling for some time, declined 1%.

Perhaps more significant than the overall declines in different property types over the last 12 to 24 months is the volatility. National index data has more typically reported relatively small changes from month to month. In 2022 and 2023, month to month declines have been as much as 9% or 10% for individual property types. This is reflective of much greater uncertainty in commercial real estate values. In theory this means that a mortgage loan underwritten with a 70% loan-to-value could actually be an 80% loan-to-value immediately after closing. What is more likely is that the value of commercial real estate, which has always been somewhat idiosyncratic from property to property, has become even more so. The data also shows that different property types, which generally moved in unison, have significantly diverged. The Retail sector has been struggling for many years but may have finally stabilized. Apartment, which most likely saw some excessiveness in valuations immediately after the Pandemic, has retracted. The property type warranting the greatest concern is Office, especially properties in Central Business Districts. Work-from-Home arrangements have become much more the norm after the Pandemic. Vacancy rates based on the amount of unleased space have reached 15% or more. This however understates the issue. Actual occupancy rates in many Central Business Districts are noted in various media reports more around 50%. What has happened is the leases that were set to expire in the last couple years were extended while companies decided what to do with their space. Likewise many mortgage loans were extended. The deferral of the issue may be at its end. As property owners for some properties continue to be unable to fill their square footage, they will be unable to refinance, especially at current interest rates. This problem to some degree was exacerbated by the banking turmoil as mid-sized banks have been substantial lenders to commercial property owners. More conservative lending practices at those institutions will also limit the availability of financing.

Closing Thoughts and a Few More Questions to Consider

Economic uncertainty, high inflation, and a sharp rise in interest rates came together in 2022 to negatively impact virtually every asset class and investment practice. This led to both realized and unrealized losses. Economic uncertainty and market volatility continued throughout 2023.

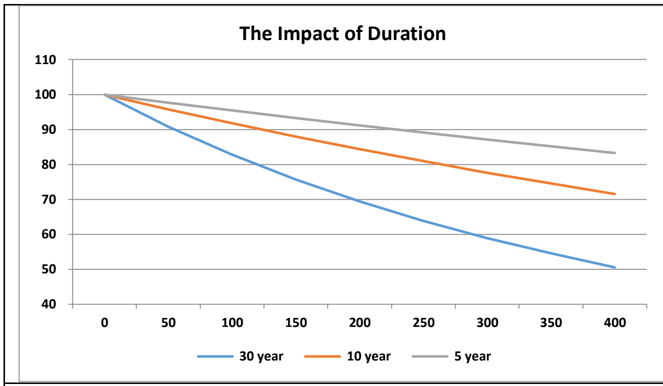
Some of the issues facing insurers at the beginning of 2023 moderated during the year. Defaults among Corporate Obligations did increase during the year, but not to the degree that some had expected. This includes Bank Loan borrowers which are owned directly and through Collateralized Loan Obligations ("CLOs'). There does continue to be some concern along these lines. Besides the potential for defaults is the potential for downgrades by rating agencies. The impact here could be felt most across those bonds that are rated BBB-minus and are on the cusp of being moved to below investment grade. In that case, the resulting declines in fair market values could be significant.

Other issues also continue to be relevant. With higher interest rates, insurers have been able to invest in new bonds and mortgage loans with higher yields. However, existing holdings of bonds and mortgages loans saw their fair market values decline in 2022 with likely no significant improvement in 2023. Those declines were significant for longer dated investments. Bond portfolios overall were reported at the end of 2022 with fair market values that were lower than carrying value. If longer term interest rates rise to reverse the inverted yield curve, this would increase the shortfall. RMBS valuations were under additional pressure because of lower prepayment rates. There is no immediate impact if insurance companies hold these investments to maturity. However, if there is a need to sell, or a desire to sell to reposition the portfolio, this would result in realized losses. Realized losses would impact Surplus and would also impact Interest Maintenance Reserves ("IMR") for Life insurers. The NAIC's Statutory Accounting Principles Working Group recently adopted interim guidance that allowed some negative IMR to be treated as an admitted asset. Also, while there has not been any significant new information, market concerns about mid-sized banks have not completely dissipated.

2023 also saw some concerns increase. Uncertainty in the commercial real estate sector significantly increased, especially for the Office sector. The question is if current difficulties will turn out to be a cyclical downturn that can be weathered, or if this is a more fundamental change in the dynamics of the sector.

Low interest rates for more than ten years was a challenge to most insurance companies, but that was also coupled with relative stability. An important question for regulators is if that led to some complacency in risk monitoring and management at the insurance companies. Market volatility has returned and does not show any immediate signs of going away. Perhaps more importantly is how that market volatility impacts liquidity planning. Many insurance companies stretched for yield by shifting to less liquid assets, investments that were more complicated and bonds that were longer in duration. Does the insurer have a robust liquidity policy and is the liquidity stress testing adequate? Lower fair market values and stretching out cash inflows from investments won't have a material negative impact on the insurer if it can continue to hold the investment. Key to this question is also the potential for volatility in cash flow demands from the liability side of the equation. Higher investment yields may have also impacted policy surrender and lapse dynamics among Life products.

Case Study Illustrations



	Average Life		
CPR	**Short**	**Intermediate**	**Long**
0.0%	6.60	15.96	25.46
2.5%	3.38	8.76	16.11
5.0%	2.38	6.17	12.18
7.5%	1.90	4.78	9.92
10.0%	1.61	3.95	8.39
20.0%	1.13	2.40	5.25
25.0%	0.93	2.08	4.45

A simple illustration of interest rate related risk is what happens to different bond maturities (30-year, 10-year and 5-year) with different levels of interest rate changes, in 50 basis point increments up to 400 basis points. At the extreme end, a 30-year bond would lose half of its fair market value with a 400 basis points increase, while the 10-year and 5-year bonds would lose 30% and 15%, respectively. Further complicating this calculation is the impact of rising interest rates on RMBS, both Agency-Backed and Non-Agency Securities. RMBS investments are typically modeled at time of purchase with a certain Constant Prepayment Rate ("CPR"). In the illustration above, a 10% CPR would mean an expected average life of 1.61, 3.95 and 8.39 years, respectively, for the different tranches. As interest rates rise and actual prepayment experience declines, perhaps to zero, those bonds extend to 6.60, 15.96 and 25.46 years, respectively. Cash flows decline dramatically, and valuation is on the longer end of the interest rate curve, further impacting liquidity issues.

Duration Category	Weighted Avg Duration	% of FV	% of CV	FV/CV	Revised FV/CV
< 2 years	0.90	10%	11%	102%	99%
2 - 5 years	3.66	19%	20%	104%	95%
5 - 10 years	7.07	26%	27%	107%	92%
10-20 years	14.45	38%	36%	115%	85%
20+ years	24.40	7%	7%	111%	67%
Grand Total	9.55	100%	100%	109%	89%

The table to the left is an illustration of how the increase in interest rates and investment yields may impact a typical Life insurance company bond portfolio. With a distribution across different duration buckets and fair value estimates as of year-end 2021 in comparison with carrying value, the portfolio had a fair market value equal to roughly 109% of carrying value. With the change by year-end 2022, that relationship would have declined to 89% with the most significant change in the longest duration category, declining from 111% to 67%.

Under general considerations, a decline in fair market value of the bond portfolio does not have a direct impact on a U.S. insurance company as long as it can continue to hold those bonds until they mature. Nonetheless, this shift does impact liquidity considerations and any liquidity stress testing that the insurer does. A more direct and immediate impact is on any bonds that are pledged as collateral where the collateral requirements rely on fair market values. Two significant areas are those assets pledged to Federal Home Loan Banks and to derivatives counterparties. A material decline in fair market value of those assets could lead to a need to add additional assets, further impacting the insurer's liquidity profile.

This document is intended to provide a general overview of the 2023 market conditions and thoughts on implications to the insurance industry. It is not intended to provide investment advice, nor is it intended to suggest specific risks or actions for any given insurance company. Actual impacts on investments and individual insurers will depend on a range of facts and circumstances and any such analysis is beyond the scope of this briefing.