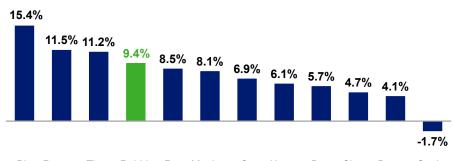


Overview

To dissect the potential returns for financial assets in 2023, let's begin by reviewing our highest probability datasets.

First, 2023 is the Year of the Rabbit, according to Chinese astrology. Historically, these years have been positive for equity markets.

Average S&P 500® Price Performance — Lunar Calendar Years (1931-2022)



Pig Rooster Tiger Rabbit Rat Monkey Ox Horse Dog Sheep Dragon Snake

Source: S&P Dow Jones Indices. Data as of January 17, 2023. Chart is provided for illustrative purposes only. Past performance is no guarantee of future performance.

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Second, consider the election cycle. Years that come after midterm elections are usually positive for markets. Analysts from U.S. Bank studied Bloomberg stock market data from the past 60 years, which included 15 midterm elections and found that the S&P 500® "has historically outperformed the market in the 12-month period after a midterm election, with an average return of 16.3 percent."

The third and ultimate prognostication is the Super Bowl. History tells us that an AFC win has usually produced a decline in the stock market, while an NFC win produces a positive stock market. With Kansas City the winner, we have a negative stock market forecast. Luckily, this indicator has now been wrong in 7/8 of the last Super Bowls.

Kidding aside, if the reader takes nothing more away from this review of 2022 and look forward to 2023, it is this: there are very few years that result in truly fundamental changes in environment, but 2022 was one of them. Thanks to much higher interest rates and changes in the inflation outlook, the geopolitical landscape

This Investment Outlook was written in February 2023.

and the growth environment globally, we have a quite different lens through which to focus our viewpoints. This is a good thing. As tough as 2022 was for financial assets, it has set up a very positive starting point in many ways for 2023.

What are our expectations?

Let's start with why we expect 2023 to be different from 2022, as it relates to the bond market. First, we saw a significant increase in interest rates, which resulted in the worst bond market total return ever, with the Bloomberg Aggregate Bond Index down -13 percent. Not only was it the worst **year**, but three of the five worst quarters occurred in 2022 and by a significant margin.



Why?

First, we started 2022 at effectively zero interest rates, and we ended the year at over 4 percent. With no interest cushion to dampen price declines, we saw an extremely negative total return (-13 percent for the Bloomberg Aggregate Bond Index, as noted above). Now the good news: this year, we have a significantly higher yield to cushion price declines. So, while we expect to see continued volatility and expect that the U.S. Federal Reserve (the Fed) will keep raising rates, at least in the short term, the mathematical impact from current levels is night and day versus last year.

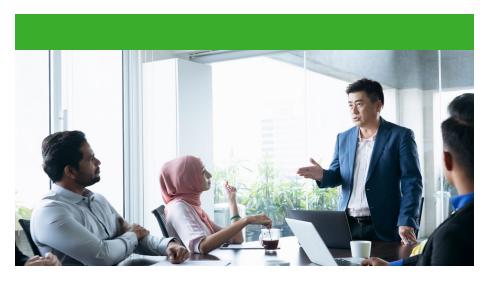
Second, we cannot understate the difference that 2022 rate increases around the world had in terms of **global** bond markets. There was about \$16 trillion of negative yielding debt in the world by mid-2021, thanks to years of global central bank monetary policies that started with the support that came after the global financial crisis and culminated in the pandemic support in 2020 and 2021. As a result, the world had accumulated massive debt, which was uneconomical for investors to hold. By year-end 2022, there was no negative yielding debt around the globe, providing the ability to invest in bonds and receive coupons we have not seen in 15 years. Even Japan, the perennial bond-bear-market country, looks poised to change its monetary policies to respond to inflation and currency headwinds.

Since inflation was the cause of much of the yield increases around the globe, it is instructive to review the outlook for inflation. We saw inflation peak in mid-summer at 9 percent year over year, and it ended the year at 6.5 percent year over year. While this rate is still too high, the trajectory of the last six months gives us confidence that it is moving in the right direction, and that we have seen the worst. In the last six months of headlines, CPI **annualized** came in between 2 percent and 2.5 percent, so it was around the Fed's target of 2 percent. That should help to ease the **rate** of interest rate increases and support a more positive bond environment.

What is in store for equities?

The last quarter of 2022 ended with positive returns for stocks around the globe (despite a negative month in December), and the MSCI All Country World Index returned 9.9 percent. In particular, non-U.S. stocks were quite strong in the quarter that ended in December, with EAFE returning over 17 percent and emerging markets up 9.8 percent. (The S&P 500® was up 7.6 percent). The U.S. dollar helped the non-U.S. story, with the first sustained declines off several strong years of post-pandemic appreciation. But in addition to positive currency impacts, the worst fears of citizens freezing in developed countries due to natural gas shortages and lack of energy for manufacturing were not realized. In addition, China's reversal of zero-COVID-19 policies provided a strong tailwind for looking over the horizon at a strong rebound in demand. With China as the world's second-largest contributor to world GDP, this is a strong incentive for more positive growth.

So, post this rebound off the bottom in the last quarter of 2022, what is the expectation for 2023? This is the million-dollar question. While we do not see 2023 as being as bad as last year, U.S. markets are not screaming buys in terms of valuation. Instead, they are fairly valued versus long-term historical price/earnings levels. Non-U.S. stocks were distinctly undervalued going into the last quarter of 2022, and, as noted, have also had a strong rebound. Despite the rebound, non-U.S. valuations are still below historical averages, and areas, like China, that were severely punished are still at low historical valuations (even discounting all the regulatory and political headwinds).



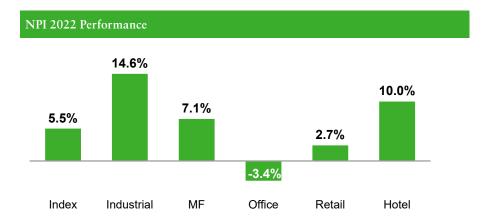
We believe that earnings results will help to solidify (or not) the story for 2023 in equities. In addition, while we reference the "market," we expect there will be strong variation in company, industry and sector performance this year. Gone are the Big Tech and unprofitable companies that led market indices higher in the last couple of years. We expect idiosyncratic upside results from company and industry-specific performance. That is true in both the U.S. market and the non-U.S. markets. As a result, we expect active management will perform well in 2023. For the first time in many years, there is no consensus on macro factors—not inflation, not the pace of interest rates, not growth. When macro crosscurrents (both economic and geopolitical) exist, it creates an environment where good research into quality companies can provide value-added results.

And private markets?

Private markets did better than public markets in 2022, thanks to the lag in valuation adjustments. That being said, there were downward revisions, and the outlook is more nuanced for 2023.

Real estate

In 2022, publicly traded real estate in the form of REITs was marked lower in tandem with the publicly traded equity markets. REITs were down on average about 26 percent as judged by the REIT Index. However private real estate in the form of open-end funds also saw declines, particularly in the last quarter of 2022. As the graph below shows, the type of real estate asset determined the winners and losers in the year.



Source: National Council of Real Estate Investment Fiduciaries. Reprinted with permission.

The NCREIF ODCE fund in the quarter that ended in December was down approximately -5 percent (gross) with negative appreciation of about -6 percent and income just under 1 percent. Cap rates expanded across all property sectors throughout the year, albeit from very low levels, and are expected to rise further. Higher interest rates impacted what is a leveraged asset class and will underpin the outlook for borrowing, refinancing and operating costs. Although fundamentals are strong for almost all property types (the exception being office), a recession would lead to reduced demand, increased vacancies and lower rents.

Given the lack of transactions, and the number of queues to get redemptions back from open-end funds, investors should expect further write-downs, especially in funds with higher office exposure, while areas like multifamily, industrial and other specialty sectors are likely to hold up better. This pattern is very similar to what was experienced after the Great Financial Crisis. Back in 2008, real estate returns were better than those of equities but underperformed in 2009 before they rebounded strongly off the bottom. The difference between then and now is higher interest rates. Offsetting costs are several real estate fundamental dynamics: limited new supply, low vacancy rates (with overall vacancy for the NPI at the lowest level in index's history, 5.3 percent in the quarter that ended in September 2022, the most recent data available) and strong leasing and rent growth (NOI up 7.9 percent year-over-year).

Infrastructure was positive in 2022, and the outlook for that sector continues to be rosy. This is due to both good income (including some increases due to inflation adjustments) and strong tailwinds for funding projects from legislation passed around the globe. In the U.S., the \$400 billion Inflation Reduction Act is the first major infrastructure bill passed in decades and includes incentives for investment as well as outright grants. In the EU, the legislation, aptly named Re-Power EU, was a \$4 trillion plan outlined as a path to energy independence, and additional support from the EU to speed up permitting of renewable projects and efforts to increase security around critical infrastructure will also support growth in infrastructure globally.

Private equity

While private equity saw downward revisions in the second half of 2022, the magnitude was much less than what occurred in the public markets. Despite the virtual shutdown of the IPO market in late 2022, the early prognostications for revisions in the worst-hit sectors, like venture capital, have not materialized so far. Continued strength in areas of the private equity market, like middle market buyouts, and better valuations for purchases (particularly for add-on investments for existing holdings) is positive. As with other investments we have discussed throughout this *Investment Outlook*, here, too, within each private equity subsector we expect dispersion in returns based on focus and experience. Where excesses have been corrected in areas like crypto and SPACs, other areas remain solid. As we look ahead, we expect better valuations to support add-on acquisitions, as well as attractive purchase prices for new investments. Given the length of the investment cycle for private equity, there is a long runway for returns to rebound. Investors need to be cognizant of vintage diversification where possible.

Private credit

Direct lending performed well in 2022, driven by an increase in interest rates that translated into higher base rates for loans (the Secured Overnight Financing Rate started the year at 25 basis points and ended year at 4.25 percent). This provided a tailwind for income for private credit. Current income is in the 9 percent range, with higher yields available for lower-rated credit and for securities that are further down in capital structure. Senior secured corporate direct lending remains in a good position, in our view, with positive outlook driven by senior positioning and typically sponsor-backed transactions. Middle market has historically been the target focus area, and the majority of new capital invested will likely veer toward that segment of the market. Upper middle and large market can be of interest moving ahead, as such companies are relatively better positioned from an earnings perspective going forward. Larger companies and a larger platform of products and services should translate to less volatility in earnings and an ability to weather the storm.

The macro environment favors lenders over borrowers, which, in turn, should provide a positive environment for return generation. However, given that we are late in the cycle, an increase in defaults should be expected and manager selection is key to outperformance in this environment. Larger managers that have flexibility to engage in workouts and influence on terms and pricing should also benefit from the current environment favoring lenders. Manager selection across the entire private credit universe will be key going forward given uncertainties around economic outlook, corporate earnings, interest rates and default rates over the near to medium term. A material pullback in traditional sources of lending (see the syndicated loan market) offset some of the concerns we have had in recent years. Flexible mandates with the ability to pursue both public and private opportunities are an area of focus looking ahead.

Private markets were helpful to portfolio diversification in 2022. Due to the increase in interest rates, which impact fundamentals and cost of capital, lower risk premiums resulted in reductions in our capital market assumptions for many private markets but not by a large magnitude. As an example, we had a risk premium for private equity of about 5 percent over public markets, suggesting a 10.5 percent expectation over a 20-year horizon. That is down a little over a percent (from 9.25 percent). Given that the denominator effect has pushed private market targets up versus public equivalents, we could see slower investment trajectories for privates, but favor continuing vintage year diversification, especially given the lower purchase price outlook.

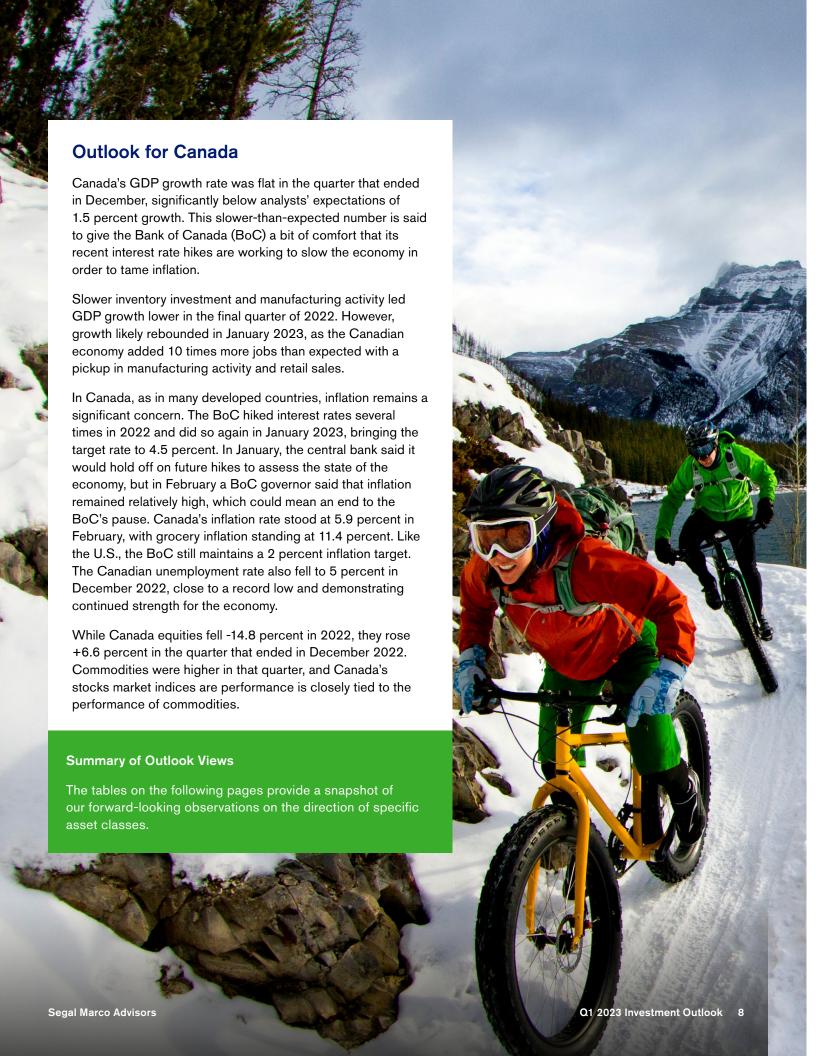
In sum

While global macro worries are still evident (war, inflation, political issues, nationalism, global/political instability in Latin America, the Middle East, Korea and Taiwan), much was priced into the markets during 2022. Importantly, 2022 also provided a sea change for investors given the strong rise in interest rates around the globe.

For the first time in over 15 years, clients can hold cash and get a positive yield which is a good cushion against volatility. Unlike the years dominated by quantitative easing, low-cost money supporting uneconomical companies and the Fed "put," we are back to a normal fundamental environment.

In this environment, we think investors can reap the benefits of diversification and performance based on quality and fundamentals, not just from a rising tide lifting all boats. With this backdrop, as we have noted throughout this *Investment outlook*, active management should perform well, and a focus on the experience and depth of resources in managers should be front and center.





Asset Class Signals and Outlook

There is a set of five signals for each asset class, represented by shaded circles ranging from an above-normal return outlook (dark green) to a below-normal return outlook (dark red), with the middle circle indicating a neutral outlook (gray). The views represented our 12–18 month perspective for each of the asset classes are relative to our longer-term expectations (10+-year capital market assumptions).

If our views on an asset class change from quarter to quarter, that change is represented by an arrow that stretches from the previous quarter's signal to that of the current quarter.

Return Outlook Key: Below Normal Neutral Above Normal

Equities

Opportunity Set	Below Normal		Neutral		Above Normal	
U.S. large cap	0		\circ	0	0	
While bigger companies may hol being passed through. Value out a broader array of stocks perform long-term median.	performed in 2022 a	and will likely o	continue. Active select	tion is also like	ely to continue as	
U.S. small cap	0	\bigcirc	\circ	0	0	
If a recession or economic down power to stay competitive in a do than in large cap, but still not a so	wnturn and can't ab	sorb losses a	s well. Valuations here			
Int'l dev. large cap (unhedged)	0	\bigcirc	\circ	0	0	
Good news for the eurozone: the predictions of energy shortages and recession did not come to pass. However, developed markets still face challenges, including continued economic fallout from the Russia/Ukraine war, still high inflation and continued interest rate hikes by the European Central Bank.						
Int'l dev. small cap (unhedged)	0	\circ	0	0	0	
Small caps face the same challenges of inflation and war that large caps do, but they will feel the effects more acutely than larger firms.						
Emerging markets (unhedged)	0	\bigcirc	\circ	0	0	
With inflation still relatively high globally, and the Fed and other central banks continuing to hike interest rates, the U.S. dollar can remain relatively strong and that countries with a lot of dollar-denominated debt may struggle. On the positive side, now that its zero-COVID policy has been lifted, China is in a position to perform better than in 2022. Valuations in EM currently sit above the long-term median.						

Key: Below Normal Neutral Above Normal

Fixed income

Opportunity Set	Below Normal		Neutral		Above Normal		
U.S. core	0	0	O —	O	0		
The Fed continues to hike interest rates as unemployment remains at historic lows and inflation, while slower, is still relatively high. Although rate hikes may impact pricing, the yield on core bonds continues to be strong, and bonds look attractive relative to equities. Within core, we particularly like short-duration bonds as the Fed has signaled it would continue to hike short-term rates and yields are likely to rise.							
Non-U.S. core (hedged)	0	O -	\rightarrow \bigcirc	0	0		
The European Central Bank, like Europe has improved, inflation is yields are now solidly higher. The the Fed continuing to hike, the do	still significant as ar major difference be	e other head tween our vie	winds. Just as in the ews between U.S. co	U.S., in this risin	g rate environment		
Emerging market debt (hedged)	0	O -		\circ	\circ		
The level of yield here is appealing, though economic and geopolitical risks still mean proceeding with caution here. Currencies may remain volatile in this environment. A strong dollar is a negative for countries with large amounts of dollar-denominated debt. But as with other fixed income assets, the yield profile is positive.							
High yield	0	O -		0	0		
Bonds are attractive overall right now, and with strong employment reports and still solid earnings from many companies, high yield performed well in the last quarter of 2022 and is positioned well going forward. Defaults are still low and are unlikely to spike as high yield debt does not face a maturity wall in the near term.							
Bank loans	0	0		0	0		
Bank loans' floating rate feature still is an asset as rates rise. Their senior position in the capital stack and typically secured status are also points in bank loans' favor. Like high yield, however, loans could face default headwinds if economic woes increase.							
TIPS	0	0	0	0	0		
The benefits of TIPS still may pro-	ovide some upside	potential, esp	pecially as the outloo	k for inflation is	less than certain.		

Continued on the next page



Fixed income

Opportunity Set	Below Normal		Neutral		Above Normal	
Private credit	0	0		\circ	0	
The macro environment favors lenders over borrowers, which in turn should provide a positive environment for return generation. However, given that we are late in the cycle, an increase in defaults should be expected and manager selection is key to outperformance in this environment. Larger managers who have flexibility to engage in workouts and influence on terms and pricing should also benefit from the current environment favoring lenders.						
Long bonds	0	0	0	0	0	
In the quarter that ended in December, the yield for the 10- and 30- year Treasury bond rose by 8 and 20 bps, respectively. This puts the year-to-date total return for the 30-year Treasury bond at an eye-opening -33.41 percent. Inflation repricing and term-premium dynamics further out on the yield curve were the most significant drivers. Year-over-year inflation remains high, and expectations are for more price volatility to long bonds as capital markets accept the reality of rising rates. However, a great deal appears to be priced into the long-dated segments of the Treasury curve, creating opportunities in the next 12–18 months as historical correlations are reestablished.						
Municipals	0	0	O —	O	0	
Following the strong post-pandemic rally, the taxable and tax-exempt municipal bonds tailwinds disappeared for most of 2022. However, the yield on the tax-exempt municipal bond index fell significantly to 3.55 percent for the quarter that ended in December. This 49-bps yield decrease follows three consecutive quarters of yield increases. The outlook is						

unclear, but, arguably, a lot of the negative performance damage has already taken place and the quarter that ended in December marked what could be the beginning of a rally, as retail demand continues to be high for these instruments,

creating a reliable bid. The Bloomberg Municipal Bond Index generated 4.1 percent in returns for the quarter.



Alternatives

Opportunity Set	Below Normal		Neutral		Above Normal	
Hedge funds	0	0	0	0	0	
Hedge funds have benefited from their flexibility and that they are not as purely directional as other types of strategies. Funds with exposure to the long/short credit space have been successful, as have strategies that have taken advantage of tactical positioning.						
Multi-asset class strategies (MACS)	0	0	0	0	0	
MACS tend to be more directional in nature than hedge funds, and with a meaningful spike in the correlation between equities and fixed income, that has put MACS at a relative disadvantage (though dispersion may rise in the next 12 to 18 months). Many of these strategies' equity and commodity positions may struggle relative to bonds in the near term.						
Private equity	0	\circ		0	0	
Asset class will experience offsetting headwinds and tailwinds over the near term. Rising rates will keep cost of capital elevated, putting pressure on buyout future performance. Persistent inflation will impact margins and cash flow for companies with less pricing power. As conditions soften, a slower M&A and IPO market will result in fewer exits and less distribution activity, which will constrain returns. However, correcting valuations anticipated over the next several quarters will provide more advantageous entry pricing. Although venture investment volume has been falling, this may present an opportunity to back promising early stage companies with a clear road to profitability, in a less competitive environment. Additionally, in challenging economic conditions, special situation strategies focused on distressed or stressed corporate opportunities should generate positive results.						
Real estate	0	O	- 0	0	0	
Short-term outlook is generally n the next six to 12 months. Rising	• • •	•			• • •	

the next six to 12 months. Rising interest rates have created higher borrowing costs, which will continue to exert upward pressure on cap rates and impact transaction volumes. Net operating income growth for the asset class is expected to be flat or down over the short term, driven by the continued decline of the office and retail sectors. Despite this backdrop, with limited new supply, strong tenant demand and low vacancy rates, fundamentals for the industrial, multifamily and certain less correlated niche sectors remain relatively solid. Higher-returning strategies remain selectively attractive given their ability to take advantage of market dislocations. Rising interest rates have also created a favorable environment for real estate credit investments over the near term given spread widening.

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Alternatives

Opportunity Set	Below Normal		Neutral		Above Normal	
Infrastructure	0	0	0	0	0	
Strong investor demand that has fueled increased fundraising levels is anticipated to remain persistent. Income generation from essential economic assets is expected to remain positive, which will sustain near-term attractive returns. Ongoing funding from the Inflation Reduction Act will be especially beneficial for strategies that seek to develop clean energy, infrastructure and related sectors, such as manufacturing. Material public spending allocations focused on energy and climate (including wind, solar and storage tax credits, renewable manufacturing tax credits, transportation, biofuels incentives, clean hydrogen tax credits and residential energy improvements) should create increased opportunities for private sector capital deployment and attractive return generation.						
Commodities	0	0	0	0	0	
Energy prices are anticipated to fall through 2024 due to production and growing reserves continuing to outpace demand. Agricultural prices, especially for corn and barley, are likely to remain elevated in the near term supported by strong demand and varying production levels by commodity. Industrial metal prices are forecast to increase given low inventories, while precious metals face headwinds from rising interest rates and the strengthening dollar.						
Energy	0	0	0	\circ	0	
In the short term, there will be fav secure energy sources and asso- remain steady during a period wh market. Oil and gas exploration a valuations, which will continue to transition assets and strategies.	ciated critical distribu ere fossil fuel alterna nd development com	ution and stora utives are still i upanies exhibit	ge infrastructure. Glo n the process of incre strong cash flow and	bbal consumptio easing its share I balance sheets	n and demand will of the total energy and reasonable	

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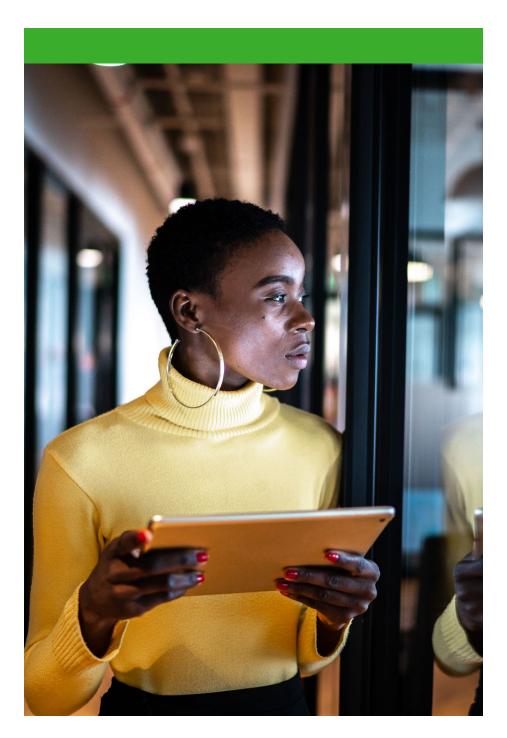


Alternatives

Opportunity Set	Below Normal		Neutral		Above Normal	
Timber	0	0	0	0	0	
Forecasted rise in interest rates is expected to impact timberland valuations in the near-term. However, strong demand in select end markets, as well as additional gains forecasted from land transactions and complementary sources of return, are expected to contribute positively to total returns. Pricing in end uses of timber continue to offer insulation from persistent inflation trend. Asset owners facing liquidity pressures may present attractively priced acquisitions for longer-term capital. Forecasts suggest hotter seasonal temperatures over the nearer term, which will increase climaterisk exposure.						
Farmland	0	0	0		0	
Fundamentals continue to support strong pricing for agricultural products and land, which offsets challenges posed from rising interest rates, supply-chain disruptions and higher than typical input costs which could dampen demand. The continuing conflict in Ukraine continues to disrupt food supply, particularly grains and sunflower oil. Weather is also expected to have a significant impact on crop production with near term forecasts, suggesting drought conditions in certain U.S. farmland regions. However, overall demand is expected to remain robust with particular drivers, such as China's economy opening from relaxed COVID-19 precautionary conditions, and increased focused on biofuels stemming from policy initiatives, such as the Inflation Reduction Act.						

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