Milliman Market Monitor - December 2022

Market Commentaries

Equities

● Global equities ended the year poorly, with markets selling off, due to heightened fears the US economy would head into recession in 2023. A shock hawkish pivot from the Bank of Japan, also sent equities falling.

Aussie equities also fell this month, however the downturn was less extreme thanks to investor speculation that the RBA may pause their rate hike cycle in early 2023.

Across the month, the ASX 200 fell -3.2%, while in the US the S&P 500 dropped -5.8%

Fixed Income

● Fixed Income markets fell as investors priced in the US entering into a recession in 2023. A shock move by the Bank of Japan to alter its yield curve control program (by widening the trading band for 10yr bonds to 0.5%) also sent markets tumbling.

The US Fed raised rates by another 50bp to 4.5% while in Australia, the RBA raised interest rates by another 25bps to 3.1%.

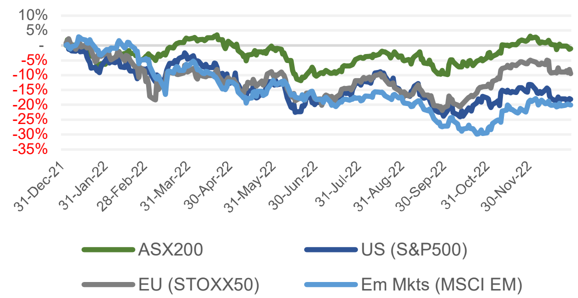
The Australian Government Bond and the Global Bond generated a return of -2.4% and -1.3%, respectively.

Currencies

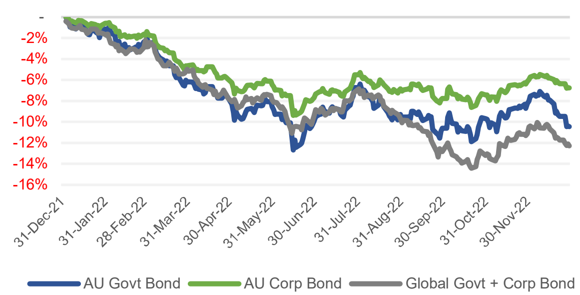
● The Aussie Dollar strengthened slightly against the US Dollar, yet it was weaker against the other major currencies. In particular the BoJ's surprise move sent the Yen shooting upwards, closing 4.5% up on the Aussie Dollar.

The Aussie Dollar closed at 68.13 US Cents, which was a +0.4% return.

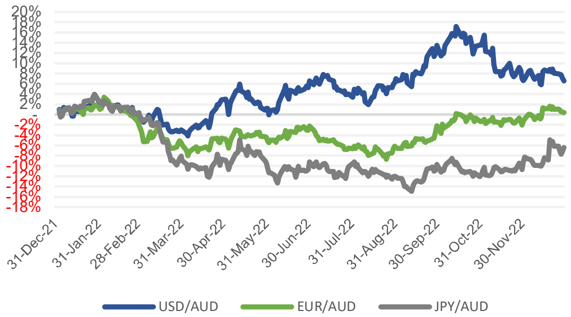
Equities: YTD Total Return[1] %



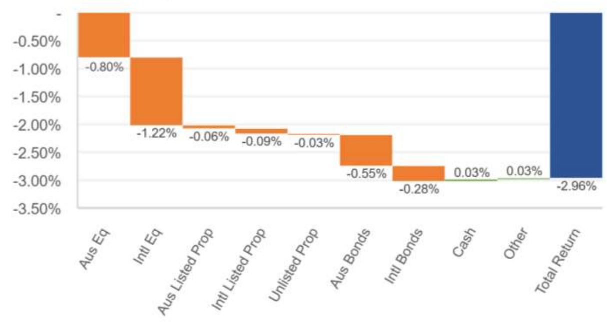
Fixed Income: YTD Return[2] %



Foreign Currencies: YTD Return %



Monthly Return Contribution by Asset Class: Morningstar Aus Multi-Sector Balanced Index



Returns ending 30 December 2022

	ASX200	US (S&P500)	EU (STOXX)	EM Mkts (MSCI)	AU Govt Bond	AU Corp Bond	Global Bond	USD/AUD	EUR/AUD	JPY/AUD
1 Month	-3.2%	-5.8%	-4.3%	-1.4%	-2.4%	-0.6%	-1.3%	-0.4%	2.5%	4.9%
3 Month	9.4%	7.6%	14.6%	9.7%	0.2%	1.1%	0.6%	-6.1%	2.6%	3.7%
1 Year	-1.1%	-18.1%	-9.5%	-20.1%	-10.4%	-6.7%	-12.3%	6.6%	0.4%	-6.4%
CYTD	-1.1%	-18.1%	-9.5%	-20.1%	-10.4%	-6.7%	-12.3%	6.6%	0.4%	-6.4%

[1]Equities returns captures both the capital gains as well as any cash distributions, such as company dividends.

[2]AU Govt Bond uses the Bloomberg AusBond Govt 0+ Yr Index, which measures the return of Australian Treasury and Semi-government bonds maturing in 0+ years. AU Corp Bond uses the Bloomberg AusBond Credit 0+ Yr Index, which measures the return of Australian corporate/credit securities maturing in 0+ years. Global Govt + Corp Bond uses the Bloomberg Barclays Global Aggregate Index, which measures global investment grade debt from 24 countries, both developed and emerging markets issuers.

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Upcoming Key Economic Events & Risk Commentaries

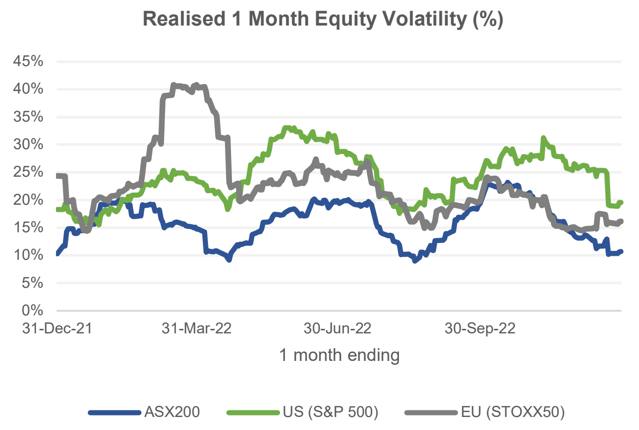
● Implied volatility (often viewed as the market's fear index) has increased compared to last month, but remains below the 25th percentile over the past 1 year. The implied likelihood of the S&P 500 falling more than 10% and 5% in December is 5% and 18% respectively, which is an increase in risk compared to the previous month.

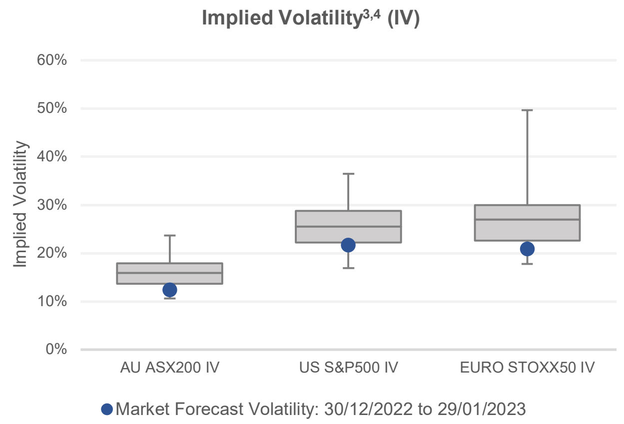
● Risk markets took a hit in December, after a higher-than-expected terminal Fed fund rate projection and hawkish comments from the ECB, as they continue to strive towards bringing inflation back in line with their targets. Later in the month, a surprise move from the BoJ sent bond yields higher across various markets, also hurting growth assets.

● Domestically, there will be no RBA meeting this month. The Labour Force data is due on 19 Jan and the NAB Business surveys (Dec 2022) are due on 24 Jan. The Q4 2022 CPI report will be released on 25 Jan, after which the Retail Sales report for Dec 2022 will be released, on 31 Jan.

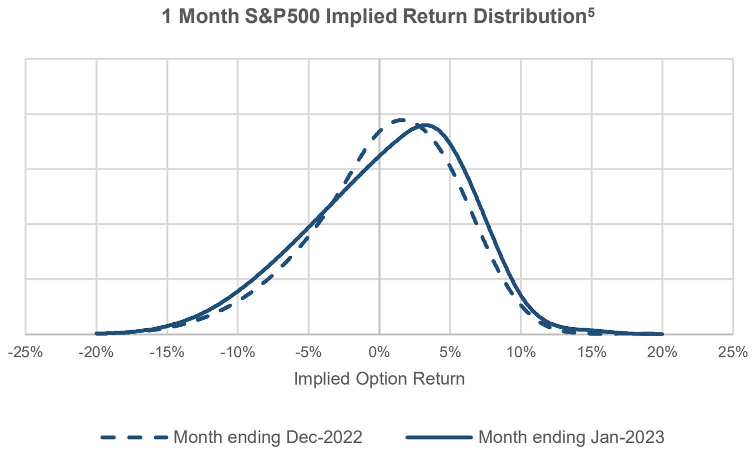
● Offshore in the US, the S&P and ISM Manufacturing PMI are released on 4 Jan and 5 Jan respectively. The Non-Farm Payroll data for Dec 2022 is released on 7 Jan Dec (f/c 200k). US CPI (Dec) is due on 13 Jan. US PPI (Dec), Retail Sales (Dec) and Industrial Production (Dec) are out on 19 Jan.

● In Europe, the Dec 2022 CPI is due on 6 Jan (f/c -0.1%, prior -0.1%). The Eurozone Consumer Confidence and S&P PMI for Jan 2023 are both due on 24 Jan. In China, the CPI (Dec) data is due between 9 Jan and 16 Jan. Following this, the Industrial Production and Retail Sales data for Dec 2022 is due between 10 and 20 Jan.





The chart above shows the current market implied volatility for the next month, and compares it against the range of implied volatilities for the past 1 year.



Implied likelihood[5] of S&P 500:	Month ending Jan-2023	Month ending Dec-2022
Falling more than 10%	**~ 5%**	~ 4%
Falling more than 5%	**~ 18%**	~ 16%

[3]**Implied Volatility (VIX) r**epresents the expected volatility of the index over the next 30 days (starting from the effective date of this report), as derived from the market prices of index options traded on the exchange.

[4]**Box & Whisker Plot** is designed to give readers a quick sense of the range of implied volatility for the past year. The end of the whiskers indicate the maximum and minimum implied volatility for the past year. The box represents the interquartile range (from first to third quartile implied volatility values), and the middle line indicates the median implied volatility value for the past year.

[5]**Implied Return Distribution / Implied Likelihood r**epresents the forecasted return (and its likelihood) of the index over the next 30 days (starting from the effective date of this report), as implied from the market prices of index options traded on the exchange.

Observations on Sustainable Withdrawal Rates

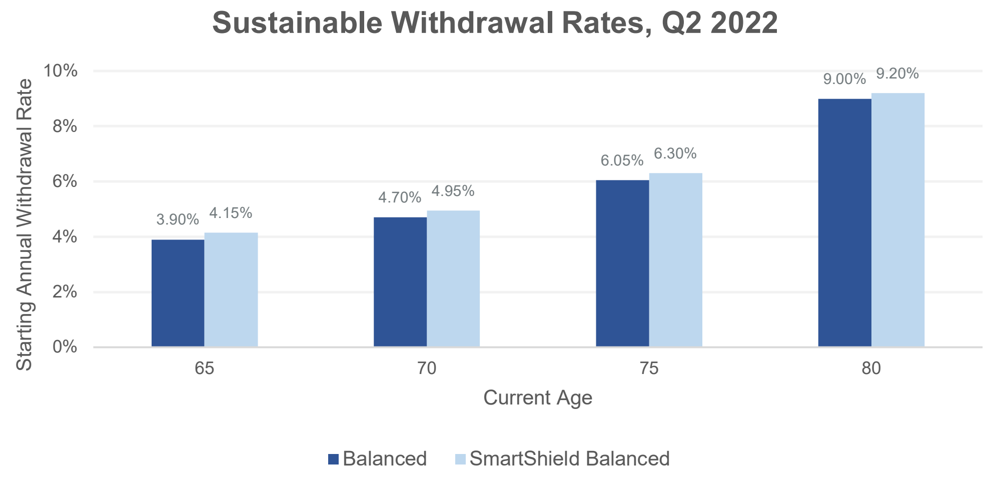
We observe that sustainable withdrawal rates at the end of Q3 2022 are lower compared to Q2 2022.

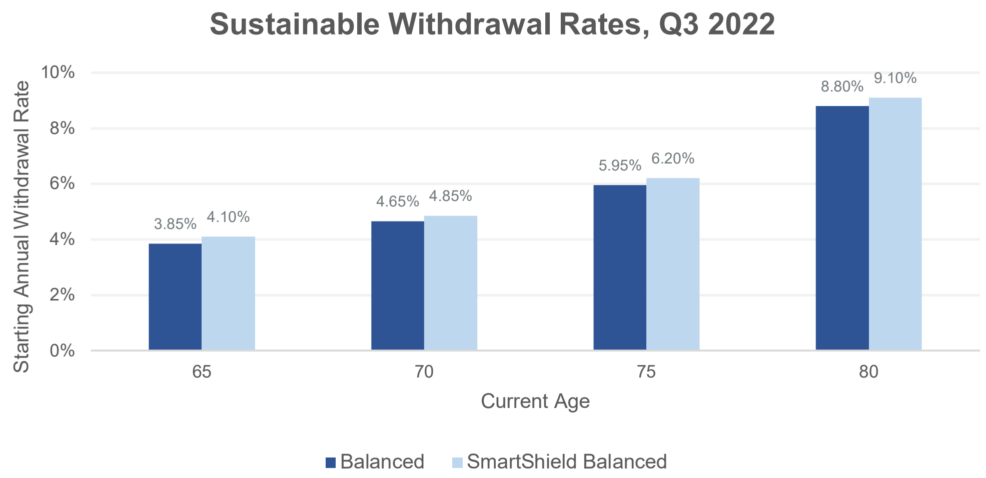
This was mainly driven by the increase in starting inflation levels.

Using the SmartShield series of portfolios as an example, we have illustrated that additional sustainable withdrawal rates are achieved, when we add a risk management strategy to the portfolios.

By controlling the level of volatility and reducing the impact of sustained market drawdowns, solutions such as the SmartShield portfolios that employ a risk management strategy, can reduce the exposure to sequencing risk, resulting in higher sustainable withdrawal rates for retirees.

As the market fell in December, the equity hedge level within SmartShield Portfolios has increased from approximately 15% at the beginning of the month to 40% by the end of the month.





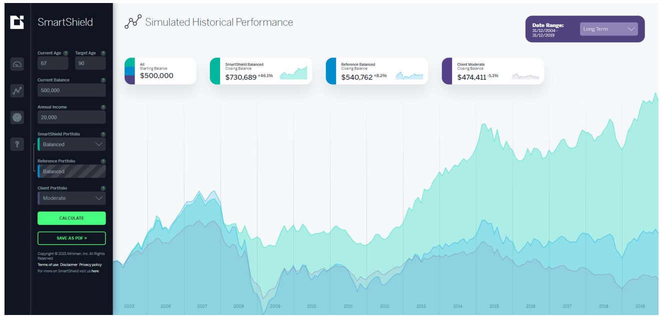
Sustainable Withdrawal Rate is defined as the maximum amount that can be withdrawn from a portfolio each year with a 90% certainty that this rate can be sustainably withdrawn (adjusted for inflation) until the target age of 90. An additional constraint introduced is for the potential shortfall to be less than 5 years. Note the withdrawal rate is calculated with regards to future projections of 5,000 stochastic scenarios. Further information on the assumptions used to generate these scenarios can be found via our portfolio simulator, which is free to access at https://smartshield.millimandigital.com/.

For example, a 4% sustainable withdrawal rate for a 70 year old retiree with $500k balance means the retiree can withdraw $20k in the first year. And for each subsequent years, the amount the retiree can withdraw is $20k plus any increase due to projected inflation (CPI).

SMARTSHIELD™ SIMULATOR – FREE ACCESS FOR FINANCIAL ADVISERS

Built for financial advisers and complementary to Milliman's SmartShield portfolios, the Simulator strengthens your client conversation through:

- Calculating the likelihood of meeting retirement goals
- Illustrating the impact of experiencing a market crash scenario e.g. the GFC or Covid-19



Simple to sign-up and FREE to access CLICK THIS LINK: https://smartshield.millimandigital.com/Identity/Account/Register

If you would like more information on the content in this report, or more information about our SmartShield Managed Account portfolios, please call us on +61 (0)2 8090 9100 | or visit **advice.milliman.com**

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