Milliman Market Monitor - November 2022

Market Commentaries

Equities

● Global equity markets rallied in November, as investors reacted to a softer than expected US CPI figure for October.

Following the global trend, Aussie equities performed strongly this month, albeit with a bounce, following the announcement of a softer October CPI figure.

Across the month, the ASX 200 gained 6.6%, while in the US the S&P 500 returned 5.6%.

Fixed Income

● Fixed Income markets also rallied as traders speculate on a dovish pivot from the US Federal Reserve, following the surprisingly soft US CPI figure.

In Australia, the RBA raised interest rates by another 25bp to 2.85%.

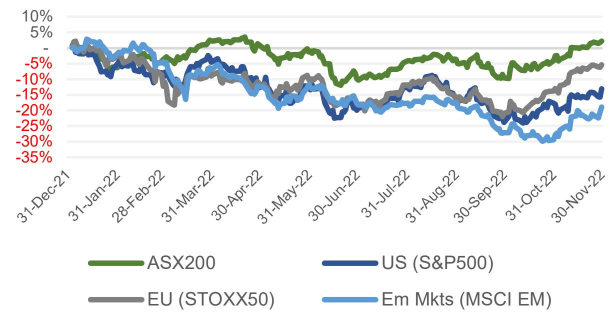
The Australian Government Bond and the Global Bond generated a return of +1.6% and 2.2%, respectively.

Currencies

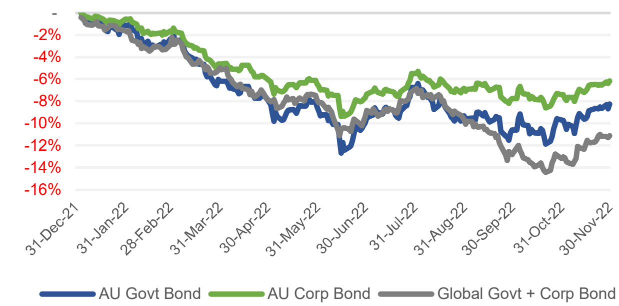
● The Aussie Dollar strengthened against the US Dollar and was slightly weaker against the other major currencies. Softer US Inflation figures lead to a weakening of the US Dollar as investors priced in a deceleration of US rate hikes. The AUD appreciation offset some of the gains made in the US market when converted in AUD terms.

The Aussie Dollar closed at 67.88 US Cents, which was a 5.7% return.

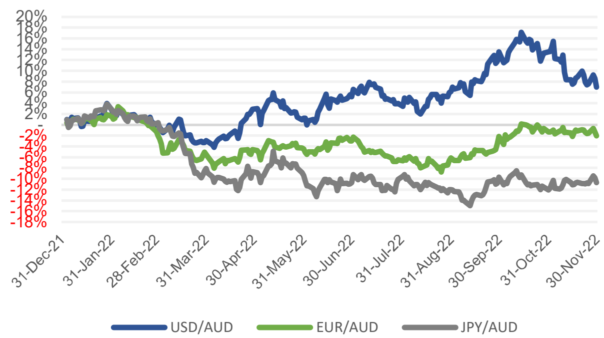
Equities: YTD Total Return[1] %



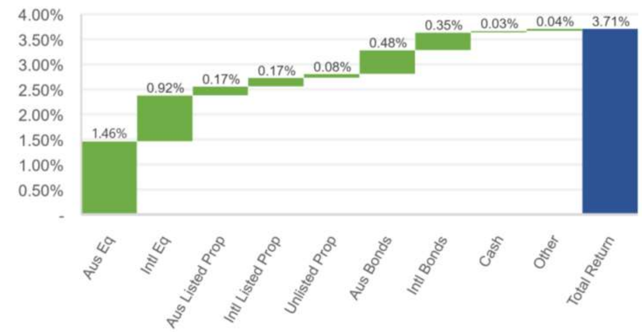
Fixed Income: YTD Return[2] %



Foreign Currencies: YTD Return %



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



Returns ending 30 November 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	6.6%	5.6%	9.7%	14.8%	1.6%	1.4%	2.4%	-5.7%	-0.7%	1.5%
3 Month	6.0%	3.6%	13.0%	-1.8%	1.2%	0.7%	-1.6%	0.8%	4.4%	1.5%
1 Year	5.0%	-9.2%	0.0%	-17.4%	-8.2%	-6.0%	-11.5%	5.0%	-3.6%	-13.9%
CYTD	2.2%	-13.1%	-5.5%	-19.0%	-8.3%	-6.2%	-11.1%	7.0%	-2.0%	-10.7%

[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

Milliman Market Monitor - November 2022

Upcoming Key Economic Events & Risk Commentaries

● Implied volatility (often viewed as the market's fear index) on S&P500 has reduced compared to last month, settling at the historical 1-year 25th percentile level. The implied likelihood of the S&P 500 falling more than 10% and 5% in November is 4% and 16% respectively, which represents a reduction in risk compared to prior month.

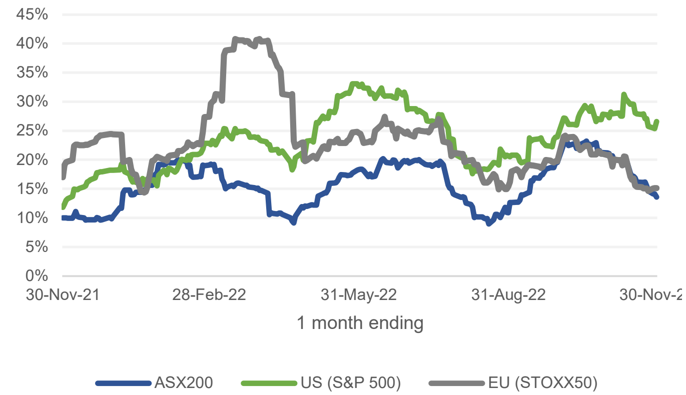
● Risk markets trended higher for the most part of November, as a result of emerging signs of relaxation of China's Zero Covid Policy earlier in the month, as well as the lower-than expected US CPI, which signalled a potential slow-down in the pace of rate-hikes by the Fed. Realised equity volatilties in general have ended lower over the month, particularly for EuroStoxx50 and ASX200.

● Domestically, GDP partial data on private capex (Q3) is released on 1 Dec (f/c 1.5% q/q, prior -0.3%). The RBA meets on 6 Dec with the market expecting the cash rate to rise by another 25bps - with an estimated 64% chance - taking it to 3.10%. Following that, the NAB Business surveys (Nov) are due on 13 Dec and Labour force data (Nov) is due on 15 Dec.

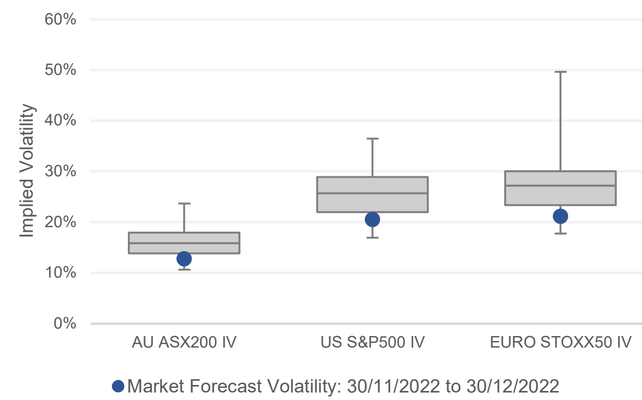
● Offshore in the US, the S&P and ISM Manufacturing PMI are released on 2 Dec. The Non-Farm Payroll data for Nov is released on 3 Dec (f/c 200k). The FOMC meeting is to be held on 15 Dec with expectation for a 50bp hike to take the Fed fund rate to 5%. US CPI (Nov) is due on 14 Dec. Retail Sales (Nov) and Industrial Production (Nov) are out on 16 Dec.

● In Europe, the ECB meets on 16 Dec and is expected to raise its main refinancing rate by 50bp to 2.5%, The Dec PMI and Nov CPI are due on the same day also. In China, the annual Central Economic Working Conference is being held in Beijing between 8-10 Dec. The CPI (Nov) data is due on 9 Dec, and PMI data are due on 31 Dec.

Realised 1 Month Equity Volatility (%)

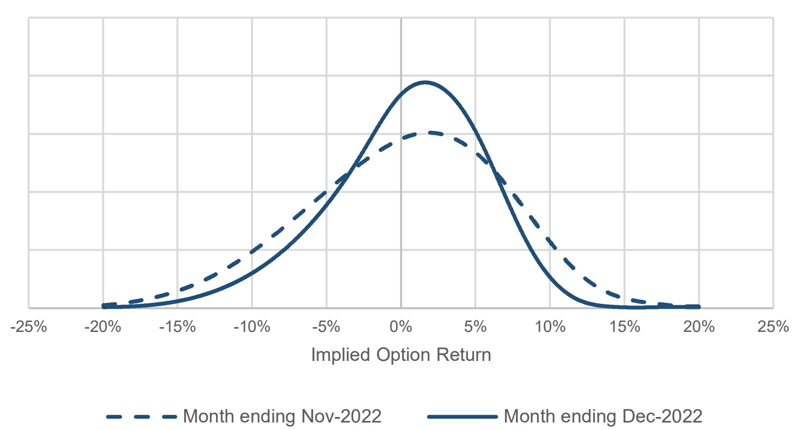


Implied Volatility[3,4] (IV)



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.

1 Month S&P500 Implied Return Distribution[5]



Implied likelihood[5] of S&P 500:	Month ending Dec-2022	Month ending Nov-2022
Falling more than 10%	**~ 4%**	~ 8%
Falling more than 5%	**~ 16%**	~ 22%

[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

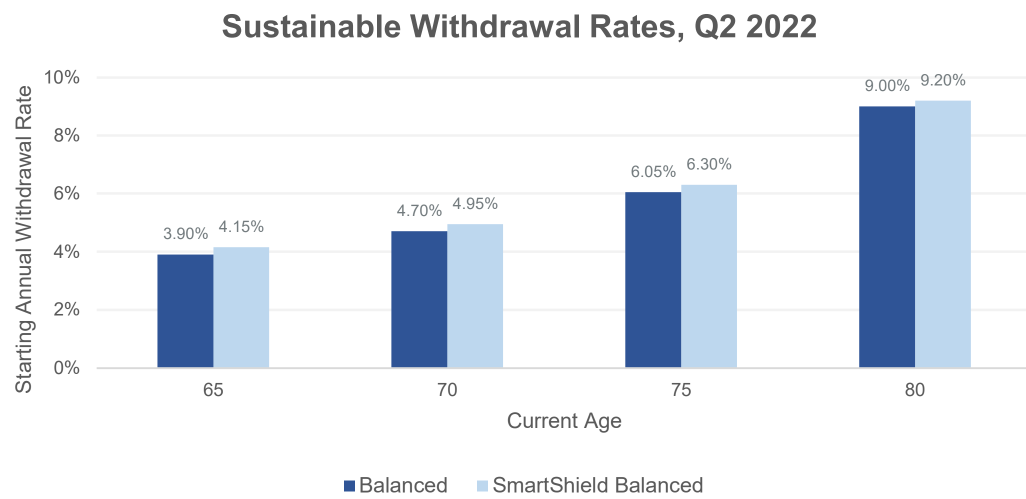
We observe that sustainable withdrawal rates at the end of Q3 2022 are lower compared to Q2 2022.

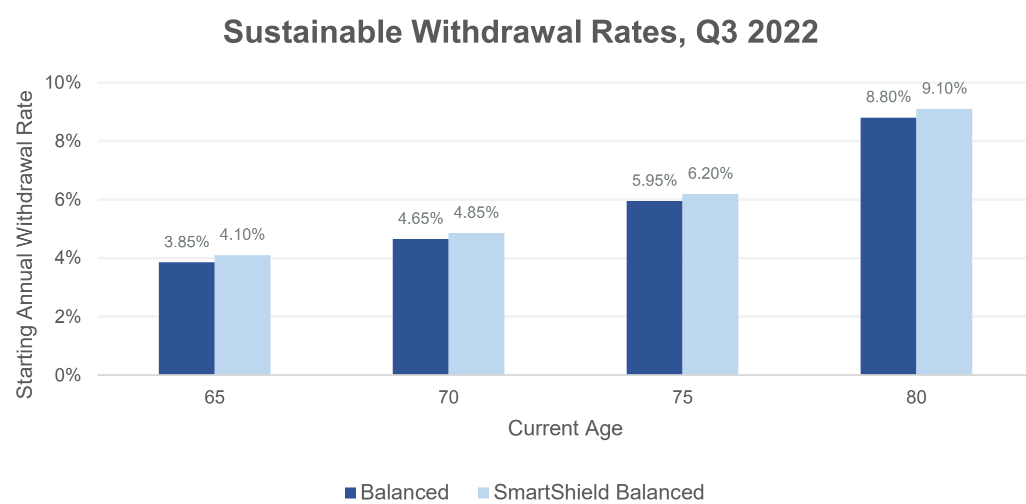
This was mainly driven by the the increase in starting inflation levels.

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 rebounded in November, the equity hedge level within SmartShield Portfolios has reduced from approximately 44% at the beginning of the month to 20% by the end of the month.





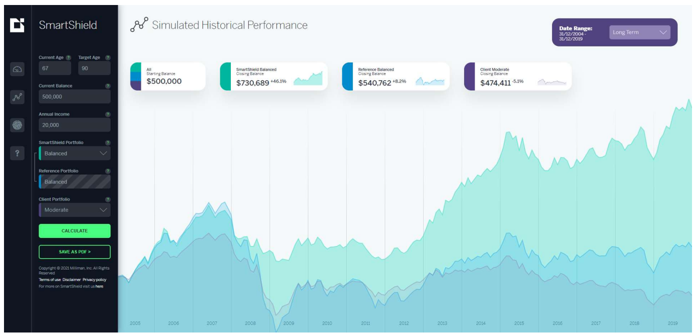
Sustainable Withdrawal Rate is defined as the maximum amount that can be withdrawn from a portfolio each year with a 90% certainty that this rate can be sustainably withdrawn (adjusted for inflation) until the target age of 90. An additional constraint introduced is for the potential shortfall to be 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**

Favourable
SQM RESEARCH