BetaShares Model Portfolio Report

November 2022*

**Due to a change in rebalance dates, the current model portfolio report refers to the two month period to end-November 2022. Going forward, this report will be produced every three months.*

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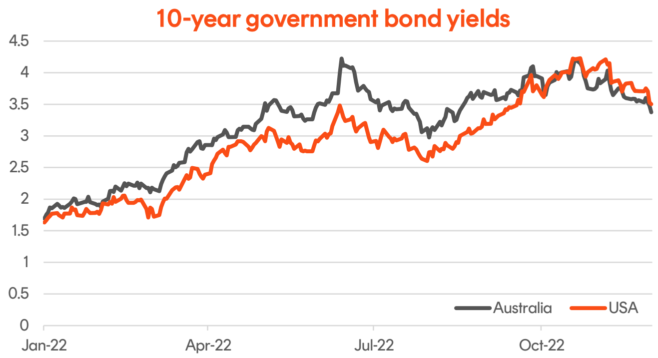
1. Market Review

The main market thematic over recent months has been an easing in global long-term bond yields, which in turn has supported returns from both bond and equity markets.

US 10-year government bond yields, for example, have eased over recent months, from 3.8% as at end-September to 3.6% as at end-November. That's despite the fact markets still anticipate further notable policy tightening by the US Federal Reserve, with the Federal funds policy rate expected to be around 1% higher over the coming twelve months.

Australian 10-year government bond yields fell relatively more than those in the US over this period, from 3.9% to 3.5%.

Fed Funds Market Expectation



Source: Bloomberg.

Two key developments have reduced bond yields over this period. For starters, the US consumer price index report (CPI) for October surprised on the downside, giving rise to hopes that US inflation has peaked and may fall more quickly than generally expected over coming months.

Excluding food and energy, the core US CPI rose only 0.3% in October, less than the market expectation of a 0.5% gain. Annual core US inflation slowed to 6.3 per cent, from 6.7 per cent in September. The October US core private consumption deflator also surprised on the downside.

An easing in global supply chain pressures and declines in some goods prices is helping to lower US inflation.

Secondly, after having raised short-term interest rates by another 0.75% at the November policy meeting, US Federal Reserve officials have since hinted at a smaller likely rate increase at the December policy meeting. This has led to hopes that we may be nearing the end of the Fed rate hike cycle.

In turn, falling bond yields supported equity markets over recent months through a rise in valuations - even as earnings growth has flattened. The price-to-forward earnings ratio for America's S&P 500 Index rose from 15.1 at the end-September to 17.5 as at end-November, while forward earnings fell 1.4% over this period. The market currently anticipates 4% growth in US corporate earnings in 2023, down from around 10% expected earnings growth six months ago.

The MSCI All Country World Equity Index returned 12.7% in local currency terms over the two months to end-November. America's S&P 500 index returned 14.1% over this period, while Australia's S&P/ASX 200 Index returned 13.0%.

The interest-rate sensitive S&P/ASX 200 REITs (listed property) Index returned a stronger 16.3%, after notable losses in earlier months when bond yields were rising.

Gold prices also rose over this period, with the $US spot price up 6.5% to $US 1,768 an ounce.

Also helping support equities, the US economy has remained resilient to interest rate rises to date. Although housing activity has slowed, consumer spending and employment demand have remained firm.

Elsewhere, global economic conditions remain challenging. There still appears no end in sight to the ongoing war in Ukraine, which has led to severe energy shortages in Europe and contributed to both higher European inflation and weaker economic growth.

With the re-appointment of Chinese President Xi Jinping to another five years in power, markets are hopeful of an easing in the country's strict zero-COVID strategy, which has slowed economic growth considerably this year. As yet, however, the relaxation in restrictions has been very gradual, with authorities still notably concerned about the potential for a huge spike in COVID cases and deaths. China also continues to deal with excess construction and build up of debt in the property sector.

In Australia, the Reserve Bank of Australia raised interest rates by 0.25% at both the October and November policy meetings, which was a step down from the 0.5% interest rate increases at the four previous monthly meetings.

Although local employment growth has remained solid, there have been tentative signs of some slowing in consumer spending while house prices continue to fall. Underlying inflation in the relatively new monthly CPI report surprised on the downside in October, leading to some hopes that local inflation could also fall more quickly than expected.

Asset Class & ETF Returns[1]

	Nov Qtr	Sep Qtr	6-months	12-months
Defensive Assets	2.2%	-1.8%	-1.4%	-9.6%
Cash (AAA)	**0.5%**	**0.5%**	**1.0%**	**1.2%**
Aust. Bonds	**2.5%**	**-0.5%**	**-0.1%**	**-9.2%**
Aust. Floating-Rate Bonds (QPON)	0.7%	0.9%	1.6%	0.8%
Aust. Fixed-Rate Bonds (OZBD)	2.9%	-0.8%	-0.2%	
Global Bonds (VBND)	**2.2%**	**-4.4%**	**-4.0%**	**-13.1%**
Gold, $US (QAU)	**4.6%**	**-8.6%**	**-6.6%**	**-4.8%**
Growth Assets	11.4%	-0.8%	3.2%	-2.1%
Aust. Listed Property (VAP)	**16.2%**	**-7.0%**	**-3.1%**	**-12.6%**
Aust. Equities	**13.2%**	**0.1%**	**3.3%**	**8.6%**
Aust. Equities (QOZ)	13.4%	-0.1%	3.1%	11.9%
Aust. Equities (A200)	13.0%	0.3%	3.5%	5.4%
Global Equities	**10.0%**	**-0.7%**	**3.6%**	**-7.3%**
US Equities (QUS)	12.3%	1.7%	7.9%	3.9%
US Equities (VTS)	5.6%	2.8%	2.6%	-10.4%
Non-U.S. Equities (VEU)	11.2%	-5.0%	0.5%	-8.2%
Global Equities (QLTY)	10.7%	-1.0%	4.8%	-15.4%

[1]For this report only, the November quarter refers to the two months of October and November. Asset class returns are in bold and based on the total return after fees for the respective model ETFs, using benchmark strategic weights. Growth and defensive asset returns are calculated using benchmark strategic asset class weights for the balanced portfolio. Past performance is not an indicator of future performance.

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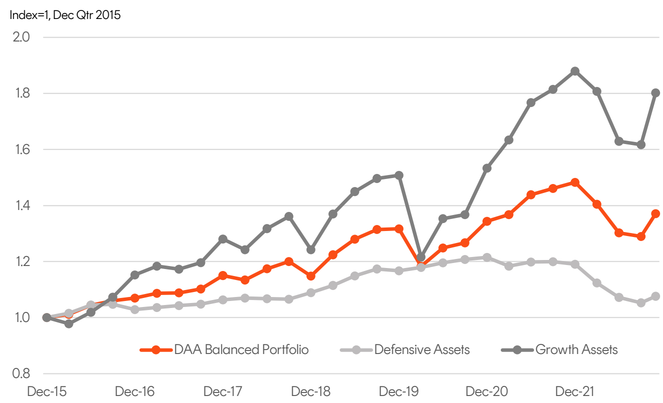
2. Portfolio Review

As noted above, lower bond yields pushed up the value of both bond and equities over the two months to end-November, boosting returns from both growth and defensive assets. Using SAA benchmark weights, overall growth asset returns exceeded those of defensive assets.

As a result, the suite of dynamic model portfolios produced positive returns over this period, though our defensive positioning meant returns were not as strong as their strategic benchmarks. The DAA (Balanced) portfolio, for example, returned 6.3% over the two months to end-November, compared with a return of 6.8% for the benchmark strategic portfolio.

As noted above, declining bond yields boosted the returns from fixed-rate bonds - especially Australian bonds.

Balanced Model Portfolio Performance



Source: Bloomberg, BetaShares. Past performance is not an indicator of future performance. Growth and defensive asset returns are based on SAA (balanced) ETF weights.

Among defensive assets, the biggest contributor to performance was Australian fixed-rate bonds, via the OZBD ETF, which returned 2.9%. Global fixed-rate bonds, via the VBND ETF, also produced positive returns of 2.2%.

After a sharp decline in the previous quarter, the currency-hedged gold ETF, QAU, also had a positive return of 4.6%, though it currently retains a zero weight in the portfolios. Despite heightened global inflation concern, gold has had a mixed performance so far this year due to aggressive central bank policy tightening, especially in the US, which has up until recently pushed up bond yields and the US dollar.

Cash (AAA) and floating-rate bond (QPON) ETF returns were positive in the quarter, with gains of 0.5% and 0.7% respectively. With the Reserve Bank expected to continue to raise short-term interest rates in the coming months, returns from both cash and floating rate bonds should be further enhanced over the coming year.

Lower bond yields also supported higher stock returns, with good gains across listed property, Australian and international equities. The portfolio's smart beta exposures also performed relatively well, with QLTY outperforming global stocks and both QUS and QOZ outperforming their respective market-capitalisation counterpart ETFs, VTS and A200.

Among growth assets, the best performance came from the interest-rate sensitive Australian listed property sector, with the VAP ETF returning 16.2%. Australia equities overall also performed well, with the fundamentally weighted Australian equity QOZ ETF returning 13.4%. The market-cap weighted Australian equity ETF, A200, returned 13.0%.

Apart from the property and infrastructure sectors benefiting from lower bond yields within the Australian market, the banking and resources sectors also performed relatively well. The resilience of the Australian economy to date has supported financial stocks, while high commodity prices and hopes of an end to China's zero-COVID policy supported resource stocks.

Among international equities, the equally-weighted S&P 500 ETF performed the best, with the QUS ETF returning 12.3%. By contrast, the market-capitalisation weighted US equity ETF, VTS, returned only 5.6%, reflecting a performance drag from large cap technology stocks.

Non-US global equities, via the VEU ETF, returned 11.2%. Global quality companies, via the QLTY ETF, returned 10.7% - which was a solid outperformance against market-capitalisation weighted global equities.

Balanced Model Portfolio Performance:
November Quarter 2022 (Quarterly performance)

	% return	Balanced Model Weights *As at end of September 2022*		
	Nov Qtr	SAA	DAA	+/-
Defensive Assets*	2.2%	50.00%	55.00%	5.00%
Cash (AAA)	0.5%	5.00%	10.00%	5.00%
Aust. Floating-Rate Bonds (QPON)	0.7%	4.50%	5.75%	1.25%
Aust. Fixed-Rate Bonds (OZBD)	2.9%	22.50%	28.75%	6.25%
Global Bonds (VBND)	2.2%	18.00%	10.50%	-7.50%
Gold (QAU)	4.6%			
Growth Assets*	11.4%	50.00%	45.00%	-5.00%
Aust. Listed Property (VAP)	16.2%	2.50%	2.50%	
Aust. Equities (QOZ)	13.4%	8.75%	7.75%	-1.00%
Aust. Equities (A200)	13.0%	8.75%	7.75%	-1.00%
US Equities (QUS)	12.3%	7.25%	6.50%	-0.75%
US Equities (VTS)	5.6%	7.25%	6.50%	-0.75%
Non-US Equities (VEU)	11.2%	9.50%	8.50%	-1.00%
Global Equities (QLTY)	10.7%	6.00%	5.50%	-0.50%
Quarterly % return		6.83%	6.31%	

*Defensive and growth asset returns are based on SAA weights. Attribution equals the difference in each ETF's quarterly return vs. overall SAA portfolio return multiplied by the difference between that ETF's DAA and SAA weights. Past performance is not an indicator of future performance. For this report only, the November quarter refers to the two months of October and November.

Balanced Portfolio: Performance Attribution

	Nov Qtr	6-months	12-months
Return performance			
DAA	6.3%	0.8%	-6.5%
SAA	6.8%	1.0%	-5.8%
DAA vs SAA*	-0.5%	-0.2%	-0.7%
Performance attribution**			
Growth vs. Defensive	-0.5%	-0.5%	-0.4%
Intra defensive	-0.1%	0.3%	0.1%
Intra growth	0.0%	-0.0%	-0.5%

For this report only, the November quarter refers to the two months of October and November.
* Figures may not add up due to rounding.
**Growth vs. defensive refers to broad dynamic tilts between growth and defensive assets. Intra-defensive and intra-growth refer to tilts within each broad asset type. Attribution equals the difference in each ETF's quarterly return vs. overall SAA portfolio return multiplied by the difference between that ETF's DAA and SAA weights.

3. Market Outlook and Portfolio Positioning

Summary of Key Investment Themes - as at end-November 2022

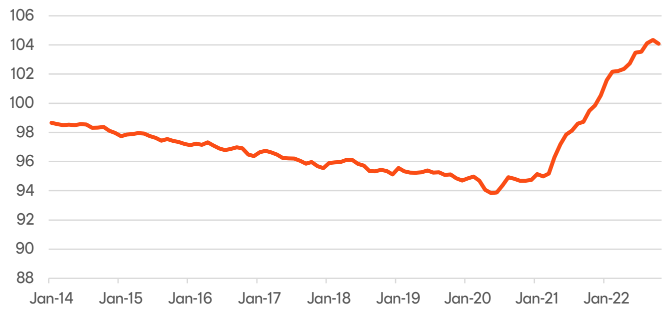
Investment Theme	Investment Strategy	Comment / Analysis
Equities not priced for US recession	Underweight growth vs. defensive assets	Stubbornly high US inflation likely means the Federal Reserve will continue raising interest rates aggressively, and push the US economy into recession. US equity prices do not yet appear to fully reflect this risk, with earnings growth expectations for 2023 still solid and valuations only around long-run average levels.
Bonds have priced in likely policy tightening	Overweight bonds in defensive assets	The impact of higher interest rates is expected to gradually impact on global and local economic growth, meaning central banks likely won't raise interest rates by more than what is already priced into the market.
Defensive positioning	Neutral Australian vs. Global Equities & Bonds	Due to the risk of a global economic slowdown we limit dynamic model risks at present by adopting a neutral position between Australian and global equity and bond markets.

With global inflation still high and central banks determined to bring down inflation through higher interest rates – even at the risk of recession – the overall global market environment remains challenging.

Although inflation in countries such as Australia and the US appears to have peaked, it remains higher than central bank inflation targets.

The good news is that global supply chain bottlenecks – associated with the COVID surge in demand for consumer durables – have eased, and goods related inflation is coming down.

US Core Goods Price Index



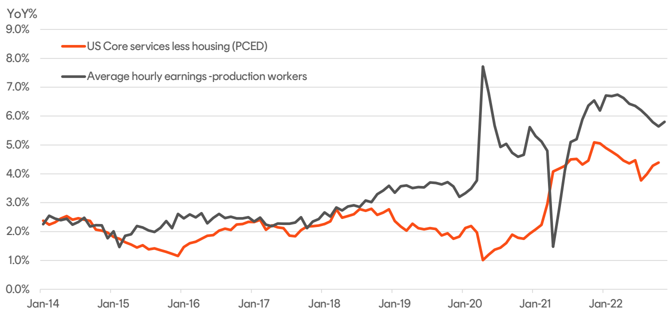
Source: Bloomberg.

The less comfortable news is that US services inflation remains stubbornly high, reflecting the lagged impact of past housing market strength on rents as well as strong wage pressure and corporate pricing power due to the still strong US economy.

While the US Federal Reserve appears increasingly inclined to "look through" high service sector inflation caused by housing rents alone – as to an extent this is a lagging indicator – it is less willing to look through persistently high services sector inflation excluding housing, which accounts for around half of underlying inflation.

In turn, as seen in the chart below, non-housing service sector inflation seems likely to stay stubbornly high if wage inflation also remains stubbornly high – and the latter is likely if the US labour market remains stubbornly tight. The US unemployment rate remains at a relatively low 3.7%, and demand for workers continues to exceed available supply by a wide margin.

US Core Services less Housing Inflation



Source: Bloomberg.

As a result, it seems likely that US economic growth needs to slow to a below-trend pace for a time so as to reduce labour market tightness and upward pressure on wages. History suggests, moreover, that it only takes around a 0.5% increase in US unemployment to ultimately trigger a recession - and a usually much larger eventual rise in unemployment.

Against this background, the US equity market does not appear to have adequately priced in the risk of recession, with the S&P 500 Index trading at a relatively high 17.5 times forward earnings, and moderate 4% growth in earnings still expected in 2023.

Should the US equity market stumble, other global markets would not be immune – including that of Australia. As the old saying goes, when the US sneezes the rest of the world catches a cold.

What's more, there are other global risk factors. An escalation in the Russia-Ukraine war could once again push up food and energy costs and so headline inflation rates around the world. China's economy also remains relatively weak and it is not yet clear how it will deal with its twin challenges of COVID and a property bubble.

That said, the major upside market risk – for both bond and equity markets – is a speedy decline in inflation, perhaps through a decline in the excess demand for US workers which still keeps overall employment levels and economic growth intact. The decline in goods prices could also become sufficiently great that overall inflation declines even if service sector inflation remains stubbornly high – which might encourage the US Federal Reserve, especially, to become a little more tolerant of tight labour markets and high wage growth for a time.

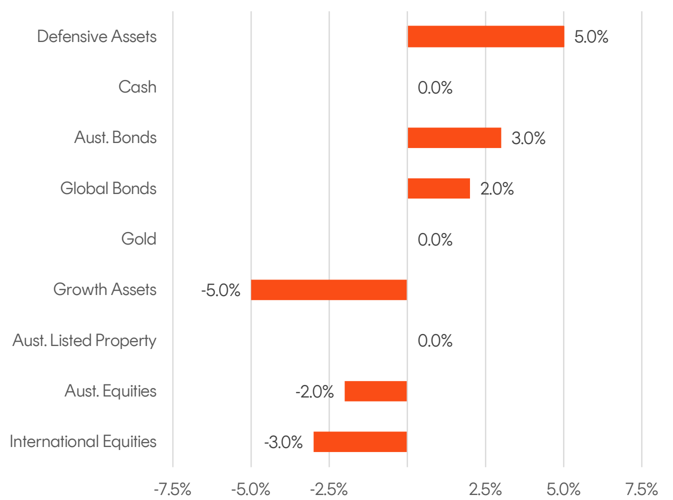
All up, the global backdrop continues to favour a cautious approach and our current modest underweight to growth over defensive assets has been retained heading into the new year.

Our overweight within defensive assets, however, has shifted from cash to fixed-rate bonds – on the view that the likely degree of central bank tightening is now priced into the market, and economic growth should soon start to slow under the weight of higher interest rates.

Associated with this shift, we have also removed our previous overweight to Australian bonds over global bonds – given that market pricing for expected RBA tightening has come back to what we consider more reasonable levels.

Within growth assets, we retain a neutral outlook between listed property, Australian and global equities. While Australian equities have tended to perform better so far this year, we noted they remain vulnerable to a deeper slowdown in the global economy. While listed property could benefit from a further lowering in bonds yields, we remain concerned the sector could also be hurt by a weakening economic outlook – especially given the challenges in the office market associated with the "work from home" phenomena.

Balanced Portfolio - Dynamic Tilts, end-November 2022



Source: BetaShares. As at 30 November 2022.

Investment Committee Voting Members

David Bassanese
Chief Economist and Chair of Investment Committee

Louis Crous
Chief Investment Officer

Alex Vynokur
Chief Executive Officer

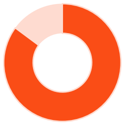
Thong Nguyen
Senior Portfolio Manager

Chamath De Silva
Senior Portfolio Manager

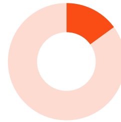
Model Portfolio Weightings (as at end November 2022)

The SAA and DAA Model Portfolio weights are detailed in the table below.

Defensive
Growth







Asset Class	ETF	Conservative SAA	Conservative DAA	Conservative +/-	Conservative change	Moderate SAA	Moderate DAA	Moderate +/-	Moderate change	Balanced SAA	Balanced DAA	Balanced +/-	Balanced change	Growth SAA	Growth DAA	Growth +/-	Growth change	High Growth SAA	High Growth DAA	High Growth +/-	High Growth change
Defensive		80.0%	85.0%	5.0%		65.0%	70.0%	5.0%		50.0%	55.0%	5.0%		30.0%	35.0%	5.0%		10.0%	15.0%	5.0%	
Cash	AAA	15.00%	15.00%		-5.00%	10.00%	10.00%		-5.00%	5.00%	5.00%		-5.00%				-5.00%				-5.00%
Aust.Bonds - Floating	QPON	6.50%	7.00%	0.50%	-1.00%	5.50%	6.00%	0.50%	-1.0%	4.50%	5.00%	0.50%	-0.75%	3.00%	3.50%	0.50%	-0.50%				
Aust.Bonds - Fixed Govt	AGVT																				
Aust.Bonds - Fixed Corp	CRED																				
Aust.Bonds	OZBD	32.50%	35.00%	2.50%	-6.00%	27.50%	30.00%	2.50%	-6.00%	22.50%	25.00%	2.50%	-3.75%	15.00%	17.50%	2.50%	-2.00%	10.00%	15.00%	5.00%	5.00%
Int. bonds	VBND	26.00%	28.00%	2.00%	12.00%	22.00%	24.00%	2.00%	12.0%	18.00%	20.00%	2.00%	9.50%	12.00%	14.00%	2.00%	7.50%				
Gold ($US)	QAU																				
Growth		20.0%	15.0%	-5.0%		35.0%	30.0%	-5.0%		50.0%	45.0%	-5.0%		70.0%	65.0%	-5.0%		90.0%	85.0%	-5.0%	
Aust. A-REITs	VAP									2.50%	2.50%			3.50%	3.50%			4.50%	4.50%		
Aust. Equities	QOZ	4.00%	3.00%	-1.00%		7.00%	6.00%	-1.00%		8.75%	7.75%	-1.00%		12.25%	11.25%	-1.00%		15.50%	14.50%	-1.00%	
Aust. Equities	A200	4.00%	3.00%	-1.00%		7.00%	6.00%	-1.00%		8.75%	7.75%	-1.00%		12.25%	11.25%	-1.00%		15.50%	14.50%	-1.00%	
Int. Equities	QLTY	2.50%	2.00%	-0.50%		4.25%	3.75%	-0.50%		6.00%	5.50%	-0.50%		8.50%	8.00%	-0.50%		11.00%	10.50%	-0.50%	
US Equities	QUS	3.00%	2.25%	-0.75%		5.00%	4.25%	-0.75%		7.25%	6.50%	-0.75%		10.00%	9.25%	-0.75%		13.00%	12.25%	-0.75%	
US Equities	VTS	3.00%	2.25%	-0.75%		5.00%	4.25%	-0.75%		7.25%	6.50%	-0.75%		10.00%	9.25%	-0.75%		13.00%	12.25%	-0.75%	
Non-US Equities	VEU	3.50%	2.50%	-1.00%		6.75%	5.75%	-1.00%		9.50%	8.50%	-1.00%		13.50%	12.50%	-1.00%		17.50%	16.50%	-1.00%	
Total		100.0%	100.0%			100.0%	100.0%			100.0%	100.0%			100.0%	100.0%			100.0%	100.0%		
MER[1]		0.20%	0.20%			0.20%	0.20%			0.20%	0.20%			0.20%	0.20%			0.20%	0.20%		

1 These are the weighted average management costs of the underlying funds in the model portfolio and can be expected to change over time as asset allocations and underlying investment vehicles change. These costs do not include certain other costs, such as any transaction costs (e.g. brokerage and bid-offer spreads) that might be incurred when implementing model portfolios.

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BetaShares Model Portfolio: Performance Summary

The historical performance of the SAA and DAA Model Portfolio is detailed in the table below.

	Conservative	Moderate	Balanced	Growth	High Growth
Dynamic ETF Model Portfolio					
Total Return Performance [1]					
2-months (Oct-Nov)	3.4%	4.8%	6.3%	8.2%	10.0%
6-months	-0.3%	0.4%	0.8%	1.5%	2.4%
12-months	-7.4%	-6.7%	-6.5%	-5.6%	-4.3%
3-year	-1.2%	0.0%	1.0%	2.4%	4.0%
Since incept.[2]	2.5%	3.6%	4.7%	5.9%	7.5%
Volatility[2]	3.2%	4.5%	6.0%	8.1%	10.7%
Net Yield[3]	2.3%	2.7%	2.9%	3.3%	3.6%
Gross Yield[3]	2.5%	2.9%	3.2%	3.7%	4.1%
Strategic (Benchmark) ETF Model Portfolio					
Total Return Performance [1]					
2-months (Oct-Nov)	3.9%	5.3%	6.8%	8.7%	10.5%
6-months	-0.1%	0.5%	1.0%	1.8%	2.8%
12-months	-7.0%	-6.1%	-5.8%	-4.6%	-3.2%
3-year	-0.7%	0.6%	1.6%	3.1%	4.6%
Since incept[2]	2.6%	3.9%	5.0%	6.3%	8.0%
Volatility[2]	3.1%	4.4%	6.1%	8.2%	10.9%
Net Yield[3]	2.3%	2.6%	2.9%	3.3%	3.6%
Gross Yield[3]	2.4%	2.9%	3.2%	3.8%	4.2%

1. Portfolios are rebalanced on a quarterly baisis.

2. Since inception 31 December 2015

3. Trailing 12-months, as at 30 November 2022

Information regarding the weightings and performance of the Dynamic Income and Pension Risk-Managed suite of Model Portfolios is provided **here.**

Information regarding the BetaShares current capital asset pricing assumptions is provided **here.**

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