BetaShares Model Portfolio Report

Quarter ending September 2022

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1. Market Review

The main market thematic over the September quarter remained upward pressure on bond yields, due to persistently high inflation and aggressive central bank tightening fears. Higher bond yields, in turn, continued to place downward pressure on both equity and bond returns.

Higher interest rates continued to push down equity valuations especially, though corporate earnings – along with the global economic growth more broadly – has remained fairly resilient to date.

In the US, although the housing sector has started slow, overall economic activity continued to hold up reasonably well in the September quarter. With inflation still stubbornly high, this disappointed market hopes that the US Federal Reserve would signal an easing in its aggressive campaign to raise interest rates.

The ongoing war in Ukraine, meanwhile, has led to higher energy costs and weaker economic growth in Europe. China's economic growth remained subdued as it continued to deal with the twin challenges of its zero-COVID strategy and debt-fueled speculative excess in the property sector.

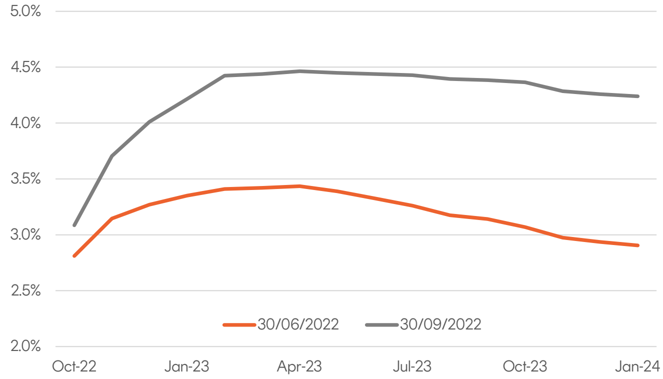
On the upside, oil prices declined over the quarter, reflecting reduced demand from China and the release of some strategic oil reserves by the US. This helped to contain further gains in global headline inflation. Longer-term inflation expectations also stabilised somewhat, while consumer spending and employment growth in many economies remained firm.

While ideally not wanting to push their economies into recession, most central banks remained concerned not to "repeat the mistakes of the 1970s" by allowing stubbornly high inflation to entrench itself through a lift in inflation expectations amongst wage and price setters. As a result, central banks remain determined to raise interest rates and slow economic growth for as long as it takes to bring down inflation – even at the risk of recession. Indeed, the Bank of England raised rates over the quarter even while effectively forecasting a UK recession. The European Central Bank also raised interest rates for the first time in years, by a larger than expected 0.5%.

In the US, the Federal Reserve raised rates twice more over the quarter, by 0.75% each time, taking the cumulative tightening so far this year to 3% - one of the fastest periods of policy tightening in history.

Having fallen in the first part of the quarter, by end-September US 10-year bond yields had lifted to 3.8%, compared to 3.0% at the start of the quarter - with the market revising up the expected mid-2023 peak in the Federal funds rate from around 3.5% to 4.5% (see chart below).

Fed Funds Market Expectation



Source: Bloomberg.

Reflecting the onslaught of higher bond yields, global equity prices also ended the quarter lower, while the $US dollar remained strong. In A$ terms (i.e. unhedged), global equity returns were supported by weakness in the Australian dollar. Gold prices also continued to weaken under the influence of rising bond yields and the strong $US dollar.

With local inflation also high and employment growth and retail spending still firm, the Reserve Bank of Australia ('RBA') raised the official cash rate by a further 0.5% in each of the three policy meetings over the quarter – though it did recently scale back the size of rate increases to only 0.25% at the latest October policy meeting.

At 2.6%, the Australian official cash rate is now considered broadly back to its "neutral" rate – that neither overly restricts nor stimulates economic growth, allowing the RBA to proceed a little more cautiously going forward. Despite these rate increases, local bond yields did not rise as much as those in the US, with aggressive further RBA tightening already priced into the market. This allowed local fixed-rate bonds to outperform their global counterparts.

Australian equities also fared generally better than global equities over the quarter, helped by relative strength in energy and resource stocks. Under pressure from rising bond yields, the more interest-rate sensitive listed property sector, however, suffered a set-back.

Asset Class & ETF Returns[1]

	Sep Qtr	Jun Qtr	6-months	12-months
Defensive Assets	-1.8%	-4.5%	-6.3%	-12.2%
Cash (AAA)	**0.5%**	**0.1%**	**0.6%**	**0.7%**
Aust. Bonds	**-0.5%**	**-4.9%**	**-5.4%**	**-13.1%**
Aust. Floating-Rate Bonds (QPON)	0.9%	-0.3%	0.5%	-0.3%
Aust. Fixed-Rate Bonds (OZBD)	-0.8%	-5.2%	-5.9%	
Global Bonds (VBND)	**-4.4%**	**-5.3%**	**-9.5%**	**-14.6%**
Gold, $US (QAU)	**-8.6%**	**-6.5%**	**-14.5%**	**-5.6%**
Growth Assets	-0.8%	-9.9%	-10.5%	-10.9%
Aust. Listed Property (VAP)	**-7.0%**	**-17.5%**	**-23.3%**	**-21.3%**
Aust. Equities	**0.1%**	**-11.2%**	**-11.1%**	**-5.7%**
Aust. Equities (QOZ)	-0.1%	-10.7%	-10.8%	-4.2%
Aust. Equities (A200)	0.3%	-11.6%	-11.4%	-7.2%
Global Equities	**-0.7%**	**-8.5%**	**-9.1%**	**-13.3%**
US Equities (QUS)	1.7%	-6.6%	-5.0%	-3.4%
US Equities (VTS)	2.8%	-11.5%	-9.0%	-9.6%
Non-U.S. Equities (VEU)	-5.0%	-6.6%	-11.3%	-17.6%
Global Equities (QLTY)	-1.0%	-10.0%	-11.0%	-18.3%

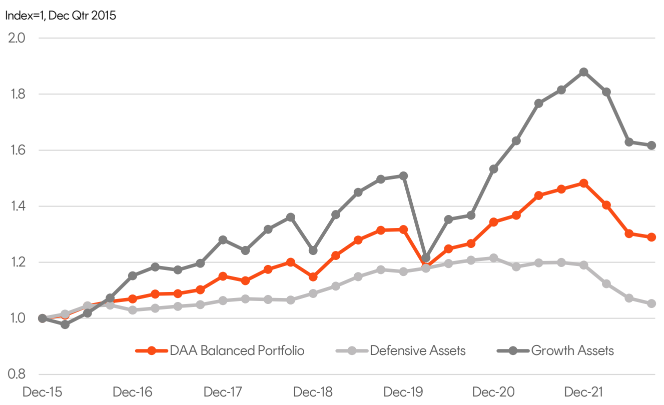
[1]Asset class returns are in bold and based on the total return after fees for the respective model ETFs, using benchmark strategic weights. Growth and defensive asset returns are calculated using benchmark strategic asset class weights for the balanced portfolio. Past performance is not an indicator of future performance.

2. Portfolio Review

As noted above, higher bond yields pushed down the value of both bonds and equities over the September quarter, causing a decline in returns from both growth and defensive assets.

As a result, the suite of dynamic model portfolios incurred negative returns in the quarter – although returns were generally a little better than that of their strategic benchmarks.

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 detractor from performance was the global fixed-rate ETF, VBND, which declined by 4.4%. Returns from Australian fixed-rate bonds, via the OZBD ETF, were also negative, though notably less, with a decline of only 0.8%.

While the currency-hedged gold ETF, QAU, also had a notable negative return of 8.6% in the quarter, this did not detract from portfolio performance owing to its current zero weight in the portfolio.

Cash (AAA) and floating-rate bond (QPON) ETF returns were positive in the quarter, with returns of 0.5% and 0.9% 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.

Among growth assets, unhedged US equities produced the best performance, with the market-capitalisation weighted US equity ETF, VTS, returning 2.8%. Given that US stocks declined over the quarter, this positive return reflected further appreciation in the US dollar against the Australian dollar. Non-US equities did not benefit as much from currency appreciation against the Australia dollar, resulting in returns from the VEU ETF declining by 5.0%.

Reflecting the relatively better performance of Australian equities over the quarter (at least against unhedged international equities), the A200 ETF returned 0.3%, though listed property was negatively affected by rising interest rates, resulting in returns from the VAP ETF declining by 7.0%.

In terms of smart beta exposures, the equally-weighted US equity ETF, QUS, and global quality (QLTY ETF) marginally underperformed their market-cap counterparts, in part reflecting an underweight to the strongly performing energy sector, and some large cap US technology stocks. The fundamentally weighted Australian equity QOZ ETF also marginally underperformed compared to the A200 ETF, due in part to greater exposure to the weak performance of the utility sector.

All up, the DAA (Balanced) portfolio declined by 0.9% in the quarter, compared with a decline of 1.3% for the benchmark strategic portfolio. In terms of relative performance attribution, our overweight to cash and underweight to growth assets contributed to performance, as did our overweight of Australian bonds relative to global bonds.

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

	% return	Balanced Model Weights		
		As at end of June 2022		
	Sep Qtr	SAA	DAA	+/-
Defensive Assets*	-1.8%	50.00%	55.00%	5.00%
Cash (AAA)	0.5%	5.00%	10.00%	5.00%
Aust. Floating-Rate Bonds (QPON)	0.9%	4.50%	5.75%	1.25%
Aust. Fixed-Rate Bonds (OZBD)	-0.8%	22.50%	28.75%	6.25%
Global Bonds (VBND)	-4.4%	18.00%	10.50%	-7.50%
Gold (QAU)	-8.6%			
Growth Assets*	-0.8%	50.00%	45.00%	-5.00%
Aust. Listed Property (VAP)	-7.0%	2.50%	2.50%	
Aust. Equities (QOZ)	-0.1%	8.75%	7.75%	-1.00%
Aust. Equities (A200)	0.3%	8.75%	7.75%	-1.00%
US Equities (QUS)	1.7%	7.25%	6.50%	-0.75%
US Equities (VTS)	2.8%	7.25%	6.50%	-0.75%
Non-US Equities (VEU)	-5.0%	9.50%	8.50%	-1.00%
Global Equities (QLTY)	-1.0%	6.00%	5.50%	-0.50%
Quarterly % return		-1.29%	-0.95%	

*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.

Balanced Portfolio: Performance Attribution

	3-months	6-months	12-months
Return performance			
DAA	-0.9%	-8.2%	-11.7%
SAA	-1.3%	-8.4%	-11.5%
DAA vs SAA*	0.3%	0.3%	-0.2%
Performance attribution**			
Growth vs. Defensive	-0.1%	0.0%	0.1%
Intra defensive	0.4%	0.3%	-0.1%
Intra growth	0.0%	0.0%	-0.3%

* Figures do 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 September 2022

Investment Theme	Investment Strategy	Comment / Analysis
Heightened risk of 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.
RBA to lag the Fed	Overweight Australian government bonds over global bonds	Reflecting still relatively benign local wage growth and greater economic sensitivity to short-term interest rates, the RBA is likely to raise rates notably less than the Federal Reserve over the coming year, which favours further narrowing in bond yield differentials.
Mixed global sector performance	Neutral Australian vs. global equities	Although the Australian economy may not need to slow by as much as the US economy over the coming year, the greater commodity exposure of Australian equities leave them vulnerable to a deeper slowdown in global economic growth.

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.

The major downside risk is even more aggressive central bank tightening expectations, which continue to push up bond yields and place further downward pressure on both bond and equity returns. Under this scenario, the equity market outlook would inevitably face even more downside risk through, not just further declines in valuations, but a deterioration in the earnings outlook.

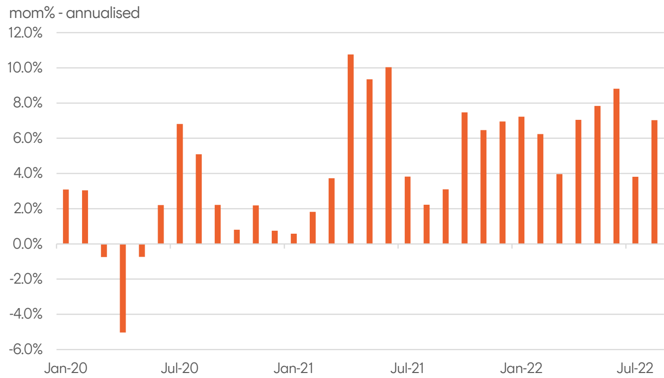
And escalation in the Russia-Ukraine war – especially in the way that led to a rebound in food and energy prices – is another ongoing risk. How China deals with its twin challenges of COVID and a property bubble also needs to be closely monitored.

That said, the major upside market risk – for both bond and equity markets – is a speedy decline in inflation, which could allow central banks to "pivot" from raising interest rates and thereby reduce the risk of a hard landing for the global economy and corporate earnings. There is some risk in this scenario also, given easing global supply chain bottlenecks and a rebalancing of consumer demand from goods toward services. Indeed, there are reports of a build-up in inventories of some consumer goods and greater discounting.

So far at least, however, declines in inflation have been relatively slow – notwithstanding a decline in oil prices in recent months which has at least placed downward pressure on headline rates of consumer inflation due to falling petrol prices.

Indeed, due to the ongoing pass through of higher food and energy costs, still resilient overall consumer spending and firm wage growth, core consumer price inflation has remained uncomfortably high in several economies, including the US and Australia (see chart).

US Core CPI



Source: Bloomberg.

In the US, while consumer goods inflation appears to have eased, service sector inflation – especially in areas such as health and housing rents – remains solid. It's also the case that the US unemployment rate is very low, and wage growth continues to run at an uncomfortably high pace.

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 December quarter.

Indeed, our base case view is somewhat between the best and worst-case scenarios described above – namely a sufficiently slow rate of decline in global inflation that results in central bank policy tightening broadly in-line with what is already priced into financial markets.

This suggests a further lift in the US Federal funds rate from 3-3.25% to 4.5-4.75% by mid-2023, and around 3.25 to 3.5% for the Reserve Bank official cash rate. We retain the view that the RBA will tighten by less than the Fed in this cycle due to both less apparent local wage pressure and greater economic sensitivity to short-term interest rates, given more Australian home loans are variable rather than fixed, when compared to the US.

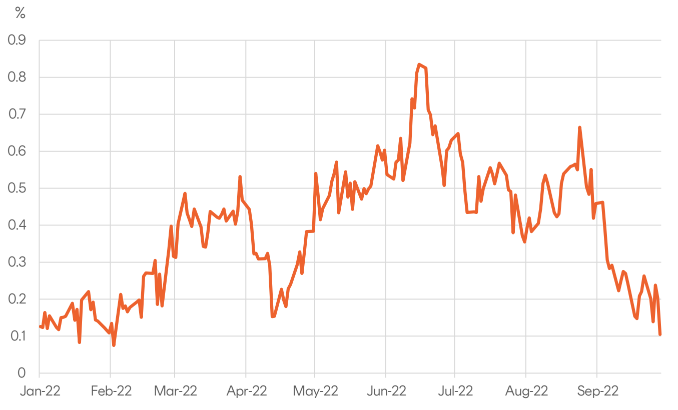
Indeed, the Fed is expected to raise rates a further 1.25% by year-end (0.75% in November and a further 0.5% in

December) followed by one final 0.25% rate increase in H1' 23. For its part, the RBA is expected to raise rates in both November and December by 0.25%, with a final 0.25% rate increase in H1'23 also.

While this scenario suggests not a lot of further upward pressure on bond yields, it does suggest potentially further downward pressure on equity returns - to the extent this degree of monetary tightening causes a material slowing in global economic growth with a good chance of an eventual recession.

Within defensive assets, our pre-existing tilt toward Australian over global bonds is retained – on the view that, with less RBA tightening than the Fed expected, Australian bond yields should continue to narrow relative to global bonds (see chart).

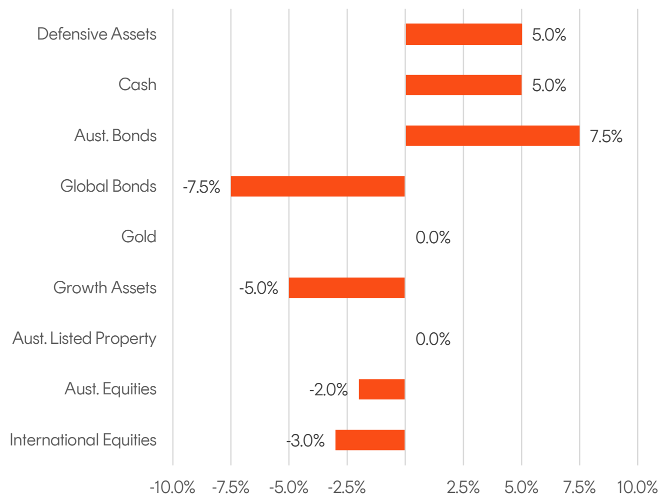
Australian vs. US 10-year bond spread



Source: Bloomberg.

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 has been hurt by rising bond yields to date, we do not anticipate further significant upside to bond yields that would warrant an underweight exposure.

Balanced Portfolio - Dynamic Tilts



Source: BetaShares. As at 30 September 2022.

Investment Committee Voting Members

David Bassanese
Chief Economist and Head of Investment Committee

Louis Crous
Chief Investment Officer

Alex Vynokur
Chief Executive Officer

Thong Nguyen
Senior Portfolio Manager

Chamath De Silva
Senior Portfolio Manager

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Model Portfolio Weightings (as at end September 2022)

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

Asset			Conservative		qtrly		Moderate		qtrly		Balanced		qtrly
Class	ETF	SAA	DAA	+/-	change	SAA	DAA	+/-	change	SAA	DAA	+/-	change
Defensive		80.0%	85.0%	5.0%		65.0%	70.0%	5.0%		50.0%	55.0%	5.0%	
Cash	AAA	15.00%	20.00%	5.00%		10.00%	15.00%	5.00%		5.00%	10.00%	5.00%	
Aust.Bonds - Floating	QPON	6.50%	8.00%	1.50%		5.50%	7.00%	1.50%		4.50%	5.75%	1.25%	
Aust.Bonds - Fixed Govt	AGVT												
Aust.Bonds - Fixed Corp	CRED												
Aust.Bonds	OZBD	32.50%	41.00%	8.50%		27.50%	36.00%	8.50%		22.50%	28.75%	6.25%	
Int. bonds	VBND	26.00%	16.00%	-10.00%		22.00%	12.00%	-10.00%		18.00%	10.50%	-7.50%	
Gold ($US)	QAU												
Growth		20.0%	15.0%	-5.0%		35.0%	30.0%	-5.0%		50.0%	45.0%	-5.0%	
Aust. A-REITs	VAP									2.50%	2.50%		
Aust. Equities	QOZ	4.00%	3.00%	-1.00%		7.00%	6.00%	-1.00%		8.75%	7.75%	-1.00%	
Aust. Equities	A200	4.00%	3.00%	-1.00%		7.00%	6.00%	-1.00%		8.75%	7.75%	-1.00%	
Int. Equities	QLTY	2.50%	2.00%	-0.50%		4.25%	3.75%	-0.50%		6.00%	5.50%	-0.50%	
US Equities	QUS	3.00%	2.25%	-0.75%		5.00%	4.25%	-0.75%		7.25%	6.50%	-0.75%	
US Equities	VTS	3.00%	2.25%	-0.75%		5.00%	4.25%	-0.75%		7.25%	6.50%	-0.75%	
Non-US Equities	VEU	3.50%	2.50%	-1.00%		6.75%	5.75%	-1.00%		9.50%	8.50%	-1.00%	
Total		100.0%	100.0%			100.0%	100.0%			100.0%	100.0%		
MER 1		0.20%	0.19%			0.20%	0.19%			0.20%	0.20%		

Asset			Growth		qtrly		High Growth		qtrly
Class	ETF	SAA	DAA	+/-	change	SAA	DAA	+/-	change
Defensive		30.0%	35.0%	5.0%		10.0%	15.0%	5.0%	
Cash	AAA		5.00%	5.00%			5.00%	5.00%	
Aust.Bonds - Floating	QPON	3.00%	4.00%	1.00%					
Aust.Bonds - Fixed Govt	AGVT								
Aust.Bonds - Fixed Corp	CRED								
Aust.Bonds	OZBD	15.00%	19.50%	4.50%		10.00%	10.00%		
Int. bonds	VBND	12.00%	6.50%	-5.50%					
Gold ($US)	QAU								
Growth		70.0%	65.0%	-5.0%		90.0%	85.0%	-5.0%	
Aust. A-REITs	VAP	3.50%	3.50%			4.50%	4.50%		
Aust. Equities	QOZ	12.25%	11.25%	-1.00%		15.50%	14.50%	-1.00%	
Aust. Equities	A200	12.25%	11.25%	-1.00%		15.50%	14.50%	-1.00%	
Int. Equities	QLTY	8.50%	8.00%	-0.50%		11.00%	10.50%	-0.50%	
US Equities	QUS	10.00%	9.25%	-0.75%		13.00%	12.25%	-0.75%	
US Equities	VTS	10.00%	9.25%	-0.75%		13.00%	12.25%	-0.75%	
Non-US Equities	VEU	13.50%	12.50%	-1.00%		17.50%	16.50%	-1.00%	
Total		100.0%	100.0%			100.0%	100.0%		
MER 1		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]					
3-months	-0.9%	-0.8%	-0.9%	-0.9%	-0.7%
6-months	-6.2%	-7.0%	-8.2%	-9.3%	-10.1%
12-months	-10.8%	-11.1%	-11.7%	-12.1%	-11.7%
3-year	-2.1%	-1.2%	-0.6%	0.3%	1.5%
Since incept.[2]	2.1%	3.0%	3.8%	4.8%	6.2%
Volatility[2]	3.1%	4.4%	6.0%	8.1%	10.7%
Net Yield[3]	2.2%	2.6%	3.0%	3.4%	3.8%
Gross Yield[3]	2.3%	2.9%	3.3%	3.9%	4.4%
Strategic (Benchmark) ETF Model Portfolio					
Total Return Performance [1]					
3-months	-1.3%	-1.2%	-1.3%	-1.2%	-0.8%
6-months	-6.5%	-7.3%	-8.4%	-9.5%	-10.2%
12-months	-10.8%	-11.0%	-11.5%	-11.7%	-11.5%
3-year	-1.8%	-0.9%	-0.2%	0.8%	1.9%
Since incept[2]	2.1%	3.2%	4.1%	5.2%	6.6%
Volatility[2]	3.0%	4.3%	6.0%	8.2%	10.9%
Net Yield[3]	2.2%	2.6%	3.0%	3.5%	3.9%
Gross Yield[3]	2.3%	2.9%	3.3%	4.0%	4.6%

1. Portfolios are rebalanced on a quarterly baisis.

2. Since inception 31 December 2015

3. Trailing 12-months, as at 30 September 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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