

# Assisting investors with their listed asset allocations

## Universe of Australian Stock Exchange ETFs

Below is a summary with key details of all ASX ETFs, double click on cells in the table to see all content.

Strategy	Region Australia	Fund_Name Global X Australia ex Financials & Resources ETF	ASX_Code	Mgmt_Fee	Benchmark Sotactive Australia ex Financials, Materials and Ene
Sectors	Australia	Intelligent Investor Ethical Share Fund (MF)	INES.AX	0.97%	None
Sectors	Australia	iShares Core MSCI Australia ESG Leaders ETF	IESG.AX	0.09%	MSCI Australia IMI Custom ESG Leaders
Sectors	Australia	SPDR® S&P®/ASX 200 Financials EX A-REIT Fund	OZF.AX	0.40%	S&P/ASX 200 Financials Ex-A-REIT
Sectors	Australia	SPDR® S&P®/ASX 200 Listed Property Fund	SLF.AX	0.40%	S&P/ASX 200 A-REIT
Sectors	Australia	SPDR® S&P®/ASX 200 Resources Fund	OZR.AX	0.40%	S&P/ASX 200 Resources
Sectors	Australia	VanEck Vectors Australian Banks	MVB.AX	0.28%	MVIS Australia Banks
Sectors	Australia	VanEck Vectors Australian Resources	MVR.AX	0.35%	MVIS Australia Energy & Mining
Sectors	Australia	VanEck Vectors MSCI Australian Sustainable Equity	GRNV.AX	0.35%	MSCI Australia IMI Select SRI Screened
Sectors	Australia	VanEck Vectors S&P/ASX MidCap	MVE.AX	0.45%	S&P/ASX Midcap 50
Sectors	Australia	Vanguard Ethically Conscious Australian Shares	VETH.AX	0.16%	FTSE Australia 300 Choice Index

## Select Strategy or Stocks/ETFs

Custom Tickers

Enter Stock or ETF ticker

MQG.AX ACW.AX

ВНР

HACK.AX

The following ETFs have been included in your custom portfolio, single stocks selected will also be included in analysis

Strategy	Region	Fund_Name	ASX_Code	Mgmt_Fee	Benchmark	Details
Index_Tra	Australia	Vanguard Aus	VAS.AX	0.10%	S&P/ASX 300	Tracks tl
Sectors	Global	BetaShares Gl	HACK.AX	0.67%	Nasdaq Cons	Exposur
Broad	Ex_Austi	Vanguard MS(	VGS.AX	0.18%	MSCI World e	Exposur

Base currency for calculation of indexed prices and returns

AUD

☐ Tick this box if you would like to adjust returns

Returns will not be adjusted

Run analysis on selection

Defaults have been used to perform the initial run. Please change selections to match you preferences and click - Run analysis on selection above. Note only assets which have price data for the full date range will be included in the analysis.

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### Date range to use for base returns and correlation

Ideally you should include a full economic cycle in the date range

Start of calibration window

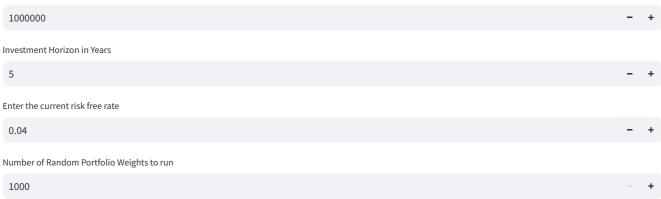
2019/11/19

End of calibration window

2024/11/19

### Investment details and risk free hurdle rate

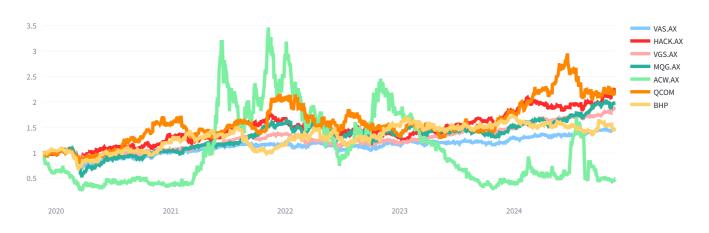
Dollar amount you are looking to invest



## Scaled prices starting at 1 at the beginning of the calibration window

Prices are adjusted close price which is the closing price after adjustments for all applicable splits and dividend distributions. Data is adjusted using appropriate split and dividend multipliers, adhering to Center for Research in Security Prices (CRSP) standards. Also note that all prices have been converted to AUD to reflect consistent AUD return outcomes.

#### Start date indexed price through time (Start Calibration Date = 1)



Below are the mean annual returns and volatilities of ETFs/Stocks over the calibration window:  $\frac{1}{2} \left( \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} \right) \left( \frac{1}{2} \right$ 

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	Return	Volatility
ACW.AX	45.65%	110.70%
ВНР	14.34%	36.84%
HACK.AX	17.55%	22.43%
MQG.AX	17.34%	28.16%
QCOM	24.48%	42.69%
VAS.AX	9.04%	16.67%
VGS.AX	12.97%	13.66%

Below is the matrix of return correlations between selected assets:

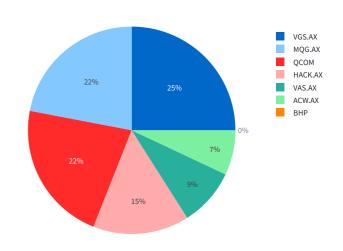
	VAS.AX	HACK.AX	VGS.AX	MQG.AX	ACW.AX	QCOM	ВНР
VAS.AX	1.000000	0.419501	0.611460	0.786877	0.129668	0.164778	0.290209
HACK.AX	0.419501	1.000000	0.721051	0.361826	0.125270	0.047979	0.078146
VGS.AX	0.611460	0.721051	1.000000	0.510985	0.132634	0.074971	0.093877
MQG.AX	0.786877	0.361826	0.510985	1.000000	0.130752	0.078941	0.170865
ACW.AX	0.129668	0.125270	0.132634	0.130752	1.000000	0.001254	0.033318
QCOM	0.164778	0.047979	0.074971	0.078941	0.001254	1.000000	0.495884
ВНР	0.290209	0.078146	0.093877	0.170865	0.033318	0.495884	1.000000

Optimal portfolio investment allocation given calibration parameters, selected tickers and initial investment ignoring risk appetite limitations.

Note that past performance is an imperfect indication of future performance and this should not be considered to be financial advice but rather a useful tool contributing to the investment allocation decision. It is not recommended that you allocate over 20% of your portfolio to a single stock (this cap would not apply to a broadly diversified ETF though).

Ticker	Investment_Amount
VAS.AX	90,000
HACK.AX	150,000
VGS.AX	250,000
MQG.AX	220,000
ACW.AX	70,000
QCOM	220,000
ВНР	0

Get information on stock intrinsic value



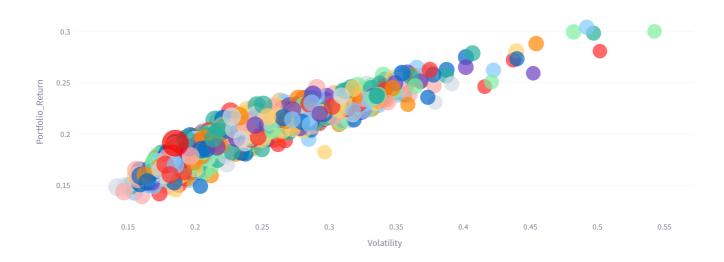
symbol	longName	sector	currency	currentPrice	marketCap	trailingPE	forwardPE	Exchange	Category Name
MQG.AX	Macquarie Group Limited	Financial Services	AUD	231.05	89 Billion	21.0428	19.8029	ASX	Investment Brokerage - Nati
QCOM	QUALCOMM Incorporated	Technology	USD	164.5	183 Billion	18.4004	13.2776	NMS	Communication Equipment
ВНР	BHP Group Limited	Basic Materials	USD	52.49	133 Billion	16.8778	10.098	NYQ	Industrial Metals & Minerals

In simple terms, a good P/E (Price divided by Earnings) ratio for an established company is lower than 20 (average across regions and industries is usually 20-25). When looking at the P/E ratio alone, the lower it is, the better. It is however more meaningful to compare P/E Ratio for a stock to the average of the sector/industry from which it derives the majority of its income. Also note that it is difficult to set guidelines for startups where future earnings are quite uncertain.

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symbol	longName	currency	previousClose	fiftyTwoWeekLow	fiftyTwoWeekHigh	totalAssets
VAS.AX	Vanguard Australian Shares Index ETF	AUD	103.25	86.8	105.05	17 Billion
HACK.AX	BetaShares Global Cybersecurity ETF	AUD	12.94	10.03	13.54	955 Million
VGS.AX	Vanguard MSCI Index International Shares ETF	AUD	134.45	107.53	136.12	35 Billion

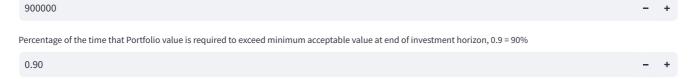
## Markowitz Efficient Frontier for the different portfolio weight combinations



```
0: "VAS.AX"
1: "HACK.AX"
2: "VGS.AX"
3: "MQG.AX"
4: "ACW.AX"
5: "QCOM"
6: "BHP"
```

### **Risk Appetite Inputs**

Minimum acceptable portfolio value by end of Investment Horizon



The optimal portfolios minimum projected portfolio terminal value after 5 years at your confidence level of 90.0% is \$887,658 which is below your expressed minimum terminal value of \$900,000. The expected portfolio terminal value is \$2,397,801.

The following portfolios meet your risk appetite objectives from highest Sharpe Ratio (i.e. highest reward for risk) to lowest (top 5 displayed where available)

Volatility	Portfolio_Return	Portfolio_Weights	Sharpe_Ratio	Expected_Terminal_Value	Terminal_Value_at_Appetite
0.1721	0.1779	[0.13, 0.18, 0.23, 0.1	0.8012	2,267,339.53	900,488.21
0.1562	0.165	[0.11, 0.21, 0.3, 0.16	0.8001	2,145,635.17	928,126.9
0.1588	0.1641	[0.21, 0.19, 0.24, 0.1	0.7814	2,137,828.08	911,657.87
0.1561	0.1594	[0.18, 0.22, 0.28, 0.0	0.7651	2,094,986.09	906,771.16
0.1421	0.1482	[0.13, 0.12, 0.48, 0.1	0.7619	1,996,077.64	931,339.83

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```
0: "VAS.AX"
1: "HACK.AX"
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