Executive Summary

This report is highlighting the period from 08/12/2022 to 24/03/2023 in which a portfolio performed 10.57% about the benchmark (FTSE100).

The £300,000 assets, in line with the client Mr. Anand's high-risk appetite, were allocated with nothing into cash:

- 15% Bonds
- 60% Domestic Equities
- 25% Foreign Equities

This allowed for domestic stocks to be purchased with £20,000 each and foreign with £12,500. The initial stocks were purchased using Random, Fundamental, and Technical analysis. The portfolio was then actively managed, combatting global events such as the fall of the Silicon Valley Bank, disrupting the financial industry, opening potential opportunities into other sectors.

Finally, the report evaluates the portfolio's performance on various metrics and compares to the benchmark and other students' performances. It is found that my portfolio sees the greater returns per unit of risk. While limited to only opening long positions and a short period of management due to the scope of this module, the portfolio still outperforms and ends in profit for the client.

Contents

Introduction

After an active management process, Mr V. Anand will find this report to conclude our agreed 15-Week investment process undertaken within the constraints and philosophies mentioned.

This report will follow the process thoroughly, firstly stating the strategy incorporated and leading into the implementation of said strategy, and the rationale of the positions opened. A detailed insight into how the positions were held, opened, and or closed. An evaluation of the how the portfolio faired regarding the portfolio's financial ratios, and comparisons in performance, then concluding with a reflection of the management process, mentioning the strengths and weaknesses that occurred throughout and any key events that impacted the returns.

INVESTMENT STRATEGY

Investor's Goals

Mr V. Anand, you sit in the Early Consolidation Phase of an Investor's Life Cycle. You have two children, both young and still in school, with your wife: Dr. Anand. Together your wages are both above the average household income in the UK *(Croal, 2022)*. You have told me you want to take on higher risk (*Understanding high-risk investments,* 2022). With two children in school, I assume you want to build savings for their tuition fees, so we will still ensure there are assets invested with more moderate returns aimed for the coming years. Making this is achievable is by investing assets into bonds *(Barclays)* less risk and less return, however this will benefit your children in the years to come *(Bonds)*. The bulk of the investments can then lie in equities *(BlackRock)*, equities giving the higher risk investments, and the higher returns.

Objectives

Your risk appetite is more focused in a higher risk range, you have a stable income and a good pension secured for your future. However, you still make mortgage payments for your home with the rising interest rates this could be a long-term issue *(Pettinger, 2022)*, furthermore you have two children which are very costly *(Harby, 2022), (Handley & here, 2022)*, and we want to avoid pulling money out of the portfolio to really make use of the compounding interest affects *(Groves, 2022).*

The main objective will be capital appreciation achieved by allocating more weight in equities to gain on the assets *(Capital Group)*, as you are taking on more risk.

Constraints

Being a father, as an investor, brings various constraints, such as not being very liquid, *(Marquit, 2022)*. As for the time horizon for the investments, we are looking at short term investment. Tax factors are being managed by yourself, and your interest into environmental factors require the use of ESR to rank companies *(ESG scores 2022)*.

External Analysis

The ongoing war in Ukraine *(War in Ukraine 2022)* having effects on the UK consumer food prices *(Sky News Data and Forensics Unit, 2022)* pushes inflation to break a 40-year record *(Atkinson & Bergin, 2022)* this, coupled with the increasing energy and transport costs *(Guardian, 2022)*, *(Su et al., 2022)*, leads to be a major factor in the cost-of-living crisis (BBC, 2022). As of now the government are attempting to mitigate this issue with the energy price cap (BBC, 2022). Nevertheless, the BoE is expecting the UK to go into recession by early 2024 *(Atkinson & Bergin, 2022)*.

The UK government brought about legislation in 2021 *(National Security and Investment Act)* that could prove to be harmful to foreign investors. The infamous mini-budget (BBC, 2022) cuts mortgage approvals by 10% *(Brignall, 2022)* meaning less confidence in house prices, therefor less spending through the economy *(BoE, 2022)*.

Asset Allocation

Based on the information given, you align most comfortably with the Aggressive growth model (Fidelity Fund Portfolio), following Figure 1.0 which is more appropriate for investors who seek higher returns, accepting market volatility, especially over shorter time periods.

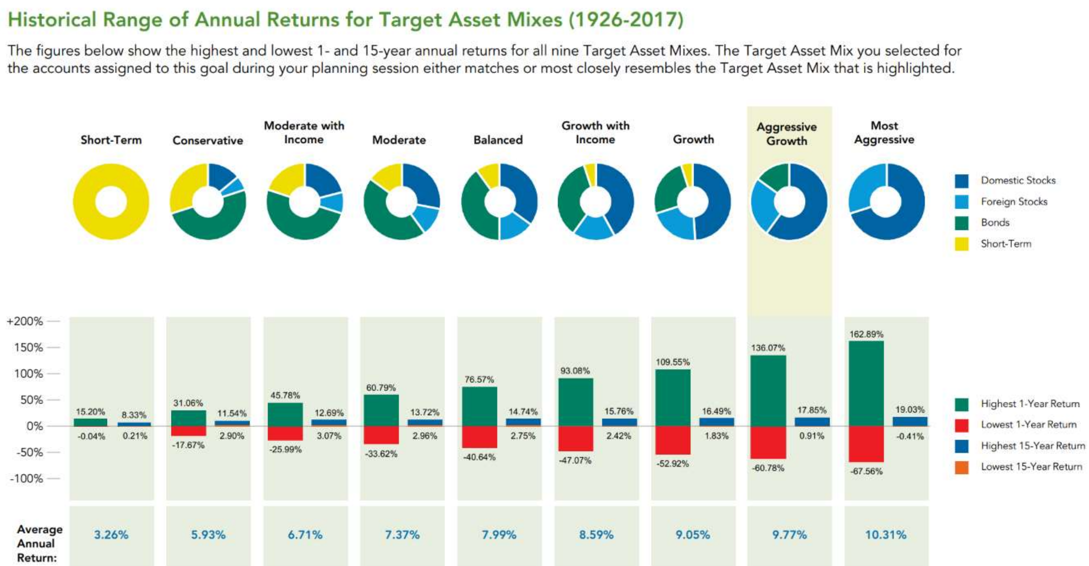


Figure 1.0

Investment Capital Breakdown: £300,000

- *Bonds - **15%** (£45,000)*
- *Equities*
  - *Domestic - **60%** (£180,000)*
  - *Foreign - **25%** (£75,000)*
- *Cash/Short-term - **0%** (£0) – optimise risk and growth.*

IMPLEMENTATION OF STRATEGY

Random Assets - Positions

Keeping with the asset allocation, five assets were purchased in the split of £60,000 into domestic equities; **TSCO.L**, **ECORE.L**, **HSBA.L** and £25,000 into foreign equities; **MSFT.O**, **ADBE.OQ**.

Symbol	Units...	Issuer	Issue Name	Primary RIC	Weight	Market Value	Local Currency	Local Price	Avg Cost	Price
ADBE.OQ	46.00	ADOBE INC	Adobe Ord...	ADBE.OQ	14.5921	12,520.9150	USD	332.58	0.00	272.19
ECORE.L	14,084.00	ECORA RE...	Ecora Res...	ECORE.L	23.5702	20,224.6240	GBP	1.44	0.00	1.44
HSBA.L	4,048.00	HSBC HO...	HSBC Hol...	HSBA.L	23.3663	20,049.7440	GBP	4.95	0.00	4.95
MSFT.O	63.00	MICROSO...	Microsoft ...	MSFT.OQ	14.8664	12,756.2303	USD	247.40	0.00	202.48
TSCO.L	8,772.00	TESCO PLC	Tesco Ord ...	TSCO.L	23.6050	20,254.5480	GBP	2.31	0.00	2.31

Figure 2.0 – Portfolio After opening 5 asset positions.

Fundamental Assets – Positions

Calculations of the fundamentals in (Appendix I)

Now taking the financial data into account using fundamental analysis (CFI, 2022). Taking data from over 3,000 companies and narrowed down to only 5 suitable shares with significant BUY signals. All calculated using Appendix I, these were then the first positions opened under fundamental analysis. All Data was gathered from Refinitiv screener and filtered based upon region and ESG scores.

Domestic equities (UK) – (£20,000 each)

Unilever PLC	ULVR.L	0.43	49.94	43.54	73.83	41.66	BUY	BUY
Centrica PLC	CNA.L	0.00	0.99	1.36	3.72	0.97	BUY	BUY
Hikma Pharmaceuticals PLC	HIK.L	-0.07	20.67	28.71	69.07	17.05	BUY	BUY

Dividend Valuation method (Blue) proved not as valuable for signals; hence two signals were outputted one including the DVM and one ignoring it. Code to automate these signals can be found in figure 2A of the appendix.

ULVR.L was the first stock chosen, over GSK.L by measure of their ESG scoring. Both had strong signal to buy with >3 intrinsic values indicating it to be undervalued compared to current price (Grey), this led to the decision being based upon their respective sustainability.

CNA.L and **HIK.L** follow suit with being strong signals for buy positions based off the 4 models. Both having a Discount Cash Flow (Tan) to be X4

< current price. The P/E ratio (Green) and Equity Valuation (Pink) showed these stocks to be underperforming in the market.

Foreign Equities (US) – (£12,500 each)

O-I Glass Inc	OI.N	0.00	41.74	17.99	18.79	15.42	BUY	BUY
Suburban Propane Partners LP	SPH.N	0.05	14.17	31.80	27.33	13.11	BUY	BUY

Finally, the foreign equities of **OI.N** and **SPH.N** were the only signals that showed promising strong signals for buy. Both companies provide established sustainability programs for their respective sectors.

Technical Analysis - Positions

Assumption of the Efficient Market Hypothesis (EMH) (Fama, E., 1970) being incorrect and traders being irrational. Establishing patterns and signals within the price charts of stock to find strong positions to open buy positions, this is technical analysis. To narrow the choice the equities used where found based upon country of issuer and a market cap > £100m.

Domestic equities holding are still in line with the asset allocation to be £85,000 in technical: **ASOS.L**, **GRG.L**, and **BARC.L.** Stock opened in this method, were analysed using the Moving Average – Exponential, in the periods: 20, 50, 200. These Are known to give signals at the point of two periods crossing, certain orders also are indictive of the potential momentum of a given stock, this coupled with volume, or the Relative Strength Index (RSI) give a statistical advantage on gathering returns on stocks. (Fernando, J., 2023)

ASOS-Daily, shows strong up trend within the trend channel. With a cross of the 20/50ema signalling buy. The resistance level of 792.5 has been crossed, creating a support level, the resistance for the price sits at the 200ema.

Greggs-Daily, structured EMA establishes a buy opportunity, with strong up trend dating back since OCT-22, a break above the 200ema along with positive news of menu update, Greggs is a textbook buy (Arnold, G., 2010).

Barclays-Daily, establishes support level at 172.40 with multiple tests. Break above the 200ema generates high volume for bullish market stance. Trend channel shows paralleled resistance and support lines.

Alphabet-Daily, failed head and shoulder signal pushes advantage to buyer side, break of 20/50ema with a cross gives way to uptrend within the channel. Resistance lines emerging at 104.00 (psychological fixed number) and 200ema at 104.53.

Disney-Daily, showing new strength with a 20/50ema cross and breaking above 200ema resistance line, testing the new 200ema support level creating strengthed position for a buyers market.

Disney-4hr, showing correlation with daily timescale and bullish volume on the current trades, ema ordering into buy signal, with their earnings report around the corner.

EVENTS >	UPCOMING	PAST
08-Feb-2023		
AMC	Q1 2023 Walt Disney Co Earnings Release	
21:30:00	Q1 2023 Walt Disney Co Earnings Call	
09-Mar-2023		
18:00:00	Walt Disney Co Annual Shareholders Meeting	

MANAGEMENT STAGE

Changing – Positions

Ensuring we diversify the unsystematic risk, (Markowitz, H., 1952) (Stewart, S.D., et al., 2019) it is important we maintain a higher number of stocks we hold; however, it is vital to change positions as all signals do expire (Schwager, J.D., 1995), therefor a middle ground was made, we would hold as many until profits were realised, adjust for risk and events in the news.

Week 10 – February 21/02 Portfolio Significant Changes

TCKR	POSITION	DATE
TSCO.L	SELL	21/02/02023
HSBA.L	SELL	21/02/02023
GOOG.O	SELL	21/02/02023
OI.N	SELL	21/02/02023
SPH.N	SELL	21/02/02023
MSFT.O	BUY	21/02/02023
EW.O	BUY	21/02/02023
NVDA.O	BUY	21/02/02023
RR.L	BUY	21/02/02023

Remaining Stock in Appendix 2.0

Reasoning – SELL Positions

Tesco PLC and HSBC PLC were trading positions holding good profit. Sold 765 units of TSCO.L @£2.50, sold 958 units of HSBA.L @6.48, These positions both were strong profits and selling was only to hold original entry values. See Appendix 1.0-1.9.

HSBA.L – Sold profit, Trend channel showed clear uptrend, 20/50/200 EMAs in order of BUY, however RSI is approaching overbought state in 80% range, indicating a good time to clear profits.

Complete position closes of GOOG.O 152@£75.83, OI.N 839@£17.70, SPH.N 987@£12.75,

GOOG.O Technical position shows EMAs in sell position with cross of 20/50 emerging into strong signal over the weekend.

This yielded a total of **£47087.35** to open positions with this divided up to take on an extra position, this was split 4 ways, £11,750 for each new stock.

A significant reinvestment into MSFT.O was made due to the long potential arising from the technical analysis, also news around this subject was indicating strong potential for growth in price. To increase reward, we must increase the risk (Arnold, G., 2014).

A strong buy sign for RR.L

Since 2021 the Rolls Royce share price has been oscillating within a roughly 40-to-50 pence band around the 55-week simple moving average (SMA) which continues to point downwards. (Refinitiv, 2023)

Furthering momentum comes from an earnings release by FTSE-100, realised profits will be dependent on outcomes from this news and how the share price is revalued by investors.

Ticker	Units	Price (GBP)	Unit x Price	
RR.L	10,682	1.45	15488.9	31.82%
GRG.L	741	27.12	20095.92	0.07%
DIS.N	141	82.28	11601.48	-19.40%

28/02/2023 – Performing CAPM on these stocks, Two sell positions on DIS.N and GRG.L were taken with great profits in the recent RR.L purchase, up over 30% within a trading week, this will be held until further profits are made, technical analysis showed momentum and strength.

COST of Living Crisis

Taking an advancement into the higher growing price of domestic UK groceries (Butler, S., 2023) as prices see new highs

BUY			
COST.O	25	399.93	9998.25
SBRY.L	3731	2.68	9999.08
TSCO.L	4,587	2.55	11696.85
			31694.18

TSCO.L showed great investment potential, hence risking more capital into the growth was made to improve the holding on the position, this is backed along with opening positions in two other similar services as the industry sees profits.

MARCH Bank Madness

Silicon Valley Bank creates huge wave in reporting closure, stock scare creeps over into the UK share prices creating high risk to hold these financials, hence a complete sell off.

BUY	***Units***	**Price (£)**	*Totals*
GSK.L	940	13.99	13150.6
AZN.L	123	106.98	13158.54
DGE.L	375	35.01	13128.75
FEVR.L	1240	10.61	13156.4
			52594.29
SELL	***Units***	**Price (£)**	*Totals*
HSBA.L	3090	5.93	18323.7
BARC.L	10753	1.574	16925.222
ECORE.L	14084	1.232	17351.488
			52600.41

Further Holdings/Weekly choices in Appendix III

Pushing the holdings into a domestic industry that is performing better, pharmacy.

Consumer non-cyclicals also shows to be performing better within this Monthly return tree map.

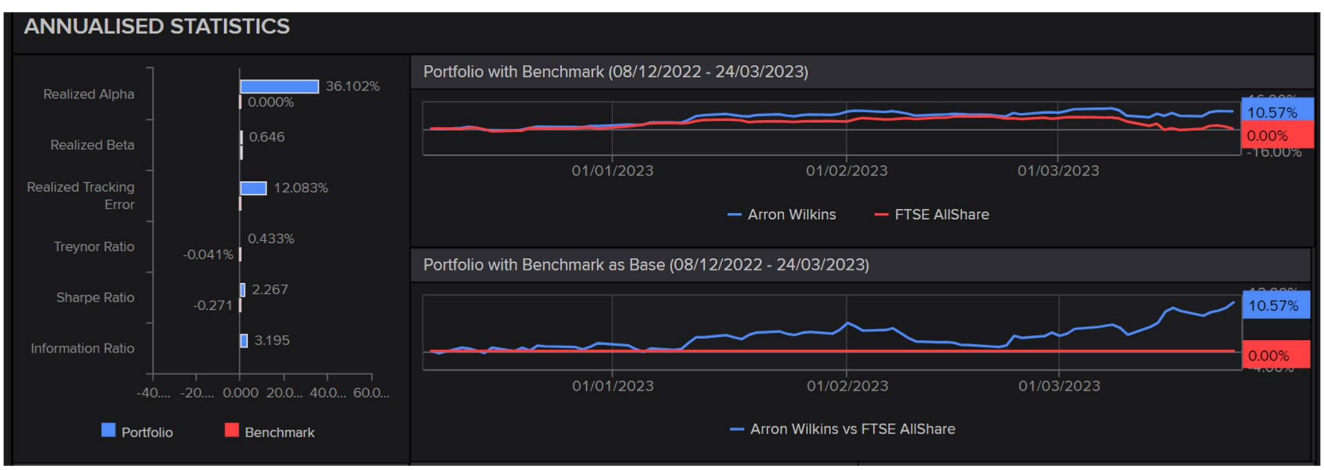
AZN.L shows to be approaching an oversold state, meaning the price can rebound and grow from a good low buying position, lower trends on the 4hr show growth in the support level, approaching the closing resistance level, indication potential momentum for bulls.

Evaluation of Portfolio Performance

Measure	Portfolio	Benchmark (FTSE)	Andy's Portfolio	Hrithik's Portfolio
Risk Adjusted Returns				
Treynor Ratio	0.43%	-0.04%	0.10%	-0.27%
Sharpe Ratio	2.27	-0.27	0.65	-1.12
Realised Risk				
Jensen's Alpha	36.12%	0.00%	10.91%	-23.62%
Realised Beta	0.65	1.00	0.65	1.02
Standard Deviation	14.56	15.00	12.08	24.78
Holding Period Yield (HPY)	10.57%	0.01%	3.66%	-8.33%
For Period: 08/12/2022 - 24/03/2023				

Returns

In line with the Investment objectives, outlined by Mr. Anand, this portfolio has achieved the desired return on the initial investment. Portfolio's HPY (10.57%) outperformed the FTSE (0.01%) and Andy and Hrithik's portfolios. The desired 2% benchmark within 15Weeks and 7% return in 1Year has been beat within the 15Week period. We can see the Poftolio's highest securities lied within Pharmaceuticals and industries, all of which are significant gainers. Comparing to longer period treasury bonds, would not make the return this portfolio yielded or liquidation with the portfolio.



Risk Adjusted Return

Evaluating the returns based by the risk undertaken, Treynor ratio of 0.43% shows how the portfolio has outperformed the benchmark -0.04. This higher Treynor metric reveals the portfolio generated greater return per unit of systematic risk than the benchmark, and other portfolios. The Sharpe ratio concurs with this, with a ratio of 2.27, this is significantly higher than the benchmark and other portfolios, showing that the portfolio can expect greater returns during volatile events.

Realised Risk

The portfolio's Jensen Alpha, of 36.12%, shows superior performance in the returns given the risk undertaken. This can be a sign of effective and active management, implying the strategy and market assessment used has gone beyond what the benchmark suggested. The Efficient Market Hypothesis would suggest this to be 'luck' and will not be replicated if continued (Fama, E., 1970). However, the beta (0.65) suggests the portfolio is exposed to less systematic risks than the benchmark and that the defensive positioning of the portfolio may incline the portfolio to suffer less loss during market declines, this also implies less gain during market gains. This therefor can be used as a limitation of the portfolio's risk, as greater riskier positions could have been undertaken to further seek to gain in market uptrends.

Comparing this risk metric to the Standard deviation, (14.56) this shows the portfolio was exposed to less volatility to the benchmark, showing the returns on average less than the bench, giving a sign that EMH may stand to be true. This lower standard deviation could also be linked from effective diversification in the portfolio, which would be conclusive with the lower beta. This compared to the HPY of 10.57% shows the portfolio has been assertive in the acquisition of returns.

Portfolio Comparison

The strategy and style of investing for this portfolio was like that of Andy and Hrithik's portfolios, therefor making it a good comparison to mention. Our portfolio outperformed both Andy's and Hrithik's portfolios in terms of absolute returns (HPY values) and risk-adjusted returns (Treynore and Sharpe). Additionally, the greatest outperformance metric was for the Jensen's Alpha. It sees a lower volatility to Hrithik's, but also higher than Andy's volatility (Standard Deviation). Andy's portfolio exposure to market movements is equal, however does not generate equal returns.

Which suggests that my management style, pushes away from EMH and proves greater returns can be yielded above market norms.

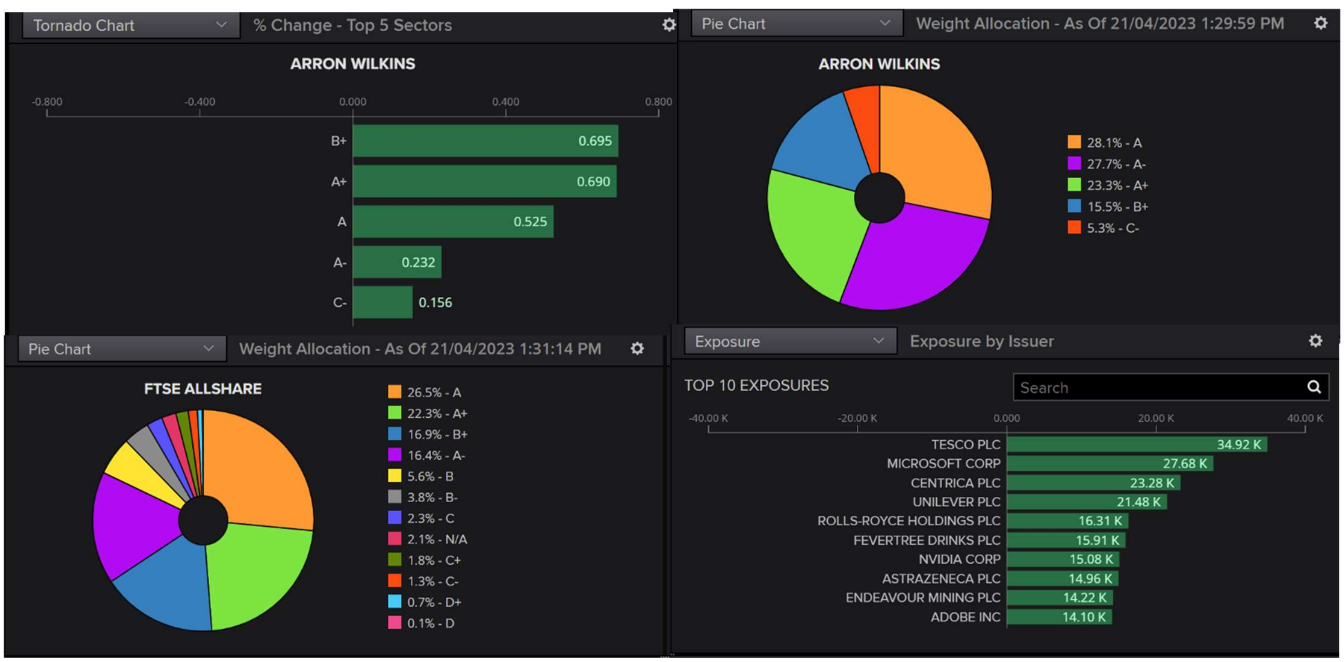
Random Vs. Technical

	Random		08/12/2022 @16:51		
Type	**Split**	**Ticker**	**Units**	**Price (GBP)**	**Unit x Price**
Domestic Eq	60000	**TSCO.L**	8,772	2.28	20000.16
		ECORE.L	14084	1.42	19999.28
		HSBA.L	4048	4.94	19997.12
Foreign Eq	25000	**MSFT.O**	63	200.39	12624.57
		ADBE.OQ	46	267.89	12322.94
Total	85000				84944.07

	Technical		01/02/2023 @10:45		
Type	**Split**	**Ticker**	**Units**	**Price (GBP)**	**Unit x Price**
Domestic Eq	60000	GRG.L	741	27	20007
		BARC.L	10753	1.86	20000.58
		ASOS.L	2245	8.91	20002.95
Foreign Eq	25000	DIS.N	141	88.02	12410.82
		GOOG.OQ	152	81.03	12316.56
Total	85000				84737.91

The Random Assets at the end of the portfolio that were still held outperformed the technical assets. TSCO.L proved to be a highly valued investment and was significantly invested into during this process. Based on the technical analysis only giving temporary signals, all technical analysis positions were managed and closed.

Portfolio ESG score



The ESG scoring was a large part of the decision-making process, to keep inline with the philosophies of the client, Mr. Ananad. The portfolio kept the majority of the assets in A, A-, and A+ gradings, with 79.1% of the portfolio being held in high ESG ratings, nothing below C-, 5.3% holding. This upholds the portfolio to be sustainable and conscious of environmental impact when investing the client's wealth. Comparatively to the benchmark, the FTSE holds less sustainable assets, however, does hold a majority of sustainable A graded assets. Yet the portfolio proves to be a higher performing and more sustainable assets grouping to invest into.

Reflection of the Portfolio Management Process

Portfolio Management Process

What Worked Well?

The portfolio saw great benefits early on from the random assets, this helped give the ability to work around potential losses and therefor free up assets to relocate. Impressively, the portfolio handled the management phase with great benefit, leveraging political, and geopolitical events to aid the performance of the portfolio, the cost-of-living crisis put pressure on businesses yet raised groceries, also the Silicon Valley bank collapse created significant shortfalls in the financial industry, these major events were used to generate positive returns. The Technical analysis methods used worked well with the portfolio, the ease of use and time efficiency enabled positions to be monitored and adjusted within seconds, also the short time frame of the portfolio's operation meant shorter profit windows were needed. Enabling the ability to take on higher risk positions in shorter periods of time and create exit strategies to increase the return on the portfolio, limiting exposure and losses.

What Did not Work Well?

The Fundamental analysis method was slow, long, and derived poor or inconclusive results. Most companies did not list dividends, hence using the dividend growth model to access their value was a useless task. The approach of allocating high risk, was a drawback to the portfolio as it enabled the management to focus on higher riskier asset, causing potential oversights and losses.

What Would I Do Differently

In future or further implementation of the portfolio, I would personally lower the risk of the total portfolio, the high exposure over an extended length of time will result in losses to the overall performance, EMH suggests that a prolonged exposure will yield no abnormal returns (Fama, E., 1970) I believe this applies. Instead, I would focus longer holdings to realise smaller percentage gains over lengthier periods of time. Also, a more proactive management style through monitoring events like earnings reports and news more closely could minimise the potential losses and even generate new wealth. If able I would perform not only long positions, but also short positions for maximising the portfolios returns. Within a market decline it is easier to spot short potential than long potentials.

Time-Frame Impact

My knowledge around this subject has been of keen interest from prior life experience to university, this said however a greater depth into the abilities that can be undertaken within the report would be more ideal. There are various methods and philosophies that can be applied and be very ideal in combined use of the material taught within the lesson. The module's coverage of knowledge gives a stable guide to achieve returns for any investor, however, lacks essential awareness indicators that commonly arise and negatively impact performance of portfolios.

Conclusion

To conclude this report, the portfolio was a success during the 15Week investment process and gained 10.57% ROI, 8 points above the required rate, and 7% annual rate. This shows that my management style and choices allowed the potential for me to outperform the benchmark of the FTSE in the same given period. Furthermore, this report highlights the assumption of the Efficient Market Hypothesis, where this portfolio be seen to make abnormal profits beating the market. However, EMH states, if continues, the portfolio would find the risk of the assets to diminish the returns and would eventually average out to the market. Mr. Ananad's philosophies of environmental concern were also considered with the portfolio being more sustainable than the benchmark.

REFERENCES

ARNOLD, G. (2010) *The Financial Times Guide to Investing: The Definitive Companion to Investment and the Financial Markets*. Prentice Hall: Financial Times.

ARNOLD, G. (2014) *The Financial Times Guide to Investing*. 3rd ed: Ft Publishing International.

Atkinson, A. and Bergin, C. (2022) *UK inflation hits 10.1% for the first time in 40 Years*, *Bloomberg.com*. Bloomberg. Available at: https://www.bloomberg.com/news/articles/2022-08-17/uk-inflation-rises-more-than-expected-to-40-year-high-of-10-1?utm_medium=cpc_search&utm_campaign=NB_ENG_DSAXX_DSAXXXXXXXXX_EVG_XXXX_XXX_Y0469_EN_EN_X_BLOM_GO_SE_XXX_XXXXXXXXXX&gclid=Cj0KCQiA-JacBhC0ARIsAIxybyPg7A5gxFNeAiuyzdfPjFBtp91YR2W58-rhxkVbTFsFpHUUTSkgFiUaAp7YEALw_wcB&gclsrc=aw.ds&leadSource=uverify+wall#xj4y7vzkg (Accessed: November 30, 2022).

BBC (2022) *What is the energy price cap and what will happen to bills?*, *BBC News*. BBC. Available at: https://www.bbc.co.uk/news/business-58090533 (Accessed: November 30, 2022).

BBC (2022) *What is the UK inflation rate and why is the cost of living rising?*, *BBC News*. BBC. Available at: https://www.bbc.co.uk/news/business-12196322 (Accessed: November 30, 2022).

BBC (2022) *What was in the mini-budget and what is the government's new plan?*, *BBC News*. BBC. Available at: https://www.bbc.co.uk/news/business-62920969 (Accessed: November 30, 2022).

BoE (2022) *How does the housing market affect the economy?*, *Bank of England*. BoE. Available at: https://www.bankofengland.co.uk/knowledgebank/how-does-the-housing-market-affect-the-economy (Accessed: November 30, 2022).

Bonds (no date) *Investor.gov*. United States Government . Available at: https://www.investor.gov/introduction-investing/investing-basics/investment-products/bonds-or-fixed-income-products/bonds (Accessed: November 30, 2022).

Brignall, M. (2022) *UK mortgage approvals for October Fall 10% after mini-budget*, *The Guardian*. Guardian News and Media. Available at: https://www.theguardian.com/business/2022/nov/29/uk-mortgage-approvals-for-october-fall-10-following-kwarteng-mini-budget (Accessed: November 30, 2022).

BUTLER, S. (2023) *A quarter of British shoppers struggle as grocery prices soar*. [Online] Available from: https://www.theguardian.com/business/2023/feb/28/british-shoppers-grocery-prices-kantar [Accessed Mar, 2023].

CFI (2023) *Fundamental Analysis*. [Online] Available from: https://corporatefinanceinstitute.com/resources/valuation/fundamental-analysis/ [Accessed Apr 2023].

Croal, P. (2022) *Average household income, UK: Financial year ending 2021*, *Office for National Statistics*. Office for National Statistics. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2021 (Accessed: November 30, 2022).

ESG scores (2022) *Refinitiv*. Refinitiv. Available at: https://www.refinitiv.com/en/sustainable-finance/esg-scores (Accessed: November 30, 2022).

FAMA, E. (1970) Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance,* 25 (2), pp. 383–417.

FERNANDO, J. (2023) *Relative Strength Index (RSI) Indicator Explained With Formula*. [Online] Available from: https://www.investopedia.com/terms/r/rsi.asp [Accessed Apr 2023].

Fidelity Fund portfolios (no date) *Fidelity Fund Portfolios*. Available at: https://www.fidelity.com/mutual-funds/fidelity-fund-portfolios/overview (Accessed: November 30, 2022).

Groves, J. (2022) *Understanding compound interest*, *Forbes*. Forbes Magazine. Available at: https://www.forbes.com/uk/advisor/investing/understanding-compound-interest/ (Accessed: November 30, 2022).

Guardian (2022) *Millions of UK households to pay more for energy from April*, *The Guardian*. Guardian News and Media. Available at: https://www.theguardian.com/politics/2022/nov/16/millions-of-uk-households-to-pay-more-for-energy-from-april (Accessed: November 30, 2022).

Handley, E. and here, P.enter your name (2022) *The cost of raising a child has increased by 21% in four years*, *Open Access Government*. Available at: https://www.openaccessgovernment.org/the-cost-of-raising-a-child-has-increased-for-families/136613/#:~:text=The%20cost%20of%20raising%20a%20child%20up%20to%20the%20age,and%20pre%2Dschool%20constantly%20changing. (Accessed: November 30, 2022).

Harby, J. (2022) *Cost of living: Families face struggle to maintain living standards*, *BBC News*. BBC. Available at: https://www.bbc.co.uk/news/uk-england-leicestershire-63573517 (Accessed: November 30, 2022).

Introduction to investment bonds and gilts (no date) *Barclays Smart Investor*. Barclays. Available at: https://www.barclays.co.uk/smart-investor/investments-explained/cash-and-bonds/introduction-to-investment-bonds-and-gilts/ (Accessed: November 30, 2022).

Marquit, M. (2022) *Understanding liquidity and liquid assets*, *Forbes*. Forbes Magazine. Available at: https://www.forbes.com/advisor/investing/liquidity-and-liquid-assets/ (Accessed: November 30, 2022).

Median household disposable income in the UK was £31,400 in financial year ending (FYE) 2021

National Security and Investment Act 2021 (2021) *Legislation.gov.uk*. Queen's Printer of Acts of Parliament. Available at: https://www.legislation.gov.uk/ukpga/2021/25/contents/enacted (Accessed: November 30, 2022).

Pettinger, T. (2022) *Effect of raising interest rates*, *Economics Help*. Available at: https://www.economicshelp.org/macroeconomics/monetary-policy/effect-raising-interest-rates/#:~:text=With%20higher%20interest%20rates%2C%20interest,areas%20of%20consumption%20will%20fall. (Accessed: November 30, 2022).

Pros and cons of stocks and Bonds (no date) *Capital Group*. Available at: https://americanfundsretirement.retire.americanfunds.com/planning/what-is-asset-allocation/stocks-and-bonds.html (Accessed: November 30, 2022).

SCHWAGER, J.D. (1995) *Technical Analysis* . Vol 43 ed: John Wiley & Sons.

Sky News Data and Forensics Unit (2022) *Cost of living: Why are food prices rising at the fastest rate since 1980?*, *Sky News*. Sky. Available at: https://news.sky.com/story/cost-of-living-why-are-food-prices-rising-at-the-fastest-rate-since-1980-12723696# (Accessed: November 30, 2022).

STEWART, S.D., PIROS, C.D. and HEISLER, J.C. (2019) *Portfolio management: Theory and practice*: John Wiley & Sons.

Su, S. *et al.* (2022) *Rising oil shipping costs pile pressure on crude markets*, *Bloomberg.com*. Bloomberg. Available at: https://www.bloomberg.com/news/articles/2022-11-22/oil-freight-at-100-000-piles-pressure-on-physical-crude-market (Accessed: November 30, 2022).

Understanding high-risk investments (2022) *FCA*. FCA. Available at: https://www.fca.org.uk/investsmart/understanding-high-risk-investments (Accessed: November 30, 2022).

War in Ukraine (2022) *BBC News*. BBC. Available at: https://www.bbc.co.uk/news/world-60525350 (Accessed: November 30, 2022).

What are equity investments? (no date) *BlackRock*. Available at: https://www.blackrock.com/us/individual/education/equities (Accessed: November 30, 2022).

APPENDIX

Appendix I – Fundamental Calculations

DVM was calculated using the formula:

$$S_0 = \frac{d_0(1+g)}{r_e - g}$$

Taking each companies dividends into account and dividing by the cost of equity less the growth rate. For further insight see figures 2.2 & 2.21.

P/E Ratio:

$$V_t = \frac{P}{E} E(EPS_{t+1})$$

Using the price and Earnings-per share gave an intrinsic value which can be compared against current price. See Figure 2.22

Equity Valuation:

$$V_0 = \frac{E(EPS_{t+1})}{r_e}$$

This takes the forecasted EPS over the Cost of equity.

Discounted Cash Flow

$$V_t^{DCF} = \frac{FCF_t(1+g_{FCF})}{WACC - g_{FCF}}$$

Growth-rate of FCF and WACC gives the valuation of the company we then less the long-term-debt all over shares, gives an intrinsic value.