KING'S INVESTMENT FUND PORTFOLIO REPORT

Group 35 - Spoons Capital

20 JUNE 2025

SPOONS CAPITAL

Contents

Group Member & Roles

Harkishen Singh

Equity Analyst

Joel Goldie

Fundamental & Equity Analyst

Yun-Chen Chen

Equity Analyst

Chia-Yi Chien

Equity Analyst

Ning-Hsi Wang

Portfolio & Equity Analyst

Macroeconomic Outlook

Economic Growth and Outlook

The UK economy entered 2025 with modest but positive momentum following a challenging 2024. GDP growth for 2024 reached 0.9%, slightly below the initial forecast of 1.0%. The economy showed strength in the final quarter of 2024, with December recording 0.4% monthly growth following 0.1% growth in November.

Economic forecasters projected subdued but steady growth for 2025, with the CBI forecasting 1.6% GDP growth for the year, down from their earlier projection of 1.9%. This downgrade reflected concerns about the impact of the Autumn Budget measures, particularly higher employment costs weighing on business investment and activity.

Consumer spending was expected to provide the primary driver of growth through 2025, though at a more moderate pace than previously anticipated due to slower real income growth. Business investment remained challenged by productivity constraints and the crowding-out effects of increased government expenditure.

Inflation and Monetary Policy

UK inflation dynamics presented a complex picture entering 2025. After reaching a three-year low of 1.7% in September 2024, inflation began to creep higher, reaching 2.6% by November 2024. The Bank of England expected inflation to rise further to 3.5% by Q3 2025 before gradually declining back to the 2% target by Q1 2027.

The inflationary pressures stemmed from several sources, including energy price increases, regulatory price adjustments for utilities, and wage growth pressures as employers faced higher National Insurance contributions following the Autumn Budget. Despite these concerns, the underlying inflation trend remained more manageable than the extreme levels experienced in 2022-2023.

The Bank of England maintained a cautious approach to monetary policy, with the base rate at 4.75% as of December 2024. Market expectations pointed to gradual rate cuts through 2025, with forecasts suggesting rates could fall to around 3.8% by Q4 2025. This accommodative monetary policy outlook provided support for equity valuations and business investment prospects.

Fiscal Policy Impact

The Labour government's first Autumn Budget significantly shaped the economic landscape entering 2025. Key measures included increases to employer National Insurance contributions, which were expected to weigh on business confidence and hiring decisions. The budget also featured substantial increases in public spending, funded through higher borrowing and taxation.

Business confidence surveys reflected concerns about these fiscal changes, with the British Chambers of Commerce reporting confidence at its lowest level since the mini-budget crisis of Autumn

2022. The combination of higher employment costs and increased regulatory burden was expected to constrain private sector activity in the near term.

Political Climate

Today's climate has been shaped by the confluence of three major global events. The enduring conflict in Ukraine has forced a fundamental rethink of European security and energy policy. Simultaneously, the persistent strategic competition between the United States and China continues to reorder global trade and technology supply chains. Finally, the global economy is still navigating the unique aftershocks of the COVID-19 pandemic, which has created distinct patterns of recovery and demand. These powerful dynamics have established the dominant investment themes of our time and provide a clear methodology for stock selection.

The most acute feature of the current European political climate is the enduring conflict in Ukraine. This has cemented a fundamental and long-term shift in security policy. A non-discretionary spending cycle is now firmly established across NATO members as they seek to meet and exceed defence spending targets of 2% of GDP. This creates a highly favourable and visible demand environment for companies central to the defence and aerospace supply chains. In parallel, the conflict has permanently altered the conversation around energy. The imperative for energy security and independence from volatile state actors has reinforced the strategic importance of large, reliable, and diversified energy producers, providing a supportive backdrop for the sector.

Overlaying this is the ongoing strategic competition between the United States and China. This dynamic continues to drive a "de-risking" of critical supply chains and a heightened focus on technological sovereignty. While creating broad market uncertainty, this environment presents opportunities for multinational companies that are adept at navigating complex geopolitical terrain. In particular, global financial institutions that facilitate international trade and capital flows, and companies with resilient, diversified supply chains, are well-positioned to manage the challenges of this new era of great-power rivalry.

Finally, the global economy continues to operate within the context of post-pandemic normalisation. A key structural trend is the robust recovery in global travel, particularly in long-haul aviation. This creates a clear and sustained tailwind for the civil aerospace sector, especially for businesses with revenue models tied directly to flight hours and engine servicing.

Within the UK specifically, a period of relative political stability has emerged after years of volatility. However, a legacy of that past uncertainty remains in the form of a "Brexit Discount"—a persistent valuation gap between UK-listed equities and their global peers. This creates a compelling opportunity to invest in world-leading, globally-focused companies at a discount, simply due to their UK domicile. An investment strategy that aligns with these current realities—targeting companies benefiting from increased defence spending, energy security, and the rebound in travel, while leveraging the valuation anomaly in the UK market—is exceptionally well-suited to today's political and economic climate.

Industries Analysis

Tech

Industry Trajectory

The UK technology sector, particularly in digital transformation and enterprise IT services, is poised for sustained growth despite macroeconomic headwinds. Government support for digitalisation—across healthcare, tax, and civil services—continues to drive demand, with initiatives like the NHS Long Term Plan and UK Digital Strategy reinforcing long-term contracts (Department for Science, Innovation and Technology, 2024). Organisations across sectors are prioritising legacy system upgrades, cloud migration, and business process automation, with the UK IT services market expected to grow at a CAGR of 6–8% over the next five years (Statista, 2024). Kainos Group PLC operates directly in these high-growth areas, particularly through its public sector digital consultancy and Workday software services. The shift to hybrid working and scalable digital infrastructure further reinforces demand for secure, user-centric platforms—Kainos' core competency. Unlike high-volatility tech segments, this enterprise-focused model offers stable, recurring revenue and long-term client relationships. With digital transformation now viewed as a necessity rather than a discretionary expense, the UK tech services space remains an attractive and resilient sector for medium-term investment.

Risk Considerations and Industry Resilience

Despite positive trends, the UK tech sector faces identifiable risks. Budget constraints in public spending could impact firms like Kainos, which derive significant income from government contracts. However, digital transformation remains a top policy priority, making project continuity likely regardless of political shifts (HM Treasury, 2024). Talent shortages also pose a risk, yet Kainos' investment in graduate hiring and training helps mitigate this constraint (Kainos, 2024). Rapid technological evolution, especially in AI, may disrupt traditional service models. Nonetheless, Kainos is actively expanding its AI capabilities, positioning itself to integrate rather than compete with emerging technologies. Sector-wide valuation pressures caused by interest rate volatility are also less severe for service-based tech companies with low capital intensity. Kainos' consistent profitability, debt-free balance sheet, and high cash reserves offer a buffer against macroeconomic shocks. Additionally, the firm's focus on essential, long-term digital infrastructure projects provides resilience that pure-play software or consumer tech firms may lack. Overall, while risks are present, they are well understood and manageable within a sector that is structurally supported by long-term digital demand.

Financials

Industry Trajectory

The UK financial services industry is currently positioned for a moderate recovery, offering a realistic and well-justified investment case. Following a prolonged period of high interest rates used to combat inflation, the Bank of England is now expected to begin monetary easing in late 2024 or early 2025 as inflation continues to fall and economic activity stabilises (Bank of England, 2024). This shift is likely to benefit UK banks by stimulating credit demand while maintaining relatively strong net interest margins, a key driver of bank profitability (PwC, 2024). The UK banking sector has also proven resilient through recent macroeconomic shocks, with major banks maintaining CET1 capital ratios above 13% and robust liquidity positions (Financial Conduct Authority, 2024). Additionally, digital transformation continues to reshape the UK banking landscape. Traditional institutions like Santander UK and HSBC UK are investing heavily in digitisation to improve operational efficiency and compete with agile fintech challengers, a trend that enhances long-term competitiveness (EY UK, 2023). Furthermore, London's position as a global financial centre supports ongoing growth in areas such as corporate finance, wealth management, and green finance.

Risk Considerations and Industry Resilience

However, certain risks remain. The UK's economic recovery is fragile, with GDP growth projected at just 0.8% in 2025, and elevated household debt levels could result in an uptick in non-performing loans if wage growth stalls or unemployment rises (Office for Budget Responsibility, 2024). Geopolitical uncertainty and post-Brexit regulatory divergence also pose risks to cross-border financial activity.

Nevertheless, UK banks have significantly strengthened risk management practices since the 2008 crisis, and regulatory oversight under the Prudential Regulation Authority ensures high standards of solvency and conduct. In terms of consumer lending, stress testing indicates that most major banks could absorb significant shocks without breaching capital requirements (Bank of England, 2024). While fintech competition continues to pressure margins in retail banking, traditional banks have increasingly formed partnerships with or acquired smaller firms to integrate innovation into their business models (McKinsey & Company, 2023).

Industrials

Industry Trajectory

The UK industrials sector, particularly the defence and aerospace segments, is experiencing a resurgence driven by elevated geopolitical tensions, rising global defence budgets, and renewed focus on energy efficiency. Defence spending across NATO is rising, with the UK government reaffirming its commitment to spend at least 2.5% of GDP on defence by 2030 (HM Government, 2024). This trend significantly benefits BAE Systems, the UK's largest defence contractor, with long-term contracts tied to sovereign security priorities. Meanwhile, the commercial aerospace segment is recovering from pandemic-era disruptions, with global air travel now surpassing 2019 levels and aircraft manufacturers facing a large backlog of orders (IATA, 2024). Rolls-Royce, a major supplier of aircraft engines and defence propulsion systems, is well-positioned to capitalise on this recovery. Additionally, the push toward decarbonisation and clean energy innovation has created opportunities for industrial firms with expertise in nuclear, hydrogen, and electrification technologies—core areas of growth for Rolls-Royce (Rolls-Royce, 2024). Overall, the UK's advanced engineering base, strong R&D pipelines, and export-oriented manufacturing model support a robust outlook. The sector combines cyclical recovery with structural defence demand, making it an attractive area for medium- to long-term investment.

Risk Considerations and Industry Resilience

Despite strong growth signals, the UK industrials sector faces several risks. Supply chain disruptions—particularly in semiconductors, raw materials, and skilled labour—can delay production or raise costs. However, major firms like BAE and Rolls-Royce have vertically integrated processes and strong supplier relationships, which help maintain operational continuity (BAE Systems, 2024). Political risk, including shifting defence priorities or regulatory pressures, could affect order volumes. Yet, the long-term and government-backed nature of many defence contracts provides predictable revenue streams and high visibility. Environmental regulation is another area of concern, especially for aerospace manufacturers. In response, both BAE and Rolls-Royce are investing heavily in low-carbon technologies, including sustainable aviation fuels and modular nuclear power, aligning themselves with evolving ESG standards (PwC, 2023). Currency fluctuations may also impact earnings, given the global nature of aerospace exports. However, most firms hedge FX exposure through financial instruments and natural offsets.

Consumer

Industry Trajectory

The UK consumer sector, particularly hospitality, is gradually recovering amid easing inflation and resilient nominal wage growth (ONS, 2024). Despite ongoing cost-of-living pressures, pub and casual dining operators have benefited from a return to social spending, with on-trade sales up 6.4% in early 2024 (CGA, 2024). J D Wetherspoon is well-positioned within this environment due to its low-price model and wide national footprint. Increased footfall in city centres, along with continued demand for affordable dining, supports volume growth. While discretionary spending remains sensitive, changing consumer habits favour value-led, informal venues. Wetherspoons' appeal to a broad demographic and focus on efficiency aligns well with post-pandemic trends in UK hospitality. The firm's scale and strategic pricing offer an advantage in maintaining traffic even during economic uncertainty, making the sector—particularly at the value end—an attractive opportunity for steady, demand-driven growth.

Risk Considerations and Industry Resilience

The hospitality sector faces pressures from high input costs and labour shortages. However, Wetherspoon's scale and supply chain efficiencies help contain inflationary impact (Wetherspoon, 2024). Labour issues are partly offset by tech adoption (e.g. mobile ordering) and staff retention initiatives. Economic volatility poses risks to demand, but the company's affordability makes it resilient as consumers trade down from pricier venues. Regulatory changes (e.g. alcohol duty or licensing laws) remain a sector risk, yet Wetherspoon has historically adapted via pricing strategy and flexible estate management. Interest rate pressures could raise financing costs, but the firm's post-pandemic deleveraging strengthens its financial position.

Energy

Industry Trajectory

The UK energy sector is undergoing structural transition, balancing traditional fossil fuel production with the growth of renewable energy. Shell PLC, a global energy major, is strategically positioned in both segments. Elevated oil and gas prices, driven by geopolitical instability and supply constraints, have supported upstream profitability since 2022 (IEA, 2024). In parallel, the UK's legally binding net-zero 2050 target and rising global demand for LNG, biofuels, and hydrogen underpin investment in Shell's energy transition strategy (Shell, 2024). Despite short-term volatility in commodity markets, energy security concerns and decarbonisation policies are ensuring sustained capital allocation into diversified energy portfolios. Shell's integrated business model, global footprint, and strong cash flows provide resilience and flexibility in navigating this dual-market environment. With global energy demand expected to rise 25% by 2045 (OPEC, 2023), the UK energy sector remains a compelling space for medium-term investment, offering both cyclical upside and long-term structural relevance.

Risk Considerations and Industry Resilience

The energy sector faces several material risks, including commodity price volatility, regulatory tightening, and ESG scrutiny. However, Shell mitigates price risk through its vertically integrated operations and hedging strategies, enabling more stable cash flows (Shell, 2024). Regulatory shifts toward net-zero targets may constrain hydrocarbons, but Shell's transition strategy—including major investments in renewables, hydrogen, and carbon capture—aligns with future policy environments. Climate litigation and investor activism present reputational risks, yet Shell has improved transparency in emissions reporting and sustainability targets. Operational risks, such as geopolitical disruption or environmental incidents, remain inherent in energy production. However, Shell's global diversification and risk management protocols help limit impact. Additionally, high interest rates could affect project financing, though Shell's strong balance sheet and cash position provide funding flexibility.

Healthcare

Industry Trajectory

The UK healthcare sector remains a structurally attractive investment space, underpinned by demographic ageing, rising chronic disease prevalence, and increasing global healthcare expenditure. AstraZeneca is well-positioned to benefit from these trends through its focus on high-demand therapeutic areas such as oncology, respiratory disease, and rare conditions. The company also has a strong presence in emerging markets, where access to healthcare and pharmaceutical consumption are expanding rapidly (AstraZeneca, 2024). Global health spending is expected to continue rising steadily, reaching 10.7% of global GDP by 2030 (WHO, 2023). The post-pandemic shift towards innovation—particularly in biologics, mRNA platforms, and digital health—further enhances long-term growth prospects. With a consistent investment in R&D and one of the strongest pipelines among global pharma firms, AstraZeneca is well placed to capture sustained value in a sector that remains defensive in downturns and benefits from long-term structural demand.

Risk Considerations and Industry Resilience

The healthcare industry is exposed to several risks, including patent cliffs, regulatory delays, and political scrutiny over drug pricing. AstraZeneca mitigates these through continuous reinvestment in R&D—over $9 billion annually—producing a deep pipeline to replace at-risk revenue streams (AstraZeneca, 2024). Regulatory risk is minimised through a strong track record of approvals and global regulatory engagement. While pricing pressure is intensifying in the US and Europe, AstraZeneca’s focus on targeted, high-efficacy drugs in oncology and rare diseases lowers susceptibility to generic competition. Geographic and product diversification also insulates the firm from single-market shocks or clinical setbacks. Additionally, the company maintains manufacturing and supply flexibility across regions, reducing operational risks related to geopolitical instability.

Stock Analysis

BAE Systems (LSE: BA)

Business Summary

BAE Systems plc is a leader in cutting-edge, tech-driven defence, aerospace and security offerings. It delivers ship repair, upkeep, upgrades, conversions and overhauls for naval fleets, government bodies and select commercial clients. In its Electronic Systems division (UK & US), it designs and builds electronic-warfare suites, navigation and electro-optical sensors, plus digital engine and flight-control systems for both military and civilian aircraft.

The Platforms & Services arm—operating across the US, Sweden and the UK—produces and upgrades combat vehicles, weapons and munitions, and handles long-term sustainment and support. Its Air segment focuses on aircraft manufacture and maintenance, while Maritime covers both sea-going and on-shore operations. Finally, the Cyber & Intelligence group unites its Intelligence & Security and Digital Intelligence businesses to offer advanced cyber-security, data-analysis and intelligence services.

Fundamentals

The table below shows the fundamentals of BAE based on the data in Dec 2024. From the table, we can see that BA is above the industry average in terms of Gross Margin, Net Margin, and ROE. Other items are either the same or close to the industry average.

However, there are still some concerns about its financial health. Firstly, its total debt percentage of total equity is 86%, yet the industry average is around 47%, which means that it has higher leverage than industry peers. Secondly, its current ratio was 0.95, a slightly lower than the industry average (1.2), showing less liquidity.

	BA	Change Y/Y	Industry
Gross Margin	61.47%	-1.19%	39.90%
Operating Margin	9.32%	-0.60%	9.32%
Net Margin	7.76%	-0.65%	6.04%
Asset Turnover	0.75	3.17%	0.75
ROE	18.14%	0.60%	12.63%
Times Interest Earned	4.4	-34.60%	7.2

Financial with Peers

We compared financials and trading multiples with industry peers including Airbus, Lockheed Martin, Rolls-Royce, and Thales, using data from Jan 2025. The EBITDA margin and net income margin of BAE Systems is quite outstanding, 14.58% and 7.85%, respectively. The beta of BAE Systems is 0.55, which is roughly the industry average.

	Current (2025 Jan)			Financials					Current Trading Multiples		
				Revenue Adj	EBITDA Adj.		Net Income Adj.		EV/EBITDA	P/E	
Company Name	Share Price	Market Cap	EV	Last	Last	Margin	Last	Margin	Last	Last	Beta
BAE System	26.42	77,501,715	53,426,165	33,619,544	4,902,637	14.58%	2,638,506	7.85%	17.58	32.26	0.55
Airbus Group	187.42	147,559,246	124,448,072	75,082,928	9,369,532	12.48%	4,651,109	6.19%	14.98	31.18	0.52
Lockheed Martin	486.45	113,973,266	131,354,921	71,811,000	9,075,000	12.64%	5,739,541	7.99%	14.60	20.98	0.27
Rolls-Royce Holdings	11.85	99,042,541	61,779,007	24,160,534	4,106,614	17.00%	2,174,691	9.00%	24.06	31.06	1.72
Thales (Aerospace and Defence)	290.67	59,712,116	34,595,627	22,265,915	2,758,162	12.39%	1,960,763	8.81%	22.82	54.93	0.79

Historical Performance

The chart and the table below illustrate the stock performance from 2023 to 2024. Although the stock price dropped in 2024 H2, the total return in the whole period is still 33.83%, which is extraordinary in the market.

Stock Performance	Amount
Total Return	33.83%
SD Annualised	19.63%
Annualised Total Return	15.68%

Technical Analysis

This is the daily MACD line of BAE Systems from Jan 2023 to Jan 2025. The stock price decrease in the early 2025, crossing the moving average, and keep increasing until the end of the month. The upward trend continues, suggesting a buy opportunity.

HSBC Holding (LSE: HSBA)

Business Summary

HSBC Holdings plc is a global banking and financial services powerhouse, serving individuals, businesses, and governments across 58 countries and territories. The UK segment includes retail banking (featuring first direct and M&S Bank) and commercial banking, plus HSBC Innovation Bank, which supports emerging enterprises. Corporate and Institutional Banking (CIB) merges commercial banking (outside the UK and Hong Kong) with its global banking and markets operations, providing services tailored to major corporations and institutions.

The International Wealth & Premier Banking (IWPB) arm handles premier banking outside Hong Kong and the UK, alongside HSBC's global private bank, asset management, insurance, and investment distribution activities. Through this framework, HSBC supports a diverse clientele, from individual savers to multinational businesses and government entities.

Fundamentals

HSBC shows mixed fundamentals compared to the industry. Its net interest margin (1.56%) is significantly lower than the industry average (2.22%), indicating weaker core lending profitability. However, its efficiency ratio (46.99%) outperforms the industry (57.23%), suggesting strong cost control and operational efficiency. Despite that, HSBC's operating leverage (+2.95%) is below industry standards, and the sharp YoY decline (-22.84%) suggests that revenue growth is not keeping pace with expenses recently. The bank relies less on non-interest income and particularly underperforms in fee revenue, signalling a heavier dependence on interest income rather than diversified sources. Moreover, loan growth (-1.78%) and deposit growth (2.44%) are both below industry trends, reflecting weaker balance sheet expansion and potentially more cautious lending amid market conditions. Overall, while HSBC maintains strong cost efficiency, its lower profitability, weaker growth, and higher credit risk warrant close monitoring.

	HSBA	Change Y/Y	Industry
Net Interest Margin	1.56%	-0.10%	2.22%
Efficiency Ratio	46.99%	-1.39%	57.23%
Operating Leverage	2.95%	-22.84%	-1.04%
Non-interest Income / Op Inc	0.32	3.01%	0.37
% Fee Revenue	11.33%	3.52%	27.35%
Loan Growth	-1.78%	-4.06%	3.99%
Deposit Growth	2.44%	-0.22%	2.72%
Nonperforming Loans (% of Total Loans)	2.47%	0.22%	2.00%

Multiples with Peers

By compare valuation multiples with industry peers, we can understand clearer about the value of the stock. HSBC has the lowest Price/Fair Value (0.91), showing that the stock price is relatively low in terms of fair value, compared to other three big banks. Besides, HSBC has the highest dividend yield, standing at 5.35%.

Company Name	Currency	Fair Value	Price/ Fair Value	Price/Sales	Price/Book	Price/ Earnings	Dividend Yield	Market Cap
HSBC Holdings PLC	GBX	980	0.91	3.31	1.14	8.95	5.35%	15,951.51 B
Citigroup Inc	USD	75	1.12	2.01	0.83	13.87	2.63%	157.56 B
JPMorgan Chase & Co	USD	195	1.43	4.53	2.41	1.29	1.72%	780.81 B
DBS Group Holdings Ltd	SGD	58.75	0.98	5.87	1.9	11.69	4.58%	131.03 B

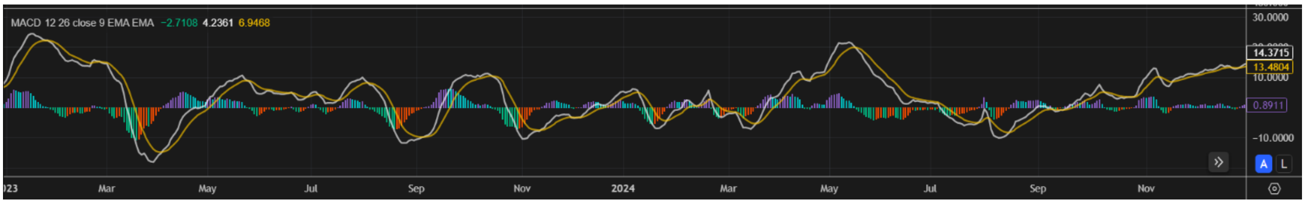
Historical Performance

From 2023 to 2024, the stock price of HSBC has gained more than 50% of return, indicating an annualised total return at around 23.19%. From the graph below, we can see more clearly that the upward momentum is more significat in the past 6 months. With the surging stock price, the Annualised SD is thus high, standing at 23.42%

Stock Performance	Amount
Total Return	51.75%
SD Annualised	23.42%
Annualised Total Return	23.19%

Technical Analysis

The MACD line was alongside the signal line, which means that we cannot have a clear signal of buy or sell. However, the upward trend was quite significant since Aug 2024 till the end of Jan 2025.



Banco Santander (LSE: BNC)

Business Overview

Banco Santander, S.A. is a Spain-based financial institution specializing in retail and commercial banking across multiple regions. Its Continental Europe segment encompasses all banking activities across mainland Europe. The United Kingdom division oversees various branches and units delivering financial services across the country. With a diverse commercial model, Santander caters to customers across all income levels, from individual savers to major enterprises.

Beyond traditional deposits and lending, Santander is forging a future-focused banking model, investing heavily in digital platforms, open banking, and responsible finance. Its integrated wealth-management and insurance offerings cater to evolving client needs, while fintech partnerships and in-house innovation labs accelerate seamless mobile payments, AI-driven credit scoring, and green finance solutions.

Fundamentals

Banco Santander demonstrates moderate performance relative to the industry. Its efficiency ratio (49.48%) is better than the industry average (57.23%), indicating solid cost management and operational efficiency. However, operating leverage (0.74%) remains below the industry average, and the slight negative change year-over-year suggests challenges in growing revenues faster than costs. The bank's reliance on non-interest income (18%) is significantly lower than the industry (37%), implying a heavier dependence on traditional interest-based income, while fee revenue (20.79%) also lags peers (27.35%), suggesting limited diversification of income streams. A key concern is the elevated nonperforming loans ratio, highlighting higher credit risk in its lending portfolio. Overall, while Banco Santander shows decent cost control, its weaker growth, limited income diversification, and higher credit risk relative to the industry call for a cautious outlook.

	BNC	Change WY	Industry
Efficiency Ratio	49.48%	-0.34%	57.23%
Operating Leverage	0.74%	-0.69%	-1.04%
Non-interest Income / Op Inc	0.18	-4.02%	0.37
% Fee Revenue	20.79%	0.17%	27.35%
Loan Growth	1.40%	0.32%	3.99%
Deposit Growth	-0.44%	-0.26%	2.72%
Nonperforming Loans (% of Total Loans)	3.07%	-0.09%	2.00%

Multiples with Peers

The table below shows the comparison as for the investing ratios among four banks, namely Banco Santander, Citigroup, HSBC Holdings, and Banco Bilbao. All investing multiples of Banco Santander is relatively lower than other three banks, indicating that the stock price of BNC is relatively cheap.

Company Name	Currency	Fair Value	Price/ Fair Value	Price/Sales	Price/Book	Price/ Earnings	Dividend Yield	Market Cap
Banco Santander SA	GBX	493	0.94	1.39	0.85	6.65	3.62%	7,051.22 B
Citigroup Inc	USD	75	1.12	2.01	0.83	13.87	2.63%	157.56 B
HSBC Holdings PLC	GBX	980	0.91	3.31	1.14	8.95	5.35%	15,951.51 B
Banco Bilbao	EUR	11.5	1.01	1.91	1.2	6.93	5.84%	66.97B

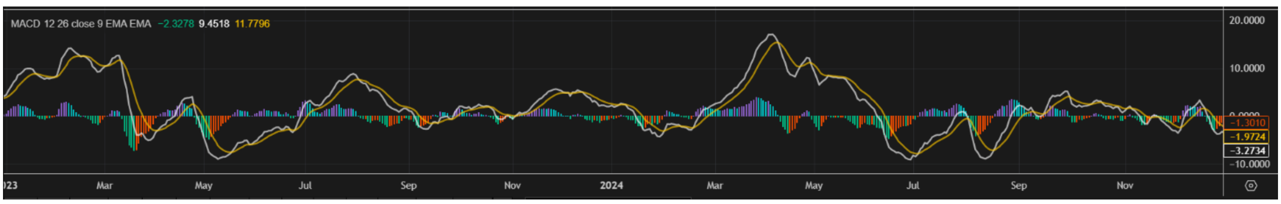
Historical Performance

The total return of BNC from 2023 to 2024 is 46.75%, transformed in 21.14% of annualised total return. In 2024 H1, the stock price surge from 320 to 420, reaching its periodic peak in early-Jun. Although it slightly declined to below 360 in August 2024, it remained stable in the range of 360 and 380 until the end of the year.

Stock Performance	Amount
Total Return	46.75%
SD Annualised	26.22%
Annualised Total Return	21.14%

Technical Analysis

The MACD line was going to cross the signal line, suggesting a suitable time to buy the stock.



Kainos Group PLC (LSE: KNOS)

Business Overview

Kainos Group PLC is a UK-based, publicly traded technology company specializing in digital transformation services and software solutions for clients across the public sector, healthcare, and commercial industries. Founded in 1986 and headquartered in Belfast, Kainos operates globally with offices in the UK, Ireland, EU, and the US. The company's core business areas are digital services and digital platforms. The former focuses on consulting, software development, and systems integration, while the latter focuses on proprietary solutions such as the Evolve healthcare platform and Workday-related services. Kainos is recognized for its strong corporate culture, commitment to innovation, and a track record of delivering large-scale digital transformation projects, particularly for government and healthcare clients.

Fundamentals

Kainos shows solid financial performance, with an operating margin of 14.13% and net margin of 9.68%, both above the industry average of 8.99% and 5.34% respectively, though they have declined YoY. Its gross margin of 47.90%, while lower than the industry's 74.18%, still indicates healthy profitability. The company shows strong operational efficiency with an asset turnover of 1.35, outperforming the industry's 1.16 despite a near 10% decline YoY. ROE (24.12%) remains significantly higher than the industry average of 14.86%, reflecting strong returns for shareholders, although it has dropped by nearly 10% from the previous year. Most notably, Kainos maintains a high times interest earned ratio of 155.8, far exceeding the industry average of 13.2, indicating a strong ability to service its debt despite a 15.83% decline. Overall, Kainos maintains strong profitability and financial stability, though recent declines in margins and returns suggest a need to monitor future performance trends.

	BA	Change Y/Y	Industry
Gross Margin	47.90%	-1.09%	74.18%
Operating Margin	14.13%	-1.36%	8.99%
Net Margin	9.68%	-3.06%	5.34%
Asset Turnover	1.35	-9.85%	1.16
ROE	24.12%	-9.92%	14.86%
Times Interest Earned	155.8	-15.83%	13.2

Financials with Peers

Company Name	% Change	PE (DTM)	ROE
Kainoş Group PLC	0.81%	27.67	24.12%
Bytes Technology Group PLC	-0.39%	24.71	62.19%
Softcat PLC	0.63%	32.34	43.33%
Computacenter PLC	0.94%	18.05	19.44%
GB Group PLC	2.08%	75.22	1.40%

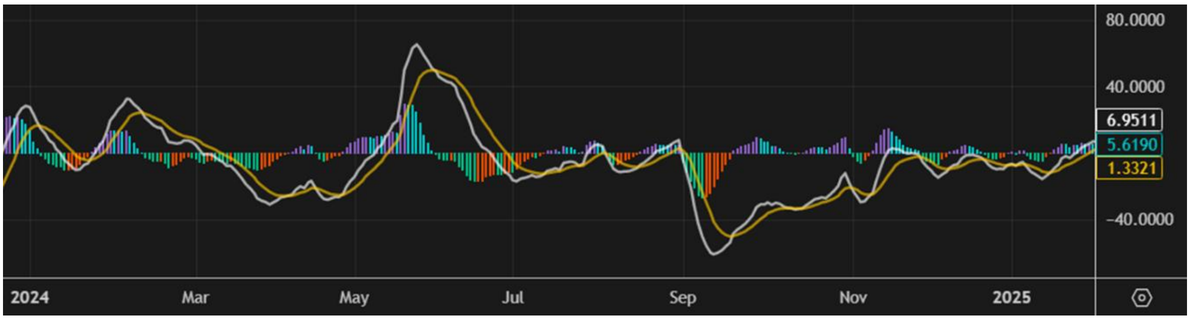
Historical Performance

The stock dropped nearly 50% from approximately 1,600 to 800 between 2023 and 2024, reflecting market pessimism. However, Kainos's solid fundamentals suggest a potential turnaround opportunity.

Stock Performance	Amount
Total Return	-49.55%
SD Annualised	30.99%
Annualised Total Return	-28.97%

Technical Analysis

The MACD line has slowly recovered above the signal line again, with both lines flattening but still in mild positive territory, suggesting moderate bullish momentum.



Rolls-Royce (LSE: RR)

Business Overview

Rolls-Royce stands as one of the most iconic names in the world of engineering and luxury, synonymous with excellence, innovation, and unrivalled craftsmanship. Founded in 1904 by Charles Rolls and Henry Royce in Manchester, England, the company was forged from a shared passion for engineering and a relentless desire to create what would become known as "the Best Car in the World". From the outset, Rolls-Royce distinguished itself through a commitment to quality and precision. Over the years, Rolls-Royce expanded beyond automobiles into the development and manufacture of aeroengines, becoming a cornerstone of British industry and innovation. Today, Rolls-Royce remains a byword for luxury and engineering excellence, with its motor cars produced as a subsidiary of BMW AG since 2003, while its aerospace division continues to lead in advanced power and propulsion technologies

Fundamentals

Rolls-Royce has delivered strong performance over the past few years. Both its operating margin and net margin significantly exceed the industry average, standing at 12.63% and 13.14%. Notably, the operating margin recorded a YoY increase of 1.5%. Although the company's gross margin is below the industry average of 39.90%, it still achieved positive YoY growth at 0.65%. In terms of efficiency and solvency, both asset turnover and the times interest earned ratio remain slightly below industry benchmarks. However, these metrics showed substantial YoY improvements, growing by 4.05% and 32.65%, respectively, showing that the company is improving its operational efficiency and financial stability.

	RR (Dec-2024)	Change Y/Y	Industry
Gross Margin	22.32%	0.36%	39.90%
Operating Margin	12.63%	1.50%	9.32%
Net Margin	13.14%	-1.45%	6.04%
Asset Turnover	0.56	4.05%	0.75
Times Interest Earned	6.6	32.65%	7.2

Financials with Peers

Compared with the industry peers, Rolls Royce has the best financials performance, with the highest EBITDA margin (17.00%) and the highest net income margin (9.00%). Although it's the risky stocks among the five companies due to the highest beta, its trading multiples show that its relatively cheap in the market, with the highest EV/EBITDA multiple and an over average P/E ratio.

	Current			Financials					Current Trading Multiples		
				Revenue Adj	EBITDA Adj.		Net Income Adj.		EV/EBITDA	P/E	
Company Name	Share Price	Market Cap	EV	Last	Last	Margin	Last	Margin	Last	Last	Beta
BAE System	26.42	77,501,715	53,426,165	33,619,544	4,902,637	14.58%	2,638,506	7.85%	17.58	32.26	0.55
Airbus Group	187.42	147,559,246	124,448,072	75,082,928	9,369,532	12.48%	4,651,109	6.19%	14.98	31.18	0.52
Lockheed Martin	486.45	113,973,266	131,354,921	71,811,000	9,075,000	12.64%	5,739,541	7.99%	14.60	20.98	0.27
Rolls-Royce Holdings	11.85	99,042,541	61,779,007	24,160,534	4,106,614	17.00%	2,174,691	9.00%	24.06	31.06	1.72
Thales (Aerospace and	290.67	59,712,116	34,595,627	22,265,915	2,758,162	12.39%	1,960,763	8.81%	22.82	54.93	0.79

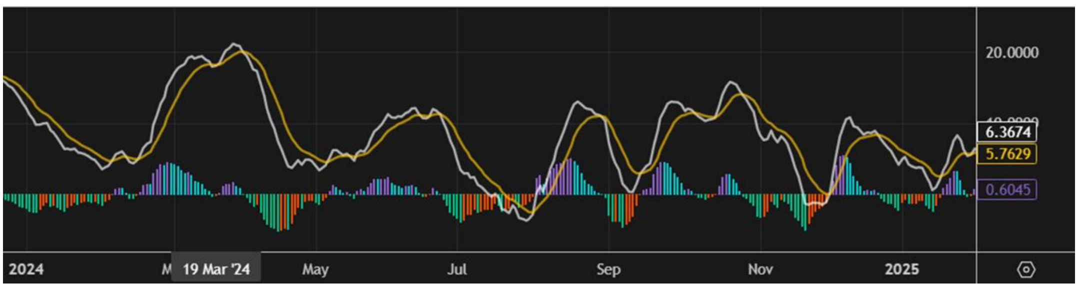
Historical Performance

Rolls-Royce had a notably great performance in stock price in the last two years. The total return is 512.02% with an annualised SD at 37.28%.

Stock Performance	Amount
Total Return	512.02%
SD Annualised	37.28%
Annualised Total Return	147.39%

Technical Analysis

The MACD line just crossed the signal line in the beginning of the Jan in 2025, showing a moderate bullish sign, despite not very strong.



J D Wetherspoon (LSE: JDW)

Business Overview

Wetherspoon owns and operates pubs throughout the UK and Ireland. The company aims to provide customers with good-quality food and drinks, served by well-trained and friendly staff, at reasonable prices. The pubs are individually designed, and the company aims to maintain them in excellent condition.

Fundamentals

As of FY2024, JD Wetherspoon has demonstrated a solid recovery from its pandemic-driven trough, reflecting improving core operations and operating efficiency. Revenue has more than doubled from £772.6 million in FY2021 to £2,035.5 million in FY2024. Although the year-on-year growth rate has slowed from the post-pandemic rebound, it remains positive. Like-for-like (LFL) sales growth turned positive in FY2023 and continued to rise by 7.6% in FY2024, indicating a healthy return of customer traffic and improved performance at existing pubs.

Profitability has strengthened significantly. Operating profit improved from a loss of £100.4 million in FY2021 to £139.5 million in FY2024, with the operating margin expanding from -13.0% to 6.85%. Net income turned positive in FY2023, reaching £58.5 million in FY2024, with a net margin of 2.87%. Earnings per share (EPS) increased from a loss of £1.19 in FY2021 to £0.47 in FY2024, reflecting the return of shareholder value.

However, despite the earnings recovery, the company's leverage remains elevated. The debt ratio stood at 78.91% in FY2024—an improvement from previous years but still above the sector average of 70%, indicating that financial risk has not yet fully normalized. Additionally, operating cash flow includes one-off inflows from the sale of interest rate swaps. When adjusted for these non-recurring items, the company's underlying cash generation remains modest, and capital reinvestment and debt servicing needs warrant continued monitoring.

	FY2021	FY2022	FY2023	FY2024	FY2024H1	FY2025H1
Revenue	**772.60**	**1,740.50**	**1925.00**	**2035.50**	**991.00**	**1029.50**
YoY		125.28%	10.60%	5.74%	8.19%	3.88%
LFL Growth	-38.40%	-4.70%	12.70%	7.60%	9.90%	4.80%
Operating Profit	-100.40	25.70	107.10	139.50	67.70	64.80
OPM Margin	-13.00%	1.48%	5.56%	6.85%	6.83%	6.29%
EBITDA	20.52	142.48	216.62	241.87	117.36	120.87
EBIT Margin	2.66%	8.19%	11.25%	11.88%	11.84%	11.74%
Net income	-146.47	-27.03	33.83	58.51	24.89	24.88
Net Margin	-18.96%	-1.55%	1.76%	2.87%	2.51%	2.42%
EPS(GBP)	-1.19	-0.21	0.26	0.47	0.2	0.21
YoY		82.35%	223.81%	80.77%		5.00%

	FY2021	FY2022	FY2023	FY2024	Industry avg.
Debt Ratio	86.17%	84.29%	79.14%	78.91%	~70.00%

Financials with Peers

JD Wetherspoon trades at 67% of its fair value, with valuation metrics sitting between peers. Its P/E of 12.85x is lower than C&C but above Mitchells, reflecting steady earnings quality. The higher P/B (1.60x) suggests a premium on asset efficiency. A 2.4% dividend yield offers moderate income. Overall, JDW combines valuation support with operational stability, offering mid- to long-term appeal.

Company Name	Currency	Fair Value	Price / Fair Value	Price / Sales	Price / Books	Price / Earnings	Dividend Yield	Market Cap
JD Wetherspoon	GBX	892.5	67.4%	0.31	1.60	12.85	2.4%	641.18
C&C Group	GBX	274.36	54.2%	0.37	1.09	55.88	4.1%	613.96
Mitchell & Butlers	GBX	501.7	44.9%	0.51	0.52	8.61	0.0%	1,337.50

Historical Performance ＆ Technical Analysis

Throughout 2024, JD Wetherspoon (JDW.L) experienced a broad consolidation with clear signs of bottoming. After peaking around 850p in early 2024, the stock entered a gradual downtrend, but by Q4, selling pressure had eased and price action stabilized around the 580–600p range.

Notably, despite continued weakness through November and December, the stock showed signs of support building near 580p, forming a potential base with decreasing volatility. Volume during the late-stage decline began to dry up, suggesting capitulation was nearing. At the same time, MACD showed signs of convergence, with the bearish momentum fading.

By early 2025 (Feb), the stock had shown multiple failed attempts to break below 580p, suggesting strong technical support. This, combined with a favorable risk/reward setup, improving fundamentals, and early signs of reversal momentum, made it a compelling entry point ahead of a potential trend reversal.

Shell PLC (LSE: SHEL)

Business Overview

Shell is one of the world's largest global energy companies, headquartered in London, UK, widely recognized for its leadership in oil, natural gas, and increasingly, in the transition to cleaner energy solutions. The company's business model is built on a vertically integrated structure that spans the entire energy value chain, from exploration and production to refining, distribution, marketing, and retail operations, as well as investments in renewable energy, biofuels, hydrogen, and electric vehicle charging infrastructure. Shell's diverse product and service offerings include traditional fuels, lubricants, chemicals, and liquefied natural gas, as well as a growing portfolio of low-carbon and sustainable energy solutions designed to meet evolving market demands and support global efforts to reduce carbon emissions. By leveraging its extensive global network, innovation capabilities, and strategic partnerships, Shell aims to deliver reliable energy to millions of customers while actively contributing to the global transition toward a more sustainable energy future.

Fundamentals

The table below reveals a mixed performance picture. In terms of profitability, SHEL's margins are all substantially lower than the industry averages, indicating it retains less profit from its revenue compared to competitors. As for efficiency, SHEL's asset turnover of 0.72 is significantly higher than the industry's 0.49, meaning it generates more revenue per dollar of assets than its peers. However, this efficiency has decreased by 3.94% from the previous year. The ROE, a key measure of shareholder returns, stand at 8.97%, which is below the industry average of 10.88% and has also declined YoY. This indicates that despite its asset efficiency ratio of 8.8 shows SHEL has a strong ability to meet its debt interest payments, comfortably above the industry average of 7.5, although this metric has seen a notable decline of 11.67% from the previous year.

	SHEL	Change Y/Y	Industry
Gross Margin	17.63%	0.13%	51.00%
Operating Margin	12.02%	-0.28%	23.23%
Net Margin	5.81%	-0.39%	8.32%
Asset Turnover	0.72	-3.94%	0.49
ROE	8.97%	-1.34%	10.88%
Times Interest Earned	8.8	-11.67%	7.5

Multiples with Peers

The table below compares the valuation multiples of Shell and its industry peers. All the multiples of Shell are in the average among the other three companies, indicating that it is not relatively expensive or cheap. One of the notable differences is that Shell's market cap is the largest in the group, and its twice than the second largest company, showing its large scale.

Company Name	Currency	Fair Value	Price/ Fair Value	Price/ Sales	Price/ Book	Price/ Earnings	Dividend Yield	Market Cap
Shell PLC	GBX	2900	0.89	0.72	1.15	7.54	4.12%	15,693.65 B
Exxon Mobil Corp	USD	135	0.8	1.34	1.78	12.66	3.53%	477.61 B
BP PLC	GBX	759.5	0.85	0.46	1.37	8.01	5.70%	6,542.83 B
TotalEnergies SE	EUR	68	0.82	0.7	1.22	7.14	5.57%	124.97 B

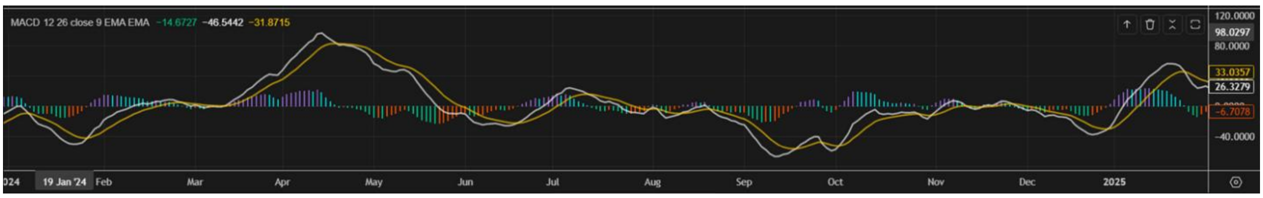
Historical Performance

The stock prices of Shell in the last two years fluctuated quite significantly. It reached its peak in the early May at around 2950, while it dropped to 2376 in the end of the year. During the two-year period, it achieved 5.06% return in total, with an annualised SD of 19.01%.

Stock Performance	Amount
Total Return	5.06%
SD Annualised	19.01%
Annualised Total Return	2.50%

Technical Analysis

In MACD graph for SHEL, it shows the bearish momentum, as the indicators have reversed, signalling a loss of buying pressure and the potential onset of a downtrend or price correction.



AstraZeneca PLC (LSE: AZN)

Business Overview

AstraZeneca is a globally biopharmaceutical company headquartered in Cambridge, UK, dedicated to pioneering scientific innovation and developing medicines for some of the world's most serious health challenges. Its business model centres on research and development, strategic collaborations with academic institutions and biotech partners, and a diversified revenue approach encompassing direct product sales, licensing agreements, and co-development partnerships. AstraZeneca's extensive product portfolio covers key therapeutic areas such as oncology, cardiovascular and metabolic diseases, respiratory and immunology, rare diseases, and vaccines, including its widely used COVID-19 vaccine. By leveraging advanced science and precision medicine, the company tailors treatments to individual patient needs, ensuring both efficacy and safety, while its strong global presence enables broad access to its innovative therapies and supports improved health outcomes.

Fundamentals

This table compares AstraZeneca's performance against industry standards and its own prior-year results. In terms of profitability, AZN demonstrated significant strength; its gross margin of 82.14% and operating margin of 24.10% are both above the industry average of 74.06% and 21.17%, respectively. While the gross margin saw a marginal decline, the operating margin improved substantially YoY, indicating strong control over its core business costs. Its net margin at 13.07% is in line with the industry. On the efficiency front, the asset turnover of 0.53 matched the industry average and show a remarkable 13.69% improvement from the previous year, suggesting the company has become much more effecting using its assets to generate sales. The only metric where AZN trails the industry is its times interest earned ratio of 9.4, which, while healthy, is below the industry average of 15.7. However, this has improved by nearly 19% from the prior year, signalling a strengthening ability to cover its debt obligations.

	AZN	Change Y/Y	Industry
Gross Margin	82.14%	-0.25%	74.06%
Operating Margin	24.10%	4.64%	21.17%
Net Margin	13.07%	0.03%	13.01%
Asset Turnover	0.53	13.69%	0.53
ROE	17.59%	1.95%	14.95%
Times Interest Earned	9.4	18.97%	15.7

Multiples with Peers

The table below shows the valuation multiples of four companies in the same industry. The multiples of AZN are relatively small among other three companies, indicating that its relatively cheap in terms of the stock price. Another notable factor is the market cap. It has the highest market cap, which is twice as much as the second largest company.

Company Name	Currency	Fair Value	Price/ Fair Value	Price/ Sales	Price/ Book	Price/ Earnings	Dividend Yield	Market Cap
AstraZeneca PLC	GBX	2900	0.89	0.72	1.15	7.54	4.12%	15,693.65 B
Bristol-Myers Squibb Co	USD	135	0.8	1.34	1.78	12.66	3.53%	477.61 B
Eli Lilly and Co	USD	759.5	0.85	0.46	1.37	8.01	5.70%	6,542.83 B
Merck & Co Inc	USD	68	0.82	0.7	1.22	7.14	5.57%	124.97 B

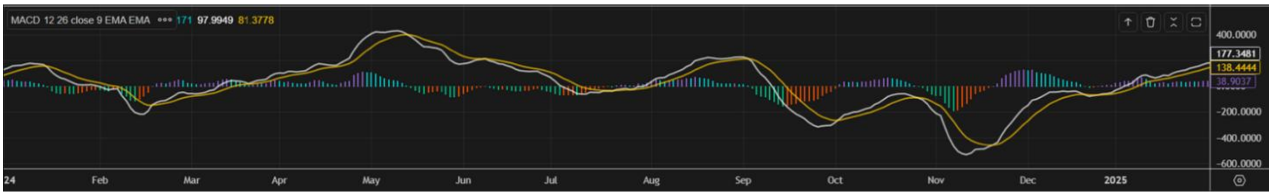
Historical Performance

AZN's stock price movement is a bit like the SHEL's. It fluctuated during the two-year period and dropped to the lower price in the end of the year. During the period, the total return is –7.18%, with a high annualised SD of 19.16%.

Stock Performance	Amount
Total Return	-7.18%
SD Annualised	19.16%
Annualised Total Return	-3.66%

Technical Analysis

There is no clear signal from the MACD graph of AstraZeneca in the early 2025. The signal line and the MACD line were roughly paralleled in Jan 2025.



Portfolio Analysis

Allocation

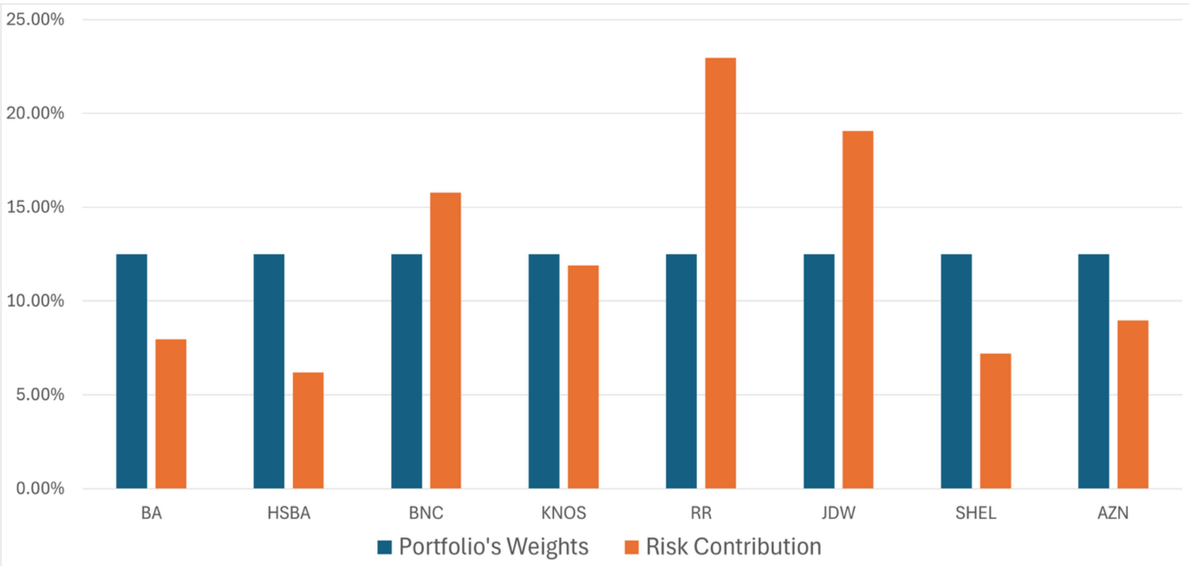
To decide the allocation of our portfolio, we back-tested four different investment strategies, namely equally weighted (EW), minimum variance (MV), risk parity (RP), and maximum Sharpe (ShRa) ratio, in 2023 and 2024. We assume the discount rate is 5%, based on the average interest rate in the UK in the period. The table below is the performance during the period:

	EW	MV	RP	ShRa
Ann Portfolio Returns	20.44%	18.51%	15.99%	147.39%
Ann Volatility	13.29%	10.44%	12.00%	37.28%
Risk Free Rate	5.00%	5.00%	5.00%	5.00%
Sharpe Ratio	1.16	1.29	0.92	3.82

Equally Weighted (EW)

This investment strategy employs an equally weighted approach, assigning 12.5% to each stock in the portfolio. As a result, the overall performance is influenced equally by the returns of each individual stock, regardless of company size or market capitalization. Over the past two years, Rolls-Royce (RR) has emerged as the leading contributor to the portfolio's returns, while also being the primary source of risk among the holdings.

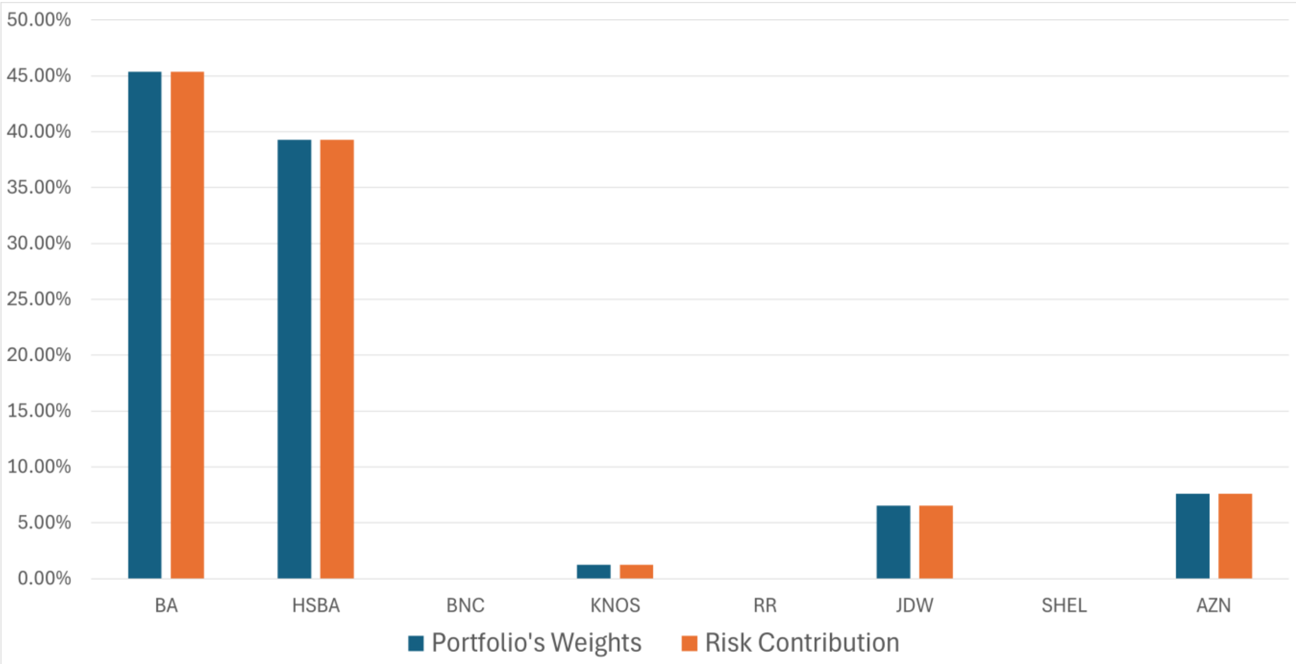
Equally Weighted Asset Allocation				
Assets	Portfolio's Weights	Annualised Volatility	Marginal Risk Contribution	Risk Contribution
BA	12.50%	19.63%	0.14%	7.95%
HSBA	12.50%	23.42%	0.11%	6.19%
BNC	12.50%	26.22%	0.28%	15.77%
KNOS	12.50%	30.99%	0.21%	11.90%
RR	12.50%	37.28%	0.41%	22.97%
JDW	12.50%	35.41%	0.34%	19.07%
SHEL	12.50%	19.01%	0.13%	7.20%
AZN	12.50%	19.16%	0.16%	8.96%
Total	100.00%	13.29%	1.77%	100.00%



Minimum Variance (MV)

The minimum variance asset allocation method aims to construct a portfolio that minimizes risk while seeking to achieve optimal returns. However, reducing risk exposure does not necessarily lead to maximizing potential returns. Moreover, as shown in the table below, the minimum variance approach may entirely exclude certain stocks that a portfolio manager would otherwise prefer to include. This can pose a challenge when full diversification is one of the portfolio's objectives. In this case, the portfolio can reach to the smallest variance at 1.09%. BAE Systems is the main portion of the portfolio (45.35%), with a risk contribution of 0.49%. However, BNC and RR are excluded from the portfolio, which is not our expectation.

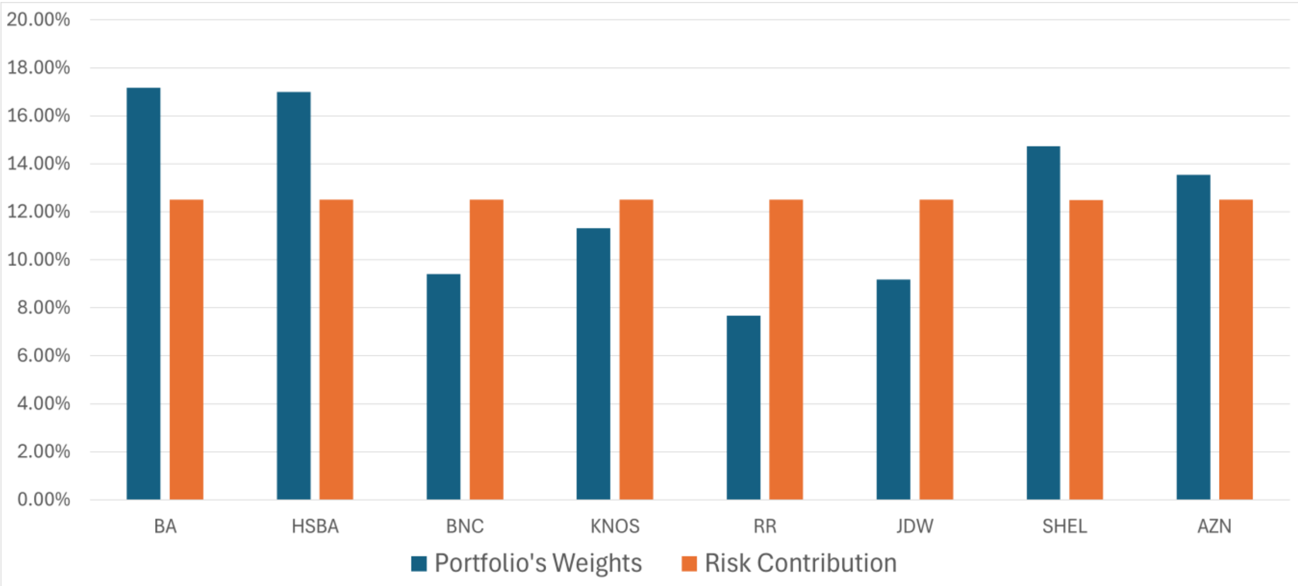
Minimum Variance Portfolio				
Assets	**Portfolio's Weights**	**Annualised Volatility**	**Marginal Risk Contribution**	**Risk Contribution**
BA	45.35%	19.63%	0.49%	45.35%
HSBA	39.28%	23.42%	0.43%	39.28%
BNC	0.00%	26.22%	0.00%	0.00%
KNOS	1.25%	30.99%	0.01%	1.25%
RR	0.00%	37.28%	0.00%	0.00%
JDW	6.54%	35.41%	0.07%	6.54%
SHEL	0.00%	19.01%	0.00%	0.00%
AZN	7.58%	19.16%	0.08%	7.58%
Total	100.00%	10.44%	1.09%	100.00%



Risk Parity (RP)

The risk parity approach offers portfolio managers a framework to construct a diversified portfolio in which each stock contributes an equal share of the overall portfolio risk. Each stock would account for 12.50% of risk contribution, and the marginal risk contribution would be 0.18% of each. From the result, we can notice that it reached the lowest return, and its volatility was even higher than the minimum variance method's. Its Sharpe ratio is also the lowest among the four methods, showing that this strategy does not suit for this portfolio.

Risk Parity				
Assets	Portfolio's Weights	Annualised Volatility	Marginal Risk Contribution	Risk Contribution
BA	17.16%	19.63%	0.18%	12.50%
HSBA	16.99%	23.42%	0.18%	12.50%
BNC	9.40%	26.22%	0.18%	12.50%
KNOS	11.31%	30.99%	0.18%	12.50%
RR	7.67%	37.28%	0.18%	12.50%
JDW	9.19%	35.41%	0.18%	12.50%
SHEL	14.73%	19.01%	0.18%	12.50%
AZN	13.55%	19.16%	0.18%	12.50%
	100.00%	12.00%	1.44%	100.00%



Maximum Sharpe Ratio (ShRa)

With this investment strategy, we could build a portfolio that contributing the highest Sharpe ratio. Sharpe ratio implies that the return generated from each unit of risk, which is (Return – Risk Free Rate) / Portfolio Risk. In this portfolio, RR has the best Sharpe ratio in the last two years, so if it represents 100% of the portfolio, the portfolio will have the highest Sharpe ratio. Although this method reached the highest Sharpe Ratio, its volatility was also the highest among the four strategies. Additionally, most of the stocks in the portfolio are neglected by the strategy, which is not aligned with our goal.

Maximum Sharpe Ratio				
Assets	Portfolio's Weights	Annualised Volatility	Marginal Risk Contribution	Risk Contribution
BA	0.00%	19.63%	0.00%	0.00%
HSBA	0.00%	23.42%	0.00%	0.00%
BNC	0.00%	26.22%	0.00%	0.00%
KNOS	0.00%	30.99%	0.00%	0.00%
RR	100.00%	37.28%	13.90%	100.00%
JDW	0.00%	35.41%	0.00%	0.00%
SHEL	0.00%	19.01%	0.00%	0.00%
AZN	0.00%	19.16%	0.00%	0.00%
	100.00%	37.28%	13.90%	100.00%

Correlation and Covariance

The correlation matrix is the normalized version of the covariance matrix. It tells you how strongly and in what direction the returns of two assets are linearly related, on a scale from -1 to +1. For example, the correlation between BA and HSBA is –47.56%, which means they are relatively negative relationship, while the correlation between SHEL and HSBA is 49.71%, representing the relative positive relationship between two of them.

CORRELATION MATRIX									
SD	**Company**	BA	HSBA	BNC	KNOS	RR	JDW	SHEL	AZN
19.63%	BA	100.00%	-47.56%	10.77%	19.78%	26.05%	26.94%	25.57%	21.81%
23.42%	HSBA	-47.56%	100.00%	43.74%	1.51%	-0.66%	-23.87%	49.71%	16.17%
26.22%	BNC	10.77%	43.74%	100.00%	-8.91%	60.98%	4.33%	38.53%	2.91%
30.99%	KNOS	19.78%	1.51%	-8.91%	100.00%	-11.64%	33.45%	-15.70%	31.12%
37.28%	RR	26.05%	-0.66%	60.98%	-11.64%	100.00%	37.62%	14.06%	-5.19%
35.41%	JDW	26.94%	-23.87%	4.33%	33.45%	37.62%	100.00%	-28.59%	29.50%
19.01%	SHEL	25.57%	49.71%	38.53%	-15.70%	14.06%	-28.59%	100.00%	35.17%
19.16%	AZN	21.81%	16.17%	2.91%	31.12%	-5.19%	29.50%	35.17%	100.00%

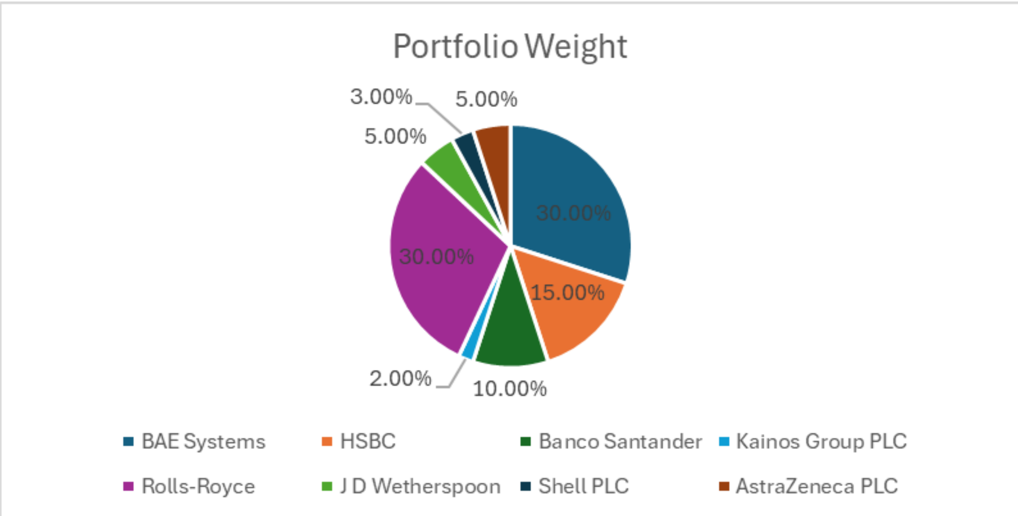
The covariance matrix measures how two assets move together in absolute terms. It tells you whether the returns on assets move in the same direction and how strongly.

COVARIANCE MATRIX								
Company	BA	HSBA	BNC	KNOS	RR	JDW	SHEL	AZN
BA	3.86%	-2.19%	0.55%	1.20%	1.91%	1.87%	0.95%	0.82%
HSBA	-2.19%	5.48%	2.69%	0.11%	-0.06%	-1.98%	2.21%	0.73%
BNC	0.55%	2.69%	6.88%	-0.72%	5.96%	0.40%	1.92%	0.15%
KNOS	1.20%	0.11%	-0.72%	9.61%	-1.34%	3.67%	-0.92%	1.85%
RR	1.91%	-0.06%	5.96%	-1.34%	13.90%	4.97%	1.00%	-0.37%
JDW	1.87%	-1.98%	0.40%	3.67%	4.97%	12.54%	-1.92%	2.00%
SHEL	0.95%	2.21%	1.92%	-0.92%	1.00%	-1.92%	3.61%	1.28%
AZN	0.82%	0.73%	0.15%	1.85%	-0.37%	2.00%	1.28%	3.67%

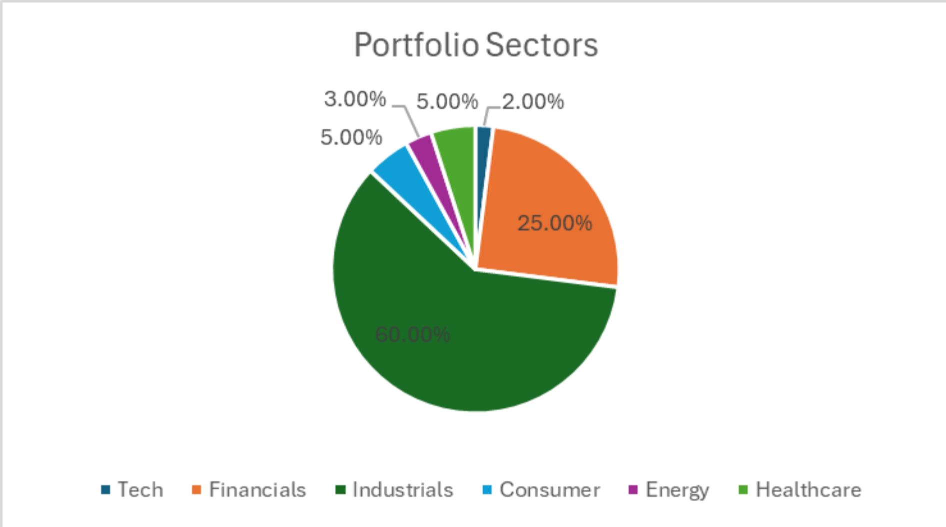
Final Portfolio

Company	Ticker	Sector	Weight
BAE Systems	BA	Industrials	30.00%
HSBC	HSBA	Financials	15.00%
Banco Santander	BNC	Financials	10.00%
Kainos Group PLC	KNOS	Tech	2.00%
Rolls-Royce	RR	Industrials	30.00%
J D Wetherspoon	JDW	Consumer	5.00%
Shell PLC	SHEL	Energy	3.00%
AstraZeneca PLC	AZN	Healthcare	5.00%

The above table is our final portfolio. The main idea of this portfolio is to invest in high return stocks, while investing in a portion of conservative stocks to mitigate the overall risk. Therefore, we consider two of the investment strategies that we mentioned above, which are minimum variance method and maximum Sharpe ratio method. By balancing these two methods, we invest 30% of our portfolio into RR, which represents the high return, while we also invest in 50% of the portfolio in the conservative stocks, which are BA, HSBA, and JDW. Finally, the remaining are shared with the 20% of the portfolio.

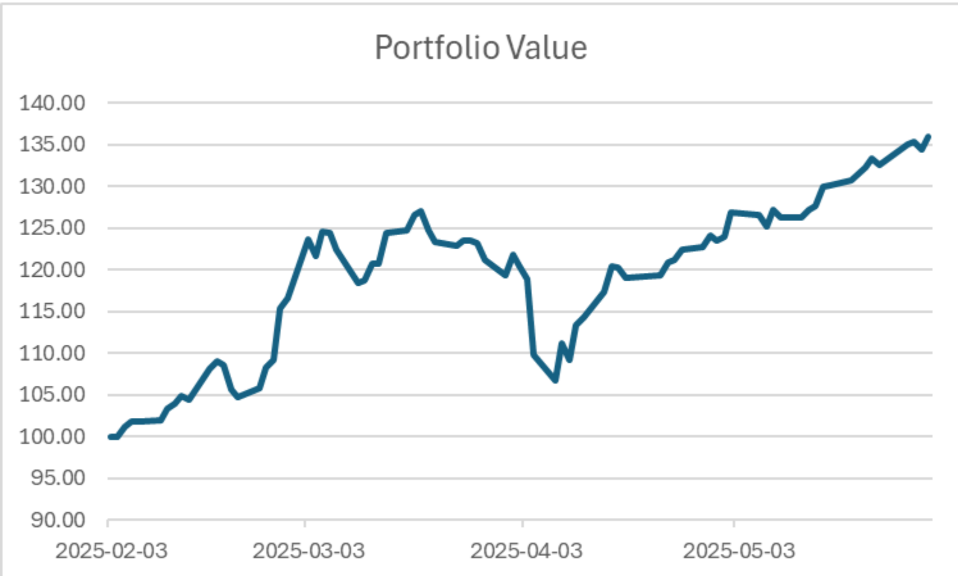


From the chart, we can see that a major part of the portfolio is invested in the industrials sector, as it is the main development in the UK and it had outstanding performance in the past few years. The second largest portion of the portfolio is the Financials. In the depression of the economics, Financials would be a safer choice compared to other sectors such as tech.



Performance

We assessed the portfolio in the period from February 1st to May 30th. The momentum of the portfolio value is clearly upward trending. Assumed the value of the portfolio was 100 in the beginning of the period, it reached its first peak at around 127 in mid-March. However, it dropped in the early April due to the Trump tariff policy. The uncertain impact of the US government policies leads to the global stock market fluctuating seriously during that period. After that, the return of the portfolio kept increasing until the end of May.



The period returns of our portfolio reached 35.97% with a volatility of 30.53%, which implied that the annual return would be 163.25% with an annual volatility of 54.19%. The high volatility can be explained by the tariff policy as we mentioned above. The portfolio value is also relatively stable excluding the early-April period. Based on the assumption of 2% of the risk-free rate, the Sharpe ratio achieved at 2.98, which is an outstanding number.

Performance	Our
Period Return	35.97%
Annual Return	163.25%
Period Volatility	30.53%
Annual Volatility	54.19%
Risk Free Rate	4%
Sharpe Ratio	2.94