MSc in Finance & Banking (Part-Time)
Big Data & Machine Learning
FinTech Project



Team C

Portfolio Structure

Defence Sector

The defence sector was selected as a key component of the portfolio, driven by geopolitical instability and the continuous rise in military expenditures. Companies in this sector provide stability through long-term government contracts and investments in advanced technologies such as artificial intelligence and cyberdefence.

Selected Companies

- 1. **Lockheed Martin (LMT)**: A global leader in aerospace and defence programs with a strong contract base, enhancing predictability and resilience.
- 2. **RTX Corporation (Raytheon)**: Offers a broad defence and aerospace portfolio, ensuring diversification and stability. Innovations in engines and missile systems further strengthen its competitiveness.
- 3. **Palantir Technologies (PLTR)**: Specializes in big data and AI solutions for military and security services. Its close cooperation with government agencies supports credibility and long-term growth.

Infrastructure Sector

The infrastructure sector represents a fundamental choice, as it is linked to public spending, the energy transition, and the ongoing need for network and construction upgrades. Companies in this sector are characterized by stability, diversification, and resilience to economic fluctuations.

Selected Companies

- 1. **Quanta Services (PWR)**: Focused on electrical networks and renewable energy projects, with a strategic role in the energy transition and major infrastructure works.
- 2. **Fluor Corporation (FLR)**: Operates internationally in large-scale engineering and construction projects. Its expertise in complex projects makes it a reliable partner for both public and private sectors.
- 3. **AECOM (ACM)**: Provides engineering, project management, and environmental solutions. Its broad project base supports diversification and long-term growth.

Technology Sector

The technology sector is the primary driver of innovation and growth, leading digital transformation, artificial intelligence, and data centers. Top companies combine advanced expertise, global reach, and diversified applications, strengthening portfolio dynamics.

Selected Companies

- 1. **NVIDIA Corporation (NVDA)**: A market leader in GPUs and computing power solutions, playing a pivotal role in Al development. Continuous innovation underpins its dominance in the data center market.
- 2. **Advanced Micro Devices (AMD):** Active in CPUs, GPUs, and cloud/Al infrastructure solutions, steadily expanding its portfolio and reinforcing its competitive position.
- 3. **QUALCOMM Incorporated (QCOM)**: Specializes in wireless communication technologies and 5G chipsets. Its strategic position in telecommunications ensures long-term prospects.

Metals Sector

The metals sector offers strategic diversification, as it is influenced more by commodity prices than the economic cycle. Metals are also essential for the energy transition and infrastructure, enhancing the sector's significance.

Selected Companies

- 1. **Alcoa Corporation (AA)**: One of the largest aluminum and bauxite producers globally. Its strong raw material position supports long-term demand.
- 2. **Reliance Steel & Aluminum Co. (RS)**: A leading distributor and processor of metals with a diversified product portfolio. Its broad client base enhances stability and resilience.
- 3. **MDU Resources Group, Inc. (MDU)**: Combines energy, construction, and utility services in a diversified model. Its regulated activities provide predictability and steady cash flows.

Company	Sector	P/E	FCF/Equity	EV/EBITDA	D/E	Net Profit Margin
Lockheed Martin (LMT)	Defence	26,6	83,5%	17,3	4	7,0%
RTX Corporation (Raytheon)	Defence	34,8	6,5%	17,5	0,7	7,4%
Palantir Technologies (PLTR)	Defence	563,2	21,4%	663,9	0,04	16,3%
Quanta Services (PWR)	Infrastructure	58,5	20,2%	26,4	0,65	4,0%
Fluor Corporation (FLR)	Infrastructure	1,7	16,8%	13,3	0,18	25,0%
AECOM (ACM)	Infrastructure	25,35	32,4%	14,5	1,2	3,5%
NVIDIA Corporation (NVDA)	Technology	50,66	90,7%	41,53	0,11	52,4%
Advanced Micro Devices (AMD)	Technology	27,03	7%	46,15	0,065	9,6%
QUALCOMM Incorporated (QCOM)	Technology	15,36	44,2%	12,33	0,54	26,8%
Alcoa Corporation (AA)	Metals	8,01	0,8%	4,36	0,41	7,9%
Reliance Steel & Aluminum Co. (RS)	Metals	21	13,8%	12,6	0,24	5,4%
MDU Resources Group, Inc. (MDU)	Metals	18	-0,8%	5,7	0,8	11,6%

Crypto Sector

Three leading pillars of the crypto market were chosen, each covering distinct investment and technological profiles: Bitcoin (Store of Value), Ethereum (Web3/DeFi infrastructure), and Solana (high-performance Layer-1 for large-scale applications).

Selected Cryptos

- 1. **Bitcoin (BTC)**: "Digital gold" with scarcity (21M supply), high liquidity, institutional adoption, and strongest security (PoW). Acts as a long-term store of value and potential hedge.
- 2. **Ethereum (ETH)**: The leading smart contract platform with >60% share of DeFi TVL. Transition to Proof-of-Stake reduces energy use >99%, while Layer-2 scaling supports adoption. A mature Web3/DeFi infrastructure.
- 3. **Solana (SOL)**: A high-performance blockchain with very low transaction fees, innovative Proof-of-History mechanism, and strong ecosystem growth (DeFi, NFTs, Web3 gaming)

Conclusion

BTC serves as a foundational store of value, ETH as infrastructure for Web3/DeFi, and SOL as an innovative high-throughput chain. Together, they enhance portfolio diversification across value storage, infrastructure, and innovation.

Investor Persona

Our portfolio aligns with an Aggressive Investor Persona, designed to capture high-growth opportunities and benefit from global economic cycles. The allocation combines innovation leaders in technology (NVDA, AMD, QCOM, PLTR) with industrial and infrastructure firms (ACM, FLR, PWR, MDU) strategically positioned to benefit from long-term investment in energy and construction. Exposure to basic materials (AA, RS) adds leverage to commodity upswings, while defence holdings (RTX, LMT) provide resilience. Cryptocurrencies further diversify the portfolio and offer asymmetric return potential. The mix is deliberately growth-oriented, aimed at investors with a long horizon and high risk tolerance, seeking superior returns through a diversified blend of cyclical, innovative, and resilient sectors.

Macroeconomic Indicators

1. GDP Growth:

 Strong GDP growth signals expanding corporate earnings and higher demand, boosting risk assets; weak or negative growth raises recession fears and pressures sentiment.

2. Inflation Rate:

• Rising inflation reduces purchasing power and often triggers tighter monetary policy, weighing on valuations; stable or falling inflation supports markets.

3. Unemployment Rate:

• Low unemployment reflects economic strength and higher consumption but may add wage inflation; high unemployment signals weakness and hurts markets.

4. Interest Rate (Monetary Policy):

• Higher rates increase borrowing costs and restrict liquidity, slowing growth and risk assets; lower rates support growth and markets.

5. Consumer Confidence:

• Rising confidence supports consumption expectations and market sentiment; falling confidence signals caution and potential demand weakness.

6. Retail Sales:

• Strong sales indicate healthy demand and economic momentum; weak sales raise concerns about slowdown.

7. Industrial Production:

• Growth in production reflects strong manufacturing and economic expansion; contraction signals weakening demand.

8. Housing Starts:

 Rising housing starts show real estate strength and future economic activity; declines indicate slowdown and potential weakness.