About

This project focuses on data visualization by developing an interactive dashboard for portfolio performance and attribution using Power BI. The dataset includes portfolio and benchmark index data, originally derived from the performance of a student-run investment fund but modified due to data privacy.

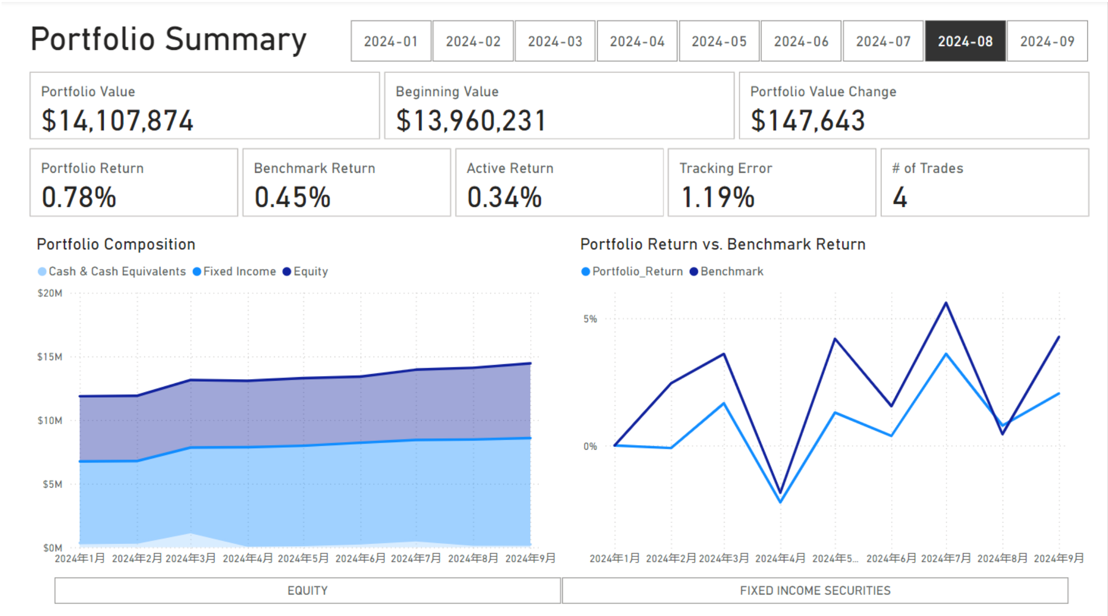
Key Components:

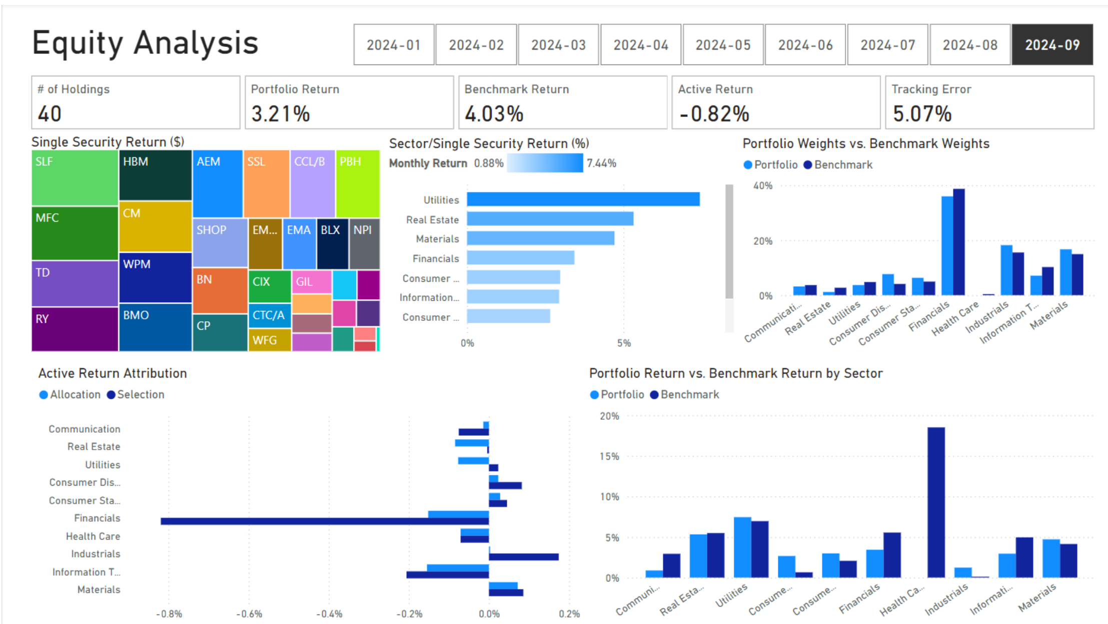
- Data Processing: Performed using Excel and Power Query.
- Calculations & Analysis: Implemented using DAX, including the Brinson attribution model for performance attribution.
- Dashboard Structure: The dashboard consists of four main pages:
    1. Summary – Overview of portfolio performance.
    2. Equity Analysis – Attribution analysis for equity holdings.
    3. Fixed Income Analysis – Performance breakdown of fixed-income assets.
    4. Risk Analysis – Assessment of portfolio risks.

Limitations & Future Improvements:

- Data Limitations: The dataset spans only nine months, with data available at a monthly frequency, which restricts risk measurement capabilities.
- Scope: The dataset includes only Canadian equity and fixed-income assets. Future enhancements could incorporate additional asset and a longer time horizon for more comprehensive analysis.

Dashboard Views



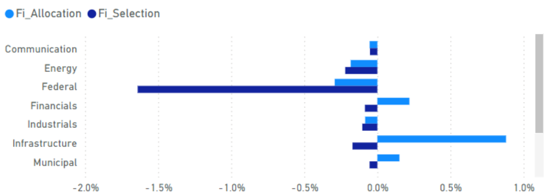


Fixed Income Analysis

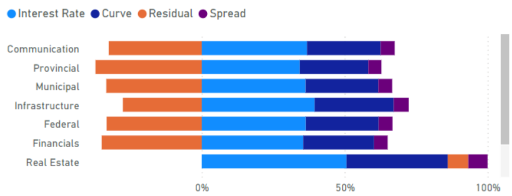
2024-01 | 2024-02 | 2024-03 | 2024-04 | 2024-05 | 2024-06 | 2024-07 | 2024-08 | **2024-09**

# of Holdings	Portfolio Return	Benchmark Return	Active Return	Tracking Error	Portfolio Duration	Benchmark Duration
44	1.27%	4.55%	-3.28%	1.67%	5.16	7.38

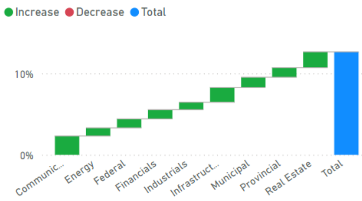
Active Return Attribution



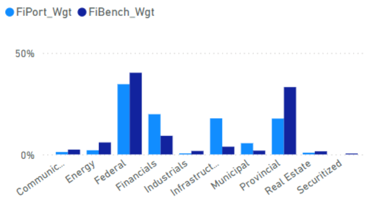
Performance Attribution by Risks



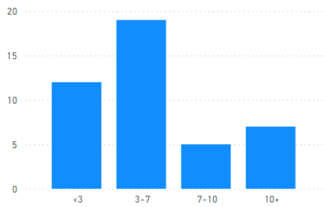
Performance Attribution by Sectors



FiPort_Wgt and FiBench_Wgt by Sector



# of Holdings by Duration



Risk Analysis

2024-01 | 2024-02 | 2024-03 | 2024-04 | 2024-05 | 2024-06 | 2024-07 | 2024-08 | **2024-09**

Portfolio Volatility	Tracking Error	Sharpe Ratio	Information Ratio	95% VaR
1.41%	1.42%	-0.62	-1.57	-2.32%

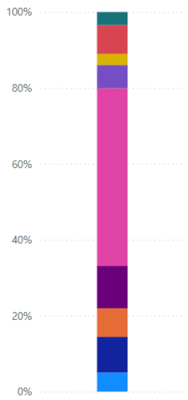
Equity Portfolio Correlation Matrix

Sector	Communication	Consumer Discretionary	Consumer Staples	Financials	Industrials	Information
Communication	1.00	0.73	0.50	0.30	0.53	
Consumer Discretionary	0.73	1.00	0.32	0.35	0.60	
Consumer Staples	0.50	0.32	1.00	0.46	0.43	
Financials	0.30	0.35	0.46	1.00	0.64	
Industrials	0.53	0.37	0.38	0.53	1.00	
Information Technology	-0.11	-0.01	0.20	0.54	-0.01	
Materials	-0.15	-0.51	-0.16	0.37	-0.16	
Real Estate	0.36	0.43	0.50	0.93	0.64	
Utilities	0.58	0.27	0.40	0.44	0.85	

Fixed Income Portfolio Correlation Matrix

Sector1	Communication	Energy	Federal	Financials	Industrials	Infrastructure	Municipal	Provincial	Real Estate
Communication	1.00	0.90	0.91	0.98	0.92	0.96	0.93	0.93	0.96
Energy	0.90	1.00	0.96	0.94	1.00	0.94	0.93	0.97	0.97
Federal	0.91	0.96	1.00	0.91	0.97	0.96	0.99	1.00	0.95
Financials	0.98	0.94	0.91	1.00	0.95	0.94	0.90	0.93	0.98
Industrials	0.92	1.00	0.97	0.95	1.00	0.95	0.94	0.97	0.98
Infrastructure	0.96	0.94	0.96	0.94	0.95	1.00	0.96	0.97	0.97
Municipal	0.93	0.93	0.99	0.90	0.94	0.96	1.00	0.99	0.94
Provincial	0.93	0.97	1.00	0.93	0.97	0.97	0.99	1.00	0.96
Real Estate	0.96	0.97	0.95	0.98	0.98	0.97	0.94	0.96	1.00

Equity Risk Contribution by Sectors



Fixed Income Risk Contribution by Sectors