Investment Portfolio Risk Analysis on CSE: A Beginner Investor Case Practice

M.H.M.N. Perera
Undergraduate – BSc (Financial Mathematics & Industrial Statistics)
Department of Mathematics,
University of Ruhuna, Sri Lanka

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1. Scenario and Objective

As a financial advisor, I was given a scenario to help a client invest $100,000. The client wanted a balanced portfolio offering moderate growth while managing risk. Using real market data from the Colombo Stock Exchange (CSE), I developed and compared different portfolio allocation strategies.

This project aimed to apply newly learned concepts in risk-adjusted performance evaluation and Value at Risk (VaR) for beginner-level investment decisions.

2. Data and Methodology

Company	Ticker	Sector	Reason for Selection
Commercial Bank of Ceylon	COMB.N0000	Banking	Stable large-cap, benchmark for financials
Dialog Axiata PLC	DIAL.N0000	Telecommunications	Regular returns, moderate volatility
Ceylon Tobacco Company	CTC.N0000	Consumer Defensive	Consistent dividend-paying stock
Lanka IOC PLC	LIOC.N0000	Energy	Growth potential, higher risk and return

Data Period: January 2022 – November 2025

Frequency: Monthly closing prices (from CSE)

3. Portfolio Metrics

Metric	COMB	DIAL	CTC	LIOC	ASPI
Average Monthly Return	2.60%	2.69%	1.72%	4.42%	1.61%
Std. Deviation	0.1096	0.1019	0.0730	0.2773	0.0850
Beta	1.0481	0.5909	0.5828	1.6992	-
Treynor Ratio	0.0200	0.0371	0.0210	0.0230	-
VaR (95%)	-15.42%	-14.06%	-10.29%	-41.20%	-12.37%

4. Portfolio Results and Comparison

Strategy	COMB	DIAL	CTC	LIOC	Return	Beta	Treynor Ratio	VaR (95%)
Equal	0.25	0.25	0.25	0.25	2.86%	0.98	0.0210	-20.24%
Conservative	0.4	0.2	0.3	0.1	2.54%	0.88	0.0197	-16.19%
Aggressive	0.15	0.1	0.1	0.65	3.70%	1.38	0.0210	-31.53%

5. Conclusion and Reflection

The analysis compared three portfolio allocation strategies.

The aggressive portfolio achieved the highest return but exposed the investor to higher risk. The conservative portfolio minimized downside risk, while the equal-weighted portfolio provided balanced performance - making it suitable for a beginner investor.

This exercise helped translate theoretical investment models into practical application using CSE data. It enhanced understanding of how asset allocation affects portfolio stability and risk-adjusted performance.

Future improvements include incorporating other risk measures like Sharpe Ratio and GARCH-based VaR modeling using Python or R.