Research Topic to be determined

COMP4971C - Independent Work (Fall 2019)

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November, 2019

Abstract

lorem

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1 Introduction

2 Disclaimer

The information presented in this research is not intended as, and shall not be understood as financial advice to enter in any security transactions or to engage in any of the investment strategies.

3 Research Topic

4 Methodology

4.1 Tools

A customised backtest system is created for this research project. The system is written in lorem and the source code can be found at lorem.

4.2 Data

4.3 Evaluation Metrics

Sharpe ratio, maximum drawdown are the major evaluation metrics used.

4.3.1 Sharpe Ratio

Sharpe ratio was first introduced by Sharpe 1966. It measures the expected return gained per unit of risk taken for a zero investment strategy. According to the definition in Sharpe 1994, assume R_{Pt} as a t-period return series, R_{ft} as the risk-free rate series over the same period. Then the Sharpe ratio S_h from $t = 1$ to $t = T$:

$$S_h \equiv \frac{\overline{D}}{\sigma_D} \tag{1}$$

$$\text{where } D \equiv R_{Pt} - R_{ft} \tag{2}$$

$$\overline{D} \equiv \frac{1}{T}\sum_{t=1}^{T} D_t \tag{3}$$

$$\sigma_D \equiv \sqrt{\frac{\sum_{t=1}^{T}(D_t - \overline{D})^2}{T-1}} \tag{4}$$

4.3.2 Maximum Drawdown

5 Strategy Implementation

6 Result

7 Conclusion

8 Appendix

Reference

[1] William F. Sharpe. “Mutual Fund Performance”. In: *The Journal of Business* 39.1 (1966), pp. 119–138.

[2] William F. Sharpe. “The Sharpe Ratio”. In: *The Journal of Portfolio Management* 21.1 (1994), pp. 49–58.