

Sortino Ratio Analysis Report

rion5

2024-09-21

```
## Loading required package: xts
```

```
## Loading required package: zoo
```

```
##
```

```
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
```

```
##
```

```
##      as.Date, as.Date.numeric
```

```
##
```

```
## Attaching package: 'PerformanceAnalytics'
```

```
## The following object is masked from 'package:graphics':
```

```
##
```

```
##      legend
```

Data Range 데이터 범위

- Start Date: 2024-08-30
- End Date: 2024-09-19

Data Summary

Here is a summary of the stock data used:

```
stock_df <- stock_100_1000()
print(head(stock_df))
```

##	symbol	count	min_adjusted	avg_adjusted	max_adjusted	min_volume	max_volume
## 1	NVDA	15	102.82	112.96	119.36	231925900	477155100
## 2	TSLA	15	206.28	223.18	243.92	54323000	119355000
## 3	AAPL	15	216.32	222.48	229.79	36615400	67180000
## 4	AMZN	15	171.39	180.70	189.87	26065500	43429400
## 5	AMD	15	134.35	145.83	156.74	25023000	50935400
## 6	QQQ	13	448.69	466.46	483.36	22585600	57843000

Sortino Ratio Results

The results of the Sortino Ratio analysis, sorted by the ratio:

```
#
#processed_data <- preprocess_data(raw_data)
symbol_vector <- as.character(stock_df$symbol)
rawdata_df <- preprocess_data(symbol_vector, rangeDate$start_date, rangeDate$end_date)

#
#results <- analyze_data(processed_data)
sortino_df <- calc_sortinos(symbol_vector, rawdata_df)

results <- merge(stock_df, sortino_df, by = "symbol", all.x = TRUE)
# Sortino Ratio
results <- results[order(-results$sortino_ratio), ]
print(head(results))
```

##	symbol	count	min_adjusted	avg_adjusted	max_adjusted	min_volume	max_volume
## 8	META	15	500.27	521.30	559.10	8317400	15622600
## 9	MSFT	15	401.70	419.68	438.69	13834700	24308300
## 11	QQQ	13	448.69	466.46	483.36	22585600	57843000
## 12	TSLA	15	206.28	223.18	243.92	54323000	119355000
## 3	AMZN	15	171.39	180.70	189.87	26065500	43429400
## 2	AMD	15	134.35	145.83	156.74	25023000	50935400
##	sortino_ratio						
## 8	0.5405175						
## 9	0.5354048						
## 11	0.4884552						
## 12	0.4454793						
## 3	0.4138611						
## 2	0.1930990						

Visualization

We can include a chart to visualize the Sortino Ratio:

```
library(ggplot2)
ggplot(results, aes(x = reorder(symbol, -sortino_ratio), y = sortino_ratio)) +
  geom_col(fill = "steelblue") +
  coord_flip() +
  labs(title = "Sortino Ratio by Stock Symbol", x = "Stock Symbol", y = "Sortino Ratio") +
  theme_minimal()
```

