Question 3: Portfolio Construction

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Abstract

This article examines the methodologies of the SWIX and ALSI indexes, focusing on various aspects such as size indexes (large, mid, and small caps), sector exposures, and stock concentration over time. Using a comprehensive analysis of Exchange Rate data, it highlights the differences in return profiles of both methodologies during periods of currency performance and volatility.

Additionally, the study responds to the JSE's inquiry on the impact of applying different capping levels (e.g., 5%, 10%, and uncapped) to the SWIX and ALSI. Utilizing data from Rebalance days.rds to identify past quarterly rebalances, it assesses the effects of various capping levels on both indexes.

Key findings reveal that Large Capped funds tend to outperform Mid and Small Capped Funds, albeit demonstrating higher overall volatility. Furthermore, the ALSI generally outperforms the SWIX in terms of returns, although both exhibit relatively similar volatility levels. Notably, within the SWIX index, the returns of Large and Mid capped funds demonstrate close alignment, suggesting a correlation in their performance trends.

Moreover, the research highlights that both SWIX and ALSI encounter increased volatility during periods of high exchange rate volatility, with SWIX displaying more significant effects than ALSI. This pattern remains consistent even during low volatility periods.

Interestingly, ALSI exhibits higher sensitivity to capping constraints compared to SWIX. Despite this, ALSI consistently outperforms SWIX across various restrictions. This suggests that ALSI might require more nuanced management or adjustments to adhere to specific limitations without compromising its performance.

## 1. Basic comparison of different 'Capped' funds for ALSI and SWIX

The data showcases that Large Capped funds outperform both Mid and Small Capped Funds, although they also tend to demonstrate higher overall volatility. Within the ALSI index, the returns exceed those observed in the SWIX index. However, both ALSI and SWIX exhibit relatively similar volatility.

Regarding the SWIX index, the returns of Large and Mid capped funds seem to be more closely aligned with each other. This suggests a degree of correlation or similarity in the performance trend between the Large and Mid capped funds within the SWIX index.
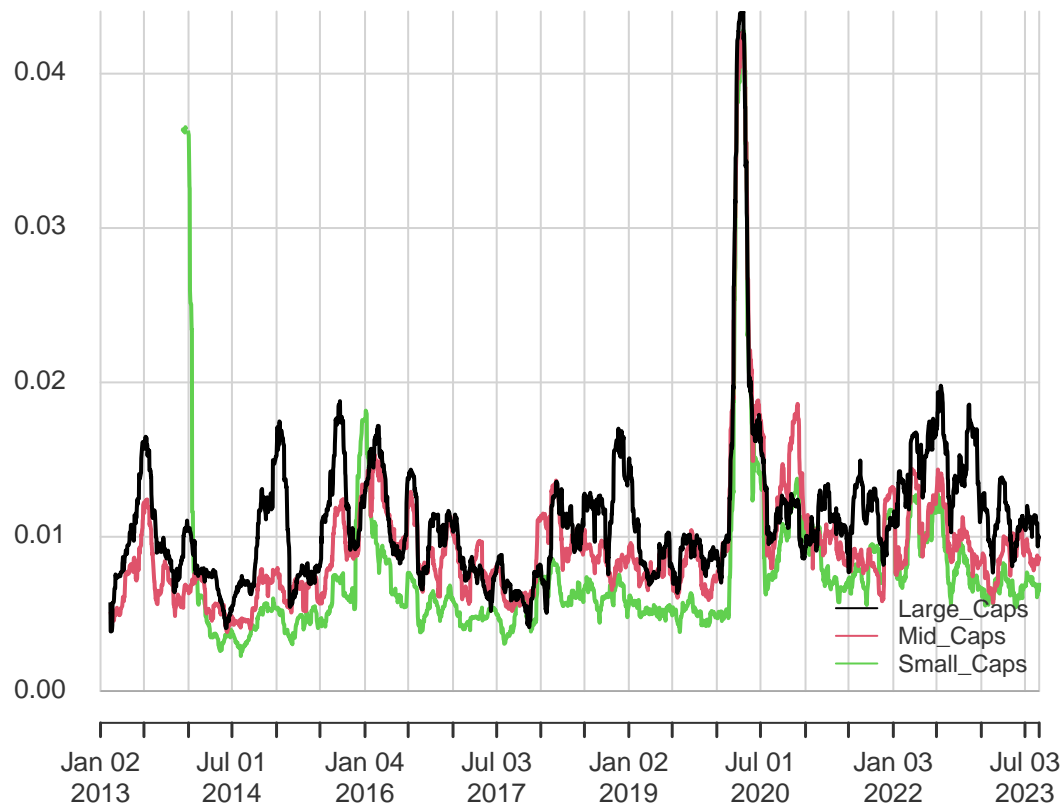
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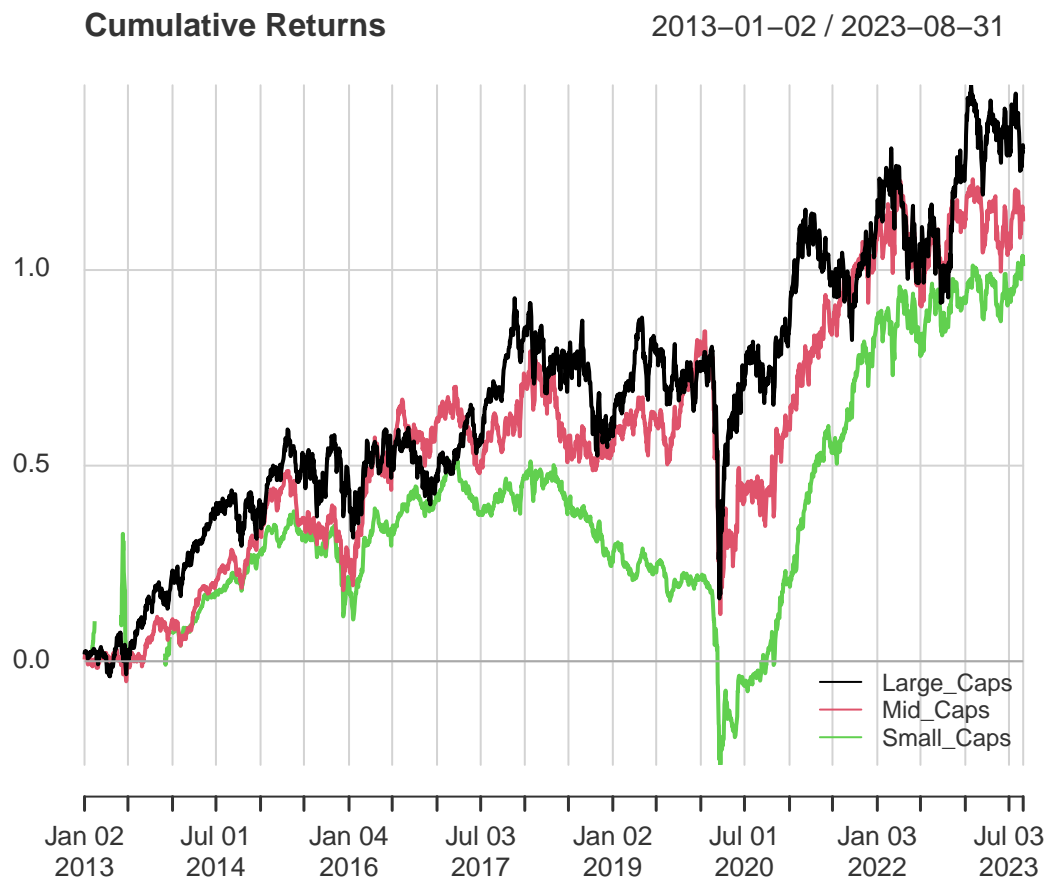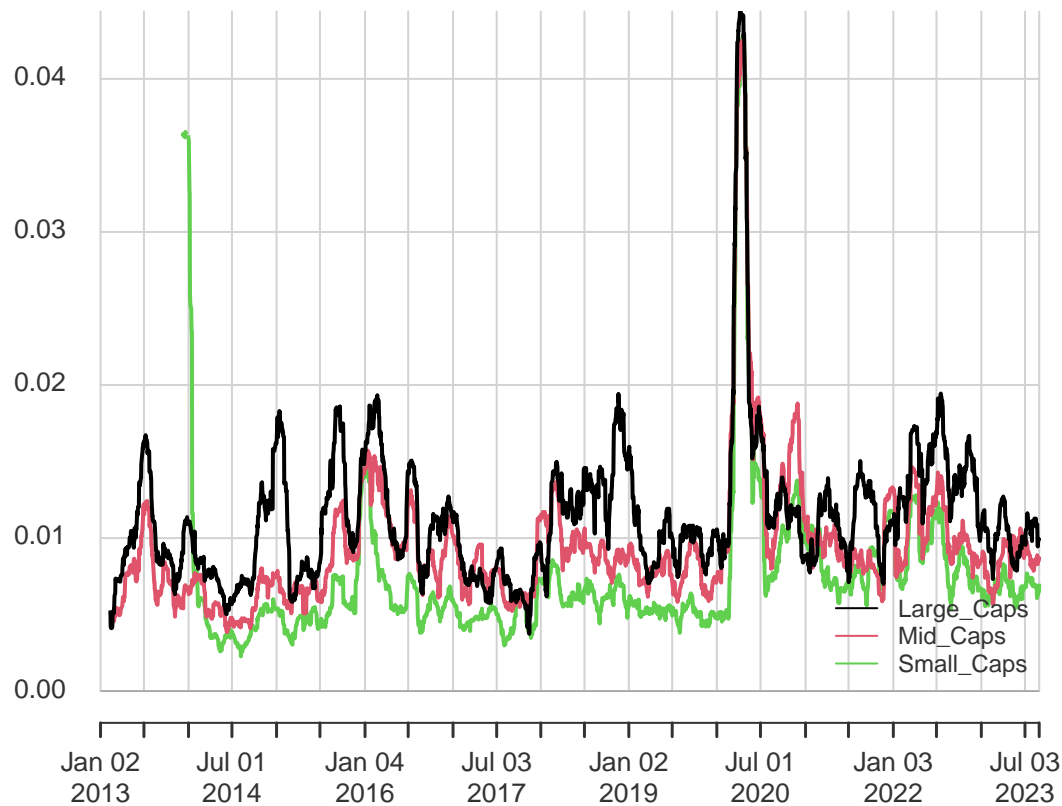*Email address:* 22581340@sun.ac.za (Gabriella Neilon)

1.1. ALSI
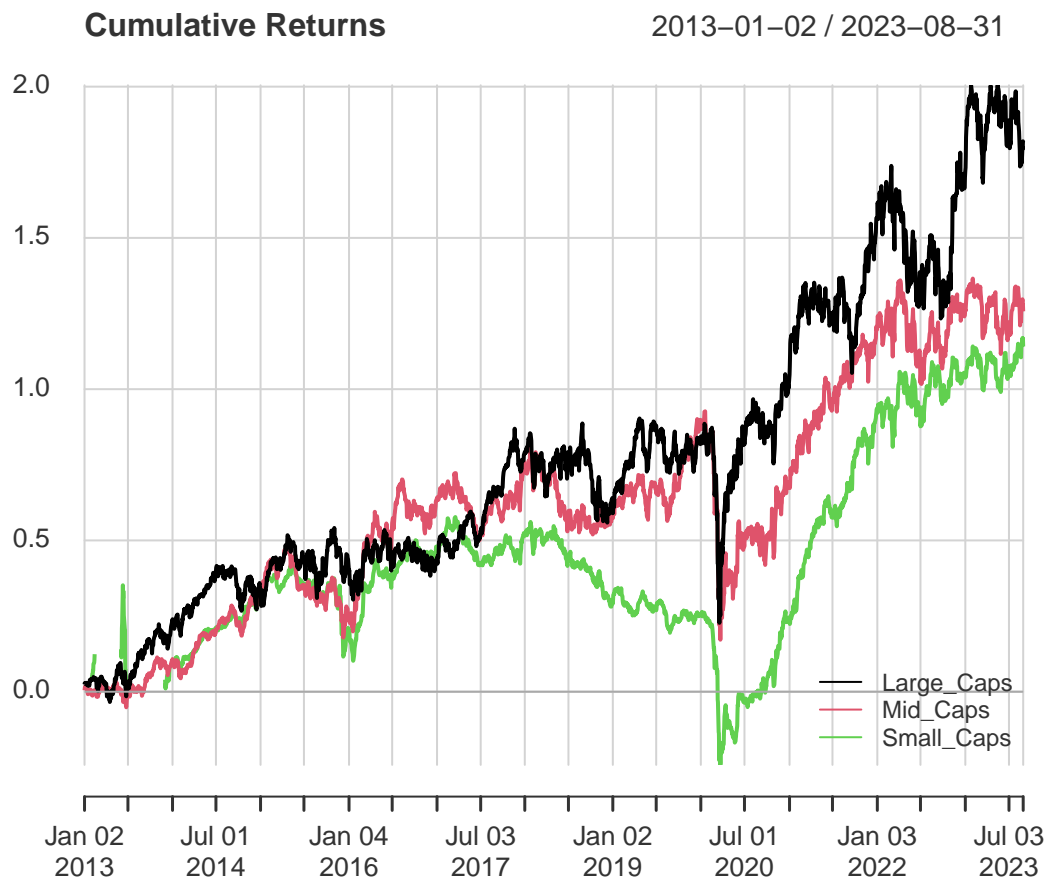
Cumulative Returns　　　　　2013–01–02 / 2023–08–31

Rolling 30−day Standard Deviation   2013−01−02 / 2023−08−31

Cumulative Returns   2013–01–02 / 2023–08–31

Rolling 30–day Standard Deviation   2013–01–02 / 2023–08–31

2. Periods of high and low volatility

```
## # A tibble: 3 x 5
## # Groups:   Index [3]
##   Index              SD Full_SD Period   Ratio
##   <chr>           <dbl>   <dbl> <chr>    <dbl>
## 1 ZAR.USD.Return 0.191   0.141  High_Vol 1.35
## 2 SWIX           0.0428  0.0366 High_Vol 1.17
## 3 ALSI           0.0337  0.0344 High_Vol 0.981
```

```
## # A tibble: 3 x 5
## # Groups:   Index [3]
##   Index              SD Full_SD Period   Ratio
##   <chr>           <dbl>   <dbl> <chr>    <dbl>
```

```
## 1 ZAR.USD.Return 0.104   0.141  Low_Vol 0.740
## 2 SWIX           0.0286  0.0366 Low_Vol 0.781
## 3 ALSI           0.0266  0.0344 Low_Vol 0.775
```

These tables demonstrates that during periods of high exchange rate volatility, both SWIX and ALSI experience increased volatility, with SWIX being more significantly affected compared to ALSI. This pattern holds true during low volatility periods as well.

3. Capping

The figure illustrates that ALSI is more sensitive to the imposition of capping constraints compared to SWIX. Despite this higher susceptibility, ALSI consistently outperforms SWIX across all three restrictions.

This implies that even with the imposition of constraints, ALSI manages to maintain better performance than SWIX. The sensitivity of ALSI to these restrictions suggests it might require more nuanced management or adjustments to adhere to certain limitations without compromising its performance.

ALSI and SWIX Over Time