

Question 3: Portfolio Construction

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1. Introduction

This questions looks at two different all share indices, namely the ALSI and the SWIX. I compare these two indices by first estimating the cumulative returns for both broken down by sector and index. Next I perform stratification analysis using the ZAR to see how these indices react during currency volatility. Lastly, I compare the differences in returns for different capped portfolios.

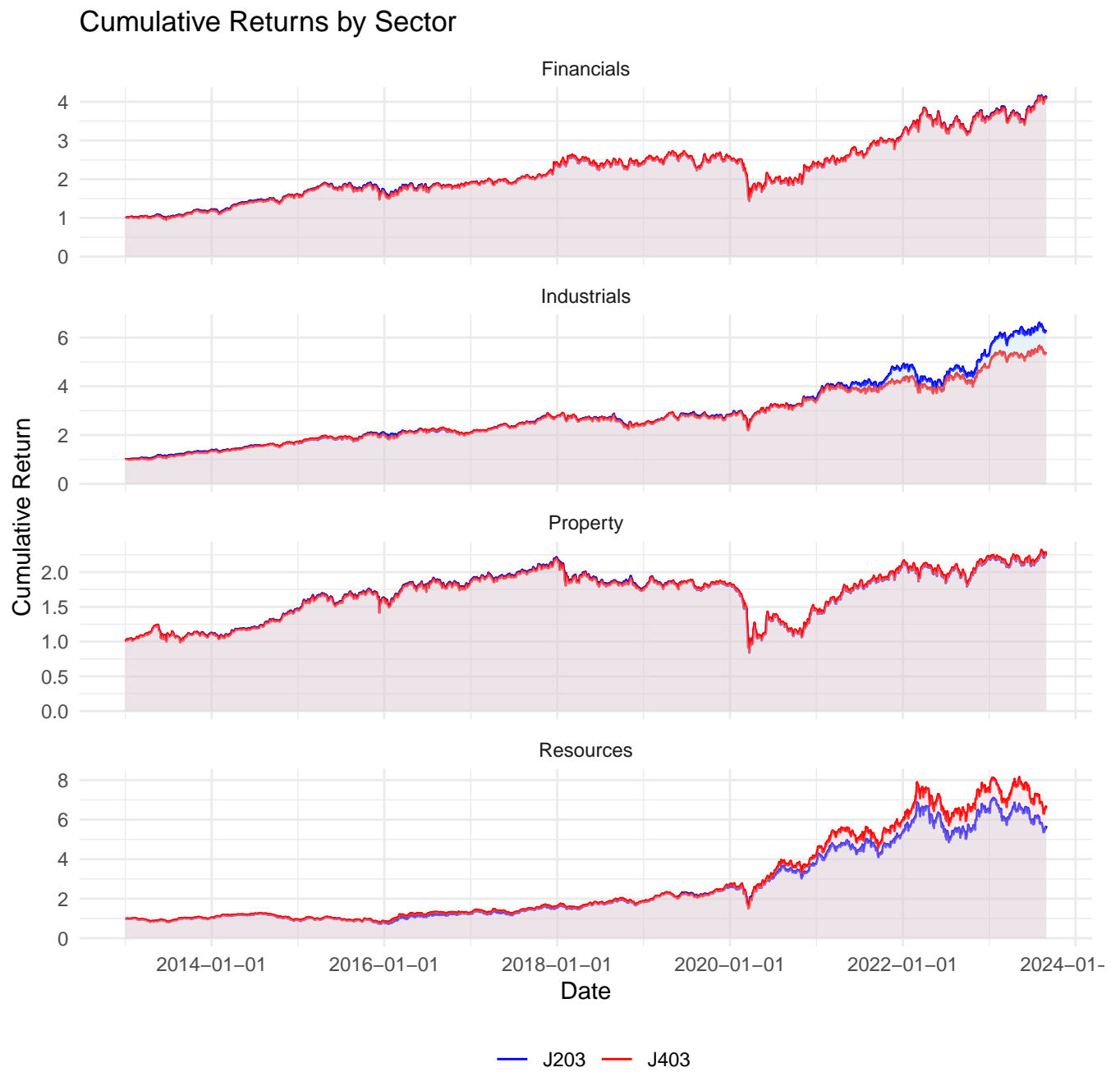


Figure 1.1: Cumulative Returns by Sector

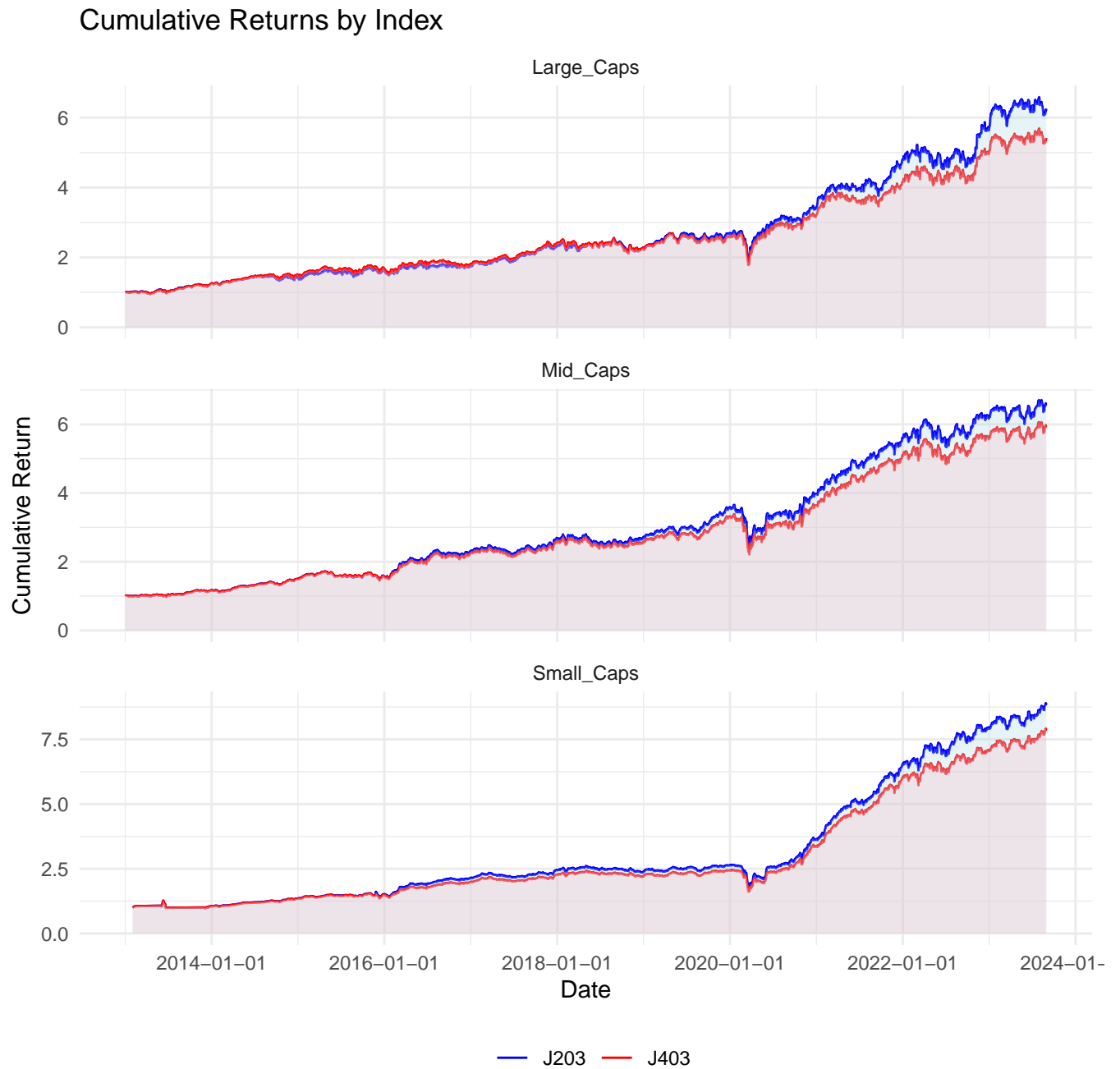


Figure 1.2: Cumulative Returns by Index

When looking at Sectors, the SWIX(J403) and ALSI(J203) perform nearly identical when looking at the financial and property sector. ALSI outperforms SWIX in the industrial sector, but SWIX does better in resources. When looking at Index, interestingly, the ALSI outperforms SWIX across the board.

1.1. Stratification

Tickers	SD	Full_SD	Period	Ratio
J403	0.0430683	0.0353458	High_Vol	1.218486
J203	0.0424829	0.0350994	High_Vol	1.210359

Tickers	SD	Full_SD	Period	Ratio
J203	0.0353219	0.0350994	Low_Vol	1.0063369
J403	0.0347819	0.0353458	Low_Vol	0.9840453

Ratios above one indicate that that Ticker has a high (above usual) volatility for that given period. In the case of high volatility of the Rand, both the ALSI and SWIX show above usual volatility. Interestingly, ALSI also shows above usual volatility during periods of low Rand volatility.

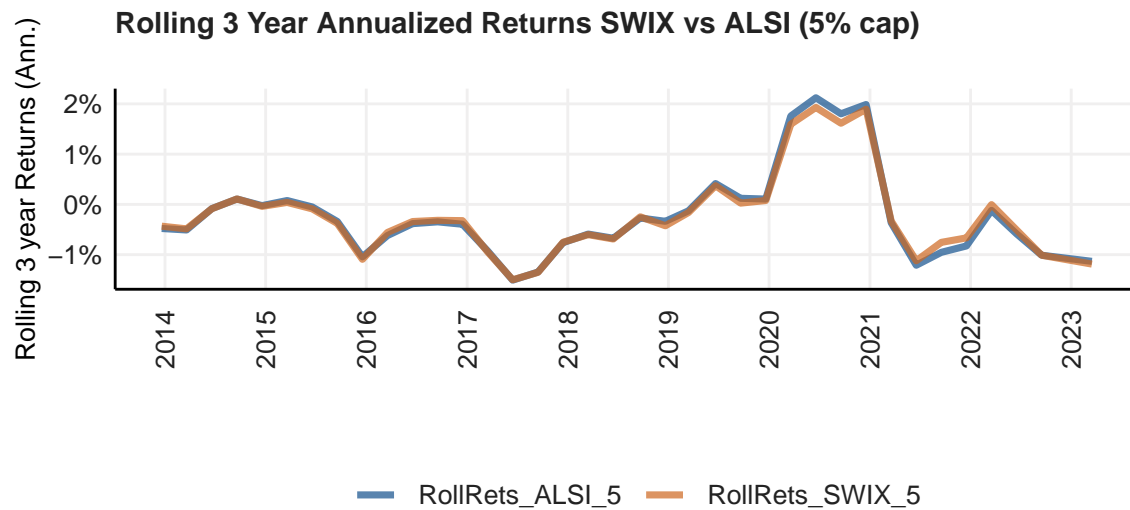


Figure 1.3: Rolling 3 Year Annualized Returns SWIX vs ALSI (5% cap)

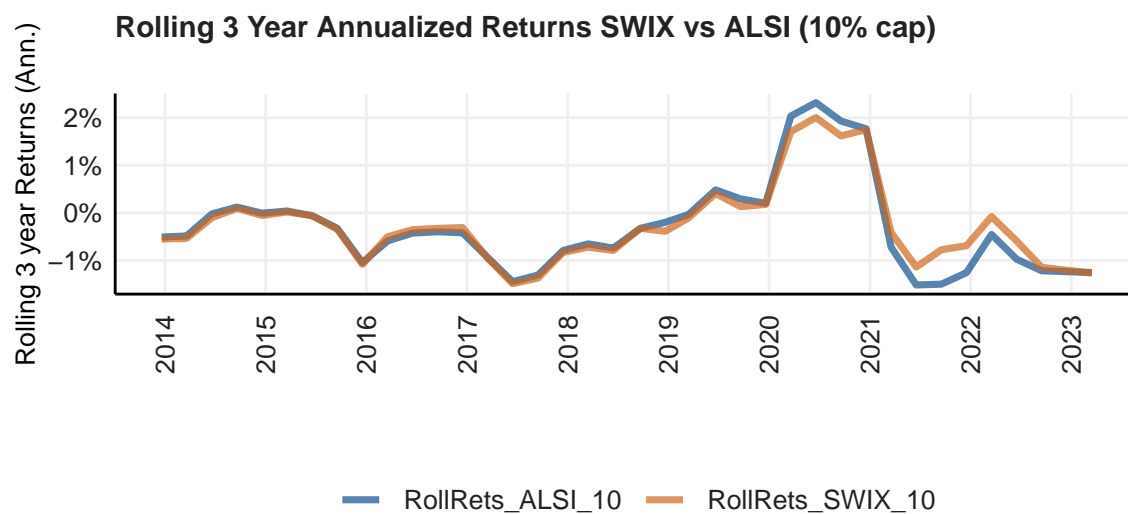


Figure 1.4: Rolling 3 Year Annualized Returns SWIX vs ALSI (10% cap)

The ALSI and the SWIX's rolling 3 year annualized returns closely follow each other. There is not much difference between the two for both a 5% and 10% cap. Interestingly, when looking at the period leading up to and straight after Covid-19, ALSI outperforms SWIX during the periods of high return, but under-performs during the downswing. This gap widens when looking at 10% capped portfolios.