Question 3: Portfolio Construction

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Abstract

This report examines the methodologies and performance of the ALSI (J203) and SWIX (J403) Indexes, analyzing differences in returns across market capitalizations, sector exposures, and stock concentrations. It also assesses the impact of currency performance and volatility on these indices and considers the implications of applying different capping thresholds during quarterly rebalances. The findings reveal distinct return profiles between the indexes and offer insights into the effects of capping on market representation and performance.

1. Performance Analysis

The figure below presents a multi-faceted view of the ALSI J203 Index returns, segmented by market capitalization categories: Large-Caps, Mid-Caps, and Small-Caps. The top-left panel shows the cumulative returns, where Large-Caps exhibit a significant upward trend, greatly outperforming the other categories. The top-right panel illustrates drawdown periods, with all categories showing similar drawdowns, indicating that market downturns affect all capitalizations fairly equally. The bottom-left panel shows rolling returns, calculated on an annual basis, with Large-Caps demonstrating less volatility and more stable returns over time compared to the more fluctuating returns of Mid and Small-Caps. Finally, the bottom-right panel displays rolling volatility, where Large-Caps are again the least volatile, and Small-Caps the most, particularly during certain periods which may correspond to market instability or specific economic events.

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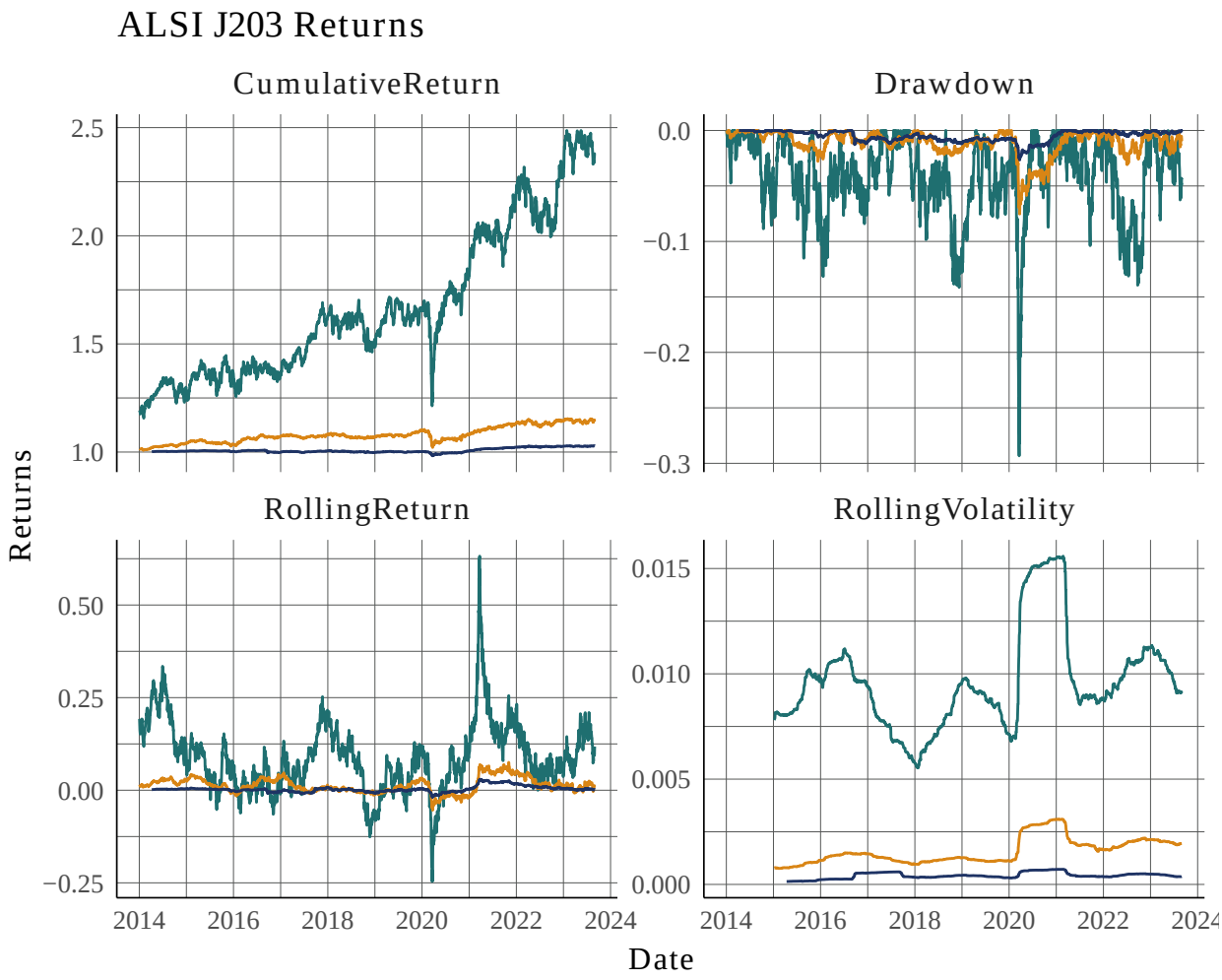
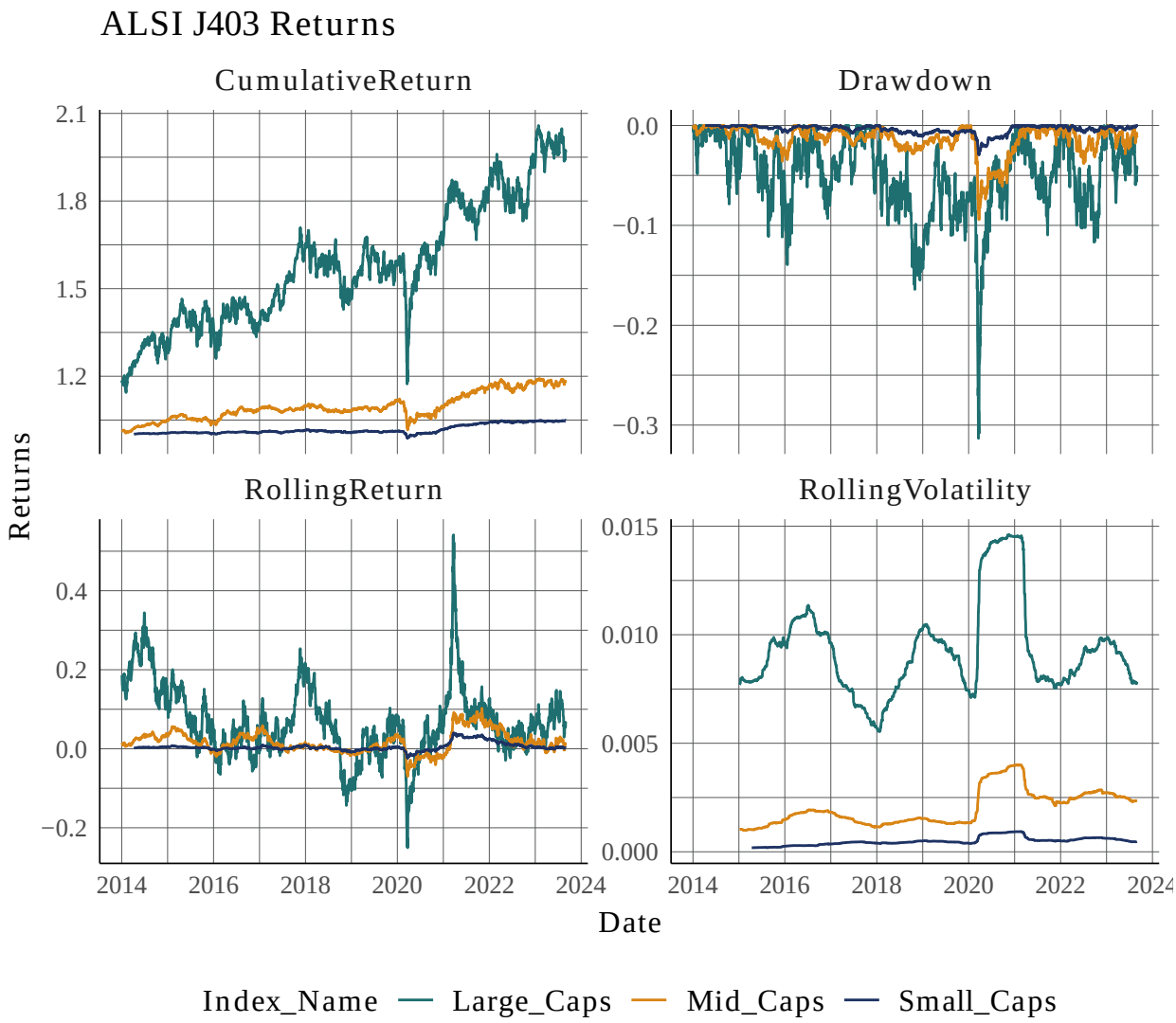


The second figure depicts the performance metrics for the ALSI J403 Index, broken down by market capitalization. Once again the cumulative return chart shows that Large-Caps have yielded the highest returns over time. The drawdown chart indicates that all market caps experience similar declines during downturns. The rolling return graph suggests that returns for all caps fluctuate around the same level, with no clear consistent outperformer. Lastly, the rolling volatility graph highlights that Large-Caps have the lowest volatility, while Small-Caps exhibit higher volatility, with notable spikes suggesting periods of increased market instability.



Comparing the two figures:

1. **Cumulative Return**:
   - Both figures indicate that Large-Caps lead in cumulative returns, but the J203 Index seems to show a more pronounced outperformance relative to Mid and Small-Caps compared to the J403 Index.
2. **Drawdown**:
   - Drawdown patterns are similar across both indices, with all market caps experiencing comparable declines during downturns. This suggests that market-wide events impact all caps similarly, regardless of the index.

3. **Rolling Return**:

   - The rolling return for both indices shows that Large-Caps have more stable returns over time. However, the fluctuations among the caps are more pronounced in the J203 Index than in the J403 Index.

4. **Rolling Volatility**:

   - For both indices, Large-Caps exhibit the lowest volatility. However, the volatility spikes for Small-Caps are more substantial in the J203 Index, indicating periods of increased market instability affecting Small-Caps more in the J203 Index compared to the J403 Index.

In summary, while there are overarching similarities in the behavior of different market capitalizations across both indices, the ALSI J203 Index displays a slightly higher differentiation between the caps, particularly in terms of volatility and returns, suggesting a divergence in the risk-return profile across the market caps within this index compared to the J403.

2. Sector Exposure

The figure below compares the sector weightings over time for the J203 and J403 indices. In both indices, Industrials (orange) and Financials (green) dominate the weightings, with Financials having a slightly lesser proportion. Property (blue) and Resources (green) sectors have smaller and relatively stable weights.

For the J203 Index, the Industrials sector has consistently the highest weighting, followed by Financials. The J403 Index shows a similar pattern, but with a slightly larger representation of the Resources sector compared to J203.

Over time, the weights of each sector remain relatively stable with minor fluctuations. There are no significant shifts or trends indicating a change in sector composition, suggesting consistent index composition criteria throughout the observed period. The consistent patterns across both indices also imply similar sectoral distribution methodologies, despite any differences in the overall index construction.

3. Currency

Correlation with Exchange Rate

Index	Correlation with Exchange Rate
J203	-0.02
J403	-0.06

The table above shows the correlation between the exchange rate and the returns of the J203 and J403 indices. Both indices exhibit a negative correlation with the exchange rate, with the J403 having a slightly more negative correlation than the J203. This suggests that when the local currency strengthens (exchange rate decreases), the returns on both indices tend to decrease, but the impact is slightly more pronounced for the J403 Index. However, the correlation values are very close to zero,

indicating a very weak relationship between exchange rate movements and index returns for both indices.

4. Capping (Unfinished Section)