

Question 3: Portfolio Construction

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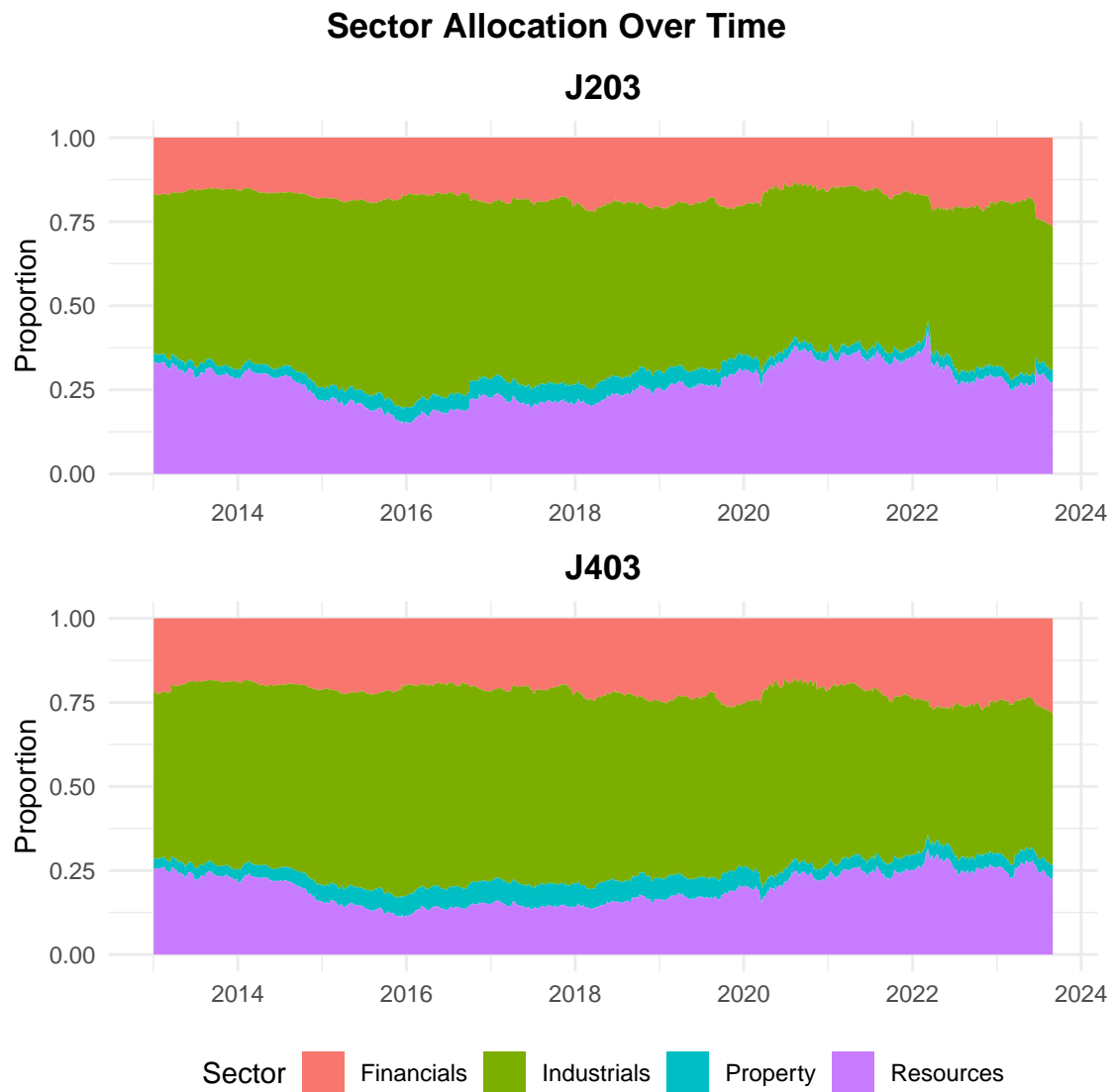
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Abstract

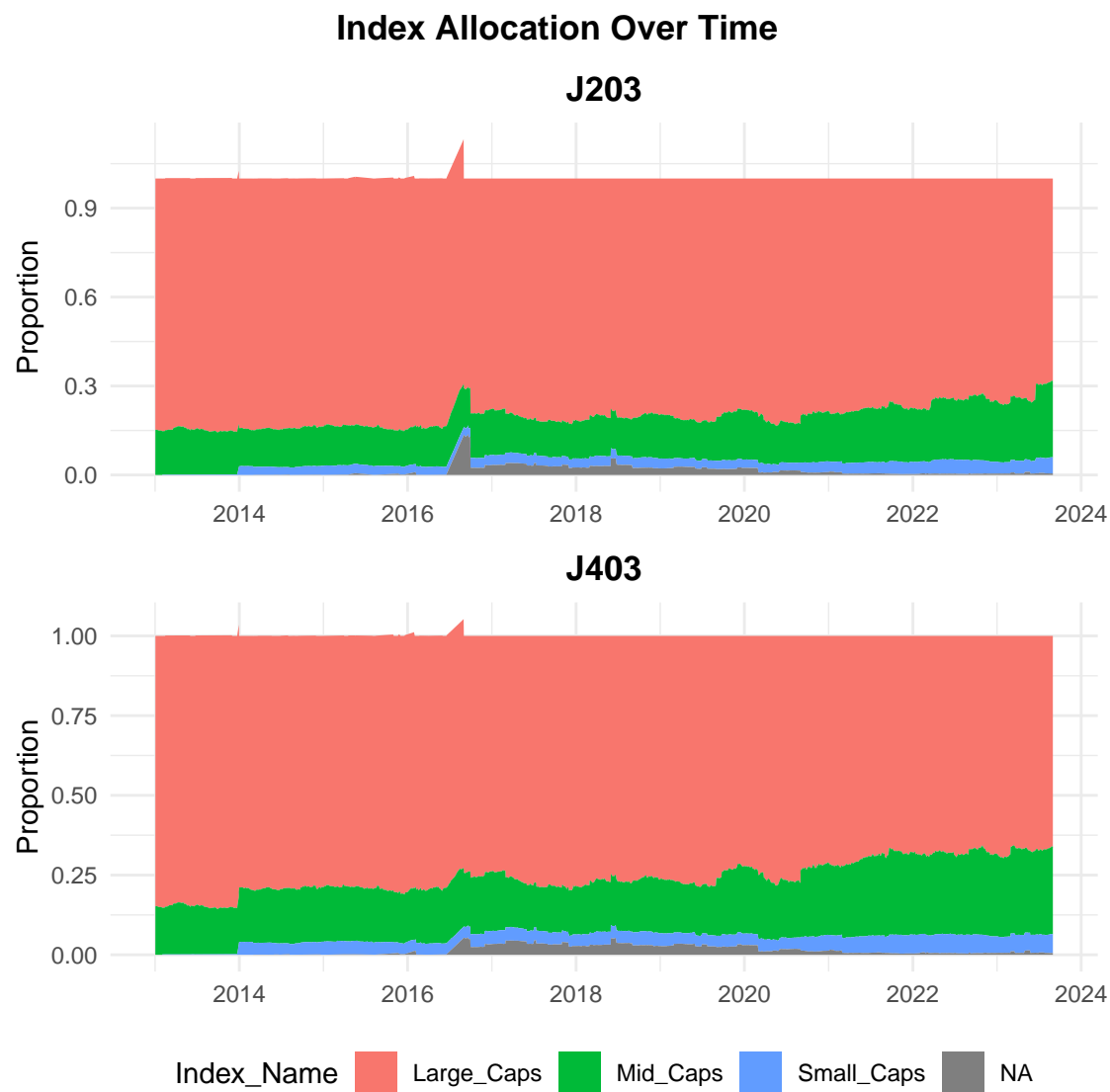
Comparison of the SWIX(J403) and ALSI(J203) Indexes

Introduction

We begin our research into these indexes by first comparing their weighting of constituent stocks. First we will look at sector allocation and then market cap size allocations.

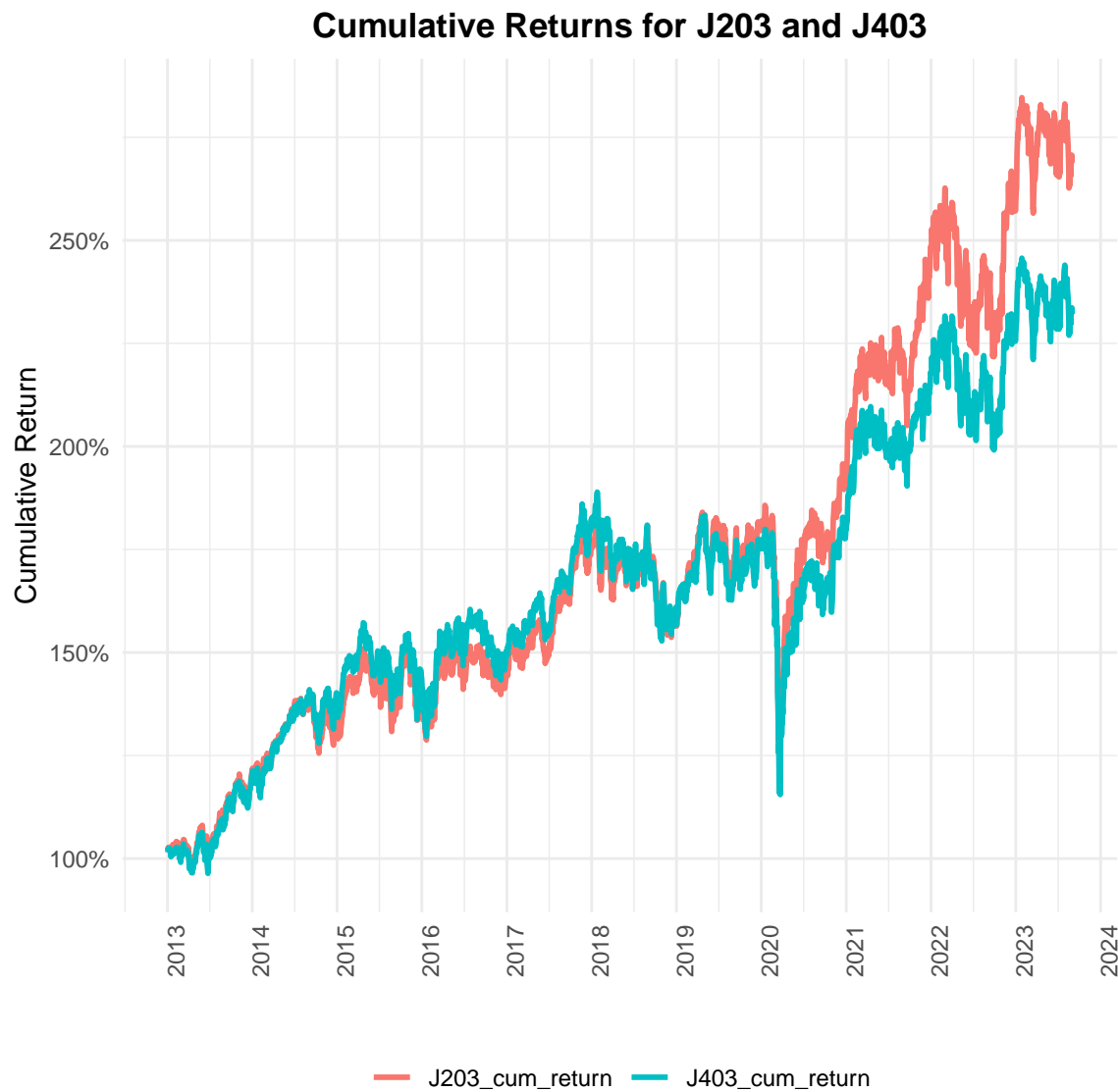


The sector weight allocations are clearly not exactly the same but they are certainly very close and their reweighting over time seems to rhyme.



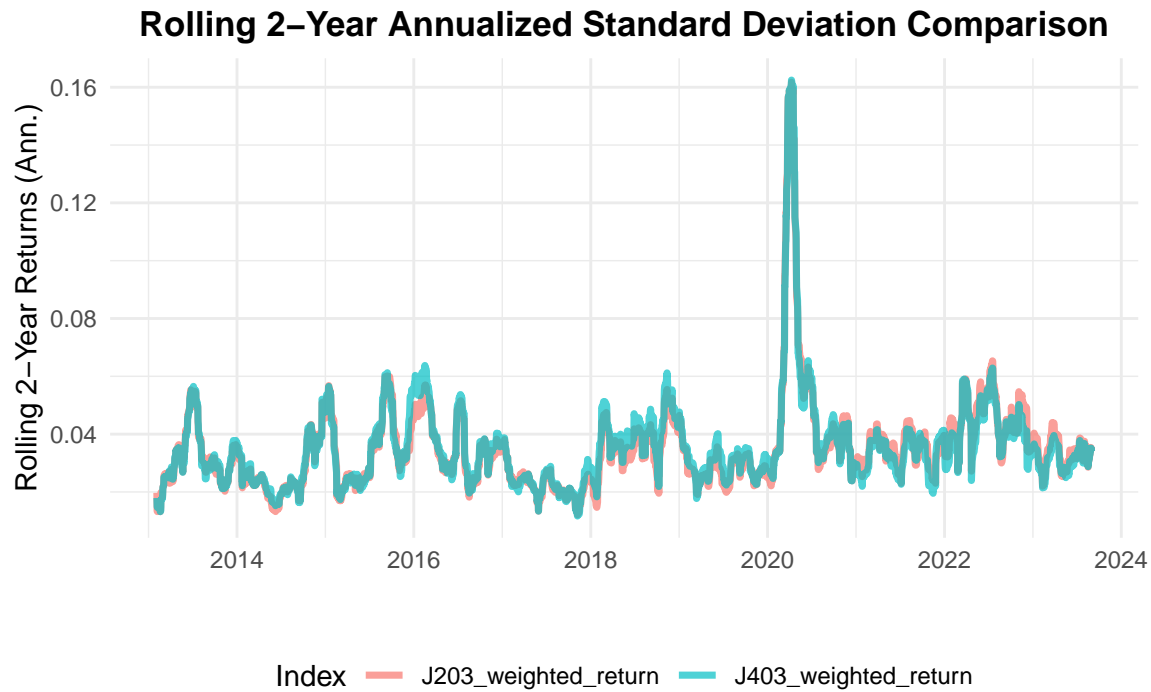
Index allocations are also very similar. A surprising amount of NAs. Both greatly favour large caps while mid caps make up about a quarter of the allocation and small caps are a trivial component. J403 appears to have a slightly higher allocation in mid caps while J203 appear to have a relatively higher allocation in large caps, this is especially in the most recent months.

1. Performance



Cumulative returns for the indexes closely tracked each other up until 2020 after which they diverged and with J203 pulling ahead. This might be related to J203's heavier allocation in large caps relative to J403.

Below we compare rolling standard deviation as a proxy for volatility and risk.



Note: Monthly data, annualized SD calculated over a 24–month rolling window

The risk profile according to the standard deviation measure is remarkably similar especially given the divergence in cumulative returns in the last two years.

The results of the expected shortfall comparison between the indexes support this finding.

Expected Shortfall Results

Index	Expected_Shortfall
J203	-0.0246
J403	-0.0239

J203 only displays a marginally more negative expected shortfall than does J403 which indicates that both have similar levels of tail risk in extreme conditions.