Mathematical Statistics
Stockholm University
Bachelor Thesis **2021:5**
http://www.math.su.se

Comparing the Global Minimum Variance portfolio to an equal weights benchmark in terms of risk and expected return

Hampus Olander*

June 2021

Abstract

In this thesis, the Global Minimum Variance (GMV) portfolio is compared to a bench mark portfolio, consisting of stocks held with equal weights. This is done by deriving two statistical tests that allows us to test whether the risk (or variance) and expected return of the two portfolios are significantly different.

The conclusion is firstly that there is no significant difference in the expected return; in fact the simple bench mark strategy outperformed the GMV portfolio during one of the three observed years. When it comes to the variances however, the GMV portfolio did as it is purposed to do by achieving a lower risk compared to the benchmark, for all three years under observation.

*Postal address: Mathematical Statistics, Stockholm University, SE-106 91, Sweden. E-mail: hampus@ohlander.eu. Supervisor: Taras Bodnar.