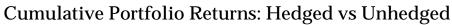
## Question 1: Systematic AI Fund

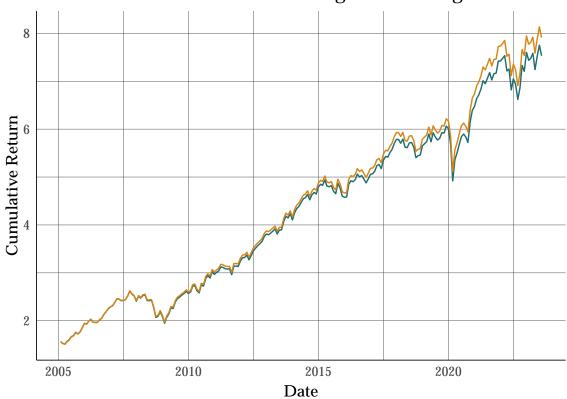
Jan-Hendrik Pretorius<sup>a</sup>

 $^aStellenbosch\ University$ 

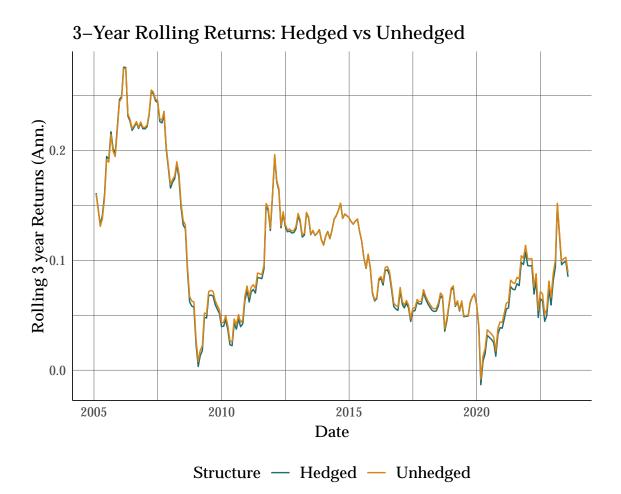
#### Abstract

Insert abstract if necessary.

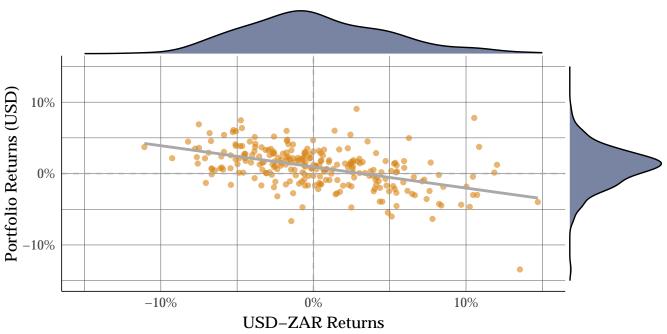




Structure — Hedged — Unhedged



## Scatter Plot with Marginal Distributions



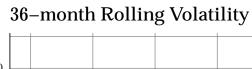
Calculations from 28 February 2002 – 31 August 2023

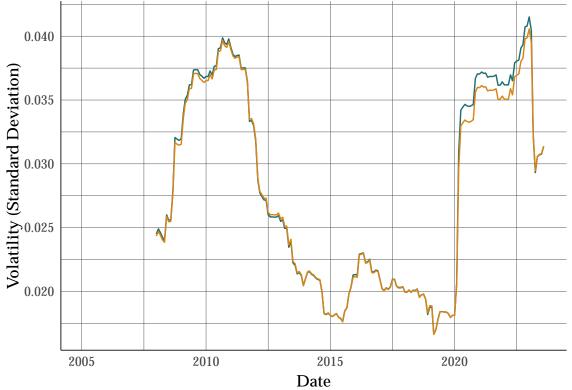
#### 1. Next create the downside risk table from Prac 2

Downside Risk Estimates

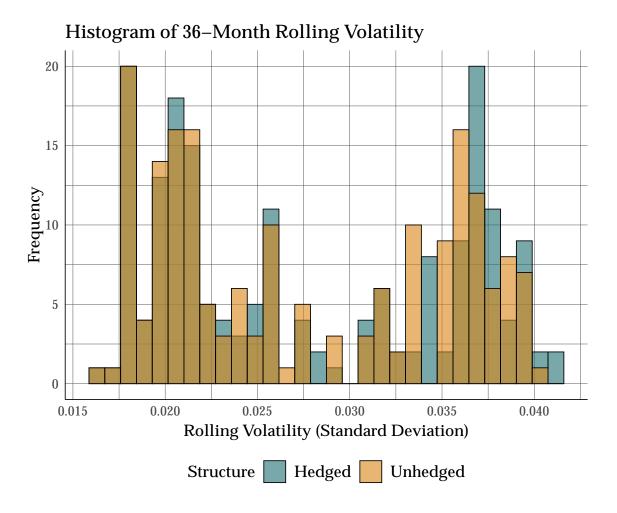
|                                 | Unhedged | Hedged |
|---------------------------------|----------|--------|
| Semi Deviation                  | 2.15%    | 2.19%  |
| Downside Deviation (Rf= $0\%$ ) | 1.78%    | 1.84%  |
| Maximum Drawdown                | 24.96%   | 25.65% |
| Historical VaR (95%)            | -4.15%   | -4.22% |
| Historical ES (95%)             | -5.98%   | -6.16% |
| Modified VaR $(95\%)$           | -4.26%   | -4.40% |
| Modified ES $(95\%)$            | -7.03%   | -7.58% |

### 2. Volatility

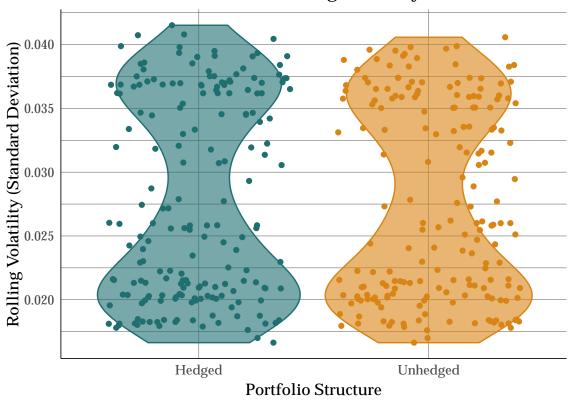




Structure — Hedged — Unhedged



# Violin Plot of 36–Month Rolling Volatility



Structure Hedged Unhedged