

## HOMework 3 – IDENTIFICATION OF LUCKY STRATEGIES

### Objective

- ✓ Determine the confidence intervals of various performance measures under the null hypothesis of “lucky” US sector rotation strategies.

### Data

- ✓ DATA\_HOMEWORK\_3.xlsx contains
  - The monthly returns of 10 sectors of the S&P500 index (total return, GICS 1 sector classification level, except real estate).
  - The monthly returns of the S&P500 index (total return).
  - The 1-month LIBOR USD interest rate
  - The monthly returns of funds pursuing sector rotation strategies on the US equity market.

### Guidelines

1. From the simulation of random long portfolios over the period December 2005 – February 2022, defined as...
  - ✓ Invested in 3 sectors each month
  - ✓ Allocation methodology between the sectors: risk parity (volatility-based)
  - ✓ 100% invested, no leverage
2. ... determine the 99% confidence intervals of the following performance statistics (over the period December 2005 – February 2022), under the null hypothesis of “luck”
  - ✓ Annualized expected return
  - ✓ Sharpe ratio
  - ✓ Alpha vs. SP500
3. Discuss the performances of the 2 sector rotation strategies over this period.