Mathematical Trading Strategies

Assignment 1

|  | MSCI World | Dow Jones | S&P 500 | [Russell 2000](https://en.wikipedia.org/wiki/Russell_2000) | [S&P 100](https://en.wikipedia.org/wiki/S%26P_100) |
| --- | --- | --- | --- | --- | --- |
| Cumulative returns | 14.085992 | -0.098459 | -0.030820 | 1.663415 | 0.247312 |
| Volatility | 0.039113 | 0.005067 | -0.199845 | -0.042945 | -0.27143 |
| Sharpe Ratio | 0.8188498359039942 | 0.5794809697018418 | 2.904155797528227 | 1.9654896888574684 | 6.207115446209951 |
| Sortino Ratio | 0.06796425566000304 | 0.05915492136663143 | 1.2377375457060673 | 0.3408307511936691 | 12.648537284746444 |
| Max Drawdown | -0.4385248124648222 | -0.20756924966926515 | -0.9927223763444609 | -0.3461077630590389 | -0.9895918367942736 |

|  | Fidelity International Index Fund | Vanguard Emerging Markets Stock Index Fund Admiral Shares | iShares Core MSCI Total International Stock ETF | iShares MSCI China ETF | The Emerging Markets Internet & Ecommerce ETF |
| --- | --- | --- | --- | --- | --- |
| Cumulative returns | 0.468840 | -0.047143 | 0.304545 | -0.080540 | 0.153123 |
| Volatility | 0.033019 | -0.001144 | -0.004501 | -0.008607 | 0.019259 |
| Sharpe Ratio | 0.2796231692575773 | 0.07106581757696806 | 0.23494820050026324 | 0.10537813456481704 | 0.21142160717814287 |
| Sortino Ratio | 0.02393133341095556 | 0.00608498333446282 | 0.01997773524175767 | 0.00957499999201743 | 0.01927694410097131 |
| Max Drawdown | -0.3745667041883244 | -0.4356412086064946 | -0.39920487355495393 | -0.6339129443637467 | -0.7324274161336772 |