NOVA SCHOOL OF BUSINESS & ECONOMICS

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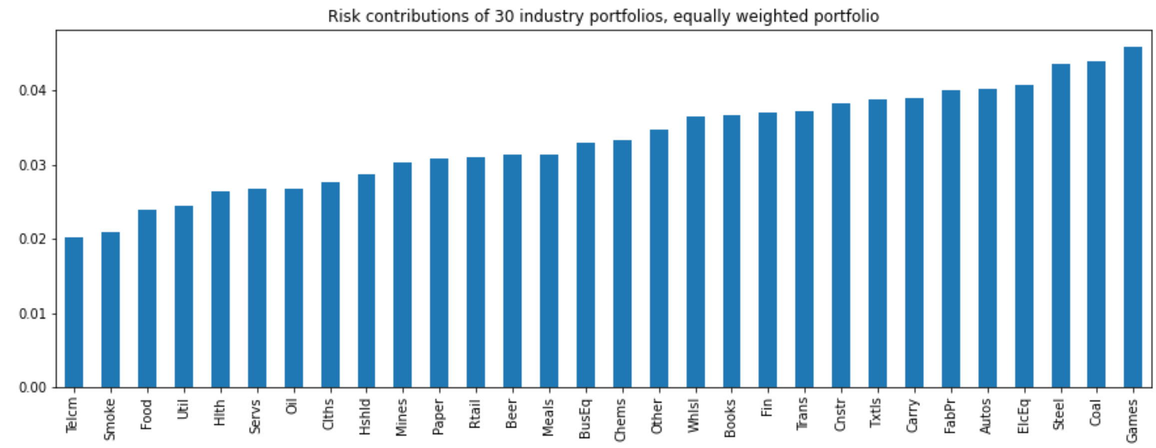
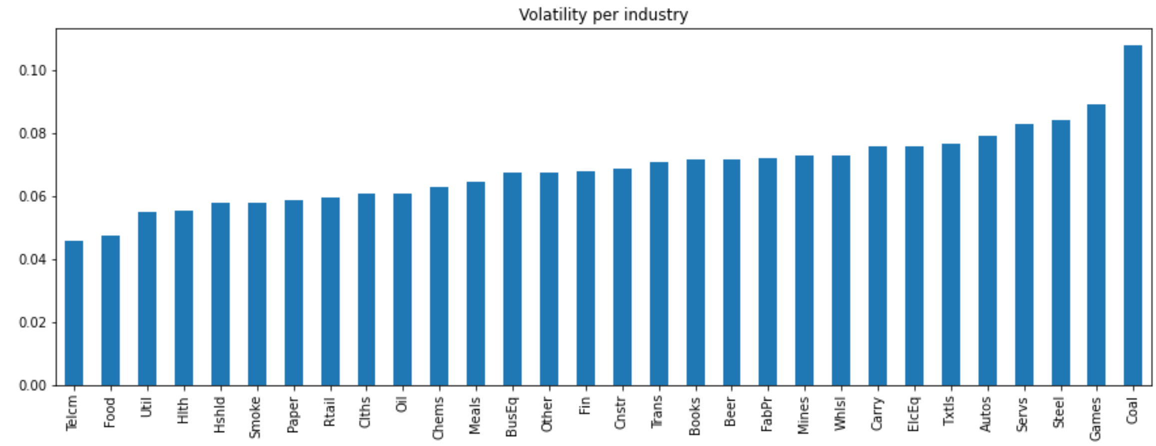
Assignment: Asset Management

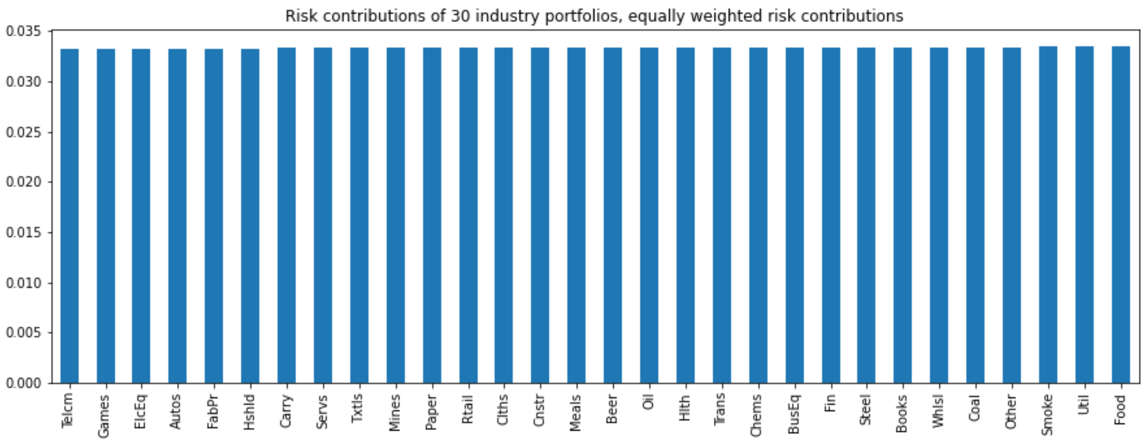
Question I - Equal Risk-Contribution Portfolios

6. According to the code written in question 6 (NB) the correlation between the risk contribution per industry and the volatility per industry is high and equal to 0.79. It does seem that high volatility (stdv) for the same asset corresponds to a high-risk contribution (rc). This is most notable for Services (high stdv, low rc) and Fabricated Products industries (low stdv, high rc). The explanation of this could be the correlation element, which if low can make the asset contribute less to the overall risk of the portfolio.



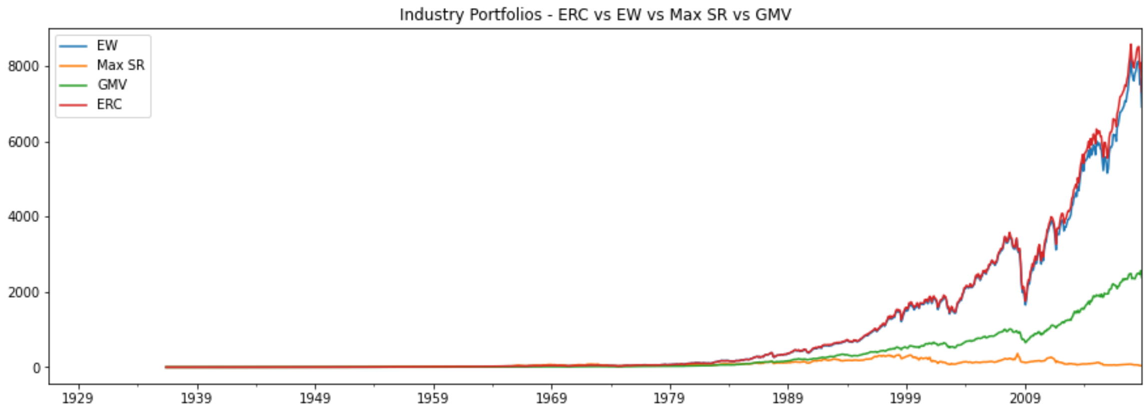


7. When using equal risk contribution weights, we obtain the following graph:



All risk contributions are equal as the portfolio is weighted exactly to reflect equal risk contributions by industry.

10. After backtesting all 4 types of portfolios, we obtain the following graph:



The maximum Sharpe ratio portfolio has performed the worst, followed by the global minimum variance portfolio. The equally weighted and equal risk contribution portfolios performed the best.