

W U T I S

Macro Risk Parity Strategy

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Chosen Basket of Diversified Macro Assets

Bonds

	Symbol	Name	Group	Currency	Region
1	EBL	Bund	Bonds	EUR*	EUR
2	FLG	Gilt	Bonds	GBP*	EUR
3	TY	US-TNotes 10Y	Bonds	USD	USA

Commodities

	Symbol	Name	Group	Currency	Region
4	CC	Cocoa	Softs	USD	USA
5	CL	WTI Crude	Energies	USD	USA
6	CT	Cotton	Softs	USD	USA
7	GC	Gold	Metals	USD	USA
8	KC	Coffee	Softs	USD	USA
9	MCU	Copper	Metals	USD	EUR
10	NAG	Natural Gas (10)	Energies	USD	USA
11	PA	Palladium	Metals	USD	USA
12	SI	Silver	Metals	USD	USA
13	W	Wheat (CBOT)	Crops	USD	USA

Indices

	Symbol	Name	Group	Currency	Region
14	FDX	DAX	Equities	EUR*	EUR
15	JNI	Nikkei	Equities	JPY*	PAC
16	SD	EuroStoxx 50	Equities	EUR	EUR
17	SP	E-mini S&P	Equities	USD	USA
18	YM	DJIA Mini	Equities	USD	USA
19	CAC	CAC 40	Equities	EUR*	EUR
20	IPC	Mexico IPC	Equities	MXN	USA

- Our goal in creating this Portfolio is quite similar to Markowitz Portfolio optimization, where one creates a portfolio aimed at maximizing returns for a given risk or vice versa.
- Our portfolio focuses on a trading signal created using 200/60 day simple moving averages where we entered a position to long or short an asset based on the change in signal.
- A simple equal weight allocation might be effective to calculate the performance of assets with similar volatilities such as an all indices portfolio. However, since we have chosen a diverse group of assets (Bonds, Commodities and Indices), using Risk Parity portfolio (RPP) strategy made most sense.
- Using the same SMA signal with different RPP weighting conditions we found that an equal weighted portfolio outperformed, but sustained higher volatility in comparison to our RPP portfolios.

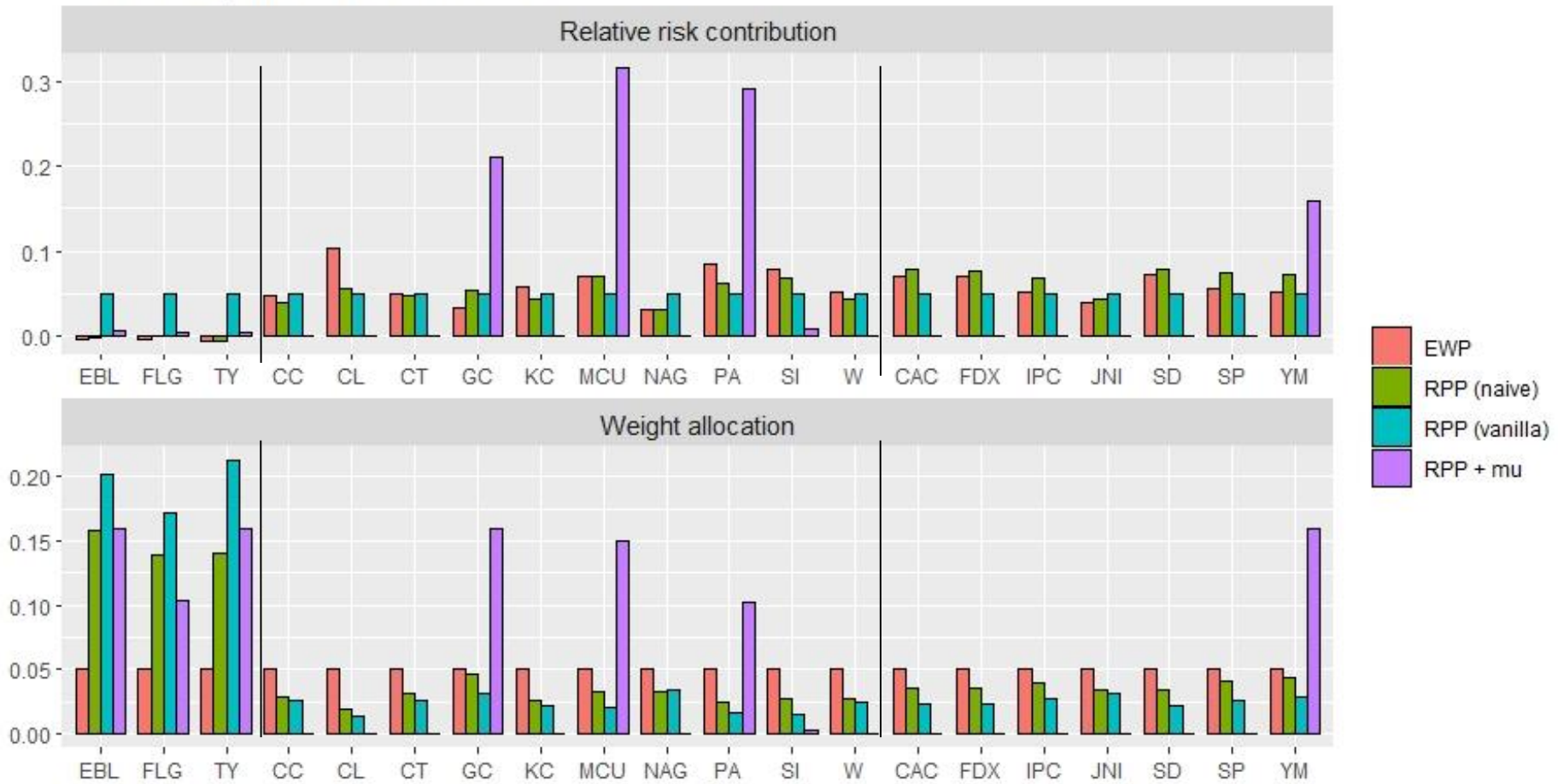
Risk Parity: Unlike an equally weighted portfolio, risk parity takes an equal risk approach. Risk contribution takes precedence in the optimization of asset allocation.

Risk Parity Conditions:

- Risk parity “Vanilla” = Optimizes portfolio weights by evenly equalizing risk across the portfolio with no intra asset covariance considerations.
- Risk parity “Naive” (also known as inverse volatility portfolio) = Attempts to equalize risk of asset in a portfolio taking into account covariance.
- Risk parity + μ = (* μ : side condition for optimizing with an expected return $E(r)$ consideration)
Maximize expected return while minimizing the overall risk.
Need to choose parameter (λ) for tradeoff

Portfolio Capital and Risk Distribution

Portfolio capital and risk distribution



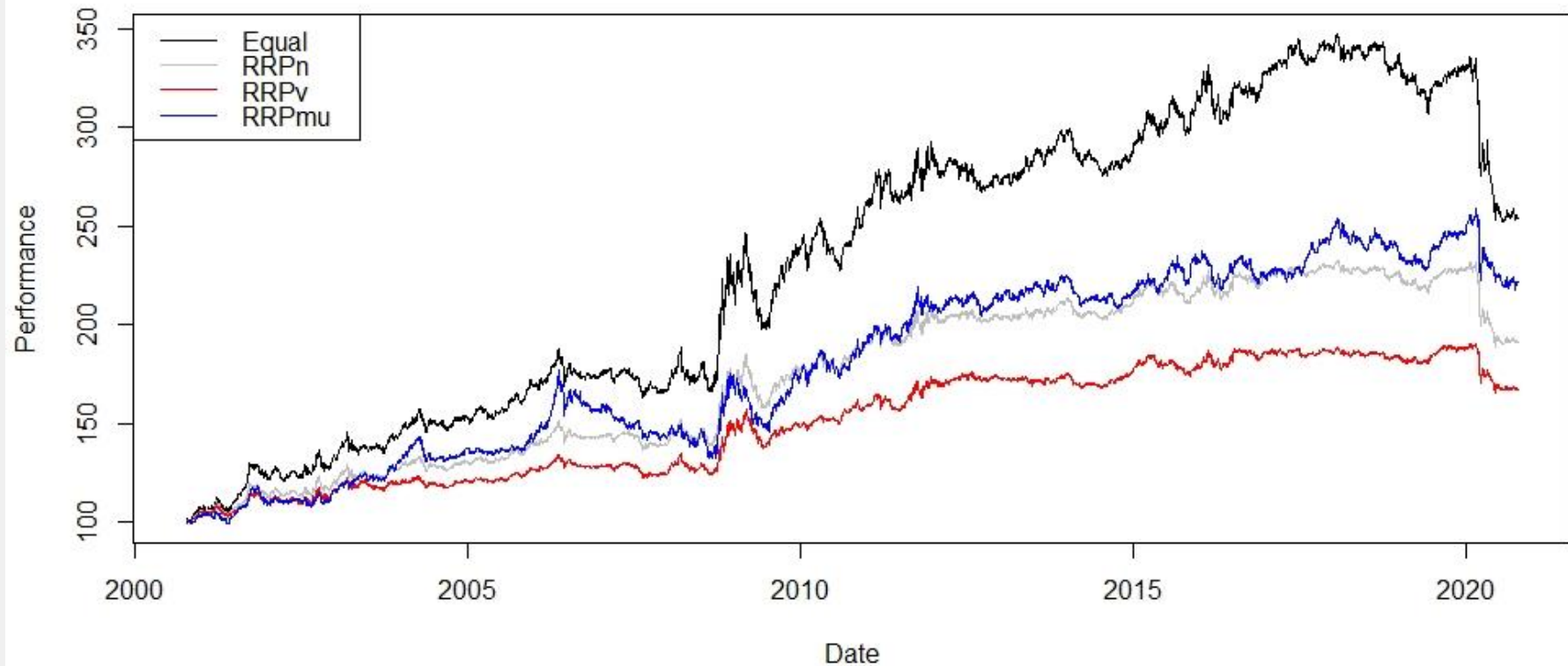
SMA Trade Signals

200/60 SMA Strategy | Long/Short using convergence/divergence signal

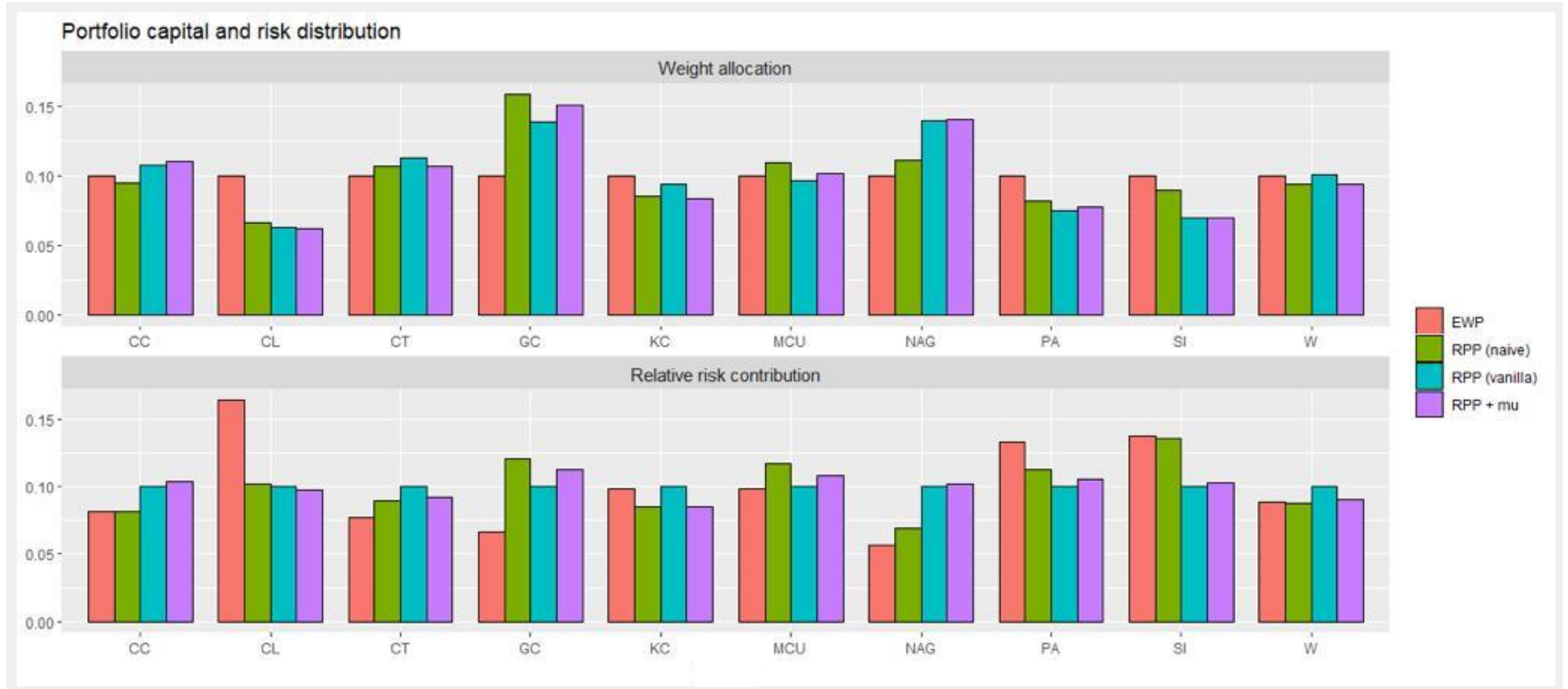
Annualized Results

	SD	E(r)	Sharpe
EW	9.3%	4.9%	.53
RP(v)	6.6%	3.3%	.50
RP(n)	5.4%	2.6%	.48
RP(mu)	8.3%	4.2%	.50

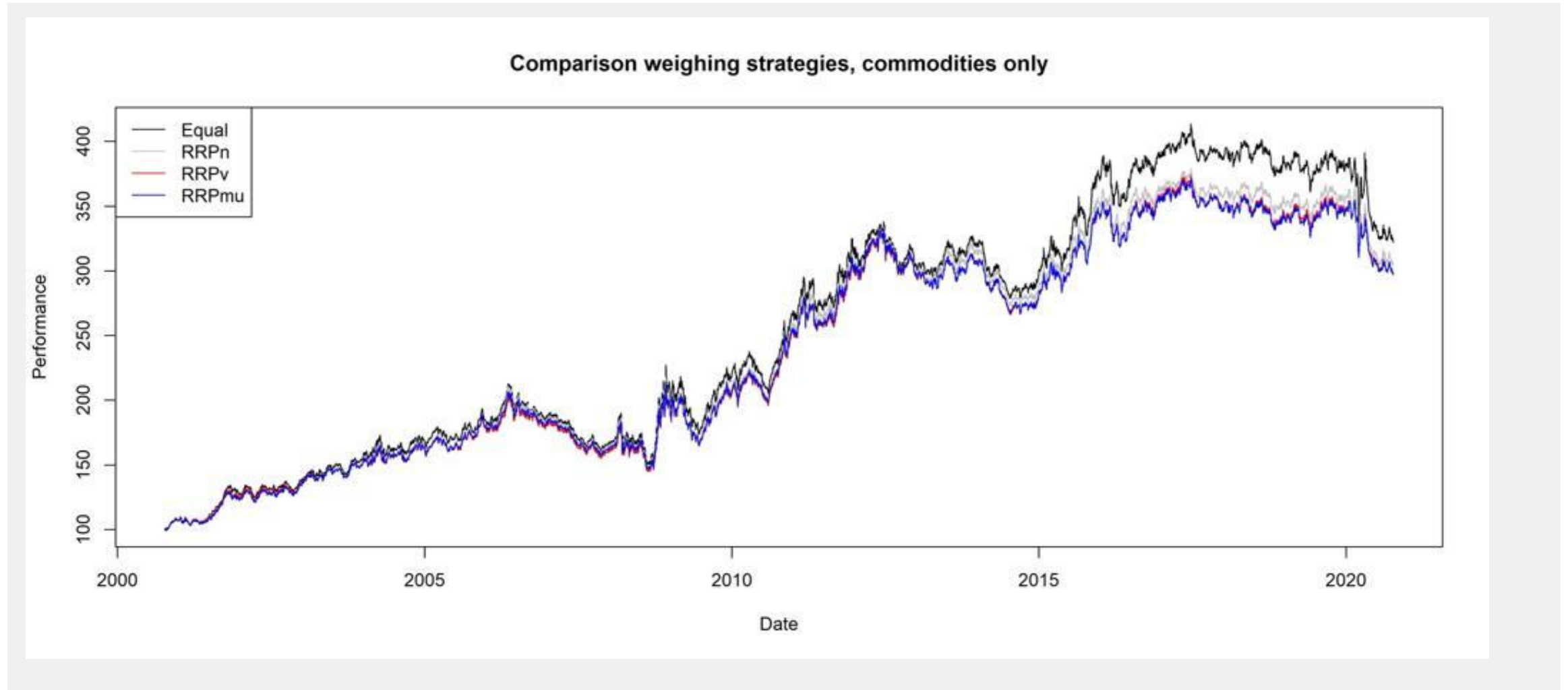
Comparison weighing strategies, diversified portfolio

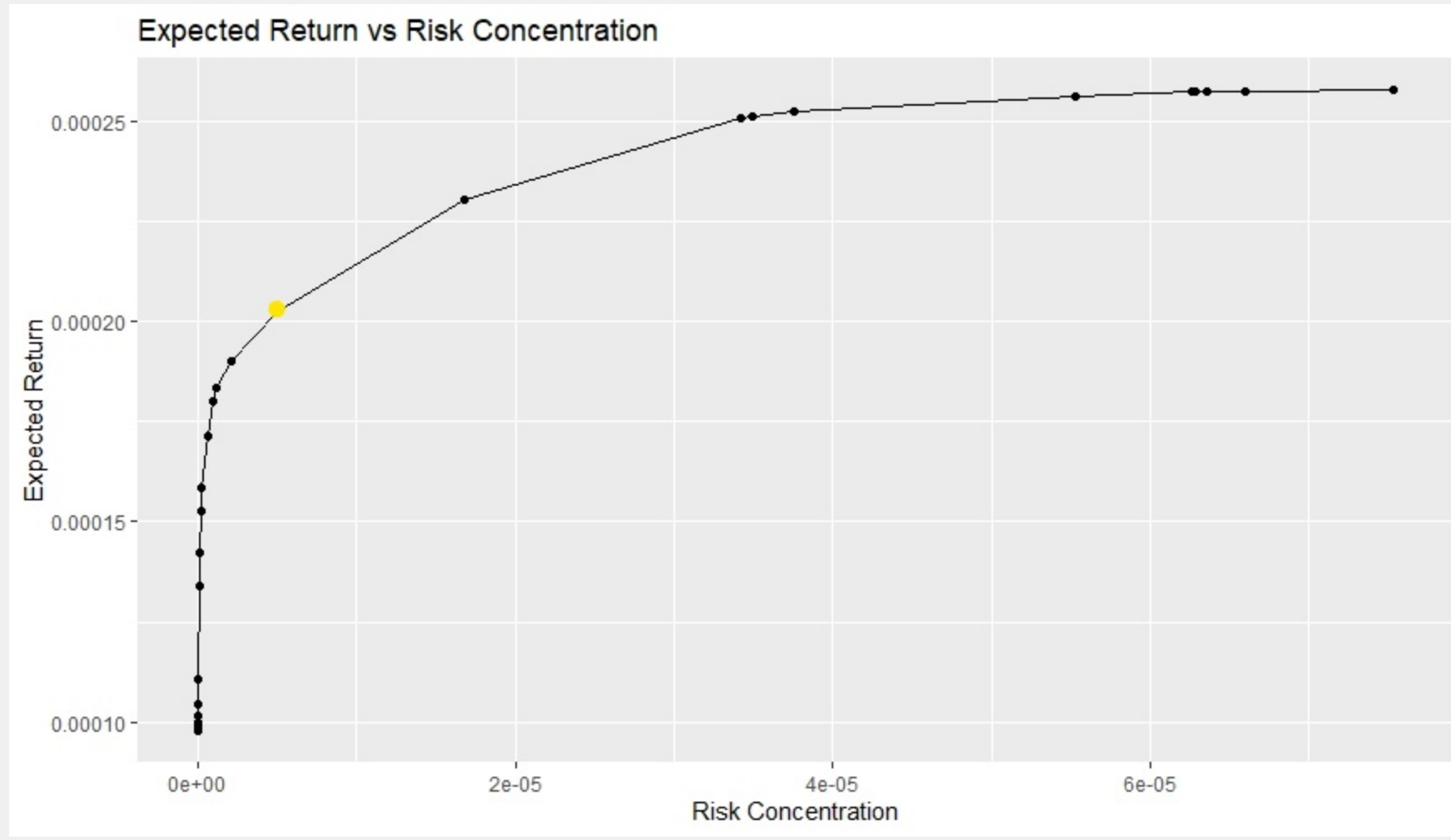


Comparison weighing strategies, commodities only



Performance comparison, commodities only





- There is always a tradeoff between risk and return
- Different asset classes have varying risk associated
- Be aware of your portfolio composition when looking at your overall risk
- an equal weighted portfolio outperformed, but sustained higher volatility in comparison to our RPP portfolios

Thank you for your attention!