



# Maimonides Risk Parity

Philip Z. Maymin, Trefz School of Business, University of Bridgeport, Bridgeport, CT  
Maymin, Philip Z.; Maymin, Zakhar G. (2013), Quantitative Finance Letters 1:1, 55-59.



## Risk Parity is the Goldilocks Portfolio

Risk Parity Portfolio:

Needs estimates of volatilities (and correlations?)  
Portfolio weights change mildly  
Ex-post performance is even better than equal-weight  
Ex-post variance relatively stable

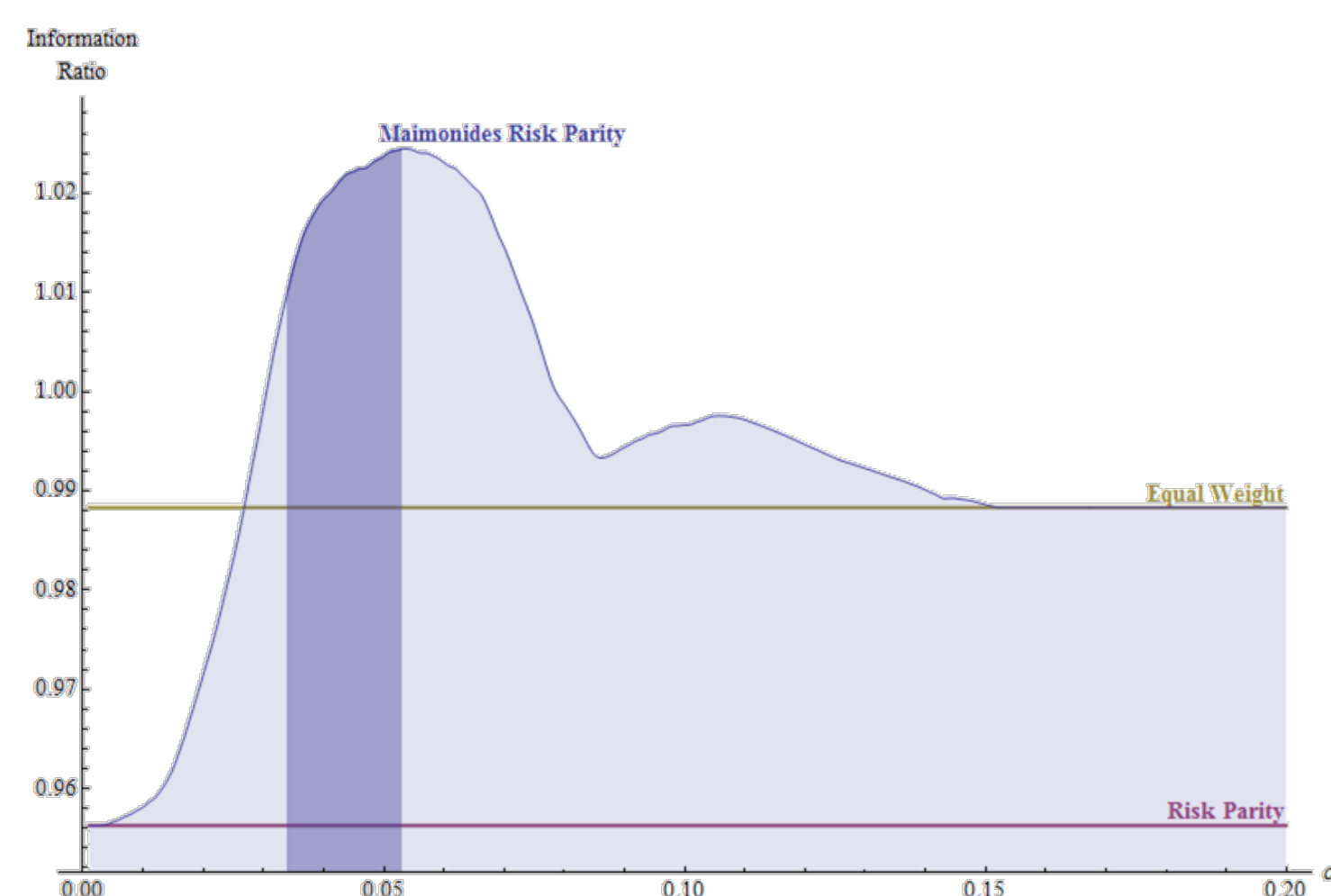
Tangency Portfolio:

Needs estimates of returns, volatilities, and correlations  
Portfolio weights vary wildly  
Ex-post performance is nowhere near optimal  
Ex-post variance fluctuates a lot

Equal-Weight Portfolio:

Needs estimates of nothing  
Portfolio weights never change  
Ex-post performance is much better than tangency  
Ex-post variance fluctuates a lot

## But We Can Do Even Better!



A man dies and leaves an estate of \$200 and three creditors.  
Creditors: A claims \$100, B claims \$200, and C claims \$300.  
You are the judge. How do you allocate?  
More important than the numbers: what is your *algorithm*?

**Proportional seems obvious.** A gets \$33, B gets \$67, and C gets \$100.

**Maimonides proposed something different.** Everyone gets \$67.

**Why? We argue it is because:**

1. Smaller debts are more *reliable*
2. Smaller debts are more *sensitive to the recovery*
3. Smaller debts can *continue to be accrued*

***Empirically, Maimonides Risk Parity outperforms Regular Risk Parity.***