

Active and Passive Management Skill, Luck and Performance

Con Keating

Con.Keating@BrightonRockGroup.co.uk

Liquidity

- ETFs are marketed as having enhanced liquidity
- First buyers and sellers are crossed,
- And then residual positions are executed in a market
- The internal crossing reduces the liquidity in the market
- And if you think a dealer will buy from a fund which has already exhausted a large part of demand on the same terms as it might otherwise have done
- There's a technical term for this
- Sloppy Seconds
- Passive investors are free-riding on the price formation of actives
- They are price takers, but

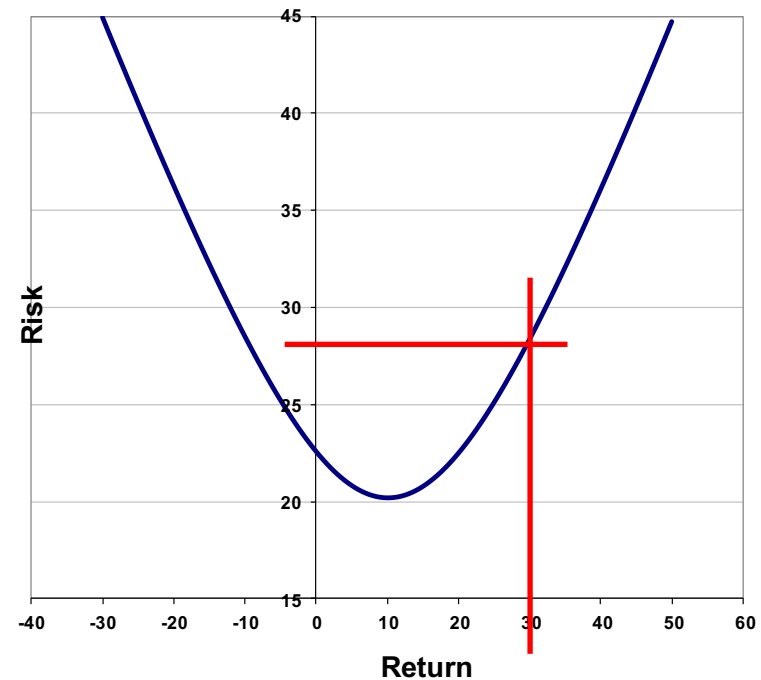
Increasing Passive Share

- As passive share rises
- Prices become less informative
- In the limit relative price changes are dominated just by stock specific liquidity
- With universal or common ownership, commercial competition is disincentivised

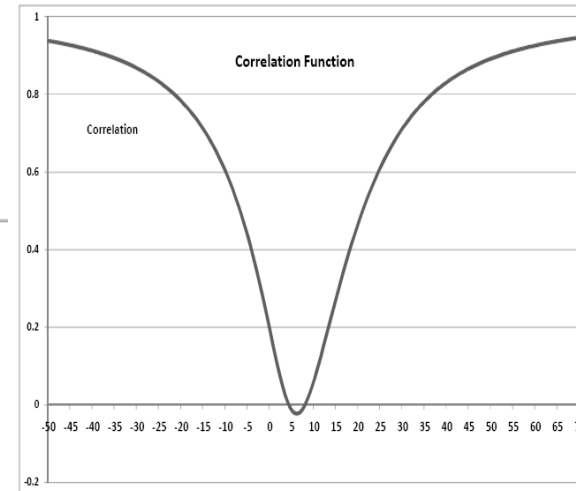
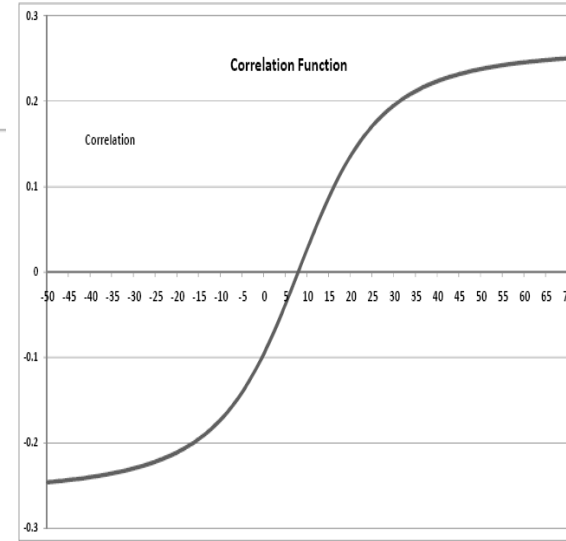
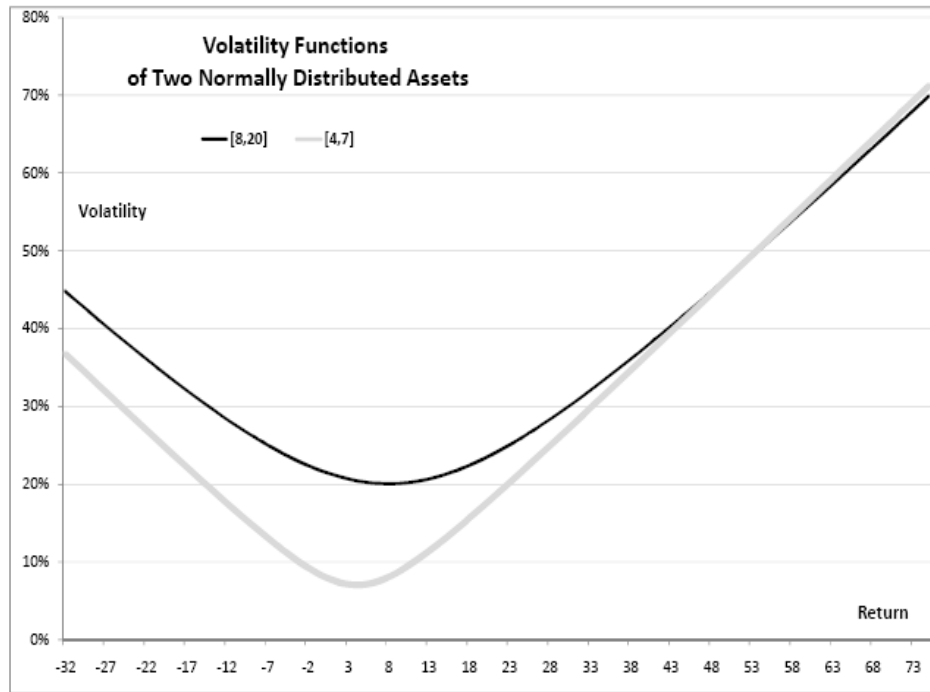
- Unfunded passives multiply volatility

- So why is active so difficult?

- Suppose we have an asset, whose return series is distributed (N 10,20)
- Now suppose that our research leads us to expected a 30% return
- Then it has higher volatility – mathematically
- The distribution about this expected return is also skewed to the downside.
- The long term effects are pronounced.
- Mean (geometric) return is 8% [10]
- Expected (geometric) return is <26% [30]
- And the asymmetries punish this further



Two assets



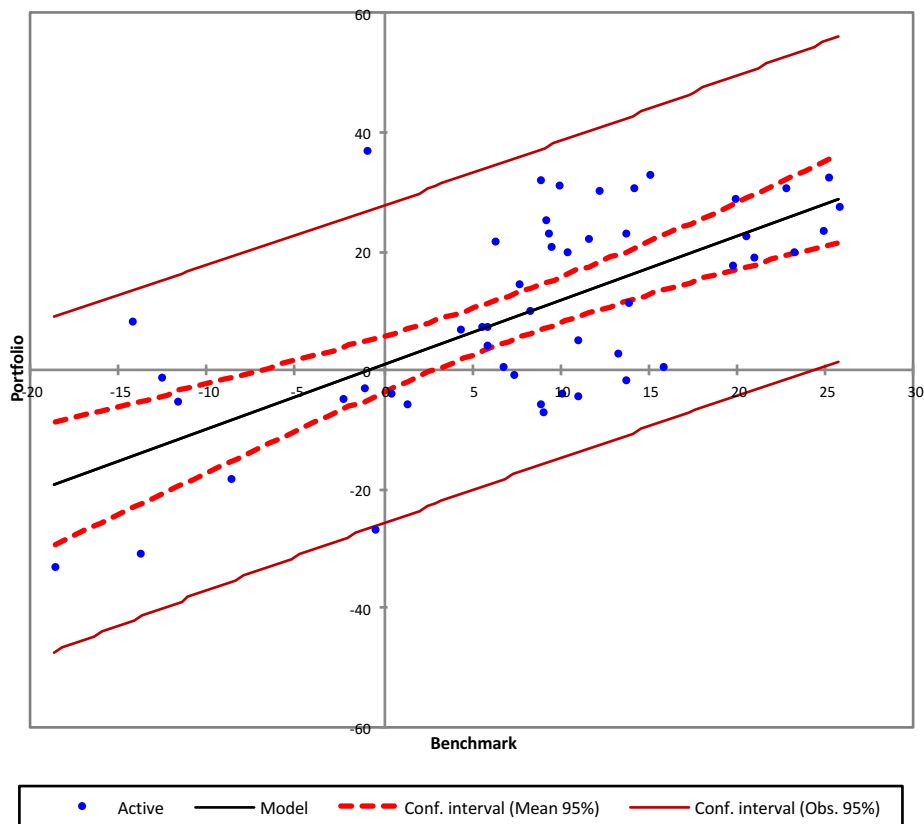
So what do the correlation **functions** look like ?

Note that they are non-commutative

This presents real challenges for dynamic asset allocation strategies

CAPM

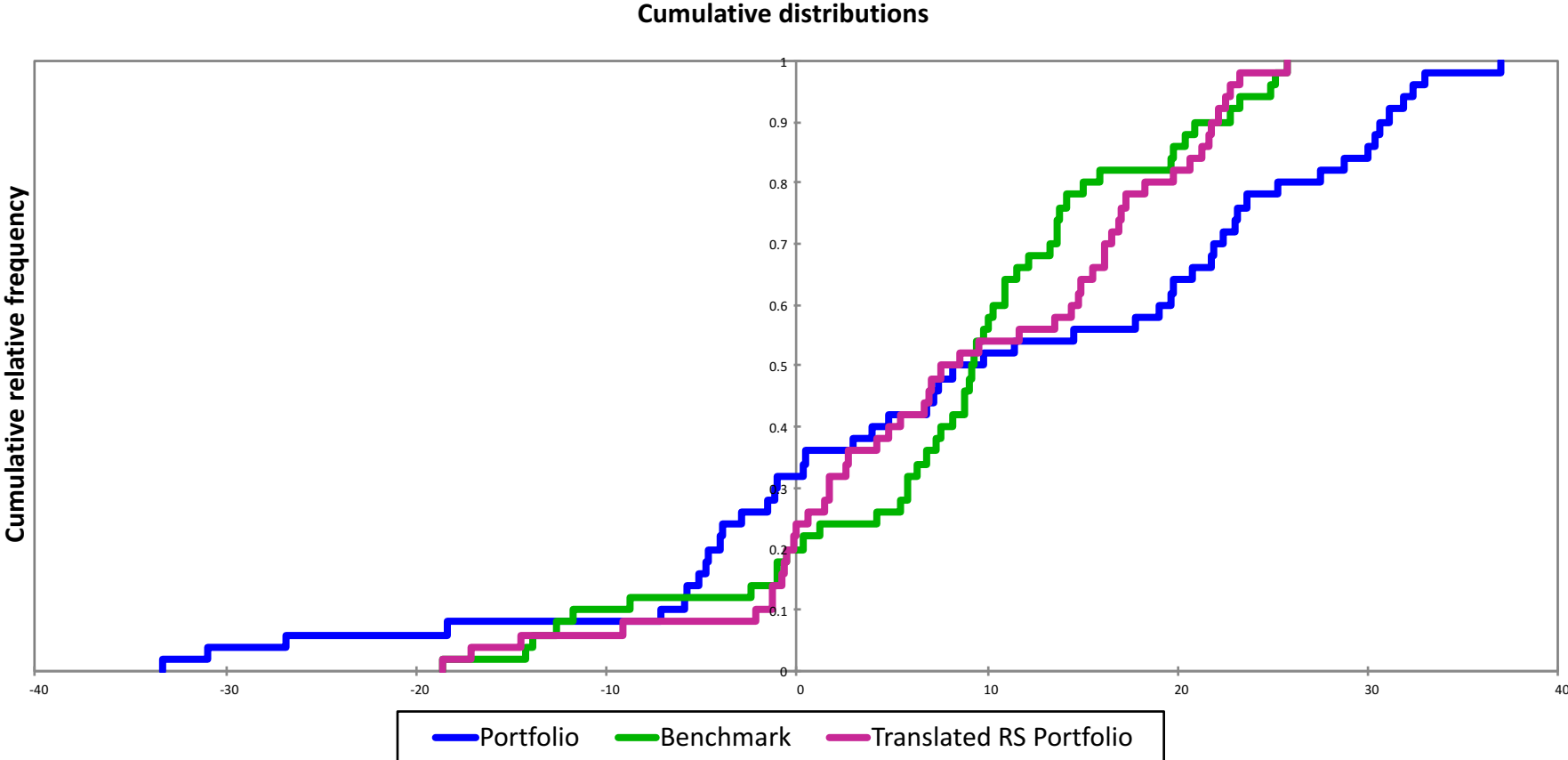
Regression of Portfolio by Benchmark ($R^2=0.438$)



Statistic	Benchmark	Portfolio
No. of observations	50.00	50.00
Minimum	-18.65	-33.29
Maximum	25.73	36.94
1st Quartile	4.54	-2.62
Median	9.22	8.97
3rd Quartile	13.80	23.10
Mean	8.12	9.81
Variance (n-1)	113.09	299.18
Standard deviation (n-1)	10.63	17.30
Skewness (Pearson)	-0.62	-0.52
Kurtosis (Pearson)	0.11	-0.28

Source	Value	Standard error	t	Pr > t	Lower bound (95%)	Upper bound (95%)
Intercept (Alpha)	1.066	2.340	0.456	0.651	-3.639	5.771
Benchmark (Beta)	1.076	0.176	6.117	< 0.0001	0.723	1.430

The process is concerned with rescaling and translation – an affine transform



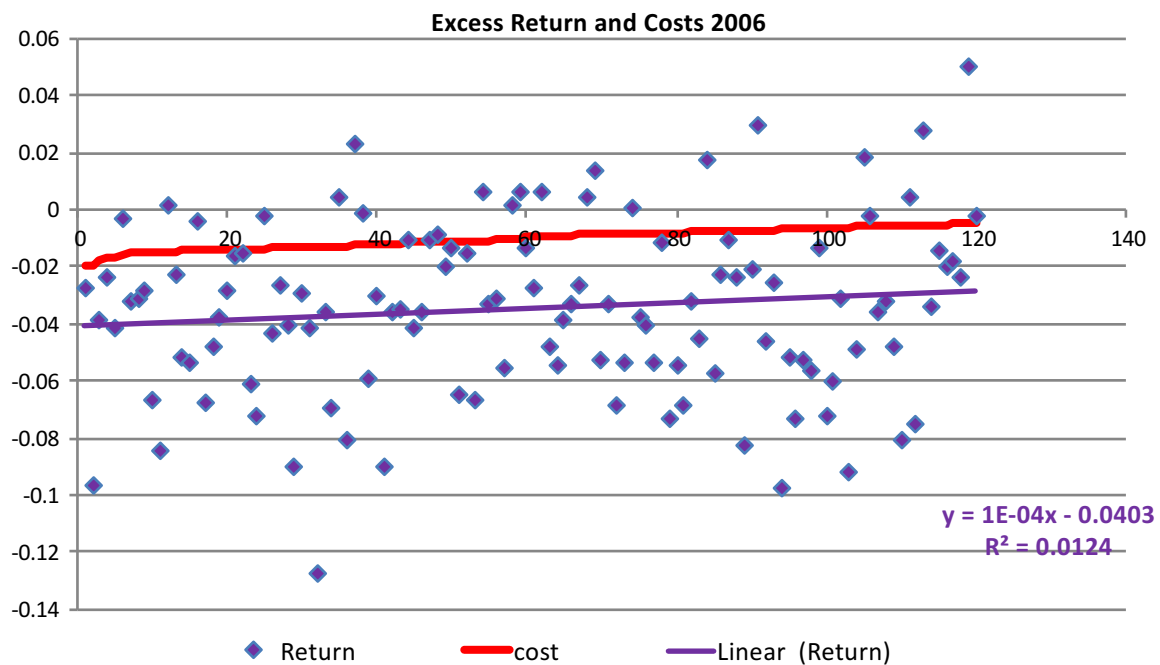
measurement

- CAPM Alpha 1.066% – Beta 1.076 times
- Portfolio is 1.583 times as volatile as benchmark
- Alpha Portfolio -2.39%
- Rescaling (leverage) x (risk value added // sum(diff {RSPort-Benchmark}))
- $1.583 \times 0.46 = 0.73\%$
- Total value added $-2.39 + 0.73 = -1.66\%$
- Alpha in this method is deterministic – it is risk-free – positive alpha here is skill
- The second term is all about risk management and the returns associated with that

- **Tracking Error**

- Not standard deviation of difference portfolio unless the mean returns are identical
- When not: $TE = \text{SQRT} [\text{Mean}(\text{diff})^2 + \text{StDev}(\text{diff})^2]$

Outperformance	2006	2007	2008	2009	2010	2011
Funds	120	106	97	84	72	64
Number Gross	25	2	39	30	32	20
Number Net	16	0	29	20	21	9
Cumulative Net	16	1	7	5	3	1



Cumulative Excess Return and Expense
Full Term Portfolios

