

# Suffolk County Council Pension Fund



## Alternative indexation - “Smart beta”

- 26 September 2013
- John Hastings
- David Walker

# Background

1. Portfolio efficiency
2. Efficient portfolio construction
3. Approaches
4. Implementation
5. Conclusions

# Portfolio efficiency - the “best” return

- Investment professionals consider risk and return together
  - Best means higher return per unit of risk
  - An investor might prefer lower risk, with return maximised; or
  - Higher return at given level of risk
- Given the level of risk in market cap index, does it deliver the highest return?

## Example: FTSE 100 index

- Largest stock (Royal Dutch) is 8.5% of index
- Smallest stock (Tui Travel) is 0.011% of index
- Price change of largest stock has c. 800 times as much influence on index return as price change of smallest stock
- Is this likely to deliver the most effective return?

# Equally weighted index – FTSE 100

- Same constituency of 100 stocks
- Weight of each stock in index is 1%
- A price move of  $x\%$  in any stock has the same index impact
  - We can back test results; we have all the price data
  - In most markets, equally weighted indices perform much better than market cap indices over 3-5 year periods (if we assume no costs of turnover)
- In market cap indices, weights adjust automatically with price
- In equally weighted indices, weights drift as prices move
  - So equally weighted indices need to be re-balanced
  - This requires turnover and transaction costs
  - So extra benefit may be eroded by re-balancing costs

# Characteristics of equal weighting

## Price moves

- Assume future prices moves are random
  - Capture market returns by giving each stock the same chance
  - Minimise risk that any adverse move dominates (because of size)

### Example: BP

- Was over 7% of FTSE 100
- Share priced halved due to Gulf of Mexico oil spill
- Index lost 3½% of value (equal weighted index would have lost ½%)

## Sector weightings

- Weightings follow stock numbers (compare with FTSE 100)
  - Healthcare - 4 stocks so 4% weighting (8.6% by market cap)
  - Services – 10 stocks so 10% weighting (3.3% by market cap)
- Sector shift appears inefficient. Can we do better?

# Alternative approaches - 1

## Capped weights

- Limits size of largest shares in index
  - e.g. 5 largest shares in FTSE All-Share limited to 3.5%
  - Releases 10% of index
  - Re-spread over remaining stocks, or used to overweight mid / small
  - Potentially straightforward (for UK)

## Low volatility indices

- Premise is that investors overpay for high volatility (high growth) stocks
- Takes market cap index constituents
- Removes (say) third of index stocks with highest historic volatility
- Scales remaining stocks up to full 100% aggregate weight
- May result in significant sector biases
- Significant adoption has raised low volatility stock prices and this may be destroying investment premise

# Alternative approaches - 2

## Fundamental indexation approaches

- Use accounting metrics to weight shares (cash flow, price to book)
- Remove influence of price
- Overweight low PER companies, underweight high PER
- Means index has a value bias and modest bias away from size
- But large companies still dominate index
  - ◆ In UK equities, fundamental index even more concentrated than FTSE All-Share index

## Risk efficient indices (e.g. EDHEC, etc.)

- Aim to minimise risk correlation between index stocks
  - Requires detailed analysis of historic volatility (conducted by provider)
  - Construction process may be hard to comprehend
  - Appears attractive from “academic perspective”

# Alternative approaches - 3

## Geographical or sectoral re-distributions

- Aims to re-weight indices using macro-economic factors
  - e.g. GDP growth, global sector growth expectations, etc.
  - But economic factors and stockmarket returns are not correlated
- Aims to avoid dominance of US companies in global indices
- May be used as variation applied to other alternative indices

## Hybrid approaches

- Composites of two of the above approaches
  - e.g. fundamental weighting blended with an approach to more equal weighting

# Do the alternative approaches work?

- Most alternative indices have outperformed market cap indices in most markets (on back-test) subject to:
  - Giving them sufficient time
    - ◆ (might take 3-5 years if conditions favour momentum, as many index variants have biases to “value” and away from “size”
  - If index turnover and transaction costs handled efficiently
    - ◆ By re-balancing less frequently and as cheaply as possible
    - ◆ Turnover needs to be less than (say) 20% p.a.
- Academic suggestion that the reference “benchmark” to assess portfolio construction efficiency should be the “equal weighted index” rather than the market cap index

# Implementation issues

- Most constructions can be implemented passively
  - This is helpful in terms of fees
  - But most approaches involve a license fee
- Successful passive implementation requires scale
  - Not many of the constructions have critical mass
  - L&G offers some FTSE RAFI products and capped UK weights
  - May offer other products if there was sufficient demand
- Collaborative LGPS approach would be helpful
  - To provide scale
  - To seek to reduce constructors' license fees (because of scale)
  - So efficient mid-cap trackers would be created

## Other aspects

- Alternative indices might be considered active strategies
  - Some portfolio construction techniques are used by active managers
  - Suggests some active outperformance might be replicated passively
  - Leads to question – “Is this a more effective route than active?”
  - Is construction process more robust than active manager subjectivity?
    - ◆ Construction ground rules need to be well-defined
- These indices will underperform market cap some of the time
  - Adopters need to be comfortable with that outcome
  - Also need to be comfortable with persistency of process
  - We favour index diversification (market cap + “other”)
  - May need different approaches in UK and global equities

# Conclusions

- Useful diversification from market cap benchmarking
- May offer competitive challenge to some active mandates
  - More robust processes
  - Lower fees
  - Less turnover, so lower costs of portfolio trading
- Not a change in strategy
  - Rather, a tweak to implementation
- Implementation cost likely to be relatively small
  - May benefit from “early mover” advantage



**Thank you**

Any questions?

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