

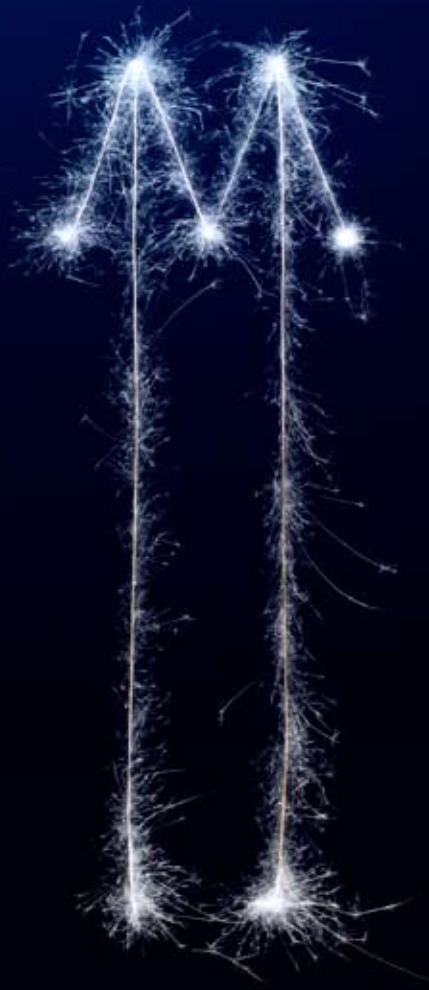


INVESTMENT ADVISORY

Small Cap Equity Research

April 2010

PENSIONS



This paper examines the opportunity for diversification into UK/global small cap as part of an overall equity mandate.

Small Cap refers to companies with a relatively low market capitalization.

KPMG Investment Advisory Research View

KPMG typically advises clients to invest in equities using a global approach. Where active management is desired an unconstrained manager would generally be the preferred route and where active management is not required, a passive global equity fund is suitable.

Either approach leaves all decisions in relation to size, region, sector and other factors to the investment manager.

However, as with other assets within an investment strategy, there can be situations where making a specific allocation is beneficial to the overall portfolio.

This paper looks at the potential to enhance a standard equity portfolio through an additional specific allocation to small cap equities.

Our research has concluded that we do not find compelling evidence of enhancement to an equity portfolio from making a distinct allocation to small cap equities.

We conclude that trustees are likely to see more benefit by focusing their attention on an allocation to alternative asset classes in pursuit of diversification or return enhancement.

Small Cap Definition

What constitutes "small cap" differs widely in the market. Standard & Poors define it as being stocks with capitalisation of below \$3bn (~£2bn). Other definitions say market capitalisation of below \$1bn or \$2bn.

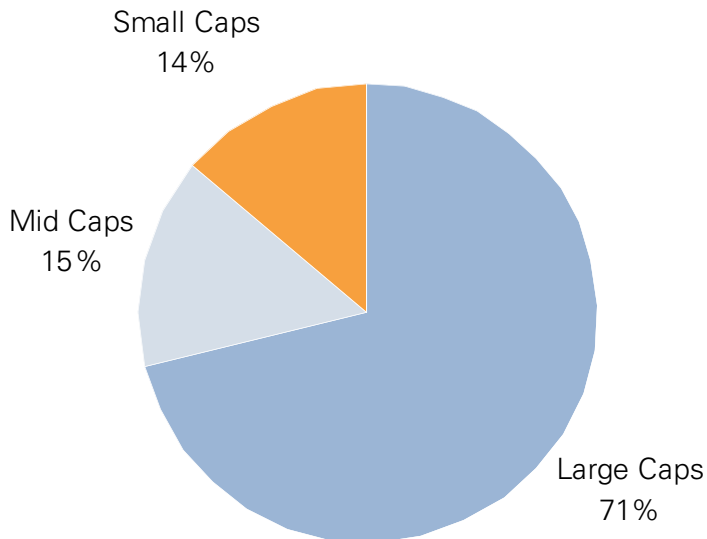
There are a number of features of small cap equities that mean small caps may represent a favourable investment opportunity in their own right. These arguments can fall into broadly into two camps:

- If markets are efficient: expected outperformance is a consequence of the extra risk involved in small cap stocks
- If markets are inefficient: expected outperformance is explained by market participants persistently mispricing the value of small companies

Accessing Small Cap Equities

- Small cap equities can be accessed through passive or active investment managers. Exchange traded funds (ETFs) are also a means of accessing a diversified portfolio

Small Cap exposure within broader indices



Source: MSCI World

Small Cap exposure within broader indices

Whilst being listed within specific small cap indices, small cap stocks are also represented in the mainstream global stock indices. Therefore, schemes without a specific allocation to small cap will tend to have representation of small caps within their broader market benchmark such as the MSCI World.

As at 25 January 2009, small caps made up c.14% of the MSCI World Index. MSCI defines the Large Cap index as consisting of the 300 largest companies by full market capitalization in the investable market segment, the Mid Cap Index as comprising the next 450 companies, and the Small Cap Index as consisting of the remaining 1,750 companies.

The question we address in the rest of the paper is whether there is a case for a separate explicit allocation to small cap equities within the context of an overall well diversified portfolio.

Much of the small cap historical edge comes from outperforming early during an economic recovery.

Notable research

There are several well documented academic papers looking at the rationale for investing in small cap stocks. Of these, a notable one is Fama and French who highlighted a rationale for expecting outperformance from small caps in their paper titled "The Cross-Section of Expected Stock Returns" in 1992.

Features of small cap equities

The beneficial features of small caps are discussed below:

- **High growth potential:** all large corporations started small and therefore smaller companies have the potential to grow faster by both increased market share and overall market growth than established firms. That said there is also considerable scope for failure at this position in the businesses growth cycle
- **Performance following recession:** historical records suggest that small cap equities outperform large caps whilst the economy is transitioning towards recovery. Small caps have tended to outperform large caps for around a year following economic transition points. However, given that the end of a recession is only known after the event, this alone is too crude a tool to justify an investment in small caps
- **Scope for high alpha:** there are persuasive arguments that suggest that small cap market place is less efficient than the overall market. The justification is that these stocks are

covered by very few analysts and thus the opportunity for mispricing is greater. If this is true then an active manager is more likely to be able to add value

- **Limited access:** Restrictions on unit trusts and pooled funds from buying large proportions of a given issuer's outstanding shares mean that some pooled funds would not be able to give a small cap stock a meaningful position in the fund. This constrain on demand could keep prices persistently attractive for other investors

In contrast to the beneficial features discussed so far there are also some potential drawbacks that are associated with small cap investment:

- **Liquidity risk:** firms with smaller market capitalisation tend to be more sensitive to changes in market sentiment and hence can go through periods of significant undervaluation or overvaluation based on investor sentiment. During periods of risk aversion, small caps are generally the first to sell off as investors tend to flee towards safer asset classes such as bonds or cash, or indeed rotate from small cap to large caps. This style rotation was witnessed in 2008 with UK small cap indices falling c.40% compared with wider UK markets that fell by 30%
- **Business risk:** small companies tend to have poorer access to credit markets and typically pay higher interest rates as a result of their size and lack of credit rating. With more

limited ability to access capital through issuing bonds, they are dependent on bank credit, and thus their continued existence is at higher risk in a tight credit environment. These limitations make it more difficult for smaller firms to realise their potential. Smaller companies also lack the breadth and depth of management experience in comparison to larger companies

- **Corporate governance and transparency:** In many cases, smaller listed companies may be controlled by founding family and entrenched management. Corporate governance and transparency tend to be more opaque compared to large caps particularly in relation to financial reporting

Case for Global Diversification

The case for investing in global small cap equities is similar to that of any global diversification. The access to separate regional markets allows further diversification of risk.

There is also a greater opportunity set for an active manager to add value from selection of outperforming stocks.

In the following section our analysis centres on the strategic case for an allocation to small cap compared with an 'all-cap' benchmark. An 'all-cap' benchmark is being used as a comparator since it represents the source of funds where a small cap allocation would be taken from.

We analyse the performance and risk benefits of global small cap equities.

Global Analysis

For the purpose of this analysis, we have used the performance returns of the MSCI World Small Cap Index and the MSCI World Index to identify risk/return characteristics and diversification benefits of investing in small cap equities (Q1 1993 to Q4 2009).

The chart below shows how small cap equities have performed versus all-cap equities since 1993.

The table to the right summarises the return and volatility over the period.

Key findings are:

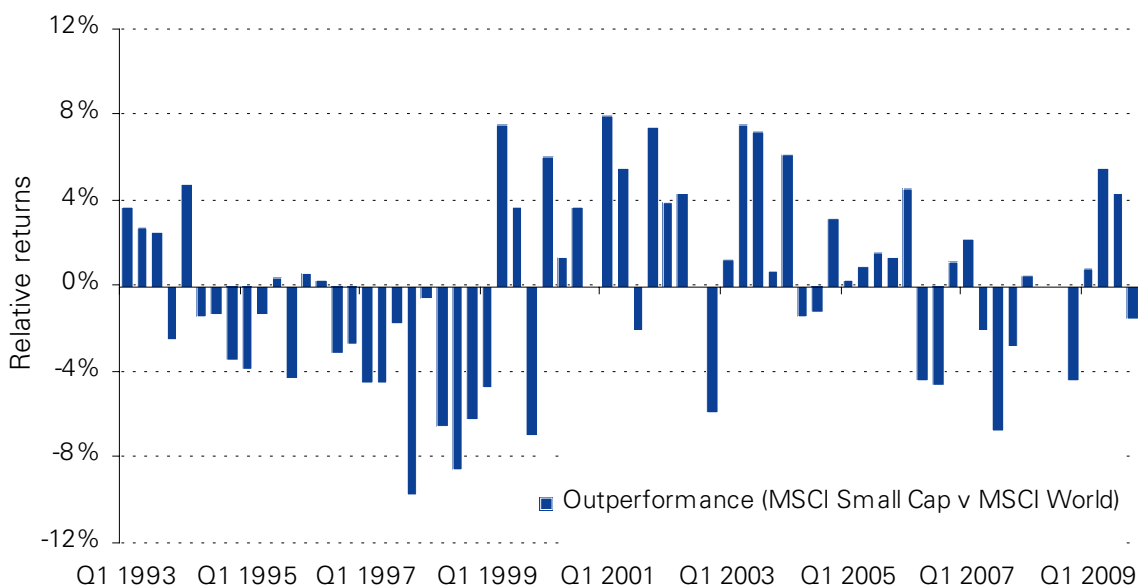
Comparison of Small cap indices vs. All cap		
Q1 1993 to Q4 2009	Annualised Return	Annualised Volatility
MSCI World	7.0%	16.0%
MSCI World Small Cap	6.4%	18.4%

From this data, over the time period available, small cap equities have actually tended to provide:

- Broadly similar returns, but
- More volatility

We have also considered the volatility of small caps versus All-caps over different time periods. The volatility is consistently greater for the global small cap index, relative to the all cap alternative over sub periods.

Quarterly relative returns: MSCI Small Cap vs MSCI World



Source: KPMG

We analyse the diversification benefits of global small cap equities.

Risk reduction rather than return enhancement?

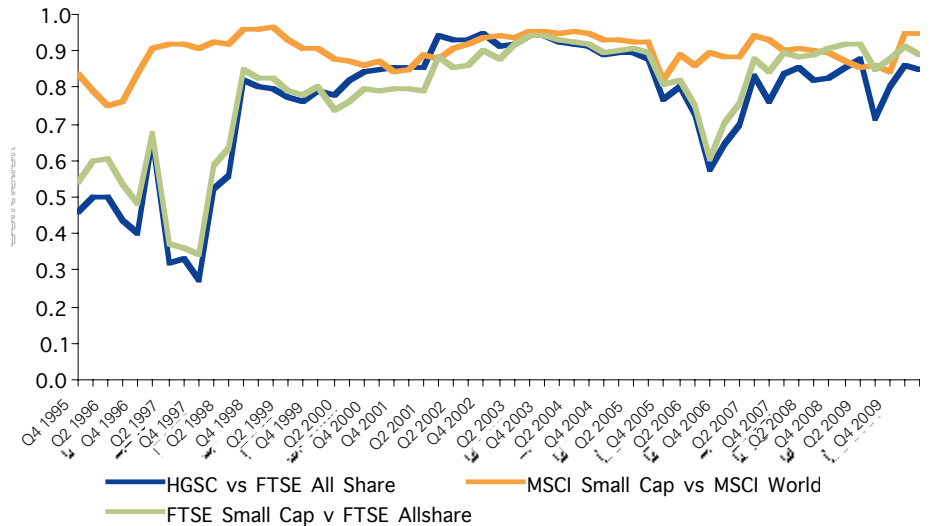
Next we consider potential diversification benefit from making an explicit allocation to small cap equities. This hinges on the correlation of small cap to the overall index.

A 3 year rolling average of the correlation of quarterly returns of the various small cap indices and their equivalent all-cap index is shown below.

The consistently high correlation suggests that diversification benefits of an explicit allocation are low. Correlations have converged towards 1 over time.

This increased correlation over time may have stemmed from wider recognition that small caps offer an abnormal premium over standard equities following conclusions of previous research.

Correlation: 3 year rolling



Source: KPMG

Small cap equities do not appear to warrant an explicit allocation in the context of an overall portfolio.

Benchmark construction issues

Small cap benchmark indices suffer from unique complications compared to large cap indices.

By its nature a small cap index will have criteria to determine which stocks are of a suitable size to be included. Therefore as with any index, as companies' fortunes fluctuate over time, the constituents of the index will change.

For large cap indices, these changes are relatively insignificant. As it will tend to be the smallest stocks that are entering or leaving the index.

However, for small caps when a company enters or leaves the index the impact can be disproportionately large compared to other indices.

Small cap indices have changes of constituents at the top (i.e. the companies which are the biggest constituents) as well as the bottom, which can mean considerable fluctuation in the make-up of the index over time.

E.g. if a relatively large company, has had a bad year and falls in value far enough to meet the small cap criteria,

when it joins the index its weighting will be one of the highest of all the stocks. The other stocks already in the index will then be a far lower proportion of the overall index as a result.

These complications make the success of both passive management and particularly active management more difficult to judge.

Conclusion

From our research we have concluded:

- A market efficient premium in respect of the extra risk of small cap stocks may still exist going forwards but we do not find strong evidence of this and believe the majority of pension schemes are better off allocating their governance budget to considering alternatives which offer either greater diversification or more tangible return enhancement.
- Previous academic research concluded that a return premium existed in respect of investing in small caps. We believe that it is likely that the existence of this research led to a more efficient market going forwards which then led to the erosion of any relative inefficiency of small cap stocks.
- Historically small caps have failed to deliver consistent extra returns for the higher levels of volatility associated with the asset class.
- There is little evidence of material additional diversification benefit as small caps are highly correlated to large caps and the broader indices.
- The growth opportunities in small cap equities can already be captured through exposure to a broader index which will tend to have some small cap exposure.
- Whilst active global equity managers may tend not to invest in small cap stocks, as long as they achieve their objective of outperforming an index that does, this does not represent an issue.

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