## IMC OTM v.13 Errata & Addendum for Units 1 and 2.

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<th>Unit / Volume</th>
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| Unit 1 – Volume 13 | 135 | "The new regime will not be applicable to other FCA regulated firms" **should be replaced with:**
| | | "The government has proposed to extend the regime to all sectors of the financial services industry, including insurers, investment firms, asset managers, insurance and mortgage brokers and consumer credit firms. The intention is to implement the regime to the wider set of financial services sometime in 2018". |
| Unit 1 – Volume 13 | 137 | "There is a new 'presumption of responsibility', whereby, if a firm breaches a regulatory requirement, the senior manager responsible for the area of the breach can be held individually accountable unless they are able to satisfy the regulators that they had taken 'reasonable steps' to stop, prevent, or remedy the breach" **should be replaced with:**
| | | "There is a statutory duty of responsibility to be applied to all senior managers, whereby, if a firm breaches a regulatory requirement, the senior manager responsible for the area of the breach can be held individually accountable unless they can satisfy the regulators that they had taken the steps that it is reasonable for a person in that position to take to prevent a regulatory breach from occurring. This reverses the 'reverse burden of proof' in the original formulation of the rules whereby a senior manager was liable if they were not able to show the regulator they had taken appropriate steps to stop the breach." |
| Unit 2 – Volume 13 | 436 | **ADDENDUM:** This should be read as an additional sub-section to 15.1, following the sentence ‘banks will have been underestimated’ (p.436), and preceding the section titles "2. Portfolio Diversification and Total Risk".

**RELATIVE WEIGHTS AND ACTIVE SHARE**

The relative weight of a security in any portfolio is the value of that security in the portfolio divided by the monetary value of the portfolio itself. With regards to any benchmark index the relative value of any individual security is the market value (i.e. the number of shares outstanding, if equity, multiplied by the market price of the security) divided by the market value of all the securities in the index.

Active share is related to the above concept in that it is a measure of how the relative weights of the individual stocks in a portfolio differ from those of the relative weights of the components of the benchmark itself. A simple example would be a large-cap UK equity fund benchmarked against, say, the FTSE 100. How much do the relative weights of the stocks in any particular fund differ from those stocks’ relative weights on the FTSE-100?
There has been criticism of some funds that they are too similar to the benchmark they are following and hence investors could reasonably buy similar performance much more cheaply by buying a fund which explicitly tracks the index the fund is supposed to follow. Hence a measure of how different the components of a given fund are from the index it is tracking is an indication of how ‘active’ the fund is relative to the index weights. This is the active share measure.

The measure itself was proposed in 2009 and is a very straightforward calculation. Take the sum of the absolute values of the differences between the relative weights for each security in the portfolio and that security’s relative weight in the relevant benchmark, and divide by 2. For a portfolio with n stocks,

$$\text{Active Share} = \frac{1}{2} \sum_{i=1}^{n} \left| \text{weight}_{\text{portfolio}, i} - \text{weight}_{\text{benchmark}, i} \right|$$

Imagine that a benchmark consists of 50% in each of 2 stocks, A and B. If a portfolio comprises 60% stock A and 40% stock B, then the active share measure is:

$$\frac{1}{2} (\text{abs}(60\%-50\%) + \text{abs}(40\%-50\%)) = \frac{1}{2} (10\% + 10\%) = 10\%$$

where ‘abs’ is absolute value.

The active share measure can vary between 0% for an index-tracking fund (i.e. the relative weights match the benchmark exactly) to 100% for a portfolio which has no overlap with the benchmark.

In a published study on US funds it was found that the highest ranking (i.e. the more active) funds beat their benchmark portfolios by a significant margin. It is also important to identify so-called closet index funds because they charge higher fees than index tracking funds. It is often said that a portfolio with an active share of between 20% and 60% is a ‘closet indexer’.

As we have seen above, the traditional approach to assessing the degree of active management involves calculating the tracking error of a portfolio relative to its benchmark. Tracking error measures the extent to which exposure to systematic risk is different from the benchmark, so-called ‘factor bets’. So now we have two measures of active management to consider and we can divide active managers into several categories on this basis:

*Active stock pickers take large but diversified positions away from an index (‘Diversified Stock Picks’).*

A fund which takes *large bets on factors away* from the index but which has relatively small active positions will have large tracking error volatility (‘Factor Bets’).

*‘Concentrated’ funds are those which combine very active stock selection with substantial exposure to systematic risk (‘Concentrated Stock Picks’).*
Finally, *closet index funds* have neither high active share nor substantial tracking error (‘Closet Indexing’).

The figure below is a conventional representation of these categories:

Unsurprisingly a portfolio’s Active Share score will be affected by the choice of benchmark index. If an inappropriate benchmark is used, or if a benchmark is too broad with ‘too many’ constituents, then the Active Share measure will be artificially increased making comparison with peer funds more difficult. Similarly the measure will be artificially decreased if the investment universe is small.

These ‘biases’ should be taken into consideration when assessing what percentage Active Share should be used in defining ‘closet indexer’ and related fund descriptions.

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**ADDENDUM:** The following should be read as an additional subsection at the end of the current content on p.467:

**Liquidity and the Capacity of Investment Strategies**

The basic idea surrounding the capacity of investment strategies is that the cost of implementing a strategy rises with assets under management (AUM) and, as a result, performance could be eroded. This will particularly be the case for relatively illiquid assets such as emerging market equity. Costs may rise as the bid-offer spread rises along with (negative) market impact for less liquid securities.

A number of definitions of capacity have been suggested, including threshold capacity, wealth maximizing capacity, and terminal capacity:

*Threshold capacity* is the level of AUM which allows the strategy to achieve its stated investment return objective.
Wealth maximizing capacity is the AUM level that maximizes the amount of wealth created, which is defined as the product of alpha (net of transaction fees) and the AUM.

Terminal capacity is then the level of AUM that reduces the alpha net of transactions’ costs to zero.

The most common use of the term involves threshold capacity. So how does one assess investment capacity?

The first approach estimates capacity by looking at the impact of trading while the second estimates capacity by looking at the impact of accumulating large positions. The first requires historical data to look at the trade-off between position sizes and performance while in the second methodology, the concentration of the portfolio, which is the difference between the portfolio and the benchmark, is calculated. The idea here is that a certain level of concentration is necessary to achieve a certain level of alpha. In the case of equities, for example, an equity manager needs to determine the percentage of free float of the market capitalization of the stock to be held before estimating the maximum amount of capital to be applied to the strategy.

A 'breadth' ratio is then calculated, which is the inverse of the concentration ratio. Using historical data, the manager then selects the appropriate breadth/concentration necessary to achieve the desired net alpha. Once the breadth has been determined, the capacity as a percentage of market capitalization is derived by multiplying the portfolio breadth by the maximum free float of the stock to be held.

Of course capacity will change over time and the capacity estimate is a function of current market conditions, which in turn are driven by total investable market capitalization and total investable trading volume. One suggestion is that the estimation of capacity under the first methodology should be indexed over time on the total investable trading volume, whereas estimation under the second method should be indexed on the total investable market capitalization. Of course, the capacity estimates derived from the two methodologies may lead to a range of capacity estimates. One solution would be to consider closing a strategy when the lower range has been reached—possibly so-called 'soft close' where existing clients can continue adding to positions, and 'hard' closing once the upper band has been reached, (i.e. completely close to additional investments from any source).

“The Basel III rules will be implemented in stages by January 2019, and involve a maximum leverage ratio (total bank assets to capital) of 4.5%, along with minimum capital ratios. The capital ratios are enhanced for large, systematically important institutions.”

This should be replaced with:
The Basel III rules will be implemented in stages by January 2019, and involve a maximum leverage ratio (total bank assets to capital) of 3%, along with a minimum common equity capital ratio of 4.5%, and a total Tier 1 capital ratio of 6%. The capital ratios and leverage ratios may be enhanced for large, systematically important institutions, and also if threats to financial stability are anticipated. There is ongoing discussion internationally on the precise implementation of these ratios. For example, it is understood late in 2015 that the Swiss regulator is considering a leverage ratio of 5% for large Swiss banks, though we have to be aware that the definition of both total assets and capital may vary between countries.

In the UK, the Financial Policy Committee said in 2014 that it wanted big UK banks to hold capital equal to 4.05 per cent of their assets from 2019 onwards, up from the current 3%. This may be increased in boom times by an extra 0.9% to curb excessive lending growth. For large US banks the Fed has set the ratio at 6%.

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