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Methodology (continued)

Introduction

Gearing is a measure of how much a fund utilises borrowing to leverage its portfolio. Funds with a higher gearing ratio will show larger returns in upwards trending markets but lower returns in downward trending markets and as such are more volatile than funds with a low gearing ratio.
Methodology (continued)

Derivatives in Net Gearing Ratio

Futures, Forwards and CFD positions have exposures that are determined by the terms of the contract. The exposure is known as the "notional" and is generally linked to a fixed number of units of the reference asset. The exposures to an underlying asset provided by a Contract for Difference ("CFD"), Future or Forward, and therefore the participation to profit and loss on the underlying asset of a CFD, Future or Forward, can also be achieved by investing in a combination of the underlying asset and cash. For example, a long bond futures contract can be replicated by buying the underlying bonds with borrowed cash. The valuation technique is based on the law of one price, stating that if two portfolios deliver the same expected pay-off then they should have the same present value.

These contracts require a posted initial margin which is typically a small percentage of the notional. Many of these contracts also require settlement of the unrealized gains (and losses) this is called the variation margin.

The market value of these contracts is the sum of the variation and initial margin deposits. Since Futures and CFDs are traded on exchanges or platforms that hold the margin in a deposit account in the investor's name, the accounting value of these instruments is solely the unsettled gains (and losses). In many cases the accounting value to a portfolio is fully captured in the margin account, and the accounting value for an individual contract is zero.

In May 2012 Morningstar started collecting notional exposures for UK closed end fund portfolios. The difference between the notional exposure and the accounting value of a contract or portfolio is the implied leverage. Morningstar represents the implied leverage of derivatives contracts through an accounting adjustment called a Cash Offset.

The Cash Offset estimates the borrowing (lending) that would be required to purchase the assets needed to replicate the derivative part of the portfolio. For individual positions the cash offset is calculated as the difference between the notional exposure and the accounting value of the position. At the portfolio level the cash offset is the difference between the notional value and the market value of the portfolio. For long exposures, the cash offset is negative representing implied borrowing, and for short exposures the cash offset is positive representing implied lending.
Methodology (continued)

When incorporating derivative information into the net gearing calculations Morningstar took the following decisions:-

(1) Since the owner of an option is not obligated to exercise, options have been excluded from gearing calculations as a simplifying assumption.

(2) Not to net off the long CFD’s with options, as the two positions would clearly not be correlated. For example, a fund can write a put option and have it fully covered by owning the underlying or fully negating the short exposure using a money-market instrument. In this case the two positions cancel each other out in terms of net gearing but if the fund writes a put option on AAPL and it collateralizes it with Google, then it is not a one-to-one comparison and the highest possible exposure should be used.

(3) Both long and short positions impact the gearing of a portfolio in the same manner. It was concluded that short positions should be accounted for in the same manner as long positions and that no netting off or any manipulation of figures should take place, unless the positions were perfectly correlated. It was agreed that the highest exposure should be used, therefore funds holding short positions should report the absolute value of the cash offset as a debt item (this includes funds that hold short position only, and both short and long). In cases where funds felt that the short and long positions were 100% correlated, it would be up to the fund to reflect this in the asset figure.

(4) There are two types of cash; -

- **Investable** - this should be included in cash/cash equivalents figure and the calculation of net gearing; and
- **Non-investable** - this refers to cash ring fenced as collateral against an open position. (a) The total exposure of the open positions are included in the total assets, (b) the non-investable cash element is not included in total assets or cash. The only area where it is accounted for is to determine the Cash Offset.

\[
NetGearing = \frac{TotalAssets - InvestibleCash}{TotalAssets - CashOffset - StructuralDebt}
\]

\[
CashOffset = FV - NV
\]

Where:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>FV</td>
<td>Fair value of the derivatives in the portfolio</td>
</tr>
<tr>
<td>NV</td>
<td>Notional value of the derivatives in the portfolio</td>
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