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to
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Milan, 10/29/2002

we are glad to have this opportunity of giving our comments about the Guidance Statement on Calculation Methodology suggested within the GIPS framework, because the matters therein dealt with are particularly relevant to our activity.

GIPS - GUIDANCE STATEMENT ON CALCULATION METHODOLOGY: SOME COMMENTS.

Comments.

Do you agree with the principles established in the Guidance Statement?

Generally speaking, we are in agreement with the principles established in the Guidance Statement, which are perfectly in line with what stated by GIPS. However, we think that some definitions should be definitely more stringent. We observed that there is a fundamental disagreement on some issues (e.g. classification of the Modified Dietz Method) (see also "Other proposals"). Hence, we ask IPC to issue unambiguous definitions where there are different interpretations. In our view, these should be based on objective and/or strictly quantitative considerations, so as to make them universally acceptable.

Are all areas of rate of return and asset-weighted composite calculation sufficiently covered in this Guidance Statement?

In order to avoid any misunderstanding, we reckon it is advisable that the Guidance Statement only includes all the accepted calculation methodologies (or at least a clear reference to those described in the "GIPS Handbook"), complete with clear examples comparing the results returned by each of them applied to the same portfolio or the same composite.

Are there other areas of calculation methodology that should be addressed in this Guidance Statement?

In our view, it is appropriate that the Guidance Statement also includes the methods accepted to calculate dispersion within a composite, the relevant formulas and comparative examples or at least a clear reference to those described in the "GIPS Handbook".

In particular, in order to calculate the dispersion index to be associated with the yearly return of a composite, we should like to have an explicit formalisation of how to treat portfolios included in a composite for just a portion of the year.

Is it reasonable to expect that firms will be able to value portfolios at the time of any external cash flow beginning 1 January 2010 (excluding real estate, venture capital, and private equity)?

As already specified by NSFA in their comment, if "at the time" means "on the date", then this expectation is reasonable and such guideline can be implemented.

Do you agree with the proposed Effective Date? If not, when should the guidance become effective?

Since the Guidance Statement suggested does not seem to imply any change of substance, we think that the proposed Effective Date is acceptable.

Other proposals.

As already said above, on reading the comments already received, we observed that there are rather different opinions on some issues. In particular, the discussion concerns whether the Modified Dietz Method (hereinafter MDM) allows the calculation of the "Time-Weighted Rate of Return" (TWRR) or the "Money-Weighted Rate of Return" (MWRR).

Since the issue is strongly debated in Italy too, where MDM is widely used and generally considered as the method to calculate MWRR, we suggest our point of view here below, which is solely based on mathematical-statistical definitions.

MDM assumes a constant rate of return on the portfolio during the period. Such rate of return is equal to the ratio between the net balance of external cash flows and the Average Invested Capital.

Here below the formula of the method included in the Guidance Statement:

$$R_{MDietz} = \frac{EMV - BMV - CF}{BMV + \sum_{i=1}^n (CF_i * W_i)} \quad [1].$$

Assuming that:

d_i day i (date);

$d_p - d_m$ (in general) difference, in number of days, between date p and date m;

$T = [d_0, d_{n+1}] = d_{n+1} - d_0$ total number of days in the period (lower or at most equal to the solar year) taken as a reference to calculate a rate of return; it follows that such rate will always refer to the period T ;

F_i cash flow I (on day d_i), >0 in the case of capital additions, <0 in the case of withdrawals or transfer of capital elsewhere;

F_0 and F_{n+1} in terms of cash flows, the value of the portfolio on d_0 (i.e. BMV) and the value of the portfolio on d_{n+1} (i.e. EMV), respectively, concerning the period T (where $F_0 >0$ and $F_{n+1} <0$)

formula [1] becomes

$$R_{MDietz} = \frac{-\left[\sum_{i=0}^{n+1} F_i\right]}{\frac{1}{T} * \left[\sum_{i=0}^n F_i * (d_{n+1} - d_i)\right]} \quad [2]$$

where the denominator represents the time-weighted average of the capital invested in the period, equal to the mere sum of each external cash flow, without taking into account any capital gain or loss realised in case of withdrawal from the portfolio.

However, the denominator, expressed in these terms, clearly does not match the definition of weighted average, in that the sum of the weight attributed to each flow is not equal to the overall period, i.e.

$$\left[\sum_{i=0}^n (d_{n+1} - d_i)\right] \neq T$$

This is because [2] is based on cash flows, but if the formula is based on progressive balances, it becomes (after a few simple calculations)

$$R_{MDietz} = \frac{-\left[\sum_{i=0}^{n+1} F_i\right]}{\frac{1}{T} * \left[\sum_{i=0}^n \left[\sum_{j=0}^i F_j\right] * (d_{i+1} - d_i)\right]} \quad [3]$$

where the denominator clearly represents the time weighted average.

Since we are clearly dealing with an average rate of return, calculated against an average invested capital, we reckon it is consistent, at least from a mathematical standpoint, to say that as the average used as a denominator is weighted by time, the result of the calculation is a TWRR, although approximate. Moreover, also from an analytical standpoint, the limit of [1], when each cash flow tends to 0, is the formula of the Daily Valuation Method (hereinafter DVM), that is the "true" TWRR.

We would also like to stress that there are remarkable restrictions to the use of MDM.

Recommendation 2.B.2 establishes that if a cash flow is of a considerable amount vis-à-vis the portfolio value (over 10%) and/or return of the period is subject to a remarkable distortion ($\pm 0,2\%$) vis-à-vis the value calculated with DVM, the portfolio should be valued on occurrence of such cash flow.

However, such recommendation poses a problem. While the entity of a cash flow is directly comparable with the latest available value of the portfolio, the difference between the return calculated with MDM and with DVM is only recognisable after determining DVM too, which makes the use of MDM useless.

Thus, we reckon it is desirable to adopt an *ex ante* criterion, in order to determine at the time of each flow whether the distortion that will affect the value of the return of the period makes it necessary to value the portfolio. To this end, we suggest the use of the benchmark of the composite which the portfolio, where the flow occurs, belongs to, and in particular to compare, on the date of each flow, its return calculated with DVM and with MDM, using the latter as if the benchmark itself were a one-asset portfolio, characterised by the same external cash flows as the real portfolio (see the ABI document, Associazione Bancaria Italiana-Italian Bankers Association, of 1998). This criterion may be somewhat rough, but it is significant enough and

easy to apply, also in terms of computational burden for information systems.

As already observed by other people in their comments, we also obtained different results when repeating the calculations of pages 12 and 13 of the Guidance Statement.

In particular, in the case of Portfolio 1 (page 12) we obtained a monthly return of 11.37% with DVM and of 11.44% with MDM, in the case of Portfolio 2 (pa. 13) of 8.30% with DVM and of 8.34% with MDM.

In our view, the values shown in the Guidance Statement are very likely to be wrong and this could explain the difference in the composite return (page 13) calculated according to the Beginning Market Value Plus Cash Flows Method and to the Aggregate Method (using MDM) that should be 8.93% in both cases, given that the two methods are entirely equivalent (as long as MDM is also used to calculate the monthly return of the two portfolios).

We thank you for your attention and hope that our comments are of some use. Best regards,

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