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Wien, 2003/03/11

Re: **Proposed Venture Capital and Private Equity**

Dear AIMR,

On page 10 we read, "*The IRR* (internal rate of return) *is required for venture capital and private equity assets because the firm controls the cash flows into and out of the portfolio.*" I fully agree with the argument that the firm controls the cash flows. But the internal rate of return has four disadvantages.

1) We cannot compare two IRRs with each other. Look at the following two investments over two years.

year	CF1	CF2
0	-1	-95
1	-100	-2
2	110	110
SI-IRR	8,82%	6,56%
profit	9	13

Which return is better: investment 1 with SI-IRR = 8.82 % and profit = 9 or investment 2 SI-IRR = 6.56 % and profit = 13?

2) We cannot compare the IRR of an investment with the IRR of a benchmark. Using time weighted logarithmic returns we can calculate the active return

$$\widetilde{r}_M = \widetilde{r}_P - \widetilde{r}_B$$

$\widetilde{r}_M$ logarithmic active rate of return of the manager
$\widetilde{r}_P$ logarithmic rate of return of the portfolio
$\widetilde{r}_B$ logarithmic rate of return of the benchmark.

If you don't like the logarithmic returns we can use the standard discrete returns.

$$1 + r_M = q_M = \frac{q_P}{q_B} = \frac{1 + r_P}{1 + r_B}$$

3) With time weighted return we can add the logarithmic returns of two sequential time-periods ore multiply the return factors.

$$\widetilde{r} = \widetilde{r}_1 + \widetilde{r}_2$$

$$(1 + r) = q = q_1 \times q_2 = (1 + r_1) \times (1 + r_2)$$

We cannot combine the IRRs of two following time-periods with a mathematical operator. The total IRR (SI-IRR) must be calculated separately.

4) When using IRR it is not possible to define a measure for the dispersion of returns (risk).

IRR is the correct measure of return, when the managers control the cash flows. But with no possibilities to compare with other investments or benchmarks and without any risk measure IRR is a very lonely number.

Sincerely,

Friedrich Moser

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