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Making Sense of Before- and After-Fee Rates of Return

The introduction of time-weighted rates of return was a watershed event. Notwithstanding the intellectual accomplishments of Peter Dietz, Lawrence Fisher, and others, careful guidance on properly accounting for manager fees was left, and remains, largely unaddressed. A case study of the negative repercussions of leaving such a void is drawn from the institutional real estate investment sector, where manager skill can be easily exaggerated. The result may be excessive incentive-fee payments to the manager.

How to algebraically account for manager fees when using time-weighted rate of return (TWRR) has been left largely unaddressed since the origins of the method in the 1960s. At that time, the treatment of fees may have been a mere afterthought, considering the ambitious goal of deriving a new metric to use in comparing managers rather than investments.

Perhaps the poster child for the TWRR-based vagaries of accounting for manager fees is the institutional real estate investment arena. In addition to occasional transaction-oriented fees, this sector almost always has periodic management fees. Often, it also has incentive fees, which industry standards say are to be accrued on the basis of unrealized values, so they are often referred to as "carried interest."

Management fees and carried interest are also common in private equity circles but because of greater illiquidity in that arena, private equity managers are exempt from reporting TWRRs. Hence, problems in private equity are probably limited to the few managers who compute and report TWRRs at the request of their investors. Hedge fund treatment varies.

In this article, the focus is on what is commonly referred to as "performance measurement"—the *ex post* review of managers' TWRRs to decide who has performed better, either before or after fees. And because of the increasing tendency of some state-of-the-art real estate contracts to compare an entity's TWRR with a benchmark (possibly to reduce, if not nullify, internal rate of return [IRR] hurdle–based carried interest payments), the fallout goes well beyond mere investor reporting. Real cash, potentially in the millions for large investors and managers, hangs in the balance if fees are not properly accounted for in the TWRRs.

HISTORY OF THE TWRR

The "TWRR paradigm" was born in the 1960s mutual fund era. The paradigm asserted that managers do not time the market. For example, stock fund managers demonstrate excellence by being better stock pickers than their peers. In the arena of institutional real estate investment, the challenge goes beyond merely picking passive assets; the manager is expected also to actively manage the properties to get more value from them, not to mention being able to use debt financing wisely to increase value still more. Irrespective of the asset class, the intent of the TWRR is the same: to neutralize the impact of market timing under the assumption that the manager is at the mercy of the investor in that regard and should be neither rewarded nor penalized for such investor-mandated decisions.

Prior to the creation of TWRR, the industry had no good methods for comparing managers head-to-head because so-called money-weighted metrics, such as IRR, incorporated market timing. Indeed, simple-minded use of IRR occasionally resulted in managers being fired simply because they had been given new capital to invest just before a market downturn. Such capital may have even been transferred from luckier managers, who thereby had less invested going into the downturn and thus produced higher overall IRRs. The creators of TWRR imagined that by neutralizing

the investor-mandated contributions and distributions, the TWRR metric would show that two equally skilled managers would produce the exact same rate of return.[1]

Given that the creators of TWRR intended merely to assess comparative manager skill, we can only wonder how they might have advised investors to deal with fees. Some investors prefer gross TWRRs to assess "pure manager skill." Others prefer net TWRRs to assess "cost-adjusted manager skill." A third camp, wanting both, says, "I know what is past is past and whoever produced the higher after-fee TWRR for me was the better manager. To the extent I have negotiating leverage to get the better managers to reduce their fees for the future, however, I want to know both the gross and net TWRRs achieved. And I will assess any likely extra 'pure skill' in light of any likely extra 'cost' required to hire a more highly skilled manager."

THE ALGEBRA OF TWRR

Various asset classes use approximations to compute TWRRs, but the gold standard is popularly known as "True TWRR." True TWRR mandates two guiding principles (Altshuler 2016). First, each subperiod's rate of return (ROR) is independent of all the others. Second, no matter what RORs a manager produces each subperiod, those RORs would not have changed if that manager had been given more or less capital to invest. Armed with these two guiding principles, we can compare any two managers head-to-head simply by (geometrically) averaging—that is, "linking"—the subperiod RORs over any desired time interval.

Comparability also necessitates that gross and net RORs must *each* be subject to those two guiding principles. And because fees must be accrued each period, a third guiding principle arises for net TWRRs—that is, that each such independent subperiod's ROR must account for the fees earned in, and only in, that subperiod. In this way, by (geometrically) averaging them, we can obtain meaningful net TWRRs that are comparable with the similarly averaged gross TWRRs, in the sense that the same methodology is applied to both. Any attempt to calculate net TWRRs with a methodology that is different from that used for gross TWRRs is fraught with examples of nonsensical results (Altshuler 2016).

Naturally, no approximation to True TWRR, such as the Modified Dietz (MD) algorithm, may be allowed to compromise these three guiding principles.

Before proceeding, keep in mind that gross TWRRs are "counterfactual," which means that proper standard setting should thoughtfully and logically address the change that needs to be made to the net ROR components in order to properly represent what hypothetically would have occurred if all fees had been waived.

CASE STUDY: HOW THINGS ARE DONE IN THE INSTITUTIONAL REAL ESTATE INVESTMENT ARENA

The Global Investment Performance Standards guidelines address how performance records are to be marketed, but the institutional real estate industry has its own standards for how TWRRs are to be reported —NCREIF/PREA Reporting Standards (2015). These standards comprehensively address many aspects of performance, but they fall short in one of the most critical areas—namely, the reporting of entity-level gross-of-fees and net-of-fees TWRRs. Thus, the real estate sector presents a classic case of how things can go awry if the TWRR algebra dealing with fees is not carefully thought out.

The NCREIF/PREA Reporting Standards (2015) assume use of the popular MD methodology, which augments the beginning-of-quarter (BOQ) value with weighted cash flows to account for the average "capital at work" during a quarter, the capital that produced the numerator gain. Unfortunately, the same standards include the following "single MD denominator mandate":

> Before and after fee fund level TWR denominators are the same because there is only one weighted average equity for the period. The contributions and distributions used in the denominators are always after fee and are not adjusted to be before fee even when calculating a before fee return. (p. 22)

Note that the "weighted average equity" verbiage is synonymous with what was called "capital at work" in the prior paragraph. So, this mandate allows fees to influence the gross-of-fee RORs; in fact, in a manner that precludes the previously mentioned "counterfactual" analysis required for proper gross ROR determination, an analysis that would insist that some denominator adjustment be made.

The result is Flaw #1, in which gross RORs are being computed by using a net ROR denominator—one whose weighted cash flows account for fee payments. This method is clearly inappropriate, tends to understate gross TWRRs, and could be easily fixed by changing the NCREIF/PREA Reporting Standards so as to assume, for gross-ROR purposes

only, that a distribution to the investor would have occurred every time a fee payment to the manager was made, as also recommended by various recognized TWRR authorities.[2]

Flaw #2 is far more subtle. The predominant practice in institutional real estate is that, because carried interest is accrued quarterly, the BOQ value in any subsequent quarter needs to be reduced by the cumulative carried interest liability from prior quarters.[3] Such practice results in what one industry pundit has termed an "accidental liability," in that the BOQ value is reduced, which thereby understates the capital at work that will be earning an ROR in the next quarter. As a result, subsequent quarterly RORs are exaggerated. And the degree of exaggeration builds if the carried interest builds—that is, until the carried interest is eventually paid out. Given that the institutional real estate class has comparatively few negative-return quarters, the result can be grossly overstated—no pun intended—net TWRRs.

And to add insult to injury, because the "single MD denominator mandate" insists that the net ROR denominator be used also for the gross ROR, the gross TWRR typically also becomes overstated, usually by even more than the net TWRR is. An example in Altshuler (2016) illustrates that a highly successful (25% IRR) real estate venture might produce a gross TWRR of 28%— one that is overstated by 3.00% annually—and a net TWRR that is overstated by 2.37% annually. The single flaw causing these types of overstatements could be easily corrected by simply having the NCREIF/PREA Reporting Standards state that the ROR denominators for both gross-of-fees and net-of-fees calculations must add back any accumulated carried interest if such interest has been already deducted in the BOQ value.

SUMMARY

Dealing with gross-of-fees and net-of-fees returns in TWRR methodology is a risky business. It is easy to distort both gross and net TWRRs if the standards are not carefully thought out.

In terms of the performance of real estate indexes, keep in mind that neither the flagship NCREIF Property Index nor other property-oriented indexes are affected by these flaws because the indexes do not account for fees. Most of the NCREIF-sponsored fund indexes that account for fees are susceptible to Flaw #1, however, and those with carried interest are also susceptible to the (potentially much larger) distortion of Flaw #2, with the size of the Flaw #2 distortion increasing for indexes whose constituents tend to have more carried interest.

The vast majority of real estate managers are believed to be following the NCREIF/PREA Reporting Standards, so in terms of the TWRRs of managed investment entities, the flaws will have some impact. The larger effects will be associated with entities that earn greater amounts of carried interest and accrue it longer. Those effects are likely to result in gross-of-fees and net-of-fees TWRR overstatements.

Because some real estate management contracts intentionally factor carried interest payments downward according to TWRR performance relative to a benchmark, these flaws can have serious economic consequences for the investor's and manager's pocketbooks. The flaws do not merely distort reported returns but may also result in investors overcompensating managers.

NOTES

1. In this context, "equally skilled" refers to managers who would hypothetically choose the same investments—for example, mix of stocks.
2. See Spaulding (2011). Andre Mirabelli and Carl Bacon, CIPM, also support this recommendation, as per the author's email communication with them in October 2015 and April 2016, respectively.
3. Although the NCREIF/PREA Reporting Standards are unintentionally ambiguous as to what to use for this BOQ value, the intention is well understood by industry participants, as verified in a 2011 NCREIF survey. Specifically, as recommended in a NCREIF subcommittee's position paper (*Accounting and Reporting for Carried Interest* 2004), current practice is that the carried interest is subtracted from the BOQ value.

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