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Brent Sheather's RESEARCH

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Private Equity: The Tyranny of IRR: Part 1 – Understanding the Internal Rate of Return

Today we are embarking on an exploration of the use, and misuse, of the internal rate of return calculation as it is employed by the private equity sector. This, part 1 of a 4 part series, is an exposé of how overseas PE managers have used financial sleight of hand to manipulate returns is based on a paper by Ludovic Phalippou, Professor of Economics at Oxford University. It was published in January 2026 in the Journal of Portfolio Management. Professor Phalippou's report, entitled the "Tyranny of IRR" draws on his many years of analysis of the PE investment sector. Professor P. has gained a reputation as an expert critic of private equity as an investment proposition relative to public equity. His research challenges commonly held assumptions about performance, fees and the overall benefits of PE for institutional investors, with his perhaps most famous paper being "An Inconvenient Fact: Private Equity results and the Billionaire Factory".

Before we get into that tale of impropriety we should rehearse our knowledge of the internal rate of return (IRR) calculation – what it is and how its calculated. Determining a prospective investment's internal rate of return (IRR) is one of the most important techniques in finance. It is the fundamental analysis which enables company executives to determine whether to invest in a new project, buy a company, pay down debt or buy back their own shares. Back in the early 80's, when I briefly had a proper job, I spent 5 years doing this stuff – calculating levered and unlevered IRR's, and the rest of the time estimating cash flows and modelling risk via discount rates and Monte Carlo analysis.

In 1982 I persuaded my boss to spend $16.50 on a book: Managerial Finance by Weston and Brigham. Its definition of IRR is as follows: "IRR is defined as the interest rate that equates the present value of the expected cash flows to the initial cost value". The future cash flows of an investment occur in the future(obviously), sometimes far into the future, and $1 in 3 years time is worth less than $1 today because you can invest that $1 today and earn interest on it. The IRR function solves for the interest rate unknown given that the other two variables - costs and future cash flows, are known so as to make the present value of all the cash inflows equal to the outflow. Simplifying things ,the IRR is the compound interest rate that the investment will return, assuming that the cash inflows can be reinvested each period at that rate too.

Whilst all that might sound complicated the essence of the IRR calculation is quite simple. All you do is estimate the cost of the investment and the future cash flows for each year i.e

- Cash flows out (what it costs to make the investment, buy a company or whatever)
- Cash flows in (what returns you expect to derive from purchasing the investment)

A basic cash flow stream might look like this:

2026	2027	2028	2029	2030	2031
-100	30	30	31	32	33

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So from the above we see we are spending $100 in 2026 and we expect to get returns of about $30-$33 per year for the next five years. To calculate the IRR just requires some simple code like IRR (net cash flow) and the computer does the rest. In the example above the IRR is 12% - this means if you discount the future cash flows by 12% a year the present value of all those cash flows will be equal to the $100 figure in 2026. In this case the sum of the present values of the cash inflows of $30 in 2027, $30 in 2028 etc, have to equal the cash outflow in 2026 of $100. The discount rate of 12% does this. So, to get the hang of what is going on, we will calculate the present value of the cashflows in the first couple of years eg $30 in 2027, discounted by 12%, = $30/1.12 = $26.79, in 2028 $30/$1.12^2$ = $24 etc. The computer assumes, conservatively, that the cash outflow occurs at the beginning of the year and the inflows are received at the end of each year.

One way that a company might use this information is to compare that return with other projects they have in front of them and their cost of capital. In the example above the interest rate implicit in these cash flows is 12% so if the cost of capital in the company is 9% or if its alternative investment opportunities have an IRR of 10%, management might decide to invest in the project. Not rocket science. Once you have the basic model sorted you can then get fancy by incorporating risk into the model either applying Monte Carlo probability stuff to the forecast cash flows or changing the required return, known as the discount rate. Readers will be pleased to know we aren't going to go there. Whilst the IRR calculation is easy, in that it's done by the computer, it is the estimation of cash flows into the future and the terminal value of the asset that can cause problems. However whereas IRR, Monte Carlo analysis etc was pretty high level stuff in 1980, requiring substantial computer power (it actually slowed down the ICL mainframe computer back then), today just about everyone is doing it on laptops at home.

As noted above, although the use of IRR is ubiquitous these days it does have some major short comings and these can be exploited by financiers who know their way around the technique. Arguably the major shortcoming of IRR is, as noted by Weston and Brigham, that interim cashflows are assumed to be reinvested at the same return as the IRR. That brings us back to Professor Phalippou's report where he highlights that deficiency of the IRR methodology and the way in which that weakness can be exploited to dramatically improve the performance and remuneration of private equity managers. We will conclude today's efforts by summarizing the key findings of his report, as detailed below:

- "IRR is structurally prone to manipulation, regarding early exits and the use of credit lines and favoring firms with early outperformance.
- IRR is often presented as a rate of return, but it is not. If taken as such it implies implausible levels of wealth accumulation.
- Wildly emulated models such as Yale's are built largely on IRR exhibits, with perceived outperformance driven more by a mathematical artifact than by sustained investment skills.

Those bullet points may not make a great deal of sense to the non-expert reader however in my next column we will attempt to explain Professor P's findings in language that is more accessible to the average human.