



When analysing a business' returns, investors will find no shortage of metrics to apply. For a measure to be appropriate it needs to measure some sort of fundamental value created by it's operations, regardless of accounting choices and capital structure. Similarly, we might want to compare firms to one another and to their own histories. Bearing this in mind we examine some common measures, try to improve them, and eventually show why we prefer CFROI.

## Return on Equity

ROE is a widely cited measure in corporate literature. It is intuitive and simple to calculate. Defined as the after-tax earnings attributable to the equity owners of the business, it may seem to make sense if we were considering buying shares in the business. Unfortunately, this widely used metric is influenced by more than just the operations.

Debt, and its resulting gearing effect on earnings present a complication when comparing firms to one another. In exhibit one, we show two businesses with different capital structures, and otherwise identical characteristics. Both these businesses are going to be shown in two states, one in a stable environment, and one where they experience a bumper year.

During stable times, Co.A returns an ROE of 1.8% vs Co.B's -2%, using ROE as our guide we should prefer Co.A. But if we examine the same businesses, under an expansionary environment, Co.B's 5.0% trumps Co.A's 4.5%. We see that ROE is easily impacted by leverage, making it not very helpful when comparing businesses with differing capital structures.

## Return on Invested Capital

So rather than make some adjustments to improve on this – instead of looking at a firm's equity, we can scale the return by the asset base. Here we are looking for what generates the return, namely net non-current assets. We also want to include the balance of current assets and liabilities; because in practice these are both part of working capital and are managed in tandem in the daily operations of the firm. So instead of keeping them on opposite sides of the ledger, we rather see the net figure.

Since we are now interested in the firm's return on the asset base, we need to adjust our net income figure too. The effect of debt is still present as the interest paid component of the income statement, so we can add back this amount (i.e. it's after tax equivalent) to arrive at the firm's NOPAT.

ROE to ROIC	Stable Environment		Expansionary Environment	
	Co.A	Co.B	Co.A	Co.B
	EBIT	20	20	50
Interest at 6%	0	-29	0	-29
Tax at 25%	-6	3	-15	-6
Net income	14	-5.95	35	15.1
Current Assets	250	250	250	250
Non-Current Assets	750	750	750	750
Total Assets	1000	1000	1000	1000
Current liabilities	225	225	225	225
LT Debt	0	475	0	475
Equity	775	300	775	300
Total Equity and Liabilities	1000	1000	1000	1000
ROE	1.80%	-2.00%	4.50%	5.00%
ROIC	1.80%	1.80%	4.50%	4.50%

ROE is volatile over different capital structures, while ROIC returns the same regardless of funding.

Readers of our previous newsletter (Q2 2022) would recognise what we have derived here is ROIC. And what we can observe is that we now see a return that is identical between A and B, despite their differing structures.

In both our previous articles and now, we have employed performance metrics to compare two firms, but only at a single point in time. What happens to our measures as the assets age?

## Cash Flow Return on Invested Capital

In most industrial companies the Invested Capital total is usually some form of plant, measured at its net value (Cost less accumulated depreciation). As we move through the years this diminishing asset value will incrementally flatter the ROIC figure, and even with no change in NOPAT of the business. we see the ROIC figure rise. This doesn't mean the economics of the business improve as the business matures, this means this metric isn't comparable over time.

So far, we have mostly 'fixed' the denominator, without changing too much about the numerator – relying mostly on stated accounting earnings. These published figures are the result of what is left after all costs associated with operating the business as deducted from revenue. However, what is classified as an accounting expense is often left to the CFO to decide.



A famous example is expenditure that is intended to generate future cash flow (like Research) which should be classified as investment, not an expense. And while reclassifying the expenses as a form of investment may help us adjust for such (not too uncommon) anomaly, a firm's measure of profitability and ultimately its quality should be something objective and not one open to interpretation. Therefore, we want to rather look at cashflow as the return.

Starting from our Net Income Cash flow is obtained through the reversal of the non-cash charges (depreciation, revaluations) and the deduction of the capex paid, as well as accounting for the working capital changes.

Using this cash flow figure and scaling it by the investment figure we calculated a 13.2% return, which remains constant over the lifetime of the project, as it should, given the economics of the business are the same over the period in our example. And to prove the validity of the figure, calculating the firm's IRR over this period will yield the same return.

ROIC to CFROI	Today	Y1	Y2	Y3	Y4	Y5
Net Income		100	100	100	100	100
Gross Non-Current Assets	500	500	500	500	500	500
Depreciation		100	100	100	100	100
Accumulated Depreciation		100	200	300	400	500
Net Non-Current Assets	500	400	300	200	100	0
Working Capital	200	200	200	200	200	
Total Gross Assets	700	700	700	700	700	
ROIC		14.30%	16.70%	20.00%	25.00%	33.30%
CFROI		13.20%	13.20%	13.20%	13.20%	13.20%
Net CF	-700	200	200	200	200	200
IRR	13.20%					

CFROI provides the investor with an objective measure of corporate performance and forms the first step in BlueAlpha's research process. By incorporating CFROI the investor is greatly advantaged to identify firms that truly create value. (1)

*\*Footnote: There are further adjustments in the complete definition of CFROI that adjust both numerator and denominator into the same units of purchasing power. These have been omitted for the sake of space but will be covered in forthcoming articles.*