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THE ROIC CONNECTION

HOW EFFICIENTLY YOU USE CAPITAL MATTERS

Seeking Winners

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A company creates value for its investors when the money it makes in the future (its cash flow) is worth more than the money it spends today (the investment cost). Imagine you invest $1 in this company. If, over time the company earns you back more than $1, that's value creation!

Return on Invested Capital (ROIC) is a profitability ratio that measures how efficiently a company uses the capital provided by its investors (shareholders) and creditors (debt holders) to generate profits. In other words, it shows how much return a company is making on the money invested in its business.

Here's a breakdown of the concept:

Capital: This refers to the total funds used by the company to operate, including equity (shareholder investment) and debt (borrowed money).

I**nvested Capital:** This is calculated by subtracting a company's current liabilities (short-term debts) from its total assets. Essentially, it represents the net amount of capital the company has used to finance its operations.

Return: This refers to the company's profit, typically measured by net operating profit after tax (NOPAT). NOPAT takes into account all operating expenses, including taxes, but excludes interest expenses since we're looking at profitability from core operations, not from financing decisions.

So, how do we calculate ROIC?

The most common formula for ROIC is: NOPAT / Average Invested Capital

NOPAT: A MEASURE OF CORE PROFITABILITY

Net Operating Profit After Taxes (NOPAT) is a key metric used to assess a company's profitability independent of its financing choices. Unlike earnings, which can be influenced by a company's debt structure, NOPAT reflects the cash earnings a company would generate if it had no debt or excess cash. This makes NOPAT a valuable tool for comparing companies across different industries and capital structures.

Calculating NOPAT is a straightforward process. We start with a company's operating income, also known as earnings before interest and taxes (EBIT). Then, we add two adjustments:

- **Amortization from acquired intangible assets:** This represents the non-cash expense of spreading out the cost of intangible assets (like patents or trademarks) over their useful life. Since it's a non-cash expense, we add it back to get a truer picture of the company's cash profitability.

- **Embedded interest component of operating lease expense:** Operating leases are financing arrangements where the company rents equipment or property instead of purchasing it. A portion of the operating lease payment reflects the cost of financing the lease, similar to interest on a loan. We add back this embedded interest component because it's a financing cost, not a true operating expense.

Finally, we subtract cash taxes, which include all the taxes a company actually pays (current and deferred). This provides us with a clear picture of the company's profit after accounting for all operating expenses and taxes.

By understanding NOPAT, investors can gain a more accurate sense of a company's ability to generate cash flow from its core operations, independent of its capital structure.

UNDERSTANDING INVESTED CAPITAL: TWO SIDES OF THE SAME COIN

Invested capital, the base number used to calculate ROIC, can be viewed in two ways, but both approaches give the same answer.

Option 1: Assets Needed for Profit

Think of invested capital as the money a company needs to keep its doors open and generate profit (NOPAT). This includes all the physical assets (equipment, buildings) and intangible assets (brands, patents) needed for operations.

Option 2: Funding Those Assets

Invested capital also represents how a company pays for those assets. Typically, it's a combination of debt (borrowed money) and equity (money from investors). This reflects the basic accounting principle of double-entry bookkeeping, where a company's total assets must always equal the sum of its liabilities (debts) and equity (ownership).

Whichever way you look at it, the left side of the balance sheet (assets) or the right side (liabilities and equity), you'll arrive at the same value for invested capital. This value is further shown below:

Operating Approach	Financing Approach
Current assets	Short-term debt
- Non-interest-bearing current liabilities	+ Long-term debt
Net working capital	= Total debt
	+ Deferred taxes
	+ Other liabilities
+ Net property, plant, & equipment	
+ Acquired intangibles	
+ Goodwill	+ Preferred stock
+ Other	+ Common equity
= Invested capital	= Invested capital

Source: Counterpoint Global

THE ROIC CONNECTION: HOW EFFICIENTLY YOU USE CAPITAL MATTERS

Imagine you're trying to figure out how much a company is worth. One key factor is its **free cash flow (FCF)** – the money left over after it pays its bills and operating expenses (NOPAT) minus what it reinvests back into the business to grow. The more a company reinvests for growth, the less free cash flow it has right now, but hopefully, that reinvestment leads to even more profit in the future.

Here's where **Return on Invested Capital (ROIC)** comes in. ROIC tells you how good a company is at turning the money it uses (invested capital) into profit (NOPAT). The higher the ROIC, the more efficient the company is at using its capital.

Now, the cool thing is that because reinvestment for growth is basically the change in invested capital, you can use your forecast of future growth to estimate a company's future invested capital. This lets you do a quick check in your valuation model. Just take the projected profit (NOPAT) for any future year and divide it by the corresponding future invested capital based on your growth forecast. This gives you an idea of the company's ROIC in that future year.

If the ROIC you calculate seems way off (too high or too low), it might be a sign that something's wrong with your assumptions about how profitable the company will be or how much it needs to reinvest.

In a nutshell, ROIC helps you understand how efficiently a company uses its money, and free cash flow shows the actual cash available after reinvestments. Both are important for figuring out a company's future value. In other words, you can't just take a company's ROIC X an estimate of reinvestment rate to figure out a CAGR. You should also perform a discounted cash flow analysis as a check to see if your assumptions make sense.

Below is a recent example of a ROIC and reinvestment rate scenario calculation I did in a previous article:

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CoStar Group™

Exhibit 1: CoStar's Net Operating Profit After Taxes, 2022-2023
In ($) Millions of USD

	2022	2023	Notes
Operating Income (EBT)	486.5	501.3	
Customer Base Amortization	73.6	42.2	
Amortization of Deferred commissions costs	76.1	95.2	
Amortization of Senior Notes	2.4	2.4	
Interest paid	29.9	30.7	
Non-Cash lease expense	38.5	30	
Earnings before interest, taxes, and amortization (EBITA)	707.00	701.80	
Income Tax Provision	117	126.6	
Deferred Taxes	31.2	37.2	
Tax Shield	-	-	
Cash Taxes	148.2	163.8	
Net Operating profit after taxes (NOPAT)	**558.80**	**538.00**	
Reinvestment Rate TTM			
CAPEX		142.80	
Acquisitions		99.60	
Software Development (R&D)		267.60	
Change in Non-Cash NWC		(114.05)	
Total		395.95	
Estimated Reinvestment Rate		**74%**	

Exhibit 2: CoStar's Invested Capital, 2022-2023
Operating Approach

In ($) Millions of USD	2022	2023
Cash*	43.65	49.10
Accounts Receivable, net	190	153
Deferred income taxes	9	4.3
Inventories	-	-
Other Current Assets	64	70
Total Current Assets	306.65	276.40
** CoStar's business is fully funded from free cash flow assume 2% of revenue needed to operate*		
Non-interest-bearing current liabilities	372	455.8
Net working capital	(65.35)	(179.40)
Property & Equipment, net	321.00	472.20
Operating lease right-of-use assets	80.00	79.80
Goodwill	2,314.00	2,386.20
Intangible assets, net	313.70	329.00
Other long-term assets	158.00	185.40
Total Invested Capital	3,121.35	3,273.20
ROIC	**18%**	**16%**
Average ROIC	**17%**	

Reinvestment Rate Scenario's	50%	60%	70%	80%
Theoretical Intrinsic CAGR	**9%**	**10%**	**12%**	**14%**

Source: Seeking Winners & Company Filings

However, I don't want readers to get confused and think you can do a similar calculation to estimate a company's ROIC and reinvestment rates, its imperative in my opinion to also fact check yourself by doing a full discounted cash flow. This is especially important to a world of ever increasing intangible investments, which I'll discuss further below.

THE CHALLENGE OF VALUING INTANGIBLE ASSETS

There's been a major shift in the investment landscape. In the past, most investments were tangible assets, like buildings or machinery. Today, intangible assets, like software or brand value, play a much bigger role.

The problem? Traditional accounting treats these differently. Tangible assets are listed on a company's financial statements and their value gradually decreases over time (depreciation). This depreciation is factored into profitability calculations (NOPAT) and invested capital.

However, most intangible assets are expensed as soon as they're incurred, like research & development (R&D) costs. This means they don't show up on the balance sheet and don't affect profitability calculations.

The result: Companies heavy in tangible assets tend to have higher reported profitability and invested capital. Companies that rely on intangibles (like software businesses) appear less profitable on paper (higher PE), even though they might be investing heavily in future growth.

This inconsistency makes it difficult to compare companies fairly using metrics like ROIC (Return on Invested Capital). To solve this, treating intangible assets more like tangible assets: listing them on the balance sheet and spreading their cost over time (amortization) is the solution to put all companies on a more level playing field for financial analysis.

BRINGING IT ALL TOGETHER

At its core, a company's success hinges on its ability to create value for its investors. This translates to making investments that generate a return exceeding what investors could earn elsewhere.

Return on Invested Capital (ROIC) emerges as a critical metric for evaluating a company's value creation prowess. It essentially measures how effectively a company uses its financial resources (invested capital) to generate profit (NOPAT). A high ROIC indicates the company is adept at turning its investments into cash flow. This is a strong signal for investors, as it suggests the company is efficiently allocating capital and generating superior returns.

While ROIC provides a valuable snapshot of a company's financial performance, it's crucial to interpret it within the broader context. The weighted average cost of capital (WACC) represents the minimum return investors expect on their investment in a company. It considers the cost of both debt and equity financing. A company is truly creating value if its ROIC consistently exceeds its WACC. This signifies that the company's return on investments is outpacing the cost of those investments, generating excess returns for its shareholders.

ROIC AND FINANCIAL MODELLING

The concept of ROIC goes hand-in-hand with another critical financial concept: free cash flow. Free cash flow represents the cash available to a company after accounting for its operating expenses and reinvestments for future growth. Understanding both ROIC and free cash flow is essential for building discounted cash flow (DCF) models

While the core concept of ROIC is straightforward (profitability divided by invested capital), calculating it can involve judgment calls. There are various accounting treatments for specific situations, such as excess cash on hand, restructuring charges, asset write-offs, and share buybacks.

Free cash flow, ROIC, and economic profit are all interconnected concepts rooted in a company's profitability and capital allocation strategies. They offer different perspectives on a company's financial health, but ultimately, they all point towards the same goal: understanding how effectively a company utilizes its resources to generate value for its stakeholders. **The good news is that properly constructed valuation models, whether based on free cash flow or economic profit, should arrive at the same conclusion if the underlying assumptions and analysis are sound.**

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