

# The Magic of ROIC

<http://www.fool.com/investing/general/2007/08/17/the-magic-of-roic.aspx>

David Meier  
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Tom Gardner recently asked me, "If you could use only one metric to analyze a company, what would it be?"

I started to answer before Tom finished the question, but stopped. That would have been rude. But for me, the answer was so easy, so obvious that I couldn't wait to scream it out: return on invested capital.

Although no metric should be used exclusively, [ROIC](#) is as close to the cat's meow as we're going to get. It brings together the income statement and the balance sheet, it's flexible, it lets analysts combine qualitative and quantitative measures, it removes unsightly stains, it makes julienne fries.

OK, I don't know about the stains, but I can guarantee great fries.

## Discovering Atlantis

Many investors stick too close to the income statement, focusing on sales and earnings growth. But that's not enough -- not even close.

What if a company is growing sales and earnings at 30%, but doesn't earn decent returns on the capital it uses? Should we care about that? After all, important items on the income statement are growing, and the market tends to love growth, right? There is no question in my mind that we should care about more than just sales and earnings growth. It would be foolish (small f) not to. And here's an example to illustrate why.

**Hansen Natural** (Nasdaq: [HANS](#) ), a company I have picked on in the past (and that has made me eat my words), has an amazing record, growing sales and earnings at greater than that 30% bogey from above. **iRobot** (Nasdaq: [IRBT](#) ) has, too. Both are asset-light companies as they don't have much in the way of plant, property, and equipment. Hansen earns 59% returns on its invested capital. iRobot earns 1.8% on its invested capital, and that figure is falling. Hansen has been a far better investment because not only has it been able to grow, it has been able to use capital very well as it grew.

## Down and touch your toes

While the lack of a rigid definition can be worrisome (ROIC is a non-GAAP measure), I think flexibility is an advantage with ROIC. Sure, the [equation](#) is simple and straightforward. We simply take returns and divide them by capital. The fun part is determining which returns and which capital.

There are all kinds of adjustments that can be made, and I'm not going to go through all of them here. If you're looking for more info, I highly recommend reading *The Quest for Value* by G. Bennett Stewart. It's totally Foolish.

One adjustment I like to make when comparing companies is to take operating leases, which are off balance sheet forms of financing, and capitalize them and then add back the imputed interest. This allows me to make a better comparison between a company that uses lots of operating leases and one that owns assets.

Retailers are a classic example. Some own their stores. Many lease them. Unless you make an adjustment, the one without all that capital on the balance sheet is going to look much better.

Let's say I want to check on the battle for home improvement supremacy between **Lowe's** (NYSE: [LOW](#) ) and **Home Depot** (NYSE: [HD](#) ) . If I take the results straight out of Capital IQ, it's Home Depot by 1 percentage point at 18.2% versus 17.2% for Lowe's. If I make adjustments for excess cash, operating leases, and other things mentioned in *The Quest for Value*, then the gap is not quite as large and the level drops to 15.3% for Home Depot and 14.6% for Lowe's.

### **The best of both worlds**

The most important thing that ROIC allows an analyst to do is think about how a company operates and quantify its competitive advantages. Let's face it, if a company has an advantage, it should be able to earn excess returns over its competitors, and it should be able to do it for some length of time.

We can't get that from traditional value measures like price-to-earnings (P/E) and price-to-book (P/B) ratios. They simply look at the price investors are willing to pay for earnings or the accounting value of equity. You cannot assess whether one company is better than another from those ratios. You *can* get an idea by understanding and comparing ROIC.

Here's an example. You've decided to look at **Panera** (Nasdaq: [PNRA](#) ) , a family favorite, and **Chipotle** (NYSE: [CMG](#) ) , a personal favorite, to see which one is a better casual restaurant. Looking at the two restaurants, [Chipotle](#) is generating higher ROIC as it opens more restaurants. It's attracting more customers, getting them through the lines faster, filling them with a great product, and charging them higher prices. I can't say the same for [Panera](#). So which one seems to have a competitive advantage in the casual restaurant battle?

### **The Foolish bottom line**

Fools, listen to me. Put ROIC at the top of your analytical toolbox and take advantage of its magic. It brings together so many quantitative and qualitative measurements to help Fools see just how well a company is performing. But here's the real kicker: From ROIC, we can judge the value of a business. That's because value is a function of how much capital a company can use and the difference between its returns and its cost of capital.

Is there anything this metric can't do? Oh yeah, remove unsightly stains.

Fries, anyone?

*iRobot and Chipotle are [Motley Fool Rule Breakers](#) recommendations. Home Depot is a [Motley Fool Inside Value](#) selection. Chipotle (B shares) is also a [Motley Fool Hidden Gems](#) pick. All of these market-beating newsletters are available for a free 30-day trial.*

*Retail editor [David Meier](#) does not own shares of any of the companies mentioned. The Motley Fool has a [disclosure policy](#).*

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## Look at Return on Invested Capital

Longtime Fool Community member [Andrew Chan](#) steps up on the Hill today to discuss a highly important topic of valuation -- return on invested capital (ROIC). This builds upon his significant work on the subject for the McGill Investment Club, which he made available to other Fools through a free [download](#).

By Andrew Chan ([aycchan@sympatico.ca](mailto:aycchan@sympatico.ca))  
September 27, 2000

Return on invested capital, or ROIC, is one of the most fundamental financial metrics. But despite its importance, it does not receive the same kind of press coverage as earnings per share (EPS), return on equity (ROE), and the price-to-earnings ratio (P/E). One reason is probably because you cannot obtain ROIC straight out of financial statements. Nevertheless, the concept is fundamental in measuring how much value a company creates.

So what exactly is ROIC? It is defined as the cash rate of return on capital that a company has invested. It is the true metric to measure the cash-on-cash yield of a firm and how effective it allocates capital:

ROIC = Net Operating Profits After Taxes / Invested Capital

Net Operating Profits After Taxes (NOPAT), the numerator, is perhaps the best metric to measure the cash generated by operating activities. It is better than net income because it excludes items such as investment income, goodwill amortization and interest expense, which are non-operating in nature.

For example, in its 2000 fiscal year, **Cisco** ([Nasdaq: CSCO](#)) had a net income of \$2.7 billion, however more than \$600 million (after-tax) was generated from investment income. Obviously, Cisco's net income is not very representative of the profitability of its operations. Once adjusted to reflect operating activities, Cisco's NOPAT amounted to \$2.3 billion (goodwill was added back). NOPAT focuses on operations, which is why it is a better measure than net income and EPS. Fools do not invest in companies for their ability to generate investment income, but for the

profitability of their core operations. The simplified formula to calculate NOPAT is as follows.

NOPAT equals:

Start with:

+ Reported Net Income

Add back:

+ Goodwill amortization

+ Non-recurring costs

+ Interest expense

+ Tax paid on investment and interest income (effective tax rate X investment income)

Subtract:

- Investment and interest income

- Tax shield from interest expenses (effective tax rate X interest expense)

As for invested capital, the denominator, it represents all the cash that debtholders and shareholders have invested in the company. Invested capital can be calculated by subtracting cash and equivalents and non-interest bearing current liabilities (NIBCLs) from total assets. Cash is being subtracted because it does not yet represent operating assets. As for NIBCLs, which include accounts payable, income tax payable, accrued liabilities, and others, they are subtracted from capital because they bear absolutely no cost (interest-free). Note that to calculate ROIC, we use the average invested capital for the period.

Invested Capital equals:

Start with:

+ Total assets

Subtract:

- Cash, S-T investments and L-T investments (excluding investments in strategic alliances)

- NIBCLs

Before I move on with further insights on ROIC, another concept must be introduced: the weighted average cost of capital (WACC). For without the WACC, ROIC is not very useful. The WACC represents the minimum rate of return (adjusted for risk) that a company must earn to create value for shareholders and debtholders. ROIC is measured against the WACC, which is what makes it such an important concept.

When the ROIC is greater than the WACC, it means that the firm creates value; otherwise it destroys value. In practice, a company with a ROIC of 25% and a cost of capital of 11%, has created 14 cents of pure economic value for every dollar invested. The difference between ROIC and WACC is called the ROIC-WACC spread (%), which is one of the most important valuation tools in securities analysis (For more information on the WACC, please read Dale Wettlaufer's [Equity Isn't Free](#)).

So what does all this mean for investors? To start with, Fools would be better off tracking ROIC-WACC spreads than EPS, net income or ROE. Studies have shown that stock prices are highly correlated with ROIC-WACC spreads. Value creation is the key, simply looking at EPS or net income does not indicate whether a company creates value or not. In some cases, even high sales growth can be harmful as new capital is being invested in value-destroying projects. EPS, net income, and growth does not tell how much capital was required to generate those numbers, which is a fundamental flaw in using these traditional metrics.

ROIC can also be used to understand why stocks trade at different multiples, whether we are talking about P/E, enterprise value/invested capital (EV/IC), or price-to-book value. The P/E ratio is not only a function of growth, but also ROIC. The market is perhaps the best example of such a relation. From 1995 to 1998, the S&P 500's P/E ratio increased from 15 to 25. Many analysts and market gurus were screaming loud and clear that the market was overvalued because it was trading at a premium multiple to its historical level. However, the reality is that while the P/E ratio expanded, there was also a significant rise in the market's ROIC as it rose from 15.5% to 25.5% (Source: CSFB, [The Fat Tail That Wags the Dog](#)). A high P/E ratio does not mean that a stock is overvalued, but simply that it is more valuable.

Perhaps one of the best growth and value creation stories I have seen so far is **Network Appliance** ([Nasdaq: NTAP](#)). From 1998 to 2000, Network Appliance grew its sales from \$166 million to \$579 million (88% annual growth). In the mean time, its ROIC increased from 44.6% to 57.3%, which is quite an achievement. In 2000, Network Appliance's cost of capital was around 18.2%, which means that its ROIC-WACC spread was an impressive 39.1%. Consequently, the stock has increased more than 2,400% since 1998.

Of course, we can't attribute the stock appreciation to a stellar ROIC alone. However, it was a major factor as we don't see many stocks with rising ROICs, especially at such a high level. In fact, economic theories predict the opposite: ROICs are expected to decline as competition eats up economic profits. Network Appliance's feat is even more impressive when we consider that there is a 500-pound gorilla named **EMC** ([NYSE: EMC](#)) in the storage industry. By the way, EMC's ROIC was 43.7% (annualized) for the first six months of 2000, which is considerably lower than Network Appliance's.

ROIC is a valuable tool to assess the quality of a company. Generally speaking, companies with higher ROICs are more valuable. While I do not pretend that it solves all questions related to valuation, it is nevertheless a strong improvement over EPS and net income. It is important for Fools to understand that it is not only the level of ROIC that matters, but also the trend. A declining ROIC may be an advanced indicator signaling that a company is having a hard time dealing with competition. On the other hand, an increasing ROIC may indicate that a company is distancing its competitors or that it is being more efficient at deploying capital.

In this article, I have introduced the concept of ROIC, which is at the foundation of the Economic Model. The methodology I have presented was simplified. For those who want to learn more about the mechanics of ROIC, I have provided Fools with my own 30-page report, [The Mechanics of the Economic Model](#), as well as a spreadsheet using **Oracle** ([Nasdaq: ORCL](#))

as an example. Both documents can be downloaded here for free. My report is based on the readings below that I strongly recommend and on Bennett Stewart's [Quest for Value](#).

- andrewychan

### **Related Links:**

- [Does Valuation Matter?](#), Paul Johnson, Paul Sylverstein
- [Thoughts On Valuation](#), Michael J. Mauboussin
- [Competitive Advantage Period "CAP": The Neglected Value Driver](#), Michael J. Mauboussin, Paul Johnson
- [A Look at ROIC](#), Dale Wettlaufer

### **Return on (Marginal) Invested Capital**

**Is return on invested capital (ROIC) a Foolish crystal ball? For some companies, examining the return on each new dollar of capital over time can reveal potential problems down the road. For others, rising return on marginal invested capital (ROMIC) may be a good sign.**

By [Bob Fredeen](#) (TMF Bobdog)  
October 19, 2000

Over the past few weeks, the concept of return on invested capital (ROIC) has been discussed a lot here at the Fool. (For an excellent overview of the concept, check out Andrew Chan's [Fool on the Hill](#).) Generally, we see ROIC as part of an economic value added (EVA) analysis of a company, a technique often used to determine the effectiveness of management. EVA analysis compares ROIC to the weighted average cost of capital (WACC) of the company. The idea is that the greater the difference between ROIC and WACC, the more economic value (and shareholder value) management is creating.

Today I'd like to look at the possible predictive powers of return on marginal invested capital (ROMIC). We're using marginal in the economic sense, as in the most recent capital invested in the company. In crunching the numbers on several retailers in the retail world, it seems apparent that for larger companies, this measure can predict tough times ahead.

Before we get to that, let's look at ROIC and how we get the marginal numbers. The reason I pointed to Andrew's FOTH above is that he spells out a very nice ROIC formula, which I modified a bit to reflect some retail-specific characteristics. The changes I made dealt with marketing and advertising expenses these companies incur. These expenses are more similar to capital expenditures than expenses since the company continues to benefit from current advertising spending well into the future. To adjust the formula to treat marketing expenses as an investment, two changes were needed.

First, we added the annual marketing expenses to net operating profits after taxes (NOPAT), including the tax shield from the expense. Marketing expenses are expenses, and help to lower

tax rates. To remove this influence, we multiply the expense figure times one minus the tax rate, just like we do for the tax shield from interest expenses. The second change was to add marketing expenses to the invested capital side of the equation because, as we noted above, marketing investments continue to help the company as an intangible asset for many years. So, adding back the current year is not enough. We should also include portions of the previous year's expenditures. To keep it simple, I chose to depreciate the expenditures in a straight line for three years.

Once we've got a few years' worth of these numbers, we can measure how much the components of ROIC, NOPAT, and IC change each year. Below are the NOPAT figures for the **Gap** ([NYSE: GPS](#)). (Fools who read future [Motley Fool Research reports on the Gap](#) are going to get an earful of EVA, ROIC, WACC, and other acronyms). Underneath those figures, I've included the invested capital (IC) figures as well. Marginal NOPAT is nothing more than how much NOPAT increased from one year to the next. Marginal IC is the same thing. Now, to get ROMIC, we divide marginal NOPAT by marginal IC.

Before we continue, some folks have pointed out that this technique punishes the company somewhat because of the timeframe involved. The increase in IC this year is more likely to have a stronger impact on NOPAT next year than on the current year. I agree, though I think that looking at this figure shows you what the company earned on that final dollar it invested for that year. In turn, this gives you some hints as to what to expect in the coming years.

Here are the figures for Gap Inc.:

(%)	1995	1996	1997	1998	1999
<b>ROIC</b>	37.0	40.2	44.5	50.7	42.3
<b>ROMIC</b>	17.0	69.5	47.0	39.6	26.3

We see that Gap has turned in some very respectable numbers in the ROIC arena for the last five years. First, notice that the ROMIC in fiscal 1995 was 17%, well below the ROIC levels. That year, ROIC dropped 0.5% to 37%. However, the next year, ROMIC jumped to about 70% and ROIC started rising. ROIC hit a high of 50.7% in fiscal 1998, and has dropped since then. I'll go out on a limb here and forecast that ROIC will be even worse in fiscal 2000. Since fiscal 1996, ROMIC has been steadily falling, indicating that the company is earning less on each new dollar it invests. I believe it stands to follow that ROIC will ultimately fall as long as this trend continues.

No doubt many Fools are sick of hearing about the Gap, so we'll look at another company, Home Depot: Here are the figures for Gap Inc.:

(%)	1995	1996	1997	1998	1999
<b>ROIC</b>	14.1	14.5	15.7	16.5	19.2
<b>ROMIC</b>	10.7	18.2	17.7	18.5	26.0

Home Depot suffers from a fairly low ROIC, so the trend is not quite as apparent as in the case of the Gap. However, we can see a couple of things. First, a low ROMIC may have been a factor in the relatively small 0.4% increase in ROIC from 1995 to 1996. Second, as ROMIC has strengthened, so has ROIC. We can see a trend upward for ROIC, and I expect that we will continue to see this trend if ROMIC remains above ROIC. The fact that the highest ROMIC came in 1999 could bode well for Home Depot investors in the next couple of years.

While it seems that examining the ROMIC can shed some light onto the future returns for a company, we need to remember what the numbers are showing us. ROMIC is merely how much money the company earned on its most recently invested capital. I believe that overall returns will naturally approach the marginal returns on capital, though that's probably because I had too many economics classes.

However, there are many factors that can lower the return on investment that may not be related to the quality of the investments made. Both of the companies used in our example help demonstrate this point. Gap will most likely suffer from lower ROIC for the current year largely because of execution errors. Home Depot may suffer as well because of changing price trends in one of its core product, lumber, which is hurting revenues and profits. These metrics, ROIC and ROMIC, are just part of the picture for any given company, but I believe they can be an important part of determining how well the company is managed.

**Related Links:**

[Fool on the Hill: A Look at ROIC](#)

[Structural Problems at Home Depot?](#)

[Gap Discussion Board](#)

[Home Depot Discussion Board](#)

## Maker Returns to Invested Capital

<http://www.fool.com/portfolios/rulemaker/2002/rulemaker020306.htm>

By Bill Mann (TMF Otter)

03/06/2002

OK my faithful friends, let's dive into Return on Invested Capital (ROIC) as it relates to Rule Makers. I am going to give fair warning here: We will NOT be using ROIC as a definitive check for a company's suitability as an investment. We will use it as another tool in the old toolbox to ensure that a company is actually generating money from its operations. If you do not feel comfortable with the assumptions you'll have to make for an ROIC calculation, I seriously doubt that you are going to be forever at an insurmountable disadvantage as an investor. I do hope that you give it a chance and fire up the trusty pocket calculator and try a few cracks at calculating ROIC, though.



For this article and next week's we'll be using some companion documents, because I don't want to reinvent the wheel when we're already blessed with a couple of all-weather radial tires and big gnarly chains here on the site. Be sure to read Andrew Chan's exceptional Fool on the Hill article "[A Look at Return on Invested Capital](#)." (Note: with the exception of regular contributor Whitney Tilson, Andrew is the only Fool community member ever to have an article run in the Fool on the Hill space. That's a signal of just how exceptional this particular piece is.) We also have Dale Wettlaufer's (TMF Raleigh) "[A Look at ROIC](#)" series. Both should be considered the real construction work on this subject. I'm just going to apply some paint and hang a flag out front.

In this first installment I'm going to define ROIC, describe what it tells us about companies, and then explain a bit how I'd like for the Rule Maker to use it. Next week we're going to lay out some examples using companies that are or could be within the realm of Rule Makerdom.

So, what the heck is ROIC? Let's break it down to its component parts. "Return" I think is self-explanatory: what you get in return. "Invested Capital" is the other component. Invested capital is two things: the interest bearing debt that a company holds, as well as the retained equity. This differs from the straight Return on Equity calculation because we have to make a few adjustments to get rid of non-liability liabilities, such as "deferred income taxes" to come up with the true amount of capital invested in the company.

One raw way you can think of invested capital is "delayed dividends." If a company earns \$100 million in free cash flow in one year, but chooses to only pay out \$10 million of that to shareholders immediately, spending the other \$90 million on growing the business, the actual delay of payment of those dividends has a cost to the shareholder. It's like this: I give you \$1 today, and obviously it's worth a buck. I give you \$1 five years from now, and that dollar is worth somewhat less in today's terms. If we take an annual discount rate of 6%, then a five-year-from-now dollar is worth about \$0.73. The determination of a discount rate for this investment capital is the single most difficult (and fudge-prone) part of an ROIC calculation. With any company, what discount rate do you use?

The answer is that it sort of depends. Take a look at this statement from Dale Wettlaufer on the subject:

"However, even though the cost of equity does not show up on a company's income statement, it is not free. Investors expect a rate of return on equity that is in line with the S&P 500 and that also takes into account the specific risks of the company in question. In this case, we have a company that has an average debt-to-equity ratio of 109% in the year 7 and may also be operating in a slower-growth industry with poor economics to begin with. In that case, we would demand a rate of return on equity of about 1.2 times the S&P 500's historical return to compensate for the extra risk. That means that the equity being used by this business will cost it 13.2%. A lower return on equity will hurt the valuation of the company's equity and ultimately the multiple the market will pay for all the capital invested in the business as well as its earnings and cash flow."

The reality is that the cost of capital number is not exact. We're going to parse through some examples to show some common thinking next week. For now, just try to concentrate on the concept, less on the methodology.

The other problem with ROIC is that under accounting methods, to my mind, assets are grossly understated. What are assets according to accounting protocol? They are the buildings and equipment that **Starbucks**([Nasdaq: SBUX](#)) owns, along with coffee, those cool little sleeve things that they put around cups, and so on. But is that all of the assets Starbucks has? How do you value its brand? How do you value its mindshare? How do you value the fact that a Starbucks customer can travel to Doha, Qatar, walk into the Starbucks there and say "grande 2% no-foam latte" and end up with the very beverage he is looking for? None of these things are represented on the asset sheet, and yet they may very well be more valuable than the buildings, the espresso machines, even the company's stocks of coffee.

Troubling, and the bad part is, there is no way around it. This is why I would express an ROIC's usefulness not as a number, but as a range of numbers. We'll use this as one of our examples next week.

My best to all of you, and Fool on!

Bill Mann, TMFOtter on the Fool Discussion boards

*Bill Mann has no idea why. He owns none of the companies mentioned in this article. The Motley Fool has a [disclosure policy](#).*

**FOOL ON THE HILL**  
**An Investment Opinion**  
**by [Dale Wettlaufer](#)**

**Return on Marginal Capital**

[Back by popular demand, the Motley Fool presents a rerun of the following Fool on the Hill that was originally written on February 27, 1998. This was a time when Dale was just beginning to emerge from his controversial "Blue Capital Period." Notice the bold, articulate strokes that convey a sense of renewed confidence and authority, yet all the while rejecting the world-weary ennui of his prior work.]

You might have noticed terms such as inventory turnover, capital management, and return on invested capital used in this column and elsewhere in the Fool. We use these terms because most of the people who write for this column are investors who believe that investing is not a simple process. There is no single measure that will inform you of the quality of a business or its fair value. Shorthand valuation measures like the [PEG](#), [YPEG](#), and [price/earnings ratio](#) (P/E) can

give you a notion of how attractively valued a business currently is. Liquidity measures that focus on the quality of the balance sheet, like the [current ratio](#), are also shorthand measures. Investors putting hard-won savings into a company's stock probably wants to go quite a bit further if they plan on making any money.

To understand things like inventory turnover or return on invested capital, you first have to learn how to calculate them. You'll find the above links take you to the Fool's School "[How to Value Stocks](#)" area where our articles await the attention of Fools who are new to the site or who need a refresher course. Learning how to construct these measures takes but a moment in an investing lifetime. Learning how to interpret these measures takes considerably longer, but is ultimately how your understanding of investing evolves. Assuming that you are familiar with the valuation material in our archives, here are some more thoughts on how to assess the underlying quality of a business -- a project that ultimately is directly related to valuation.

There are numerous ways to look at return on capital. Return on invested capital looks at the efficiency of net working capital a business employs, regardless of whether that capital is financed through debt or equity. Return on total capital compares cash or earnings generated by the business to all capital invested in the business, which is the sum of all debt (long- and short-term) and shareholders' equity. You can use any of these measures or other capital productivity measures for one period in comparison to another period to tell what's going on in a business. You can also use these measures across industries to judge which companies are most productive and thus most worthy of your investment dollar. As such, it's not inappropriate to compare a software company with a pharmaceutical company and a food company. Whichever generates the best rate of return on capital employed in the business and generates the best return on marginal capital employed by the company deserves your consideration.

The term "marginal capital return" bears some explanation. First, the word "marginal" means "additional" relative to something else -- in this case, additional capital invested in the business. If, for instance, a company increases its capital base by 10% and return on capital only increases 5%, that additional capital investment wasn't as productive as the company's previous capital investment. If you put 10% more money into any investment, whether it be a factory, capitalized R&D on software, or a brokerage account, and that additional capital only generates a 5% return, your investment is only half as productive as the capital you invested before. If you are in a situation where investing further capital in a business will decrease your rate of return, as a business you need to consider whether or not that capital should just be given back to the shareholders through a dividend or share buyback.

The only time a company with a mature business not requiring further investment should not give back the capital is if it has found more productive investments to make. This is why mature companies tend to invest in new lines of business or start making acquisitions. Management discovers the core business is pretty much built up and they must either admit they can do nothing else and return the money to shareholders or decide that they are actually smart people and can find other businesses offering rewarding investment return possibilities. Given the ego that normally comes with being in charge of a large, mature company, more often than not management will decide they can think of something keen to do with the cash. Unfortunately for shareholders, it is not always good.

Such has been the case with **Eastman Kodak** ([NYSE: EK](#)) over the last couple years. Eastman has poured money back into the business to no avail -- this was shareholder money that probably would have been much better spent on dividends or stock buybacks. Another company that has seen a decline in capital productivity and marginal capital productivity is **Hewlett-Packard** ([NYSE: HWP](#)). Despite its much-ballyhooed success with regard to unit volume in its new PC business, the company's return on marginal capital has gone through the floor since it started this business. While making PCs is not capital intensive in and of itself, carrying the huge inventories required to distribute PCs through resellers does chew up a lot of working capital. H-P's lagging shareholder return over the last couple years isn't the result of investors failing to give a great company its due. Rather, it is because H-P has gone from being a highly productive company (with regard to return on capital) to being one that is less productive, which has caused the share price to lag.

Let's go back to 1993-1995 for Hewlett-Packard. For the 1994 fiscal year, average capital devoted to the business was \$12.156 billion, or \$11.67 per share. (Average capital invested in the business is the average of all common and preferred equity plus all interest-bearing debt ascertainable on the balance sheet.) Operating income after taxes (backing out one-time charges and identifiable goodwill amortization) was \$1.683 billion, or \$1.62 per share. After-tax operating income per share for 1994 divided by \$11.67 in average capital per share equals 13.65%. That covers the cost of debt and equity for any company with a good credit rating. It also covers the cost of equity, which is basically the long-term rate of return on the S&P 500, or 10.8%.

In the go-go 1990s, it might be a little light, but let's look at the return generated on marginal capital that year. 1993 capital per share was \$11.23 and 1994 capital per share was \$12.42. The addition to capital per share from year to year was 10.6%. After-tax operating income for 1993 was \$1.24 billion, or \$1.22 per share. After-tax operating income per share grew 32.8% in 1994 (\$1.62/\$1.22). The marginal after-tax operating income per share generated that year was \$0.40 (\$1.62 minus \$1.22) and the addition to capital per share for the year was \$1.20 per share. The rate of return on marginal capital per share, then, was 33% (marginal return of \$0.40 divided by marginal capital of \$1.20).

Back then, the dollars that were being retained or invested in the business were more productive than the business as a whole. Management was finding new opportunities for growth in computers, storage, peripherals, semiconductors, metrology, and scientific equipment. Whatever H-P was doing at the time was working quite well, and a rational investor would have bid it up. Let's see what has happened in the last year.

1996 total capital per share was \$17.24, 1997 total capital per share was \$19.43, and average total capital per share for 1997 was \$18.34. 1996 after-tax operating income per share was \$2.48 and 1997 after-tax operating income per share was \$2.87. Growth in capital per share was 12.7% in 1996 and growth in after-tax operating income per share was 15.7%. Return on average total capital per share for the year was 15.6%, up nicely since 1994, but there were mitigating factors that might not be repeated. Namely, the company's tax rate dropped close to five percentage points. Holding the tax rate constant from 1994 to 1997, return on capital per share for 1997

would have been 14.8%.

One can't begrudge good tax planning, though, and in any case, return on capital per share increased from 1994. Since after-tax operating income growth was much closer to per-share capital growth, though, we would expect that the rate of return on marginal capital has slowed. Marginal after-tax operating income per share for 1997 was \$0.39, down slightly from 1994. Marginal capital devoted to the business was \$2.19 per share and the rate of return on marginal capital per share, then, was 17.8% (marginal return of \$0.39 divided by marginal capital of \$2.19).

While overall H-P's numbers are hardly terrible, which is why the company is currently valued at approximately 23.0 times trailing earnings, you can see that over the past few years the company's new investments have yielded progressively lower and lower returns. If you extrapolate this out very far, you begin to see overall returns deteriorate, inevitably resulting in lower margins and lower earnings growth. This is the sort of insight you can garner when you look at returns on capital instead of simply looking at earnings growth alone or slapping multiples on earnings based on that growth (i.e. saying a company should trade at X times earnings because it is growing at Y rate). The quality of the earnings growth is more important than earnings growth alone. Looking at return on marginal capital plowed into a business is one way to assess the quality of earnings growth.

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#### **Alternative Names for Financial Statement Terms (post)**

<http://boards.fool.com/Message.asp?mid=15455317>

#### **Financial Concepts**

"TeachMeFinance.com"

[www.teachmefinance.com/contents.html](http://www.teachmefinance.com/contents.html)

#### **Financial Glossaries**

"investorwords.com"

[www.investorwords.com](http://www.investorwords.com)

"Campbell R. Harvey's Hypertextual Finance Glossary"

[www.duke.edu/~charvey/Classes/wpg/glossary.htm](http://www.duke.edu/~charvey/Classes/wpg/glossary.htm)

"Fool Glossary"

[www.fool.com/school/Glossary/glossary.htm](http://www.fool.com/school/Glossary/glossary.htm)

#### **ARTICLES**

##### **Back to Basics – Intro to SEC Forms**

[www.fool.com/dripport/2000/dripport000106.htm](http://www.fool.com/dripport/2000/dripport000106.htm)

"THE MECHANICS OF THE ECONOMIC MODEL

**ROIC, WACC, EVA, MVA & CAP Defined"** (.pdf file)

[www.intranet.management.mcgill.ca/mic/education/EconomicModelV16.pdf](http://www.intranet.management.mcgill.ca/mic/education/EconomicModelV16.pdf)

**Book-to-Bill Ratio**

"Book-to-Bill Ratio - Fool FAQ"

[www.fool.com/FoolFAQ/foolfaq0046.htm](http://www.fool.com/FoolFAQ/foolfaq0046.htm)

**Discounted Cash Flow (DCF)**

"Discounted Cash Flow"

[www.fool.com/dripport/2000/dripport000619.htm](http://www.fool.com/dripport/2000/dripport000619.htm)

"A Simple Method for Fundamental Analysis"

[www.fool.com/portfolios/rulemaker/2000/rulemaker000517.htm](http://www.fool.com/portfolios/rulemaker/2000/rulemaker000517.htm)

**EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization)**

"Cash Flow-Based Valuations: Cash-Flow (EBITDA) & Non-Cash Charges"

[www.fool.com/school/cashflowbasedvaluations.htm](http://www.fool.com/school/cashflowbasedvaluations.htm)

**Enterprise Value (EV)**

"Importance of Enterprise Value"

[www.fool.com/dripport/2002/dripport020221.htm](http://www.fool.com/dripport/2002/dripport020221.htm)

**Free Cash Flow (FCF)**

"Joy of Free Cash Flow"

[www.fool.com/dripport/2002/dripport020228.htm](http://www.fool.com/dripport/2002/dripport020228.htm)

**Return on Invested Capital (ROIC)**

"Maker Returns to Invested Capital"

[www.fool.com/portfolios/RuleMaker/2002/rulemaker020306.htm](http://www.fool.com/portfolios/RuleMaker/2002/rulemaker020306.htm)

"A Look at Return on Invested Capital"

[www.fool.com/news/foth/2000/foth000927.htm](http://www.fool.com/news/foth/2000/foth000927.htm)

"A Look at ROIC"

[www.fool.com/School/roic/roic.htm](http://www.fool.com/School/roic/roic.htm)

**Return on Marginal Invested Capital (ROMIC)**

Return on (Marginal) Invested Capital

[www.fool.com/research/2000/features001019.htm](http://www.fool.com/research/2000/features001019.htm)