

Counterpoint Global Insights

ROIC and the Investment Process

ROICs, How They Change, and Shareholder Returns

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Introduction

Return on invested capital (ROIC) provides insight into some important concepts in business.¹ One is the old saying that you must spend money to make money.²

“Spend money” recognizes a company has to make investments in people and assets before it can offer a viable good or service to the market. Invested capital, the denominator of ROIC, seeks to reflect the cumulative amount of that investment spending.

“Make money” is captured in net operating profit after taxes (NOPAT), the numerator of ROIC. ROIC is therefore how much money a company makes divided by how much it spent to make it. A high ROIC indicates that a company is generating a healthy level of profits on its investment.

However, simply making money is too modest a goal. The reason is that the investment could have produced a profit by being spent elsewhere. The foregone profit from the next best alternative is an opportunity cost. For example, a company that earns five percent on an investment that could have earned seven percent elsewhere destroys value because of the missed opportunity.

The opportunity cost of capital is therefore the hurdle rate for an investment. Because most firms finance their operations with debt and equity, the weighted average cost of capital (WACC) is the threshold of return a company must meet to create value.³

In cases where a company’s ROIC is equal to its WACC, an investment of one dollar is worth one dollar. For example, if the ROIC and WACC are 7 percent, a \$100 investment that generates a perpetual return of \$7 would be valued in the market at \$100 ($\$7/.07$). No value is created or lost.

By extension, if the company invests one dollar at an ROIC that is above the cost of capital, it becomes worth more than one dollar in the market.⁴ Conversely, investments below the cost of capital destroy value.

The dollar bill test makes perfect sense in theory. The issue is whether the market reflects it in practice.⁵ Arriving at a definitive

AUTHORS

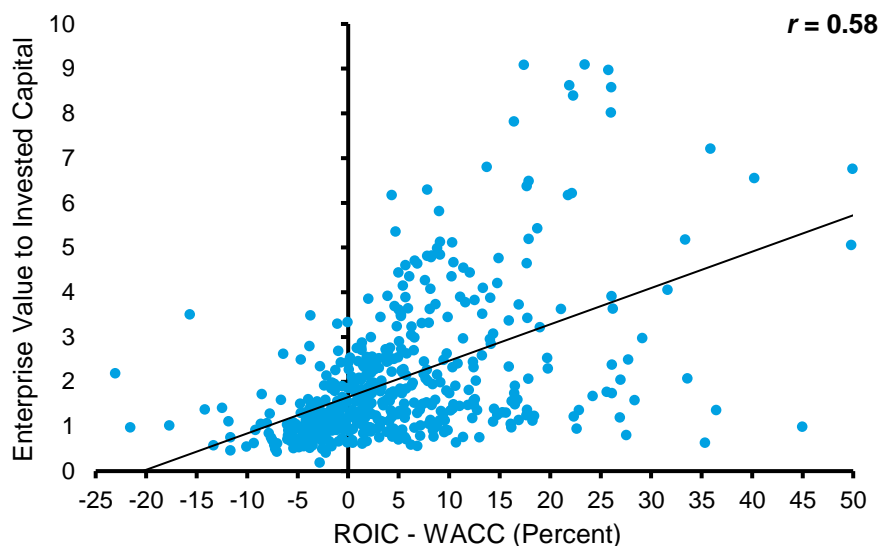
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answer is tricky because a company's market value reflects both past and anticipated investments. Further, companies grow at various rates. That means companies with equivalent spreads between ROIC and WACC might have ratios of market value to invested capital that differ because of that growth potential.

Exhibit 1 shows the relationship between ROIC – WACC and the ratio of enterprise value to invested capital. Enterprise value is the book value of debt plus the market value of equity minus cash. The data reveal that the market does a decent job of recognizing and rewarding the spread between ROIC and WACC.

Exhibit 1: The One Dollar Test for the Top 500 Companies by Sales, 2022



Source: FactSet and Counterpoint Global.

Note: Top 500 by sales in the Russell 3000 excluding financials and real estate; ROIC and WACC based on calendar year, and ROIC adjusted to reflect intangible investments; Enterprise value as of 12/31/22; Truncated axes for visualization.

The correlation coefficient, r , is a measure of the degree of linear relationship between two variables in a pair of distributions. Positive correlations take a value of zero to 1.0. Zero means there is no relationship at all and 1.0 indicates the relationship is perfect. The r between ROIC – WACC and enterprise value to invested capital is 0.58. That figure rises to 0.78 when the consensus for each company's expected sales growth for the next 2 years is added as a second independent variable.

ROIC helps us understand the free cash flows of tomorrow, which is important because the value of a financial asset is the present value of future free cash flows. Free cash flow for a given year equals NOPAT minus investment in future growth. NOPAT is the numerator of ROIC and change in invested capital is the investment in future growth. If you have a good estimate for ROIC and a forecast for growth, you have the ingredients to estimate free cash flows.

The stock market reflects expectations about future financial results.⁶ What matters for an investor is anticipating revisions in expectations. This requires understanding what is priced in today and how the market's view of key value drivers, including sales, operating profit margins, and investment needs, are likely to change.

This report extends our analysis of the ROICs for public companies in the U.S. and updates the data to cover the years 1990 to 2022. We start by providing the latest ROIC figures, then examine the link between changes in ROICs and total shareholder returns (TSRs), and finish by reviewing elements of competitive strategy as well as persistence of ROIC by sector.

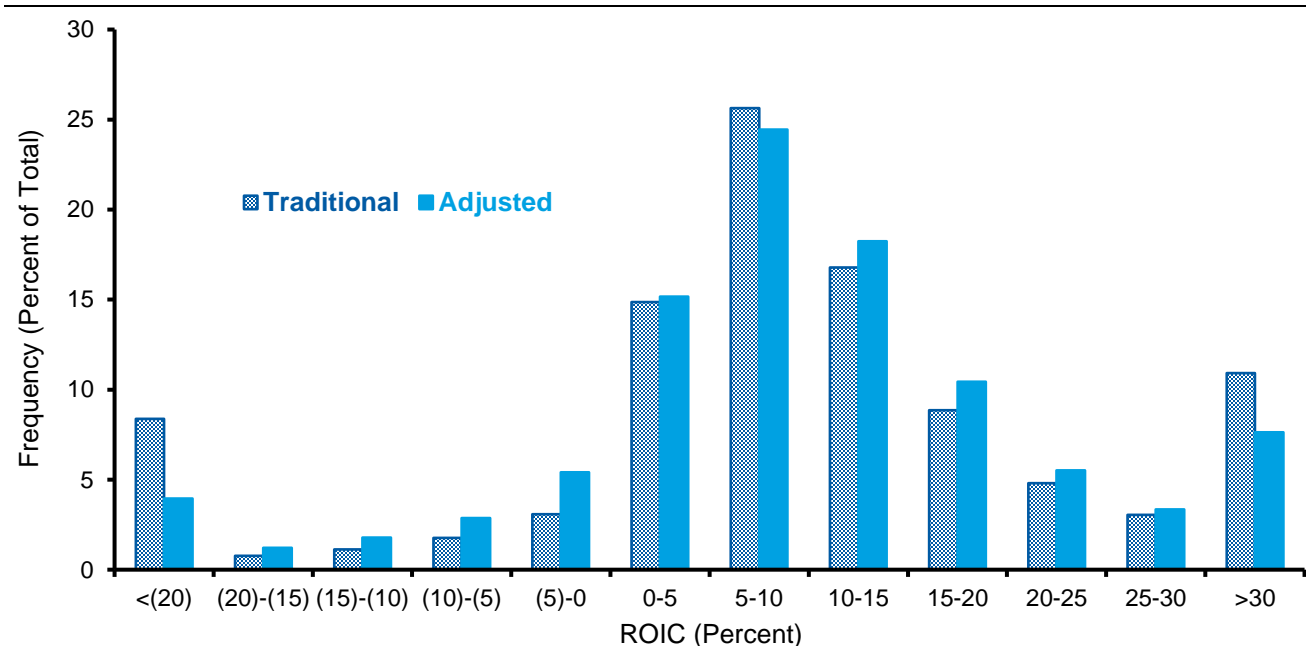
ROIC Over the Past Three Decades

We start with ROIC results for firms in the Russell 3000, excluding companies in the financial and real estate industries, from 1990 to 2022. The Russell 3000 tracks the performance of the largest 3,000 U.S. public companies. By convention, we exclude certain industries because their accounting is different than the rest. Data are also missing for some companies. These adjustments reduce our sample size to the range of roughly 1,600 to 2,100 for each year.

We calculate ROIC two ways. The first is the traditional approach, where we derive NOPAT and invested capital from the financial statements that companies report. The second includes an adjustment that considers some fraction of research and development (R&D) and non-R&D selling, general, and administrative (non-R&D SG&A) expense as intangible investments. We reflect these investments on the balance sheet and amortize them over their assumed asset lives. The percentage of R&D and non-R&D SG&A that are treated as an expense, as well as the asset lives, vary by industry.⁷ This adjustment increases NOPAT and investment (and by definition invested capital) but leaves free cash flow unchanged.

Exhibit 2 shows the cross-sectional distributions of ROIC for the selected companies in the Russell 3000 from 1990 to 2022. The shaded bars reflect the calculation using the traditional method, and the solid bars show the adjusted approach. The averages and medians are similar for the two distributions, but the adjusted method has far fewer extreme values. The adjustments for intangible investments tend to pull ROICs toward the average.⁸

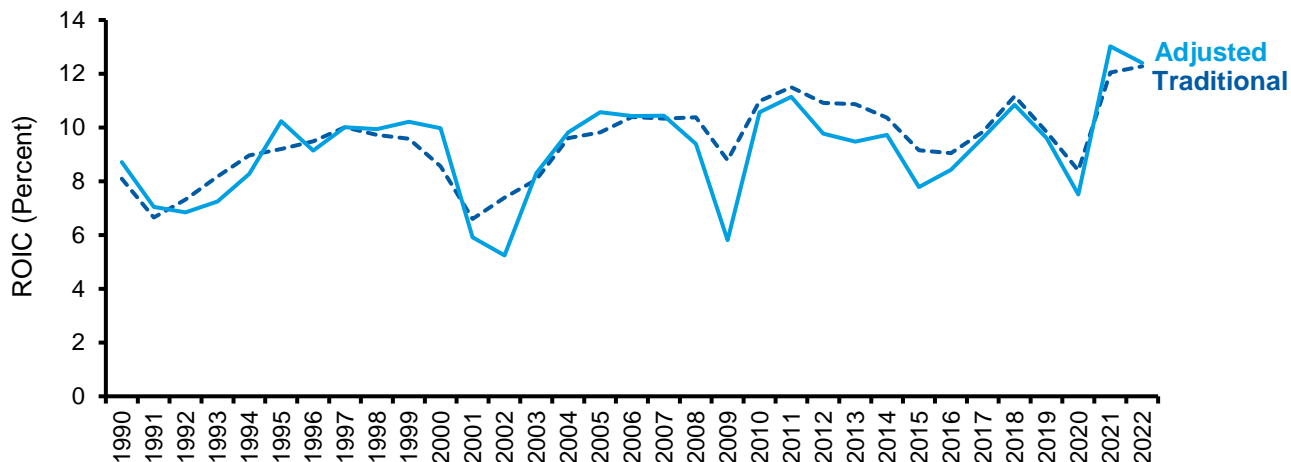
Exhibit 2: Distributions of ROICs for the Russell 3000, 1990-2022



Source: FactSet and Counterpoint Global.
 Note: Excludes financials and real estate.

Exhibit 3 shows the time series of aggregate traditional and adjusted ROIC for the selected firms in the Russell 3000 from 1990 to 2022. The annual average for the traditional ROIC calculation is 9.5 percent over the full period, slightly higher than the 9.2 percent for the adjusted ROIC. Further, the traditional calculation of ROIC has a modestly lower standard deviation, a measure of dispersion, than that of adjusted ROIC.

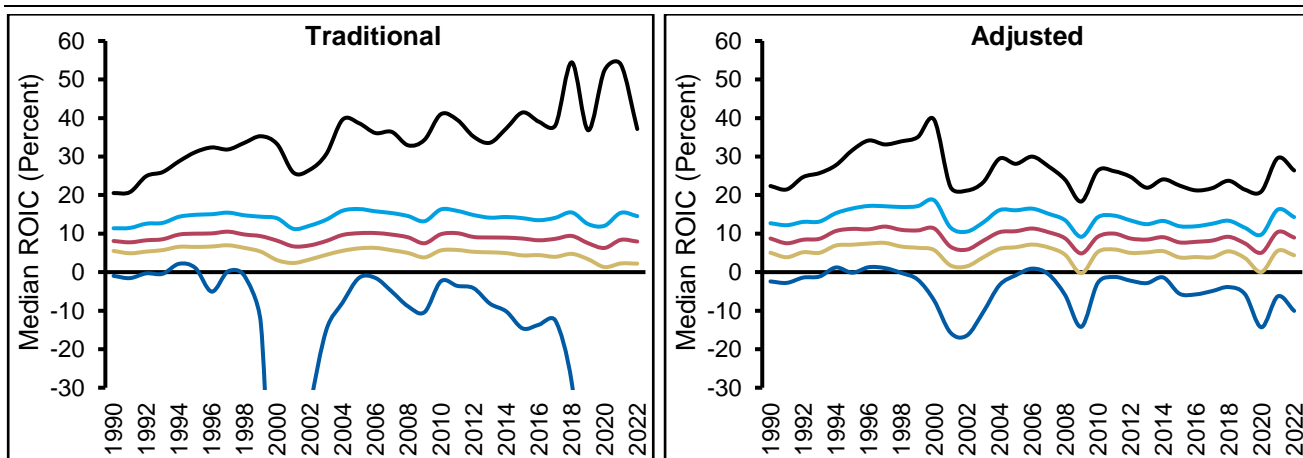
Exhibit 3: Aggregate Traditional and Adjusted ROICs for the Russell 3000, 1990-2022



Source: FactSet and Counterpoint Global.
 Note: Excludes financials and real estate.

Exhibit 4 shows the median ROIC by quintile from 1990 to 2022 calculated in the traditional way (left panel) and adjusted for intangibles (right panel). Consistent with the analysis summarized in exhibits 2 and 3, we see that the change produces results that are less diffuse. While the middle three quintiles are similar with or without the modification, the median ROICs for the highest and lowest quintiles are much closer to the average following the adjustment. Reflecting intangibles should also help allay concerns about high ROICs as the result of excessive market power, the ability to set the price of a good or service above its marginal cost.⁹

Exhibit 4: Median ROIC by Quintile, Traditional and Adjusted, for the Russell 3000, 1990-2022



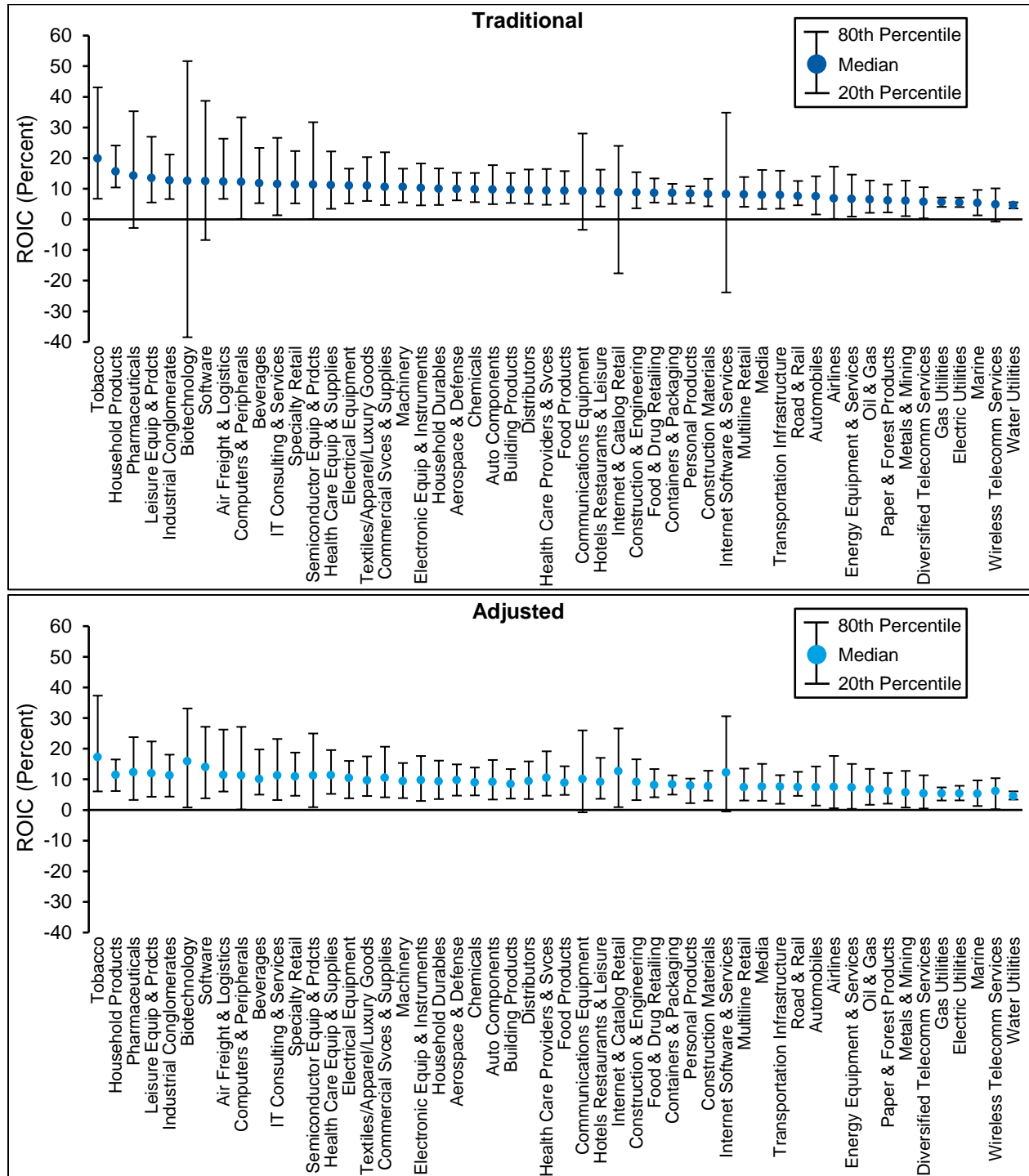
Source: FactSet and Counterpoint Global.
 Note: Excludes financials and real estate; Truncated y-axis of traditional ROIC chart (left) for visualization.

The importance of the intangible adjustment varies significantly by industry. Some industries largely depend on intangible investments, such as R&D for drug development or advertising for building consumer brands. Other industries are more reliant on tangible investments, and reckoning for intangibles has little impact on ROIC.

Exhibit 5 shows ROICs by industry from 1990 to 2022, ranked from highest (left) to lowest (right) based on the traditional ROIC calculation. This includes 52 non-financial industries as designated by the Global Industry Classification Standard. For each industry we show the median ROIC, as well as the ROIC for the companies in the 80th and 20th percentiles to provide a sense of dispersion.

Traditional ROICs are in the top panel and adjusted ROICs are in the bottom panel. Two points are worth noting. First, introducing the adjustment changes the rank order somewhat and lifts the ROICs for intangible-intensive industries such as biotechnology and internet software & services. Second, the adjustment again reduces the degree of dispersion, pulling the outliers toward the median.

Exhibit 5: ROICs by Industry, Traditional and Adjusted, for the Russell 3000, 1990-2022



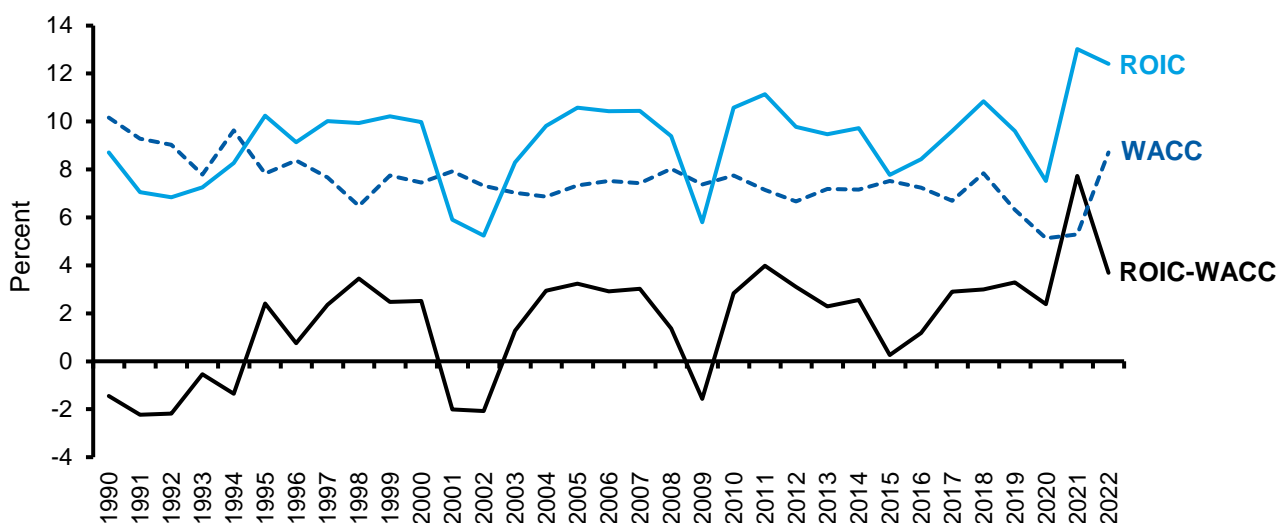
Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate; Minimum of 100 million of sales in 2022 U.S. dollars.

ROIC should be compared to WACC. Public companies create value in total when the spread is positive. Exhibit 6 shows aggregate adjusted ROIC, WACC, and ROIC – WACC for the chosen companies in the Russell 3000 from 1990 to 2022.

In the last two decades or so, the spread dipped into negative territory following the recession in the early 2000s and during the Great Recession that ended in 2009. ROICs also dropped sharply in 2020 due to the brief recession brought on by the COVID-19 pandemic. But the response by central banks made WACC fall nearly in lockstep, which allowed the spread to remain relatively stable. ROIC – WACC reached a 30-year high in 2021, only to fall sharply in 2022 as ROICs declined slightly and the cost of capital surged higher.

Exhibit 6: Adjusted ROIC, WACC, and ROIC-WACC for the Russell 3000, 1990-2022



Source: FactSet; Counterpoint Global; Moody's; Aswath Damodaran; FRED at the Federal Reserve Bank of St. Louis.

Note: Excludes financials and real estate; Capital structure reflects book value of total long- and short-term debt and market value of equity; Cost of debt is the Moody's Seasoned Baa Corporate Bond Yield; Cost of equity = yield on 10-year U.S. Treasury note + equity risk premium.

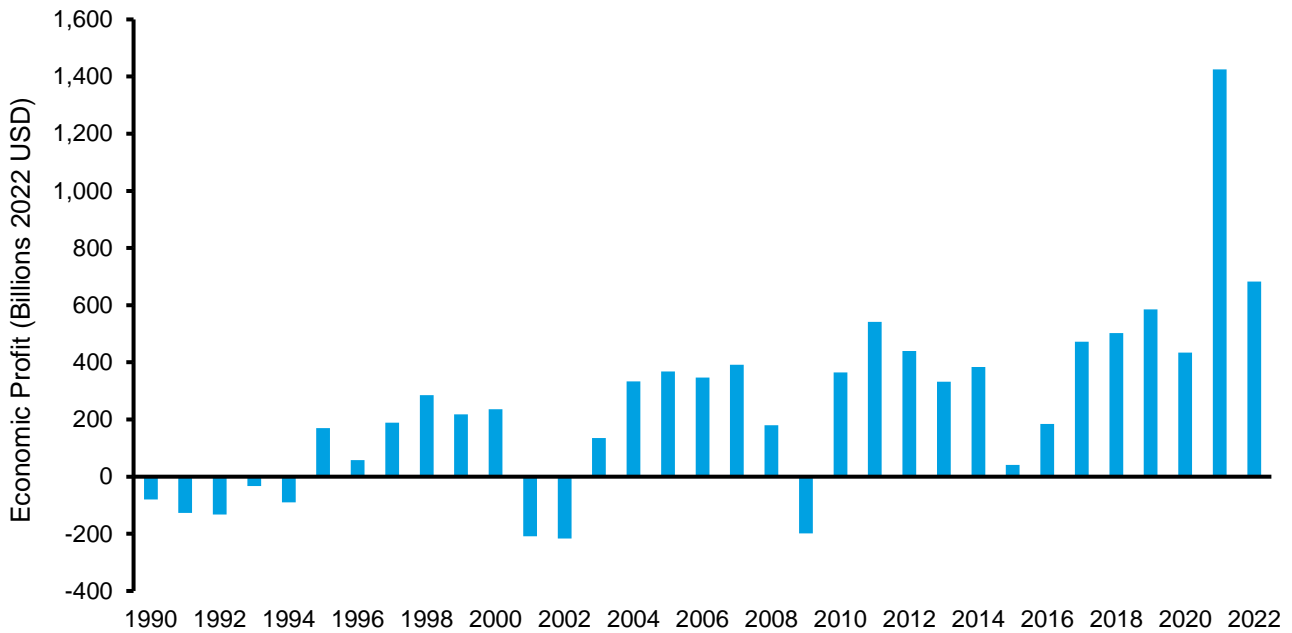
Economic profit, defined as ROIC – WACC times invested capital, translates value creation from percentages to dollars. For example, if ROIC is 12 percent, the WACC 7 percent, and a company has \$1,000 in invested capital, the economic profit is \$50 ($\$50 = [0.12 - 0.07] \times \$1,000$).

Exhibit 7 shows aggregate adjusted economic profit for the selected companies in the Russell 3000 from 1990 to 2022. The figures are in 2022 dollars to remove the effect of inflation and use average invested capital in each year. Economic profit in 2022 was less than one-half that of 2021, although it remained healthy relative to history.

Exhibit 8 shows the distribution of the average annual economic profit by decile for companies in the Russell 3000 from 2018-2022. The total average annual economic profit is \$723 billion. The lowest decile had an average annual economic profit of -\$270 billion, the top decile \$890 billion, and the 8 deciles between them \$103 billion. The large values are in the extreme deciles.

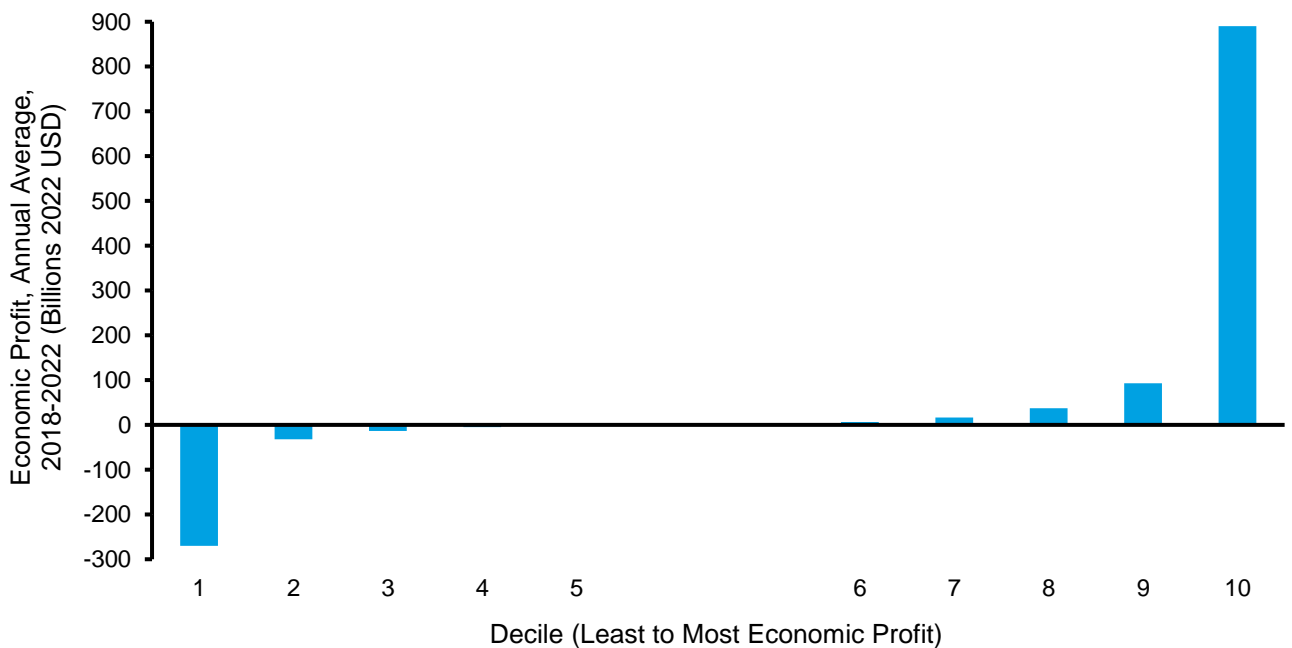
One of the benefits of economic profit relative to ROIC is that it combines the ROIC to WACC spread with the amount of capital the company can invest at that spread. To illustrate, two companies may have the same five percentage point positive spread between ROIC and WACC, but the company that can invest more at that spread will create a greater amount of value.

Exhibit 7: Economic Profit by Year for the Russell 3000, 1990-2022



Source: FactSet; Counterpoint Global; Moody's; Aswath Damodaran; FRED at the Federal Reserve Bank of St. Louis.
 Note: Excludes financials and real estate.

Exhibit 8: Distribution of Economic Profit for the Russell 3000, 2018-2022



Source: FactSet; Counterpoint Global; Moody's; Aswath Damodaran; FRED at the Federal Reserve Bank of St. Louis.
 Note: Excludes financials and real estate.

ROICs and Total Shareholder Returns

A good company, which has a high ROIC, and a good stock, which has a high total shareholder return (TSR), are two different things. The reason is that a stock price reflects the market's expectations about a company's future financial results. Excess returns are the result of revisions in expectations. Of course, actual financial results shape and reshape expectations. But the stock of a company with a high ROIC will not deliver attractive returns if it fails to exceed expectations over time.

We can examine the link between changes in ROIC and TSR to see how this plays out in the market. One starting point is to ask what would happen if an investor simply bought the stocks of companies in the highest to lowest ROIC quintiles and held them for three years. The risk-adjusted returns since 1990 would have been similar for four of the five quintiles. The exception is the quintile with the lowest ROICs, which produced markedly lower TSRs than the others. A sensible explanation for this outcome is that the market is broadly effective at discerning the quality of businesses and valuing them accordingly.

The next question is what happens when ROICs get better or worse over time. Exhibit 9 shows these results from 1990-2022. The vertical axis shows the ROICs of companies ranked from best to worst by quintile in the beginning year. The horizontal axis shows the ROICs, also ranked from best to worst by quintile, in the ending year. The body of the table is the TSRs for each transition combination over three years. For instance, companies that started in the 4th quartile and ended in the 3rd delivered a compound annual TSR of 6 percent over 3 years.

Exhibit 9: Annual 3-Year TSRs for Combinations of Beginning and Ending Quintiles, 1990-2022

		Ending Quintile				
		(Best) 5	4	3	2	(Worst) 1
Beginning Quintile	(Best) 5	20%	7%	0%	-4%	-11%
	4	25%	14%	6%	0%	-10%
	3	28%	18%	10%	2%	-6%
	2	28%	20%	14%	6%	-5%
	(Worst) 1	33%	23%	15%	8%	-3%

Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate; Past performance is no guarantee of future results.

The results show what common sense suggests: Rising ROICs tend to be good for shareholders and falling ROICs tend to be bad. For example, companies that started in the bottom quintile and ended in the top one (bottom left corner) generated TSRs of 33 percent. Companies that started in the top quintile and ended in the bottom one (upper right corner) generated TSRs of -11 percent.

These results naturally prompt the question of the rate of transition from one quintile to another over time. Exhibit 10 shows those results for 3-year periods from 1990 to 2022. The most common outcome for a company within a starting quintile is to end up in the same quintile.

Exhibit 10: Transition Rate from Beginning to Ending Quintiles, 1990-2022

		Ending Quintile				
		(Best) 5	4	3	2	(Worst) 1
Beginning Quintile	(Best) 5	48%	19%	11%	8%	15%
	4	22%	31%	21%	14%	12%
	3	11%	23%	29%	23%	13%
	2	8%	15%	25%	33%	19%
	(Worst) 1	12%	11%	14%	22%	41%

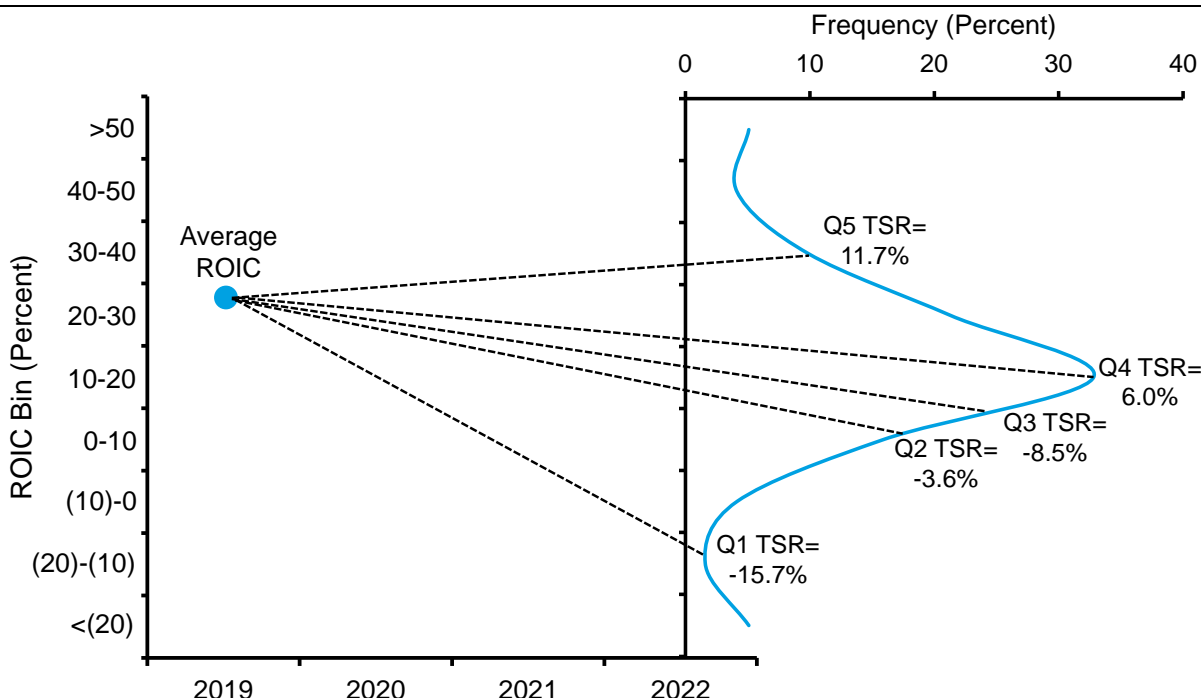
Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate; Past performance is no guarantee of future results.

But the exhibit also reveals substantial movement. For instance, 12 percent of the companies that start in the lowest quintile of ROIC end in the highest quintile three years later. And 15 percent of the ones that start in the top quintile find themselves in the bottom a few years later.¹⁰ As we will see, ROICs tend to regress toward industry averages, albeit the strength of the effect varies substantially by sector and company.

Exhibit 11 combines the prior two exhibits and provides a useful way to visualize the relationship between TSRs and quintile movement. On the left is the average adjusted ROIC, 28 percent, for companies in the top quintile in 2019. On the right is the distribution of ROICs for that population of companies in 2022, along with the compound annual TSRs from 2020 to 2022 by quintile. Note that the average of the distribution in 2022 is lower than that for 2019. Investors in high ROIC companies should keep this chart in mind, recognizing that the challenge is to find the companies that can defy expectations by maintaining, or even improving, their ROICs.

Exhibit 11: Annual TSRs for Companies that Start in the Highest Quintile of ROIC, 2019-2022

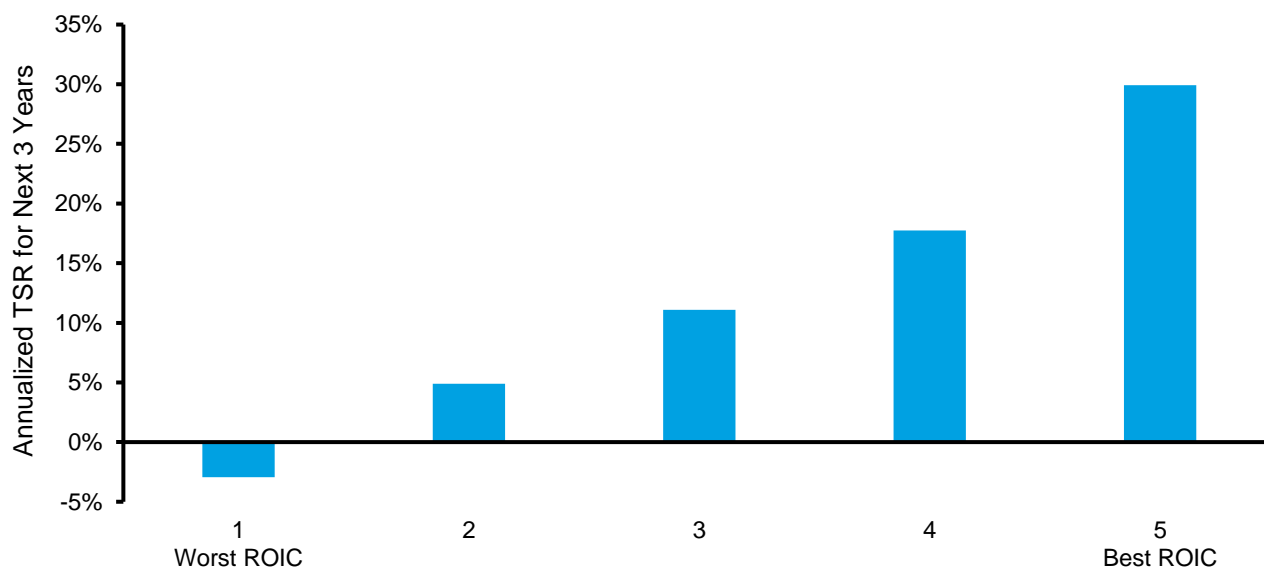


Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate.

What if you did have perfect foresight? Exhibit 12 shows the returns for what we call the “crystal ball” portfolio. Here we assume you can predict the quintile where each company will end up in three years, and we examine the TSRs for each quintile. The data cover 1990 to 2022. An investor who could do this would generate substantial excess returns, and the returns rise sharply and consistently from the lowest to the highest quintile.

Exhibit 12: Returns from the Crystal Ball Portfolio, 1990-2022



Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate; Past performance is no guarantee of future results.

Competitive Strategy and Persistence

Excess returns are the result of revisions in expectations. Anticipating those revisions combines analysis of a company’s financial results and its strategy. Financial results reflect a company’s long-term cash flows relative to the market’s expectations. In the short run, drivers such as sales growth and earnings can serve as proxies for those cash flows. Strategic analysis assesses a company’s position on an absolute basis and relative to peers and considers issues such as barriers to entry, market growth and stability, competitive rivalry, and specific sources of competitive advantage.

You can think of a market in ecological terms. Investors with different time horizons and decision rules compete to earn attractive rates of return. Financial results are generally more important than strategic analysis for investors with a short-term horizon, and strategic analysis is more relevant for investors with a long-term horizon.

Knowing how a company generates an attractive ROIC can inform competitive strategy analysis. Differentiation and cost leadership are two generic strategies that can lead to a competitive advantage.¹¹ Companies pursuing a differentiation strategy attempt to set a price for their good or service that is higher than that of their competitors. Companies following a cost leadership strategy seek to provide their offerings at a lower price than others in the industry.

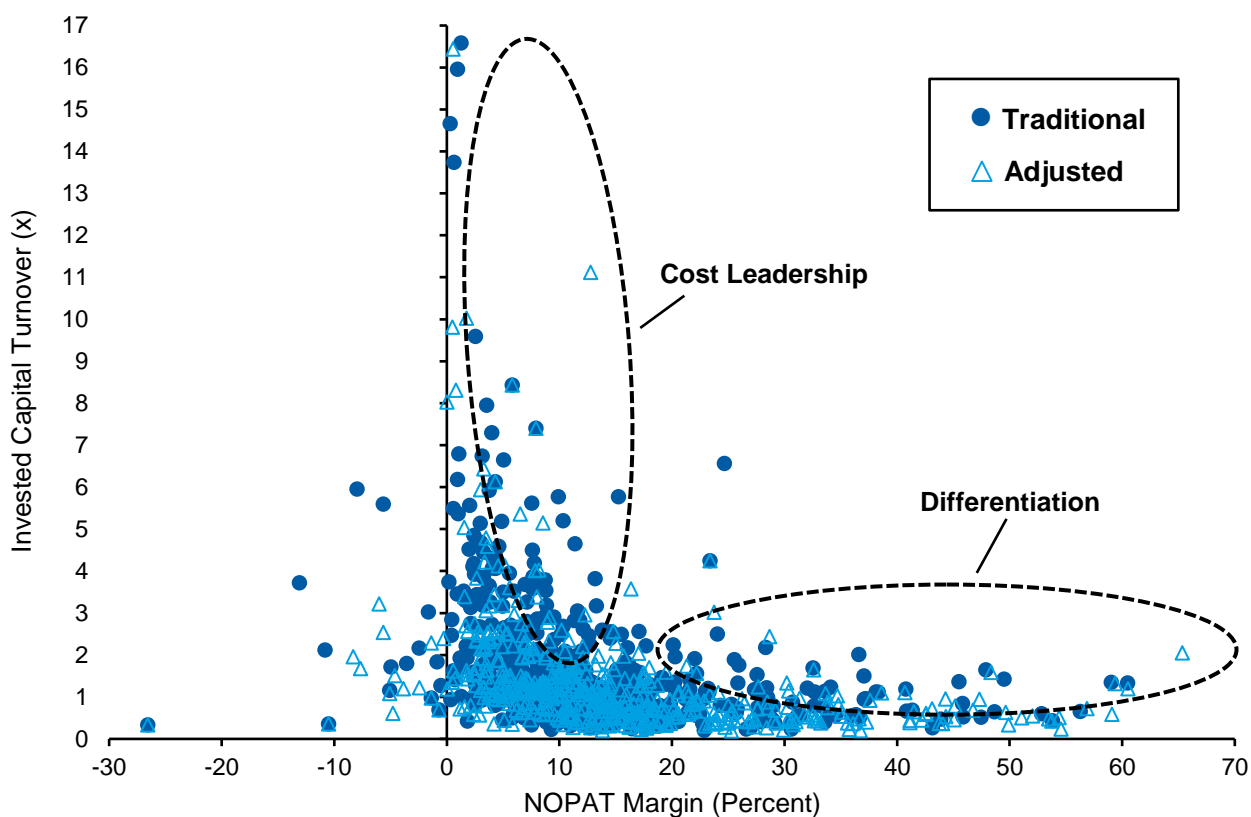
You can dissect ROIC into two parts and examine how a company derives its returns:

$$\text{ROIC} = \frac{\text{NOPAT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Invested capital}}$$

ROIC is the product of NOPAT/sales and sales/invested capital as “sales” cancel out when the terms are multiplied. NOPAT/sales, or the NOPAT margin, measures profit per dollar of sales. A relatively high margin indicates a differentiation strategy. Sales/invested capital, or invested capital turnover, measures how efficiently a company is using its invested capital. Relatively high capital turnover is consistent with a strategy of cost leadership.

Exhibit 13 shows the NOPAT margin and invested capital turnover for the top 500 companies in the Russell 3000 in 2022. Each point on the scatter plot represents a company, and every company’s ROIC can be calculated by multiplying the NOPAT margin by the invested capital turnover. The companies in the bottom right have relatively high margins and relatively low capital turnover, consistent with a differentiation strategy. Those in the upper left have low margins and high turnover, indicating cost leadership. Two companies can arrive at the same ROIC via different drivers.

Exhibit 13: Traditional and Adjusted Drivers of ROIC, Top 500 Companies by Sales in the Russell 3000, 2022

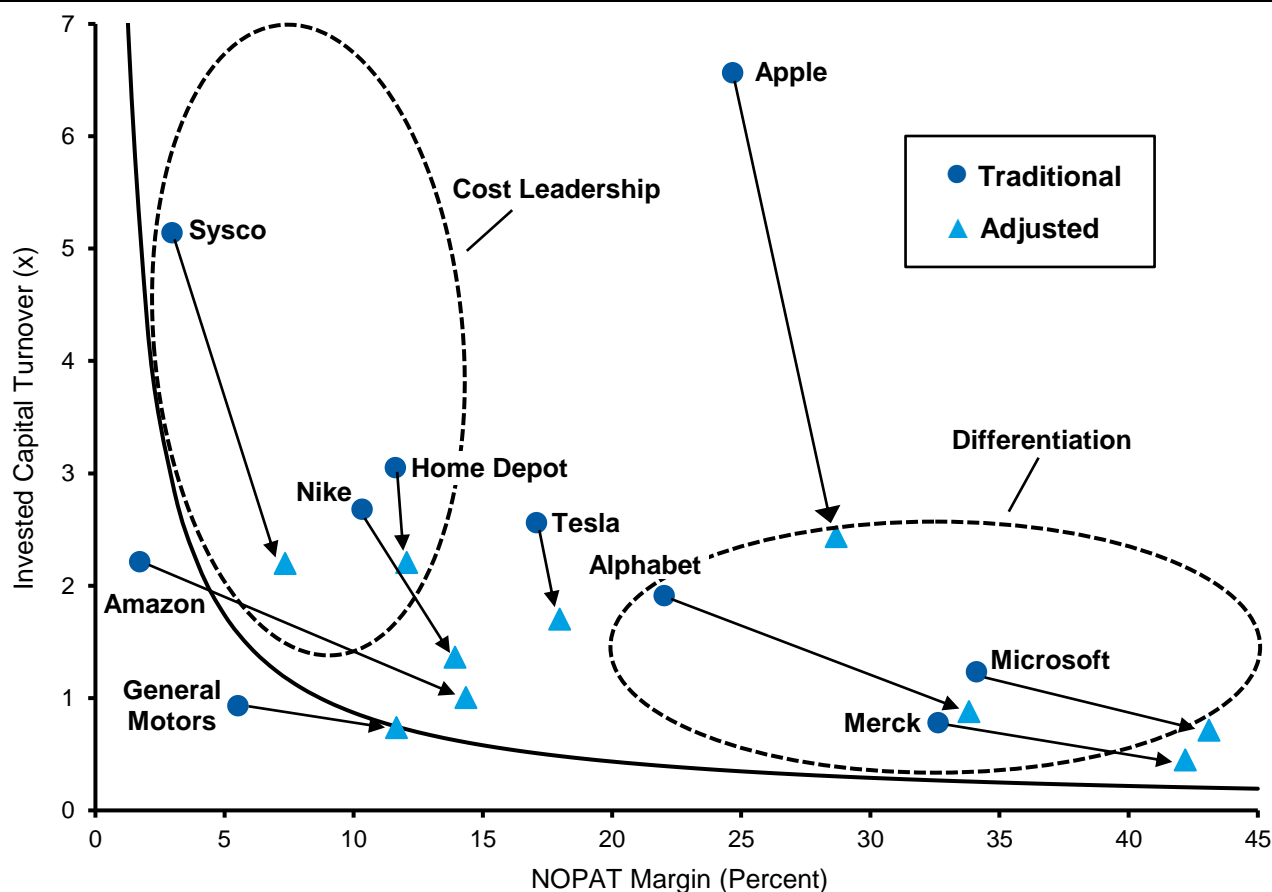


Source: FactSet and Counterpoint Global.
 Note: Excludes financials and real estate.

Each company actually appears in the exhibit twice, as a dot and as a triangle. The dots show a breakdown of ROIC using the traditional calculation and the triangles include adjustments for intangible investments. The adjustment generally increases profit and invested capital, which expands the NOPAT margin and reduces the invested capital turnover. The net effect of capitalizing intangible investments is to shift the points in the diagram from down and to the right.

To see this more clearly, exhibit 14 shows the adjustment for 10 large companies. The solid black line is an isoquant curve that represents the combinations of NOPAT margin and invested capital turnover that equal an ROIC of nine percent, which is also an estimate for the cost of capital in 2022. Take Apple Inc. as an example. Determined in the traditional fashion, the company’s NOPAT margin was 24.7 percent and its invested capital turnover 6.6 times, resulting in an ROIC of 162 percent in 2022. Once adjusted for intangible investment, the NOPAT margin rose to 28.7 percent and its invested capital turnover declined to 2.4 times, producing an ROIC of 70 percent. The adjustment’s impact is related to a business’s intangible intensity.¹²

Exhibit 14: Traditional and Adjusted Drivers of ROIC for Selected Companies, 2022

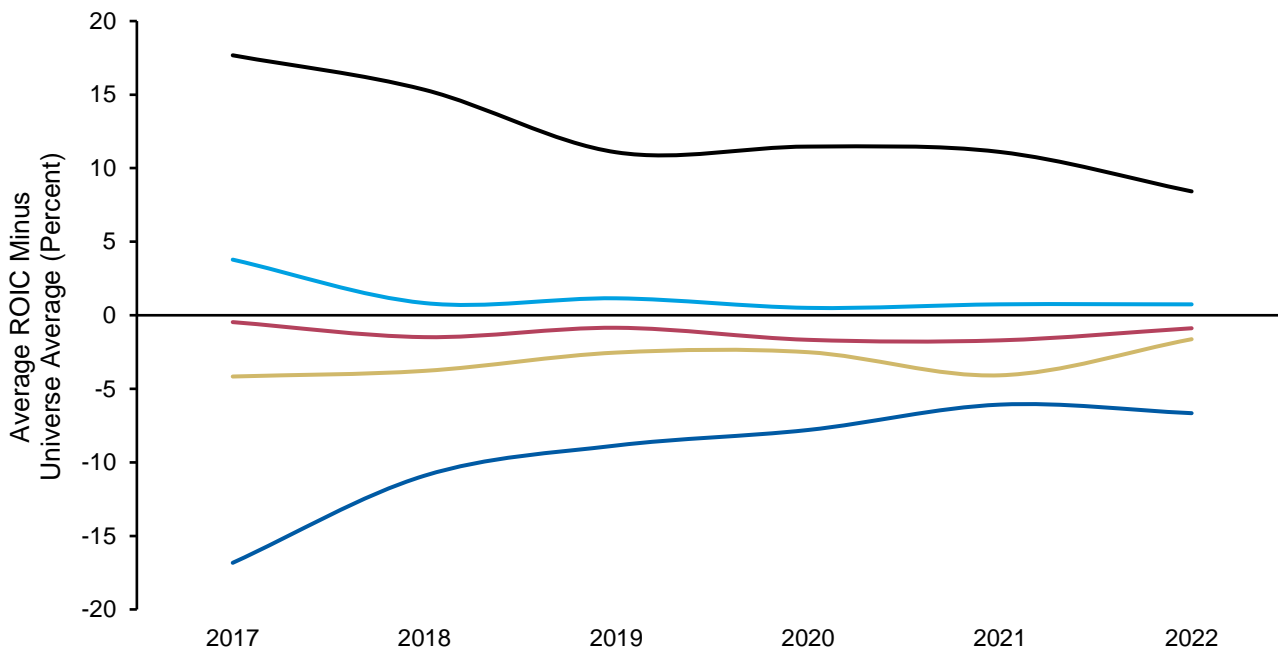


Source: FactSet and Counterpoint Global.
 Note: Based on calendar year.

Regression toward the mean (RTM), the idea that outcomes that are far from average will be followed by outcomes with an expected value closer to the average, exerts a powerful force in corporate performance and financial markets. Drivers of regression include competition, product market dynamics, and luck. In practical terms, RTM tells us that, on average, companies with high ROICs today will have lower ROICs tomorrow and that firms with low ROICs will see them rise.

Exhibit 15 shows the RTM of adjusted ROIC for companies in our sample from 2017-2022. The spread between the highest and lowest quintile goes from 35 to 15 percentage points over the period. The results do not converge fully over five years, but it is clear that RTM is a consequential force.

Exhibit 15: Regression Toward the Mean for Russell 3000 Companies, 2017-2022



Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate.

Companies with high ROICs that can resist the downward pull of RTM are those that will likely exceed expectations for financial results. These are businesses that have wide and defensible moats.¹³ Many of the stocks that have delivered the highest TSRs over time are those of companies that sustained ROICs above what the market had priced in. Factors that contribute to the rate of RTM in ROIC for a company include the sector in which it competes and the strategy that it pursues.

Sectors differ in their levels of ROIC (see exhibit 5) as well as the rate at which they regress toward the mean. One way to quantify the rate of RTM is by measuring ROICs at two different times and calculating the correlation coefficient, r .¹⁴ A zero correlation, $r = 0$, means there is no persistence in ROIC and that the best estimate of the future is some measure of the average. An r of 1.0 means that there is no RTM and that the next outcome will have a perfect relationship to the prior one.

We calculated five- and one-year correlations for the ROICs of the companies in nine sectors in exhibit 16. The exhibit also shows the median and average ROIC for the sector, the standard deviation of returns, and the coefficient of variation (standard deviation divided by the average). Measures of mean and standard deviation should be taken with a grain of salt, as we saw in prior exhibits that the distribution of ROICs does not follow the shape of a perfect bell curve.

Exhibit 16: Regression Toward the Mean by Sector, 1990-2022

Sector	How Much Regression?		Toward What Mean?			
	Correlation Coefficient		Median (%)	Average (%)	Standard Deviation (%)	Coefficient of Variation
	5-Yr	1-Yr				
Consumer Staples	0.46	0.61	9.1	10.2	11.0	1.1
Consumer Discretionary	0.28	0.60	9.3	10.4	13.3	1.3
Information Technology	0.25	0.62	11.6	12.9	19.9	1.5
Materials	0.25	0.61	7.8	7.9	10.2	1.3
Industrials	0.25	0.56	9.4	10.5	14.4	1.4
Health Care	0.25	0.50	8.9	6.1	23.4	3.9
Energy	0.15	0.49	6.7	7.1	12.0	1.7
Telecommunication Services	0.10	0.49	5.5	4.5	14.6	3.3
Utilities	-0.12	0.36	5.3	5.4	6.6	1.2

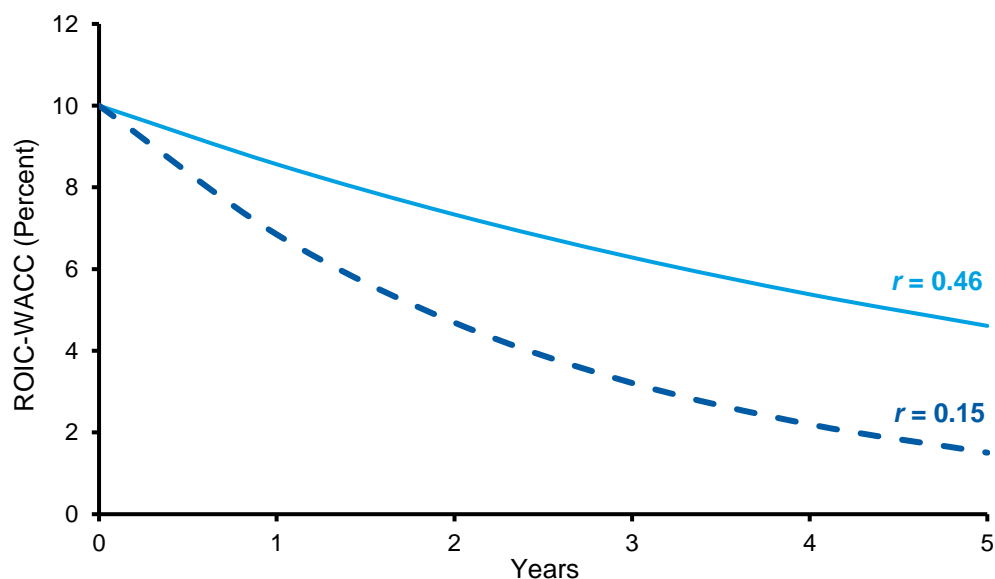
Source: FactSet and Counterpoint Global.

Note: Excludes financials and real estate.

Business analysts are unlikely to be surprised by the rank order of the sectors. For example, the r over 5 years is 0.46 for consumer staples and 0.15 for energy. That means staples have less regression than energy companies do. Also important is the level to which these figures regress. Here again, there is a lot of variance in the underlying economic returns for the sector. The coefficient of variation runs from a low of 1.1 for consumer staples, suggesting relative homogeneity, to 3.9 for health care, indicating a wide range of outcomes for ROIC.

Exhibit 17 shows what these rates of regression in the ROIC – WACC spread look like for the consumer staples and energy sectors. Should these relationships hold looking forward, a conceptual implication is that an investor should pay a higher multiple for a consumer staples company than for an energy company if they have the same initial spread between ROIC and WACC.

Exhibit 17: Regression Rate for Consumer Staples and Energy Based on 5-Year Autocorrelation



Source: Counterpoint Global.

We also examined whether differentiation or cost leadership was more represented among the firms that delivered high and sustained ROICs. We set a high bar by identifying only those companies that had ROICs in the top quintile for ten straight years over the span of 1990 to 2022. There were 469 occurrences in total, with some companies appearing multiple times. We then studied whether high NOPAT margins, or high invested capital turnover, distinguished the companies from the pack (see the appendix for details).

It turns out the companies are above the average overall in both drivers of ROIC, but the contribution of NOPAT margin was substantially more important. For example, of the 34 companies that made the list in 2022, the average NOPAT margin was 2.7 times that of the universe, whereas the average invested capital turnover was 1.5 times. This is consistent with prior research on sustainable excess returns.¹⁵

Conclusion

There is an old adage that you have to spend money to make money. Return on invested capital (ROIC) is one way to measure spending money (invested capital) and making money (net operating profit after taxes). ROIC, in turn, informs us about the value of a business, which is the present value of future free cash flows. Following the adage, free cash flow is the money you make minus what you spend to make it. The components of ROIC translate into the drivers of value.

A company creates value when its ROIC is in excess of its cost of capital. Stated differently, a company, through its activities, makes one dollar worth of investment worth more than one dollar in market value. We show that the market broadly appreciates this, especially when growth in the business is considered as an additional variable.

Measuring ROIC accurately has become more of a challenge in recent decades as the result of the rise of intangible investments relative to tangible investments. Internal intangible investments appear as an expense on the income statement but do not show up on the balance sheet, which means that earnings and invested capital are understated.

To correct for this, we capitalize intangible investments and amortize them over an estimate of their useful lives. A comparison between ROICs calculated the traditional way and adjusted for intangibles shows that the median and average figures are quite close for a large sample of U.S. public companies. What differs are the extremes. The adjustment to ROIC has the effect of reducing dispersion, which means that very high and low ROICs move toward the average of the population.

Investors earn excess returns when they correctly anticipate revisions in expectations for a company's financial results. In this spirit, we examine the relationship between changes in ROIC and total shareholder returns (TSRs). The broad pattern is that increases in ROIC are associated with attractive TSRs and decreases with poor TSRs. We also examined the movement of companies from one quintile of ROIC to another over three years. Companies commonly end up in the same quintile in which they started, but those that meaningfully change their ranking often provide opportunity for outsized returns.

Markets are akin to an ecosystem where investors fill various niches. Investors with a short-term horizon tend to focus on near-term financial metrics such as sales and earnings. Investors with a long-term horizon focus on competitive advantage and the size of the market opportunity.

ROIC provides a glimpse into the generic strategies that companies pursue to create value. A differentiation strategy entails pricing a good or service above the average of the industry and shows up as a high NOPAT/sales margin. A cost leadership strategy means pricing below the industry average and is commonly supported by the efficient use of capital as measured by the ratio of sales/invested capital. We can break down each company's ROIC by these two components and infer the pursued strategy. This insight can help guide strategic analysis.

Regression toward the mean (RTM) is a powerful force in business and finance. We quantified the rate of RTM for various sectors. Understanding RTM can offer insight into the appropriate set of expectations for a given business and help explain why companies in certain sectors trade at higher valuations than those in other sectors, given the same spread between ROIC and WACC.

Finally, we looked at companies that delivered high and sustained ROICs and found that while they exceeded their peers in both NOPAT margin and invested capital turnover, NOPAT margin was a significantly more important driver. This suggests that companies that pursue a differentiation strategy have been more represented among companies delivering superior returns over time.

Please see Important Disclosures on pages 29-31

Appendix: Companies with ROICs in the Top Quintile for Ten Straight Years, 1990-2022

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
1999		
Microsoft Corporation	48.8	1.2
Linear Technology Corporation	38.8	1.5
Maxim Integrated Products, Inc.	36.5	1.0
United Television, Inc.	33.7	1.0
UST Inc.	33.4	1.5
Altera Corporation	32.0	1.3
Intel Corporation	30.0	1.1
American Power Conversion	23.2	1.5
Firms with high and sustained ROICs	33.5	1.3
Universe	8.8	1.1
2000		
Microsoft Corporation	48.1	1.2
Linear Technology Corporation	41.6	1.5
Maxim Integrated Products, Inc.	41.0	1.0
Altera Corporation	36.8	1.5
UST Inc.	33.3	1.5
Intel Corporation	31.2	1.1
Firms with high and sustained ROICs	38.9	1.3
Universe	9.2	1.1
2001		
Microsoft Corporation	46.3	1.1
Maxim Integrated Products, Inc.	41.7	1.0
Linear Technology Corporation	40.7	1.5
UST Inc.	33.2	1.4
Zebra Technologies	24.3	1.3
Gentex Corporation	23.5	1.6
OSI Restaurant Partners Inc.	22.6	2.1
Firms with high and sustained ROICs	33.2	1.4
Universe	9.3	1.0
2002		
Microsoft Corporation	43.9	1.1
Maxim Integrated Products, Inc.	39.7	0.9
Linear Technology Corporation	39.5	1.4
UST Inc.	33.3	1.3
Zebra Technologies Corporation	23.4	1.3
Gentex Corporation	23.3	1.6
OSI Restaurant Partners Inc.	20.2	2.1
Bed Bath & Beyond Inc.	12.0	2.3
Firms with high and sustained ROICs	28.3	1.4
Universe	9.3	1.0
2003		
Microsoft Corporation	46.3	1.1
Linear Technology Corporation	39.9	1.3
Maxim Integrated Products, Inc.	37.5	0.8
UST Inc.	33.3	1.3
Gentex Corporation	23.5	1.6
Zebra Technologies Corporation	23.0	1.2
Bed Bath & Beyond Inc.	11.9	2.2
CDW Corp.	5.0	6.4
Firms with high and sustained ROICs	28.4	1.3
Universe	9.3	1.0
2004		
Linear Technology Corporation	41.4	1.3
Maxim Integrated Products, Inc.	37.9	0.8
UST Inc.	33.4	1.4
Gentex Corporation	23.6	1.6
Zebra Technologies Corporation	23.3	1.2
Apollo Education Group, Inc.	18.8	3.6
Bed Bath & Beyond Inc.	11.9	2.2
CDW Corp.	5.1	6.3
Firms with high and sustained ROICs	23.4	1.5
Universe	9.4	1.0

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2005		
Linear Technology Corporation	42.6	1.3
Maxim Integrated Products, Inc.	38.2	0.8
UST Inc.	33.1	1.4
Zebra Technologies Corporation	23.4	1.2
Gentex Corporation	23.1	1.5
Apollo Education Group, Inc.	18.9	3.8
Valassis Communications, Inc.	15.5	2.8
Bed Bath & Beyond Inc.	11.9	2.2
CDW Corp.	5.1	6.0
Firms with high and sustained ROICs	23.1	1.5
Universe	9.3	1.0
2006		
Linear Technology Corporation	43.1	1.3
Maxim Integrated Products, Inc.	40.1	0.8
UST Inc.	32.7	1.3
Strategic Education, Inc.	24.5	2.9
Gentex Corporation	22.8	1.5
Apollo Education Group, Inc.	18.9	4.0
Bed Bath & Beyond Inc.	12.0	2.2
CDW Corp.	5.1	5.7
Expeditors International	4.7	7.2
Firms with high and sustained ROICs	22.8	2.2
Universe	9.8	1.0
2007		
Linear Technology Corporation	42.5	1.2
FactSet Research Systems Inc.	32.8	1.0
UST Inc.	32.4	1.3
Strategic Education, Inc.	23.9	3.0
Gentex Corporation	22.3	1.5
Syntel, incorporated	20.3	2.2
Apollo Education Group, Inc.	19.0	4.2
Expeditors International	4.8	7.1
C.H. Robinson Worldwide, Inc.	3.4	11.2
Firms with high and sustained ROICs	22.3	2.2
Universe	9.7	1.0
2008		
Linear Technology Corporation	42.2	1.2
FactSet Research Systems Inc.	32.3	0.9
Cognizant Technology Solutions	28.7	1.5
CEB Inc.	28.6	2.2
Strategic Education, Inc.	23.6	3.1
Waters Corporation	23.5	1.1
Gentex Corporation	21.4	1.4
Apollo Education Group, Inc.	18.8	4.5
Expeditors International	4.8	7.1
C.H. Robinson Worldwide, Inc.	3.6	10.9
Firms with high and sustained ROICs	23.6	1.8
Universe	9.3	1.0
2009		
Linear Technology Corporation	40.1	1.1
FactSet Research Systems Inc.	30.6	0.9
Cognizant Technology Solutions	26.3	1.5
Waters Corporation	23.7	1.1
Strategic Education, Inc.	23.5	3.1
Apollo Education Group, Inc.	19.1	4.5
Expeditors International	5.0	6.8
C.H. Robinson Worldwide, Inc.	3.8	10.5
Firms with high and sustained ROICs	23.6	2.3
Universe	8.5	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2010		
Linear Technology Corporation	40.6	1.1
Bio-Techne Corporation	40.5	0.8
Oracle Corporation	38.2	0.7
Moody's Corporation	35.9	1.6
FactSet Research Systems Inc.	30.4	0.9
Landauer, Inc.	27.4	1.2
Tapestry, Inc.	26.1	1.6
Cognizant Technology Solutions	26.0	1.5
Waters Corporation	24.1	1.1
Strategic Education, Inc.	23.5	3.2
Varian Medical Systems, Inc.	19.6	1.2
Apollo Education Group, Inc.	18.2	4.5
Buckle, Inc.	12.9	2.5
Pre-Paid Legal Services Inc.	11.7	6.1
Expeditors International	5.1	6.8
Landstar System, Inc.	4.0	6.3
C.H. Robinson Worldwide, Inc.	3.9	10.4
Firms with high and sustained ROICs	24.1	1.6
Universe	8.4	0.9
2011		
Ziff Davis, Inc.	41.6	0.8
Linear Technology Corporation	40.8	1.1
Bio-Techne Corporation	40.8	0.8
Oracle Corporation	39.6	0.7
Moody's Corporation	35.4	1.5
FactSet Research Systems Inc.	30.6	0.9
Tapestry, Inc.	26.3	1.6
Cognizant Technology Solutions	25.6	1.5
Waters Corporation	25.1	1.1
Choice Hotels International, Inc.	22.6	1.8
Strategic Education, Inc.	21.5	3.2
Synaptics Incorporated	21.0	1.3
Netflix, Inc.	20.3	2.1
WW International, Inc.	20.2	1.6
Varian Medical Systems, Inc.	19.8	1.2
Apollo Education Group, Inc.	16.9	4.6
Buckle, Inc.	13.6	2.5
Western Digital Corporation	12.8	2.5
Expeditors International	5.2	6.8
Landstar System, Inc.	4.1	6.3
C.H. Robinson Worldwide, Inc.	4.0	10.3
Firms with high and sustained ROICs	21.5	1.6
Universe	9.1	1.0

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2012		
Gilead Sciences, Inc.	50.8	0.8
Ziff Davis, Inc.	41.7	0.8
Linear Technology Corporation	40.9	1.1
Bio-Techne Corporation	40.5	0.8
Oracle Corporation	40.3	0.6
Reynolds American Inc.	37.2	0.7
Moody's Corporation	35.3	1.4
NextGen Healthcare, Inc.	32.3	1.0
Altera Corporation	32.1	1.2
FactSet Research Systems Inc.	29.9	0.9
Tapestry, Inc.	26.1	1.6
Waters Corporation	25.6	1.1
Cognizant Technology Solutions	24.4	1.5
Choice Hotels International, Inc.	21.6	2.0
Varian Medical Systems, Inc.	20.1	1.2
Strategic Education, Inc.	20.0	3.1
WW International, Inc.	20.0	1.6
Western Digital Corporation	16.6	2.3
Apollo Education Group, Inc.	15.8	4.7
Raven Industries, Inc.	14.4	2.1
Buckle, Inc.	14.1	2.6
Amazon.com, Inc.	10.7	4.0
Expeditors International	5.2	6.7
Landstar System, Inc.	4.2	6.2
C.H. Robinson Worldwide, Inc.	4.0	9.8
Firms with high and sustained ROICs	24.4	1.5
Universe	9.6	0.9
2013		
Gilead Sciences, Inc.	50.0	0.7
Salesforce, Inc.	44.8	0.6
Ziff Davis, Inc.	43.5	0.7
Alphabet Inc.	40.9	0.9
Bio-Techne Corporation	40.9	0.7
Oracle Corporation	40.8	0.6
Linear Technology Corporation	40.5	1.1
QUALCOMM Incorporated	38.6	0.8
Reynolds American Inc.	37.7	0.7
Moody's Corporation	35.1	1.3
Southern Copper Corporation	34.2	1.0
Altera Corporation	32.6	1.2
Red Hat, Inc.	30.1	0.8
FactSet Research Systems Inc.	29.4	0.9
Waters Corporation	26.0	1.0
Tapestry, Inc.	25.4	1.6
Apple Inc.	24.7	4.6
Monster Beverage Corporation	24.0	1.8
Cognizant Technology Solutions	23.0	1.5
Choice Hotels International, Inc.	20.9	2.1
Varian Medical Systems, Inc.	19.9	1.2
WW International, Inc.	19.3	1.6
Western Digital Corporation	16.7	1.9
Apollo Education Group, Inc.	14.8	4.7
Raven Industries, Inc.	14.5	2.0
Buckle, Inc.	14.5	2.6
Amazon.com, Inc.	11.0	3.4
Domino's Pizza, Inc.	10.0	3.3
Expeditors International	5.3	6.6
Landstar System, Inc.	4.3	6.0
C.H. Robinson Worldwide, Inc.	4.0	9.2
Firms with high and sustained ROICs	25.4	1.3
Universe	9.8	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2014		
Gilead Sciences, Inc.	56.9	0.7
Ziff Davis, Inc.	44.7	0.6
Bio-Techne Corporation	43.1	0.7
Oracle Corporation	40.5	0.6
Alphabet Inc.	39.8	0.8
Linear Technology Corporation	39.7	1.0
Intuitive Surgical, Inc.	38.6	0.9
Reynolds American Inc.	37.6	0.7
QUALCOMM Incorporated	36.5	0.8
Moody's Corporation	35.0	1.3
Microsoft Corporation	33.9	0.9
Altera Corporation	32.3	1.2
Red Hat, Inc.	29.0	0.8
FactSet Research Systems Inc.	28.4	0.9
Waters Corporation	26.2	1.0
Apple Inc.	24.9	4.5
Tapestry, Inc.	24.0	1.6
Monster Beverage Corporation	23.4	1.8
Cognizant Technology Solutions	22.3	1.5
Choice Hotels International, Inc.	20.9	2.2
Varian Medical Systems, Inc.	19.8	1.1
WW International, Inc.	18.5	1.6
Under Armour, Inc.	17.3	1.4
Buckle, Inc.	14.7	2.6
Amazon.com, Inc.	11.2	2.9
Domino's Pizza, Inc.	10.5	3.3
Expeditors International	5.4	6.5
Landstar System, Inc.	4.3	6.0
C.H. Robinson Worldwide, Inc.	4.0	8.7
Firms with high and sustained ROICs	26.2	1.2
Universe	9.7	0.9
2015		
Gilead Sciences, Inc.	58.8	0.8
Bio-Techne Corporation	44.7	0.6
Ziff Davis, Inc.	43.0	0.6
Oracle Corporation	39.7	0.6
Linear Technology Corporation	38.7	1.0
Alphabet Inc.	38.6	0.8
Intuitive Surgical, Inc.	37.0	0.9
Moody's Corporation	34.3	1.2
QUALCOMM Incorporated	34.0	0.8
Paychex, Inc.	29.5	1.0
Illumina, Inc.	28.2	0.8
FactSet Research Systems Inc.	27.7	0.9
Red Hat, Inc.	27.5	0.8
Waters Corporation	26.5	1.0
Apple Inc.	25.0	4.4
Monster Beverage Corporation	23.6	1.6
Cognizant Technology Solutions	21.9	1.4
Choice Hotels International, Inc.	20.7	2.2
Under Armour, Inc.	17.0	1.3
NIC Inc.	16.4	2.9
Buckle, Inc.	14.5	2.6
Capella Education Company	12.0	3.3
Amazon.com, Inc.	11.4	2.5
Domino's Pizza, Inc.	11.0	3.4
PetMed Express, Inc.	9.2	3.4
Expeditors International	5.6	6.4
Healthcare Services Group, Inc.	4.6	4.1
Landstar System, Inc.	4.3	6.0
C.H. Robinson Worldwide, Inc.	4.0	8.2
Firms with high and sustained ROICs	25.0	1.3
Universe	9.6	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2016		
Gilead Sciences, Inc.	60.2	0.8
Ziff Davis, Inc.	42.3	0.5
Mastercard Incorporated	41.8	1.0
Oracle Corporation	39.1	0.6
Linear Technology Corporation	38.1	1.0
Alphabet Inc.	36.8	0.8
Intuitive Surgical, Inc.	36.7	0.9
Moody's Corporation	32.4	1.1
Paychex, Inc.	29.1	1.0
Illumina, Inc.	28.1	0.8
Booking Holdings Inc.	27.6	2.6
FactSet Research Systems Inc.	27.1	0.9
Red Hat, Inc.	26.9	0.8
Waters Corporation	26.9	1.0
Garmin Ltd.	25.4	1.1
Apple Inc.	24.6	4.2
Monster Beverage Corporation	24.5	1.3
Cognizant Technology Solutions	20.3	1.4
Choice Hotels International, Inc.	20.3	2.2
NIC Inc.	16.9	3.1
Buckle, Inc.	14.2	2.6
Allegiant Travel Company	12.2	2.8
Capella Education Company	11.9	3.2
Amazon.com, Inc.	11.8	2.3
Domino's Pizza, Inc.	11.6	3.5
Vector Group Ltd.	11.1	2.8
PetMed Express, Inc.	8.7	3.4
Expeditors International	5.8	6.2
Healthcare Services Group, Inc.	4.7	4.1
Landstar System, Inc.	4.3	5.9
C.H. Robinson Worldwide, Inc.	4.0	7.6
Firms with high and sustained ROICs	24.6	1.4
Universe	9.6	0.9
2017		
Ziff Davis, Inc.	43.5	0.5
Mastercard Incorporated	42.6	1.0
Intuitive Surgical, Inc.	36.6	0.9
Alphabet Inc.	33.7	0.8
Moody's Corporation	31.1	1.0
Philip Morris International Inc.	30.2	1.1
Paychex, Inc.	28.7	1.0
Booking Holdings Inc.	26.6	2.7
Illumina, Inc.	26.5	0.8
FactSet Research Systems Inc.	26.5	0.9
Red Hat, Inc.	26.4	0.8
Monster Beverage Corporation	25.4	1.2
Apple Inc.	24.4	4.0
Garmin Ltd.	24.3	1.0
Choice Hotels International, Inc.	19.8	2.1
NIC Inc.	16.7	3.2
Buckle, Inc.	13.8	2.6
AutoZone, Inc.	13.7	1.7
Allegiant Travel Company	13.2	2.4
Amazon.com, Inc.	13.1	2.0
Domino's Pizza, Inc.	12.1	3.5
Capella Education Company	11.5	3.1
Vector Group Ltd.	11.2	2.9
PetMed Express, Inc.	9.0	3.4
Ross Stores, Inc.	8.8	3.3
Expeditors International	6.0	6.2
Healthcare Services Group, Inc.	4.7	4.0
Landstar System, Inc.	4.4	5.9
C.H. Robinson Worldwide, Inc.	4.0	7.1
Firms with high and sustained ROICs	19.8	2.1
Universe	9.4	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2018		
Mastercard Incorporated	46.0	1.0
Intuitive Surgical, Inc.	37.6	0.9
Alphabet Inc.	34.1	0.8
Moody's Corporation	32.7	0.9
Altria Group, Inc.	31.1	1.0
Philip Morris International Inc.	30.2	1.1
Paychex, Inc.	29.8	1.0
Booking Holdings Inc.	27.9	2.8
Illumina, Inc.	27.4	0.8
FactSet Research Systems Inc.	26.5	0.9
Monster Beverage Corporation	26.3	1.1
Red Hat, Inc.	25.9	0.9
Apple Inc.	24.7	3.8
Garmin Ltd.	24.1	1.0
Choice Hotels International, Inc.	20.5	1.9
NIC Inc.	17.4	3.2
AutoZone, Inc.	14.1	1.7
Amazon.com, Inc.	14.1	1.8
Buckle, Inc.	13.3	2.5
Exponent, Inc.	13.0	2.0
Domino's Pizza, Inc.	13.0	3.6
Starbucks Corporation	12.0	2.6
Vector Group Ltd.	10.9	3.0
Boston Beer Company, Inc.	10.5	2.2
PetMed Express, Inc.	9.4	3.5
Ross Stores, Inc.	9.4	3.3
TJX Companies Inc	8.3	3.4
Expeditors International	6.3	6.2
Landstar System, Inc.	4.6	6.0
C.H. Robinson Worldwide, Inc.	4.0	6.7
Firms with high and sustained ROICs	19.0	2.0
Universe	9.7	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2019		
Mastercard Incorporated	48.5	1.0
Intuitive Surgical, Inc.	40.0	0.9
Align Technology, Inc.	37.8	0.8
Winmark Corporation	36.1	1.4
Alphabet Inc.	33.8	0.8
Moody's Corporation	33.2	0.8
Xilinx, Inc.	32.9	0.8
Altria Group, Inc.	31.9	1.0
F5, Inc.	31.5	0.8
Paychex, Inc.	31.1	1.0
Philip Morris International Inc.	30.4	1.1
Cognex Corporation	30.0	1.0
Booking Holdings Inc.	28.3	2.8
Illumina, Inc.	27.5	0.8
Monster Beverage Corporation	27.2	1.0
FactSet Research Systems Inc.	26.9	0.9
Garmin Ltd.	24.8	0.9
Apple Inc.	24.6	3.5
Choice Hotels International, Inc.	21.8	1.7
NIC Inc.	17.6	3.0
AutoZone, Inc.	14.6	1.7
Amazon.com, Inc.	14.3	1.6
Exponent, Inc.	14.1	2.0
Domino's Pizza, Inc.	13.5	3.6
Buckle, Inc.	12.9	2.4
Accenture Plc	12.6	2.0
Starbucks Corporation	12.3	2.4
Boston Beer Company, Inc.	10.6	2.1
Vector Group Ltd.	10.5	2.9
Ross Stores, Inc.	9.7	3.1
PetMed Express, Inc.	9.2	3.5
TJX Companies Inc	8.5	3.2
Expeditors International	6.4	6.2
Landstar System, Inc.	4.8	6.0
C.H. Robinson Worldwide, Inc.	4.0	6.4
Firms with high and sustained ROICs	24.6	1.7
Universe	10.0	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2020		
VeriSign, Inc.	49.7	5.6
Mastercard Incorporated	48.8	1.0
Stamps.com Inc.	45.2	0.6
AMC Networks Inc.	43.9	0.6
NVE Corporation	43.6	1.2
Intuitive Surgical, Inc.	37.9	0.8
Winmark Corporation	37.5	1.4
Moody's Corporation	33.9	0.8
Altria Group, Inc.	32.7	1.0
Ubiquiti Inc.	32.5	2.3
Xilinx, Inc.	32.5	0.8
Alphabet Inc.	31.4	0.8
Paychex, Inc.	31.0	0.9
Philip Morris International Inc.	30.4	1.1
Cognex Corporation	29.5	0.9
Monster Beverage Corporation	27.9	1.0
FactSet Research Systems Inc.	26.7	0.9
Garmin Ltd.	25.2	0.9
Apple Inc.	24.6	3.2
Brown-Forman Corporation	23.5	0.8
Atrion Corporation	22.7	0.8
Choice Hotels International, Inc.	22.4	1.5
NIC Inc.	17.7	2.9
AutoZone, Inc.	14.9	1.6
Amazon.com, Inc.	14.5	1.5
Exponent, Inc.	14.3	1.9
Domino's Pizza, Inc.	14.2	3.6
Accenture Plc	12.8	1.9
Buckle, Inc.	12.7	2.2
Boston Beer Company, Inc.	10.9	2.0
PetMed Express, Inc.	9.3	3.6
Expeditors International	6.6	6.1
Landstar System, Inc.	4.9	6.1
C.H. Robinson Worldwide, Inc.	4.0	6.0
Firms with high and sustained ROICs	26.0	1.3
Universe	9.6	0.9

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2021		
VeriSign, Inc.	53.2	6.3
Meta Platforms Inc.	52.3	0.7
Visa Inc.	50.7	0.4
Mastercard Incorporated	50.6	0.9
AMC Networks Inc.	44.7	0.6
NVE Corporation	43.9	1.4
Winmark Corporation	40.2	1.4
Intuitive Surgical, Inc.	38.5	0.8
Moody's Corporation	35.9	0.7
Altria Group, Inc.	33.9	1.0
S&P Global, Inc.	33.9	0.9
Ubiquiti Inc.	33.4	2.2
Xilinx, Inc.	33.4	0.8
Alphabet Inc.	31.7	0.8
Paychex, Inc.	31.5	0.9
Philip Morris International Inc.	30.8	1.2
Cognex Corporation	29.8	0.9
Copart, Inc.	28.8	0.9
Monster Beverage Corporation	28.5	1.0
FactSet Research Systems Inc.	26.7	0.9
Garmin Ltd.	26.5	0.9
Apple Inc.	25.2	3.1
Choice Hotels International, Inc.	23.9	1.3
EPAM Systems, Inc.	18.4	1.5
Domino's Pizza, Inc.	17.2	3.4
AutoZone, Inc.	15.6	1.6
Amazon.com, Inc.	15.2	1.4
Exponent, Inc.	15.2	1.8
Buckle, Inc.	13.9	2.2
Accenture Plc	13.6	1.8
PetMed Express, Inc.	9.2	3.7
Expeditors International	7.0	6.3
Landstar System, Inc.	5.1	6.3
C.H. Robinson Worldwide, Inc.	4.0	5.9
Firms with high and sustained ROICs	29.3	1.2
Universe	9.9	0.8

Company	10-Year Aggregate NOPAT Margin	10-Year Aggregate Invested Capital Turns
2022		
VeriSign, Inc.	54.2	6.9
Mastercard Incorporated	51.9	0.9
Visa Inc.	51.3	0.5
Meta Platforms Inc.	50.1	0.7
Veeva Systems Inc	46.3	0.8
AMC Networks Inc.	43.8	0.6
Winmark Corporation	42.2	1.4
Intuitive Surgical, Inc.	38.9	0.7
ServiceNow, Inc.	38.4	0.7
Altria Group, Inc.	37.5	1.1
Qualys, Inc.	33.5	0.8
Paychex, Inc.	32.3	0.9
Alphabet Inc.	31.9	0.8
Ubiquiti Inc.	31.8	2.1
Philip Morris International Inc.	30.8	1.2
Copart, Inc.	29.3	0.9
FactSet Research Systems Inc.	28.6	0.8
Monster Beverage Corporation	28.4	0.9
Apple Inc.	25.5	2.9
Choice Hotels International, Inc.	25.4	1.2
Mettler-Toledo International Inc.	20.9	1.1
Fox Factory Holding Corp.	19.9	1.0
EPAM Systems, Inc.	18.3	1.5
Domino's Pizza, Inc.	17.0	3.2
Exponent, Inc.	16.7	1.8
AutoZone, Inc.	16.0	1.6
O'Reilly Automotive, Inc.	15.9	1.4
Buckle, Inc.	14.6	2.1
Accenture Plc	14.1	1.7
NVR, Inc.	10.8	3.1
PetMed Express, Inc.	9.1	3.6
Expeditors International	7.3	6.4
Landstar System, Inc.	5.2	6.7
C.H. Robinson Worldwide, Inc.	4.0	5.8
Firms with high and sustained ROICs	28.5	1.2
Universe	10.5	0.8

Source: FactSet and Counterpoint Global.

Note: Summary data reflect medians; For illustrative purposes only and should not be construed as a recommendation for any security referenced. There is no guarantee the securities referenced will continue to be in the top quintile.

Endnotes

¹ For detail on ROIC calculations, see Michael J. Mauboussin and Dan Callahan, “Return on Invested Capital: How to Calculate ROIC and Handle Common Issues,” *Consilient Observer: Counterpoint Global Insights*, October 6, 2022 and Michael J. Mauboussin and Dan Callahan, “ROIC and Intangible Assets: A Look at How Adjustments for Intangibles Affect ROIC,” *Consilient Observer: Counterpoint Global Insights*, November 9, 2022.

² This comes from the play, *Asinaria (The Comedy of Asses)* by the Roman playwright Titus Maccius Plautus. The line in Latin is “necesse est facere sumptum, qui quaerit lucrum,” which can be translated as “you must spend money, if you wish to make money.” See www.gutenberg.org/files/16564/16564-h/16564-h.htm#Asinaria.

³ Michael J. Mauboussin and Dan Callahan, “Cost of Capital: A Practical Guide to Measuring Opportunity Cost,” *Consilient Observer: Counterpoint Global Insights*, February 15, 2023.

⁴ For example, Warren Buffett, chairman and chief executive officer of Berkshire Hathaway, suggests that companies submit the investments to a test whereby, “for every dollar retained by the corporation, at least one dollar of market value will be created for owners.” See Warren E. Buffett, “Letter to Shareholders,” *Berkshire Hathaway Annual Report*, 1984. See www.berkshirehathaway.com/letters/1984.html.

⁵ Wayne R. Landsman and Alan C. Shapiro, “Tobin’s q and the Relation between Accounting ROI and Economic Return,” *Journal of Accounting, Auditing & Finance*, Vol. 10, No. 1, January 1995, 103-118.

⁶ Michael J. Mauboussin and Alfred Rappaport, *Expectations Investing: Reading Stock Prices for Better Returns – Revised and Updated* (New York: Columbia Business School Publishing, 2021).

⁷ We use the assumptions in Aneel Iqbal, Shivaram Rajgopal, Anup Srivastava, and Rong Zhao, “Value of Internally Generated Intangible Capital,” *Working Paper*, February 2022.

⁸ Here’s the way to think about it: For businesses with a high ROIC, the adjustment increases NOPAT and investment by the same amount in a given year but also captures all past intangible investments net of amortization. The result is a small increase in NOPAT and a relatively large increase in invested capital. For businesses with a negative ROIC, the adjustment ends up being a relatively large increase in NOPAT and a comparatively small increase in invested capital. For a more detailed explanation, see Mauboussin and Callahan, “Return on Invested Capital,” 33-34.

⁹ For examples of concern, see Jan De Loecker, Jan Eeckhout, Gabriel Unger, “The Rise of Market Power and the Macroeconomic Implications,” *Quarterly Journal of Economics*, Vol. 135, No. 2, May 2020, 561-644; Jan Eeckhout, *The Profit Paradox: How Thriving Firms Threaten the Future of Work* (Princeton, NJ: Princeton University Press, 2021); Gauti B. Eggertsson, Jacob A. Robbins, and Ella Getz Wold, “Kaldor and Piketty’s Facts: The Rise of Monopoly Power in the United States,” *Journal of Monetary Economics*, Vol. 124, November 2021, S19-S38; and Thomas Philippon, *The Great Reversal: How America Gave Up on Free Markets* (Cambridge, MA: Belknap Press, 2019). For an example of allaying that concern, see Meghana Ayyagari, Asli Demirgüç-Kunt, and Vojislav Maksimovic, “The Rise of Star Firms: Intangible Capital and Competition,” *Review of Financial Studies*, forthcoming.

¹⁰ To state the obvious, smaller changes in ROIC levels lead to more movement among the middle three quintiles because the range of ROICs in those quintiles is much smaller than it is in either the highest or lowest quintiles. Companies in the extreme quintiles can have large changes in ROIC and remain in their respective quintiles, but relatively small changes will bump a company in the middle quintiles up or down.

¹¹ Joan Magretta, *Understanding Michael Porter: The Essential Guide to Competition and Strategy* (Boston, MA: Harvard Business Review Press, 2012), 114-115.

¹² Michael J. Mauboussin and Dan Callahan, “Intangibles and Earnings: Improving the Usefulness of Financial Statements,” *Consilient Observer: Counterpoint Global Insights*, April 12, 2022.

¹³ Michael J. Mauboussin, Dan Callahan, and Darius Majd, “Measuring the Moat: Assessing the Magnitude and Sustainability of Value Creation,” *Credit Suisse Global Financial Strategies*, November 1, 2016.

¹⁴ See William M.K. Trochim, *Research Methods Knowledge Base* at <https://conjointly.com/kb/navigating-the-kb>. The specific section is found at <https://conjointly.com/kb/regression-to-the-mean>.

¹⁵ Michael E. Raynor and Mumtaz Ahmed, “Three Rules for Making a Company Truly Great,” *Harvard Business Review*, Vol. 91, No. 4, April 2013, 108-117.

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