



Return on Equity: A Compelling Case for Investors

Introduction

At Jensen Investment Management, we believe that return on equity (ROE) is a very useful criterion for identifying companies that have the potential to provide attractive returns over long periods of time. Our experience and research suggest that our requirement of consistently high ROE results in a universe of high-quality, profitable companies that can generate returns above their costs of capital in a variety of circumstances and economic environments. Further, we believe that this universe produces companies with sustainable competitive advantages, strong growth potential, and stocks with a low beta relative to broad market indices. This paper serves to illustrate the reasons why we use ROE the way we do, and why we use it for the first step of our fundamental investment process.

From the beginning, now more than thirty years ago, ROE has been a key component of Jensen's investment process. We start by annually selecting only those companies that have earned an ROE of 15% or greater for the last 10 consecutive years, as determined by Jensen's Investment Team.¹ From there, we narrow down this universe of high-ROE companies through fundamental research based on their growth potential, financial strength, competitive advantages, and lines of business. Finally, we seek to identify the undervalued securities—those that are the “best deals” of the companies that we follow.

We seek to invest only in quality growth businesses that we can reasonably understand, whose outlooks are favorable, and that can be acquired at what we believe are sensible prices. We hold our investments unless their business fundamentals deteriorate below our strict standards; we identify a more compelling opportunity that allows an upgrade to the portfolio's quality, growth outlook, and/or valuation metrics; or the stocks become overpriced based on our metrics.

This paper, however, is about the first step in the process: ROE, how we use it, and why we believe that it can be a useful criterion for selecting stocks that can provide attractive returns over long periods of time. We will cover the basics of the calculation, why we use a time period of 10 consecutive years, and why we use a hurdle rate of 15% per year. Finally, we will examine the persistence of ROE, as well as a few interesting characteristics of high-ROE companies.

An Overview of Return on Equity

ROE effectively measures how much profit a company has generated on the equity capital that investors have deployed in the business. It can also be used to evaluate changes in a company's financial situation over time. At Jensen, we calculate ROE as the company's annual net income after taxes (excluding non-recurring items) divided by the average shareholder equity

¹ For example, this “universe” of companies developed by the Investment Team may include companies with positive earnings and negative equity due to large debt-financed share repurchases.



over the past year. Net income is the amount of profit that a company has made after all expenses and taxes are deducted from revenues. Shareholder equity is the value that the owners of the company have invested that has not been paid out in dividends. Simply put:

$$ROE = \frac{\text{Net Income}}{\text{Average Shareholder Equity}} = \frac{\text{Revenues} - \text{Expenses} - \text{Taxes}}{\text{Average Total Assets} - \text{Average Total Liabilities}}$$

In other words, ROE indicates the amount of earnings generated by each dollar of equity. It can be a valuable insight into a company's operations. In general, the higher the ROE the better, as high-ROE companies, all other things being equal, will produce earnings and free cash flow that can be used to support a higher level of growth, keep the company financially strong, and provide cash returns to shareholders.

This concept is shown in the following table (Figure 1) wherein Company A has an ROE of 20% and Company B has an ROE of 10%. Each has a dividend payout ratio of 30%.

As shown by the ending equity values in Figure 1 below, all else being equal, the intrinsic equity values of high-ROE companies grow at a faster rate than low-ROE companies. Assuming that markets are relatively efficient over the long term and the market price of a company's equity approximates the intrinsic value of a company's equity, it can be argued that the price of the stock of a high-ROE company should increase at a faster rate than the price of the stock of a low-ROE company. Furthermore, over long periods of time, the compounding effect of high ROE enables the company to sustain a higher level of growth without taking on debt or issuing additional stock, and it can also provide excess cash that can be used to reward shareholders through dividends and share repurchases.

The Components of Return on Equity

To understand what drives a company's ROE, it is possible to break down ROE into several parts, deconstructing the ratio of net income to shareholder equity into other ratios to evaluate how each affects the company's total ROE. While this kind of analysis is typically used in the later stages of Jensen's investment process, it illustrates how ROE works alongside some of the other measures that we study when performing due diligence on a company.

ROE can be broken into two fractions: return on assets (ROA) and the leverage ratio. Those two fractions can then be multiplied together to calculate total ROE, as shown below:

$$ROE = \text{Return on Equity} = \text{Return on Assets} * \text{Leverage Ratio}$$

$$ROE = \frac{\text{Net Income}}{\text{Average Shareholder Equity}} = \frac{\text{Net Income}}{\text{Average Total Assets}} * \frac{\text{Average Total Assets}}{\text{Average Shareholder Equity}}$$

This simple analysis shows that a company can increase its ROE by increasing its return on assets or by increasing its leverage ratio.

Return on assets can be further broken down into its own components. This segmentation of ROE is often called DuPont analysis because it was originally developed by the DuPont Corporation in the 1920s. We can view this analysis as a pyramid (Figure 2) where the fractions in each level are multiplied together to determine the company's total ROE.

Keeping in mind the DuPont analysis pyramid in Figure 2 above, it becomes clear that there are many aspects of a company that can impact its ROE. In general, investors would prefer a higher ROE to a lower one and a stable ROE to a volatile one, but it is also important to pay attention to the way a company's business model,

Figure 1 | The link between high ROE and intrinsic value*

Time Period (Years)	Item	Company A Value (\$)	Company A Change (%)	Company B Value (\$)	Company B Change (%)
0	Initial equity investment	\$100.00		\$100.00	
	Net income	\$20.00		\$10.00	
	Absolute reinvestment**	\$14.00		\$7.00	
1	Ending equity value	\$114.00	14%	\$107.00	7%
	Net income	\$22.80		\$10.70	
	Absolute reinvestment	\$15.96		\$7.49	
2	Ending equity value	\$129.96	14%	\$114.49	7%
	Net income	\$25.99		\$11.45	
	Absolute reinvestment	\$18.19		\$8.01	
3	Ending equity value	\$148.15	14%	\$122.50	7%

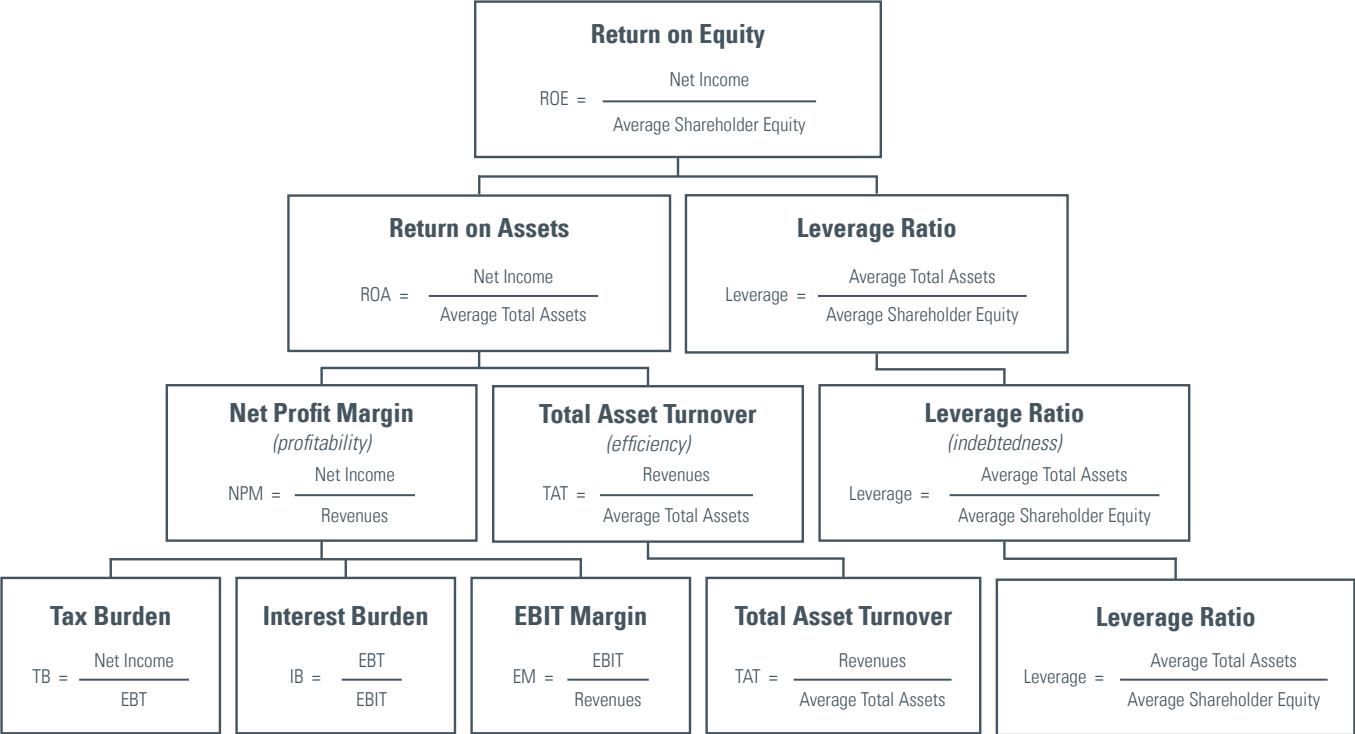
* This is a hypothetical example and is for illustrative purposes only. These figures are not indicative of the actual returns likely to be achieved by an investor.

** The absolute reinvestment is the hypothetical percentage of net income that is retained after the 30% dividend payout; in this example, 70% of net income is retained and reinvested.



Figure 2

DuPont Analysis ROE Breakdown Diagram²



operations, and financial decisions can impact ROE. If a company's ROE changes, the cause of this change must also be determined.

Consequently, we recognize that there can be disadvantages to relying on ROE alone. ROE may be volatile due to the business's normal sales cycles, or ROE may be lower or higher depending on the general profitability of the industry in which the company operates. A company may have an inflated ROE because of a very small value of book equity on its balance sheet, perhaps due to rapid growth or because the company has made large share repurchases. Likewise, the company may have taken on a large debt burden, increasing its leverage and potentially increasing ROE without increasing profitability or efficiency.

At Jensen, we have generally found these types of companies to be less likely to pass our requirement of 10 years of consecutive ROE performance. Any that do manage this feat are carefully evaluated during the later stages of our investment process. Altogether, these issues further drive home the point that, while ROE is valuable and plays an important role in the first step of our fundamental investment process, it should not be used as a stand-alone metric for investment decision-making.

The Importance of Consistency

Some of the early research on companies with consistent ROE performance was conducted by Professor William E. Fruhan, Jr., of

Harvard Business School. In 1979 he published *Financial Strategy: Studies in the Creation, Transfer, and Destruction of Shareholder Value*, where he focused on methods for identifying firms that continually enhanced shareholder wealth and how management decisions affected shareholders.

As Fruhan noted in his work, the main reason why a high ROE is desirable is that if a company is truly generating profits at a rate that is in excess of its cost of equity capital, then it is creating value for its shareholders.³ A company's cost of equity capital is an estimate of the return a shareholder expects from an equity security, similar to the way a company's cost of debt is the return a bondholder expects from a debt security.

Unfortunately, a company with a volatile ROE may be earning returns above its cost of capital in one year, but may not do so the next, effectively wiping out any gains it had made relative to its cost of equity (COE).

For example:

If a company generates an ROE of 15% one year and then 5% the next, its compound ROE over the two years is:
 $(1.15) * (1.05) - 1 = 20.75\%$

If its COE is 12% per year, then the compounded COE is:
 $(1.12) * (1.12) - 1 = 25.44\%$

² EBT = Earnings Before Tax (Net Income + Tax Expense), EBIT = Earnings Before Interest and Tax (Net Income + Interest Expense + Tax Expense).

³ ROE is a useful measure of this profitability since, as equity shareholders, we are concerned with the amount of money the company is earning relative to the value of the equity that has been invested in the business. It is important to remember, of course, that we are buying shares in the secondary market, so the book value of equity used for the ROE calculation may have been skewed since the shares were issued, and that ROE is not a proxy for an investor's actual return. This is one of the reasons why fundamental research and an examination of the factors that affect each company's ROE is an important part of our investment process.



Using this template, it is easy to imagine a case where a company may be profitable (ROE greater than zero) but may fail to meet shareholder expectations in the long run. Investors must distinguish those firms that have the potential to consistently generate ROE at rates that are higher than the returns demanded by their equity shareholders.

Fruhan highlighted the importance of consistency in his research, noting that the firms with the highest economic values are those that have successively increasing rates of ROE, those that maintain the longest periods of high rates of ROE, and those that possess rapidly growing reinvestment prospects. As an example of the power of consistent ROE performance, he selected a period of 10 consecutive years at 15% ROE for a screen that would allow him to easily identify firms that had, with some certainty, the strong, consistent profitability that he was searching for.

We believe Fruhan's choice of 10 consecutive years at 15% ROE was insightful. In the late 1980s, Val Jensen, the founder of our firm, followed Fruhan's work and completed his own research on ROE, using it as one of the cornerstones of our investment strategy at Jensen Investment Management. Over the years, Jensen has continually monitored and researched this high-ROE universe of companies and its characteristics, which we have written about many times in the past. In this paper, there are three aspects of our ROE requirement that we will revisit in turn: the requirement of 10 years, the requirement that the years be consecutive, and the requirement that, for each year, the ROE be equal to or greater than 15%.

Our Requirement of Ten Years of Return on Equity Performance

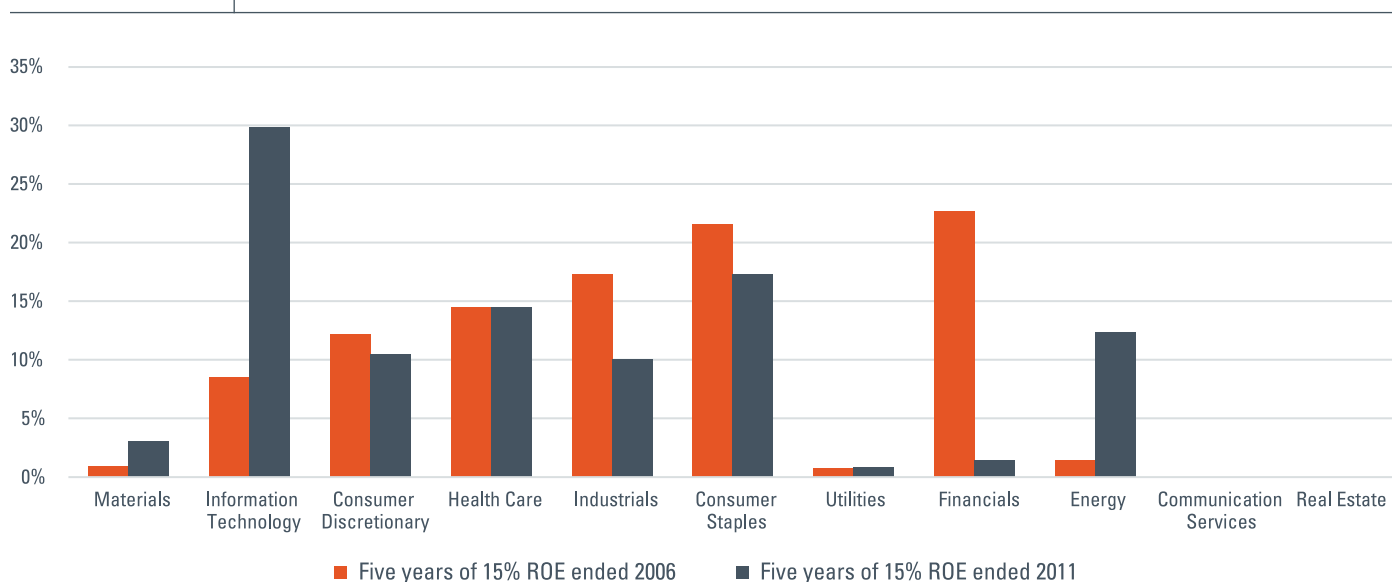
From a conceptual standpoint, there is a simple trade-off regarding the number of years that one requires of consistent ROE performance. For example, three years of high ROE will be a relatively easy bar for many companies to meet. On the other hand, a 20-year period would require a longer track record of consistent business performance and would result in far fewer companies making the cut.

The number of years selected for the screen can also impact the type of companies that meet the hurdle. For example, if one selects U.S. companies that have achieved a particular minimum ROE for five consecutive years, and those five years happen to be 2002 through 2006 (a period of solid U.S. economic growth following a recession), the results will show a very different group of companies than if the years are 2007 through 2011 (a period of sub-par U.S. economic growth, including a severe financial crisis and recession). As an example, Figure 3 details the differences in economic sector distribution of the companies in these two groups.

Naturally, if an investor selected companies with only five years of 15% ROE each year, there could potentially be wide swings in the portfolio's characteristics over time. This is a facet of the problem of sampling bias; in this case, the time period selected can have a significant impact upon the results of a study. The only effective way to mitigate this problem would be to increase the sample size—in this case, increase the number of years that we examine

Market cap-weighted sector distribution of Russell 3000 Index constituent companies that meet a screen for five consecutive years of 15% ROE, measured at the end of 2006 and the end of 2011

Figure 3



Source: FactSet Research Systems



so as to include a wider variety of economic environments. This makes the case for requiring a very large number of years of consistent performance.

On the other hand, an exceptionally long time period would create its own issues. Such a lengthy period may test the limits of the financial databases used for screening securities and increase the likelihood that missing data or errors would artificially exclude a company from the results.

Furthermore, as the number of years of required ROE increases, companies that only recently became publicly traded must build a longer track record of audited financial data before they can meet the requirements of the screen.⁴

In addition, selecting too long of a period can result in the time period encompassing shifts in the data set or macroeconomic environment that materially affect the results. For example, if there is a major change in accounting regulations halfway through a 20-year period, the companies that pass the test in the first decade may not pass it in the next (and vice versa).

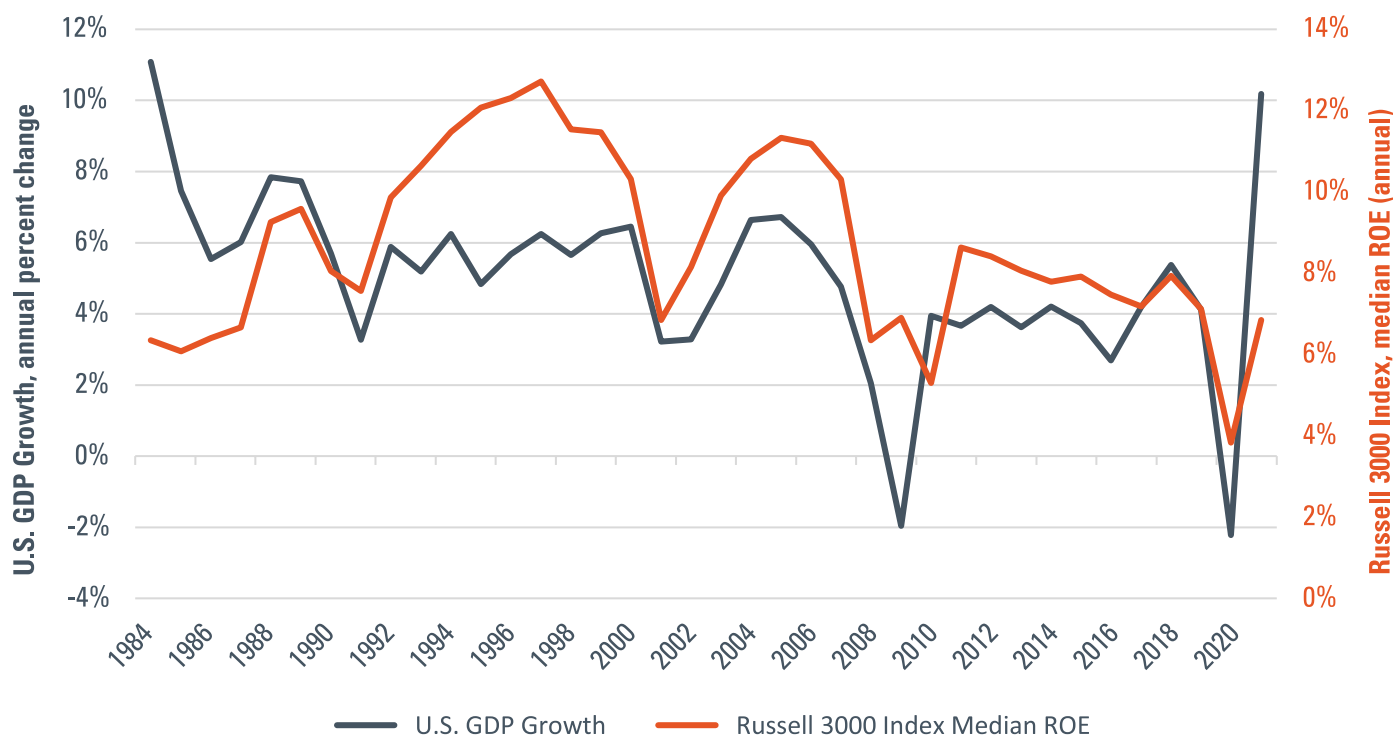
Ultimately, a time period is needed that encompasses a variety of economic environments, but also balances the limitations that

come with excessively long time periods. If the length of a normal economic cycle (or “business cycle”) in a developed economy tends to be roughly nine years,⁵ then a 10-year period should typically include economic expansions and contractions, as well as the other economic fluctuations that are associated with such a cycle. That is, the 10-year time frame should test a company’s ability to maintain a high level of performance throughout changes in the economic climate. Not all companies will be able to do this. An example of how the broader market’s median ROE can fluctuate with economic cycles is graphed in Figure 4. For this reason, as well as in consideration of the trade-offs noted above and the results of our own research, Jensen chose a 10-year period of ROE for our investment process.

Our Requirement of Consecutive Years of Return on Equity Performance

Another aspect of our requirement for investable companies is that they must produce 10 *consecutive* years of ROE above 15%. It is easy to imagine a screen that did not require consecutiveness—for example, an ROE greater than 15% for five years out of the last ten, or an average ROE greater than a particular number. Naturally,

Figure 4 Gross domestic product of the United States (left axis) versus the Russell 3000 Index’s median ROE (right axis)⁶



Source: U.S. Department of Commerce; FactSet Research Systems

⁴ While new public companies are required to publish audited financial data, the requirement typically comprises only the most recent three or five years.

⁵ In a 2018 working paper published by the European Central Bank, the authors found that the average economic cycle in the G7 nations was nine years. Gabe de Bondt and Philip Vermeulen, “Business cycle duration dependence and foreign recessions,” *ECB Working Paper Series*, no. 2205 (November 2018).

⁶ ROE is the trailing one-year median for the Russell 3000 Index, measured at annual intervals from 12/31/1984 through 12/31/2021. Gross domestic product year-over-year percent change data sourced from the U.S. Department of Commerce, Bureau of Economic Analysis.



the side effect of this decision would be to include companies with more volatile profitability, perhaps due to economic factors or company-specific circumstances.

For a quick examination of how a set of less-stringent criteria would affect the quality of the companies in our universe, we compared our screen of 10 consecutive years of ROE of at least 15% against several scenarios where the company generated an ROE of 15% or greater, but for only some of the last 10 years. In Figure 5, we use the Standard & Poor's Earnings and Dividend Quality Ratings as a proxy for the quality of a company's financial statements and the company's financial health.

As demonstrated by Figure 5, a screen of 10 consecutive years of 15% ROE produces a universe with about 66% of the companies having the top ratings of A+, A, or A-. Conversely, requiring that a company only meets this bar for any five of the past ten years produces nearly the opposite situation, where about 61% of the companies are not rated A+, A, or A-.

Additionally, relaxing the requirement for 10 consecutive years of ROE affects the universe in other ways. To illustrate this point, Figure 6 below shows some of the relationships that tend to change. As the constraints are eased, the median ROE, market capitalization, P/E ratio, and EPS growth tend to decrease, while the median beta tends to increase.

Overall, it appears that relaxing the consecutiveness requirement could lead to a lower-quality universe of companies from which to choose, in terms of S&P Quality Ratings, profitability (as measured by ROE), and volatility (as measured by beta). Furthermore, such a decision could introduce new companies that may be profitable in most economic environments but may have poor results under other circumstances. In consideration of these issues, and after performing our own research, Jensen chose this requirement of continuous, consistent business performance. We believe that it increases the likelihood that a company will continue to perform well in a variety of economic environments and situations and that it effectively disallows many companies with volatile earnings.

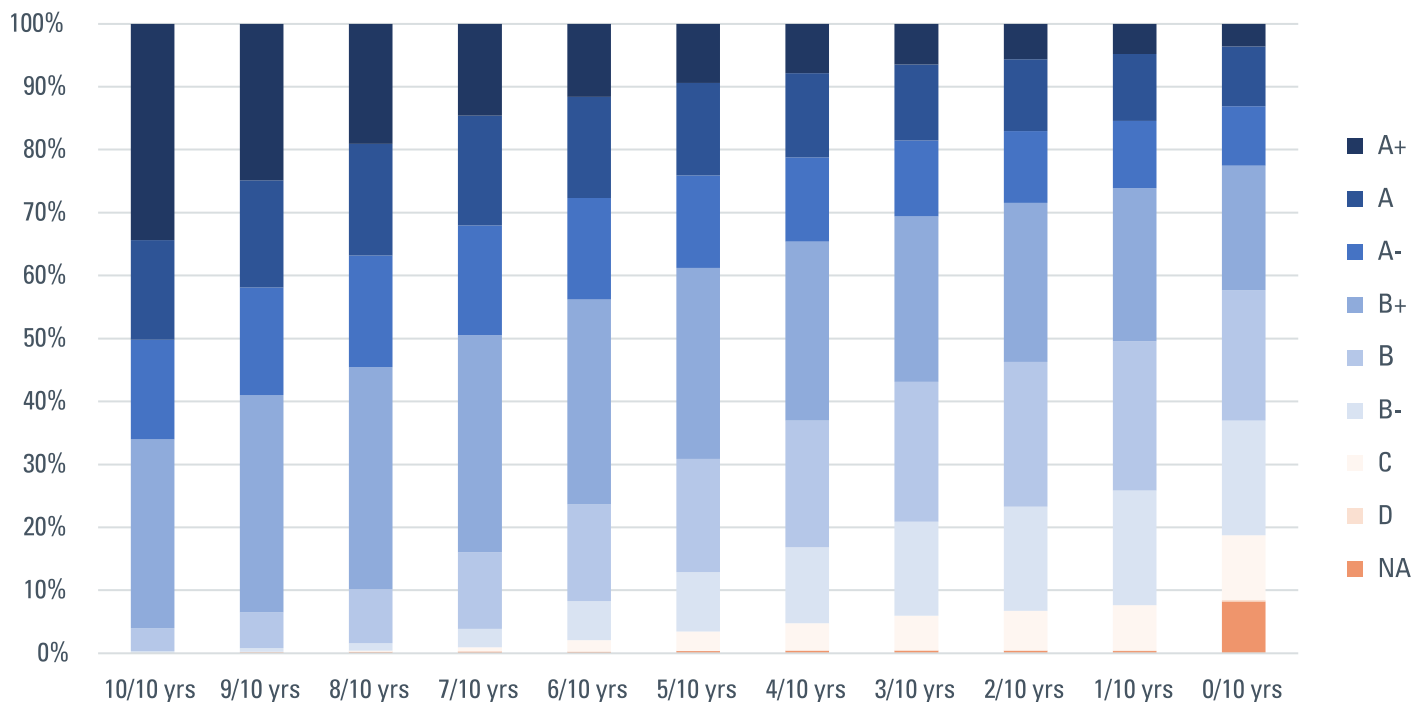
Our Requirement of Fifteen Percent Return on Equity Performance

Besides our requirement of 10 consecutive years, we also require a ROE of 15% or greater for each of those years, as determined by Jensen's Investment Team. As discussed earlier, to evaluate effectiveness of this hurdle rate we must compare a company's ROE to the company's cost of equity (COE).

As equity shareholders, we require a return on our investment, and this return is typically received as a mix of dividend payments and capital appreciation. The total amount would be the return that a

Figure 5

Standard & Poor's Earnings and Dividend Quality Ratings of various investment universes based on 15% ROE for a variable, non-consecutive number of years⁷



Averages of Annual Data from 12/31/1993–12/31/2021 (maximum time period with data available)

Source: FactSet Research Systems

⁷ These universes were drawn from historical holdings of the Russell 3000 Index, with ROE measured at annual intervals from 12/31/1984. Since the universes in this graph examine a minimum of 10 years of data, annual data measurement began at 12/31/1993, the first time period where 10 years of data was available. Weights for each quality rating were calculated by summing the number of qualifying companies across all measurement periods and dividing them by the total number of rated companies across all measurement periods. This averaging was done to smooth the effect of short-term fluctuations in the data for a realistic long-term analysis.

**Figure 6****Example of characteristics that change as consecutiveness constraint is eased⁸**

	Median Return on Equity	Median Market Cap (\$-million)	Median Adjusted Trailing P/E Ratio	Median Trailing 3-yr EPS Growth	Median 5-yr Beta vs. U.S. Market
10/10 yrs	25%	8,235	20.3	11.1%	84%
9/10 yrs	23%	6,548	19.9	10.7%	88%
8/10 yrs	21%	5,724	20.0	9.2%	90%
7/10 yrs	19%	4,859	19.8	8.3%	92%
6/10 yrs	17%	4,152	19.7	8.2%	95%
5/10 yrs	16%	3,531	19.6	8.4%	97%
4/10 yrs	15%	3,082	19.4	8.6%	100%
3/10 yrs	14%	2,740	19.2	8.7%	102%
2/10 yrs	13%	2,412	19.0	8.8%	102%
1/10 yrs	13%	2,079	18.8	8.7%	103%
0/10 yrs	11%	678	18.4	9.4%	105%

Averages of Annual Data from 12/31/1993–12/31/2021
(maximum time period with data available)

Source: FactSet Data Systems

shareholder expects from the security.⁹ Basic financial theory tells us that if an investor is risk-averse and wishes to be compensated for taking risk, then that investor will demand a higher return from a riskier investment. Therefore, not all companies will have the same expected return because they have varying levels of risk. This expected return is often called the company's cost of equity. But how do we know what a company's cost of equity is?

There are several approaches to answering this question. One method is to attempt to determine each company's COE separately with one of the many versions of the capital asset pricing model, or with an alternative method such as one of the various fundamental, economic, or statistical multi-factor models. While these methods can be useful for a specific company, they are more difficult to apply uniformly to a large universe of companies.

For example, if one were to screen a database of 10,000 global public companies, this would require 10,000 separate estimates of each company's COE for each year, and then an examination of whether the company's ROE had exceeded its COE in each year. With each method of discrete COE calculation, certain assumptions must be made, and many discrete data inputs must be used. Furthermore, there is a great amount of academic debate over what a particular COE model's assumptions signify and which data inputs are the most useful and relevant, as different COE models can produce significantly different results.

Another approach to determining whether a company is earning ROE above its COE is to simply set a fixed COE that is the same

for all companies. Often, an estimate for the long-term return of an equity market is used as an estimate of an investor's required return, and there have been numerous attempts to create such estimates.¹⁰ This approach is simple to implement and effective, but it does assume that all companies' equity costs are the same, which is not consistent with modern financial theory. That is, a fixed COE applied universally will disproportionately benefit riskier companies, whose true costs are likely higher than average, and disadvantage less risky companies, whose true costs are likely lower than average.

Despite this disadvantage, we believe that for the purposes of our initial screen for stable, profitable companies, a fixed hurdle rate approach (that is, 15%) is the most reasonable to take, as the benefits of doing so outweigh the drawbacks. The calculation is simpler and less dependent on a wide variety of input data, and the fixed level of 15% demands specific performance that is immediately quantifiable. Furthermore, using a fixed hurdle rate does not prevent us from performing company-specific COE evaluations in the later stages of our investment process, particularly in valuing the company's stock.

As a demonstration of the power of our 15% ROE requirement, we examined the holdings of the Russell 3000 Index holdings since 1984.¹¹ Based on this data and the popular Fama and French Three-Factor cost of equity model, we estimate that about 11% of the companies have a cost of equity of 15% or higher, so a COE above 15% is somewhat uncommon.¹²

⁸ The methodology used for this example is the same as that for the preceding graph shown in Figure 5, as described in footnote 7. Medians were taken of all qualifying companies in each screen for all measurement periods. 7

⁹ Of course, actual returns (dividends + capital appreciation) may be higher or lower than a hypothetical expected return used to evaluate an investment decision.

¹⁰ For an example, please see E.F. Fama and K.R. French, "The Equity Premium," *The Journal of Finance* 57, no. 2 (2002): 637-659.

¹¹ The methodology used for this example is described in footnote 7.



Weighted-average ROE for Jensen’s strategies versus each strategy’s primary benchmark

Figure 7

	Jensen Quality Growth	S&P 500 Index	Jensen Quality Value	Russell Midcap Index	Jensen Global Quality Growth	MSCI All Country World Index
Weighted-average ROE* (last 12 months)	37.5%	28.7%	33.3%	15.5%	32.6%	21.2%

Source: BNY Mellon Portfolio Characteristics

*All holdings in each respective strategy’s model portfolio.

Therefore, in most cases a company’s cost of equity is likely to be lower than 15% per year. While this COE may fluctuate in different market environments, and will vary from company to company, the high bar that we set provides a margin of safety above and beyond the COE assigned by most models. In fact, the companies in which we ultimately invest not only meet the 15% ROE requirement, but typically exceed it by a large margin. As of December 31, 2021, the weighted average ROEs for Jensen’s three investment strategies versus their primary benchmarks are shown in Figure 7.

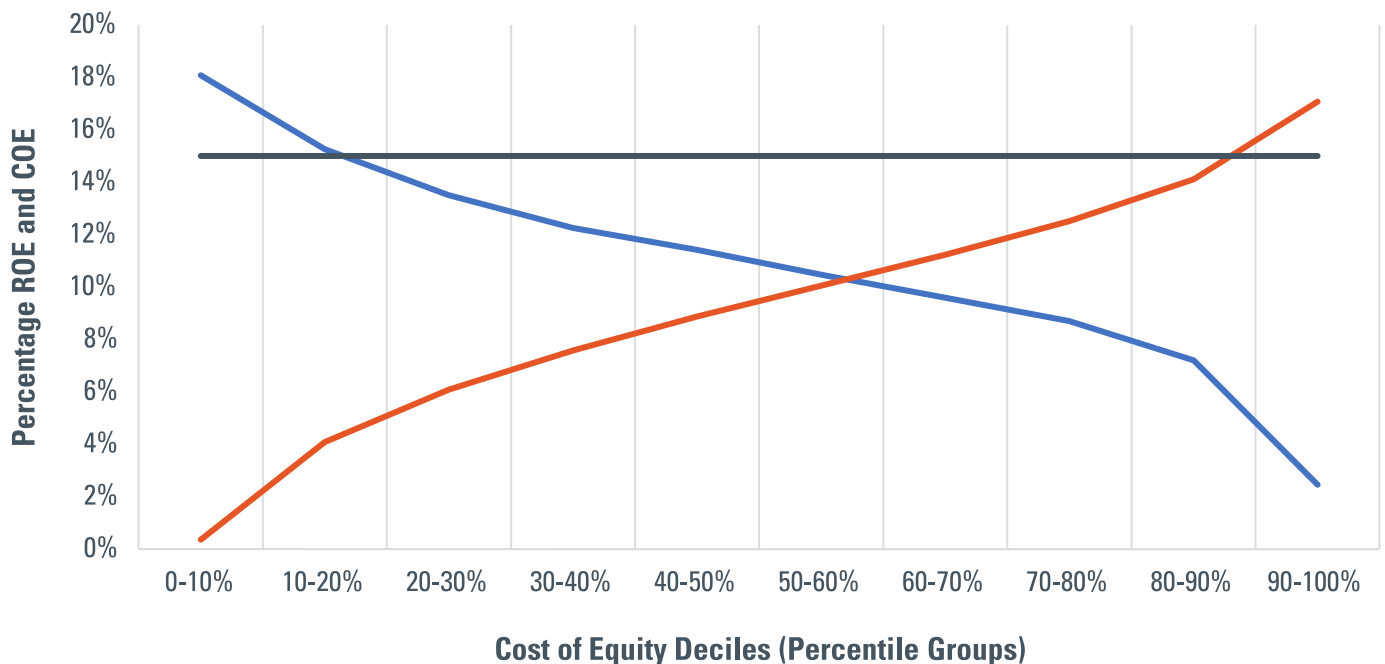
Additionally, the few companies with a very high cost of equity would be unlikely to pass our 10-year, 15% ROE requirement for

one simple reason: COE is inversely related to ROE. That is, the higher a company’s ROE, generally the lower its COE. An example is shown in Figure 8.¹³

In terms of medians, the companies to the left of the intersection point in Figure 8 are generating an ROE in excess of their COE, while the companies to the right are not creating as much shareholder value as investors may have hoped. To avoid this undesirable outcome when performing an initial screen of companies, we must select only those companies that have truly generated returns well above their capital costs. At Jensen, we believe our 15% ROE requirement helps accomplish this goal. Furthermore, our long

ROE and COE for the Russell 3000 Index holdings since 1984, grouped by cost of equity decile, showing median values of ROE and COE in each decile

Figure 8



Medians of Annual Data from 12/31/1984–12/31/2021
(maximum time period with data available)

Source: FactSet Research Systems

— 15%
 — COE within group (median)
 — ROE within group (median)

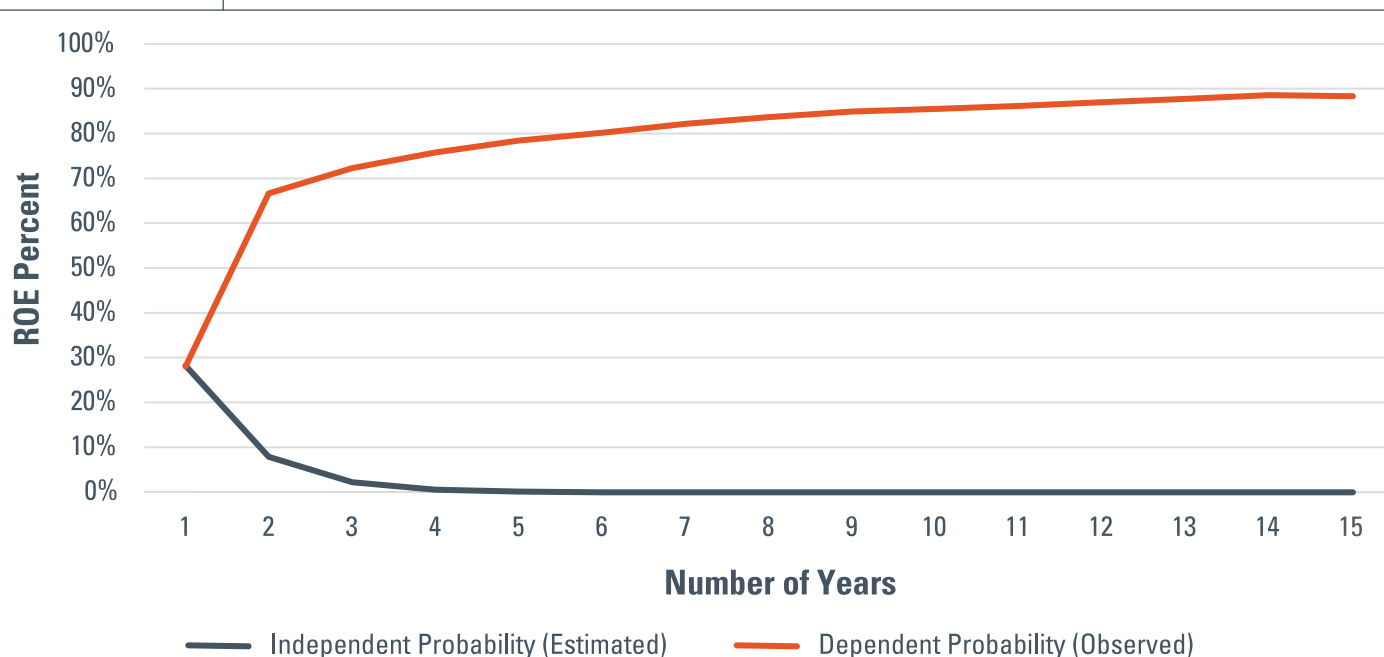
¹² Cost of equity is calculated using the Fama and French Three-Factor Model. For details, please see E.F. Fama and K.R. French, “The Cross-Section of Expected Stock Returns,” *The Journal of Finance* 47, no. 2 (June 1992) 427-465.

¹³ It is important to remember that, while cost of equity can be a proxy for risk, ROE is not necessarily a proxy for the actual return an investor may receive in terms of dividends and capital appreciation—despite a higher COE implying a higher return demanded by shareholders for taking on additional risk. The financial database used for this example is described in footnote 7.



Figure 9

Probabilities of a company repeating the achievement of an ROE above 15%



Annual Data from 12/31/1984–12/31/2021
(maximum time period with data available)

Source: FactSet Research Systems

experience studying high-ROE companies demonstrates to us that this requirement results in a robust universe of high-quality companies from which to select our investments.

The Persistence of Return on Equity over Time

A logical question that arises from our discussions in this paper is whether it is truly possible for a company to consistently maintain a return on capital above its cost of capital over a long period of time. On one hand, economic theory would predict that return on capital and cost of capital converge over time as competitors enter market niches to extract economic profits. Conversely, our research indicates that a company with a high ROE for many consecutive years is likely to maintain a high ROE in subsequent years.

We believe that this phenomenon can be explained by some of the common characteristics shared by high-ROE companies. Specifically, we have found that companies with consistently high ROE typically have sustainable competitive advantages and do business in industries with strong barriers to entry. It follows that these characteristics should allow these companies to stave off the impact of competition and continue to capture economic profits—that is, they can defend their “economic moats” and produce returns on capital above their capital costs.

Our ongoing research has consistently found that the persistence of a high ROE is remarkably strong. For this paper, we analyzed a large securities database and found that the probability of a

company obtaining a 15% ROE in any given year is approximately 28%.¹⁴ If a company’s ROE is not persistent, and each year’s ROE is a completely independent event from the previous year’s ROE, then the probability of obtaining a 15% ROE each year for 10 years is: $28\%^{10} = 0.0003\%$. Naturally, if this were the case, there would not be any companies in our investable universe at all. Rather, what we observe is that the probabilities are dependent events, as shown in Figure 9.

Using the results depicted in Figure 9, we can determine that, in general, for each year a company generates an ROE of 15% or greater, it is increasingly likely to repeat that feat in the future, with the probability leveling off between 85% and 90%. Note also that this plateau occurs after nine to ten years of consistent performance, in line with the number of years that we require at Jensen.

To further study the stability of ROE with different requirements for ROE performance, we can look at the percentage of an investment universe that remains the same from year to year. In other words, what percentage of companies from last year’s universe are still present in this year’s universe?

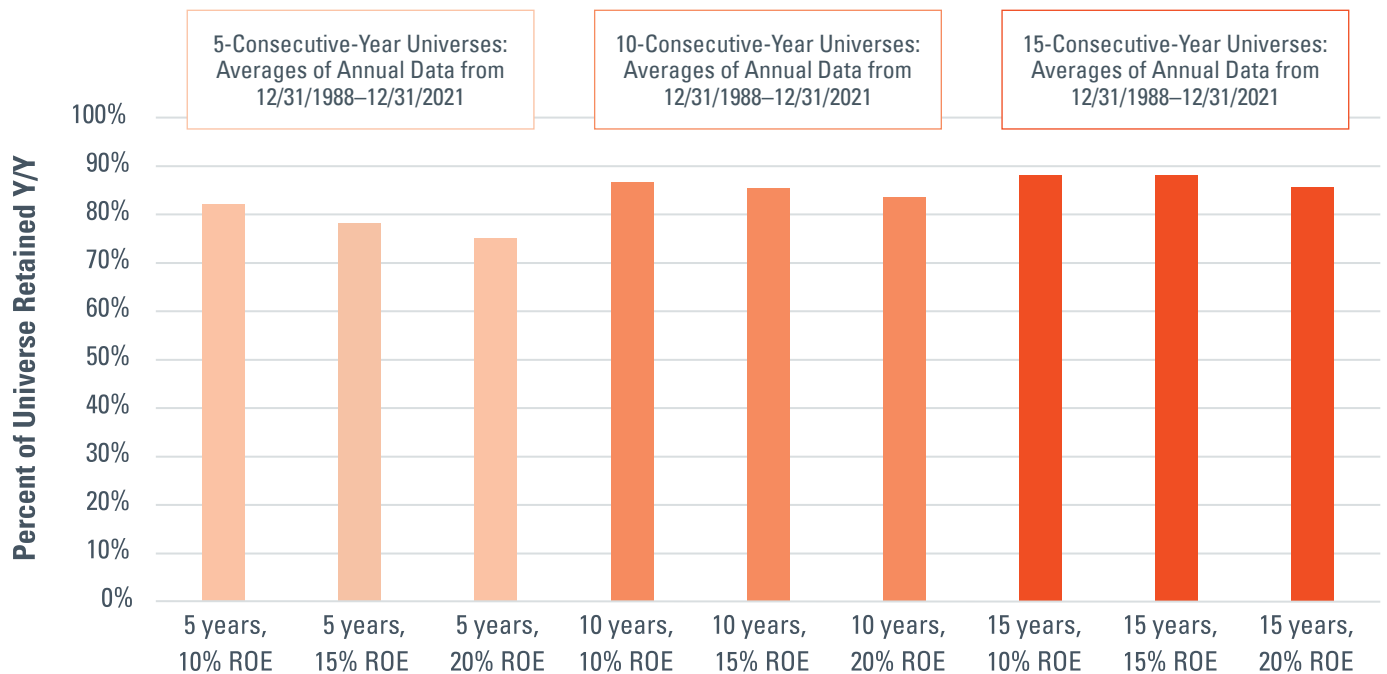
As shown by Figure 10 (see next page), even universes with relatively relaxed requirements (such as five consecutive years of ROE above 10%) retain about three-quarters of their companies from year to year. As the number of years of consecutive ROE increase, the persistence of companies in the universe increases, further suggesting that companies with longer records of high ROE are more likely to continue to achieve them in the future.

¹⁴ The financial database used for this example is described in footnote 7.



Average percentage of companies retained in universe from previous year, for various combinations of consecutive years (5, 10, and 15 years) and percentages of ROE (10%, 15%, and 20%)¹⁵

Figure 10



Annual Data from 12/31/1984–12/31/2021
(maximum time period with data available)

Source: FactSet Research Systems

Naturally, if the bar is set too low, it becomes difficult to be a long-term investor because the list of investable companies is always changing. On the other hand, if the bar is set too high, then not enough new opportunities will be available for research and investment, and the universe may become stale. Overall, we believe that the combination of 10 years and 15% ROE balances these two issues and provides a reasonably stable, persistent universe while also providing new research opportunities.

The Shared Characteristics of High-ROE Companies

Finally, we will review some of the characteristics of high-ROE companies. As we've discussed in past white papers, we believe that our ROE screen allows us to identify companies that possess sustainable competitive advantages, produce returns in excess of their capital costs, grow at faster rates than lower-ROE businesses, and generate excess cash that they can use to fund growth and reward shareholders. Our experience over the past decades suggests that these characteristics translate into good long-term investment opportunities. We also believe that the stocks of these companies tend to outperform the broader market with relatively lower risk.

In addition to these qualitative characteristics, there are also some interesting relationships that appear as we examine the effects of

different consecutive time periods and different hurdle rates for ROE. First, we compare a handful of descriptive characteristics, as shown in Figure 11 (see next page).

As the tables in Figure 11 show, there can be a complex relationship between these characteristics and the parameters used to make the screen, but in general, they tend to change in a diagonal manner from the least-restrictive screen (upper left) to the most-restrictive screen (lower right). Some of the most significant relationships along this diagonal appear to be median beta, which drops significantly, and market capitalization, which increases about five-fold. This is to be expected, as larger, more stable companies are likely to be able to meet the requirements of high profitability over a number of years.

Finally, we return to the relationship between high-ROE companies and the Standard & Poor's Earnings and Dividend Quality Ratings. As the data in Figure 12 (see next page) indicate, increases in constraints tend to improve the overall quality of the universe, although not in a specifically linear fashion.

Conclusion

At Jensen Investment Management, we believe that ROE is a very useful criterion for identifying companies that may provide attractive returns over long periods of time. Throughout this paper, we have discussed how and why we use ROE in the first

¹⁵ The financial database used for this example is described in footnote 7. Simple averages were taken of the percentage of qualifying companies retained (from the prior year) in each screen.



stage of our investment process and why we believe that it results in an identifiable universe of high-quality, profitable companies that are able to generate returns above their costs of capital in a variety of circumstances and economic environments. While ROE by itself is not suitable as a standalone metric for investment

decision-making, we believe that it provides valuable insight into companies' business models and provides an effective and efficient means for screening out all but the very best companies, upon which we perform further research in the later stages of our investment process. J

Figure 11 Comparisons of various high-ROE universes and their characteristics¹⁶

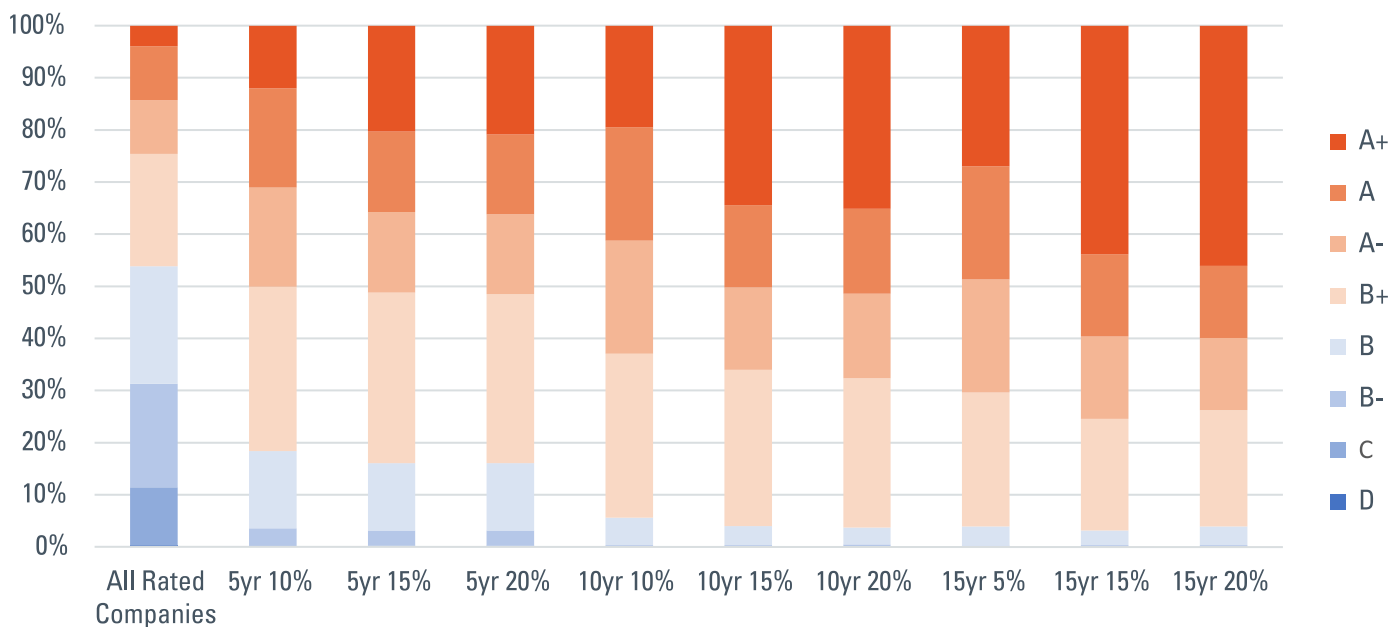
Median Return on Equity	Required ROE			Median Cost on Equity	Required ROE			Median 5-Year Beta vs. U.S. Market	Required ROE		
	10%	15%	20%		10%	15%	20%		10%	15%	20%
5 years	17.7%	23.1%	29.2%	5 years	10.8%	11.1%	11.2%	5 years	91.0%	96.0%	93.4%
10 years	18.6%	24.8%	32.7%	10 years	10.7%	10.8%	10.7%	10 years	82.3%	83.8%	81.1%
15 years	19.8%	26.4%	35.4%	15 years	10.7%	10.6%	10.0%	15 years	75.2%	78.8%	68.2%

Median Market Cap (\$-million)	Required ROE			Median Adjusted Trailing PE Ratio	Required ROE			Median Trailing 3-Year EPS Growth	Required ROE		
	10%	15%	20%		10%	15%	20%		10%	15%	20%
5 years	2,433	3,775	5,309	5 years	17.4	18.7	19.7	5 years	9.0%	11.1%	11.7%
10 years	4,933	8,235	11,068	10 years	18.7	20.2	20.2	10 years	8.3%	9.3%	9.0%
15 years	9,482	13,933	15,724	15 years	19.7	21.1	20.5	15 years	8.2%	8.9%	8.4%

5-Consecutive-Year Universes: Medians of Annual Data from 12/31/1988–12/31/2021
 10-Consecutive-Year Universes: Medians of Annual Data from 12/31/1993–12/31/2021
 15-Consecutive-Year Universes: Medians of Annual Data from 12/31/1998–12/31/2021

(maximum time periods with data available)
 Source: FactSet Research Systems

Figure 12 Standard & Poor's Earnings and Dividend Quality Ratings for all rated stocks versus all rated stocks in various subset universes¹⁷



All Shares: Averages of Annual Data from 12/31/1988–12/31/2021
 5-Consecutive-Year Universes: Averages of Annual Data from 12/31/1988–12/31/2021
 10-Consecutive-Year Universes: Averages of Annual Data from 12/31/1993–12/31/2021
 15-Consecutive-Year Universes: Averages of Annual Data from 12/31/1998–12/31/2021

(maximum time periods with data available)
 Source: FactSet Research Systems

¹⁶ The financial database used for this example is described in footnote 7.
¹⁷ The financial database used for this example is the same as that described in footnote 7.



Definitions:

Beta: A measure of the volatility of a security's total return compared to the general market as represented by a corresponding benchmark index. A beta of more than 1.00 indicates volatility greater than the market, and a beta of less than 1.00 indicates volatility less than the market.

Earnings Per Share (EPS): The net income of a company divided by the total number of shares it has outstanding.

Free Cash Flow: Is equal to the after-tax net income of a company plus depreciation and amortization less capital expenditures.

Interest Burden: Periodic costs incurred by a borrower as part of a debt financing arrangement. In a DuPont Analysis, it is calculated by dividing pre-tax income by operating income.¹⁹

Leverage Ratio: Any one of several financial measurements that assesses the ability of a company to meet its financial obligations.²⁰

Market Capitalization: The total dollar market value of all of a company's outstanding shares. Market capitalization is calculated by multiplying a company's shares outstanding by the current market price of one share.

MSCI All Country World Index: A market capitalization weighted index designed to provide a broad measure of equity-market performance throughout the world. It is maintained by Morgan Stanley Capital International (MSCI) and is comprised of stocks from 23 Developed Markets (DM) and 26 Emerging Markets (EM) countries.

Net Profit Margin: Measures how much net income is generated as a percentage of revenues received.²¹

Price to Earnings (P/E) Ratio: Is a common tool for comparing the prices of different common stocks and is calculated by dividing the current market price of a stock by the earnings per share.

Return on Assets (ROA): The return on assets percentage shows how profitable a company's assets are in generating revenue.

Return on Equity (ROE): Is equal to a company's after-tax earnings (excluding non-recurring items) divided by its average stockholder equity for the year.

Russell 3000 Index: A broad based, market value weighted index consisting of the largest 3000 publicly traded stocks in the United States.

Russell Midcap Value Index: The Value Strategy's primary benchmark is the Russell Midcap Index. The Russell Midcap Index is a market capitalization weighted index comprised of 800 publicly traded U.S. companies with market caps of between \$2 and \$10 billion. The 800 companies in the Russell Midcap Index are the 800 smallest of the 1,000 companies that comprise the Russell 1000 Index.

S&P 500 Index: A broad based, market value weighted index consisting of 500 stocks, and is widely recognized as representative of the equity market in general.

Standard & Poor's Earnings and Dividend Quality Ratings: S&P analyzes about 4,000 stocks traded on the NYSE, AMEX, and Nasdaq exchange based upon each firm's per-share earnings and dividend records, then recalculates "core earnings" by backing out certain items (extraordinary items, discontinued operations,

impairment charges, etc.). Figures are also adjusted for changes in rates of earnings/dividend growth, stability over a long-term trend, and cyclicality. S&P then divides stocks into a quality category matrix, rating each stock from A+ to D, basing ratings upon each individual company's growth and stability of earnings and dividends.

Tax Burden: The amount of tax paid by a person, company, or country in a specified period considered as a proportion of total income in that period. (Collins Dictionary) In a DuPont Analysis, it is calculated by dividing net income by pre-tax income.²²

Total Asset Turnover: The ratio of total sales or revenue to average assets. This metric helps investors understand how effectively companies are using their assets to generate sales.²³

Indices are unmanaged, and you cannot invest directly in an index.

All factual information contained in this paper is derived from sources which Jensen believes are reliable, but Jensen cannot guarantee complete accuracy. Any charts, graphics, or formulas contained in this piece are only for the purpose of illustration. Graphs, charts, and/or diagrams cannot, by themselves, be used to make investment decisions. The views of Jensen Investment Management expressed herein are not intended to be a forecast of future events, a guarantee of future results, nor investment advice. *Past performance does not guarantee future results.*

Investing involves risks; loss of principal is possible.

The Jensen Quality Growth Fund serves as the Model Portfolio for separately managed accounts invested in the Jensen Quality Growth Strategy and is a representative account of the Strategy. The Jensen Quality Value Fund serves as the Model Portfolio for separately managed accounts invested in the Jensen Quality Value Strategy and is a representative account of the Strategy. The Jensen Global Quality Growth Fund serves as the Model Portfolio for separately managed accounts invested in the Jensen Global Quality Growth Strategy and is a representative account of the Strategy. Individual account holdings and characteristics may differ from those of the representative accounts due to the size of the portfolio, client-specific constraints, tax considerations, or other factors.

EPS Growth is not a measure or forecast of an account's (including the strategy's) future performance.

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¹⁸ "EBIT Margin," Financial Modeling Terms Explained, Causal, accessed December 8, 2022. <https://www.chicagomanualofstyle.org/book/ed17/part3/ch14/psec207.html>.

¹⁹ "DuPont Analysis: Guide to Understanding the DuPont Analysis Framework," Financial Statement Analysis Guide, Wall Street Prep, accessed December 8, 2022. <https://www.wallstreetprep.com/knowledge/duPont-analysis-template>.

²⁰ Hayes, Adam. "Leverage Ratio: What It Is, What It Tells You, How To Calculate," Financial Ratios, Investopedia, updated April 30, 2020. <https://www.investopedia.com/terms/l/leverageRatio.asp>.

²¹ Murphy, Chris B., "What is Net Profit Margin? Formula for Calculation and Examples," Financial Ratios, Investopedia, updated March 6, 2022. https://www.investopedia.com/terms/n/net_margin.asp.

²² "DuPont Analysis: Guide to Understanding" (Short title) Wall Street Prep.

²³ Hayes, Adam. "Asset Turnover Ratio Definition," Financial Ratios, Investopedia, updated June 15, 2022. <https://www.investopedia.com/terms/a/assetturnover.asp>.