Deloitte Review

ISSUE 18 | 2016

Complimentary article reprint

Exceptional performance
a nonrenewable resource

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It is not unusual for a company to want to improve its financial performance: to be more profitable, to grow faster, and ultimately, for public companies, to deliver better value to shareholders. That quest is fraught with opportunities and risks, many of which we've discussed in earlier articles.[1]

But what happens when you reach the top? While you can always aspire to additional percentage points of return on assets (ROA) or revenue growth, we have found that eventually the prospects for achieving incremental improvements become vanishingly small; after all, trees don't grow to the sky. Having achieved top-level performance, the questions then become how to sustain it, and, should that effort fail, how to regain it.

HOW DO YOU DEFINE "EXCEPTIONAL PERFORMANCE"?

Deloitte has developed a methodology that we believe distinguishes true high performers from the merely lucky.

In general terms, we identify those companies that have been good enough for long enough to justify the belief that their results are primarily a consequence of company-level attributes rather than their circumstances.

More specifically, for each performance measure (here we look at return on assets [ROA], inflation-adjusted revenue growth, and Tobin's q [a measure of market value]), the annual performance of every company in our population is translated into relative terms, controlling for industry, company size, and year effects. For example, a company's ROA is expressed in absolute terms using percentage points—4.3 percent, 5.1 percent, and so on. That performance is turned into a string of percentile ranks, which necessarily range between 0 and 99 (74, 82, and so on). We then observe how frequently companies transition from any given percentile rank to all the others, that is, the frequency with which companies in the 47th percentile move to the 0th, 1st, 2nd, and subsequent percentiles in the subsequent year. We summarize these observations in the *percentile transition probability matrix*, and use the matrix as the foundation for simulations using the same number of companies with the same starting positions, and we observe lifespans from 1966 to 2013 as they appear in the actual population.

To answer these questions, we first examine the durability and frequency of exceptional performance, since it is worth understanding how realistic a goal it really is. Some suggest sustained, superior results are a mirage in a world characterized by increasing topple rates and hypercompetition.[2] Others agree it is a fool's errand, but for the opposite reason: Many of today's markets are characterized by a winner-takes-all dynamic where "once a winner, always a winner" is the rule of thumb.[3] We find that superior performance is neither quite as fragile nor robust as these camps predict, and instead an attainable—but slippery—plateau.

Second, we look at the frequency with which companies can regain exceptional levels of performance, once lost. If gaining, losing, and regaining superior financial performance is common, then sustaining high-level performance may not be indispensable to exceptional results over the long term. We believe, on the other hand, that exceptional performance is often a one-and-done proposition, which makes prolonging your stay at the top all the more important.

These simulations allow us to generate a distribution of "expected" lifetime performance patterns. That is, every observed lifetime and starting point have associated with them an expected pattern and level of annual performance expressed in percentile ranks. To avoid being misled by short-term variations, we create a weighted, long-run moving average of the annual percentile ranks for these simulated lifetimes. We can then compare any actual company's long-run moving average in any given year to the simulated benchmarks. If a company's observed long-run average is statistically significantly better in any given year than the mean of our simulated outcomes, we declare it categorically "exceptional" in that year.

This is a critically important but subtle feature of our method. Because a company is deemed exceptional in a given year in virtue of its long-run moving average and not its annual performance, we say that a company is exceptional at a point in time (that is, in a given year) in virtue of its performance over time (that is, because of its long-run average as of that year).

Note that because we define exceptional performance in terms of the statistical significance of deviations from a simulated outcome, there is no necessity for there to be any companies that qualify as exceptional: If all companies fall within the simulated parameters, then all companies have performed as expected, and none is exceptional. An implication of this approach is that the frequency of exceptional companies can fluctuate, resulting in a seemingly high incidence of exceptional performance on some measures in some years.

You can find a more complete description of our method in the report, "Charting superior business performance," along with a full technical description. Our earlier research on financial performance is available at the Exceptional Company collection on DUPress.com.[4]

Third and finally, we explore how some companies manage to beat the odds to remain exceptional or, should performance slip, to recover. What lessons can we learn from long-lived exceptional companies—and from those whose performance proved fleeting? Specifically, we investigate the relationship among three measures of performance—profitability, growth, and enterprise value—to determine whether sustaining or recapturing exceptional results is related to emphasizing performance along one measure, or connected to achieving standout performance on multiple measures simultaneously. We find that a focus on profitability, rather than revenue growth or value creation, offers a surer path to enduring exceptional performance across all three measures. And the three rules for achieving sustained superior profitability in the first place, highlighted in our earlier research, turn out to also hold the keys to frequent and durable exceptional performance.[5]

In summary, we have found that:

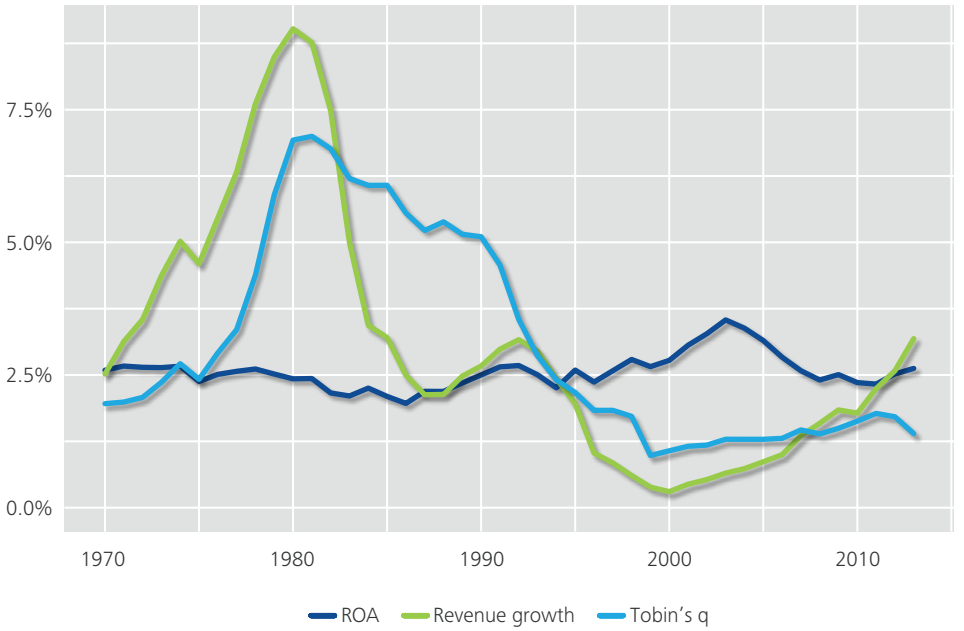
- Exceptional performance is an aspirational but realistic goal for many companies. Once achieved, it should be actively maintained—companies resting on their laurels can expect to see performance slip in relatively short order.
- Exceptional performance is easier to sustain than recapture, so work hard to stay on top once you get there.
- Exceptional performance on multiple measures is most frequently built on a foundation of exceptional profitability.

GO WITH THE FLOW, NOT THE EBB

It is worth asking just how reasonable "exceptional" performance is as a performance target. After all, only 10 percent of any population can be in the top 10 percent on any given performance measure; not everyone can get a blue ribbon. Just how frequently do companies deliver exceptional performance, and what does that say about the reasonableness of exceptional benchmarks?

Figure 1. The frequency of exceptional performance, 1970–2013

Percentage of US-based public companies that are exceptional



Source: Compustat, Deloitte analysis.

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Figure 1 plots the percentage of all US-based public companies that cleared our benchmarks from 1970 through 2013. Note first that exceptional performance is rare. In absolute terms, the frequency varies from just 22 companies exceptional on growth in 2000, to 394 companies exceptional on the same measure in 1980. Proportionally, fewer—often far fewer—than 10 percent of public companies can claim the label "exceptional" in any given year on each of our measures. In part, this is by design; we could relax the criteria and boost those numbers. But it also speaks to the difficulty of being good enough for long enough to truly merit the "exceptional" moniker.

This frequency—ranging from less than 1 percent to almost 8 percent of the population—means "exceptional" performance is a challenging, but still realistic, target. Understanding what drives fluctuations in the frequency of exceptional performance for each measure is helpful when understanding whether and how to pursue exceptional results on any or all of them.

Our approach to identifying exceptional performance accounts for macrolevel economic and political trends, so the ups and downs in figure 1 cannot straightforwardly be attributed to, for example, recessions or bull and bear markets. But what it takes to deliver exceptional relative performance varies during periods of economic expansion and malaise: Simply staying the course can see you rising or falling through the ranks, depending on the volatility of the underlying system.

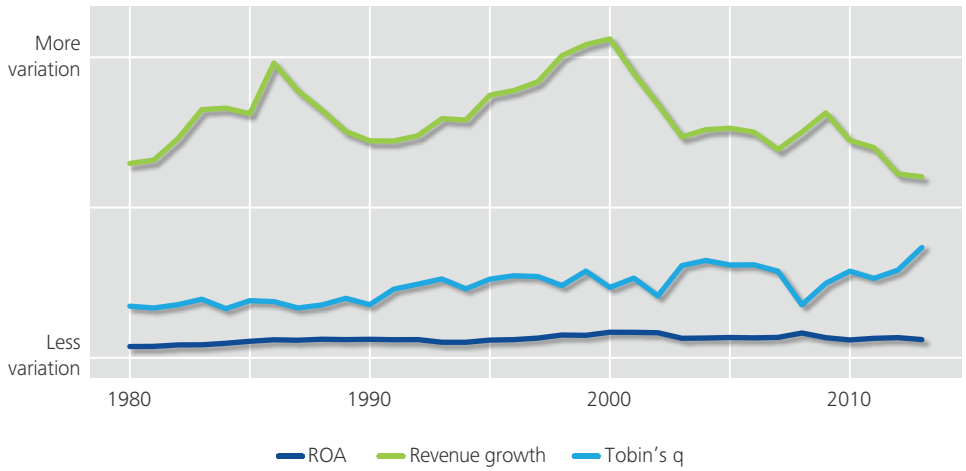
We've written before about the perils of relying on absolute performance for benchmarking and goal setting.[6] But this highlights a feature—or perhaps a bug—inherent in estimates of *relative* performance. (We measure performance using percentile ranks, adjusted for industry, size, and year, against all US-based public companies.) Namely, identical levels of performance in absolute terms, such as percentage points of revenue growth, can translate into dramatically different relative positions. Consider a hypothetical midsized manufacturer of fabricated metal goods with a real revenue growth rate of 5 percent. In 1998, with the economy expanding strongly and the dot-com bubble still intact, that performance would place the company in the 48th percentile—effectively, middle of the pack. In 2008, in the midst of the Great Recession, that same 5 percent (real) growth rate equates to a percentile rank of 82, a 30-plus percentile rank difference. For most companies, the benchmark for exceptional growth is the 81st percentile, and while a single year of strong relative performance is insufficient to qualify a company as statistically exceptional (see the sidebar "How do you define 'exceptional performance'?"), it can be sufficient to "push" a company above the threshold.[7]

Because our research shows that growth tends to be more volatile than profitability overall, this suggests that *steady* growth in absolute terms is unlikely to result in long-run *exceptional* growth (figure 2).[8] Since, in the aggregate, increases

in growth rates during good times tend to be less extreme than the drops in growth rates during bad ones, if you are able merely to stay the course when times are tough, you are actually doing relatively better. Indeed, you may find yourself among the ranks of the exceptional. In contrast, during periods characterized by strong but stable performance, companies need to increase their results "above and beyond" just to remain in their current position relative to other firms. This helps explain why we see the frequency of exceptional growth and enterprise value rising during the 1970s, as stagflation took root, and again in the late 2000s in the midst of the Great Recession.

Figure 2. Volatility of ROA, revenue growth, and Tobin's q, 1980–2013

Median absolute deviation



Source: Compustat, Deloitte analysis.

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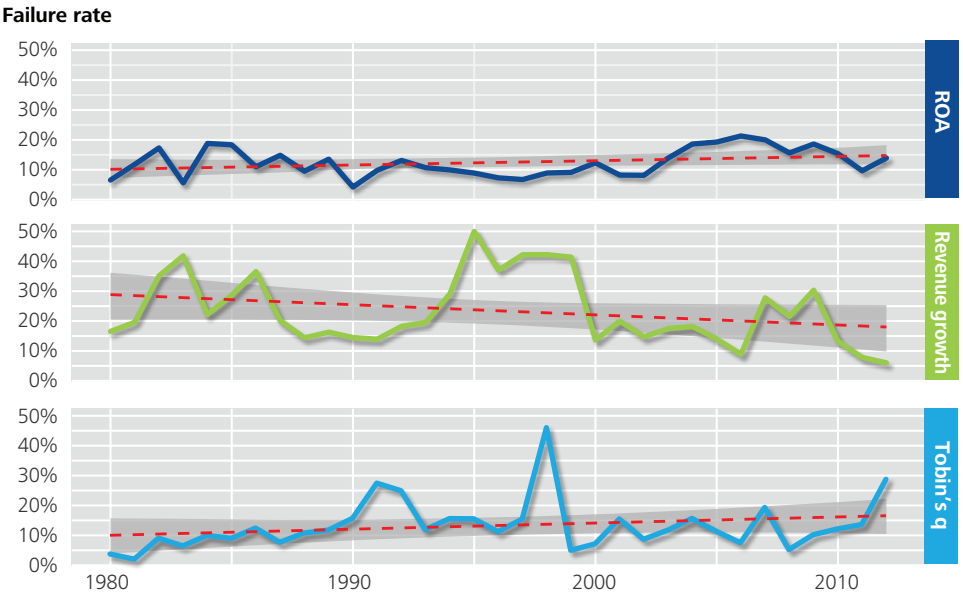
Rates of exceptional profitability, unlike our research results for growth and value, display considerable stability, indicating that strong and steady ROA *is* often sufficient to lead to exceptional profitability. There is no easy path to exceptional performance, but once you have uncovered a formula for consistent profitability, it offers a surer path there than either growth or value creation. To achieve exceptional results on the latter two measures, it is important to rise with the rising tide, but also to resist the drop in performance that afflicts many companies when the tides begin to ebb.

Figure 3. Exceptional company turnover rates, 1980–2013



Note: The red dashed line is a simple linear trend. The gray shaded regions represent 95 percent confidence intervals.

Source: Compustat, Deloitte analysis.

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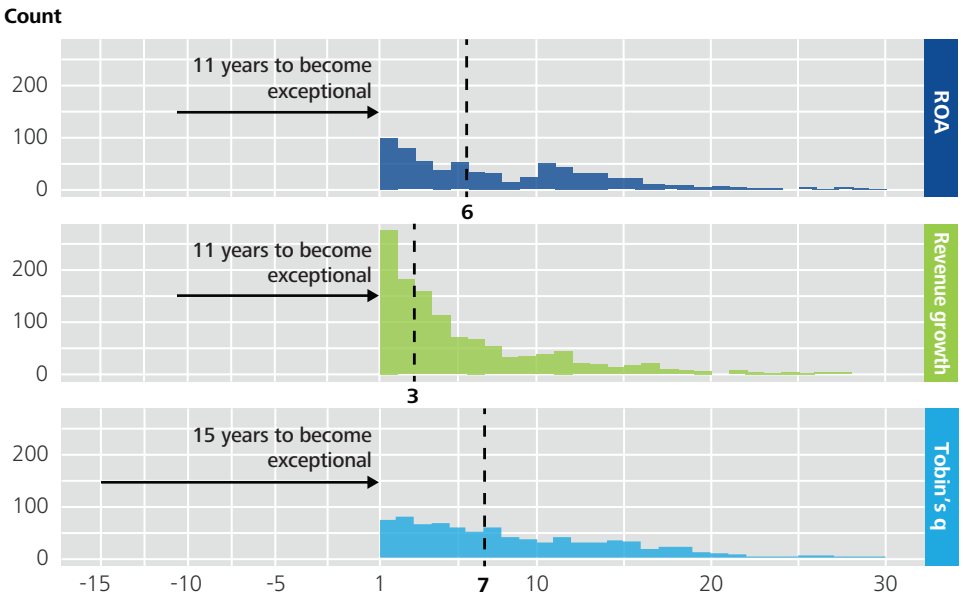
BECOMING EXCEPTIONAL VERSUS STAYING EXCEPTIONAL

Unlike the frequency of exceptional performance, the "churn rate" for exceptional companies has remained relatively constant over the last 35 years (figure 3). At its core, this reflects the difference between becoming exceptional in the first place and sustaining that exceptional performance once it is attained. But why should the latter be stable?

Exceptional companies have done something special, delivering sustained superior financial performance that cannot be explained by luck alone. It turns out that, based on our research, exceptional companies appear to stand out in another way: in their ability to react to and cope with periods of system-wide volatility. Perhaps unsurprisingly, the managerial skills that help a company deliver better-than-expected performance over time also help it avoid the pitfalls of an uncertain economic environment. The data suggest that companies cease to be exceptional not because of their inability to "manage through" systemic-level turmoil, but rather because of idiosyncratic and company-level choices and circumstances.

The relatively steady turnover or "topple" rates over time also cast doubt on a popular narrative: that the business environment is buffeted by exponential change, disruptive innovations, and unprecedented competitive intensity, and so companies are less able than ever to build lasting competitive advantages.[9] Yet, rather than the increasing topple rate this would imply, turnover rates among companies that

Figure 4. The duration of exceptional performance



Note: Dashed lines are the medians for each distribution. This figure excludes companies that exited the database as exceptional performers or were still exceptional as of 2013, omitting between 9 percent (Tobin's q) and 16 percent (ROA) of all periods of exceptional performance. These companies are "right censored," and including them could skew the analysis because we have no way of knowing how long their streaks of exceptional performance would have lasted had we been able to fully observe them.

Source: Compustat, Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

are exceptional on profitability, growth, or value have remained essentially constant since 1980. In other words, exceptional performance is as reasonable a goal as it has ever been.

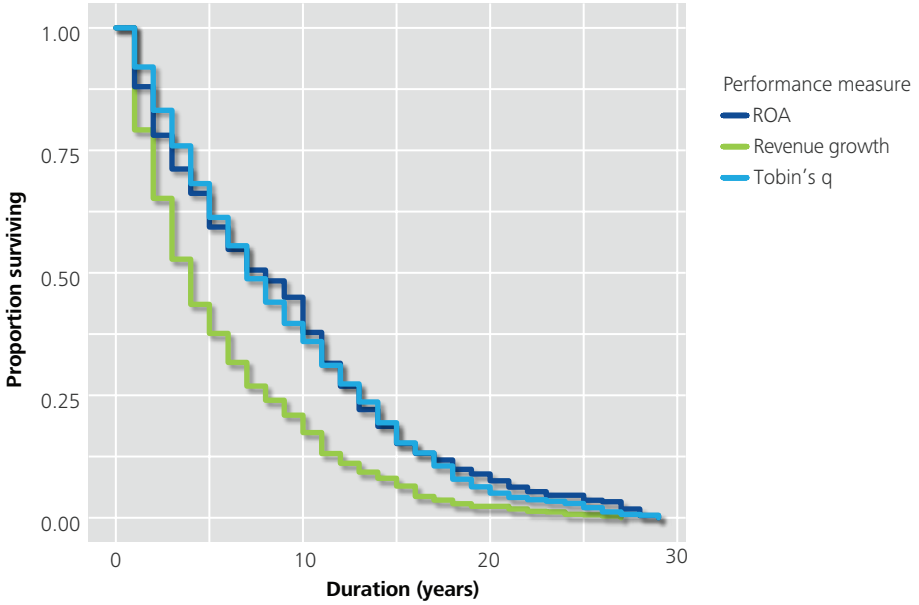
EXCEPTIONAL PERFORMANCE: PERSISTENT, BUT NOT PERMANENT

Of course, nothing lasts forever. Once companies have cleared the "exceptional" benchmark, their exceptional performance can endure for varying lengths of time. So, for example, a company might deliver the 11 or more years of results required to qualify as "exceptional," only to see its performance deteriorate the following year. In such a case, the company is said to have been exceptional for only a single year.

Figure 4 shows the distributions of the durability of periods of exceptional performance in our database for each of our three measures of performance. This indicates that, once attained, exceptional performance very often endures, but with considerable variability by performance measure. Our research suggests that revenue growth is the most fleeting: Exceptional performance requires a run of 11 years, after which the median duration of exceptional performance is just three additional years of top-level performance. More than three-quarters of companies

Figure 5. The proportion of exceptional companies "surviving" as exceptional over time

Kaplan–Meier estimates



Source: Compustat, Deloitte analysis.

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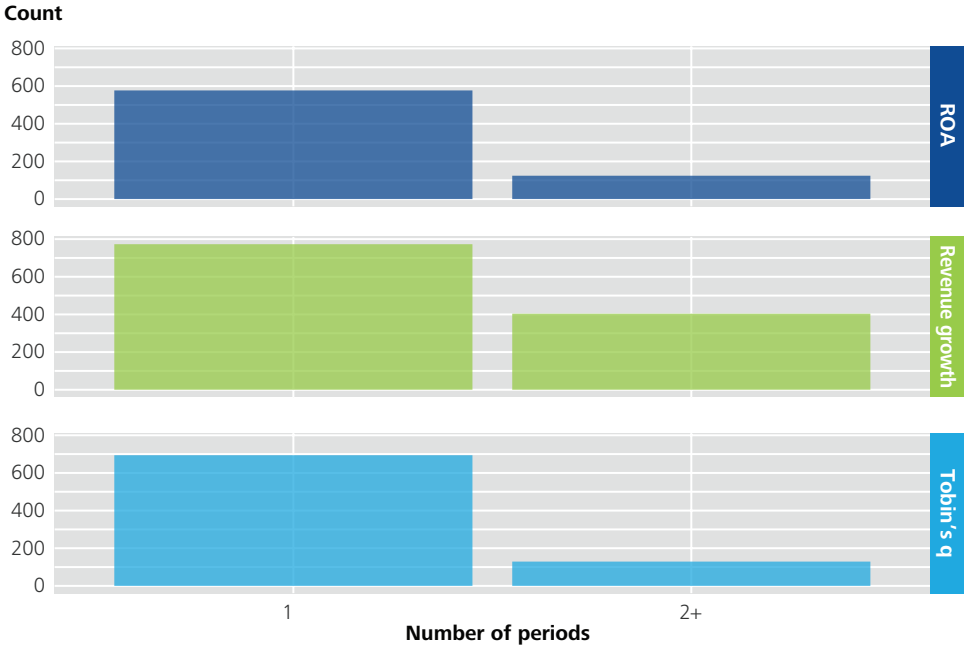
fail to sustain exceptional growth for a period of seven years. Perhaps surprisingly, value creation, as measured by Tobin's q, is the most long-lived.[10] Exceptional performance requires a run of 15 years generally at or above the 88th percentile, and, once achieved, the median period of exceptional performance is seven years; 25 percent of companies exceptional on value remain so for more than a dozen years. Profitability, captured here by ROA, is similarly durable, requiring a run of 11 years to achieve, with a median durability of six years.

The statistical significance of these differences among the distributions is captured in figure 5, which plots the estimated "survival curve" for each of our three dimensions of performance.[11] The horizontal axis measures the length of time companies have been exceptional. The vertical axis captures the proportion "surviving"—those that remain exceptional—at that point. We can see that the line for revenue growth lies below those for ROA and Tobin's q at every point in time. For example, three years into their respective periods of superior performance, just over half of growth-based performers remain exceptional, while more than two-thirds of profitability- and value-based companies continue to be so. In contrast, ROA and Tobin's q track each other quite closely; about the same proportion of companies exceptional on profitability and, separately, on value creation remain so at each point in time. In short, profitability-based exceptional performance tends to outlast growth-based exceptional performance.

Figure 6. Periods of exceptional performance per company

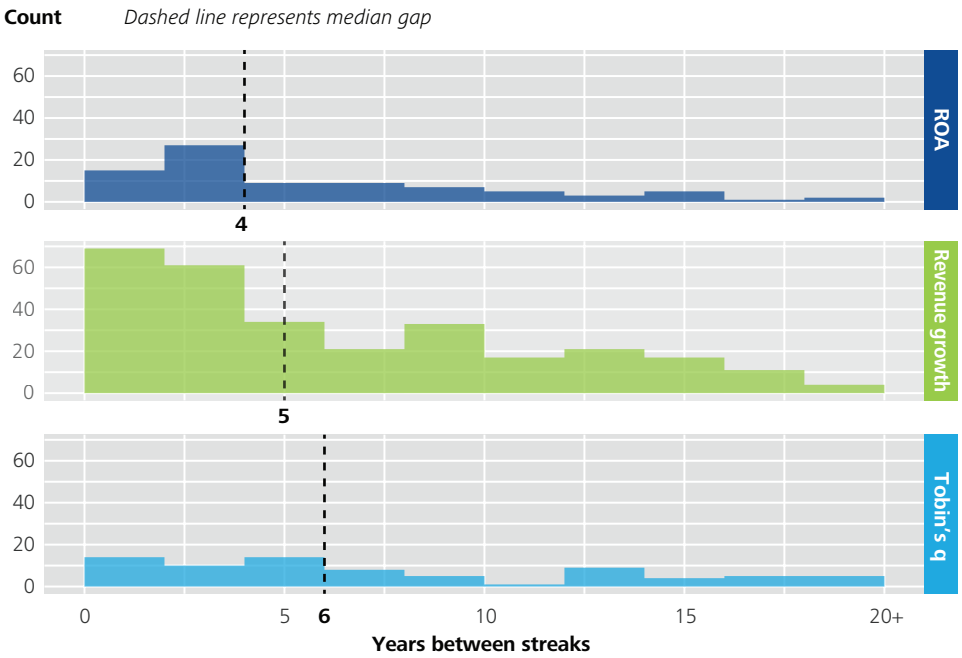


Note: This excludes companies that exited the database as exceptional, remained exceptional as of 2013, or that had only a single year "gap" in their periods of exceptional performance.

Source: Compustat, Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

Figure 7. Years between periods of exceptional performance



Source: Compustat, Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

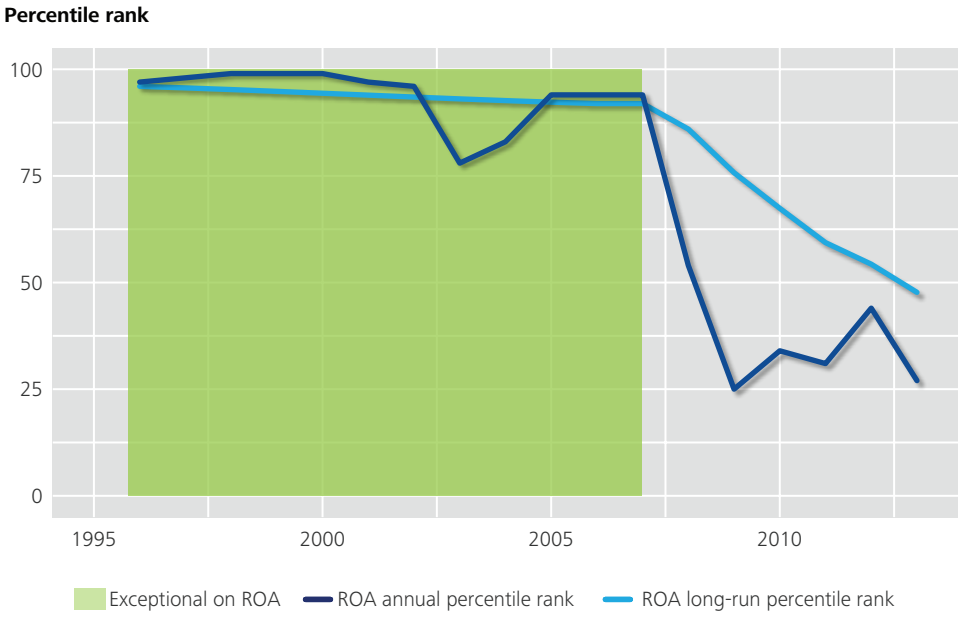
FOR MOST, ONE SHOT AT EXCEPTIONAL PERFORMANCE

Based on durability alone, exceptional performance—particularly when it is based on profitability—would appear to be a difficult but reasonable aspiration. But if exceptional performance falters, can a company rally and regain its status as a superior performer?

To answer that question, we move from looking at US public companies in the aggregate to the behavior of individual businesses. Figure 6 shows the distribution of the number of periods of exceptional performance per company. So if a company delivered exceptional growth from 1975 until 1980, then ceased to be exceptional before delivering exceptional performance again from 2002 until 2013, it would have two episodes, or "streaks," of exceptional performance.

Based on historical results, exceptional performance, it turns out, is typically a one-shot phenomenon. The vast majority of exceptional companies experience only a single period of sustained superior performance. Standout profitability and shareholder value, in particular, are exceedingly difficult to return to; roughly 80 percent of such companies experience only a single period of exceptional performance. Growth is slightly more reattainable, with about 40 percent of companies experiencing at least two streaks. As we described earlier, however, exceptional growth tends to be shorter lived than the other two measures, so the relatively greater ability to return to exceptional growth simply reflects, in part, the greater number of opportunities such companies have. And even there, if you cannot return

Figure 8. Abercrombie & Fitch ROA performance, 1996–2013



Source: Compustat, Deloitte analysis.

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to exceptional growth within a few years, your chances for ever doing so dwindle sharply, as the spike on the left of the middle distribution in figure 7 demonstrates.

We believe the reasons for these falls from exceptionalism are, of course, myriad. Some companies face new competitive threats or disruptive innovation. Others embark on strategic initiatives, such as acquisitions or new product launches, that fail to bear fruit. In the case of Abercrombie & Fitch (figure 8), a longtime standout performer profiled in our earlier research, it was an inability to adapt to shifting consumer preferences and the rise of "fast fashion."[12] Executive chairman Arthur

To paraphrase F. Scott Fitzgerald, there are few second acts in American business, at least when it comes to exceptional performance. That makes learning the secrets of longevity even more crucial.

Martinez sums up Abercrombie's trajectory—and that of many exceptional companies: "The wonderful and terrible thing about retail is that occupying the peak is very perilous. Aspiring to and reaching that position puts you in a very vulnerable position. The world moved on, and the company has to move on."[13]

To paraphrase F. Scott Fitzgerald, there are few second acts in American business, at least when it comes to exceptional performance. That makes learning the secrets of longevity even more crucial.

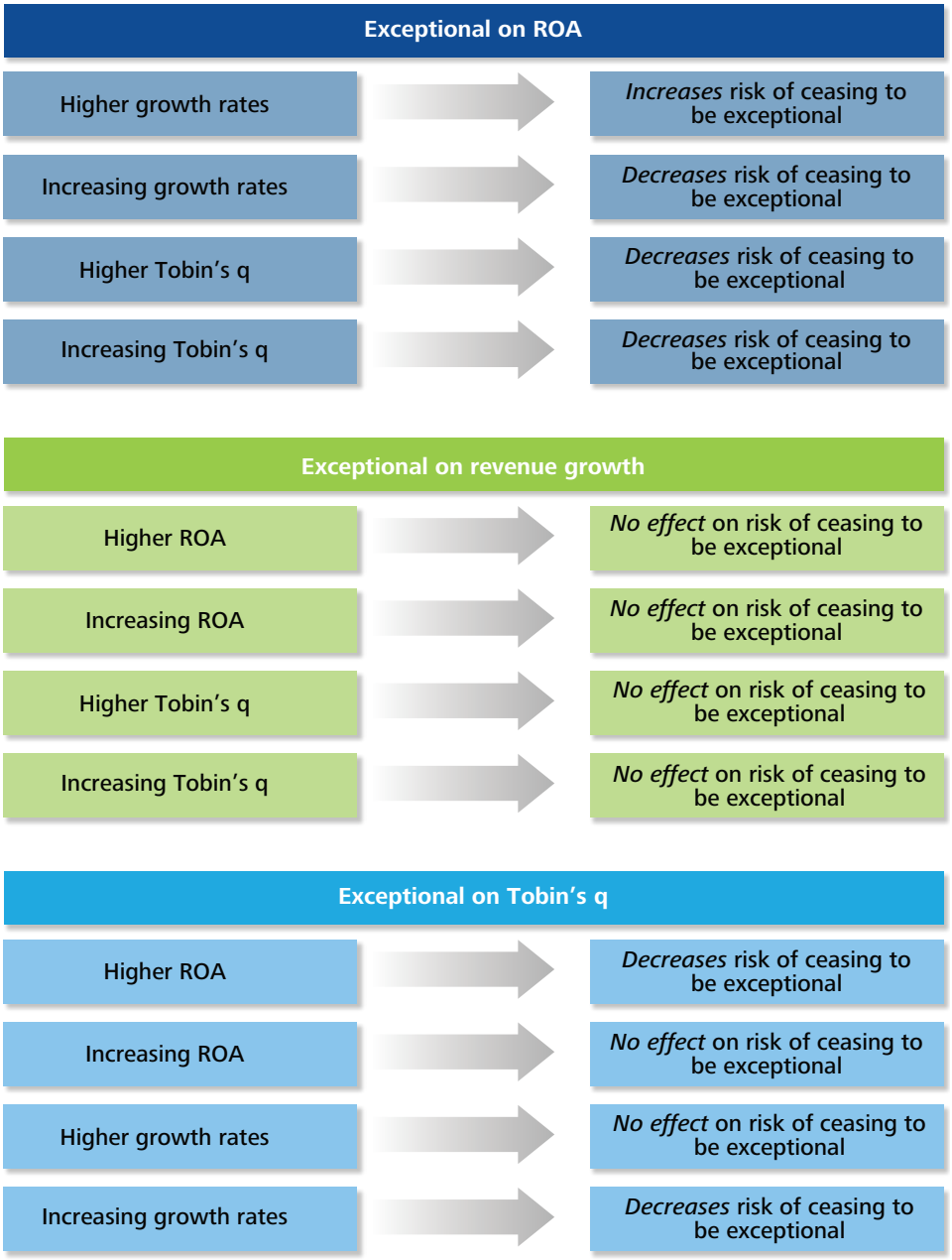
BEATING THE ODDS

Based on its frequency, stability, and durability, profitability seems to offer a firmer foundation upon which to build exceptional performance. But does profitability come at the expense of standout revenue growth or value creation? Can the latter two performance measures be used to bolster a streak of superior profitability?

Sustaining exceptional performance

To try to answer those questions, for each of profitability, growth, and value, we used event-history modeling techniques (sometimes called survival analysis) to estimate how relative performance on the other two measures affected the risk that a company would cease to be exceptional on the third measure.[14] For example, for

Figure 9. How profitability, growth, and value affect the risk of ceasing to be exceptional



Source: Deloitte analysis.

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companies exceptional on profitability, we assessed whether their performance on growth and value had an impact on their chances of "failure," that is, falling below our threshold for sustained superior performance. For each measure, we looked at both "stocks" and "flows": levels of relative performance (as measured by lagged annual percentile ranks) and changes in those measures.

Figure 9 summarizes our findings, where we find further support for profitability as a centerpiece of exceptional performance. Stronger performance on growth and value creation tends to reinforce exceptional profitability; a move from the 50th to the 75th percentile of value, for instance, reduces the risk that a company will no longer be exceptional on profitability by about 15 percent. And improved profitability in general helps sustain exceptional value creation; a company at the 75th percentile of profitability is roughly 19 percent less likely to cease being exceptional on value than an identical company with just 50th-percentile profitability.

Likewise, our findings indicate that a year-over-year increase in an exceptionally profitable company's growth percentile rank serves to reduce the risk that company will cease to be a superior performer. The key, of course, is accelerating *profitable* growth: ensuring that margins on each incremental dollar of revenue are as strong as or stronger than those for existing sales. Overall, companies with a "profitability first" approach to exceptional performance seem better able to hold on to that standout profitability as they turn their sights to growth.

About the three rules

Deloitte Consulting LLP launched the Exceptional Company research project to determine what enables companies to deliver exceptional performance over the long term. The project studied the full population of all publicly traded companies based in the United States at any time between 1966 and 2010 to identify "exceptional" performers.

To uncover what enabled these companies to turn in this standout performance over their lifetimes, the researchers used quantitative analyses and detailed case studies to compare the behaviors of exceptional performers with companies with average lifespan, performance level, and performance volatility.

They uncovered that exceptional performance hinged on superior nonprice differentiation and higher revenue, typically driven by higher prices. Nothing else seemed to systematically matter; in fact, exceptional companies seemed willing to change anything, and sometimes just about everything, about their businesses in order to sustain their differentiation and revenue leads.

Hence, the three rules:

1. *Better before cheaper*: Don't compete on price, compete on value.
2. *Revenue before cost*: Drive profitability with higher volume and price, not lower cost.
3. *There are no other rules*: Do whatever you have to in order to remain aligned with the first two rules.

A company's risk of ceasing to be exceptional on growth, in contrast, is neither helped nor harmed by performance on the other two measures. We also find some evidence for the classic trade-off between profitability and growth. For companies already achieving exceptional profitability, higher levels of relative growth actually put that status at greater risk; a shift from the 50th to the 75th percentile *increases* the chances that a company will stop being exceptionally profitable by more than 13 percent. In short, our findings indicate that it's comparatively hard to maintain high relative growth and profitability at the same time. Given that exceptional growth tends to be shorter lived and more erratic in its frequency, we would argue that it provides a comparatively poor foundation upon which to build sustained superior performance.

Regaining exceptional performance

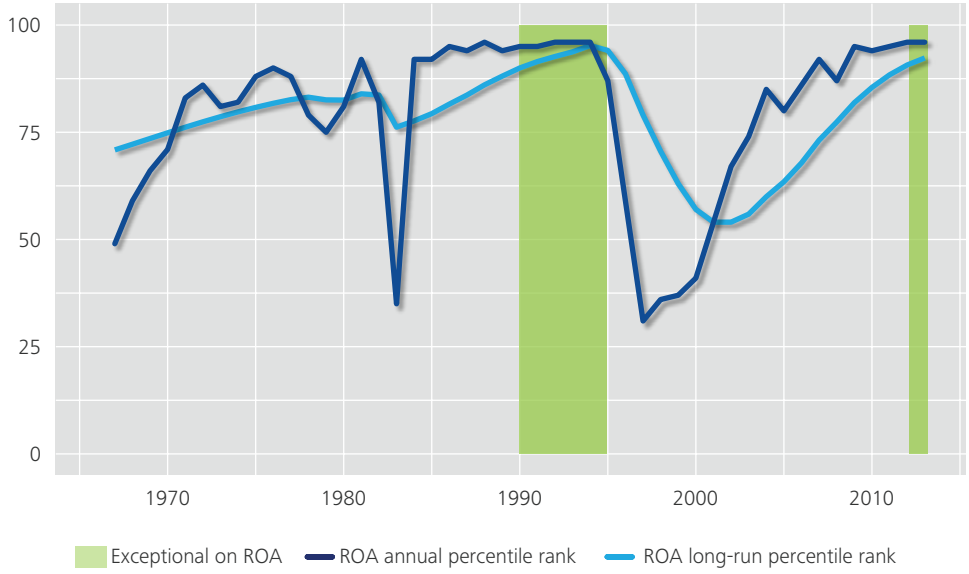
We have seen the merits in pursuing sustained superior profitability. But what if, despite best efforts, results slip, and a company ceases being an exceptional performer? What can be learned from companies that have defied the odds and managed to regain exceptional performance after having lost it? Our earlier research uncovered three rules that companies tend to follow to achieve standout profitability (see the sidebar "About the three rules"), and here we find that adhering to the rules—or not—influences how long a company remains exceptionally profitable and whether it is able to recover from a period of lower performance. In short, straying from the rules tends to prompt a loss of exceptional profitability, while refocusing on them can help a company regain its standout results.

Consider, first, Rollins Inc., which provides pest control services and protection against termite damage, rodents, and insects to more than 2 million customers globally. Data show that the company enjoyed strong profitability for much of its history, breaking into exceptional territory from 1990 to 1995. Then, based on publicly available data, it appears that for several years the company faced challenging market conditions driven by unusually mild termite seasons and changes in building and environmental regulations. At the same time, Rollins undertook a series of strategic initiatives to broaden its footprint, including a franchising program and acquisitions in Canada and Mexico. The result was a drop in its relative profitability from a high of 96 in 1993 to a low of just 31 in 1997.

Through the late 1990s and early 2000s, Rollins continued making acquisitions and instituted several changes to its pest control offerings, including a new directed-liquid termite baiting system and a recurring service plan for residential customers (again, these developments are listed in publicly available information). Rollins saw its profitability steadily improve over the last 15 years, ultimately regaining its status as an exceptional company in 2012 (figure 10).[15]

Figure 10. Rollins' ROA performance

Percentile rank



Source: Compustat, Deloitte analysis.

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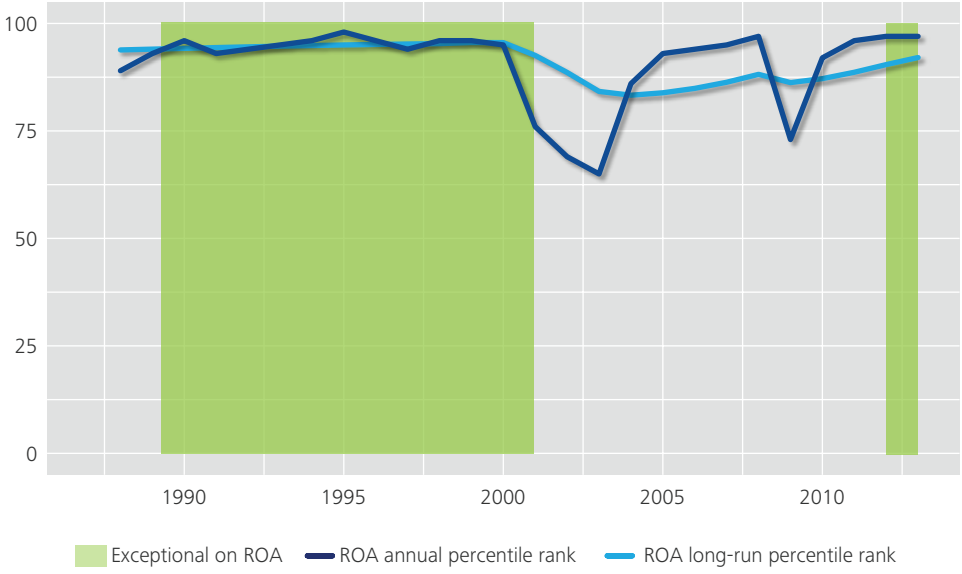
Figure 11. Fastenal's ROA performance

Percentile rank



Source: Compustat, Deloitte analysis.

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Fastenal's decline was not as steep as Rollins', nor its recovery as dramatic, but publicly available information reveals another critical lesson about sustaining exceptional performance. Fastenal, a supplier of industrial and construction goods, enjoyed a 13-year streak of exceptional profitability spanning the 1990s (figure 11). But at the turn of the millennium, it appears that its product mix shifted toward lower-margin goods—in defiance of rule 1—while a spate of store openings and a major store redesign project increased costs, pushing its profitability down and ending its run of exceptional performance. The expansions and redesigns ultimately paid off, and, coupled with a renewed focus on maximizing same-store profitability, Fastenal saw its profitability recover throughout the 2000s, ultimately regaining exceptional status in 2012.[16] In this case, Fastenal made strategic investments in its business—even as it increased near-run costs—with the expectation that those investments would redound to the bottom line in time.

These examples are merely illustrative, but they suggest that straying from the rules very often can cost a company its exceptional profitability. The consolation is that, even if a company turns away from them for a time, the rules will continue to provide a potential path back to exceptional performance.

A CASE FOR PROFITABILITY

We began our investigation into the drivers of sustained superior financial performance nearly 10 years ago. We initially focused on profitability, as measured by ROA, because we felt it best captured managerial influence over a company's trajectory (rather than a measure such as share price). A multiyear research effort led us to conclude that companies that achieved exceptional profitability followed three fundamental rules (see the sidebar "About the three rules").[17] We subsequently expanded our perspective on performance to include the three fundamental dimensions on which a company can create wealth: profitability, growth, and value creation. We uncovered that profitability often figured prominently for companies with multidimensional exceptional performance.[18]

In this paper, we asked a fundamental question: Is exceptional performance worth pursuing? We would answer with a resounding "yes." Attaining exceptional performance is challenging, and we realize that relatively few companies succeed. The companies that deliver sustained superior performance do so, on average, for many years. But such an achievement is not permanent, and those who lose their standout performance are rarely able to reach such heights again.

And we found, once again, this time in the context of durability of performance, that profitability is the long pole in the tent of exceptional performance.[19] It is

durable: The median streak of exceptional profitability is twice as long as the median streak of exceptional growth. It is stable: The frequencies of growth-driven and value-driven exceptional performance are erratic, in part because of the volatility associated with each of those measures. It is reinforcing and reinforceable: Stronger profitability makes a company more likely to remain exceptional on value creation, and stronger performance on growth and value tends to reduce the risk of ceasing to be exceptionally profitable. And there is a path to recover it if lost: The rules for achieving superior profitability in the first place are equally effective for regaining it.

Reaching the upper echelons of financial performance is only the beginning; staying there presents its own unique challenges and opportunities. And if you're still climbing through the ranks, you may want to consider how these lessons might apply once you reach the top—if for no other reason than to avoid being caught flat footed should your performance aspirations come to fruition. DR

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Endnotes

1. See, for example, Michael E. Raynor and Mumtaz Ahmed, *Charting superior business performance: The drivers of breakthrough financial results*, Deloitte University Press, January 2015, http://dupress.com/articles/exceptional-business-performance-deloitte/; Rob Del Vicario, Michael E. Raynor, and Mumtaz Ahmed, "The journey to exceptional performance," *Deloitte Review* 16, Deloitte University Press, January 2015, http://dupress.com/articles/strategies-to-improve-business-performance/; Michael E. Raynor et al., "A theory of relativity: Setting priorities and goals for financial performance improvement," *Deloitte Review* 17, Deloitte University Press, July 2015, http://dupress.com/articles/improving-financial-performance-priorities-goals/.
2. Patrick Viguerie and Caroline Thompson, "The faster they fall," *Harvard Business Review*, March 2005, https://hbr.org/2005/03/the-faster-they-fall; Richard A. D'Aveni, *Hypercompetition* (New York: Simon and Schuster, 1994).
3. Ian Hathaway and Robert Litan, *The other aging of America: The increasing dominance of older firms*, Brooking Institution, July 2014, www.brookings.edu/research/papers/2014/07/aging-america-increasing-dominance-older-firms-litan; Ian Hathaway and Robert Litan, *Declining business dynamism in the United States: A look at states and metros*, Brookings Institution, May 2014, www.brookings.edu/~/media/research/files/papers/2014/05/declining%20business%20dynamism%20litan/declining_business_dynamism_hathaway_litan.pdf.
4. See "The Exceptional Company" collection, http://dupress.com/collection/the-exceptional-company/.
5. Michael E. Raynor and Mumtaz Ahmed, *The Three Rules: How Exceptional Companies Think* (New York: Penguin Books, 2013).
6. Raynor et al., "A theory of relativity."
7. As described earlier, a company is deemed exceptional only if its long-run average performance exceeds the benchmark. In short, a single "good" year is insufficient to establish statistical exceptionality.
8. Figure 4 plots the median absolute deviation of normalized absolute ROA, revenue growth, and Tobin's q. Data are normalized because they operate on different scales. Median absolute deviation is the median of absolute deviations from the data's overall median. It is a measure of volatility that is less sensitive to outliers.
9. Greg Ip, "Why corporate America could use more competition," *Wall Street Journal*, July 9, 2015; John T. Landry, "Business competition has not gotten fiercer," *Harvard Business Review*, July 23, 2015; Rita Gunther McGrath, "Transient advantage," *Harvard Business Review*, June 2013; Peter Weill and Stephanie L. Woerner, "Thriving in an increasingly digital ecosystem," *Sloan Management Review*, Summer 2015.
10. Conceptually, Tobin's q is the market value of a company divided by the replacement value of its assets. We estimate this with:

$$\frac{\textit{(Common shares outstanding} \times \textit{Share price at calendar year end)} + \textit{Preferred stock total} + \textit{(Total long-term debt} + \textit{Total current liabilities} - \textit{Total current assets)}}{\textit{(Total assets)}}$$

    See Kee H. Chung and Stephen W. Pruitt, "A simple approximation of Tobin's q," *Financial Management* 23, no. 3 (1994): pp. 70–74; D. E. Lee and J. G. Tompkins, "On the measurement of Tobin's q," *Journal of Financial Economics* 28, no. 1 (1999): pp. 20–31.
11. Edward L. Kaplan and Paul Meier, "Nonparametric estimation from incomplete observations," *Journal of the American Statistical Association* 53, no. 282 (1958): pp. 457–81.
12. Susan Berfield and Lindsey Rupp, "The aging of Abercrombie & Fitch," *Bloomberg Business*, January 22, 2015, www.bloomberg.com/news/features/2015-01-22/the-aging-of-abercrombie-fitch-i58ltcqx.
13. Ibid.
14. In particular, we estimated conditional frailty heteroskedastic Cox models. These models can account for multiple events (such as multiple periods of exceptional performance) and adjust for unobserved heterogeneity among firms. See Janet M. Box-Steffensmeier and Suzanna De Boef, "Repeated events survival models: The conditional frailty model," *Statistics in Medicine* 25, no. 20 (2006): pp. 3518–33.
15. Rollins Inc. 10-Ks, 1995–2000.
16. Fastenal Co. 10-Ks, 2000–2013.
17. Raynor and Ahmed, *The Three Rules*.
18. Raynor and Ahmed, *Charting superior business performance*.
19. For more on profitability and exceptional performance, see ibid.