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## SURVIVAL OF THE **FATTEST**

BY MICHAEL RAYNOR, MUMTAZ AHMED AND JAMES GUSZCZA  
> ILLUSTRATION BY IGOR MORSKI

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Two years ago, Deloitte launched The Persistence Project to identify the management practices that contribute most to sustained, superior corporate performance. Preliminary results have been published in the Harvard Business Review and the Annals of Applied Statistics. With this issue, Deloitte Review begins a series of articles providing a sneak peek into the Project's findings. See [www.deloitte.com/us/persistence](http://www.deloitte.com/us/persistence) for more and to join the conversation.

# SURVIVAL OF THE FATTEST

BY MICHAEL RAYNOR, MUMTAZ AHMED AND JAMES GUSZCZA  
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Both the recent cyclical declines in corporate performance and the prospect of a longer-term and secular restructuring promise to create a new pecking order in much of economic life.

At one level, this is nothing new: finding ourselves with a changing roster of winners and losers defines a dynamic economy. That no company stays on top forever is hardly a surprise, and the rise of new champions signals both innovation by companies and the ascendancy of new industries.

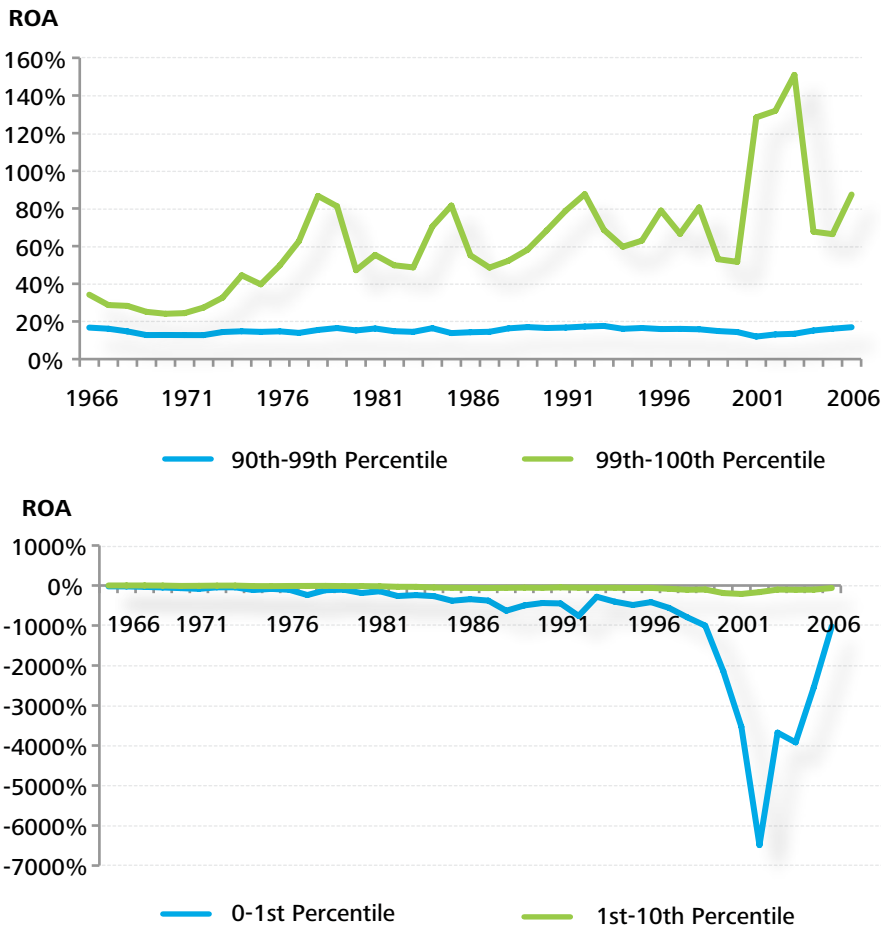
However, over the last 40 years a gradual shift in the shape of winning and losing has been playing out. Our analysis of the distribution of the return on assets (ROA) performance of companies publicly traded in U.S. markets reveals an economy that rewards dynamism and value creation while punishing poor performance severely – but, increasingly, only at the extremes. Specifically, the best performing firms have seen their profitability surge over time, while the worst performing are doing worse than ever. In the middle, however, performance is in decline even as the asset base controlled by ever more spectacularly mediocre firms relegates ever-greater asset bases to stagnation.

EXTREMES AT THE EXTREMES

As documented by our colleagues in the Deloitte\* *Shift Index* ([www.deloitte.com/us/shiftindex](http://www.deloitte.com/us/shiftindex)), the asset-weighted average ROA for companies traded in U.S. markets has been in long-term and steady decline: since 1966 it has fallen from nearly 5 percent to 0.5 percent in 2008. As is often the case with averages, however, this overall trend masks important differences in the performance of smaller groups within the general population.

Notable in Figure 1 is the sharp increase in the ROA of the top 1 percent of firms while the rest of the top decile is essentially flat. In contrast, the returns to the bottom 1 percent have fallen by a factor of 50! Indeed the returns of the entire bottom decile have declined markedly. In short, the spoils of victory are sweeter than ever, but they accrue to fewer than ever, while defeat brings with it unprecedented agony to a much broader population of poor performers.

Figure 1. Asset-weighted average ROA for specified percentiles



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## POPULATION-LEVEL ROA ANALYSIS

The statistical analysis of ROA data requires a set of analytical tools suited to the characteristics of the population. A brief review of a number of remarkable features will make the interpretation of the charts and arguments in the main text more intuitive.

The distribution of ROA data does not lend itself to the “cookbook” statistics most of us learned in high school. Although one can calculate the mean and standard deviation of the population, these quantities don’t have familiar meanings, for the underlying distributions have non-constant standard deviations (heteroskedastic) and are highly “peaked” with very long tails (kurtotic).

As a result, “non-parametric” approaches are far less likely to lead us astray. The methods used in the Persistence Project are explained in detail in “A Random Search for Excellence,” available at [www.deloitte.com/persistence](http://www.deloitte.com/persistence). For the analysis reported here, we have relied exclusively on sorting the population of firms by deciles. Each decile contains, by definition, 10 percent of the total population of firms in any given year. Within deciles the distribution of firms is still peaked and skewed but is not nearly so distorting. Consequently, summary statistics such as the asset-weighted averages are still meaningful and can be interpreted a more conventional way.

Some circumspection is still required. In particular, the ranges of ROA values covered by the upper and lower deciles are much larger than in the middle of the distribution. To see this most clearly, imagine the ROA range in the 0th (lowest) and 9th (highest) deciles. Each extends theoretically without limit, and in practical terms into the triple digits, into negative and positive territory respectively. In contrast, the 4th decile (covering the 40th-49th percentiles) covers little more than 1 percent in ROA values in 2006, from 1.1 percent to 2.2 percent.

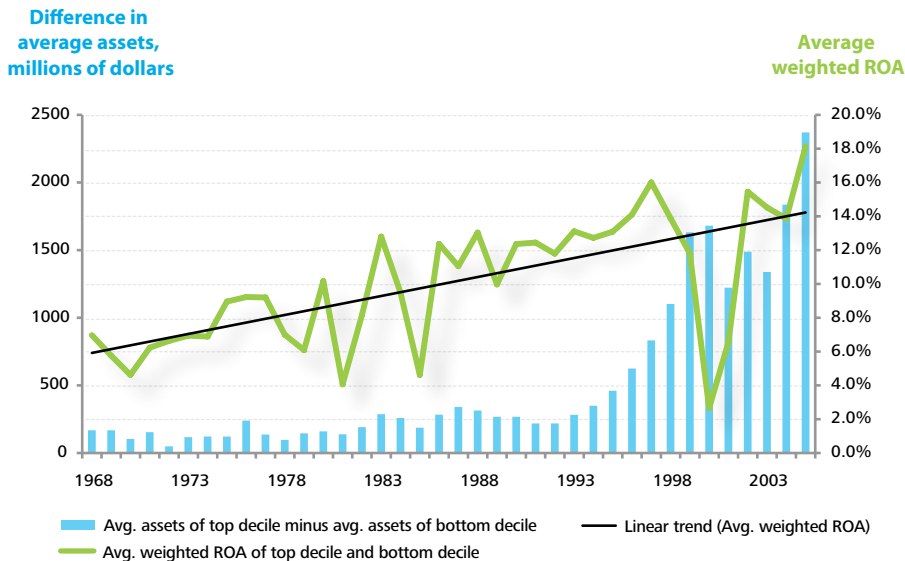
The implications of this feature are many, but for present purposes it has particular significance for the analysis of the churn rates summarized in Figure 3. Specifically, the 4th and 5th deciles cover barely more than a 2 percent range in ROA values. Consequently, falling churn rates here imply what one might poetically call a preternatural stability in membership compared to the rising churn in the top decile, which covers a much broader range of outcomes.

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The significance of higher highs and lower lows should be interpreted in light of the net effect: are the *expected* returns of the full population of winners and losers changing over time? It turns out that they are, and in perhaps surprising ways. The asset-weighted average ROA of the top and bottom deciles of performers, considered as a single group, has increased dramatically over the last 40 years, doubling from approximately 7 percent to over 14 percent. The driver of this shift is the significantly higher asset base of the best performing firms compared to the basement-dwellers. While the asset base of the top decile

has always been larger than that of the bottom decile, the difference between the two has grown by an order of magnitude since the mid-1960s. That successful firms are magnets for investment while failing firms are starved out of existence is an unalloyed virtue.

Figure 2. Strong performance at the top more than outweighs weak performance at the bottom



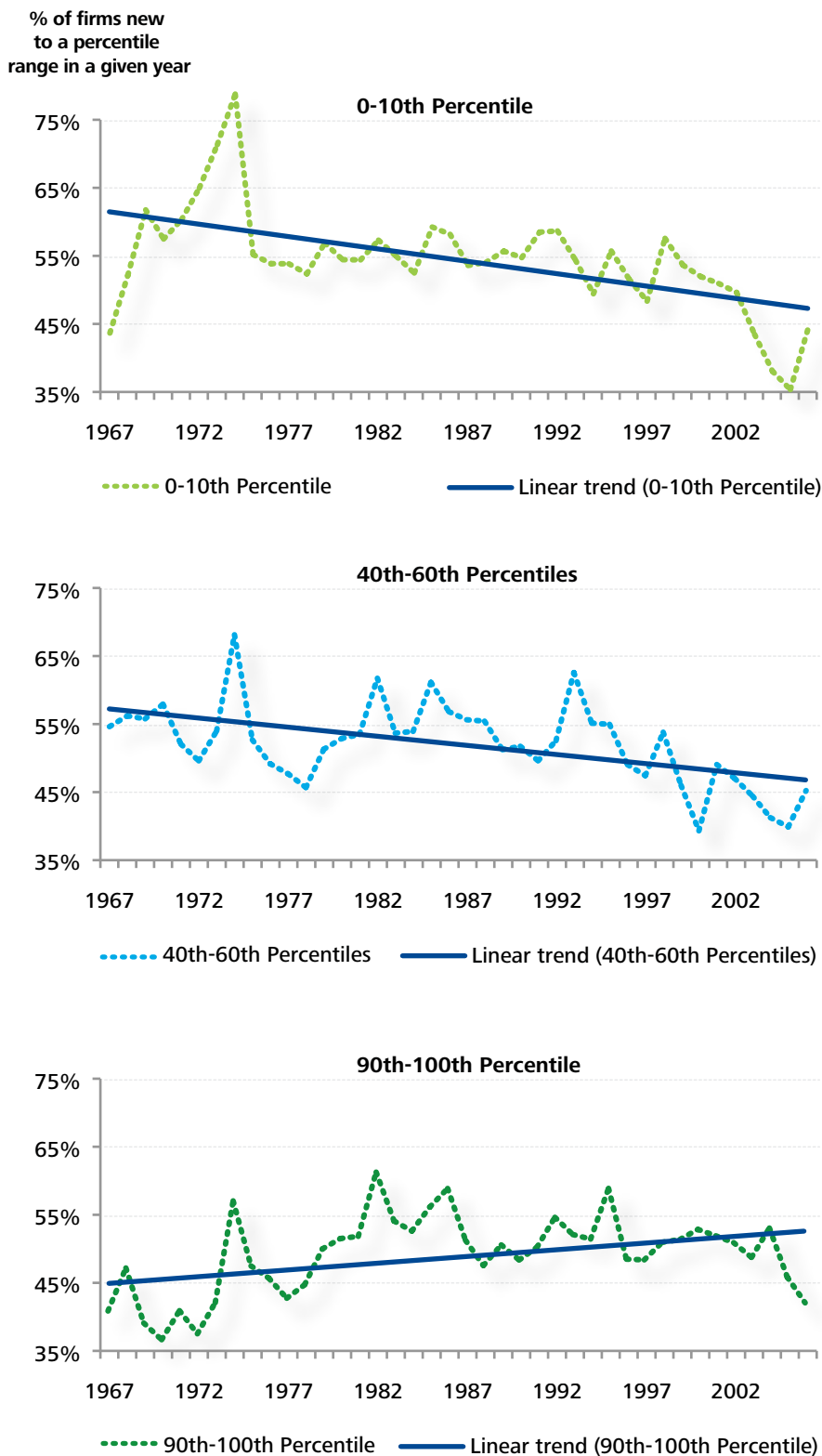
These market pressures play out in fascinating ways. Churn, as measured by the percentage of companies in a given decile that are new to that decile in each year, has been increasing for high flyers but declining for bottom feeders. Our interpretation is that since returns captured by the best performing firms are high and getting higher, they are attracting more competitors, and having more competitors makes one's tenure at the top more tenuous.

But lower churn at the bottom ... isn't that a sign of marketplace sclerosis? Not necessarily. A defining feature of deciles is that 10 percent of the population of firms always falls into each one. Consequently, lower churn in the very lowest decile most likely signals that fewer firms are getting "bad enough" to fall that low: they either reverse their fortunes or disappear, go bankrupt or, more likely, are acquired while they still have some value.

Once they hit rock bottom, however, more successful firms are probably less likely to buy such potentially severely compromised assets, leaving only the relatively prolonged suffocation imposed by dwindling profitability. Hence the steady downward trend in assets controlled by the very worst performers.

In short, excellence is rewarded but winners must remain ever vigilant to remain on top, while declining firms either pull up their socks or waste away.

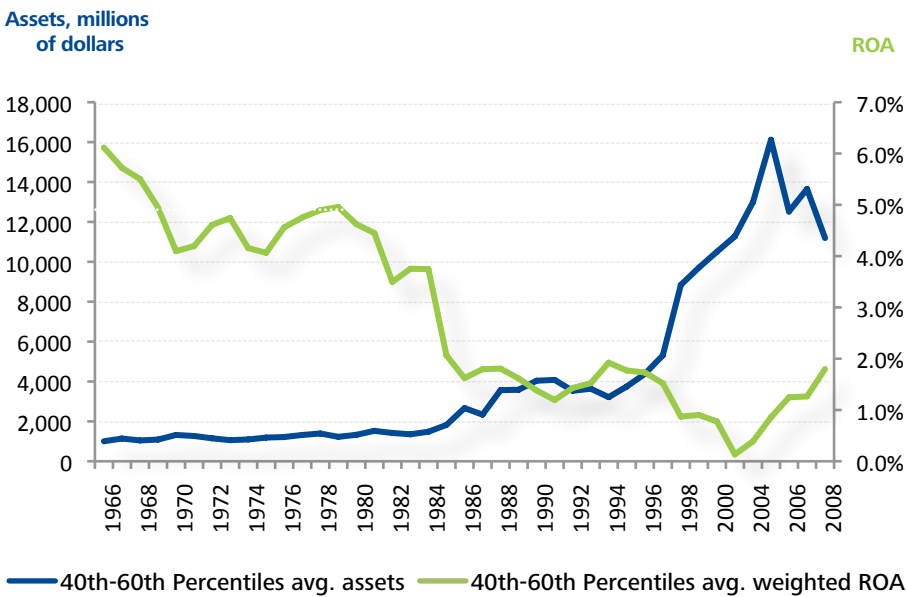
Figure 3. Churn rates for specified percentile ranges



In a free market system, these are the sorts of characteristics one would hope to see manifest.

But this upbeat message is perhaps best seen as merely the silver lining to a much larger and deeply concerning cloud. Although the strong returns and growing asset base of the top echelon more than compensate for plunging returns at the other end of the spectrum, returns in the middle of the distribution have fallen by two-thirds over this same time period, from around 6 percent to less than 2 percent. Worse still, the churn rate in the middle has been gradually trending down. Most injurious of all, the asset base of the firms with deteriorating performance has exploded in the last 20 years, increasing by a factor of seven, even as the churn in this tranche of the distribution has fallen.

Figure 4. Average assets and asset-weighted average ROA for 40th-60th percentiles



These highly inconvenient facts are hardly consistent with an efficient market in which firms grow in lockstep with their success, attracting assets to their best use, then shedding assets as their dominance evaporates, releasing capital to fund the next rising star. Instead, it is a picture of firms grasping desperately at whatever straws are within reach in an attempt to stave off imminent decline. Firms in the middle of the distribution, it would appear, are trying to bulk up and ensure that they are too corpulent to get sucked down the drain they are circling.



## DARWIN'S FAILURE

Our commercial system is, at first by instinct but now by intent, Darwinian in its underlying structure. We try to avoid (if not always successfully) the intervention of a would-be omniscient social planner who decides *ex ante* who will win or lose, survive or die. Rather, our general preference is to allow the process of unceasing competition to determine who ends up on top and how long they stay there.

The efficiency of such a system depends on two critical and conflict-

It is entirely possible—indeed, highly probable—that those leading the firms stuck in the middle are driven by the belief that getting larger will improve their performance. And one can no more blame these firms from behaving as they do than one can blame a wounded wildebeest for struggling to escape a crocodile's jaws.



ing forces. First, that each participant should struggle valiantly and to its last breath to preserve its own existence. No antelope, no matter how sick or dying, *surrenders* to the lions; it forces its predators to *catch it*. Similarly, few firms precipitate their own extinction when there is even a glimmer of hope for survival. And this is as it should be.

However, the evolution of species in nature works its magic by pitting against the primal urge to survive the merciless and dispassionate forces of

natural selection. These forces must operate unencumbered lest the weak be spared the consequences of their infirmities.

The problem, then, is not that firms seek to stay alive, but that they appear too able to use a value-destroying means to achieve an entirely laudable goal. Close inspection of Figure 4 reveals that the asset base of the middle deciles did not begin to increase appreciably until the early 1980s, after almost 20 years of declining ROA. In other words, the middle got feeble before it got fat. The resulting bulk has meant that, although selection pressures have been driving good firms to greatness and weeding out the terminally ill, in the middle

we have seen only the amplification of mediocrity.

It is entirely possible—indeed, highly probable—that those leading the firms stuck in the middle are driven by the belief that getting larger will improve their performance. And one can no more blame these firms from behaving as they do than one can blame a wounded wildebeest for struggling to escape a crocodile’s jaws. Unfortunately, in economic life, unlike on safari, the forces of selection are not powerful enough to prevent these assets from falling into the choking grasp of de-

cidently unexceptional firms. The failure of these selection pressures serves, perversely, to depress the performance of the middle tier still further and increase their misery. The net effect has been to compromise the profitability of the entire economy.

#### YOU CATCH ONLY WHAT YOU CHASE

These data and our interpretations are far from definitive. But they are eerily consistent with the folk wisdom of good management. For example, the notion that you should fix a broken business before you try to grow it fits well with the observation that the middle deciles were unable to reverse their declining ROA by increasing their asset base. For all the academic research into the importance of economies of scale or network effects and the virtues of “get big fast” strategies, such circumstances seem to be sufficiently rare

Perhaps the upside of all this down is that it reinforces something that most of us know, but might do well to be reminded of periodically: that there are no shortcuts to greatness. Whatever the changing competitive context, there are some bedrock principles of business that still apply.

to be invisible in the aggregate. If you seek bulk, that is likely to be all you will achieve. Only with great circumspection should one abandon the belief that growth is a consequence of excellence, not a cause.

Perhaps the upside of all this down is that it reinforces something that most of us know, but might do well to be reminded of periodically: that there are no shortcuts to greatness. Whatever the changing competitive context, there are some bedrock principles of business that still apply. And one such maxim might very well be, to paraphrase the old Smith Barney ad, that if you want to make money, you'd best earn it.

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