

## Alpha and the 0.400 Hitter

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Ted Williams was the last MLB player to hit 0.400, back in 1941. To most this is a useless stat relegated to diehard baseball fans, to others it describes a game of the bygone era. An era of greatness in America's pastime, when players cared more about the game and their craft than their paychecks.

Author Stephen Jay Gould, in his book *Full House*, tries to identify why there has been a long drought in achieving the monumental 0.400 batting average. He begins by recognizing that batting average is not an absolute statistic but rather a relative one, hitter vs. pitcher. Using statistical analysis and intuition he concludes that hitters of today are not inferior to those of the great 0.400 hitters of the past, and that in fact, on average, are better than their predecessors. The disappearance of the 0.400 hitter is a by-product of more efficient "play" in the system.

Investing, to a great extent, is also a relative endeavor, pitting buyers vs. sellers. Legendary investors, such as Sir John Templeton, John Neff, and Peter Lynch, who exhibited consistent alpha (outperformance) generating track records, could be considered the 0.400 hitters of their day. Today, however, the "star" fund managers are much more difficult to identify. Most would point to Warren Buffet as the modern-day equivalent of the 0.400 hitter, but even Berkshire Hathaway's stock performance BRK.A (his collection of investments) has trailed the S&P 500® over the last 15 years. In analyzing the demise of the 0.400 hitter, Gould has made certain arguments which could help explain the disappearance of the once famed "star" investment managers.

For his main argument Gould writes, "I have proposed that 0.400 hitting be reconceptualized as an inextricable segment in a full house of variation – as the right tail of the bell curve of batting averages – and not as a self-contained entity whose disappearance must record the degeneration of batting in some form or other. In this different model and picture, 0.400 hitting disappears as a consequence of shrinking variation around a stable mean batting average. The shrinkage is so exceptionless, so apparently lawlike in its regularity, that we must be discerning something general about the behavior of systems through time."<sup>1</sup>

His thesis is premised on two central arguments:

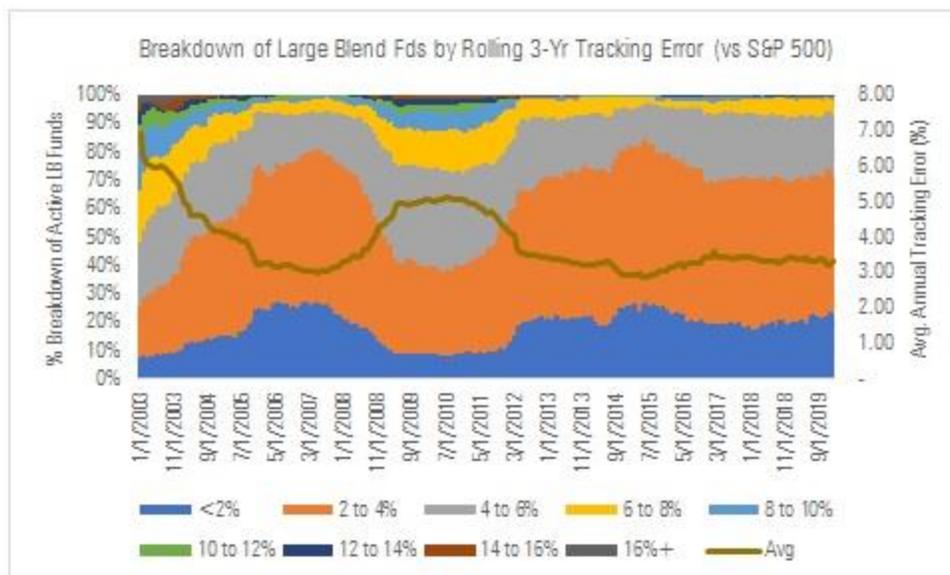
- 1) Complex systems improve when the best performers play by the same rules over extended periods of time. As systems improve, they equilibrate and variation decreases.
- 2) As play improves and bell curves march toward the right wall, variation must shrink at the right tail.

Gould points out in argument one that, "dedicated performers are constantly watching, thinking, and struggling for ways to twiddle or manipulate the system in order to gain a legitimate edge (new techniques for hitting a curve, for gobbling up a ground ball, for gyrating in a windup to fool the batter). Word spreads, and these minor discoveries begin to pervade the system. The net result through time must inevitably encourage an ever-closer approach to optimal performance in all aspects of play." He goes on to state, "describing a general property of systems composed of individual units competing with one another under stable rules and for prizes of victory, individual players struggle to find means for improvement – up to limits imposed by balances of competition and mechanical properties of materials- and their discoveries accumulate within the system, leading to general gains toward an optimum. As the system nears this narrow pinnacle, variation must decrease – for only the very best can now enter, while their predecessors have slowly, by trial and error, discovered better procedures that now

cannot be substantially improved. When someone discovers a truly superior way, everyone else copies and variation diminishes.”

These principles have parallels to the investment world and may help explain the disappearance of “star” fund managers. Professional investors are always looking for a legitimate edge, retooling prior investment methods or discovering more robust investment frameworks. One such investment method that has pervaded the investment universe is factor (value, quality, low vol, etc.) investing. As factor investing becomes more utilized through the system the alpha generated deteriorates. Research Affiliates studied 8 different factors and showed that on average the annualized return decreased by 3.3% after publication.<sup>ii</sup> Professional investors are continually learning to achieve better outcomes, trying to find alpha against one another. Often, these small edges or discoveries leak into the investor universe, gets copied and diminishes the edge.

One tenet of Gould’s argument is that the variation of batting averages has contracted through time. His research showed that the average top 5 and bottom 5 batting averages has converged towards the mean batting average through time, which remarkably has stayed stable, around .260ish. This is indicative of a system reaching peak performance, where the best and weakest performers converge towards a mean. One way to look at variation of performance in investing is through the lens of tracking error. Tracking error gives us an indication of how closely an investment method is “tracking” its stated benchmark. The higher the tracking error the greater the dispersion of return from the stated benchmark (greater variation), translating to the opportunity for significant out or underperformance.



<https://twitter.com/syouth1/status/1229408719731142658>

Jeffrey Ptak, of Morningstar Research Services, was able to provide me with a graphical representation of tracking error for Large Cap Blend mutual funds on a 3-year rolling basis. You can see that since 2003, the average tracking error has a downward sloping bent, which means that the dispersion of returns around the S&P 500® over time has decreased. This could mean that large cap managers are managing more and more to an index (closet indexing) or, per Gould’s argument, that the system is becoming more efficient and that the relative performance of managers will skew more and more towards the mean outcome. My suspicion is that the declining tracking error is a function of both devices.

Argument two that Gould uses for assessing the demise of the 0.400 hitter also has some relevance to active management. Gould states “A flattening out of improvement signals approach to the right wall, as sports mature due to the promise of ever greater rewards, become accessible to all, and optimize methods of training. This flattening out must represent the approach of the best to the right wall. The longer a sport has endured with stable rules and maximal access, the closer the best should stand to the right wall, and the less we should therefore expect any sudden and massive breaking of records.”

Though the execution and practices have changed, investing itself is a mature field. The internet, platform accessibility, and reduced costs have allowed for entry of competitors from around the world. This larger pool of participants builds upon previous generations of investment methods and ideologies, with each participant becoming more informed and efficient in their trading methods. The system, therefore, becomes more and more optimized.

Gould’s overarching premise is that systems which have rules, stability, and maturity, tend to equilibrate, leading to a shrinkage in variation among its participants. Applied to investing, this framework helps explain why “star” fund managers are more difficult to find. As pointed out in our earlier [blog](#), we don’t believe that active managers are worse or less talented than in the past, in fact, they are more talented, informed, and equipped. This leads us to believe that there are “star” fund managers, and will continue to be so, but creating alpha becomes ever more challenging with so many.

“Perhaps no giants inhabited the earth during baseball’s early days, but the best then soared so far above the norm that their numbers seemed truly heroic and otherworldly, while our current champions cannot rise nearly so far above the vastly improved average.” – Gould

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[i] (Gould, Full House; The Spread of Excellence From Plato To Darwin 1996)

[ii] [https://www.researchaffiliates.com/en\\_us/publications/articles/541\\_timing\\_smart\\_beta\\_strategies\\_of\\_course\\_buy\\_low\\_sell\\_high.html](https://www.researchaffiliates.com/en_us/publications/articles/541_timing_smart_beta_strategies_of_course_buy_low_sell_high.html)