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PERSPECTIVES
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Concentrated portfolio managers: Courageously losing your money

March 2025

- There is little evidence that concentrated portfolios generate high alpha.
- Concentrated portfolios are risky, generating huge drawdowns and massive wealth destruction.
- The mistaken faith in concentration is driven by overconfident portfolio managers plus the pervasive failure to account for survivorship bias.

At least since John Maynard Keynes, many successful investors have advocated holding concentrated portfolios. Warren Buffett scoffs at diversification and suggests that holding three stocks could be enough. Advocates of concentration say that “diworsification” is practiced by cowardly asset-gathering index-huggers who lack the purity and conviction that can only come from deep fundamental research. This view is seemingly vindicated by some amazing successes. For example, in 2024, Institutional Investor reported that the year’s top-performing hedge fund, up 122%, held only five stocks.[1]

The widespread belief in concentrated portfolios is completely misguided. Extreme concentration, such as holding fewer than 25 stocks or putting more than 50% active weight in the top ten names, is a recipe for disaster. The fact that the top hedge fund of 2024 is concentrated is unsurprising, not because concentration is good (it isn’t), but because concentration leads to volatility. You’d expect to find concentrated funds at either the top or the bottom of any list ranked by performance. Indeed, the top fund of 2024 was down 77% in 2022.[2]

Here, I explain why concentration is bad and diversification is good. I start by assessing the arguments in favor of concentrated portfolios, including the deluded belief that concentration brings both high return and low risk. I review the extensive record of client wealth destroyed by overconfident concentrators, and then discuss the conceptual errors underlying the enduring appeal of concentration.

While portfolio construction may seem like a narrow topic, it raises deep questions about the human condition. How can we navigate a world of chaos? What are the limits of human comprehension? I don’t have all the answers, but I’ll provide wisdom from the great works of Western civilization: the Bible, Shakespeare, and *Star Wars: Episode IV – A New Hope* (1977).

Embrace your ignorance

We’ll start with the most basic feature of what it means to be human: ignorance. Here’s Buffett in 1996, laying out the case for concentrated portfolios:

> *You know, we think diversification is — as practiced generally — makes very little sense for anyone that knows what they’re doing.*
>
> *… Diversification is a protection against ignorance.*
>
> *…. I mean, if you look at how the fortunes were built in this country, they weren’t built out of a portfolio of 50 companies. They were built by someone who identified a wonderful business. Coca-Cola’s a great example. A lot of fortunes have been built on that.*
>
> *… there is less risk in owning three easy-to-identify, wonderful businesses than there is in owning 50 well-known, big businesses.*

[1] Steve Taub. “One Stock Powers a Hedge Fund to a Triple-Digit Gain,” Institutional Investor, November 21, 2024.

[2] Steve Taub. “Sosin Fell 77% in 2022,” Institutional Investor, January 27, 2023.

> … *If you find three wonderful businesses in your life, you'll get very rich. And if you understand them — bad things aren't going to happen to those three.*[3]

While I'm a big fan of Buffett, this particular passage is a disastrous assembly of folksy misconceptions. For now, let's focus on the one nugget of truth: "Diversification is a protection against ignorance." Yes. That's why everyone should diversify; everyone is inherently ignorant about what the future will bring.

Human beings are neither omniscient nor omnipotent. It is foolish to deny this fact as Buffett does when he says that it's possible to find three stocks and "bad things aren't going to happen to those three."

It's just not true. Consider Coca-Cola. Berkshire had a large, concentrated position in Coke as of 1996, which it has maintained to this day.[4] Before describing the consequences of this concentration, I need to define "horrific," a word that comes in handy when discussing the outcome of portfolio concentration. Suppose you invest $1 in both asset A and asset B in 1996, and you reinvest dividends over time. If today you have 2X more wealth in asset B compared to A, I will say asset A has horrifically underperformed B.

Since 1996, Coke has horrifically underperformed both the S&P 500 and PepsiCo. Contrary to Buffett's claim, something bad did happen to Coke! Buffett's decision to overweight Coke for 27 years is an example of concentration gone awry. Conclusion: Buffett is a fallible human being.

Consider Ecclesiastes 9:11:

> *I returned, and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happeneth to them all.*

Let's express this passage as an equation:

$$(1)\quad R_{MEN\_OF\_UNDERSTANDING} = \alpha + \beta R_{BENCHMARK} + e$$

Buffett apparently thinks that men of understanding are guaranteed to get riches. Not true! Time and chance happeneth to them all. Time and chance, represented by e in the equation, are the essential challenges for both portfolio construction and performance evaluation. Even if you have a giant α, it could be offset by a bad realization of e. So, when you're constructing a portfolio, you should diversify in order to reduce σ_e^2.

Here's Antonio from Shakespeare's *The Merchant of Venice*, explaining why he doesn't worry about one of his cargo ships sinking:

> *My ventures are not in one bottom trusted, nor to one place; Nor is my whole estate upon the fortune of this present year: Therefore my merchandise makes me not sad.*

If you want a portfolio that makes you not sad, you've got to diversify. Time and chance happeneth to us all, and if you don't diversify, an ugly drawdown is more likely to happeneth to you.

Arguments for concentrated portfolios

Here are some commonly made claims about concentration:

A **Moving the needle**. You can't beat the market if you are just holding the market.

B **Limited bandwidth**. A person can only focus on a few stocks, so only "best ideas" will have alpha.

C **High reward**. Concentrated portfolio managers have high average returns. Once freed from the shackles of diversification, they courageously beat the market.

D **Low risk**. Concentrated portfolios are actually less risky. When you deeply research five stocks, you're virtually certain to outperform in the long-term.

I'll discuss each of these points, but here's a quick preview. Point A, totally true. Point B, yes, plausible argument for traditional discretionary managers. Point C, probably false. Point D is just bonkers, totally untrue, and inconsistent with both evidence and theory.

[3] https://buffett.cnbc.com/video/1996/05/06/afternoon-session---1996-berkshire-hathaway-annual-meeting.html

[4] References to this and other companies should not be interpreted as recommendations to buy or sell specific securities. Acadian and/or the author of this paper may hold positions in one or more securities associated with these companies.

MOVING THE NEEDLE, BUT IN WHAT DIRECTION?

It's perfectly true that you can't beat the market if you're just holding the market. However, this fact doesn't imply that concentrated portfolios are a good idea. As I discuss later, concentrated portfolio managers have a long and sorrowful history of moving the needle in the wrong direction.

ARE "BEST IDEAS" A GOOD IDEA?

Keynes said of himself that:

> *I am quite incapable of having adequate knowledge of more than a very limited range of investments. Time and opportunity do not allow more.*[5]

If Keynes, one of the greatest economists of all time, could only focus on a few stocks, then I think we cannot expect more from anyone else.

Under this view, a single human can only identify a handful of "best ideas" that are likely to beat the market. Evidence in favor of this hypothesis comes from Anton, Cohen, and Polk (2021):

> *We find that the stocks in which active mutual fund or hedge fund managers display the most conviction towards ex-ante, their "best ideas," outperform the market, as well as the other stocks in those managers' portfolios, by approximately 2.8 to 4.5 percent per year.*

Unlike many papers in this area, Anton et al. (2021) is competently executed by properly trained economists. I should know; I trained one of them myself. The results are solid.

However, a word of caution. Anton et al. (2021) is often misinterpreted as showing that concentrated portfolios result in high alpha. That's not true, because they don't study concentrated portfolios, they study diversified portfolios. Their finding is that if a manager holds 100 stocks, his best idea outperforms his other 99 holdings.

Based on this result, you might conjecture that it would be better to hire a manager who holds only one stock, but that's only a conjecture. As I discuss next, there's little evidence that concentrated managers have high alpha in the real world.

I'm willing to believe that there are skilled managers who can identify a handful of good stocks, but I'm guessing these managers are most likely working in multi-manager pod shops and not in stand-alone concentrated funds.[6] As a matter of logic, adopting a policy of only hiring concentrated managers might create perverse incentives.[7]

CONCENTRATED PORTFOLIOS DO NOT OUTPERFORM

The preponderance of evidence does not support the idea that concentrated portfolios outperform.

Let's start with individual investors. The evidence is clear: concentration is preferred by the worst investors and produces catastrophically bad outcomes for them. I cover these facts elsewhere,[8] so let me just summarize. Among retail investors, concentration is:

- Favored by investors who are innumerate, overconfident, and have lower measured IQ.
- Negatively associated with alpha (concentrated portfolios underperform the market).
- Positively associated with portfolio volatility.

For mutual fund managers, Pollet and Wilson (2008), Sapp and Yan (2008), and Huang, Sialm, and Zhang (2011) all find that concentration hurts performance. Smith and Shawky (2005) say that the ideal number of holdings is 481.

Similarly, Morningstar finds that

> *The idea that investing with conviction improves returns is a myth. Increasing portfolio concentration is just as likely to hurt returns as it is to help.*[9]

Cremers, Fulkerson, and Riley (2019) discuss evidence that's more supportive of concentration, but the bottom line is that there's no consensus that concentrated mutual funds outperform.

[5] https://novelinvestor.com/john-maynard-keynes-on-concentration/

[6] As discussed in "The Systematic Multi-Strategy Hedge Fund: A Better Alternative?," Acadian, 2024.

[7] As discussed in "Goodhart's Law of Active Management," Acadian, September 2024.

[8] "Invest like the worst: Wealth-destroying portfolio concentration," Acadian, September 2024.

[9] "Portfolio Concentration Has Little Sway on Returns," Morningstar, May 2019.

For institutional investors, my colleagues Seth Weingram and Anshuman Ramachandran find that in the past 10 years, concentrated equity strategies do not have higher alpha.[10] If anything, their data shows that concentration produces lower alpha.

CONCENTRATED PORTFOLIOS ARE VERY RISKY

Advocates of concentration claim that while it may result in high short-term volatility, in the long run it is less risky. In other words, they say that σ_e^2 is high at monthly horizons, but low at 10-year horizons. Monthly volatility, they claim, is merely "noise" that has virtually no relationship to "permanent loss of capital."

Is this assertion mathematically possible? Sure. If returns are negatively autocorrelated, risk falls at longer horizons. For example, consider a Treasury bond that has zero default risk. Monthly price volatility could be high, but yield to maturity is known with certainty and thus long-horizon risk is zero. This dynamic is relevant for the long-term risk of the aggregate stock market as discussed in Barberis (2000).

However, this argument does not apply to individual stocks or portfolios containing a small number of individual stocks. Most of the return volatility for individual stocks reflects permanent fundamental news, as discussed in Vuolteenaho (2002) and Shiller (2014). Your baseline assumption should be that volatility increases with the square root of time horizon, not that it goes to zero due to your cleverness at stock picking. For more on this point, see previous discussions by me[11] or by my colleague Seth Weingram.[12]

Misfortune favors the bold

Here, I give examples of wealth destruction perpetrated by concentrated portfolio managers. The typical pattern is as follows. Initially, the manager has great success holding only a few stocks, outperforms the benchmark over several years, and attracts huge inflows. Subsequently, the manager disastrously underperforms.

This dynamic played out around the tech-stock bubble of 1999/2000. The late 1990s saw the rise of focused funds, including the Janus Twenty Fund and the Merrill Lynch Focus 20.[13]

When the tech stock bubble collapsed after 2000, these funds collapsed more. For example, the Janus Twenty fell 69% from 2000 to 2002 and eventually closed.[14] Many concentrated funds held Enron. Assessing the Enron debacle, *Barron's* wrote that

> *One lesson we hope fund companies learned from their Enron trial: portfolio diversification counts.*[15]

It was not to be.

Swensen (2005) lauded the managers of the Longleaf Partners Fund:

> *Rejecting the cynical, closet-indexing ploy practiced by a host of asset-gathering mutual-fund complexes, the investors at Longleaf Partners take the business risk of constructing a less-diversified collection of positions.*

Swensen's enthusiasm was unwarranted. Since 2005, the fund has horrifically underperformed the S&P 500.

In 2010, Morningstar gave its "Domestic Fund Manager of the Decade" awards to Bruce Berkowitz, a practitioner of extreme concentration. Since 2010, his Fairholme fund has horrifically underperformed the S&P 500.

Perhaps the prime example of portfolio concentration gone awry is Cathie Wood of ARK. She once said, "Most people assume that concentration increases risk; I don't think that's the case."[16] Morningstar studied mutual fund families in 2024 and found:

> *… the ARK family wiped out an estimated $14.3 billion in shareholder value over the 10-year period—more than twice as much as the second-worst fund family on the list.*[17]

Worst ideas

Concentrated portfolio managers often argue that when their holdings fall in price, the market is making a mistake. After all, they are using the power of deep research, so how can they be wrong? Inconceivable!

[10] "Concentrated Equity: Practice vs. Premise," Acadian, October 2024.
[11] "When is a loss not a loss?," Acadian, September 2024.
[12] Weingram, Seth. "Volatility is noise: a convenient myth," Acadian, April 2018.
[13] "'Focused' Funds Choose to Buy Fewer Stocks and Risks Lessen," *The Wall Street Journal*, December 20, 1999.
[14] "Janus Rebuilt," *Kiplinger*, June 29, 2007.
[15] "The Enron Verdict: Always Diversify," *Barron's*, May 8, 2006.
[16] Cathie Wood Snaps Back At Critics, Predicts 50% Annual Returns | etf.com
[17] Arnott, Amy C. "15 Funds That Have Destroyed the Most Wealth Over the Past Decade," Morningstar, February 2, 2024.

Here I review cases where deep research was not enough to prevent losses.

VALEANT

Sequioa's 2014 investment letter:

> *… We think Valeant is poised for more growth, both organic and acquired. We think it is brilliantly managed by Mike Pearson and his team. And yes, we are comfortable with the size of our holding.*[18]

Bill Ackman in 2015:

> *The biggest regret I have with Valeant is that we're not in a position to buy more*.[19]

Valeant eventually fell 93% from its peak, and Ackman exited his position in 2017 after losing about $4 billion.[20]

SEARS

Berkowitz in 2015:

> *Our ongoing valuation work reinforces our longstanding belief that Sears is worth multiples of its current market price.*[21]

Sears fell 70% while Berkowitz held it, during a period in which the market doubled.[22]

WIRECARD

Alexander Darwell of Devon Equity Management in 2020:

> *… I'm extremely comfortable with the Wirecard investment. I might remind you I invest in companies — not stock — and the point about Wirecard is: it's a great company.*[23]

Darwell had 17% of his fund invested in Wirecard in 2019. It ultimately went down about 98%.

I'm not saying these people are stupid. I'm saying they're fallible and have a track record of destroying client wealth.

The behavioral appeal of concentration

Overconfidence is the main cognitive error that leads to excessive concentration. For concentrated portfolio managers who intensively research a handful of stocks, overconfidence is magnified by two related illusions. Here's Barber and Odean (2002):

> *People also become more overconfident when given more information on which to base a forecast (the illusion of knowledge) and they behave as if their personal involvement can influence the outcome of chance events (the illusion of control).*

The illusion of control is reinforced by monitoring a particular stock, as if watching the price somehow influences it. When the stock price falls, concentrators often exert their mastery by buying more of it, which they describe as "exploiting short-term volatility," but which is more accurately described as "throwing good money after bad."

The illusion of knowledge gives concentrated portfolio managers a false confidence in their predictive accuracy. They feel that if they spend 1000 hours studying stock ABC and 10 hours studying stock XYZ, then they should be 100X more confident about stock ABC. And if they've studied ABC for years, it means they're virtually infallible.

Some managers mistakenly believe that inner strength is what matters; as long as they are confident, they have no need to diversify. Here's Buffett:

> *Diversification is protection against ignorance, but if you don't feel ignorant, the need for it goes down drastically.*[24]

Incorrect. The need for diversification is determined by objective reality, not by your feelings. The stock market doesn't care about your feelings.

[18] https://www.valuewalk.com/sequoia-fund-2014-letter/

[19] "Ackman's Biggest Valeant Regret Is Being Unable to Buy More," Bloomberg, November 9, 2015.

[20] "Bill Ackman Lost $7.7 Million Per Day on Valeant Stock," Fortune, March 15, 2017.

[21] http://www.fairholmefundsinc.com/Letters/FAIRX2015AnnualLetter.pdf

[22] "The Best and Worst Mutual Fund Bets of the Past 25 Years," Morningstar, September 22, 2023.

[23] "The fund managers who kept faith with Wirecard," *The Financial Times*, June 19, 2020.

[24] "Warren Buffett's Idea Of Heaven: "I Don't Have To Work With People I Don't Like," Forbes, February 4, 2014.

USE THE FORCE, LUKE

Concentrated portfolio managers see themselves as heroic figures, triumphing over adversity with determination and courage. It is their destiny to win, because they possess the incredible power of intensive research. It's the story of Luke Skywalker destroying the Death Star.

First, Luke undergoes training to acquire esoteric knowledge of the Force (the illusion of knowledge). The Death Star is sinister technology (systematic investing and indexing). Han Solo lacks conviction and flees as the Death Star approaches (clients exit due to poor performance). Luke courageously attacks, trusting in the power of the Force (the illusion of control). His companions fall and all seems lost, but he perseveres (I am right and the market is wrong). He turns off his targeting computer (rejecting diversification). Heeding the mystical advice of his elderly mentor to "Use the Force" (the Force of portfolio concentration), he is victorious.

It's a wonderful story, but it's a fantasy. The elderly mentors you need for portfolio construction are Markowitz and Sharpe, not Buffett.

Let me illustrate using Cathie Wood. In December 2021, at the height of the bubble, she wrote "Innovation Stocks Are Not in A Bubble: We Believe They Are in Deep Value Territory."[25] Here are some excerpts:

- **Esoteric knowledge:** "... if our research is correct – and I believe that our research on innovation is the best in the financial world – then our strategies will triple to quintuple in value over the next five years."
- **The Death Star:** "... quant and algorithm-based strategies seemed to dominate stock market activity..."
- **Han Solo flees:** "Perhaps influenced by negative headlines in the media and by the inherent volatility of our strategy, some clients have sold near the bottoms of market cycles, turning what otherwise would have been temporary losses into permanent losses."
- **Turn off the targeting computer:** "We will not let benchmarks and tracking errors hold our strategies hostage to the existing world order."
- **Use the Force, Luke:** "... we take advantage of volatility during corrections and concentrate our portfolios toward our highest conviction stocks."

Sadly, the Force was not with her. Rather than quintupling, the ARK Innovation ETF is down 48% since December 2021, horrifically underperforming the S&P 500.

Statistical biases

A key idea in performance evaluation is process versus outcome. Process is the method used by the portfolio manager to select securities, and determines the α in equation (1). Outcome is the actual track record that the manager generates; reflecting both α and e. You want a manager who has a process that will work going forward, not a manager who just happened to get lucky in the past.

Ideally, you should select managers based on their process, such as investment philosophy, resources, and employees. Track record should play a lesser role, because it's a noisy measure of true underlying ability.

Investors seem to overweight short track records, not realizing that trailing performance is mostly just luck. This human tendency, dubbed "the law of small numbers" by Tversky and Kahneman (1971) and also known as "small sample neglect," generates return-chasing behavior. Investors observe high returns from a particular portfolio manager and incorrectly infer that the manager is skilled.

This return-chasing is not helpful, according to Goyal and Wahal (2008):

> *Plan sponsors hire investment managers after large positive excess returns but this return-chasing behavior does not deliver positive excess returns thereafter ... In a sample of round-trip firing and hiring decisions, we find that if plan sponsors had stayed with fired investment managers, their excess returns would be no different from those delivered by newly hired managers.*

The problem of inferring skill from past performance is even more severe for concentrated managers, because they have higher volatility. I'm willing to believe that there are skilled human practitioners out there who have the ability to assemble a portfolio consisting of five great stocks. What I'm not willing to believe is that I can detect these individuals using their track records.

[25] https://www.ark-invest.com/articles/market-commentary/innovation-stocks-are-not-in-a-bubble

SURVIVORSHIP BIAS

The main statistical blunder made by concentration advocates is the neglect of survivorship bias. Buffett claims that because the owners of Coke became rich through concentration, it follows that concentration is good. That's flawed reasoning, because he only considers successful concentrators and neglects unsuccessful ones. Over the years, Coke competed with many other beverages, such as Toko-Tonic, Zimba Kola, and R-pep. The guy who sunk his life savings into Toko-Tonic did not become super rich, yet Buffett forgets that fact.

It's a common mistake. Here's Ackman:

> *If you want to make high rates of return over a long period of time, it's hard to do that being very diversified. I mean, if you look through the Forbes 400 wealthiest people in the world, most of them made their fortune in one business or a portfolio of two businesses.*[26]

You cannot look at a list of currently wealthy people and infer that concentration is good. It's like looking at a list of Powerball winners and concluding that Powerball is a good investment. You need to consider who never made the list, and who's been kicked off it. For example, Cathie Wood was on the Forbes list of America's 100 richest self-made women in 2021, but she was removed in 2022 thanks to the calamitous performance of her concentrated portfolio.

Survivorship bias is a problem for all performance evaluation, but it's magnified by high volatility, as shown by Brown, Goetzmann, Ibbotson, and Ross (1992). Concentrated portfolios, because they are more volatile, are more likely to spuriously appear to have high return.

Practical problems with portfolio concentration

Historically, successful concentrated funds tend to own popular growth stocks. For example, in the late 1990s, focused funds mostly held the same set of high-flying technology stocks.[27] We also saw this phenomenon with concentrated institutional portfolios from 2018 to 2021 enjoying success in growth names.[28] In both these cases, the initial success was followed by poor performance.

We often observe new concentrated funds opening, and existing funds getting inflows, when the stocks they hold have experienced multiple expansion. A similar pattern exists in ETFs; when a particular sector experiences the launch of concentrated funds, that's a sign the sector is overvalued according to Ben-David, Franzoni, Kim, and Moussawi (2023). The ARK family of funds in 2020/2021 is a leading example.

Thus, when you invest in concentrated portfolios, you sometimes end up chasing the latest market trend. Not all concentrated portfolios have a momentum/growth tilt, but as a general rule, an influx of concentrated managers is a sign of crowded trades.

Another implication is that it's difficult for an allocator to achieve diversification by investing in multiple concentrated funds. For example, if you held both the Janus Twenty Fund and the Merrill Lynch Focus 20 in 2001, you got a double dose of Enron because both funds held it.[29]

PRICE IMPACT AND CAPACITY

Because concentrated managers cannot spread their trades across many securities, they face constraints. Some choose to focus on large cap stocks, a practice which impedes their ability to find mispriced securities.[30]

Concentrated funds can also decide to buy illiquid names despite having price impact, a choice which imposes costs on their investors. If you put price impact, concentration, and return-chasing inflows together, the result is a toxic stew of what van der Beck, Bouchaud, and Villamaina (2024) call "self-inflated returns:"

> *Flow-driven trading causes price pressure, which pushes up the funds' existing positions resulting in realized returns. … The combination of price impact and return chasing causes an endogenous feedback loop and a reallocation of wealth to early fund investors, which unravels once the price pressure reverts.*

[26] https://acquirersmultiple.com/2024/11/bill-ackman-theres-one-strategy-for-sustained-high-investment-returns

[27] "'Focused' Funds Choose to Buy Fewer Stocks and Risks Lessen," *The Wall Street Journal*, December 20, 1999.

[28] "Concentrated Equity: Practice vs. Premise," Acadian, October 2024.

[29] Bloomberg, Burned in Enron's Flameout: Mutual Funds, February 5, 2002.

[30] "Concentrated Equity: Practice vs. Premise," Acadian, October 2024.

Conclusion

Fund managers with concentrated portfolios are often praised for having the "courage of their convictions." Courage is not what's needed. What's needed is skill, wisdom, and humility, all of which may be negatively correlated with concentration.

I, too, have convictions. I courageously use math. I boldly analyze data. And most of all, I have deep and abiding conviction in my own ignorance and the ignorance of my fellow humans, an ignorance which is best addressed with diversification.

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