

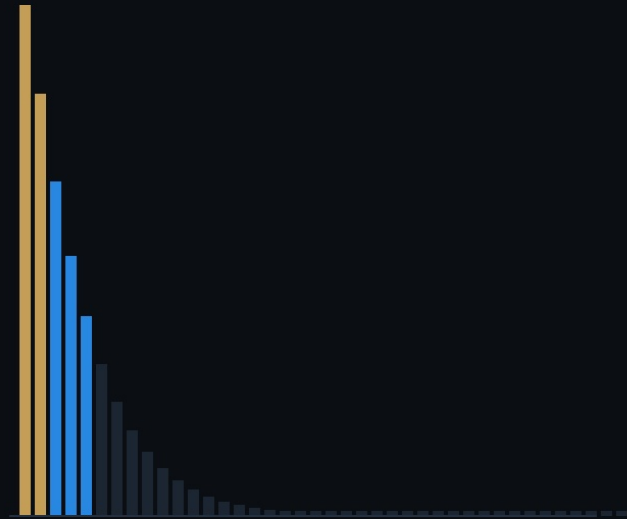
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BUILT TO SURVIVE BEING WRONG

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4%

Of companies produced all net wealth creation. The other 96% matched Treasury bills.



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The finding

In 2018, Hendrik Bessembinder of Arizona State University published a study in the *Journal of Financial Economics* asking a question that sounds almost too simple to be interesting: **do stocks outperform Treasury bills?**

Everyone knows the answer. The stock market has substantially outperformed cash over nearly every long period in modern history. This is the foundational premise of equity investing.

Bessembinder's contribution was to ask the question one company at a time rather than in aggregate. He took the full CRSP database — **25,967 US-listed common stocks, from July 1926 through December 2016** — and calculated each one's lifetime buy-and-hold return against one-month Treasury bills.

The results:

- **Only 42.6% of individual stocks beat one-month Treasury bills over their lifetime.** The other 57.4% **underperformed cash.** Not underperformed the market. Underperformed cash.
- **1,092 companies — slightly more than 4% of the total — account for the entire net wealth creation of the US stock market over those ninety years.** The other 96%, collectively, produced lifetime dollar gains that merely matched Treasury bills.
- **Ninety companies — slightly more than one-third of one percent — produced more than half of all net wealth created.**
- **Five companies** — Exxon Mobil, Apple, Microsoft, General Electric, and IBM — **produced 10% of it.**

The aggregate story and the individual story are both true, and they are almost opposites. The market compounds handsomely. The median company in it does not.

We think this is the single most important empirical fact in equity investing, and also the most avoided — because it is genuinely uncomfortable for anyone who selects individual securities, ourselves included.

Why the distribution looks like this

The mechanism is not mysterious. It is arithmetic imposed by the structure of a stock.

A share of stock can lose 100% of its value and no more. Downside is bounded. **Its upside is unbounded.** A company can compound for forty years and return a hundred times your capital.

This produces a return distribution that is violently right-skewed. Most outcomes cluster below the average, dragged there by a small number of extraordinary results that pull the mean far above the median. In a distribution like that, **the average is not a description of the typical case.** It is a description of the rare case, diluted across everyone else.

The implication for a portfolio is direct. A single 10× winner produces +900%, which offsets nine positions of equal size going to zero. A 50× winner offsets forty-nine. **The winners do not merely contribute more than the losers. They are structurally capable of carrying an arbitrary number of them.**

Which means that in a market shaped this way, there are exactly two ways to fail. You can fail to own a winner. Or you can own one and not hold it long enough to matter.

What this does not mean

It would be easy to read the above as a decisive argument against selecting individual companies, and to conclude that the only rational response is a total-market index fund.

That conclusion is defensible, and for many investors it is correct. We want to give it a fair hearing rather than wave at it.

The case for indexing is strong precisely because of this data. If 4% of companies produce all the net gains, then owning everything guarantees you own the 4%. You capture the right tail by construction. You pay nothing for research, you make no selection errors, and you cannot accidentally exclude the one position that would have carried the decade. For an investor who does not want a second job, this is not a compromise. It is a sound allocation of effort backed by the same evidence being discussed here.

But the data does not say selection is futile. It says something more specific and more useful: **selection is a low-base-rate activity, and low-base-rate activities require structural support to survive.**

Consider what random selection implies. If roughly 4% of companies are the ones that matter, then a portfolio

of randomly chosen names has these odds of containing at least one:

HOLDINGS	PROBABILITY OF OWNING AT LEAST ONE "TOP 4%" NAME
5	18.5%
10	33.5%
20	55.8%
30	70.6%
50	87.0%

A five-stock portfolio picked at random has **under one chance in five** of containing a single company that mattered.

These figures are illustrative rather than predictive. The 4% is measured across ninety years of listings, not across the companies available to you today, and real selection is not independent — investors cluster in the same familiar names. The structure of the problem is the point, not the decimal places.

The entire purpose of a research process is to make your selection better than random. If a disciplined quality screen merely doubles your hit rate from 4% to 8% — a modest claim, and one that no investor can verify about themselves in advance — the picture changes materially:

HOLDINGS	AT 4% (RANDOM)	AT 8% (SCREENED)
10	33.5%	56.6%
20	55.8%	81.1%
30	70.6%	91.8%

This is what a quality framework is actually for. It does not identify winners. Nothing identifies winners in advance. It raises the base rate — and in a distribution this skewed, raising the base rate while holding enough positions to give the odds room to operate is the whole game.

Note what this implies, because it runs against the instinct of most concentrated investors: **the research process and the number of positions are not substitutes.** Better research does not license fewer holdings. Both levers push in the same direction, and using one as an excuse to abandon the other is how confident investors produce poor outcomes.

Implication one: being wrong must be survivable

If the base rate says most of your selections will disappoint, then the portfolio must be built so that disappointment is routine rather than catastrophic.

This is what position sizing is for, and it is worth being precise about why, because "diversify" is advice so generic it has stopped carrying meaning.

What a total loss costs, by position weight:

POSITION SIZE	PORTFOLIO IMPACT	GAIN REQUIRED TO RECOVER
2%	-2%	+2.0%
5%	-5%	+5.3%
10%	-10%	+11.1%
20%	-20%	+25.0%
33%	-33%	+49.3%

And the general arithmetic of recovery, which is the most underappreciated relationship in investing:

DRAWDOWN	GAIN REQUIRED TO BREAK EVEN
-10%	+11%
-20%	+25%
-30%	+43%
-50%	+100%
-70%	+233%
-90%	+900%

Losses and gains are not symmetric. **A 50% loss requires a 100% gain to undo.**

It is worth putting a number on what that asymmetry can cost. Take an investor who compounds at 10% for thirty years — an exceptional result — but takes one deep drawdown in year sixteen. Against a steady 7% compounder over the same period, **a single drawdown deeper than roughly 52% wipes out the entire three-point annual advantage.** Thirty years of superior returns, erased by one event.

That is why survival dominates optimization. Position sizing, understood correctly, is not caution. **It is the mechanism that allows a low-hit-rate strategy to function at all.** Sizing positions so that any single failure is an inconvenience rather than an event is what makes it possible to keep selecting through the losses — and you must keep selecting, because the winner you need is somewhere in the sequence you have not reached yet.

Implication two: exit rules cut both ways, and most investors use them backward

Every serious investor eventually adopts sell criteria. Almost all of them are written to protect against the left tail — to cap losses, to exit a broken thesis, to stop a bad position from becoming a disaster.

That is necessary and we would not argue against it.

But in a right-skewed distribution, **the more expensive error is at the other end.** Selling a winner early does not produce a visible loss. It produces a gain, which feels like success, which is exactly what makes it invisible. The cost appears nowhere on a statement. It appears only in the counterfactual — in the 10× that was sold at 2× because 100% felt like enough.

Given that the entire net return of the market is produced by a small number of extreme winners, **an investor who systematically trims winners has engineered a portfolio that cannot capture the only outcome that matters.** They will hold their losers to the bitter end, out of hope, and release their winners early, out of prudence.

This pattern is well documented. Behavioral researchers named it the **disposition effect** — the tendency to sell winners too early and ride losers too long — in work dating to Shefrin and Statman in 1985. The distribution described in this article is unforgiving of exactly that combination, which happens to be the one human psychology produces by default.

The practical correction is to write sell criteria that distinguish between two entirely different events:

- **The thesis broke.** The reason you bought is no longer true — the moat eroded, the balance sheet deteriorated, management changed the strategy, the economics inverted. This is a sell, without reference to the price you paid.
- **The price went up.** This is not information about the business. It is not a sell condition. It may be a trimming condition for position-size discipline, which is a different decision made for a different reason.

Most investors have never written that distinction down, which is why in the moment they cannot tell which one they are responding to.

Implication three: build concentrated, hold diversified

The apparent contradiction in this data resolves once you separate two activities that are usually discussed as one.

Wealth is typically **built** through concentration. Large fortunes overwhelmingly trace to a concentrated position — a business owned, a company worked at through equity, a single holding held for decades. Diversification does not produce outlier outcomes, by construction. It cannot.

Wealth is **kept** through diversification. The same concentration that produces the outlier produces the ruin, and the historical record is heavily populated with people who held a concentrated position through one cycle too many.

These are not contradictory strategies. They are the correct strategies for two different stages, and the error is applying either one at the wrong stage — diversifying away the position that was going to build the wealth, or concentrating the wealth that was already built.

The practical question is not "concentrated or diversified." It is: **which capital am I operating on?** Capital you could lose entirely without altering your life, on a horizon long enough to let skewness work, tolerates concentration. Capital that is already the result — that funds a retirement, a family, an obligation — does not.

What this means in operation

Six things follow from the evidence above.

Hold enough positions for the odds to work. A five-stock portfolio is a bet that your selection is many times better than random. Perhaps it is. The evidence suggests that for most people it is not — and that nobody knows which they are in advance.

Size so that any single total loss is survivable and boring. If one holding going to zero would change your financial life, the position is not an investment; it is a wager.

Write the two sell conditions down separately, and require yourself to name which one you are acting on before you act. Thesis broke is a sell. Price went up is not.

Let the winners run past the point of comfort. This is the hardest instruction in this article and the one with the most money attached. In a distribution where 4% of names produce everything, prematurely capping your winners is functionally equivalent to opting out of the market's actual return mechanism.

Use quality screening to raise the base rate, and be honest that it does not guarantee anything. The value of a framework is probabilistic, not deterministic. A company that scores well on moat, balance sheet, returns on capital, and management can still fail. The screen is not a promise. It is a tilt, and a tilt applied consistently over many decisions is worth a great deal.

Decide honestly whether you should be selecting at all. Some portion of your capital may belong in a broad index, and for many investors that portion is all of it. There is no dishonor in this. The same research that makes selection difficult makes indexing mathematically sound, and an investor who indexes the core and selects at the margin has arranged their affairs sensibly.

The challenge

Open your portfolio and ask three questions.

If your largest position went to zero tomorrow, would it be an inconvenience or an event? If it is an event, you have not sized for a world in which most individual selections disappoint — and that is the world the data describes.

When did you last sell something because it had gone up? Not because the thesis broke. Because it had gone up, and the gain felt like it should be secured. In a right-skewed market, that instinct is the one that quietly removes the possibility of an outlier result.

What is your written condition for selling each thing you own? If the answer is that you will know it when you see it, you do not have a sell discipline. You have an intention, and intentions are reliably overridden by the emotion present at the moment they are tested.

The Bessembinder data is often read as a discouraging finding. We read it differently. It says the stock market's returns are real and large, and that they are delivered through a mechanism most investors are structurally unprepared to capture — not because the mechanism is hidden, but because capturing it requires holding enough names to find a winner, sizing so that losses do not end the process, and holding the winner long past the point at which selling would feel responsible.

None of those three requires superior insight. All three require a structure decided in advance.

You will be wrong about most of your individual selections. That is not a prediction about your ability. It is

what the distribution does to everyone. The only question this article asks is whether your portfolio is built to survive it — and whether, when you are finally right about something, you will still be holding it.

*This piece is the companion to *The Input You Control Least*, which examines the two inputs — contribution and time — that the evidence suggests matter more than return for most of an investing lifetime.*

Sources and further reading

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Probability figures in this article assume independent selection at a stated base rate and are intended to illustrate the structure of the problem, not to model any real portfolio. Drawdown and recovery figures are arithmetic. Company names are referenced as historical examples drawn from the cited research and are not recommendations to buy, sell, or hold any security.

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