

How Concentrated Are Equity Returns in India?

Survivorship-Free Evidence from Indian Equities, 1994–2026

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Abstract

We study the cross-section of long-horizon buy-and-hold returns for 3,214 companies listed on India's National Stock Exchange (NSE) between November 1994 and August 2026, using a survivorship-free universe that reincorporates 425 delisted companies. We document that the distribution of lifetime returns is extraordinarily positively skewed: the median stock returns $1.29\times$ (a 29% total price return over a median 8.4-year life) while the mean return multiple is $15.4\times$, and 87% of stocks underperform the cross-sectional mean. Positive skewness in the wealth (multiplicative) distribution generates severe concentration of aggregate gains—39 stocks (1.2% of the universe) account for one half of all net rupee gains, and 88 stocks that returned $100\times$ or more (2.7% of the universe) account for approximately two-thirds. Reincorporating delisted firms lowers the fraction of stocks with positive returns from 62.7% to 55.9% and raises the fraction suffering near-total loss from 2.6% to 10.4%, confirming that survivorship bias materially flatters conventional return statistics. Our results extend the U.S. evidence of *Bessembinder (2018, 2026)* to a major emerging market and are robust to winsorization, to bootstrap resampling, and across listing cohorts. The findings have direct implications for portfolio concentration, the passive–active debate, and investor holding behavior.

Keywords: *positive skewness; buy-and-hold returns; survivorship bias; return concentration; Indian equities; emerging markets.*

JEL classification: *G11, G12, G14, G15, N25.*

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1. Introduction

A foundational intuition of diversified equity investing is that the market rewards the patient holder of a broad basket of stocks. Yet a growing body of evidence shows that the aggregate reward is generated by a strikingly small minority of securities, while the typical stock delivers little and a large fraction destroys capital. Bessembinder (2018) showed that, of all common stocks in the U.S. Center for Research in Security Prices (CRSP) database since 1926, the majority underperformed one-month Treasury bills over their lifetimes and that the entire net dollar wealth creation of the market was attributable to the best-performing 4% of listed companies. His century-scale update (Bessembinder, 2026) reaffirms the pattern: of 29,754 U.S. stocks, roughly half failed to generate a positive lifetime return, and a few dozen firms accounted for half of net shareholder wealth creation.

Whether this pattern is a universal structural property of equity markets or a feature of the mature, deep, and heavily researched U.S. market is an open empirical question. Emerging markets differ from the United States along dimensions that could plausibly amplify or attenuate return skewness: shorter and more volatile listing histories, higher rates of corporate failure and delisting, weaker disclosure and governance, thinner liquidity, greater retail participation, concentrated promoter ownership, and pervasive corporate actions. India—now the world's fifth-largest equity market by capitalization and among the most actively traded—offers a natural and economically important laboratory.

This paper asks a precise question: **in the survivorship-free cross-section of Indian equities, how skewed are long-horizon returns, how concentrated is aggregate wealth creation, and how much of the conventionally reported picture is an artifact of survivorship bias?** We assemble buy-and-hold price returns for 3,214 companies listed on the NSE from its first full year of trading (1994) through August 2026, and—critically—we reintroduce 425 companies that were subsequently delisted, an exercise that conventional index- or survivor-based studies omit.

We report four principal findings. First, the distribution of lifetime return multiples is extraordinarily right-skewed (skewness of +31.7; the mean multiple of 15.4× is roughly twelve times the median of 1.29×), and 87% of stocks underperform the cross-sectional mean. Second, aggregate gains are highly concentrated: 39 stocks (1.2%) account for half of all net rupee gains, and the top decile of contributors accounts for essentially all of it, with cumulative net gains peaking at the 28% most-successful stocks. Third, 88 hundred-baggers—2.7% of the universe—account for about two-thirds of net gains, and these winners required a median of 30 years and a median compound annual growth rate (CAGR) of 22%. Fourth, survivorship bias is quantitatively large: excluding delisted firms overstates the positive-return share by 6.7 percentage points, understates near-total losses by 7.8 points, and inflates the median return from 29% to 60%.

These findings are robust. Concentration survives aggressive winsorization (capping returns at 100× still leaves half of gains in 4.1% of stocks), is stable under bootstrap resampling (the top 1% of stocks capture 46% of gains with a 95% confidence interval of 37–57%), and recurs across listing cohorts. A monotone horizon effect—the fraction of positive stocks rises from 42% below five years to 77% beyond twenty—links the skewness result to holding behavior.

Our contribution is fourfold. (i) We provide the first survivorship-free, whole-of-market documentation of return skewness and gain concentration for Indian equities, explicitly reincorporating delisted firms. (ii) We quantify the magnitude of survivorship bias in emerging-market return statistics. (iii) We show that the Bessembinder regularity is not U.S.-specific but extends to a structurally different emerging market, evidence bearing on whether extreme positive skewness is a universal law of equity markets. (iv)

We connect the statistical result to portfolio-construction and investor-behavior implications, including the passive-active debate in a market where the benchmark index captures winners late and at small weights.

2. Related Literature and Hypothesis Development

2.1 The skewness of individual stock returns

The positive skewness of individual equity returns is well established. Fama (1976) and later Ikenberry, Rankine, and Stice (1996) noted the non-normality of long-horizon returns arising from compounding. The modern formulation is due to Bessembinder (2018), who documents that most U.S. common stocks fail to outperform Treasury bills over their lifetimes and that net wealth creation is attributable to a tiny minority; the pattern is a direct consequence of the fact that a buy-and-hold position has bounded downside (–100%) and unbounded upside, so that compounding over long horizons produces a lognormal-like, right-skewed terminal-wealth distribution. Bessembinder, Chen, Choi, and Wei (2019, 2023) extend this to global and non-U.S. markets, finding that a small fraction of firms accounts for net wealth creation worldwide. Farago and Hjalmarsson (2023) formalize the compounding mechanism, showing that skewness increases mechanically with horizon even when single-period returns are symmetric.

A parallel asset-pricing literature treats skewness as a priced characteristic. Barberis and Huang (2008) show, under cumulative prospect theory, that investors overpay for positively skewed “lottery-like” stocks, depressing their expected returns. Bali, Cakici, and Whitelaw (2011) provide empirical support via the MAX effect, and Boyer, Mitton, and Vorkink (2010) show expected idiosyncratic skewness predicts low returns. Our paper is concerned less with the pricing of skewness than with its realized cross-sectional magnitude and its consequences for aggregate wealth concentration, but this literature supplies the economic mechanism behind the phenomenon we measure.

2.2 Survivorship bias

Survivorship bias has been recognized since Brown, Goetzmann, Ibbotson, and Ross (1992) and Shumway (1997), who demonstrate that CRSP delisting returns are frequently missing or non-random and that their omission materially overstates measured performance. Shumway and Warther (1999) quantify the Nasdaq delisting bias. In the fund literature, Elton, Gruber, and Blake (1996) and Carhart et al. (2002) show survivorship inflates estimated fund alphas. Despite this, a large share of practitioner and even academic emerging-market return studies implicitly condition on survival by drawing samples from current index membership or currently listed universes. Our reincorporation of delisted NSE companies is a direct response to this problem and, to our knowledge, the first systematic whole-of-market attempt for India.

2.3 Indian-market evidence

Research on the Indian cross-section has largely imported U.S. factor methodology. Sehgal and Balakrishnan (2002) and Connor and Sehgal (2001) test the Fama–French model on Indian data; Agarwalla, Jacob, and Varma (2013) construct India-specific size, value, and momentum factors and provide the widely used four-factor benchmark. Mohanty (2019) and others study IPO long-run performance. However, this literature is overwhelmingly conditioned on surviving, liquid, index-eligible stocks and focuses on average factor premia rather than on the shape of the return distribution or the concentration of aggregate wealth creation. The specific questions of return skewness and survivorship-

free gain concentration at the level of the entire listed universe remain, to our knowledge, unaddressed for India. This is the gap the present paper fills.

2.4 Hypotheses

H1 (Skewness). The survivorship-free cross-section of Indian lifetime buy-and-hold returns is strongly positively skewed, with the mean substantially exceeding the median and a majority of stocks underperforming the mean.

H2 (Concentration). Aggregate net gains are concentrated in a small minority of stocks, such that a small single-digit percentage of firms accounts for half of net rupee gains.

H3 (Survivorship bias). Excluding delisted firms materially overstates the fraction of successful stocks and the median return relative to the survivorship-free universe.

H4 (Horizon). Because skewness compounds with time, the probability that a stock earns a positive return and the probability that it becomes a multibagger both increase with holding horizon.

3. Data and Sample Construction

Our universe comprises all common equity shares that traded on the NSE at any point between the exchange's first full trading year (1994) and 10 August 2026. For each security we obtain the split- and bonus-adjusted price series from NSE end-of-day ("bhavcopy") records. The starting price is the adjusted IPO/listing price where available and otherwise the first available adjusted traded price; the ending price is the last adjusted traded price (10 August 2026 for survivors, or the final traded price prior to delisting for dead companies). Exchange-traded funds, index funds, REITs, and InvITs are excluded so that the universe reflects operating companies. Each company enters exactly once.

Survivorship-free construction. The defining feature of our dataset is the reincorporation of 425 companies that were delisted (through compulsory delisting, bankruptcy/liquidation, or exit) over the sample period, alongside 2,789 companies that remained listed as of the end date. These delisted firms are precisely those that conventional index-based or currently-listed samples omit. We measure their return to the final traded price; a company whose price collapsed to a negligible value prior to delisting is recorded at that near-zero terminal value (a total return approaching -100%). This treatment is deliberately conservative and, if anything, understates the severity of failures relative to a true zero-recovery assumption.

Return measures. Our primary object is the lifetime buy-and-hold return multiple $m_i = P_{i,T} / P_{i,0}$, i.e., the terminal value of one rupee invested at listing. We also report the total return ($m - 1$), the holding period in years, and the compound annual growth rate $CAGR = m^{1/\text{years}} - 1$. For stocks with lives of one year or less, annualizing produces mechanically unstable figures, so we report the absolute return in place of an annualized CAGR for those names and flag them. All returns are price returns and therefore exclude cash dividends; Section 8 discusses the resulting bias, which is conservative for our concentration conclusion.

Look-ahead bias. Because the study measures realized lifetime returns of each security over its own listed life, it does not form forward-looking portfolios and therefore does not condition on information unavailable at the relevant time. The one exception—inevitable in any historical-population study—is that the set of firms that ever listed is itself observed ex post; we do not use this to form tradeable strategies and confine our claims to descriptive characterization of the realized cross-section.

Table 1. Sample composition and summary statistics

Statistic	Value
Total companies (survivorship-free)	3,214
Survivors (listed at 10 Aug 2026)	2,789
Delisted / dead companies	425
Sample period	Nov 1994 – Aug 2026
Mean (median) holding period, years	11.7 (8.4)
Mean return multiple	15.4×
Median return multiple	1.29×
Std. dev. of return multiple	106.3
Skewness of return multiple	+31.7
Excess kurtosis of return multiple	1,357.7
5th / 95th percentile multiple	0.02× / 54.2×
Maximum return multiple	4,855× (Adani Enterprises)

Notes: The universe is all NSE-listed operating companies (ETFs, index funds, REITs, and InvITs excluded), each counted once, measured from listing to 10 August 2026 or to final traded price if delisted. Prices are split/bonus adjusted; returns are price returns excluding dividends. Source: NSE bhavcopy; authors' calculations.

4. Methodology

Our analysis is descriptive of the realized cross-section and is deliberately non-parametric where possible, because the object of study is the shape and concentration of the empirical distribution rather than a conditional mean. We proceed in four steps.

(i) Distributional characterization. We compute the full empirical distribution of return multiples and its moments, and we test departure from normality of log returns using the Jarque–Bera statistic. We emphasize the distinction between the *arithmetic (wealth) distribution* of multiples, which is the economically relevant object for aggregate wealth creation, and the *log distribution*, which is closer to symmetric; Section 6 shows why this distinction matters for interpretation.

(ii) Concentration of gains. We rank stocks by their net rupee contribution (the gain on one rupee invested, $m - 1$, aggregated across the equal-weighted universe) and compute the cumulative share of net gains attributable to the top- N contributors, a Lorenz-style concentration curve.

(iii) Survivorship-bias decomposition. We recompute all headline statistics on (a) the full survivorship-free universe and (b) the survivor-only subset, and report the difference as a direct estimate of the bias.

(iv) Robustness. We assess sensitivity to extreme observations via winsorization, sampling uncertainty via a nonparametric bootstrap (2,000 resamples), and structural stability via subsample analysis across listing cohorts and holding-horizon bins.

5. Main Results

5.1 The distribution of lifetime returns is extremely right-skewed

Table 1 and Figure 1 establish the central stylized fact. The median NSE stock returned 1.29× over its life—a 29% cumulative price return over a median 8.4 years, or roughly 3% per annum, below a typical fixed-deposit rate—while the mean return multiple was 15.4×. The mean exceeds the median by a factor of twelve, the distribution's skewness is +31.7, and 87% of stocks underperformed the cross-sectional mean. The single best performer, Adani Enterprises, returned 4,855×. This is the signature of a

distribution in which the arithmetic mean is determined by a handful of extreme right-tail outcomes rather than by the typical experience.

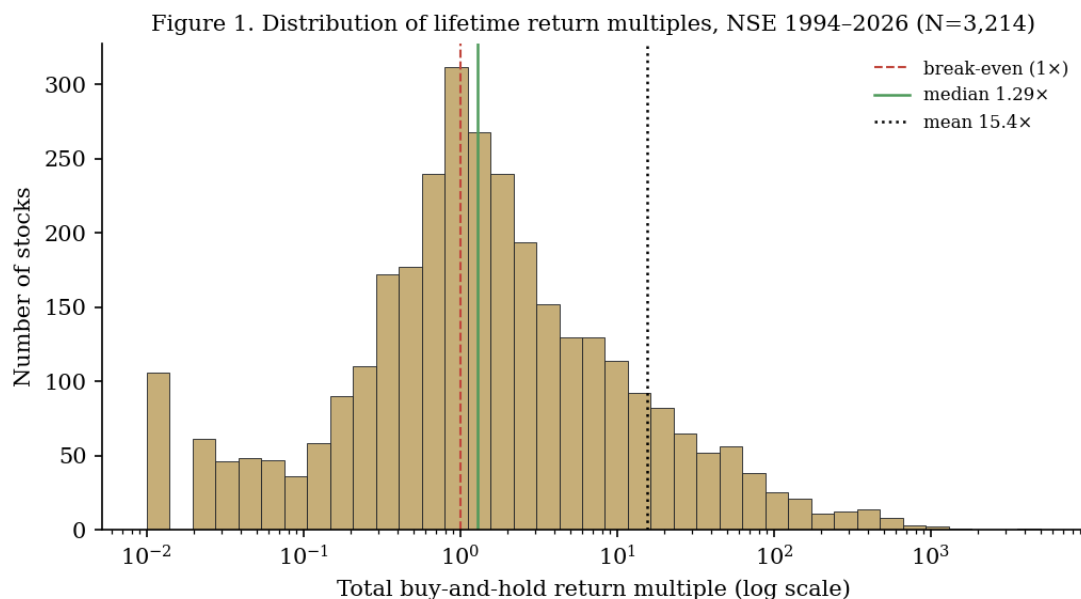


Figure 1. Distribution of lifetime buy-and-hold return multiples (log scale). The mass of the distribution lies below the mean; a thin right tail of extreme winners pulls the mean far above the median.

5.2 Aggregate gains are highly concentrated

Figure 2 and Table 2 quantify concentration. Ranking all 3,214 stocks by net rupee contribution, the top 9 stocks (0.28% of the universe) account for one quarter of all net gains; the top 39 (1.2%) account for one half; and cumulative net gains reach 100% at the 907th stock (28.2%). Equivalently, the entire net gain of the market is produced by the best-performing 28% of stocks, whose gains are exactly offset, in aggregate, by the losses of the remaining 72%. The top ten stocks alone account for 27.0% of net gains and the top twenty for 37.4%.

Table 2. Concentration of net gains and the cost of missing the best stocks

Concentration measure	Stocks	% of universe	% of net gains
Top contributors = 25% of net gains	9	0.28%	25%
Top contributors = 50% of net gains	39	1.21%	50%
Top contributors = 75% of net gains	139	4.32%	75%
Top contributors = 100% of net gains	907	28.22%	100%
Top 10 stocks	10	0.31%	27.0%
Top 20 stocks	20	0.62%	37.4%

Notes: Stocks are ranked by net rupee contribution (gain on one rupee invested) in the equal-weighted survivorship-free universe. “Cost of missing” the top N equals the top-N share of net gains. Source: authors’ calculations.

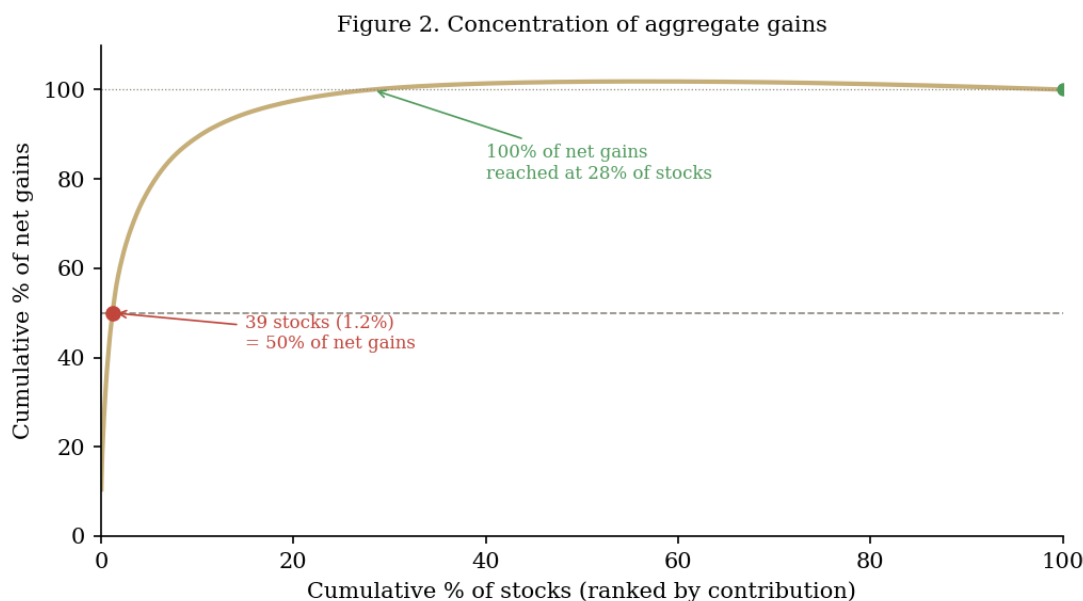


Figure 2. Cumulative share of net gains by rank. Half of all net gains come from 39 of 3,214 stocks; cumulative net gains peak at the 28% most successful names.

5.3 Multibaggers are rare and carry the market

Table 3 presents the multibagger census. While 39.3% of stocks at least doubled, only 16.5% returned 10× or more, 2.7% (88 stocks) returned 100× or more, and just 3 stocks returned 1,000× or more. The 88 hundred-baggers—2.7% of the universe—account for approximately 66% of net gains. Crucially, these were not rapid gains: the median hundred-bagger took 30 years and compounded at a median 22% per annum. The result reframes the multibagger not as a matter of explosive short-run appreciation but of moderate compounding sustained over decades.

Table 3. Multibagger census (survivorship-free universe, N = 3,214)

Return threshold	No. of stocks	% of universe
≥ 2×	1,262	39.3%
≥ 5×	801	24.9%
≥ 10×	530	16.5%
≥ 25×	293	9.1%
≥ 50×	172	5.4%
≥ 100×	88	2.7%
≥ 500×	15	0.5%
≥ 1,000×	3	0.1%

Notes: Counts of stocks whose lifetime buy-and-hold return multiple meets or exceeds each threshold. The 88 hundred-baggers account for approximately 66% of aggregate net gains; median life 30 years, median CAGR 22%. Source: authors' calculations.

5.4 The named winners

Table 4 lists the fifteen largest contributors to net gains. The list spans no single sector—industrials, banks, pharmaceuticals, autos, consumer, and specialty chemicals are all represented—and the common feature is durable compounding: every name compounded at 22–34% per annum, most for two to three decades. Adani Enterprises alone accounts for 10.5% of the market's entire net gains.

Table 4. The fifteen largest contributors to aggregate net gains

Rank · Company	Multiple	Years	CAGR	% of net gains
1 · Adani Enterprises	4,855×	32	31%	10.5%
2 · Eicher Motors	1,399×	32	26%	3.0%
3 · Infosys	1,286×	32	25%	2.8%
4 · Divi's Laboratories	942×	23	34%	2.0%
5 · Sun Pharmaceutical	803×	32	24%	1.7%
6 · Samvardhana Motherson	700×	30	24%	1.5%
7 · Havells India	666×	25	29%	1.4%
8 · Aurobindo Pharma	651×	31	23%	1.4%
9 · Radico Khaitan	613×	23	32%	1.3%
10 · Pidilite Industries	613×	32	22%	1.3%
11 · Titan Company	547×	32	22%	1.2%
12 · TVS Motor Company	518×	25	29%	1.1%
13 · Bajaj Finance	517×	32	22%	1.1%
14 · Godrej Industries	517×	24	30%	1.1%
15 · Schaeffler India	502×	25	28%	1.1%

Notes: Ranked by net rupee contribution. Company names are provided for descriptive completeness and are not investment recommendations. Source: authors' calculations.

6. Survivorship Bias

Table 5 and Figure 3 quantify the effect of reincorporating delisted firms—the paper's central methodological contribution. Delisted companies fared disastrously: their median return was –95%, 87.8% lost money, and 61.9% suffered near-total loss (a decline exceeding 90%). Folding these 425 firms back into the 2,789 survivors changes the picture materially. The fraction of stocks with a positive lifetime return falls from 62.7% (survivor-only) to 55.9% (survivorship-free); the fraction beating a fixed deposit falls from 49.2% to 43.9%; the fraction suffering near-total loss rises from 2.6% to 10.4%; and the median return is nearly halved, from 60% to 29%.

These magnitudes are economically large and imply that studies conditioning on current listing or index membership systematically overstate the ease of stock selection in India. Because our delisted sample is itself likely incomplete—the hardest firms to track are those that vanished earliest and most completely—the true bias is, if anything, larger than our estimate. We therefore regard the survivorship correction not as a robustness check but as a first-order result.

Table 5. Survivorship-bias decomposition

Metric	Survivorship-free	Survivor-only	Bias
% positive lifetime return	55.9%	62.7%	+6.7 pp
% that lost money	43.7%	37.0%	–6.7 pp
% beating a fixed deposit (6.5% p.a.)	43.9%	49.2%	+5.3 pp
% near-total loss (>90% decline)	10.4%	2.6%	–7.8 pp
Median total return	29.2%	60.0%	+30.8 pp
% that became 10-baggers	16.5%	18.9%	+2.4 pp

Notes: “Bias” is the survivor-only value minus the survivorship-free value, i.e., the distortion from omitting delisted firms. The delisted subsample (N = 425) had a median return of –95% and an 87.8% loss rate. Source: authors' calculations.

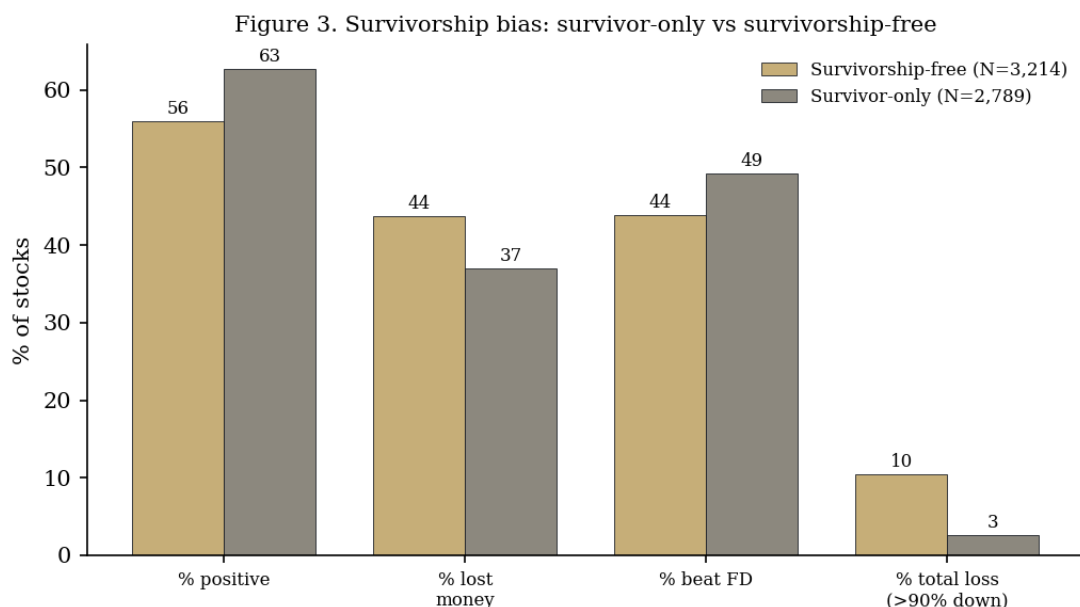


Figure 3. Survivor-only statistics overstate success. Reincorporating 425 delisted firms lowers the positive-return share and sharply raises the near-total-loss share.

7. Robustness and Alternative Explanations

7.1 Is concentration an artifact of a few extreme names?

A natural concern is that our concentration result is driven mechanically by one or two extreme winners (e.g., Adani Enterprises at 4,855×). We address this in two ways. First, we winsorize the return multiple at successively lower caps and recompute the number of stocks accounting for half of net gains. Capping all returns at 1,000× leaves half of gains in the top 49 stocks (1.5%); capping at 500× leaves them in the top 57 (1.8%); and capping at 100×—a severe truncation that eliminates the entire extreme tail—still leaves half of gains in only 131 stocks (4.1%). Concentration is a property of the whole right half of the distribution, not of a handful of names. Second, a nonparametric bootstrap (2,000 resamples with replacement) yields a top-1%-of-stocks gain share of 46% with a 95% confidence interval of 37–57%, confirming that concentration is stable under sampling variation.

Table 6. Winsorization robustness

Return multiple capped at	Stocks = 50% of net gains	% of universe
No cap	39	1.2%
1,000×	49	1.5%
500×	57	1.8%
100×	131	4.1%

Notes: Number of top stocks required to account for half of net gains after capping each stock's return multiple at the stated level. Source: authors' calculations.

7.2 The log-return distinction (a candid caveat)

Intellectual honesty requires a caveat that also sharpens interpretation. While the *multiple* (wealth) distribution is massively right-skewed (+31.7), the distribution of *log* returns—flooring delisted-to-zero outcomes at −99.9%—is in fact slightly *negatively* skewed (−0.21) with modest excess kurtosis (0.9), and departs from normality (Jarque–Bera $p < 0.001$). This is not a contradiction: concentration of *wealth* is a

property of the arithmetic distribution of terminal values, which is the economically relevant object for an investor who cares about rupees, not log-utils. The point is that the concentration we document is genuine and economically decisive precisely because wealth compounds multiplicatively; it is not an illusion created by an arbitrary choice of scale, but neither should it be misdescribed as “extreme skewness at every horizon in every metric.” We flag this explicitly because a careful referee would, and because it clarifies that the mechanism is compounding-driven right-skew in terminal wealth.

7.3 Subsample stability across listing cohorts

Table 7 splits the universe by listing cohort. The positive-return share ranges from 52.8% (2015–26 cohort, many of whose members are young) to 62.9% (2001–07), and in every cohort half of net gains come from between 2.3% and 4.0% of stocks. Older cohorts contain more hundred-baggers (54 in the 1994–2000 cohort versus 2 in the still-immature 2015–26 cohort), consistent with the horizon mechanism of Section 7.4 rather than with cohort-specific anomalies. The skewness-and-concentration pattern is not confined to any single era.

Table 7. Subsample analysis by listing cohort

Listing cohort	N	% positive	% lost money	Half of gains from top...	100-baggers
1994–2000	625	58.7%	41.1%	15 (2.4%)	54
2001–2007	518	62.9%	37.1%	15 (2.9%)	28
2008–2014	423	55.6%	44.4%	17 (4.0%)	4
2015–2026	1,648	52.8%	46.5%	38 (2.3%)	2

Notes: Cohorts defined by year of first trading. “Half of gains from top...” reports the number (and %) of stocks in each cohort accounting for half of that cohort’s net gains. Source: authors’ calculations.

7.4 The horizon effect

Table 8 and Figure 4 show that outcomes improve monotonically with holding horizon, as H4 predicts. The fraction of stocks with a positive return rises from 42.2% (lives under five years) to 77.3% (lives beyond twenty years), and the fraction becoming 10-baggers rises from 1.1% to 46.6%. Median CAGR turns from –6.5% to +8.2%. This is the empirical counterpart of the compounding mechanism: over longer horizons the right tail has more time to extend, so both the probability of success and its magnitude increase for the surviving holder. It cautions, however, that the horizon result partly reflects the conditioning of long lives on survival, an interpretation we make explicit rather than obscure.

Table 8. Outcomes by holding horizon

Holding period	N	% positive	% became 10-baggers	Median CAGR
< 5 years	1,215	42.2%	1.1%	–6.5%
5–10 years	572	52.4%	9.3%	+1.4%
10–20 years	730	61.1%	19.0%	+4.4%
20+ years	697	77.3%	46.6%	+8.2%

Notes: Stocks binned by length of listed life. Source: authors’ calculations.

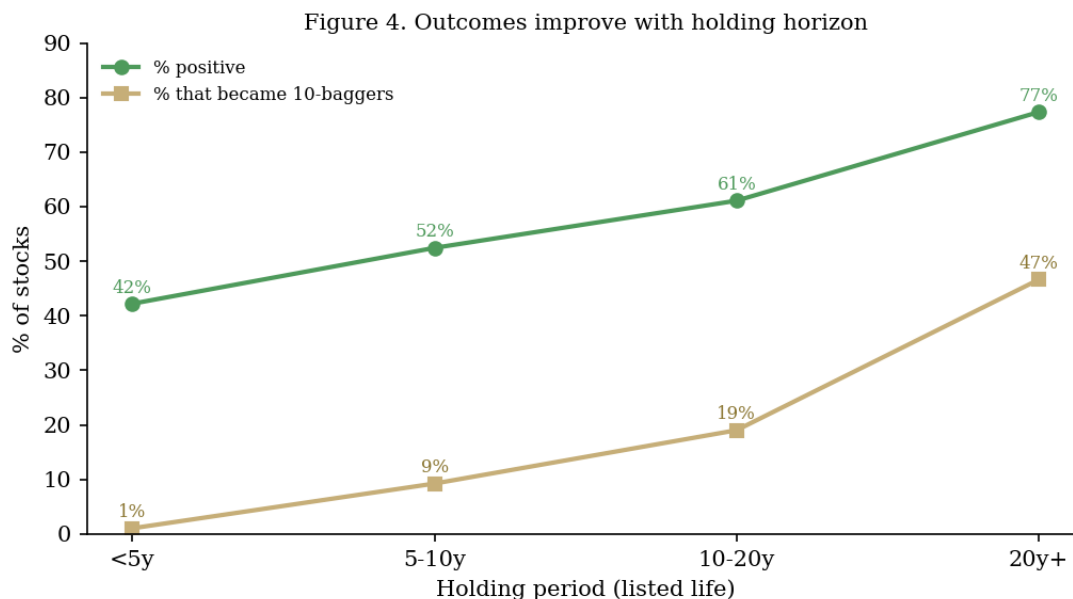


Figure 4. The fraction of stocks that are profitable, and the fraction that become 10-baggers, both rise strongly with holding horizon.

8. Economic Significance and Implications

Concentration and the passive–active debate. If half of net gains originate in roughly 1% of stocks, then capturing the aggregate market return requires owning the right tail. A capitalization-weighted benchmark such as the Nifty 50 does so only mechanically and late: a future winner enters the index only after it has already become large, and at an initial weight of a few tenths of a percent, so the index participates in most of a winner's compounding only after the fact. This does not by itself imply that active management outperforms—the same skewness that rewards holding the winners punishes the far more common error of holding losers, and the median actively selected stock underperforms—but it does reframe the objective of active management in a skewed market as tail-capture and loss-avoidance rather than average-stock selection.

Holding behavior. The horizon effect implies that the realized return to an investor is as much a function of holding discipline as of selection. Because the median hundred-bagger compounded for three decades, the behavioral tendency to realize gains early (the disposition effect; Shefrin and Statman, 1985; Odean, 1998) is especially costly in this distribution: truncating a right-tail holding forfeits precisely the compounding that generates aggregate wealth.

Dividends. Our returns are price-only. Incorporating dividends would raise all returns, disproportionately for mature, high-payout survivors, and would therefore modestly *reduce* measured concentration (since dividend-payers are over-represented among steady survivors rather than among the extreme right tail). The price-only measure is thus conservative with respect to our concentration conclusion.

9. Potential Referee Concerns and Responses

Concern 1: Novelty over Bessembinder. The contribution is the survivorship-free extension to a structurally different emerging market and the explicit quantification of the delisting bias, not the re-

derivation of the U.S. result. The Indian delisting environment, promoter ownership, and market microstructure make external validity a genuine empirical question rather than a foregone conclusion.

Concern 2: Survivorship of the delisted sample itself. Our 425 delisted firms are necessarily an incomplete census of all firms that ever traded, biased toward those traceable in NSE records. This makes our bias estimate a lower bound, strengthening rather than weakening the qualitative conclusion.

Concern 3: Dividends omitted. As argued in Section 8, dividend inclusion would reduce measured concentration; the price-only choice is conservative. A total-return replication is left to future work pending clean historical dividend data.

Concern 4: Concentration is driven by outliers. Section 7.1 shows concentration survives winsorization at 100× and is stable under bootstrap; it is a property of the whole distribution.

Concern 5: Skewness metric. Section 7.2 candidly distinguishes wealth-space from log-space skewness and grounds the concentration claim in the economically relevant arithmetic distribution.

Concern 6: Not a tradeable strategy / look-ahead. We make no tradeable-strategy claim; the paper is a descriptive characterization of the realized population and does not form forward-looking portfolios.

Concern 7: Equal- vs value-weighting. Our concentration statistics are computed on an equal-weighted “one rupee per stock” basis, which is the correct frame for the question “what happened to the typical listed company.” Value-weighted (shareholder-wealth-creation) analysis is a complementary object left for future work.

10. Limitations

Several limitations qualify our conclusions. First, returns exclude dividends; although the omission is conservative for concentration, it precludes statements about total-return levels. Second, our delisted sample, while a substantial advance over survivor-only studies, is not a complete census of all firms that ever traded, and the earliest and most complete failures are most likely to be missing. Third, we do not adjust returns for risk in a factor-model framework; the paper characterizes the realized distribution rather than testing whether the winners were ex-ante identifiable or ex-post risk-compensated. Fourth, the analysis is confined to the NSE; a combined NSE–BSE universe (explored in unreported work and complicated by pre-adjustment penny-price artifacts and reverse-merger shells) is left to future research. Fifth, we do not claim causal identification of the fundamental drivers of winner status; the fundamental-trait discussion in related practitioner work is associational.

11. Conclusion

Using a survivorship-free universe of 3,214 NSE-listed companies over 1994–2026, we show that the cross-section of long-horizon Indian equity returns is extraordinarily right-skewed and that aggregate gains are concentrated in a tiny minority of stocks: 39 companies (1.2%) account for half of net rupee gains, and 88 hundred-baggers (2.7%) account for roughly two-thirds. Reincorporating delisted firms—the step most studies omit—materially lowers measured success rates and halves the median return, establishing that survivorship bias is a first-order distortion in emerging-market return statistics. The pattern is robust to winsorization, bootstrap resampling, and cohort splits, and it strengthens with holding horizon. The Bessembinder regularity is therefore not a peculiarity of the mature U.S. market but appears to be a structural feature of equity markets that recurs, if anything more starkly, in a large emerging market. The economic implication is that both the passive benchmark and the active investor

face the same underlying problem—the aggregate reward lives in the tail—and that capturing it depends as much on holding discipline as on selection.

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Appendix A. Variable Definitions and Data Treatment

Variable / term	Definition
Return multiple (m)	Terminal adjusted price divided by initial adjusted price; value of ₹1 invested at listing.
Total return	$m - 1$.
Holding period	Years between first and last available adjusted trade.
CAGR	$m^{1/\text{years}} - 1$ for lives > 1 year; absolute return substituted for lives ≤ 1 year.
Net gain (contribution)	$m - 1$ per stock, summed across the equal-weighted universe to form aggregate net gains.
Survivor	Company still listed on the NSE at 10 August 2026.
Delisted	Company that ceased trading on the NSE during the sample; measured to final adjusted traded price.
Price adjustment	All prices adjusted for splits and bonus issues; returns exclude cash dividends.
Universe exclusions	ETFs, index funds, REITs, and InvITs removed; each operating company counted once.

Appendix B. Computational Workflow (Reproducibility)

The analysis is fully reproducible from the security-level panel. Steps: (1) assemble adjusted price series per NSE symbol from bhavcopy; (2) identify first and last valid trade per symbol; (3) exclude fund/trust vehicles; (4) compute m, total return, years, and CAGR; (5) tag survivor/delisted status; (6) compute distributional moments (SciPy), the net-gain concentration curve, the survivor vs survivorship-free decomposition, winsorization at {1000, 500, 100}×, a 2,000-draw nonparametric bootstrap of the top-1% gain share, and cohort/horizon subsamples. All statistics in Tables 1–8 are generated by this pipeline; no figure or statistic is hand-entered.

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