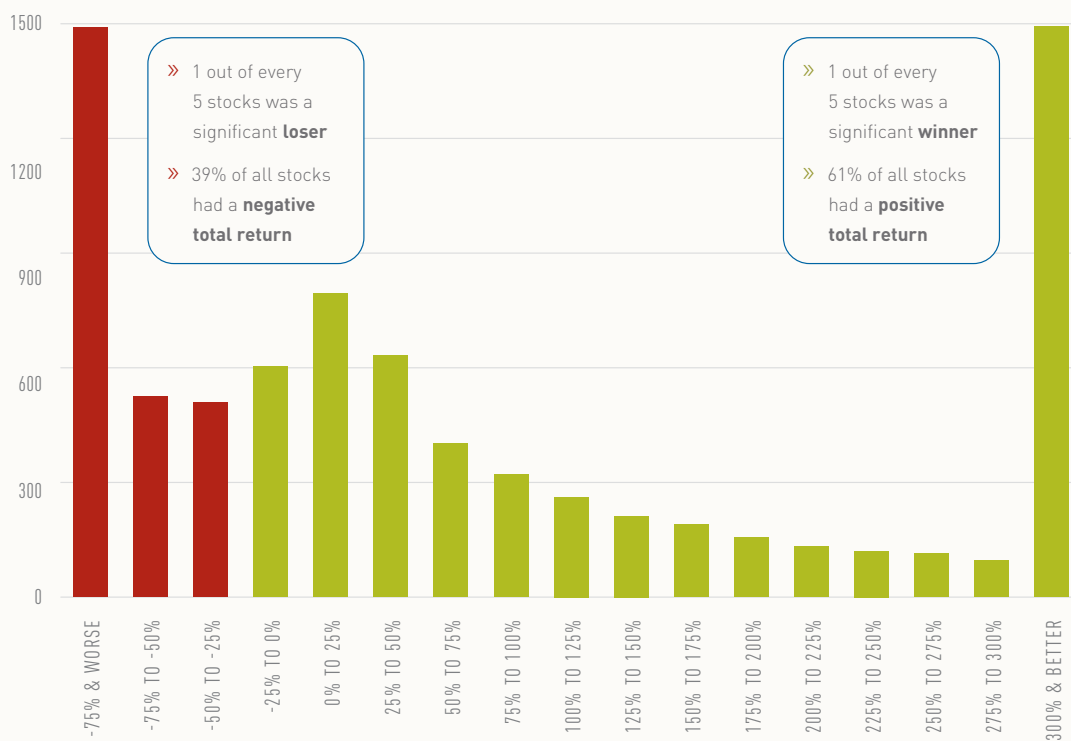# THE CAPITALISM DISTRIBUTION
Observations of individual common stock returns, 1983 – 2006

When most people think of the stock market they do so in terms of index results such as the S&P 500 or Russell 3000. They are unaware of the massive differences between successful stocks and failed stocks "under the hood" of their favorite index.
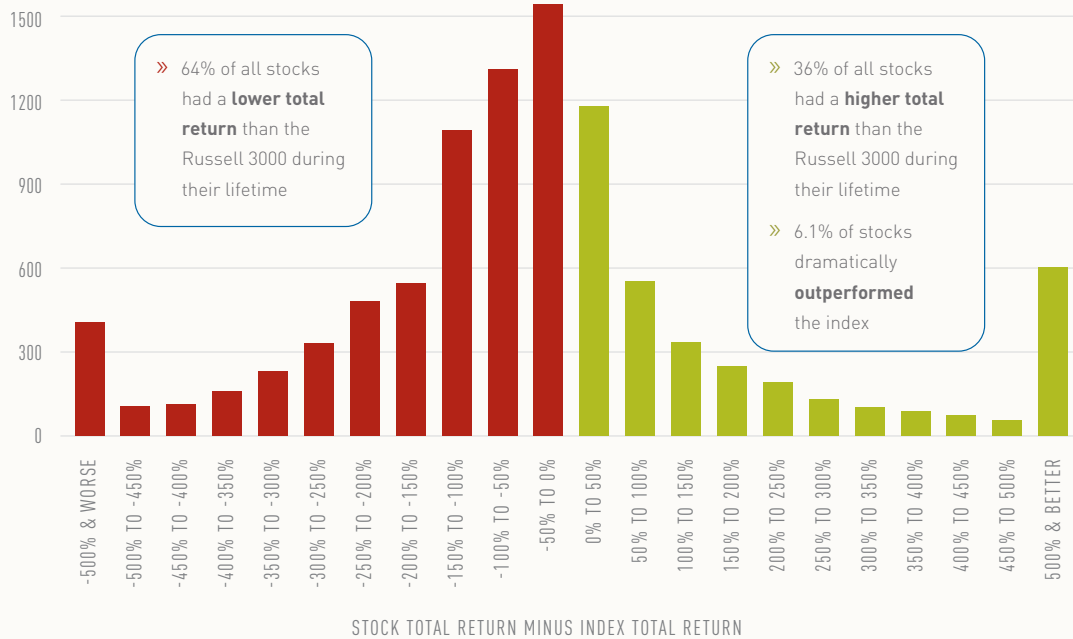
In this paper we make the case for the Capitalism Distribution, a non-normal distribution with very fat tails that reflects the observed realities of long-term individual common stock returns.

» 39% of stocks were unprofitable investments

» 18.5% of stocks lost at least 75% of their value

» 64% of stocks underperformed the Russell 3000

» 25% of stocks were responsible for all of the market's gains

» High performance stocks all tended to have one thing in common

[TOTAL LIFETIME RETURNS FOR INDIVIDUAL U.S. STOCKS 1983–2006]

» 1 out of every 5 stocks was a significant **loser**

» 39% of all stocks had a **negative total return**

» 1 out of every 5 stocks was a significant **winner**

» 61% of all stocks had a **positive total return**

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TOTAL RETURNS OF INDIVIDUAL STOCKS VS. RUSSELL 3000 INDEX 1983–2006

» 64% of all stocks had a **lower total return** than the Russell 3000 during their lifetime

» 36% of all stocks had a **higher total return** than the Russell 3000 during their lifetime

» 6.1% of stocks dramatically **outperformed** the index

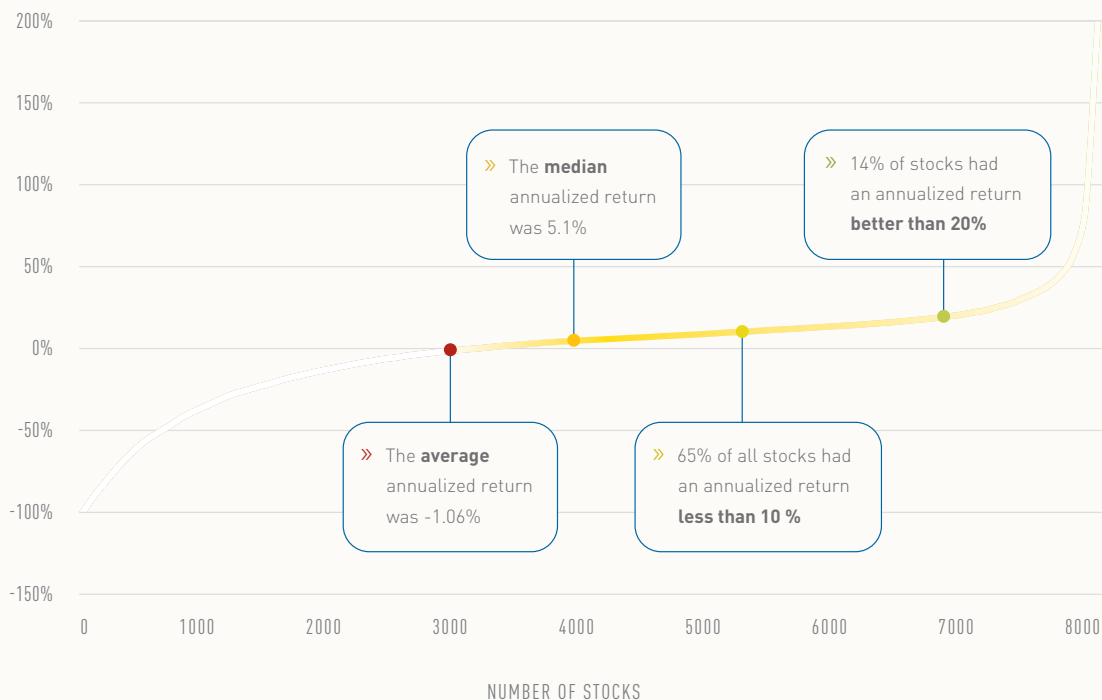STOCK TOTAL RETURN MINUS INDEX TOTAL RETURN

The fat tails in this distribution are notable. 494 (6.1% of all) stocks outperformed the Russell 3000 by at least 500% during their lifetime. Likewise, 316 (3.9% of all) stocks lagged the Russell 3000 by at least 500%.

ANNUALIZED RETURNS INDIVIDUAL STOCKS VS. RUSSELL 3000 1983–2006

» 64% of stocks had a **lower annualized return** than the index

» 36% of stocks had a **higher annualized return** than the index

STOCK ANNUALIZED RETURN MINUS INDEX ANNUALIZED RETURN

The left tail in this distribution is significant. 1,498 (18.6% of all) stocks dramatically underperformed the Russell 3000 during their lifetime.

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ANNUALIZED RETURNS INDIVIDUAL STOCKS 1983–2006

» The **median** annualized return was 5.1%

» 14% of stocks had an annualized return **better than 20%**

» The **average** annualized return was -1.06%

» 65% of all stocks had an annualized return **less than 10 %**

NUMBER OF STOCKS

You may be wondering how the Russell 3000 index can have an overall positive rate of return if the average annualized return for all stocks is negative. The answer is mostly a function of the index construction methodology. The Russell 3000 is market capitalization weighted. This means that successful companies (rising stock prices) receive larger weightings in the index. Likewise, unsuccessful companies (declining stock prices) receive smaller weightings. Eventually unsuccessful companies are removed from the index (delisted), making way for growing companies.
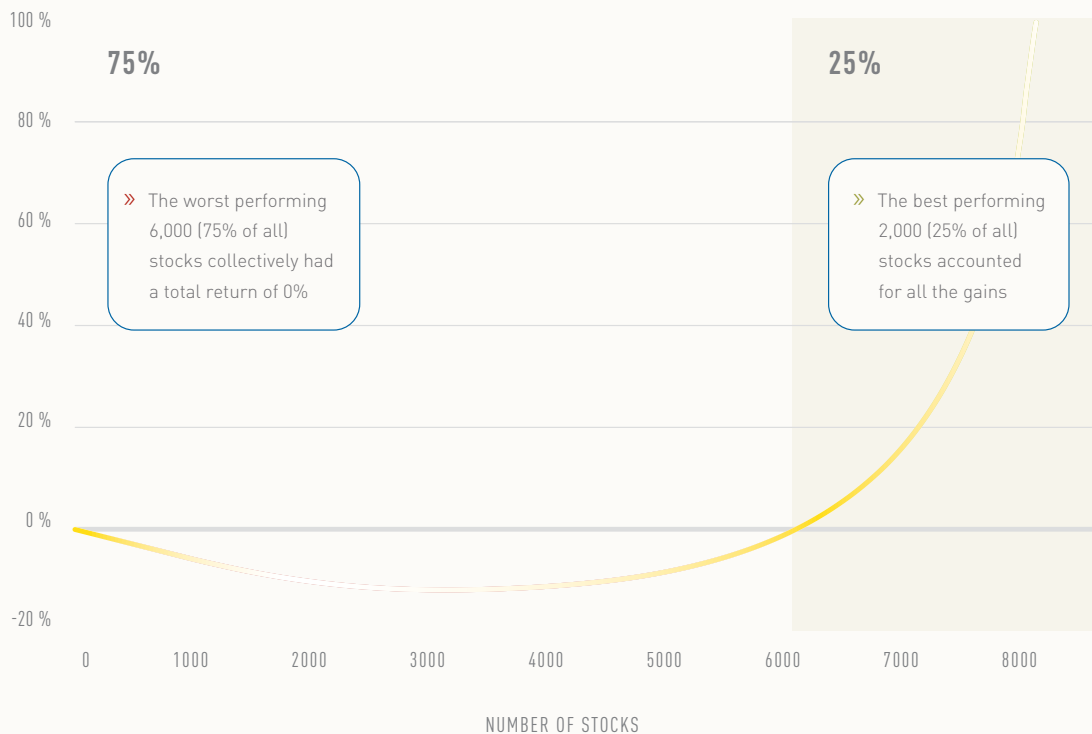
Market capitalization weighted indexation is like a simple trend-following system that rewards success and punishes failure.

It's also important to point out that stocks with a negative annualized return had shorter life spans than their successful counterparts. The average life span of a losing stock was 6.85 years versus 9.23 years for winning stocks (many of which are still living right now), meaning that losing stocks have shorter

periods of time to negatively impact index returns. For these reasons the average annualized return is probably a somewhat deceptive number for the purposes of modeling the "typical" stock, but interesting nonetheless.

The astute reader at this point is probably wondering if outperforming large capitalization stocks explain the observed distributions. Mathematically this would make sense. Small cap stocks certainly outnumber large cap stocks, while large cap stocks dominate the index weightings. However, while large cap stocks (Russell 1000) have outperformed small cap stocks (Russell 2000) over the long term it has been by less than 1% per year, certainly not enough to explain our observations.

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ATTRIBUTION OF COLLECTIVE RETURN 1983–2006

75%

25%

» The worst performing 6,000 (75% of all) stocks collectively had a total return of 0%

» The best performing 2,000 (25% of all) stocks accounted for all the gains

NUMBER OF STOCKS

The conclusion is that if an investor was somehow unlucky enough to miss the 25% most profitable stocks and instead invested in the other 75% his/her total gain from 1983 to 2006 would have been 0%. In other words, a minority of stocks are responsible for the majority of the market's gains.

We identified the best performing stocks on both an annualized return & total return basis and studied them extensively. The biggest winning stocks on an annualized return basis had a moderate tendency to be technology stocks and most (60%) were bought-out by another company or a private equity firm.

Some of the biggest winners on a total return basis were companies that had been acquired. Examples include Sun America, Warner Lambert, Gillette, Golden West Financial and Harrah's Entertainment. However, most (68%) are still trading today. Not surprisingly, they are almost exclusively large cap

companies. However, further research suggests that they weren't large companies when they were enjoying the bulk of their cumulative returns. Becoming a large cap is simply the natural result of significant price appreciation above and beyond that of the other stocks in the market. We were not able to detect any sector tendencies.

The biggest winners on a total return basis were simply the minority that outperformed their peers.

Both the biggest winners on annualized return and total return basis tended to have one thing in common while they were accumulating market beating gains. Relative to average stocks they spent a disproportionate amount of time making new multi-year highs. Stock ABC can't travel from $20 to $300 without first crossing $30 and $40. Such a stock is going to spend a lot of time making new highs. Likewise, the worst performing stocks

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tended to spend zero time making new multi-year highs while they were accumulating losses. Instead, relative to average stocks they tended to spend a disproportionate amount of time at multi-year lows. Mathematically it makes perfect sense.

Stocks that generate thousands of percent returns will hit new highs hundreds of times, usually over the course of many years.

[SAMPLE STOCKS THAT HIT HUNDREDS OF NEW HIGHS PRIOR TO COLLAPSING]

	ON THE WAY UP		AFTER THE PEAK	
	NUMBER NEW HIGHS	GAIN	NUMBER NEW HIGHS	LOSS
Cisco Systems	488	99975%	0	-81%
General Electric	1011	25316%	0	-71%
Ford Motor	348	5484%	0	-94%
General Motors	384	3151%	0	-95%
Citigroup	353	5519%	0	-90%
Microsoft	424	62188%	0	-61%
Fannie Mae	342	8531%	0	-99%
Intel Corp.	304	16898%	0	-81%
American Intl. Group	348	3974%	0	-98%
Bear Stearns	285	4691%	0	-95%

Our findings reveal that the distribution of individual stock performance has been persistently non-normal over the last few decades.

Each year, a minority of stocks are disproportionately responsible for the market's overall performance.

These findings carry important implications for investors seeking above average returns. Longboard's extensive research has revealed that a non-normal performance distribution characterizes many financial markets in addition to stocks, including global assets such as commodities, currencies, and fixed income investments. This suggests that an effective trend following investment strategy, such as Longboard's Pure Trend™ managed futures strategy, may be employed to harvest profit opportunities across many global asset classes.

An excellent example of how an effective trend following strategy, applied to managed futures, may be used to improve the return on risk and overall performance of a traditional investment portfolio is found in Longboard's research paper "The Case for Managed Futures."

Our database covers all common stocks that traded on the NYSE, AMEX, and NASDAQ since 1983, including delisted stocks. Stock and index returns were calculated on a total return basis (dividends reinvested). Dynamic point-in-time liquidity filters were used to limit our universe to the approximately 8,000 (due to index reconstitution, delisting, mergers, etc.) stocks that would have qualified for membership in the Russell 3000 at some point in their lifetime. The Russell 3000 Index measures the performance of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market.

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