# The Myth of 10% Returns

**We focus on a number that is (almost) never true. Why?**

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DURING AN ILLUSTRIOUS NBA CAREER, Michael Jordan averaged 30 points, 6 rebounds, and 5 assists per game. Many fans—us included—consider him the greatest of all time.

But in a career that spanned 1,072 games and parts of 15 seasons, Michael Jordan *never* had a single game where he scored 30 points, grabbed 6 rebounds, and dished out 5 assists.

The same was true of Kobe Bryant's 20-season career, and is true of LeBron James's 19 seasons (so far), too.

| Player | Career PPG | Career RPG | Career APG | # of games with career average as statline |
|---|---|---|---|---|
| Michael Jordan | 30 | 6 | 5 | 0 |
| Kobe Bryant | 25 | 5 | 5 | 0 |
| LeBron James | 27 | 7 | 7 | 0 |

*Source: StatMuse.*

It's a striking reminder that "average" is not at all "typical."

# As in Hoops, So in Stocks

New York University Professor Aswath Damodaran has compiled the historical data on equities, bonds, cash, and more asset classes, going back to 1928.

Over that 94-year time frame, the average annual return (nominal) of U.S. stocks rounded to 10%.

And yet, in nearly a century of stock market returns, the mythical 10% return was achieved only *once*, in 1993.

**9.98%**

Average annual return of U.S. large-cap stocks, 1928-2021

**1**

# of years in which the average return (10%) was achieved

*Source: Aswath Damodaran; average annual return uses the Geometric Average Historical Return of Stocks from 1928 to 2021, and includes dividends.*

Again, the average is not the typical.

| Year | S&P 500 *(includes dividends)* |
|---|---|
| 1928 | 43.81% |
| 1929 | -8.30% |
| 1930 | -25.12% |
| 1931 | -43.84% |
| 1932 | -8.64% |
| 1933 | 49.98% |
| 1934 | -1.19% |
| 1935 | 46.74% |
| 1936 | 31.94% |
| 1937 | -35.34% |
| 1938 | 29.28% |
| 1939 | -1.10% |
| 1940 | -10.67% |
| 1941 | -12.77% |
| 1942 | 19.17% |
| 1943 | 25.06% |
| 1944 | 19.03% |
| 1945 | 35.82% |
| 1946 | -8.43% |
| 1947 | 5.20% |
| 1948 | 5.70% |
| 1949 | 18.30% |
| 1950 | 30.81% |
| 1951 | 23.68% |

| Year | S&P 500 *(includes dividends)* |
|---|---|
| 1952 | 18.15% |
| 1953 | -1.21% |
| 1954 | 52.56% |
| 1955 | 32.60% |
| 1956 | 7.44% |
| 1957 | -10.46% |
| 1958 | 43.72% |
| 1959 | 12.06% |
| 1960 | 0.34% |
| 1961 | 26.64% |
| 1962 | -8.81% |
| 1963 | 22.61% |
| 1964 | 16.42% |
| 1965 | 12.40% |
| 1966 | -9.97% |
| 1967 | 23.80% |
| 1968 | 10.81% |
| 1969 | -8.24% |
| 1970 | 3.56% |
| 1971 | 14.22% |
| 1972 | 18.76% |
| 1973 | -14.31% |
| 1974 | -25.90% |
| 1975 | 37.00% |

| Year | S&P 500 *(includes dividends)* |
|---|---|
| 1976 | 23.83% |
| 1977 | -6.98% |
| 1978 | 6.51% |
| 1979 | 18.52% |
| 1980 | 31.74% |
| 1981 | -4.70% |
| 1982 | 20.42% |
| 1983 | 22.34% |
| 1984 | 6.15% |
| 1985 | 31.24% |
| 1986 | 18.49% |
| 1987 | 5.81% |
| 1988 | 16.54% |
| 1989 | 31.48% |
| 1990 | -3.06% |
| 1991 | 30.23% |
| 1992 | 7.49% |
| 1993 | 9.97% |
| 1994 | 1.33% |
| 1995 | 37.20% |
| 1996 | 22.68% |
| 1997 | 33.10% |
| 1998 | 28.34% |
| 1999 | 20.89% |

| Year | S&P 500 *(includes dividends)* |
|---|---|
| 2000 | -9.03% |
| 2001 | -11.85% |
| 2002 | -21.97% |
| 2003 | 28.36% |
| 2004 | 10.74% |
| 2005 | 4.83% |
| 2006 | 15.61% |
| 2007 | 5.48% |
| 2008 | -36.55% |
| 2009 | 25.94% |
| 2010 | 14.82% |
| 2011 | 2.10% |
| 2012 | 15.89% |
| 2013 | 32.15% |
| 2014 | 13.52% |
| 2015 | 1.38% |
| 2016 | 11.77% |
| 2017 | 21.61% |
| 2018 | -4.23% |
| 2019 | 31.21% |
| 2020 | 18.02% |
| 2021 | 28.47% |

*Source: Aswath Damodaran, "Historical returns: Stocks, Bonds & T. Bills with premiums." Average annual return uses the Geometric Average Historical Return of Stocks from 1928 to 2021, and includes dividends. The S&P 500 did not exist until 1957; prior to 1957, Professor Damodaran "back fill[s] the data using other indices of large market cap companies that existed prior." You can view Professor Damodaran's data sets and methodology on his website at https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html.*

# The Danger of the 10% Returns Myth

In his book *The End of Average*, Todd Rose tells the story of a neuroscientist named Michael Miller. Miller conducted a study of verbal memory by putting 16 people in an fMRI brain scanner; they were shown a group of words while the machine scanned their brain activity, and the results were meant to form "a digital 'map'" of the brain's activity. At the conclusion of the experiment, Miller took the results, averaged them together, and the composite represented the "Average Brain."

Later, Miller compared the results of each of the individual 16 participants to the Average Brain. As Rose writes, "What [Miller] found astonished him." Each person's brain differed from the average, and from one another. "Nobody's brain looked like the Average Brain. … What was most surprising was that these differences in patterns were not subtle, they were *extensive*."

It's hard not to think about this anecdote when looking at the year-by-year returns of U.S. large-cap stocks, seeing years where the broad stock market was up 53%, down 44%, and so forth.

Speaking of the Miller study, Rose writes, "The implications are hard to ignore: if you build a theory about thought, perception, or personality based on the Average Brain, then you have likely built a theory that applies to no one… There is no such thing as an Average Brain."

Outside of 1993, there has been no such thing as an Average Stock Market Return, either.

It might seem an obvious point that the market rarely delivers its exact long-term average return. But it has broad implications.

# A False Benchmark

For starters, it creates a false benchmark: We assign a "good" year in the stock market to anything above that 10% average return. Anything below it, while perhaps not "bad," is objectively not as good. Imagine you were completely tuned out of the market for an entire calendar year, and on Jan. 1, you read the following headline: "Stocks Close for the Year With Above-Average Returns." You'd likely be happy. Conversely, you'd likely be frustrated if the headline instead read: "Stocks Close for the Year With Below-Average Returns."

An above-average year. A below-average year. The 10% returns myth sets a line in the sand, and investors, fueled by media headlines tirelessly making these comparisons, will be left to make a judgment based on a faulty standard—based on a myth. As with many things in life, it's about setting expectations—and we don't think a blanket 10% return expectation that stems from a 100% equity portfolio over a 94-year period sets up a reasonable expectation.

## Animal Spirits

This is a larger problem than it seems, too, given the rise of self-directed retirement investing. When more people think of 10% returns per year as typical, you've got the conditions for extremes at either end to fuel the market's animal spirits.

Consider the standard Personal Finance 101 lesson: Buy an S&P-tracking fund and sit back while it earns you 10% a year.

That's what Time.com suggested this past summer:

*The S&P 500 makes up about 80% of the entire value of the market, and that makes it a useful way to track the market's overall performance. Between 1926 and 2022, the average return for the S&P 500 and its precursor has been about 10%. While that's the average, some years have been much higher, and others — like this year — have been lower.* ***But overall, you can reasonably expect around a 10% return in your retirement account****, depending on a variety of factors. [emphasis added]*

This "reasonable expectation" of 10% runs the risk of distorting behaviors—causing panic when the market is down double-digits, euphoria when it's well above 10%.

**Rose writes, "The implications are hard to ignore: if you build a theory about thought, perception, or personality based on the Average Brain, then you have likely built a theory that applies to no one… There is no such thing as an Average Brain." Outside of 1993, there has been no such thing as an Average Stock Market Return, either.**

# An Impossibly Long Time Horizon

While we do subscribe to the maxim that it's *time in the market* that matters, there's no escaping the fact that timing matters—quite a bit!—to an individual's returns.

Refer back to Professor Damodaran's year-by-year returns data, and you'll note that one of the best single years of the entire data set is the very first year: 1928's +44% gain.

Perhaps, again, this is an obvious point. As a *New York Times* piece titled "In Investing, It's When You Start and When You Finish," articulates, "Historical averages can vary widely depending on their starting and ending points. For example, averages that start before the 1929 crash are substantially different from those that start after it."

The 10% Returns Myth is rooted in an impractical time horizon: It's longer than the average life expectancy of someone born in the United States.

So let's evaluate a more reasonable long-term time frame: 10 years.

We looked at every year in the time frame above and asked: What would a long-term investor who invested a lump sum at the start of any one of those years have earned? We used 10 years as the holding period, because a decade seems a reasonable holding period for a long-term investor.

If you'd invested in large-cap U.S. stocks starting at the beginning of 1929 (the S&P 500 didn't exist yet; see the footnote to the table regarding Professor Damodaran's composition) and held for the next decade, your annualized nominal return would be -1.67%. If you started in 1949 and held for a decade, your nominal annualized return would have been 20.11%—a dramatic difference!

Staying in the market is a key ingredient to long-term success. But only two 10-year periods returned the "average" 10% on an annualized basis: 1959-1968 and 1963-1972.

| Starting Year | Annualized Return Over the Next 10 Years |
|---|---|
| 1928 | -0.62% |
| 1929 | -1.67% |
| 1930 | -0.92% |
| 1931 | 0.84% |
| 1932 | 5.38% |
| 1933 | 8.22% |
| 1934 | 6.27% |
| 1935 | 8.27% |
| 1936 | 7.43% |
| 1937 | 3.58% |
| 1938 | 8.74% |
| 1939 | 6.58% |
| 1940 | 8.50% |
| 1941 | 12.72% |
| 1942 | 16.73% |
| 1943 | 16.63% |
| 1944 | 13.91% |
| 1945 | 16.77% |
| 1946 | 16.49% |
| 1947 | 18.37% |
| 1948 | 16.47% |
| 1949 | 20.11% |
| 1950 | 19.46% |
| 1951 | 16.33% |
| 1952 | 16.61% |
| 1953 | 13.63% |
| 1954 | 16.11% |
| 1955 | 13.01% |

| Starting Year | Annualized Return Over the Next 10 Years |
|---|---|
| 1956 | 11.16% |
| 1957 | 9.21% |
| 1958 | 12.81% |
| 1959 | 9.91% |
| 1960 | 7.74% |
| 1961 | 8.08% |
| 1962 | 6.97% |
| 1963 | 9.83% |
| 1964 | 5.97% |
| 1965 | 1.29% |
| 1966 | 3.31% |
| 1967 | 6.66% |
| 1968 | 3.65% |
| 1969 | 3.24% |
| 1970 | 5.92% |
| 1971 | 8.50% |
| 1972 | 6.55% |
| 1973 | 6.70% |
| 1974 | 10.57% |
| 1975 | 14.61% |
| 1976 | 14.12% |
| 1977 | 13.62% |
| 1978 | 15.09% |
| 1979 | 16.13% |
| 1980 | 17.34% |
| 1981 | 13.80% |
| 1982 | 17.41% |
| 1983 | 16.08% |

| Starting Year | Annualized Return Over the Next 10 Years |
|---|---|
| 1984 | 14.85% |
| 1985 | 14.32% |
| 1986 | 14.83% |
| 1987 | 15.23% |
| 1988 | 17.90% |
| 1989 | 19.05% |
| 1990 | 18.05% |
| 1991 | 17.30% |
| 1992 | 12.81% |
| 1993 | 9.26% |
| 1994 | 10.96% |
| 1995 | 11.95% |
| 1996 | 8.98% |
| 1997 | 8.33% |
| 1998 | 5.84% |
| 1999 | -1.36% |
| 2000 | -0.95% |
| 2001 | 1.38% |
| 2002 | 2.88% |
| 2003 | 7.03% |
| 2004 | 7.34% |
| 2005 | 7.61% |
| 2006 | 7.25% |
| 2007 | 6.89% |
| 2008 | 8.42% |
| 2009 | 12.98% |
| 2010 | 13.44% |
| 2011 | 13.75% |
| 2012 | 16.40% |

*Source: 1623 Capital. Calculations are based on Professor Damodaran's data set. Returns shown are nominal.*

As you can see, 10-year forward annualized returns vary widely based on the starting and ending points. While they do clump together—returns in the 1930s and 1960s are quite low compared with those in the 1970s and 1980s—we don't believe there is any way to look at this data and conclude that 10% annual returns are what stock market investors should expect.

**Staying in the market is a key ingredient to long-term success. But only two 10-year periods returned the "average" 10% on an annualized basis: 1959-1968 and 1963-1972.**

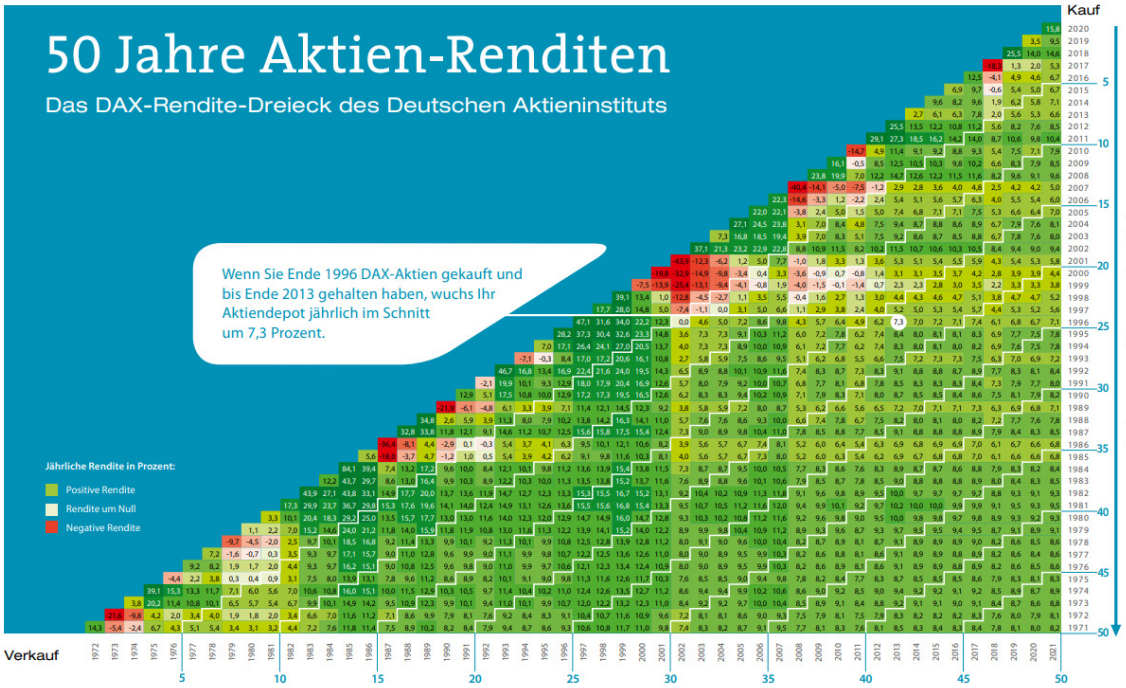
# Timing and Sequencing

Still, the long-run data show that relative to bonds and bills, stocks provide the highest returns. They come with higher risk, but with risk comes rewards.

What we think that popular narrative misses, however, is *the degree to which the start and end dates of your time horizon, and the sequencing of returns inside that time horizon, determine an investor's actual return*.

The German think tank Deutsches Aktieninstitut, "the voice of the capital markets" in Germany and more broadly in Europe, has an elegant solution for this.

It's created a "returns triangle" that frames returns based on the entry and exit of a single lump-sum investment in Germany's DAX:




*Source: Deutches Aktieninstitut "Return Triangles." This chart shows the returns of Germany's DAX based on a lump-sum investment held between two periods. Green = positive returns; red = negative returns; white = flat returns. This information can be viewed online at [https://www.dai.de/en/return-triangles/](https://www.dai.de/en/return-triangles/).*

Like the 10% Returns Myth, the sea of green in this table shows that owning stocks can be a powerful wealth-building tool—especially over long time horizons. As the amount of red and white shows over shorter time horizons, the stock market truly does seem to reward the patient.

The trend in Germany's DAX holds true for our domestic market, of course. Looking at our forward-10-year-annualized-returns chart, 42 of the 85 10-year periods from 1928 to 2021 had double-digit annualized returns; only 5 of had negative annualized returns. None of the negative return periods were greater than -2% annualized.

That is a powerful story, and the returns triangle provides for some nuance. It shows that entry and exit points matter, in some cases quite a bit, and that sequencing of returns can also matter. (The dot-com crash really crushed the DAX.)

# What Else Matters

So what *should* investors focus on, if not the "average" return of the market?

As with many things in life, it depends—on risk tolerance, time horizon, and liquidity needs, among other things. "It depends" is a wholly unsatisfying conclusion, but we believe it's the correct conclusion.

The 10% Returns Myth is based on a nine-decade all-equity portfolio—a portfolio composition that may not be appropriate for all investors. It doesn't factor in a mix of bonds or cash, much less the timing of pulling money out of equities for homes, tuitions, vacations, weddings, or retirements. Nor does it factor in real estate or alternative investments that may offer different flavors.

There's a statistics concept called the tyranny of the average, which posits that the mean (average) fails to account for the wide distribution of probabilistic outcomes of a data set, and therefore decision-making based on the mean could skew expectations. The 10% Returns Myth seems a good example of just such a tyranny.

Because the main thing is this: Your focus should be on your goals, your risk appetite, your time horizon. There isn't an Average Return—there's only your return. As it should be.

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