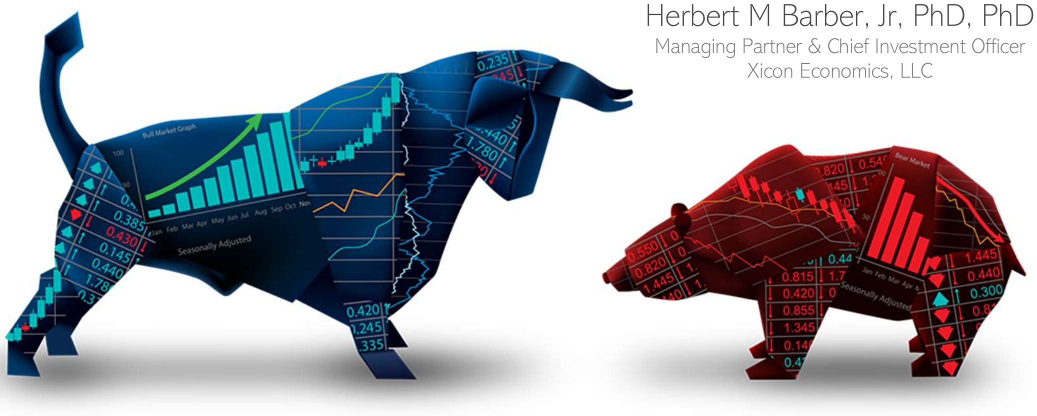
Bulls & Bears

A Descriptive Review of the Market from 1970-2022

Herbert M Barber, Jr, PhD, PhD
Managing Partner & Chief Investment Officer
Xicon Economics, LLC



The market is considered by many as one of the chief indicators of US economic stability. Whether the market indeed serves as a good indicator of such is usually left to those with more time to think and less time to do, but in today's state of turmoil, society certainly needs some form of constant. Of course, this topic seriously oversteps into our spiritual decay as a nation, but I digress. So today let's consider the market descriptively, rather than inferentially, simply calling the market as it is rather than using even a single higher form of statistics to draw inferences.

Since 1970, the market has averaged a positive return of 8.3 percent per month. However, there were significant changes in ROI during 1970—2022, that skewed this mean. For example, consider the last two years. In 2021, the market gained 24.6 percent, while in 2022, the market lost 19.0 percent (-19.0%). While these returns do not serve as statistical outliers, outright, they are some three times the mean return of 8.3 percent (Note: To be considered an outlier, most researchers require datum to be greater than twice the standard deviation). Such radical swings grossly impact market return; then again, the market has managed to produce negative returns only 12 times (years) since 1970, meaning the market has generated positive returns 77.4 percent of the time. Such would be impressive if we could get that actual mean return of 8.3 percent up, but even then, knowing that you will generate positive returns nearly 80 percent of the time is a strong argument to invest. So why most persons in the US do not invest regularly, even if only a few dollars, is a subject far beyond our scope here. A behavioral economist, I am not; neither am I a mind reader.

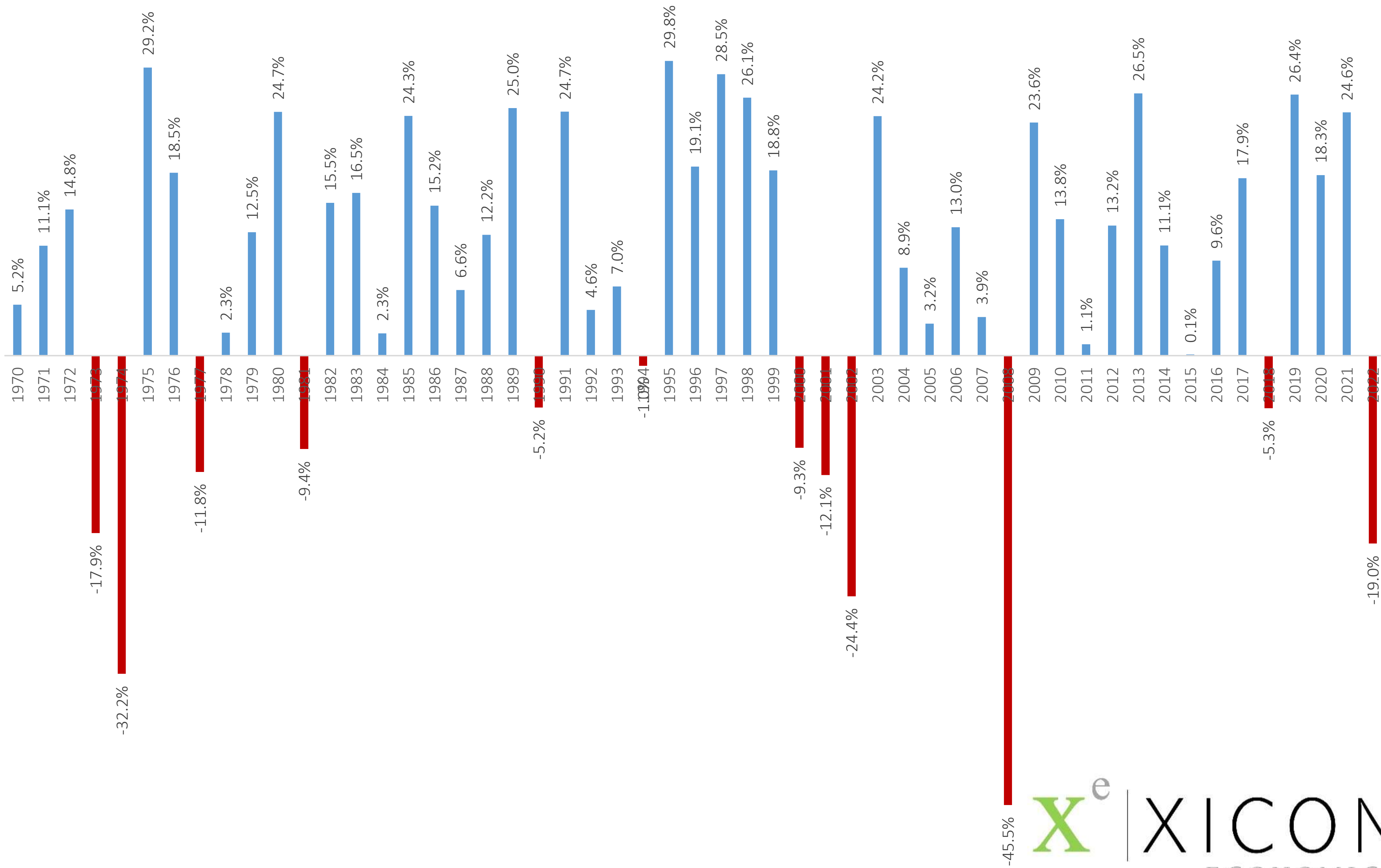
That said, only three times since 1970 has the market returned back-to-back years of negative returns, including 1973—1974 and 2000—2002. In fact, if we remove only five years, including 1973, 1974, 2002, 2008, and 2022, the market has performed extremely well, only allowing minor setbacks that could be easily overcome.

Nonetheless, overlooked by most students of investment are the years 1997—2009, the *Lost Years*. From the 1st quarter of 1997 through the 4th quarter of 2008, all gains in the market were lost, not once but twice. And using the term "lost" is being gentle, as gains were "wiped out." The cumulative losses in 2000, 2001, and 2002 resulted in disturbing losses of 45.8 percent, followed by an identical loss in 2008 (-45.5%). Huge returns had accumulated, only to fall, forcing investors to reconsider their investment schemes altogether. Our old statistical friend, "regression to the mean" came calling, and regress it did. Personal, commercial, and institutional accounts were repositioned to the mean; such could not be clearer on the graph noted below. Overall, data always pull to the mean. In lay terms, between 1997 and 2009, you neither lost nor gained a dollar in your account in the end.

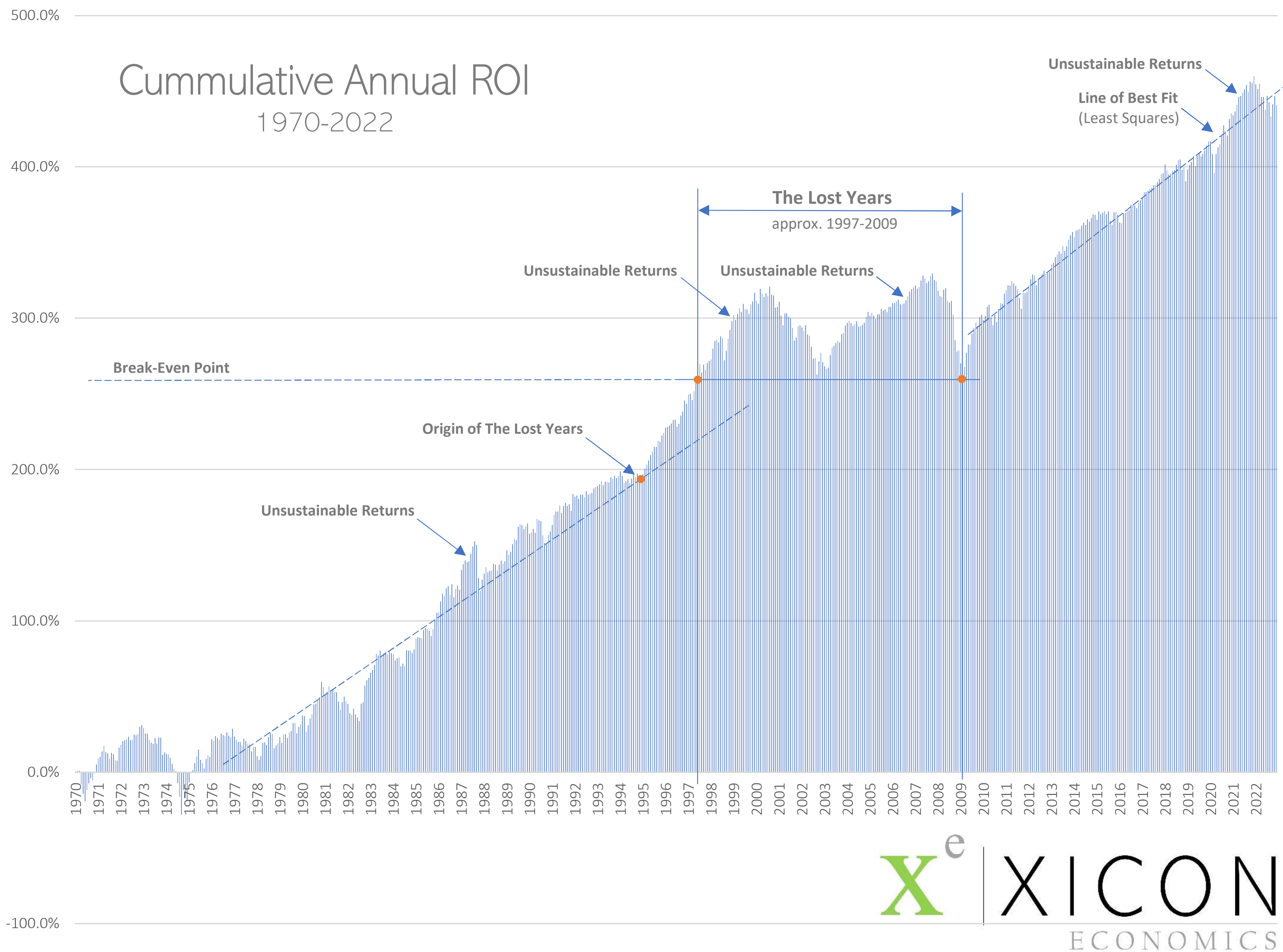
Subsequently, it is these issues of which we must concern ourselves, the "under-the-cover of darkness" issues that creep into financial data while all seems well. In 2003, we breathed a sigh of relief as we began recovering from the recent correction. We made more money than ever as a nation and found ways to spend it, all under a mirage of never-ending success. After all, this was America, the land of the free, the keeper of the American Dream; we had become accustomed to its ups and downs. In fact, every American was now "entitled" to a new home, a place to raise their kids. Forget about documenting those loan files at the local bank; life is good. And so it was, right up until the market dropped a whopping 45.5 percent in 2008, seemingly in the matter of days. And America went hush.

Annual Market Return

1970-2022



XICON ECONOMICS


Cummulative Annual ROI
1970-2022
500.0%
400.0%
300.0%
200.0%
100.0%
0.0%
-100.0%
Unsustainable Returns
Line of Best Fit
(Least Squares)
The Lost Years
approx. 1997-2009
Unsustainable Returns
Unsustainable Returns
Break-Even Point
Origin of The Lost Years
Unsustainable Returns
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
XICON
ECONOMICS

However, it is not the magnitude of the resulting return that is the issue, per se; it is the *rate* at which this same magnitude, or return, is attained (Note: Remember; *rate* is a function of time). The actual rate this magnitude, or return, can be acquired and sustained becomes a serious issue. If the market outpaces its underpinning support structure, such as variables within the economy, these higher returns are guaranteed to eventually regress negatively—yes, toward the mean. The reverse is also true; if the market is underperforming its supporting structure, again, like the economy, the market will soon increase toward the mean.

The key to uncovering such occurrences is to exhaust the data, analogous to exhausting the literature in scientific research. If we want a relationship with the data, so to speak, we must spend time developing that relationship—especially if we want to really understand the data. Subsequently, we must consider these returns and their accommodating data in every possible light; applying a single analytical technique or graph is often not sufficient, not for understanding. As previously noted, refer to the first graph above to review an example of regression of the mean occurring between 1995—1999, and 2000.

So, how bad is our current market? From an econometric perspective, the market has been heading for a correction since Obama was in office. The market collapsed in 2008, but despite major fallout in the economy, not to mention most personal, commercial, and institutional accounts, the market quickly began recovering. The problem, of course, is that the market jumped almost directly back on the exact path that led to its collapse in 2008. Such goes without saying that this was highly problematic. For years our firm has proven econometrically through multiple models we developed that the *rate* at which the market was growing was too strong to be sustained—that the market rate of increase and magnitude needed to decrease to avoid a strong correction rapidly occurring. Enter 2022.

Today, we can chalk up being correct with modeling and forecasting yet another grave economic correction (2008 and now 2022). We hit the quarter and year on both corrections and missed the corrected positions by less than 2 percent—collectively! So, is it just this easy, or are we just that good? 😊 In reality, we very rarely miss, and when we do, our errors are minimal. Such holds true when we model other variables, as well—sales, revenue, profit, and other technical data. These variables are usually much easier to model because they seldom have as much uncertainty within their respective data.

Notwithstanding the self-promoting fanfare, the market performed well from approximately 2009 through 2021, but as noted, the market grossly over-performed during these years, realizing a mean return of nearly 12 percent (11.6%), as opposed to the 8.3 percent return realized from 1970—2022. That sounds small, but from a mathematical perspective, that makes for a 40 percent difference in mean returns, and this over-performance is what we needed to avoid, as it cannot help but eventually lead to pending corrections. And in so doing, note that the overall correction will be greater than the difference between 11.6 percent and 8.3 percent, as the correction becomes the *total* increases over those years less the mean; such results in market chaos.

Nonetheless, the market itself remains strong, overall. Now is *not* the time to sell. The current correction in 2022 is a statistical phenomenon within large data sets that occurs no matter the data. Remember, when the foundation supporting growth falters, so do the returns. Enter Biden.

The market is well positioned to turn, and all indicators within the data are suggesting such. The market needed to correct and has corrected. Now, it is a matter of time in determining whether the foundation underpinning the market has the stability to support the market's pending growth. **Based on 20,000 Monte Carlo Simulation runs and multiple runs of modified vector auto regressive (VAR) models, we expect the market in 2023 to return between 6.85 percent and 7.55 percent.**

Herbert M Barber, Jr, PhD, PhD serves as the Managing Partner and Chief Investment Officer of Xicon Economics. Intersecting the fields of engineering, finance, econometrics, and statistics, Dr. Barber is an expert in computational financial economics as it relates to the management of random walk theory and navigation of constructs surrounding efficient market hypotheses, especially within assets operating under extreme uncertainty. For over 30 years, he has provided advisory, consulting, and management of large capital investments in the private and public sectors, totaling over $125 billion. Additionally, Dr. Barber has published numerous scientific papers in refereed journals. Dr. Barber holds 5 academic degrees, including two research doctorates.

Xicon Economics provides investment research, financial and investment advisory, and asset management for corporations and investors. We conduct scientific and applied research coupled with advanced statistical and econometric analyses and modeling to render complex financial and economic decisions to ensure investments are realized. We concentrate our practice on increasing output on hedge funds and alternative investments. Additional information regarding Xicon Economics can be found at www.xiconeconomics.com. A dditional information regarding Xicon Squared can be found by visiting www.xiconeconomics.com/hedge-funds.

XICON SQUARED, LP

A Hedge Fund offered by Xicon Economics, LLC