The Ultimate Chart Guide for an Investment Life

Charts don't lie.

They expose everything. They bring the truth to the surface. Over the years, and hundreds of charts produced and shared, there are seven we return to time and time again. This Financial Survival Guide features seven of our favorites. Each showcase or expose a reason for risk management or bust a tenet of financial dogma.

So, welcome to chart school.

Chart #1

Missing the 10 Worst Days

Starting Value	% Draw Down	$ Loss	Ending Value	% Return Back To Breakeven
$100,000	10%	$10,000	$90,000	11.11%
$100,000	15%	$15,000	$85,000	17.65%
$100,000	20%	$20,000	$80,000	25.00%
$100,000	25%	$25,000	$75,000	33.33%
$100,000	30%	$30,000	$70,000	42.86%
$100,000	35%	$35,000	$65,000	53.85%
$100,000	40%	$40,000	$60,000	66.67%
$100,000	45%	$45,000	$55,000	81.82%
$100,000	50%	$50,000	$50,000	100.00%
$100,000	55%	$55,000	$45,000	122.22%
$100,000	60%	$60,000	$40,000	150.00%
$100,000	65%	$65,000	$35,000	185.71%
$100,000	70%	$70,000	$30,000	233.33%
$100,000	75%	$75,000	$25,000	300.00%

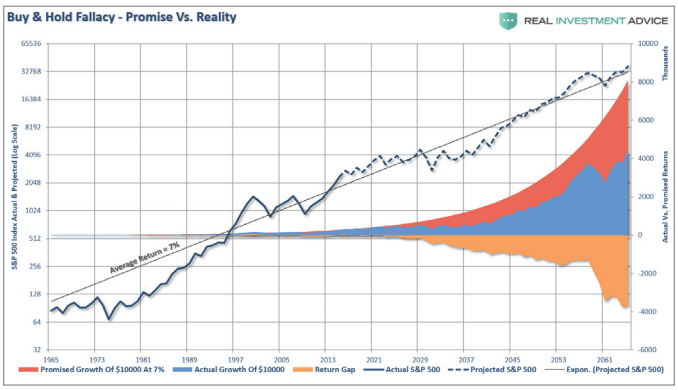
What's clear is your greatest returns over an investment life are derived by minimizing or controlling portfolio losses. Unfortunately, a majority of investors have directed their financial resources making up for losses by continuing to systematically add to their investments over time.

Even a modest 10% correction requires an 11.11% gain just to get back to even. This is why a strategy of "getting back to even" has never been a worthwhile investment discipline. The most important commodity lost during such a period is "time." Time is the one asset in all portfolios that can never be replaced or recovered. Once it is lost, it is gone forever.

The reason that portfolio risk management is so crucial is that it is not "missing the 10-best days" that is important, it is "missing the 10-worst days." The chart below shows the comparison of $100,000 invested in the S&P 500 Index and the return when adjusted for missing the 10 best and worst days.

Chart #2

Promised vs. What Really Happens



When markets begin to decline, particularly after long periods of advances, there is a rush by the media and financial bloggers to proclaim "patience." These claims are generally accompanied by advice to just "hold on" to investments and ride out the volatility over the long-term.

The problem, is that market indices and investor portfolios are two very different things and there are a few very important survival facts to consider before "jumping off this particular cliff."

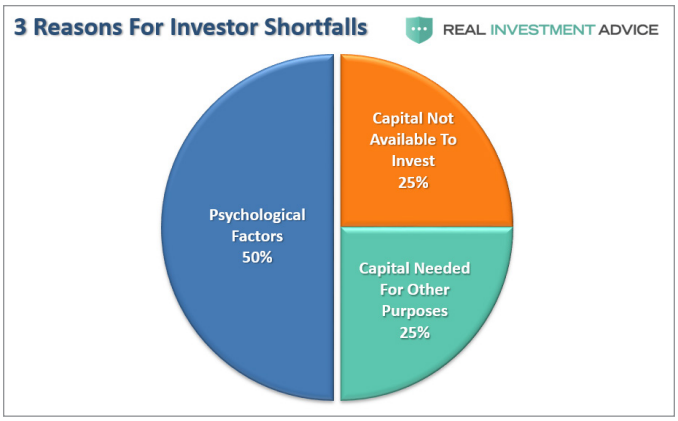
The disparity between compound and variable rates of return is rarely discussed.

The 'power of compounding' ONLY WORKS when you do not lose money. After three straight years of 10% returns, a drawdown of just 10% cuts the average annual compound growth rate by 50%. Furthermore, it then requires a 30% return to regain the average rate of return required. In reality, chasing returns is much less important to your long-term investment success than most believe.

Here is the difference between what was "promised," versus what "actually" happened. The chart above takes the average rate of return, and price volatility, of the markets from the 1960's to present and extrapolates those returns into the future.

Chart #3

Understand the Investor Psychology Cycle & Where you are Emotionally

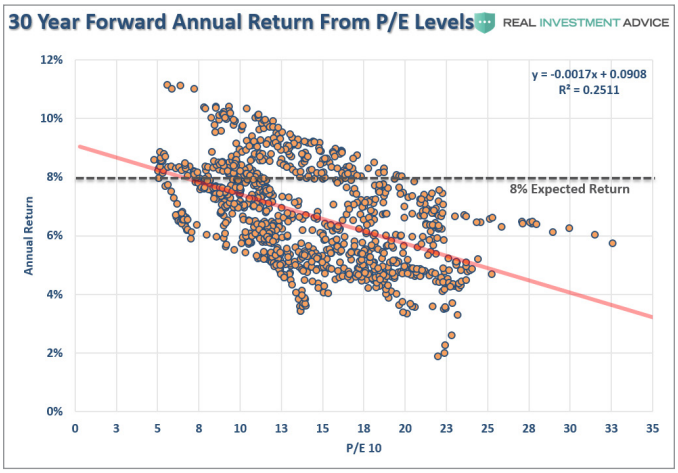


As markets decline, there is a slow realization that "this decline" is something more than a "buy the dip" opportunity. As losses mount, the anxiety of loss begins to mount until individuals seek to "avert further loss" by selling. As shown in the chart below, this behavioral trend runs counter-intuitive to the "buy low/sell high" investment rule.

In the end, we are just human. Despite the best of our intentions, it is nearly impossible for an individual to be devoid of the emotional biases that inevitably lead to poor investment decision-making over time. This is why all great investors have strict investment disciplines that they follow to reduce the impact of human emotions.

Chart #4

30 Year Forward Annual Return from P/E Levels



Choosing rates of return for planning purposes that are outside historical norms is a critical mistake. Stocks tend to grow roughly at the rate of GDP plus dividends. Into today's world GDP is expected to grow at roughly 2% in the future with dividends around 2% currently. The difference between 8% returns and 4% is substantial.

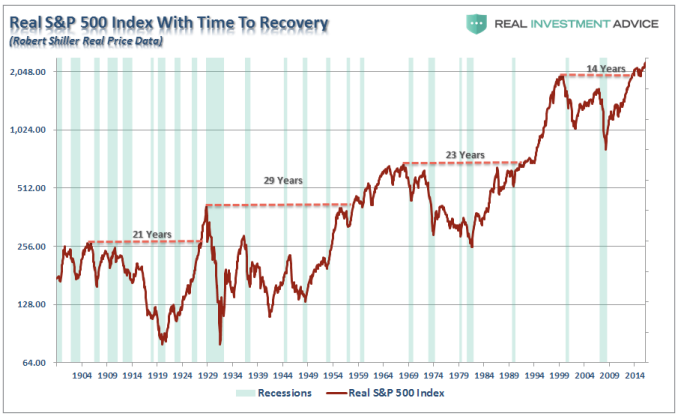
Also, to achieve 8% in a 4% return environment, you must increase your return over the market by 100%. The level of "risk" that must be taken on to outperform the markets by such a degree is enormous. While markets can have years of significant outperformance, it only takes one devastating year of losses to wipe out years of accumulation.

The Cyclically Adjusted Price-Earnings Ratio for the S&P 500 as of 10/31/2018, stands at a lofty 30.71x. The median P/E based on inflation-adjusted earnings over previous ten-year periods going back to 1880 is 15.68x.

We also know that forward 30-Year returns from current valuation levels have been much closer to 2-5% than 8%. In fact, there has never been a 30-year return of 8% from current valuation levels – ever.

Chart #5

Real S&P Index with Time to Recovery



Investors tend to use a significant chunk of the "secular bull" market periods just getting "back to even."

The market cycle and the realization of a goal intersect at a crossroad named "luck."

Where will you and your money wind up?

Chart #6

Interest Rates are a Function of Economic Growth, Wages & Inflation

When you hear all the bond vigilantes raving about in the media how the bull market in bonds is over, think again. And refer to this chart.

Interest rates are a reflection of actual economic growth, rising pricing power for goods and services, and wage growth across the bottom 80% of employees. The chart below shows interest rates overlaid against the annual changes in those factors.

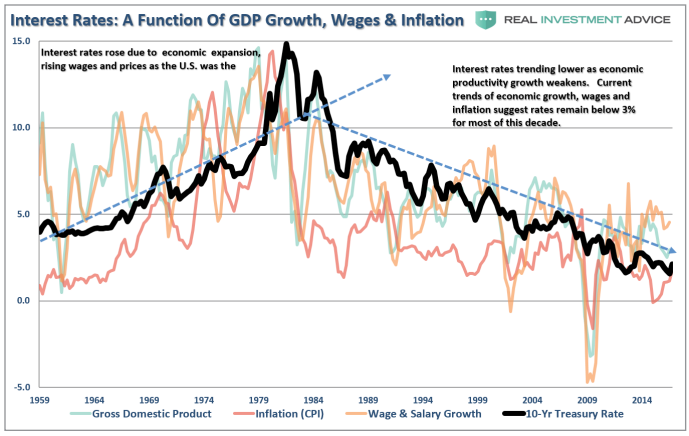
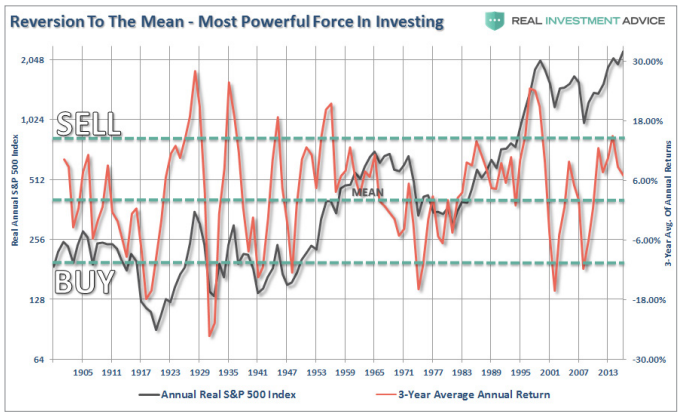


Chart #7

The Most Powerful Force – Reversion to the Mean

Mean reversions are one of the most powerful forces in the financial markets as, like gravity, moving averages provide the gravitational forces around which prices oscillate. The chart below shows the long-term view of the S&P 500 as related to its long-term 6-year moving average.

When prices deviate too far from their underlying moving average there is generally a reversion back to the mean, or worse.



The bear markets in 2000 and 2007 were not just reversions to the mean but rather a massive reversion to 2-standard deviations below the mean. Like stretching a rubber band as far as possible in one direction, the snap-back resulted in large advancing cyclical bull markets.

These cyclical bull markets are quickly believed to be the beginning of the next secular multi-decade bull market. Currently, this is an unlikely case given the lack of economic dynamics required to foster such a secular period.

Historically, we find that when price extensions have exceeded a 12% deviation from the 3-year average return of the index, the majority of the market cycle had been completed.

Charts tell a story.

We hope you refer to our Financial Survival Guide often to remain grounded and navigate realistically through an investment life.