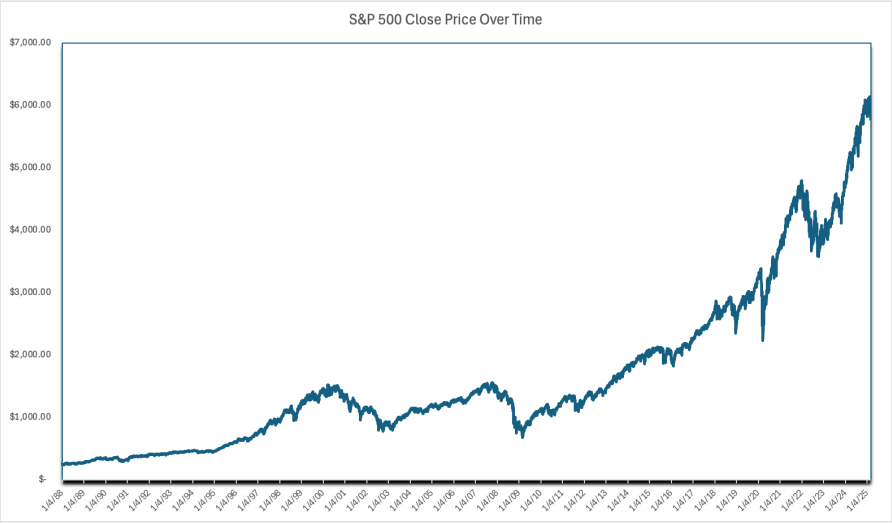
# Is it worth considering investing at all-time highs?

In 2020, JP Morgan Chase published an article that made a strong case for investing at all-time highs (ATHs). The article claimed that investing during ATHs generally led to higher returns compared to investing on any random day. The graphs and data seem convincing - concluding that investments made at ATHs yield higher returns over 1-year, 3-year, and 5-year periods. This suggests that you should wait for the S&P 500 to reach an all-time high before you invest. But does this really increase your chances of getting higher returns? Not really, and this article aims to explore the shortcomings of JP Morgan's analysis.

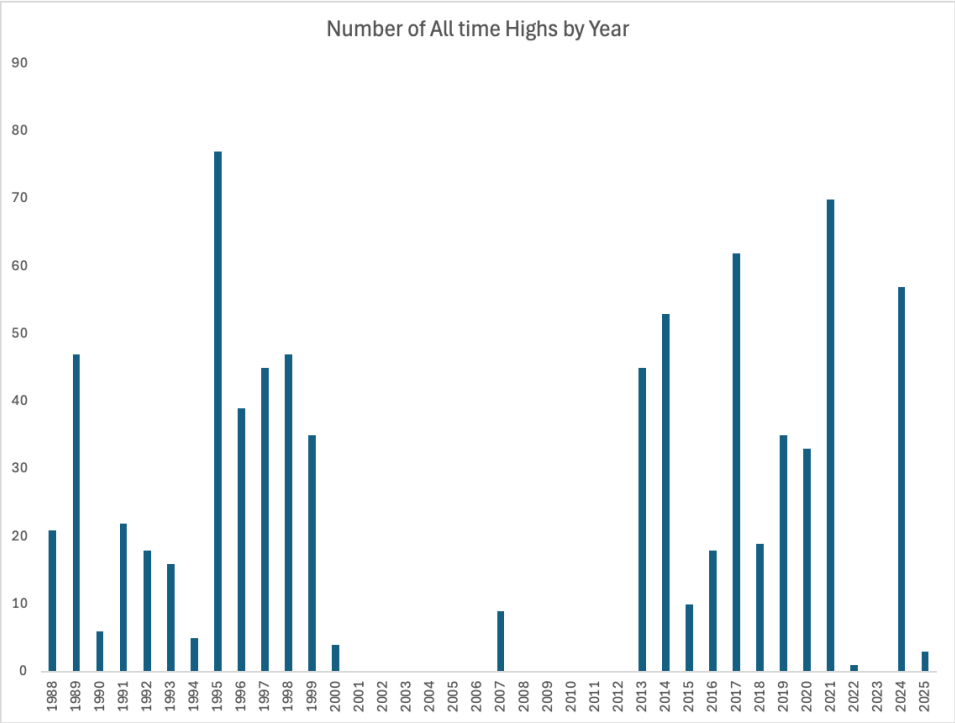

Data is powerful, it is used by people and businesses to make decisions. However, data that lacks proper context can be misleading and can lead to incorrect decisions being made.

So what is wrong with the graph provided by JP Morgan? The data isn't incorrect, after all they used actual historical data for their analysis. However, the data lacks important context which can lead to misleading insights.

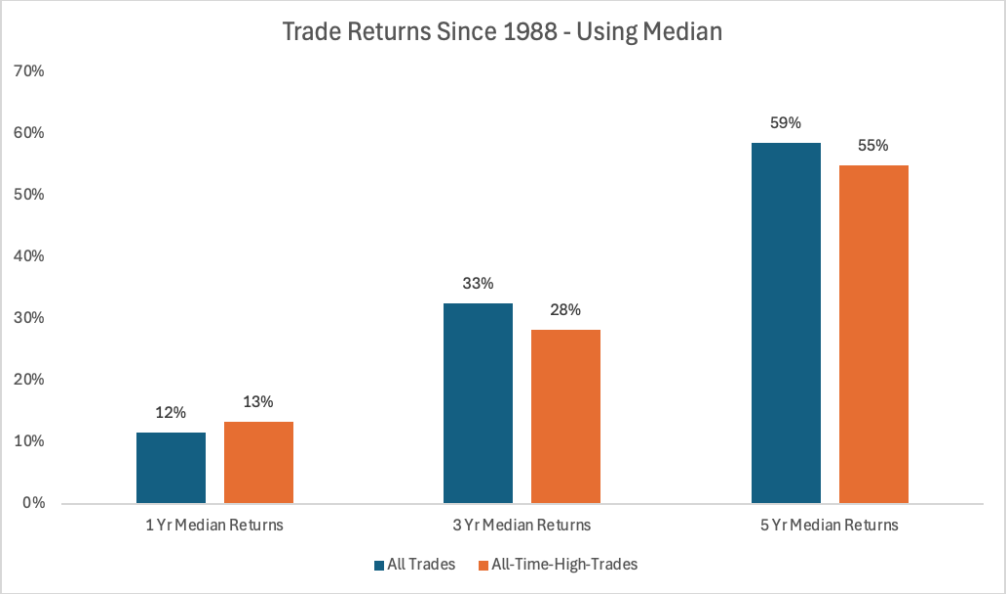
Here is a line chart consisting of the S&P 500 close prices since 1988. This showcases a clear upwards trend over time. This naturally results in frequent ATH days in the earlier years. This leads to skewed results, as the prevalence of ATH days in the earlier years can skew the metric and thus leading to a conclusion that investing in ATH days lead to higher returns.




To better understand this, let's consider a column chart of the years and the number of all-time-highs in those years. Looking at the graph, you can see that a lot of the all time highs were early, and not so much in the middle. This is crucial, because periods of stagnant growth - where returns were minimal - were underrepresented in the ATH returns. This can make it seem that ATH investments are more favorable than investing on any random day.

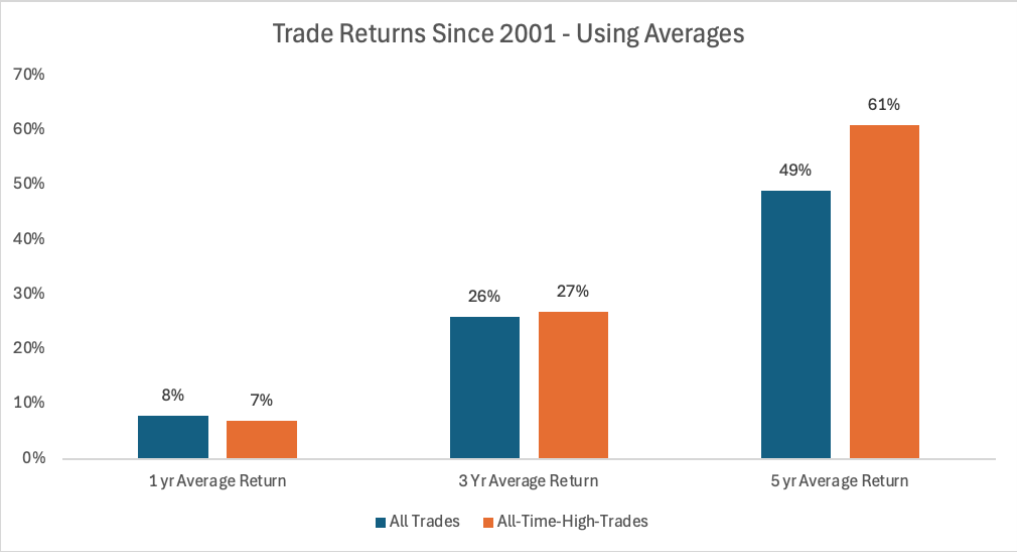


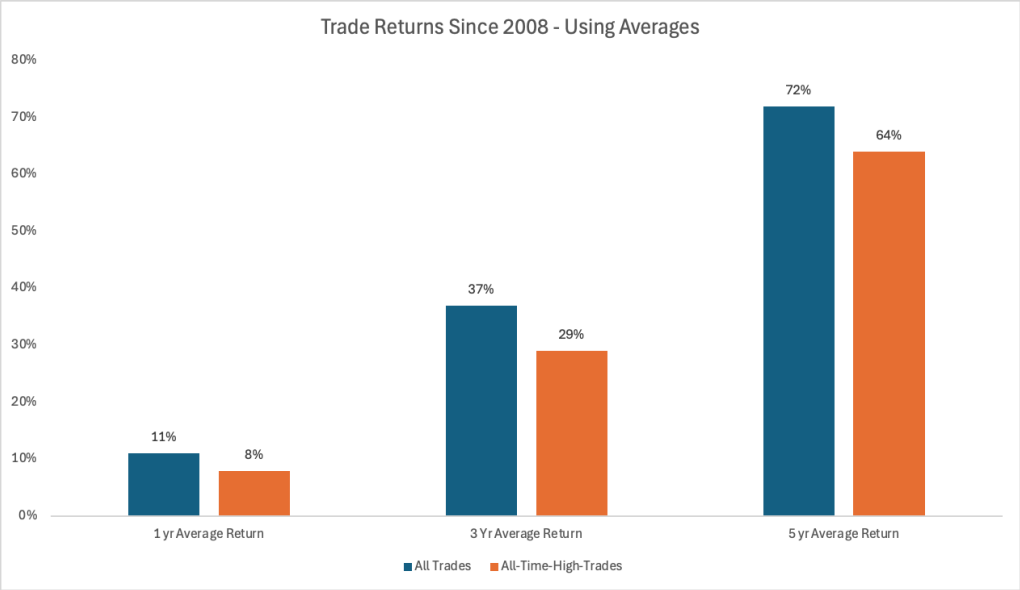

To further drive this point and show you that the earlier dates skew the high returns for ATH days, let's look at the median returns instead of the average returns. As averages tend to get inflated when data is skewed. In such cases, the median can help provide a more balanced view of investment performances.

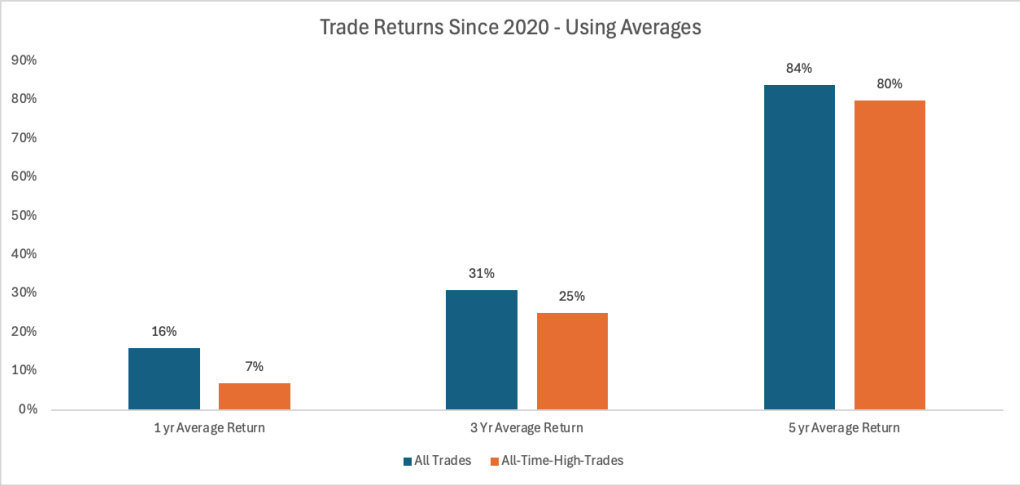


When examining median returns, the results tell a different story. ATH investments do not consistently outperform all trades across all time frames. In fact, median returns show that ATH investments are often outpaced over 3-year and 5-year periods and remain nearly identical to all trades over a 1-year period.

To further drive this point, I added some additional column charts using data starting from different years—2001, 2008, and 2020—rather than 1988. The results indicate that when early years are excluded, the performance gap between ATH trades and all trades narrows or even reverses. This reinforces the idea that early-year ATHs disproportionately influence the overall averages, making ATH investments seem more beneficial than they truly are.






The key takeaway from this analysis is that investment decisions should not rely solely on high-level statistical summaries without considering context. While JP Morgan's analysis suggests a pattern of ATH investments outperforming random trades, a deeper examination reveals that this conclusion is heavily influenced by early-year data and skewed averages.

Before making investment decisions based on broad claims, always strive to understand the full story, critically evaluate the methodology behind the data, and conduct your own research.

All the SQL code can be found on the github repository: www.github.com/keyur-parikh

The data was sourced from Yahoo Finance