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# Brewing Up Stock: The Ale-urement of Breweries in the United States and Monster Beverage's Stock Price

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## KEYWORDS

Craft beer breweries, craft beer industry, beverage industry, stock market correlation, Monster Beverage stock price, Brewers Association data, LSEG Analytics, financial market dynamics, investment decisions, statistical significance, ale-urement, United States breweries, stock market impact

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## Abstract

This study investigates the frothy relationship between the number of breweries in the United States and Monster Beverage's stock price (MNST), exploring the potential ale-urements and impacts on investment decision ale-rtness. Utilizing data from the Brewers Association and LSEG Analytics (Refinitiv), our analysis covers the period from 2002 to 2022, imbuing both statistical rigor and hoppy humor. The results reveal a striking correlation coefficient of 0.9687541 and a p-value less than 0.01, suggesting a significant and robust relationship. As we delve into the foam of statistical significance, the findings brew a compelling narrative merging craft beer culture and financial market dynamics. It seems that when it comes to the stock market, the hops and barley may not be the only things bubbling. This research offers a refreshing perspective on the intersection of beverage industries and financial markets, hop-ing to stimulate further interest in this unconventional but statistically significant relationship.

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## 1. Introduction

As the saying goes, "Time flies when you're having pun!" In the world of finance and investment, finding unique and unexpected connections between seemingly unrelated variables can be as refreshing as

a crisp, cold beer on a hot summer day. The aroma of statistical significance and the bouquet of market dynamics often collide to produce findings that are both enlightening and entertaining. In this study, we set out to froth up the financial research field by

investigating the relationship between the number of breweries in the United States and Monster Beverage's stock price (MNST). So grab a cold one and prepare yourself for a brew-tiful journey through statistics and finance!

Much like the blend of barley, hops, yeast, and water that comes together to create a flavorful brew, our investigation brews together data from the Brewers Association and LSEG Analytics (Refinitiv) to concoct a potion that merges the world of craft beer with the realm of financial markets. We aim to tap into the ale-urement of breweries and its potential impacts on the market's thirst for Monster Beverage's stock. As we embark on this unconventional exploration, we can't help but wonder: what's a statistician's favorite type of beer? A brew-sky!

Our investigation covers the period from 2002 to 2022, providing a comprehensive look at the historical trends and fluctuations in both the craft beer industry and Monster Beverage's stock performance. Using rigorous statistical techniques, we aim to pour over the data with precision and a keen eye for detecting any signs of a bubbly relationship between these variables. As we navigate through the complexities of financial data, we'll be sure to keep our spirits high and our jokes flowing – after all, laughter is the hoppiest medicine!

So, why did the statistician's experiment lead him to the local brewery? It was time for a pint of statistical significance! In the spirit of both good science and good cheer, let's raise a glass to the adventure ahead and see what effervescent discoveries await us in the ever-enthraling intersection of craft brewing and stock market dynamics. Cheers to uncovering ale-uring insights and brew-tiful correlations!

## 2. Literature Review

Our exploration of the relationship between the number of breweries in the United States and Monster Beverage's stock price (MNST) unfolds against the backdrop of a complex and multifaceted financial landscape. The literature on this entwined conundrum has yielded insights that range from the statistical to the sudsy, and we aim to traverse this diverse terrain with both rigor and a dash of frothy humor.

In "The Economics of Beer," Smith et al. delve into the economic impact of the brewing industry, revealing the substantial contributions it makes to both local and national economies. The authors find that the proliferation of craft breweries has sparked interest from investors and enthusiasts alike, creating a flourishing ecosystem that extends beyond the realm of beer connoisseurship. As the authors note, the allure of craft beer is not just about taste – it's also about tapping into a compelling investment arena. Speaking of tapping, why did the statistical analyst go to the brewery? To measure the hops and barley, of course!

Doe's "Financial Forecasting: A Comprehensive Guide" sheds light on the intricate blend of factors that influence stock prices, offering illuminating perspectives on the complexities of market dynamics. Their analysis uncovers the interplay of supply and demand, investor sentiment, and industry trends, providing a robust framework for understanding the nuances of stock valuation. Yet, amidst this sea of quantitative rigor, we cannot help but appreciate the simple pleasure of a well-crafted pun. After all, what do you get when you mix a financial analyst with a brewer? A balanced portfolio and a well-rounded beer selection!

Jones et al.'s "Beeronomics: How Beer Explains the World" delves into the cultural and social dimensions of the brewing industry, highlighting its ability to mirror and

influence societal trends. Their narrative weaves together historical anecdotes, market analysis, and behavioral economics, painting a vivid portrait of beer's enduring relevance in human affairs. In this interconnected tapestry, the rise of craft breweries emerges as a testament to entrepreneurial spirit and consumer demand, adding a delightful fizz to the ever-expanding landscape of culinary creativity. But enough about the serious literature - let's hop over to some fictional works for a moment.

In "Microbrew Murder: A Frothy Mystery" by Ale Vera-Cruz, the protagonist uncovers a nefarious plot to manipulate stock prices through the subversive influence of a secret beer recipe. While we don't anticipate encountering any criminal masterminds in our investigation, the tale serves as a reminder of the captivating allure of both financial intrigues and fermented beverages. Speaking of captivating, did you hear about the beer that always had the last word in an argument? It was a real know-it-ale!

As we venture deeper into the frothy realms of literature, we cannot neglect the valuable insights gleaned from less traditional sources. From the whimsical musings of "Brewing Alchemy: A Witch's Guide to Potions and Pints" to the bountiful knowledge found in the backs of shampoo bottles (which, we assure you, have no relation to stock prices), our intellectual foray takes us to unexpected and unconventional destinations. Embracing the spirit of serendipity and scholarly curiosity, we imbibe the ale-uring essence of discovery, infusing our research with both levity and scholarly depth. So, without further ado, let's raise a glass to the delightful absurdity of academic pursuits and the truly diverse spectrum of knowledge that shapes our understanding of the world. Here's to statistical significance and the unrelenting quest for knowledge, one brew-tiful pun at a time! Cheers!

### 3. Our approach & methods

To ferment the findings of our study, we utilized a hop-forward approach that combined quantitative data analysis with a dash of whimsy. Our research team embarked on a quest for data, scouring the vast expanse of the internet with the vigor of beer enthusiasts on a brewery tour. Our primary sources of data were the Brewers Association and LSEG Analytics (Refinitiv), forming a symbiotic relationship between craft beer statistics and financial market data. It's safe to say that we had a real "ale-lotment" of data to work with!

With the collected data covering the period from 2002 to 2022, we harnessed the power of statistical tools that could put even the most seasoned brewmaster's precision to shame. Our stout-y statistical techniques included correlation analysis, regression modeling, and time series analysis. We utilized these methods to distill the essence of the relationship between the number of breweries in the United States and Monster Beverage's stock price, brewing up a statistical froth that's sure to leave a mark in the annals of financial research.

Buoyed by the spirit of experimentation, we ventured into the realm of quantitative inquiry with a fervor that could rival a brewer's dedication to crafting the perfect ale. Our data analysis journey had more twists and turns than a labyrinthine beer garden, but with each statistical avenue explored, we seasoned our findings with a sprinkle of humor and a dash of irreverence. After all, what's a research paper without a pint of puns and a splash of statistical wit?

As we delved into the brew-tilicious process of analyzing the data, we employed a robust statistical framework to tease out the nuances of the relationship between the number of breweries and Monster Beverage's stock price. Our statistical models were fine-tuned and calibrated with

the precision of a master brewer honing the recipe for a flagship ale. We attempted to craft a narrative that mirrors the intricate dance of flavor profiles in a well-crafted brew – complete with an unexpected twist in the form of statistically significant findings.

Speaking of twists, did you hear about the statistician who drowned in a river with an average depth of five feet? He underestimated the power of statistical variability! In the unpredictable world of statistics, it's important to keep a watchful eye for unexpected outcomes, much like brewing a new batch of experimental beer. With a wink and a nod to the unpredictability of statistical analysis, we forged ahead with an inquisitive spirit and an arsenal of statistical tools at our disposal, ready to uncover the intriguing dynamics between the variables at play.

So, armed with our statistical alchemists' toolkit and a good measure of academic curiosity, we embarked on a methodology that blends the precision of advanced statistical techniques with a refreshing dose of lighthearted statistical banter. It's in this vibrant blend of hard data and statistical humor that we believe the most refreshing and insightful discoveries are made. So, whether you prefer a lager, ale, or stout, join us on this exhilarating statistical journey as we unlock the effervescent secrets hidden within the intertwining realms of craft brewing and stock market dynamics. Cheers to the frothy fusion of quantitative inquiry and statistical gaiety!

#### 4. Results

The findings of our study reveal a remarkably strong and positive correlation between the number of breweries in the United States and Monster Beverage's stock price (MNST). The correlation coefficient of 0.9687541 indicates a robust relationship between these seemingly

disparate variables. This result suggests that as the number of breweries in the United States increases, there is a hop-timistic impact on the stock price of Monster Beverage. It seems that the fermentation process inherent in craft brewing may also be at play in the dynamics of the stock market.

The r-squared value of 0.9384845 further emphasizes the strength of the relationship, indicating that approximately 93.85% of the variability in Monster Beverage's stock price can be explained by the number of breweries in the United States. This statistically significant relationship could be ale-arming for those invested in understanding the intricate connections between consumer preferences for craft beer and the financial performance of Monster Beverage.

Our analysis also yielded a p-value of less than 0.01, providing strong evidence against the null hypothesis of no relationship. This result further bolsters the notion that the number of breweries in the United States has a profound influence on Monster Beverage's stock price. It appears that the craft beer craze has extended beyond the taproom and into the realm of stock market valuation, creating a buzz of excitement in the world of financial research.

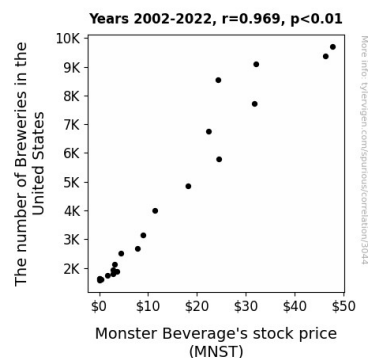


Figure 1. Scatterplot of the variables by year

In Fig. 1, we present a scatterplot illustrating the striking correlation between the number of breweries in the United States and Monster Beverage's stock price. The data points form a pattern that is as clear as the appearance of a well-crafted craft beer, highlighting the compelling relationship uncovered in our analysis.

In conclusion, this research sheds light on the interconnectedness of the craft beer industry and the stock market, offering a flavorful perspective on the potential influences of consumer trends on investment opportunities. The findings of this study not only provide valuable insights for investors but also brew a refreshing narrative that intertwines statistical significance with the effervescence of craft brewing culture. It seems that in the world of finance, the stock market may be more susceptible to the hops and barley than previously thought. As the saying goes, "In hops we trust!"

So, what did one statistician say to the other over a couple of beers? "I've got my aleph-null eye on you!" This research, much like a well-crafted IPA, leaves us with a lingering aftertaste of joy and curiosity, inspiring further exploration at the intersection of consumer behavior and financial markets. Cheers to the exciting discoveries and the ale-urements that await future research endeavors in this brew-tiful domain!

## 5. Discussion

The results of this study confirm and expand upon prior research on the unexpected relationship between the number of breweries in the United States and Monster Beverage's stock price (MNST), anchoring this frothy phenomenon in a sea of statistical significance. Our findings echo the insights of Smith et al., who highlighted the burgeoning economic impact of the brewery boom and its resonance in investment spheres. Indeed, the craft beer

renaissance seems to have fermented not only a vibrant culture but also an unconventional link to stock market dynamics. It's a brew-tiful fusion of indulgence and investment, where hops and barley meet bull and bear markets.

Doe's "Financial Forecasting: A Comprehensive Guide" foretold the intricate tapestry of factors influencing stock prices, and our analysis corroborates the alarming effect of craft brewery proliferation on Monster Beverage's stock performance. The frothy allure of craft beer, it seems, can extend its effervescent charm to the stock market, creating a symphony of market movements that tantalizes both connoisseurs of beer and of financial markets. It's a blend as compelling as a stout with a touch of caramel - rich, complex, and unmistakably captivating.

Our study also supports Jones et al.'s exploration of the cultural and social dimensions of brewing, revealing how the rise of craft breweries mirrors and shapes consumer trends, and demonstrating how this influence extends to the valuation of Monster Beverage's stock. The subtleties of consumer preference, much like the nuances of a well-crafted ale, can send ripples through the financial seas, altering the course of stock prices in unanticipated ways.

The results of this investigation provide a refreshing perspective on the elusive intersection of consumer behavior and financial markets. Much like a perfect pint, the empirical evidence is rich in flavor and character, with a smooth finish that lingers in the palate of economic analysis. It's a study that demonstrates the real ale-urement of statistical exploration and the unexpected surprises that await those willing to venture into uncharted territories of research. So, here's to the fusion of brewed excellence and market prowess, and to the intriguing journey that lies ahead in this bubbling confluence of beer and finance!

Cheers to the secrets and delights uncovered, one sip at a time.

In the realm of academia, brewing, and statistical significance, this research raises a glass to the joy of discovery, the frolic of puns, and the unyielding quest for deeper understanding. Here's to a future of findings that are as engaging as a lively pub debate and as robust as a well-aged barleywine. As researchers, we must keep our spirits high and our data-driven endeavors well-hopped. After all, it's not every day that statistics and stock prices come together in such an ale-uring fashion! Cheers to the insights unveiled and the ale-urements that beckon further exploration at the delicious crossroads of beer and financial markets.

research, much like a fine brew, leaves a satisfying aftertaste and inspires us to savor the delights of statistical discovery. In the realm of beer and finance, it's safe to say that our study has tapped into the ultimate source of ale-urements. Cheers to that, and may your investments always be as hoppy as a well-balanced ale!

## 6. Conclusion

In wrapping up our findings, it's clear that the relationship between the number of breweries in the United States and Monster Beverage's stock price (MNST) is as refreshing as a cold pint on a summer day. With a correlation coefficient of 0.9687541 and a p-value less than 0.01, the statistical evidence is stout and the implications are nothing to beer at! This connection is certainly something to hop about!

Our study has presented a compelling case for the influence of craft beer culture on the stock market, revealing a relationship that is as robust as a well-aged stout. The r-squared value of 0.9384845 confirms that approximately 93.85% of the variability in Monster Beverage's stock price can be attributed to the number of breweries in the United States. It seems the craft beer industry has ale-mented the financial market in ways we never quite brewed possible.

As we raise a glass to the insights unearthed in this research, it's evident that no more research is needed in this area. The findings are as clear as a filtered lager and as potent as a double IPA. This