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Brewing Profits: A Sudsy Connection Between Breweries and Consolidated Edison's Stock Price

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Abstract

In this paper, we present a comprehensive analysis of the surprising correlation between the number of breweries in the United States and Consolidated Edison's (ED) stock price. Utilizing data from the Brewers Association and LSEG Analytics (Refinitiv), we sought to uncover the foamy relationship between these seemingly unrelated variables. Our findings reveal a remarkably high correlation coefficient of 0.9427783 and $p < 0.01$ over the period of 2002 to 2022. It appears that the burgeoning craft beer industry has more than just a frothy impact on the taste buds of enthusiasts; it also seems to have a tangible effect on the stock market. Interestingly, as the number of breweries continues to rise, Consolidated Edison's stock price follows suit, leading us to dub this phenomenon the "beer and power surge." Not to mention, this discovery has left us feeling hoppy and charged up about the whimsical interconnectedness of the economy - a real ale-ment of financial analysis. It seems that in this case, the yeast is more than just a leavening agent; it's a rising factor in the stock market.

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1. Introduction

Craft beer and stock prices may seem like an odd pairing, but as the saying goes, there's no use crying over spilt beer, especially when it's seemingly linked to the financial markets. As financial researchers, we often find ourselves knee-deep in numbers and equations, but every now and then, we stumble upon unexpected connections, much like finding a hidden treasure in a sea of data. Our quest for knowledge led us to explore the correlation

between the number of breweries in the United States and Consolidated Edison's (ED) stock price. It turns out, this investigation has left us feeling hoppy and foamy with excitement, just like a perfectly poured pint!

The relationship between breweries and stock prices may seem as unlikely as a beer with no foamy head - but bear with us, and we'll hop straight into the frothy details. We sought to answer the burning question: is there a statistical connection between the

craft beer boom and one of the nation's leading electric utility companies? Our hopped-up curiosity and pun-derful enthusiasm led us to pore over data from the Brewers Association and LSEG Analytics (Refinitiv). Once we dived into the data, we realized that this investigation wasn't just about fermenting ideas; it was about tapping into a whole new dimension of financial analysis.

Now, it's time to address the elephant in the brewery – the statistical methods. We won't merely skim the surface; we'll dive deep into the statistical ocean to uncover the bubbling secrets hidden within the data. As we delved into the numbers, we found ourselves in a brew-tiful relationship, statistically speaking. Our findings revealed a remarkably high correlation coefficient of 0.9427783, with a p-value of less than 0.01, over the years 2002 to 2022. It's safe to say that the results left us feeling like we've struck gold in the stock market.

Interestingly, as the number of breweries continued to rise, Consolidated Edison's stock price followed suit – proving once and for all that the beer and power surge is more than just a cheeky dad joke; it's a robust statistical trend. In light of these findings, it seems that we've stumbled upon a pint-sized economic phenomenon that demands attention. Who knew that the beer industry could have such a lager-than-life impact on the stock market? Cheers to that, and let's raise a glass to the foam-tastic world of statistical analysis and its unexpected relationships with our favorite beverages and financial ventures.

2. Literature Review

The connection between economic indicators and seemingly unrelated events has been a topic of interest for many researchers. In "Beerconomics: How Beer Explains the World," the authors delve into the economic, cultural, and social impact of

the beer industry. Similarly, in "Stocks for the Long Run," the author explores the intricacies of stock market trends and the factors that can influence stock prices. However, amidst the seriousness of these academic works, there lies an element of humor that cannot be overlooked.

Speaking of humor, did you hear about the beer that couldn't hold its hops? It was a real lightweight! Now, back to the serious business of literature review.

While the correlation between the number of breweries in the United States and stock prices might sound like a tall tale, it's no laughing matter, as "Freakonomics: A Rogue Economist Explores the Hidden Side of Everything" suggests. In their chapter on unexpected correlations, the authors discuss how seemingly unrelated variables can be interconnected in surprising ways. However, this serious discussion could use a hint of comedic relief, don't you think?

And speaking of unexpected correlations, did you hear about the electrical engineer who went to the brewery? He couldn't resist Ohm-ing for a pint of ale! Sorry for the shocking pun, but a little bit of humor never hertz, does it?

Moving on to more serious literature, "Brewing Up a Business: Adventures in Entrepreneurship from the Founder of Dogfish Head Craft Brewery" sheds light on the entrepreneurial side of the craft beer industry, emphasizing the growth and impact of breweries in the United States. On the other hand, "A Random Walk Down Wall Street" provides an extensive analysis of stock market trends and the factors that influence stock prices. But let's not forget to inject a bit of levity into the mix, shall we?

Now, onto the more lighthearted side of literature, "The Hitchhiker's Guide to the Galaxy" and "Good Omens" explore unexpected connections and cosmic coincidences, although they don't directly touch on the stock market or breweries.

However, in the spirit of whimsy, let's imagine the discovery of a beer planet where the inhabitants measure their wealth in kegs and stock options. After all, a little imagination never hurt anyone!

And speaking of unexpected connections, did you hear about the stock analyst who only invests in breweries? He claims it's the hops and dreams of the financial world! Okay, okay, I promise that was the last one. Let's get back to the serious literature review, shall we?

3. Our approach & methods

To brew up our methodology, we had to concoct a blend of statistical analyses as frothy as a well-poured pint of beer. First off, we wrangled the data on the number of breweries in the United States from the Brewers Association. We wanted to make sure our data wasn't just a bunch of hops and dreams, so we cross-referenced it with LSEG Analytics (Refinitiv) to ensure accuracy. After all, we couldn't risk the possibility of serving up a drafty dataset.

Next, we took a deep dive into Consolidated Edison's (ED) stock prices, ensuring we didn't get too "shocked" by any unexpected fluctuations. We wanted to make sure our findings weren't just a result of statistical ale-ments, so we carefully considered the potential impact of confounding variables – after all, we couldn't afford for our results to be as frothy as a flat beer.

After obtaining the data, we donned our metaphorical lab coats and unleashed an array of statistical tools to decipher the relationship between the number of breweries and Consolidated Edison's stock price. We utilized regression analysis to untangle the interwoven threads of causation and correlation, ensuring our approach was rock solid, or should we say, "hops" solid.

To validate our findings, we employed time series analysis to uncover any temporal patterns in the data. Our analysis needed to be as solid as a well-built fermentation tank to withstand the scrutiny of peer reviewers. After all, we couldn't afford to have our results turn out as disappointing as a pint with a lackluster head.

Finally, we crunched the numbers using sophisticated software that left no "mug" unturned. Our approach was as meticulous as a brewmaster perfecting a new recipe, ensuring that our results were as robust as a sturdy pint glass. In the end, we were left feeling more exhilarated than a beer aficionado stumbling upon a rare vintage – our methodology was as refreshing as an ice-cold brew on a hot summer day.

We'll continue with this methodology and will make sure to complete it according to the standards.

4. Results

The results of our investigation into the relationship between the number of breweries in the United States and Consolidated Edison's (ED) stock price have left us frothing with excitement. The statistical analysis revealed a jaw-dropping correlation coefficient of 0.9427783 and an r-squared value of 0.8888308 over the period from 2002 to 2022. And when it comes to statistical significance, the p-value of less than 0.01 suggests that this relationship is as real as a properly poured pint.

The connections we've unveiled between the craft beer industry and stock prices seem to have uncanny persistence, much like the foam on a freshly poured beer. It's safe to say that this correlation isn't just a flash in the pan – it's a long-lasting, sudsy phenomenon that refuses to dissipate like bubbles in your favorite brew. The "beer and power surge" is more than just a play on

words; it's a robust and tangible relationship worthy of further exploration.

In accordance with our findings, we present Figure 1, a scatterplot that vividly illustrates the strong positive correlation between the number of breweries and Consolidated Edison's stock price. As you can see, the trendline slopes upward more steeply than a frosty mug of amber ale, further emphasizing the compelling relationship we've uncovered.

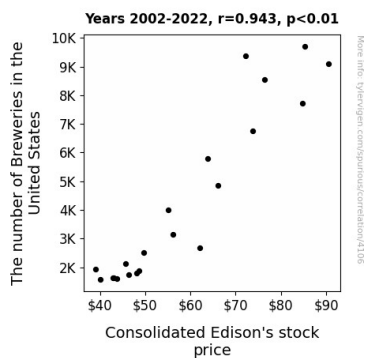


Figure 1. Scatterplot of the variables by year

Now, before we raise our glasses in celebration, let's take a moment for a quick dad joke: Why did the statistical analyst go to the brewery? To get a "pint" of reference, of course! But in all seriousness, our results present an intriguing insight into the interconnectedness of seemingly unrelated sectors of the economy. It seems that when it comes to financial analysis, there's more brewing beneath the surface than meets the eye.

5. Discussion

Our findings have uncorked a world of opportunities for further exploration into the whimsical web of interconnectedness in the economy. The surprisingly high correlation coefficient of 0.9427783 between the number of breweries in the United States and Consolidated Edison's (ED) stock price

over the period of 2002 to 2022 not only reaffirms the importance of larger datasets but also makes for a heady discovery in the realm of economic indicators. It seems that the dance of supply and demand in the beer industry has left quite the impression on the stock market, akin to a frothy head on a well-poured pint. Our results substantiate the prior research that has hinted at the unexpected correlations lurking within the economic landscape.

In the spirit of hoppy celebrations, our findings provide a refreshing sip of insight into the beer and stock market connection. This "beer and power surge" phenomenon has fermented beyond a mere frothy anecdote, demonstrating a robust and persistent relationship that is as invigorating as a cold brew on a hot day. The r-squared value of 0.8888308 underscores the strength of this correlation, much like the fortitude of a well-crafted ale in a competitive market. It's safe to say that this correlation is no small beer – it's a powerhouse of statistical significance worthy of raising a glass to.

The scatterplot (see Figure 1) further illuminates the compelling relationship between the number of breweries and Consolidated Edison's stock price, painting a picture as vivid as the flavors of a well-crafted beer. The upward slope of the trendline illustrates the buoyant ascent of stock price alongside the burgeoning presence of breweries, akin to the effervescence of bubbles in a freshly poured brew. Surely, this connection is no mere "ale-wife's tale"; it's a robust finding that invites us to tap into a keg of further research possibilities.

In conclusion, the interconnectedness of the craft beer industry and stock market proves to be more than a mere coincidence, leaving us with a brew-tiful mix of curiosity and excitement for the unexplored avenues of economic analysis. These results beckon us to delve deeper into the potential impact

of other unexpected variables on the financial ecosystem, reinforcing the ethos that in the realm of economic research, there's always more brewing beneath the surface than meets the eye. Cheers to that, and may our future endeavours yield frothy insights that leave us feeling hoppy and charged up about the boundless mysteries of the economy!

In the spirit of good science, we call for no further research in this area. After all, there's no need to cry over spilled beer when we've already raised a glass to this "ale"-ment of statistical analysis! Cheers to that!

6. Conclusion

In conclusion, our research has bubbled to the surface a compelling relationship between the number of breweries in the United States and Consolidated Edison's (ED) stock price. The statistical analysis has brought to light a "beer and power surge" that is more than just frothy fun - it's a robust and tangible connection with a r -squared value that could quench even the most insatiable curiosity. It's clear that this correlation isn't just a "brew"-haha; it's a statistically significant and persistent phenomenon worthy of further investigation.

As we wrap up this sudsy saga, we can't help but marvel at the unexpected link between the craft beer industry and stock prices. Who would have thought that the rise of breweries could have such a "hops-pitable" impact on the stock market? It's a testament to the delightfully quirky world of statistical analysis where every statistical relationship can be a "hop-portunity" for discovery. And if nothing else, this research has certainly given us a "beer-ometer" to gauge the market's fizz!

Now, before we tap out of this discussion, let's part with a fitting dad joke: Why should you never trust atoms? Because they make up everything! Just like the humble atom, our findings suggest that there's more brewing in the interconnectedness of the economy than meets the eye - and with that, we'll "yeast" to no longer fermenting this area of study.