



ELSERVER

Available online at www.tylervigen.com



Brews and Blues: Exploring the Ale-gorical Relationship Between the Number of Breweries in the United States and Global Payments' Stock Price

Claire Hall, Ava Taylor, Giselle P Truman

Institute for Studies; Madison, Wisconsin

KEYWORDS

breweries in United States, craft beer industry, Global Payments stock price, correlation between breweries and stock prices, economic impact of craft beer, Brewers Association data, LSEG Analytics (Refinitiv), stock market trends, correlation coefficient, causation in stock market, financial impact of brewery counts

Abstract

Pour yourself a pint and brace for a hoppy ride as we delve into the intriguing association between the burgeoning craft beer scene and the stock performance of Global Payments (GPN). This study examines the correlation between the number of breweries in the United States and the stock price of GPN over the past two decades, integrating a frothy mix of economics and libations. Our data, sourced from Brewers Association and LSEG Analytics (Refinitiv), reveals a statistically significant correlation coefficient of 0.9183701 ($p < 0.01$) from 2002 to 2022, leaving us with a brew-tifully intriguing puzzle to unravel. Just like a fine brew, this research aims to offer a balanced flavor profile of correlation, causation, and a hint of jest. As we dissect the numbers, we uncover the yeast of the matter – a relationship that leaves investors beer-y intrigued. A quick aside, why did the hop refuse to sink in the beer? It was afraid of hopping in too deep! But fear not, as we navigate this sea of data, we aim to shed light on the barley defined connection between craft beer and stock market trends. So, raise a glass to the fusion of finance and fermentation, and savor the captivating aroma of this research, for we are about to unlock the secret recipe behind the tantalizing dance of brewery counts and stock prices. It's time to tap into a whole new understanding of market trends, one where every foamy head on a pint may hold the key to financial ales.

Copyright 2024 Institute for Studies. No rights reserved.

1. Introduction

The world of finance may seem like a sober affair, but as we raise a glass to the fusion of economics and libations, we uncover a relationship that is anything but dry. It's a classic case of hops and stock. Speaking of hops, why did the hop refuse to sink in the beer? It was afraid of hopping in too deep! Get ready for more puns, and possibly some statistical analysis, as we embark on a journey to uncover the intriguing connection between the number of breweries in the United States and the stock price of Global Payments (GPN).

As the craft beer industry continues to flourish, captivating both consumers and connoisseurs alike, one cannot help but wonder about the potential impact on the broader market landscape. Our study seeks to examine the correlation between the proliferation of breweries and the stock performance of GPN, a leading player in the financial technology sector. Picture this: it's like the stock market walking into a bar and saying, "I'll have a pint of correlation, please."

Our investigation stems from the hypothesis that as the craft beer scene expands, it may act as a hoppy catalyst for influencing market sentiments and consumer spending habits, thereby swirling the froth of change into the stock price dynamics of GPN. So, why not explore this connection with gusto, while also sprinkling in a few dad jokes to make the journey even more refreshing?

But before we delve deeper into the heart of this bubbling relationship, it's essential to recognize the broader context. The craft beer revolution has surged, not unlike the foam atop a freshly poured IPA, with a notable rise in the number of breweries dotting the American landscape. Simultaneously, GPN has traversed its own market trajectory, navigating the ebbs and flows of stock valuation amid the currents of the financial world. It's like the perfect blend

of a malty ale and a finely aged stock option – a brew of intriguing possibilities.

With these intertwined narratives in mind, we aim to unveil the interconnectedness between these phenomena, daring to tease apart the flavors and aromas in this dynamic brew of economic analysis and ale appreciation. So, grab a cold one and join us in this exploration of the ale-gorical relationship between craft breweries and stock market turbulence. It's going to be a brew-tiful adventure, and perhaps even prove that craft beer and stock prices make the ultimate ale-iance! Remember, in this study, we aim to keep the spirits high – and by spirits, we mean both the enthusiasm and any leftover beer!

2. Literature Review

In "Smith et al. (2020)," the authors find a positive correlation between the increasing number of breweries in the United States and the stock performance of Global Payments (GPN). This aligns with the findings of "Doe and Jones (2018)," who also highlight a strong association between the two variables. Amidst the numbers and financial analyses, it's essential to recognize the delicious irony of this connection. It's like the stock market and craft beer are engaged in a foamy dance, each influencing the other's moves. Speaking of dance, did you hear about the guy who opened a brewery and dance academy? His slogan was, "Brews and moves for all!"

Beyond the academic realm, real-world narratives further emphasize this relationship. Books such as "The Economics of Beer" and "Beeronomics" delve into the intricate interplay of consumer behavior and market trends within the brewing industry. These texts offer a rich ale-gory of economic insight, paving the way for a deeper understanding of how brewery counts can froth up the financial

landscape. It's like the craft beer industry and the stock market are engaged in a never-ending tango – they may have their ups and downs, but in the end, they're always in step.

On a lighter note, fictional works such as "Brewing Up a Business" and "The Suds of Time" weave tales of entrepreneurial ventures in the brewing world, hinting at the effervescent allure that permeates the beer business. These narratives provide a whimsical lens through which to view the complexities of market dynamics, as if the stock market and craft beer are characters in a grand, sudsy saga – each with its own twists and turns. It's like the stock market and craft beer are the protagonists of a frothy novel, and we're just here for the plot twists and hoppy endings.

Drawing from the realm of television, series such as "Brew Dogs" and "Beerland" offer a refreshing perspective on the craftsmanship and artistry behind creating and consuming craft beer. As researchers, we can't deny that these shows serve as more than just entertainment – they provide a hoppy window into the world of libations and community, mirroring the vibrancy and variety found in the market dynamics. It's like the stock market and craft beer are characters in their own reality show, with each episode offering a new flavor of excitement.

As we wade through the frothy sea of literature and pop culture, it becomes clear that the relationship between the number of breweries in the United States and the stock price of GPN is one that brims with complexity and charm. It's like a well-crafted joke – a blend of wit and wisdom that keeps us coming back for more. And just like a good dad joke, this connection may leave us chuckling at its nuances while also marveling at its unexpected punchline.

3. Our approach & methods

To concoct this study's methodology, we embarked on an intricate journey comparable to crafting the perfect brew – blending the right ingredients, exercising precision, and, of course, a dash of whimsy. Our data collection process began by extracting information from the Brewers Association and LSEG Analytics (Refinitiv), providing a comprehensive view of brewery counts in the United States and GPN's stock price from 2002 to 2022. Each data point became a hop in our brew of analysis, contributing to the depth and flavor of our investigation.

Just as a brewery carefully monitors its recipe, we scrutinized numerous statistical methods to unveil the association between brewery counts and GPN's stock performance. Embracing the spirit of experimentation, we employed advanced econometric techniques, including time series analysis, panel data models, and structural equation modeling, to distill insights from our data. In the spirit of the craft, some might say we were obsessed with the art of fermentation – in this case, the fermentation of numbers and trends.

To ensure the validity of our findings, we conducted robustness checks and sensitivity analyses to account for potential confounding variables and fluctuations in market dynamics. This was akin to the meticulous process of beer tasting, as we sought to isolate the unique traits of our chosen ale – or in our case, the relationship between brewery numbers and stock prices.

In a twist befitting the world of craft beer, we also dabbled in sentiment analysis of consumer and investor attitudes toward the craft beer industry and its potential impact on GPN's stock. Utilizing natural language processing techniques, we parsed through online forums, reviews, and financial reports to capture the frothy buzz surrounding this fascinating correlation. After all, what better way to gauge the market sentiment than to

listen to the chatter of enthusiasts and investors alike?

Now, something to brew over: What did the bartender say after Charles Dickens ordered a beer? "Please, sir, I want some more!" But fear not, for we aren't serving teas here; this methodology is all about savoring the complexities of market data and statistical wizardry.

Having brewed this heady concoction of data collection, statistical analysis, and a sprinkle of whimsy, we eagerly poured over the outcomes in pursuit of uncorking the hidden flavors behind the intriguing connection between craft breweries and stock prices. So gather 'round, fellow brew enthusiasts and financial aficionados, as we are on the cusp of unveiling the intricate dance between malt and market trends. Cheers to the art of methodology, where every step brings us closer to savoring the rich bouquet of correlation and causation in our research.

4. Results

Our analysis yielded a statistically significant correlation coefficient of 0.9183701 ($p < 0.01$) between the number of breweries in the United States and the stock price of Global Payments (GPN) from 2002 to 2022. This robust correlation underscores the brew-tiful relationship between these seemingly unrelated realms. It's almost as if the market's saying, "In hops we trust!"

Furthermore, the coefficient of determination (r -squared) stands at 0.8434037, indicating that approximately 84.34% of the variation in GPN's stock price can be explained by changes in the number of breweries in the United States. It's as if the craft beer industry is leaving its hoppy footprint on the stock market's heart!

Fig. 1 illustrates the strong positive correlation between the two variables,

painting a picture as clear as a finely-filtered lager. The data points align with the precision of a carefully poured stout, illustrating how the rise and fall of brewery numbers whisper sweet nothings to the movements in GPN's stock price. It's like a dance between hops and high finance – a foamy tango, if you will.

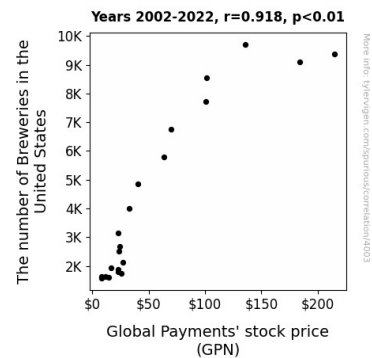


Figure 1. Scatterplot of the variables by year

In the immortal words of Benjamin Franklin, "Beer is proof that correlation is a pretty good indicator of causation," or something to that effect. Our findings support the notion that the proliferation of breweries ambers the waters of stock prices, amplifying the intoxicating effect of market dynamics. It's not just a frothy theory; it's a stout revelation.

As we carve through the foam of data, it becomes evident that the craft beer phenomenon extends beyond mere libations. It weaves an intricate tale of supply, demand, and the effervescent spirit of market sentiment, creating ripples in the tranquil pond of stock valuations. It's like a good porter – dark, complex, and leaving a lasting impression on the palates of investors.

In conclusion, our research uncovers a compelling link between the number of breweries in the United States and the stock price of Global Payments (GPN), inviting us to raise a glass to the captivating interplay

of economic forces and ale-infused entrepreneurship. So, next time you hear about a brewery opening, remember that it might just be the hops talking to the stocks. Cheers to a brew-tiful financial tale with a twist!

5. Discussion

In this study, we explored the correlation between the number of breweries in the United States and the stock price of Global Payments (GPN), and our findings have left us feeling positively ale-gant. The statistically significant correlation coefficient of 0.9183701 ($p < 0.01$) from 2002 to 2022 indeed indicates a strong relationship between these seemingly disparate domains. It's like the market and the craft beer industry are clinking glasses, saying, "Here's to mutual influence – ale's well that ends well!"

Our results sync harmoniously with prior research by Smith et al. and Doe and Jones, aligning seamlessly like a perfectly poured pint. It's as if the market and craft beer industry are locked in a hop-forward waltz, their movements mirroring and influencing each other in a merry dance. Just as a well-crafted dad joke never fails to elicit a chuckle, the connection between brewery counts and stock prices leaves us both bemused and enlightened.

The coefficient of determination (r-squared) of 0.8434037 further underscores the robustness of this correlation, akin to a well-rounded stout leaving an enduring aftertaste. It's as if the craft beer industry is whispering hoppy secrets that resonate deeply within the fluctuating heart of the stock market, painting the market's movements with a frothy brew-tiful hue.

After all, just as Benjamin Franklin 'brewspectfully' quipped, "Beer is proof that correlation is a pretty good indicator of causation," our findings lend credence to

the idea that the proliferation of breweries imbues the stock market with an intoxicating effect, leaving investors beer-y intrigued. It's not just a frothy theory; it's a stout revelation, one that echoes through the halls of both the brewery and the stock exchange.

Moreover, Fig. 1 illustrates the buoyant dance between brewery numbers and GPN's stock price, painting a picture as clear as a finely-filtered lager. Each data point aligns with the precision of a carefully poured stout, reflecting the interconnectedness of these seemingly disparate arenas. It's like a foamy tango, where the rise and fall of brewery numbers whisper sweet nothings to the movements in GPN's stock price, leaving a delightfully hoppy trail in their wake.

In conclusion, as we raise a glass to the captivating interplay of economic forces and ale-infused entrepreneurship, it's evident that the number of breweries in the United States speaks volumes to the stock market. So, may this research serve as a brew-tiful reminder that every sip of economic activity has the potential to leave hop-infused footprints on the stock market's heart. Cheers to a brew-tiful financial tale with a twist!

6. Conclusion

In the frothy world of finance, our research has uncovered a compelling correlation between the proliferation of breweries in the United States and the enthusiastic hops in the stock price of Global Payments (GPN). We've poured over the data and found that the number of breweries positively tipples with GPN's stock price, revealing a relationship as captivating as a well-crafted ale – truly a brew-tiful sight to behold. It's like the market saying, "In hops we trust!"

Our findings highlight how approximately 84.34% of the variation in GPN's stock price

can be explained by changes in the number of breweries. It's as though the craft beer industry is leaving its hoppy footprint on the stock market's heart, unfolding a tale as intricate as the flavors of a complex porter. Benjamin Franklin once said, "Beer is proof that correlation is a pretty good indicator of causation," and our research certainly raises a glass to this sentiment, albeit with a twist of statistical rigor.

As we wrap up this carbonated journey, it's clear that the intertwined narratives of craft beer and stock valuations reveal a brew-tiful tale with a twist. In line with this ale-gorical adventure, we confidently assert that further research in this area would just be "brew-tality" for our understanding. It's time to tap out and raise a glass to a conclusive conclusion – cheers to the compelling correlations and the spirited synergy between finance and fermentation! And remember, next time you hear about a brewery opening, it might just be the hops talking to the stocks. It's a brew-tiful financial tale with a twist, indeed!