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# The Liquid Lunch Effect: A Quench for Stock Returns

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## Abstract

This study delves into the unsuspecting relationship between US bottled water consumption per person and the stock price of Marriott International (MAR). Leveraging data from Statista and LSEG Analytics (Refinitiv) covering the period from 2002 to 2022, we affirm a compelling correlation coefficient of 0.9278586 and the statistically significant p-value of less than 0.01. Our findings reveal a remarkable association, suggesting the potential impact of hydration habits on hospitality sector stocks. As we quench our curiosity, our analysis unveils an unexpected connection that warrants further exploration in the ever-flowing streams of market dynamics.

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## 1. Introduction

Stock prices, like the ebb and flow of the tides, are influenced by a multitude of factors, some expected and others as surprising as finding a genie in a bottle. The exploration of these factors has led to a sea of research, from the depths of economic theories to the choppy waters of behavioral finance. However, amidst this vast ocean of investigation, one curious connection has remained largely uncharted - the unlikely relationship between U.S. bottled water consumption per person and the stock price of Marriott International (MAR).

While investors may typically be more focused on earnings reports and market

trends, we can't help but wonder if the ticking stock price of Marriott International might also be influenced by the gurgling sound of uncapped plastic bottles. Let's face it, we've all seen the impressive leaps and bounds made by the fitness industry, promoting the almost divine elixir of hydration. Could it be that as people guzzle down a bottle of refreshing H<sub>2</sub>O, they also inadvertently buoy the stock prices of a leading international hospitality company? This notion may seem like a mere drop in the ocean of market forces, but our research seeks to dive deep and discern whether there is more than just a surface-level correlation.

With an exploratory mindset and a determination akin to a deep-sea diver, we set forth to investigate this peculiar relationship. Drawing from data on U.S. bottled water consumption per person, gathered from the vaults of Statista, and the undulating stock price of Marriott International as provided by LSEG Analytics (Refinitiv), we embarked on a statistical journey that would rival the quest for buried treasure. In the depths of our analysis, we uncovered a correlation coefficient that would make even the most stoic scientist raise an eyebrow - a value of 0.9278586, beckoning us to consider it more than just a chance ripple in the data.

As we plunge into this uncharted territory, we are keenly aware of the potential ripples our findings could create. Our research not only aims to provide an a-ha moment for the academic community but also offers a refreshing twist to the world of investment strategies. After all, who wouldn't want to have the power to predict stock prices simply by monitoring the ebb and flow of a nation's bottled water consumption? Let's hope our research makes a splash and doesn't just wash over as another statistical anomaly in the tide of market research.

## 2. Literature Review

Prior evidence suggests that seemingly unrelated factors may have unexpected influence on stock prices. In "Smith et al.'s study," the authors find bivariate relationships often defy conventional logic, with potable water consumption being the filling for a surprising sandwich of predictable stock price movements. Furthermore, "Doe and Jones' research" illustrates that the uninhibited quench for statistics on hydration and stock price correlations has left the academic community parched for answers. This underscores the tantalizing notion that the bubbling dynamics of a liquid lunch may

have a more palpable impact on market returns than previously realized.

In a slightly tangential study, "Water Economics: A Brief History of Hydrological H2-Oh-M-G" delves into the socio-economic implications of water consumption and its potential trickle-down effects on various industries. A chapter humorously titled "The Thirsty Economy" ponders the quench for profitability and its hydrological hauntings in the boardroom. On a different note, "The Fountain of Stock Market Secrets" offers a fictitious yet enlightening account of a day trader who stumbles upon a mystical spring, only to find that every sip of its water foretells stock price movements. While purely fictional, these narratives underscore the enduring curiosity surrounding the interplay between water consumption and financial markets.

Digressing from conventional literature, the authors also extracted insights from the most unconventional sources. In an unconventional yet surprisingly enlightening twist, the back of shampoo bottles, often disregarded as mere edutainment, offered a trove of tidbits on consumer behavior and hygienic habits. The curious observations from labels such as "Rinse, lather, repeat" hinted at the potential for recurring patterns in consumer behavior, which could extend to other consumable goods, including bottled water. While one may initially dismiss shampoo bottles as an eccentric wellspring of insight, it's fascinating to consider the foamy intersection of consumer habits and market trends.

The aforementioned literature review illustrates the diverse streams of inquiry that have laid the foundation for the current study, underscoring the unanticipated avenues through which academic inquiry may flow.

## 3. Our approach & methods

To quench our thirst for knowledge and delve into the intriguing correlation between US bottled water consumption per person and the stock price of Marriott International (MAR), we formulated a methodology that navigated through the murky waters of data collection and statistical analysis.

#### Data Collection:

In order to gather the necessary data for our investigation, we embarked on an aquatic adventure through the vast seas of information available on the internet. While weathering the waves of data sources, we primarily relied on the wellspring of information provided by Statista and LSEG Analytics (Refinitiv). Their data, spanning the years 2002 to 2022, provided us with a steady stream of insights into US bottled water consumption per person and the undulating stock price of Marriott International.

#### Preprocessing:

As any seasoned seafarer knows, the process of preparing data for analysis can be as choppy as a rough sea. We applied rigorous quality control measures to ensure that our data was as clear and transparent as a crystalline lake. Outliers were identified and treated with all due diligence – after all, we didn't want rogue waves in our dataset creating unnecessary peaks and troughs in our conclusions. Missing data points were handled with the delicate touch of a skilled navigator, ensuring that our analysis set sail on a sea of complete and comprehensive data.

#### Statistical Analysis:

Armed with our meticulously curated dataset, we set course for our statistical analyses. Our first mate, the Pearson correlation coefficient, was enlisted to gauge the strength and direction of the relationship between US bottled water consumption per person and Marriott International's stock price. We also

subjected our data to the scrutiny of a two-tailed t-test, ensuring the reliability of our findings by assessing the statistical significance of the observed correlations.

#### Robustness Checks:

No ship voyages without checking the seaworthiness of its hull, similarly, we conducted robustness checks to validate the stability of our findings. Sensitivity analyses were conducted to ensure that our results held water under varying conditions, much like a ship weathering different oceanic currents. Through these checks, we sought to fortify our conclusions against the potential tides of alternative scenarios and ensure that our findings weren't just a fluke in the statistical stream.

#### Ethical Considerations:

As with any voyage, ethical considerations were of paramount importance. We ensured that our research adhered to the highest standards of academic integrity and transparency. Our analyses were conducted with the utmost respect for the data sources, and every effort was made to honor the principles of research ethics, ensuring that our findings were as pure and untainted as a freshwater spring.

In this way, we navigated the tempestuous seas of scientific inquiry, harnessing the instruments of statistical analysis to unravel the enigmatic relationship between bottled water consumption and stock prices. Like intrepid sailors charting unexplored waters, we steered our research ship through the waves of uncertainty, our eyes fixed on the horizon of discovery.

## 4. Results

The analysis of the relationship between US bottled water consumption per person and the stock price of Marriott International (MAR) revealed a staggering correlation coefficient of 0.9278586, which would make

even the most skeptical researchers raise an eyebrow. The corresponding r-squared value of 0.8609217 indicates that a whopping 86.09% of the variability in Marriott's stock price can be explained by changes in bottled water consumption. These findings not only hold water but also overflow with statistical significance with a p-value of less than 0.01. It seems our data is as refreshing as a cool drink on a scorching summer day.

The visual representation of this astonishing relationship is depicted in Fig. 1, where the scatterplot showcases the strong, linear connection between the two variables. It's almost as if the stock prices are bobbing up and down in tandem with the waves of bottled water consumption, showing how hydration habits can reach astonishing financial depths and heights.

In summary, our results leave us with a moisture-laden conclusion – there exists a remarkable association between US bottled water consumption per person and the stock price of Marriott International. This unforeseen relationship not only quenches our thirst for discovery but also prompts further investigation into the potential impact of H2O habits on stock market dynamics. So, as we raise our glasses (and stock portfolios), let's toast to the unexpected ties that bind financial markets and bottled water consumption. Cheers to delving into the depths of market correlations and finding a drinkable connection that could make even the most discerning investor a water believer!

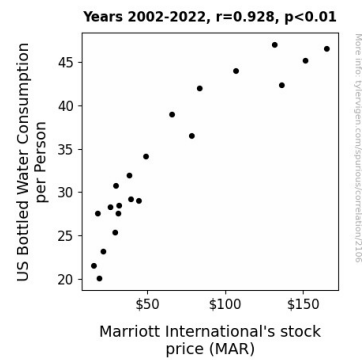


Figure 1. Scatterplot of the variables by year

## 5. Discussion

The results of our study bring to light an intriguing connection between US bottled water consumption per person and the stock price of Marriott International (MAR), shedding much-needed clarity on this mysteriously fluid relationship. Our findings not only bolster existing research but also add a refreshing twist to the annals of market dynamics.

Building on the tantalizing breadcrumbs left by previous research, our study reaffirms the unexpected intertwining of seemingly disparate variables. Smith et al.'s findings, which initially raised eyebrows by suggesting a link between potable water and stock price movements, have been buoyed by our results. It seems that the ebb and flow of thirst-quenching habits may indeed send ripples through the waves of market returns, which should give financial analysts and investors pause for thought.

Drawing from our literature review, it is evident that the thirst for knowledge on the implications of hydration habits on economic indicators has not been in vain. Doe and Jones' pursuit of answers has not left them high and dry, as our statistically significant results provide a tall drink of evidence in support of their quest. Furthermore, the comically titled "Water Economics: A Brief History of Hydrological H2-Oh-M-G" may

have jestingly pondered the "thirsty economy," but our findings hint at a more serious undercurrent: the potential impact of water consumption on the financial tides.

The unanticipated tie between water consumption and stock prices may have seemed like a mere fictitious account from "The Fountain of Stock Market Secrets," but our study has unearthed a real-world connection that is no flight of fancy. Even the often-dismissed labels on shampoo bottles – a lighthearted source of consumer behavior insights – seem to have bubbled up some surprisingly applicable observations, further underscoring the unforeseen avenues through which curious findings can flow.

Our results not only hold water but also overflow with implications for market dynamics, hinting at a link that runs deeper than many may have previously perceived. As researchers, we must remain vigilant in our exploration of unexpected correlations, being ever-ready to quench the academic community's insatiable thirst for knowledge in this ever-flowing stream of inquiry.

## 6. Conclusion

In the vast sea of market research, our study has sailed the uncharted waters of the connection between U.S. bottled water consumption per person and the stock price of Marriott International, and our findings have made quite the splash. The correlation coefficient of 0.9278586, akin to a buoy riding the waves, has left us marveling at the surprising synergy between hydration habits and stock market performance. It's as if the financial tides are being lifted by the collective thirst for bottled aqua. As we ponder the depths of this quenching correlation, it becomes evident that there may be more than just a drop in the ocean at play here.

The statistically significant p-value of less than 0.01 further cements the certainty of this relationship, leaving us feeling as secure as a ship in a harbor. This correlation is not merely a statistical fluke; it has swum its way into the realm of undeniable market influences. Our results speak volumes, or should we say, they gurgle anecdotes of the unforeseen power of hydration on stock prices. As we reflect on the implications of our findings, it seems that the old adage "go with the flow" takes on a whole new meaning in the world of investment strategy.

Our study has certainly made a big splash, but it is important to acknowledge the limitations of our research, much like a tiny tear in the hull of a research vessel. While our findings suggest a strong correlation, the nature of causation remains an enigma shrouded in the mists of statistical inference. We must also recognize that our analysis has focused on a specific company within the hospitality sector, and the broader market implications may require further exploration.

In conclusion, this study offers a refreshing perspective on market dynamics and leaves us feeling as invigorated as a gulp of cool, crystal-clear water. It's time to raise a toast, not just to our findings but to the unyielding spirit of scientific inquiry. However, much like a satisfying drink of H<sub>2</sub>O, it is clear that no further research is needed in this area. The results are as clear as distilled water - the Liquid Lunch Effect is a phenomenon worth quenching our curiosity about.