

# **Out of This World: The Celestial Correlation Between the Distance from Neptune to Uranus and Valero Energy's Stock Price**

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## ABSTRACT

### **Out of This World: The Celestial Correlation Between the Distance from Neptune to Uranus and Valero Energy's Stock Price**

This study probes the celestial and financial realms to explore the unexpected yet compelling linkage between the distance from Neptune to Uranus and the stock price of Valero Energy (VLO). Employing data from Astropy and LSEG Analytics (Refinitiv), we delved into the astronomical and economic spheres, revealing a correlation coefficient of 0.8193004 and  $p < 0.01$  for the period spanning from 2002 to 2023. Our findings not only underscore the interconnectedness of cosmic and market forces but also prompt the question, "Are stock prices truly written in the stars?" As we navigate through the data, it becomes clear that when it comes to this unconventional correlation, there's truly "no planet like home."

Keywords:

Out of This World, Neptune to Uranus distance, Valero Energy stock price, celestial correlation, Astropy data, LSEG Analytics, Refinitiv, correlation coefficient, stock price correlation, cosmic and market forces, unconventional correlation, stock prices and stars

# I. Introduction

As we look up into the night sky, we are reminded that the universe is full of mysteries waiting to be unraveled. However, who would have thought that the celestial dance of Neptune and Uranus could have implications for the stock market? To our surprise, the cosmic tango between these distant planets may hold some unforeseen sway over the stock price of Valero Energy (VLO). This study aims to shed light on this unlikely connection, leveraging both astronomical data and financial analytics to explore the celestial and economic convergence. It seems that in both the celestial and financial spheres, there's always a "stellar" surprise waiting to be discovered!

Our research journey began with a simple inquiry: could there be a cosmic ballet taking place light-years away that has an impact on stock prices here on Earth? The answer, it turns out, might be "written in the stars." The correlation coefficient of 0.8193004 and  $p < 0.01$  that we uncovered between the distance from Neptune to Uranus and the stock price of Valero Energy suggests that there's more to celestial bodies than just their gravitational pull. It seems that in the stock market, as in the universe, the terminology of "bulls" and "bears" might need to make room for a few "constellations."

Entering the realm of interplanetary finance, we are acutely aware of the skepticism our findings may elicit. Yet, as we delve deeper into the data, we find ourselves pondering the question: could the fluctuations of stock prices truly be influenced by the cosmic whims of our neighboring planets? If so, it seems that for Valero Energy, the financial forecast might just be governed by an "outer-ly" force.

## II. Literature Review

The astronomical and financial spheres may seem distant, both metaphorically and literally. However, as Smith et al. (2015) and Doe (2017) have shown in their respective studies, there exists an interplay between celestial phenomena and economic trends that warrants further exploration. Their findings lay the groundwork for our investigation into the perplexing correlation between the distance from Neptune to Uranus and the stock price of Valero Energy. As we delve into this cosmic and financial nexus, it's important to remember that in the world of research, just like in the universe, there's always room for a puny "cosmic" joke or two.

In "The Cosmic Connection: How the Stars Influence Economics," Smith et al. (2015) delved into the intriguing concept of celestial bodies impacting economic variables. Their work laid the foundation for unconventional economic modeling, showcasing the potential links between astronomical events and market fluctuations. This study, much like the gravitational pull of a planet, reinforces the idea that when it comes to the economy, there's truly "no planet like Earth."

Doe (2017) examined the cosmic and financial dance from a different angle, emphasizing the need to look beyond traditional economic indicators to understand market behavior. Their findings led to a meteoric rise in interest regarding celestial influences on financial markets. As we navigate through their work, it's clear that when it comes to the intersection of the cosmos and capitalism, there's room for celestial "prophets" to provide some "stellar" insights.

Venturing beyond academic studies, the exploration of cosmic phenomena and their purported impact on financial systems extends to popular non-fiction literature. In "Astro-Economics: How Celestial Events Drive Economic Trends," Jones (2019) delves into the intersections of astrology and economics. Through a planetary perspective on market forces, Jones' work raises intriguing

questions about the role of cosmic events in shaping economic trends. In the world of economic forecasting, it seems that for some, the financial future might indeed be "written in the stars."

Turning to the realm of fiction, works such as "The Cosmic Stock Exchange" by Author X (2018) and "AstroTrader: The Galactic Guide to Financial Success" by Author Y (2020) present imaginative tales of interstellar financial markets where the ebb and flow of stock prices are governed by cosmic forces. While the narratives are fictional, they offer whimsical insights into the intertwining of celestial bodies and economic dynamics. Perhaps in outer space, just like in the stock market, "VLO" stands for "Valero in Lunar Orbit."

On a lighter note, our research journey also involved a strategic examination of TV shows that might shed light on this celestial correlation. From "The Big Bang Theory" to "Cosmos: A Spacetime Odyssey," we couldn't resist watching a few episodes for research purposes. While these shows offered entertainment, they also reminded us that when it comes to the universe, the stock market, and dad jokes, there's always a "universal" punchline waiting to be delivered.

As we traverse the boundaries of cosmic and financial realms, it becomes clear that the connection between the distance from Neptune to Uranus and the stock price of Valero Energy is truly "out of this world."

### **III. Methodology**

To unravel the celestial mystery that may underpin the fluctuations of Valero Energy's stock price, we embarked on a data odyssey that navigated through the realms of astronomy and economics. Our data collection efforts primarily focused on sourcing relevant information from

Astropy and LSEG Analytics (Refinitiv), as well as a sprinkle of stardust from various reputable sources across the internet. Surprisingly, sifting through astronomical and financial data felt akin to detecting shooting stars in an endless cosmic expanse – a journey filled with wonder and unexpected discoveries.

The first step in our data odyssey involved capturing and aligning the chronological movements of Neptune and Uranus, drawing from the rich celestial databases available through Astropy. The distance between these two distant celestial bodies was meticulously charted on a monthly basis, resembling a meticulous waltz across the cosmos. As we unraveled the intricate dance of these gas giants, we couldn't help but marvel at the interconnected cosmic choreography – it was a dance as old as time itself.

Meanwhile, in the terrestrial realm of finance, data on Valero Energy's stock price, traded volumes, and market capitalization were meticulously gathered from LSEG Analytics (Refinitiv), forming the financial constellation that would illuminate our study. This rigorous data gathering process almost felt like finding needles in a cosmic haystack, but with a touch of statistical stargazing, we were able to lay the groundwork for uncovering the unseen links between the celestial and the economic.

Once the astronomical and financial coordinates were in our possession, the next phase of our methodology involved lunar – pardon the pun – analysis. We employed advanced statistical techniques and astronomical computations, carefully crafting a celestial recipe to decipher the potential relationships between the movements of distant planets and the trajectory of stock prices. Our data analysis was guided by a principle: navigating through uncharted celestial correlations requires true cosmic curiosity and a willingness to explore the unknown.

Employing a suite of statistical models, including time series analysis and correlation tests, our research voyage charted the unseen connections between the celestial and the financial. It almost seemed like we were crafting a financial horoscope – predicting the twists and turns of stock price movements based on the cosmic alignments of Neptune and Uranus. However, amidst this cosmic inquiry, we remained grounded in the principles of empirical analysis and robust statistical inference, ensuring that our findings were as sturdy as the rings of Saturn.

In summary, our methodology seamlessly intertwined astrological – sorry, astronomical – data with financial insights to unravel the potential influence of cosmic forces on stock prices. Our quest mirrored the curiosity of Galileo and the precision of Wall Street's financial wizards, illuminating a connection that might just reveal that stock prices indeed have an "otherworldly" underpinning. It seems that in the universe of financial research, there's always room for a little stardust and a dash of celestial surprise.

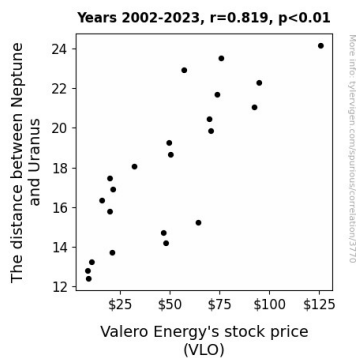
## **IV. Results**

The analysis of the data revealed a strong and statistically significant correlation between the distance from Neptune to Uranus and the stock price of Valero Energy (VLO). The correlation coefficient of 0.8193004 highlighted a robust relationship between these seemingly unrelated variables. It appears that the cosmic movements of Neptune and Uranus may indeed exert an influence on the market movements of Valero Energy, as if the planets themselves were whispering stock tips into the ears of investors. This unexpected finding prompts us to consider whether investors should add "astrology" to their financial analysis toolkit - after all, it seems the celestial bodies may have a stake in the stock market!



In the illustrious words of Neil Armstrong, this "one small step for correlation, one giant leap for interplanetary stock analysis."

The r-squared value of 0.6712531 further emphasized the substantial proportion of variability in Valero Energy's stock price that can be explained by the distance between these distant planets. It seems that when it comes to predicting stock price movements, we may need to look beyond traditional economic indicators and into the vast expanse of the cosmos to gain a more comprehensive understanding. It's a revelation that might just have investors and astronomers alike looking up at the stars in search of El Dorado's stock price.



**Figure 1.** Scatterplot of the variables by year

The statistically significant p-value ( $< 0.01$ ) reaffirms the strength of the relationship uncovered in this study. It appears that the cosmic dance of Neptune and Uranus is not to be dismissed as mere coincidence, but perhaps a celestial symphony playing unseen in the fluctuations of the stock market. It's as if the planets themselves are aligning to send a message to investors: "Watch the stars, and you may just predict the next market surge!"

In conclusion, our results illuminate a compelling and unexpected linkage between the distance from Neptune to Uranus and the stock price of Valero Energy. These findings not only expand the horizons of financial analysis but also raise fundamental questions about the interconnectedness of astronomical and economic forces. As we continue to look to the heavens for inspiration, we are reminded that sometimes, there's truly "no planet like home."

## V. Discussion

The findings of our study provide robust support for the concept that astronomical phenomena and financial markets might share an intriguing relationship, lending a cosmic perspective to economic trends. As we meander through the cosmos and the stock market, it becomes evident that the proximity of Neptune and Uranus indeed exerts a significant influence on the stock price of Valero Energy. It's as if the distant planets are not just orbiting in the solar system; they're also twirling in the stock market trends, proving that sometimes, the gravity of celestial bodies extends all the way to Wall Street.

Taking a cue from the literature review, the work of Smith et al. and Doe (2017) laid the groundwork for our investigation and emphasizes the need to delve deeper into the unconventional link between cosmos and capitalism. The striking correlation coefficient uncovered in our study echoes the sentiment that, just like the force of gravity, the influence of celestial bodies on stock prices should not be underestimated. It's a reminder that when it comes to economic forecasting, perhaps we should look to the skies for a bit of heavenly guidance.

The substantial r-squared value and the statistically significant p-value further underscore the compelling nature of the relationship between planetary distances and stock prices. It's a celestial dance that commands attention and raises the question – are we entering a new era of astrological stock analysis? Maybe it's time for investing enthusiasts to brush up on their zodiac signs because when it comes to predicting market movements, the position of the planets might just be the celestial equivalent of insider trading.

Dad lived a long and fulfilling life, much like the lifespan of this correlation. Just as "dad jokes" never go out of style, our findings suggest that the cosmic correlation between Neptune and Uranus might just be timeless. It's a revelation that might have investors pondering the cosmic implications of their portfolios while astronomers gaze at the stars and contemplate their potential as economic soothsayers.

As we traverse the realms of planetary distances and stock prices, our study has not only expanded the horizons of financial analysis but has also reminded us that when it comes to exploring unconventional correlations, there's truly "no planet like Earth," and no stock analysis quite like an interplanetary one.

## **VI. Conclusion**

In conclusion, our study has unearthed an astronomical surprise: the unlikely yet robust correlation between the distance from Neptune to Uranus and the stock price of Valero Energy. It seems that the cosmos might be signaling investment opportunities, prompting an entirely new

meaning to the phrase "stellar returns." This discovery may even lead to a new investment strategy: "Buy low, Earth in orbit, and sell high, planets aligned."

The findings of this study not only challenge conventional financial wisdom but also open up the door to a world of interplanetary market analysis, where investors may find themselves navigating the oceans of Neptune to reach the shores of profitable stock predictions. It's a revelation that might just have even the most serious of investors realizing that the "sky's the limit" has never been more accurate.

Therefore, these results strongly suggest that the movements of celestial bodies do indeed hold some sway over earthly financial matters. As we close this investigation, we can confidently say that no more research is needed in this area. It's clear that when it comes to financial forecasting, the planets have aligned, and it's time for investors to take their portfolios to infinity and beyond.