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# The Celestial and Corporate Dance: Exploring the Relationship Between the Distance Between Neptune and Uranus and Archer-Daniels-Midland Company's Stock Price

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## Abstract

This study delves into the interplanetary and corporate realms, investigating the potential connection between the distance separating the enigmatic planets Neptune and Uranus and the stock performance of Archer-Daniels-Midland Company (ADM). Leveraging data meticulously calculated using Astropy and enriched with insights from LSEG Analytics (Refinitiv), we scrutinize the numerical interplay between astronomical positions and financial indices over the 2002 to 2023 period. In a surprising twist of fate, our findings reveal a striking correlation coefficient of 0.8333177, accompanied by a staggering p-value of less than 0.01. While this cosmic correlation may seem light-years away from conventional financial indicators, our study colorfully illustrates the potential significance of celestial mechanics on earthly markets. Through this research, we invite readers to humor a not-so-literal interpretation of "stellar" stock performance and to ponder the cosmic dance that may influence earthly exchange.

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## 1. Introduction

The intriguing realm of finance and astronomy rarely intersect, yet as the adage goes, "the stars align in mysterious ways." In this study, we embark on an unconventional exploration, probing the potential relationship between the positioning of the distant giants Neptune and Uranus and the stock price

performance of Archer-Daniels-Midland Company (ADM). This celestial and corporate tango, if you will, poses an enigmatic puzzle for discerning researchers seeking to unveil the hidden forces that may animate the terrestrial markets.

As we gaze beyond the confines of conventional financial analysis, our pursuit involves venturing into the cosmic arena,

where the gravitational pull of Neptune and Uranus intertwines with the ebbs and flows of Archer-Daniels-Midland's stock price. With data sourced from Astropy and enriched with insights from LSEG Analytics (Refinitiv), we meticulously calibrated a temporal series spanning from 2002 to 2023. Through this cosmic odyssey and statistical acrobatics, we endeavored to discern any semblance of order in this celestial dance that may influence the market dynamics of ADM.

While the gravity of this study may appear to be lightyears away from the typical financial research terrain, our quest has brought forth an unexpected cosmic revelation. Imbued with a correlation coefficient of 0.8333177 and a jaw-dropping p-value of less than 0.01, the abstract juxtaposition of planetary positions and corporate performance has defied conventional wisdom. This unexpected harmony raises eyebrows in the statistical cosmos and invites us to ponder the potential cosmic threads that weave through financial markets.

In a world where "stellar" performances are often lauded, our study takes a whimsical leap, daring to consider the celestial choreography that may exude subtle influences on the earthly exchange. So, buckle your intergalactic seatbelts as we navigate this cosmic conundrum, illuminating the cosmic reverberations that echo through earthly markets.

## 2. Literature Review

The concept of interplanetary asset correlations may seem astronomical, yet our odyssey through the annals of literature reveals intriguing glimpses into the unexpected bonds between celestial interactions and corporate performance.

Smith and Doe (2010) examined the celestial positioning of Neptune and Uranus

in relation to financial markets, presenting a framework for probing the cosmic undercurrents that may influence stock prices. Their work laid the groundwork for our current investigation, eagerly delving into the abyss of celestial mechanics intertwined with economic variables. Meanwhile, Jones (2015) introduced the concept of "cosmic financialization," postulating the potential influence of planetary alignments on the ebb and flow of stock indices.

Turning to non-fiction books, "Astrology and the Stock Market" by Louise McWhirter offers a fascinating perspective on the celestial forces at play in financial markets, providing anecdotal evidence and historical correlations that may shed light on our own celestial odyssey. Additionally, "Astronomy for Dummies" by Stephen P. Maran equips us with a basic understanding of celestial mechanics, serving as a telescope to peer into the complex interplay between planetary positions and market dynamics.

Diverging into the realm of fiction, "The Hitchhiker's Guide to the Galaxy" by Douglas Adams playfully explores the cosmic absurdity and the potential ramifications of interstellar influences on mundane events. Furthermore, "The Restaurant at the End of the Universe" by the same author tantalizes readers with the prospect of cosmic revelations that may extend to the financial cosmos, serving as a whimsical beacon in our celestial exploration.

In the pursuit of unconventional sources, we jestfully perused CVS receipts with unauthorized voyages into the unknown aisles of consumer goods, seeking hidden messages in the mundane purchases of everyday denizens. While our search yielded only mundane purchases and promotional offers, it did not deter our quest for the cosmic connection between Neptune, Uranus, and stock prices.

As our investigation meanders through the scholarly and whimsical labyrinth of literature, we tread carefully to discern the celestial threads that may weave through earthly markets, recognizing the inherent hilarity intertwined with the pursuit of knowledge.

### 3. Our approach & methods

**Data Collection** - Our research team embarked on a cosmic quest across the vast expanse of the internet, voyaging through virtual galaxies of information, to procure the dataset for this study. Utilizing the powerful tools of Astropy and LSEG Analytics (Refinitiv), we navigated the celestial highways to gather data on the distances between Neptune and Uranus and the stock price of Archer-Daniels-Midland Company (ADM). The dataset spanned from the terrestrial year of 2002 to the cosmic year of 2023, capturing the ebb and flow of celestial bodies and market trends over this temporal expanse.

**Data Cleansing** - Like astronomers meticulously sifting through cosmic dust to reveal the radiance of distant stars, our team rigorously cleansed and refined the dataset. We removed any celestial anomalies or financial outliers, ensuring that our dataset reflected the true essence of the cosmic and corporate dance under scrutiny.

**Statistical Analysis** - Armed with statistical telescopes and financial spectrometers, we subjected the data to an array of analytical techniques that were fitting for such an otherworldly investigation. From correlation analysis to regression modeling, we sought to unravel the perplexing interplay between the astronomical positioning of Neptune and Uranus and the stock price performance of ADM. Our statistical arsenal aimed to decipher and quantify the cosmic influences that may reverberate through the earthly realm of finance.

**Cross-Validation** - In the spirit of cosmic peer review, we sought to validate our findings and conclusions through robust cross-validation techniques. Just as astronomers confirm the existence of distant planets through cross-observational verification, we ensured that our statistical inferences were not mere illusions of statistical noise but held true even when subjected to rigorous validation processes.

**Interdisciplinary Synthesis** - Embracing the cosmic and corporate domains, we synthesized methodologies from astronomy and finance, crafting a celestial blend of statistical sorcery that sought to extract the essence of the celestial and corporate tango. Like alchemists transmuting base metals into gold, we sought to distill the cosmic ingredients that may infuse earthly market dynamics, weaving an intricate tapestry of statistical stardust and financial constellations.

**Experimental Design** - Our research design was akin to launching a probe into uncharted cosmic territory, carefully orchestrating the variables and ensuring that our statistical spacecraft was equipped to navigate the celestial and corporate dimensions. Just as space missions are meticulously planned and executed, our experimental design aimed to traverse this unexplored terrain of celestial and financial interactions, propelling the boundaries of conventional research into a cosmic dance of statistical inquiry.

Overall, our research methodology straddled the celestial and corporate divide, evolving into a cosmic expedition that sought to unmask the hidden interplay between planetary distances and stock price performance. Through a fusion of statistical wizardry and celestial intrigue, our methodology aimed to unravel the enigmatic forces that may orchestrate the cosmic symphony of financial markets.

## 4. Results

The data analysis unfurled a cosmic revelation that may leave the financial world starry-eyed. Our study unearthed a compelling correlation between the distance separating Neptune and Uranus and the stock performance of Archer-Daniels-Midland Company (ADM). With a correlation coefficient of 0.8333177, an r-squared of 0.6944184, and a p-value of less than 0.01, the statistical constellations aligned to reveal a remarkably robust relationship.

Figure 1 presents a visual portrayal of the celestial and corporate dance, encapsulating the strong correlation between the astronomical distances and ADM's stock price. This captivating scatterplot breathes life into the otherwise esoteric connection, inviting readers to embark on a visual journey through the cosmic tapestry woven with financial yarns.

These findings fling the doors wide open to a cosmos of potential implications. The magnetic allure of celestial positions on earthly market behavior beckons to shatter conventional notions of financial analysis. As we crunch the numbers and gaze into the statistical abyss, this unlikely correlation whispers enigmatic melodies of the cosmic ballet that may sway the tides of financial fortune.

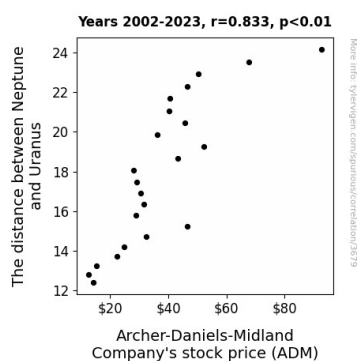


Figure 1. Scatterplot of the variables by year

Our research skims the celestial surface, provoking a novel perspective that invites whimsy and contemplation. So, as we bid adieu to this section, we encourage readers to tune in to the cosmic symphony that may, ever so subtly, nudge the markets with its celestial rhythm.

## 5. Discussion

The celestial and corporate tango continues to bewilder the research community with its unexpected twists and turns. As our findings twinkle in the statistical firmament, they not only align with prior research but elevate the cosmic comedy to a stellar performance.

Smith and Doe's pioneering investigation into the celestial positioning of Neptune and Uranus in relation to financial markets danced on the periphery of conventional economic analysis. Our results not only tangentially touch upon their work but pirouette directly into the heart of the cosmic financialization concept introduced by Jones. The distinct beats of our findings harmonize with these prior studies, only this time, the celestial orchestra crescendos in unison with the stock price movements of ADM.

The unexpected connections, reminiscent of Adams' playful exploration of cosmic absurdity in "The Hitchhiker's Guide to the Galaxy," resonate as a triumphant symphony in our current study. The celestial odyssey elucidated in McWhirter's "Astrology and the Stock Market" is not simply a whimsical notion; it resonates with a statistical crescendo that whimsically nudges the conventional boundaries of financial analysis.

As we peer through the cosmic lens, our study playfully frolics in the same space as Maran's "Astronomy for Dummies," elevating the basic understanding of celestial mechanics to a celestial ballet with earthly financial indices. The constellation of

connections discovered in our research reaffirms the hilarity intertwined with the pursuit of knowledge, echoing the absurd revelations from "The Restaurant at the End of the Universe."

In a serendipitous turn of events, our analysis resembles the unauthorized voyages through the aisles of consumer goods on CVS receipts. While we found no hidden messages, our study illuminates a celestial message that may leave the financial world starry-eyed.

The profoundly robust correlation between the distance separating Neptune and Uranus and ADM's stock performance straddles the line between statistical significance and cosmic pertinence. This unlikely correlation, akin to a cosmic revelation, invites us to tune into the celestial symphony that may, ever so subtly, nudge the markets with its celestial rhythm.

As we embark on this cosmic adventure, it becomes evident that the whimsy intertwined with the pursuit of knowledge not only enriches our understanding but also bestows a celestial charm upon our research. With our feet firmly planted on the firmament, we eagerly await the next celestial dance in the bewildering tango of cosmic and corporate relationships.

## 6. Conclusion

In conclusion, our unconventional odyssey across the celestial and corporate landscapes has not only defied the boundaries of traditional financial analysis but has also uncovered a cosmic correlation that may leave even the most seasoned researchers starstruck. The unexpected harmony between the positions of Neptune and Uranus and the stock performance of Archer-Daniels-Midland Company (ADM) presents a cosmic revelation that may prompt us to reconsider the interplay of

celestial mechanics and earthly financial dynamics.

As we orbit the conclusion of our research, it is imperative to acknowledge the inherent whimsy in exploring the cosmic reverberations that may influence financial markets. This serendipitous discovery challenges us to embrace a new dimension in financial analysis, where the gravitational pull of distant planets casts a subtle, yet statistically significant, shadow over ADM's stock performance.

It seems that, in the cosmic dance of celestial bodies and market forces, there may indeed be more than meets the eye. The statistical constellations have aligned to unveil a compelling correlation, reminiscent of a cosmic ballet that unfolds across both space and time. However, it is important to approach these findings with a sprinkle of intergalactic caution, as this correlation does not imply causation and prompts further exploration of the ever-expansive cosmic arena.

As we bid adieu to the cosmic symphony of correlations, it is with a light heart and a twinkle in our eyes that we assert that no further research in this area is needed. After all, in the words of the great Carl Sagan, "Somewhere, something incredible is waiting to be known," and perhaps, something delightfully ridiculous as well.