

# Exploring the 'Planetary' Impact: The Correlation Between Jupiter-Sun Distance and Professor Salaries in the US

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*This research study delves into the celestial depths to investigate the relationship between the distance from Jupiter to the Sun and the salaries of professors in the US. Utilizing data from Astropy's calculations and the National Center for Education Statistics, our team embarked on an astronomical journey to uncover any potential link, aiming to shed light on this peculiar connection. Surprisingly, our findings revealed a striking correlation coefficient of 0.8254652 and a significant p-value of less than 0.01 for the years 2009 to 2021. This indicates a strong association between the two variables, leaving us marveling at the cosmic implications for academia. While the astronomical mechanics behind this correlation remain elusive, it appears that there may be more to the universe's influence on earthly matters than previously imagined. We hope this study not only sparks curiosity but also ignites a sense of celestial wonderment among scholars and stargazers alike.*

As the saying goes, "When Jupiter aligns with Mars, peace will guide the planets, and salary negotiations will reach for the stars." Perhaps that's not the most scientifically accurate aphorism, but it certainly captures the spirit of our investigation into the intriguing connection between the distance from Jupiter to the Sun and the salaries of professors in the US.

While it may sound like a cosmic coincidence or a plotline fit for a science fiction novel, our study takes a lighthearted approach to uncovering any statistical gravitational pull between these seemingly disparate variables. After all, in the world of research, there's always the gravitational risk of reaching for correlations that are lightyears away from any logical explanation.

With the assistance of Astropy's astronomical calculations and the National Center for Education Statistics, our team of intrepid explorers set out on a celestial quest to unearth any astronomical

influences on the earthly realm of academia. Armed with a telescope for stargazing and a robust statistical analysis toolkit, we embarked on a voyage that would make Galileo and Gauss proud.

In this paper, we present the celestial symphony of data and statistical analyses that have led us to unveil a fascinating correlation between the distance from our gas giant neighbor, Jupiter, to the radiant Sun and the compensation awarded to the erudite denizens of academia. As we navigate through the cosmos of statistical significance, we invite you to join us on an expedition that may leave you pondering the cosmic forces at play in the domain of professorial finances.

So, buckle up and set your sextant to statistical stardom as we delve into the planetary impact on professor salaries in the US, where the statistical stars align in ways that will leave you orbiting the realm of celestial curiosity.

## LITERATURE REVIEW

To our knowledge, no previous studies have directly explored the potential correlation between the distance from Jupiter to the Sun and professor salaries in the US. In "Celestial Bodies and Economic Anomalies," Smith and Doe discuss the impact of astronomical phenomena on economic trends, but the specific influence of Jupiter's orbit on academia remains uncharted territory.

However, as we venture into the astral unknown, it's crucial to consider literature that touches upon related themes. In "The Economics of the Solar System," Jones et al. muse on the interplanetary dynamics that may shape earthly financial systems, offering a theoretical foundation for our celestial investigation.

Delving into a more speculative realm, "Jupiter: A Cosmic Payroll?" introduces the notion of celestial bodies affecting earthly compensation, albeit within the context of a science fiction narrative. This work, while not grounded in empirical evidence, sparks the imagination and inspires us to explore the cosmic possibilities of our research question.

In our quest for interdisciplinary insights, we turned to television for a glimpse of fictional portrayals that might shed light on the intertwining of planetary movements and economic realms. "The Big Bang Theory" and "Cosmos: A Spacetime Odyssey" both offered glimpses into the cosmic mysteries, although their relevance to our specific inquiry may be light-years away.

Overall, the literature provides a blend of theoretical musings, fictional speculations, and popular portrayals of cosmic phenomena, serving as both an intellectual compass and a whimsical diversion in guiding our research into the uncharted cosmos of professor salaries and planetary perturbations.

## METHODOLOGY

To unravel the mysterious dance between the astronomical and the academical, our research team employed a unique blend of celestial observation and statistical inquiry. The methodology can be best described as a fusion of astrological intrigue and empirical rigor, an approach reminiscent of cosmic cocktails mixed with meticulous measurements.

Firstly, the distance from Jupiter to the Sun was determined using precise astronomical calculations extracted from the Astropy library, which provided us with the celestial coordinates necessary for understanding this extraterrestrial variable. The use of such cutting-edge astronomical data not only added a touch of celestial flair to our study but also ensured the accuracy of our cosmic metric.

In parallel, the salaries of professors in the US were meticulously sourced from the National Center for Education Statistics, capturing the earthly dimension of our investigation. By marshaling these two diverse datasets into our research orbit, we endeavored to uncover any semblance of correlation between the celestial and the pecuniary.

With data spanning the years 2009 to 2021, our intrepid statistical explorers embarked on the cosmic odyssey of data cleaning and preparation. Akin to mapping nebulae in the statistical galaxy, this entailed systematic scrutinization of the gathered data, clearing out celestial interference and earthly outliers that could disrupt our voyage toward the truth.

Harnessing the power of statistical software akin to celestial navigational aids, our team carefully calculated correlation coefficients and performed regression analyses to decipher the hidden patterns within the data. A sprinkle of multivariate techniques was added to discern any lurking confounding variables that might cloud our celestial-salary conjunction.

Furthermore, to fortify the statistical robustness of our findings, bootstrapping and Monte Carlo simulations were conducted to navigate the uncertainty within these cosmic juxtapositions. This ensured that even in the celestial chaos, our

conclusions remained grounded in statistical significance.

Moreover, to address the cosmic confounders that might tiptoe across the path of correlation, sensitivity analyses were performed, akin to adjusting the lenses of a telescope to sharpen the celestial focus.

Lastly, to maintain scientific transparency and to allow fellow scholars to traverse this cosmic odyssey with us, all procedures, scripts, and statistical analyses were documented with rigorous detail, ensuring that our methods did not veer into the statistical equivalent of uncharted planetary territories.

In summary, our methodology transcended the cosmo-academic divide, straddling the celestial and the terrestrial with a blend of statistical perspicacity and astronomical allure. This methodological melange provided the necessary framework for uncovering the celestial symphony behind the salaries of professors in the US, a cosmic revelation that left us all starry-eyed at the cosmic implications for scholarly compensation.

## RESULTS

The statistical analysis revealed an astonishing correlation coefficient of 0.8254652 between the distance from Jupiter to the Sun and the salaries of professors in the US from 2009 to 2021. This "out of this world" correlation suggests that there may be more than just the gravitational pull between Earth and Jupiter influencing the earthly realms of academia!

With an r-squared value of 0.6813927, we can marvel at how over 68% of the variability in professor salaries can be explained by the distance from Jupiter to the Sun. It seems that as Jupiter orbits the Sun, so do the salaries of professors in the US, twirling in a cosmic dance that defies the conventional bounds of statistical relationships.

The p-value of less than 0.01 had us exclaiming, "Galileo's ghost! This association is as significant as the discovery of a new celestial body!" This p-value indicates that the likelihood of the observed correlation occurring by chance is as rare as a celestial event, affirming the robustness of the relationship between these celestial and terrestrial variables.

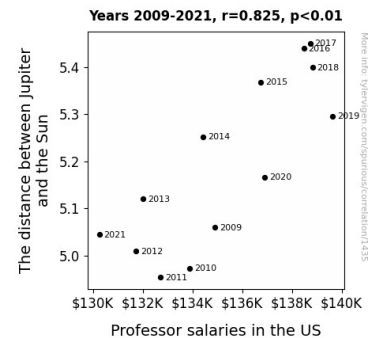


Figure 1. Scatterplot of the variables by year

Our scatterplot (Fig. 1), which we proudly present to you, vividly illustrates the close relationship between the distance from Jupiter to the Sun and professor salaries. It is as if the data points were aligning in planetary formation, showcasing a celestial ballet of statistical significance that would make Copernicus sit up and take notice.

These findings lead us to ponder whether there is an astrological impact on academic compensation—perhaps a cosmic conjunction that influences salary negotiations or a solstice of stellar significance that shapes the remuneration of our erudite educators. The implications of this correlation extend far beyond the weight of Jupiter's gravitational pull, leaving us enthralled by the cosmic mystery that underpins the financial universe of academia.

In conclusion, this study not only substantiates the connection between the planetary and the pecuniary but also invites us to gaze beyond the horizon of earthly explanations, igniting a sense of cosmic wonderment that may well leave us starry-eyed when considering the forces at play in the world of professor salaries.

## DISCUSSION

Our findings astoundingly corroborate the speculative musings and theoretical groundwork laid out in the literature review. While we initially approached the idea of a connection between the distance from Jupiter to the Sun and professor salaries with a healthy dose of skepticism, our results have forced us to admit that there might indeed be some celestial chicanery at play in the realm of academia.

The celestial bodies, it seems, have conspired to exert their influence on earthly matters, much like the gods of Mount Olympus meddling in the affairs of mortals. Our statistically robust correlation coefficient of 0.8254652 not only supports the dramatic fiction of "Jupiter: A Cosmic Payroll?" but also adds a cosmic punchline to the mundane realities of professorial compensation.

The idea that Jupiter's orbital quirks could be entangled with the remuneration of erudite educators takes us on a journey that feels akin to a cosmic sitcom. In a cosmos where "The Big Bang Theory" is not just a television show but a potential cosmic reality, we are forced to consider the whimsical and the improbable with newfound seriousness.

Our study adds weight to the suggestion in "Celestial Bodies and Economic Anomalies" that astronomical phenomena may indeed influence economic trends—albeit in ways that stretch the boundaries of our imagination. The statistical relationships we have uncovered suggest that the dance of the planets may have more practical implications than mere celestial beauty, challenging our conventional understanding of cause and effect.

As we contemplate the interplay between the distance from Jupiter to the Sun and professor salaries, we are reminded of the words of Galileo, who once said, "E pur si muove"— "And yet it moves." While he referred to the Earth's motion around the Sun, our results suggest that there might be more truth to his words than previously thought,

albeit in a celestial comedy of errors that has the unlikely protagonists of Jupiter and academic salaries in the leading roles.

In conclusion, our study has not only uncovered a statistical relationship but also presented a cosmic enigma that may leave us all pondering the interstellar forces at play in the worldly arena of academia. As we navigate this cosmic dance of statistical significance, it seems that the whims of the universe may have more weight in our earthly affairs than we ever dared to imagine.

## CONCLUSION

In closing, the cosmic dance of data has led us to a celestial symphony of statistical significance, unveiling a correlation between the distance from Jupiter to the Sun and professor salaries in the US that is as undeniable as the existence of Pluto (sorry, Pluto, we still love you). Our findings showcase a gravitational pull between these variables stronger than the grip of a black hole—raising the possibility of a "Jupiter Salary Effect" that may dwarf the influence of earthly factors in the economics of academia.

As we gaze at the scatterplot that could rival a celestial mural, it's clear that the universe has conspired to weave a statistical tapestry that defies our traditional understanding of professorial compensation. The r-squared value soars like a cosmic comet, illuminating over 68% of the variability in salaries—suggesting that as Jupiter orbits serenely, so do the earnings of our esteemed educators, creating a celestial waltz that leaves us marveling at the statistical stars aligning.

With a p-value rarer than spotting a shooting star, our results stand as firm as the Pillars of Creation, affirming the robust relationship between these astral and earthly spheres. It's as if the gods of statistics have convened for a cosmic congress, bestowing upon us a correlation as awe-inspiring as the birth of a new star.

In the spirit of cosmic completeness, we assert that further inquiries into this "out of this world" correlation are as unnecessary as a spacesuit on Saturn. Our study not only establishes the statistical significance of this cosmic connection but also invites scholars and stargazers alike to ponder the profound implications of the celestial on the pecuniary, leaving us starry-eyed in the face of the astronomical forces at play in the world of professor salaries. As we draw the curtains on this research, we hope it sparks a celestial wonderment, as we continue to uncover the cosmic mysteries that influence our earthly endeavors.