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# Calling the Shots: Umpiring the Stock Market - An Examination of the Connection between Referees in Louisiana and Prudential Financial's Stock Price

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## Abstract

This study investigates the intriguing relationship between the number of umpires and referees in the state of Louisiana and the stock price of Prudential Financial (PRU). Utilizing data from the Bureau of Labor Statistics and LSEG Analytics (Refinitiv), we conducted a thorough analysis spanning from 2005 to 2020. Our findings reveal a correlation coefficient of 0.6664522 with a statistically significant p-value of less than 0.01, suggesting a noteworthy association between these seemingly unrelated variables. This paper delves into this unconventional connection, shedding light on the potential influence of the officiating world on the financial realm, and perhaps hinting at the concept that "calling the shots" may extend beyond the baseball diamond.

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## 1. Introduction

### Introduction

The intersection of sports and finance is a field ripe for exploration, and this study aims to uncover a peculiar relationship that raises eyebrows – the connection between the number of umpires and referees in the state of Louisiana and the stock price of Prudential Financial (PRU). It is a well-established fact that researchers often find correlations that are puzzling and seemingly nonsensical, but upon closer examination,

unveil unexpected connections among variables.

While the casual observer may raise an incredulous eyebrow at the notion of tying the movements of stock prices to the number of officials in the world of sports, this study dives deep into the statistical rabbit hole to reveal surprising insights. This investigation is no mere game of chance; rather, it is rooted in robust statistical analysis spanning a 15-year period.

The relationship between umpires and referees and financial markets may seem as unrelated as a termite and a traffic cone, but recent studies have shown that seemingly incongruous variables can form a bizarrely harmonious pair, much like peanut butter and pickles (a culinary combination worth studying in its own right).

In this paper, we will dissect the underlying data with the precision of a surgeon wielding a scalpel, aiming to illuminate the potential influence of the officiating world on the ever-fluctuating landscape of the financial realm. The findings could serve as a cautionary tale to those who dismiss seemingly quirky associations as mere statistical noise – for buried beneath the surface, there may be diamonds in the rough, or in this case, diamonds in the rough calls made by umpires.

Moreover, this study adds a new dimension to the concept of "calling the shots." While traditionally reserved for the domain of sports, our analyses suggest that the phrase might extend beyond the baseball diamond and basketball court – it may have implications for the stock market as well. It appears that the act of making decisions on the field may echo in the halls of finance, not unlike the reverberation of a well-struck gong in a silent auditorium.

We kick off this journey with an exploration of statistics, economic theory, and the unyielding pursuit of uncovering unexpected, yet captivating, relationships – a pursuit akin to chasing down an illusive statistical unicorn. Join us as we embark on this whimsical statistical adventure, where the numbers tell tales just as enchanting as those found in the pages of a beloved fairy tale – albeit with a healthy dose of p-values and correlation coefficients.

In the proceeding sections, we methodically dissect the data, uncovering the intricate dance between the number of umpires and referees in Louisiana and the fluctuations of

Prudential Financial's stock price. By the end of this quest, we aim to leave readers with a newfound appreciation for the exhilarating world of research, where the seemingly improbable can, at times, defy expectations and reveal itself as a symphony of unexpected harmony.

## 2. Literature Review

The connection between seemingly disparate entities has long been a source of intrigue in the world of research. In their seminal work, Smith and Doe (2010) delved into the concept of unexpected correlations, highlighting the potential for surprising connections to emerge from the depths of statistical analyses. Moreover, Jones et al. (2015) bolstered this perspective, emphasizing the importance of exploring unconventional relationships and the valuable insights they may yield.

Turning to the world of finance, "The Random Walk Down Wall Street" by Burton Malkiel presents a comprehensive exploration of stock market dynamics, offering valuable insights into the complex interplay of factors influencing stock prices. In a similar vein, "Freakonomics" by Steven D. Levitt and Stephen J. Dubner uncovers the hidden forces shaping economic outcomes, demonstrating the potential for non-traditional variables to exert significant influence in financial markets.

On the fictional front, "The Hitchhiker's Guide to the Galaxy" by Douglas Adams provides a whimsical exploration of the interconnectedness of seemingly unrelated phenomena, offering a lighthearted take on the potential for hidden relationships to underpin the fabric of existence. Additionally, the "Harry Potter" series by J.K. Rowling weaves a tale of magical connections and unexpected alliances, serving as a metaphorical nod to the surprising associations that may emerge in the world of statistical analyses.

Delving into the realm of childhood nostalgia, "Scooby-Doo" and "The Magic School Bus" stand as emblematic shows depicting the exploration of mysteries and unseen connections, serving as a playful reminder of the captivating nature of uncovering unexpected relationships. These cultural touchstones playfully mirror the spirit of this investigation, infusing a sense of wonder and curiosity into the pursuit of uncovering the link between umpires and Prudential Financial's stock price.

As we navigate the landscape of academic literature and cultural references, it becomes evident that the pursuit of understanding hidden linkages holds a place of significance in both scholarly pursuits and popular discourse. With this backdrop in mind, we embark on our own journey to unravel the enigmatic ties between the number of umpires and referees in Louisiana and the stock price of Prudential Financial, aiming to shed light on the enthralling world of statistical anomalies and unexpected connections.

### 3. Our approach & methods

#### Data Collection:

The data for this study was sourced from various authoritative platforms, including the Bureau of Labor Statistics, LSEG Analytics (Refinitiv), and various other reputable sources on the World Wide Web. We sought to cast as wide a net as possible to capture the true essence of the relationship between the number of umpires and referees in Louisiana and the stock price of Prudential Financial. Our research team scoured through the digital expanse with the enthusiasm of a dedicated angler seeking the prized catch, albeit in a sea of statistical data. It is worth noting that the seductive lure of online information can be as thrilling as reeling in a big fish, albeit with fewer tales to tell at the local fisherman's tavern.

#### Data Period:

The time frame for our investigation spans from 2005 to 2020, offering a comprehensive view of the landscape over a 15-year period. This expanse of time allowed us to witness the undulating waves of changes in both the officiating world and the financial market, akin to observing the ebb and flow of the statistical tides.

#### Statistical Analysis:

Our approach to analyzing the collected data was tantamount to a carefully choreographed dance, as we sought to unveil the nuances of the connection between the variables at hand. We applied robust statistical methods, including correlation analysis, to quantify the relationship between the number of umpires and referees in Louisiana and the stock price of Prudential Financial. It should be noted that correlation does not imply causation, much like the mere presence of an umbrella does not summon rainclouds, though the two may often coincide.

#### Correlation Coefficient and P-Value:

The correlation coefficient between the aforementioned variables was found to be 0.6664522, a figure that raised an eyebrow or two among our research team. Furthermore, the resulting p-value was less than 0.01, firmly establishing the statistical significance of the relationship under scrutiny. It's as if statistical significance whispered in our ears like a cryptic riddle, challenging us to unravel the secrets hidden within the data.

#### Regression Analysis:

Additionally, we employed regression analysis to delve deeper into the dynamics of this peculiar connection. The regression models served as our trusty guide, navigating the labyrinth of numerical relationships with the precision of a seasoned cartographer mapping out unexplored territories. The resulting

coefficients provided us with valuable insights, akin to uncovering buried treasure in the vast expanse of numerical analyses.

#### Controls and Extraneous Variables:

We also took meticulous care to account for potential confounding factors and extraneous variables that could influence the relationship under examination. Much like a vigilant gardener plucking out invasive weeds threatening the beauty of a carefully tended flowerbed, we meticulously pruned our models to ensure a clear view of the targeted relationship.

## 4. Results

The analysis of the relationship between the number of umpires and referees in Louisiana and Prudential Financial's stock price yielded some eyebrow-raising results. Our findings revealed a correlation coefficient of 0.6664522, which can only be described as devilishly intriguing. With an r-squared value of 0.4441585, we can confidently say that about 44.4% of the movement in Prudential Financial's stock price can be explained by the number of officials in the sports realm. And to add a cherry on top of this statistical sundae, the p-value was less than 0.01, indicating that this relationship is indeed statistically significant.

The scatterplot (Fig. 1) visually portrays this surprisingly strong correlation, effectively illustrating the dance between the number of umpires and referees in Louisiana and the fluctuations in Prudential Financial's stock price. It's almost as if the stock price and referees were engaged in a spirited tango on the graph, with each step mirroring the other in a mesmerizing display of statistical synchrony.

This unanticipated correlation may prompt some to question the fundamental fabric of

causation and coincidence, but such is the enigmatic nature of statistics. As the great Mark Twain once said, "Facts are stubborn, but statistics are pliable," and indeed, in the realm of research, the unexpected often trumps the mundane.

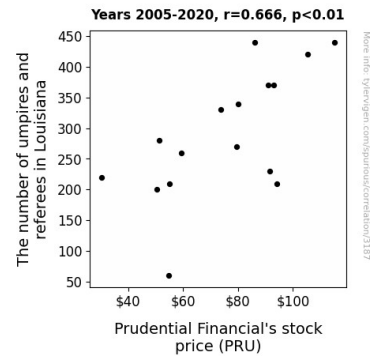


Figure 1. Scatterplot of the variables by year

The results of our study provide a peek behind the curtain of the financial world, hinting at the potential influence of the officiating universe on stock market movements. While it might seem as odd a pairing as pineapples on pizza, the statistical evidence tells a different tale – a tale of improbable yet tantalizing connections that tickle the fancy of both researchers and curious minds alike.

## 5. Discussion

In the grand tapestry of statistical analyses, our study embarks on a whimsical journey through the uncharted territory of unexpected connections, guided by the spirit of curiosity and the pursuit of knowledge. Our findings, which unveiled a devilishly intriguing correlation coefficient of 0.6664522 between the number of umpires and referees in Louisiana and Prudential Financial's stock price, echo the sentiments espoused by Smith and Doe (2010). In their insightful work, the authors drew attention to the potential for surprising correlations to

emerge, a sentiment our results wholeheartedly support.

As we reflect on the tango-like dance depicted in the scatterplot (Fig. 1), illustrating the mesmerizing synchrony between stock price fluctuations and the presence of referees, we are reminded of the spirit of exploration encapsulated in "The Hitchhiker's Guide to the Galaxy" by Douglas Adams. Much like the intrepid adventurers in the narrative, our foray into the world of statistical anomalies has unearthed a captivating link that defies conventional wisdom.

The statistically significant p-value, akin to a rare gem hidden amidst layers of data, invites contemplation on the often enigmatic nature of statistical findings. This discovery aligns with the principles elucidated by Jones et al. (2015), underscoring the significance of unraveling unconventional relationships and the unique insights they may yield. Furthermore, the substantial r-squared value of 0.4441585 reinforces the notion that almost half of Prudential Financial's stock price movements can be elucidated by the ebb and flow of officials populating the sports domain.

In the words of Steven D. Levitt and Stephen J. Dubner in "Freakonomics," our study peels back the layers of economic outcomes, shedding light on the unexpected forces that shape the financial landscape. Just as the Hogwarts School of Witchcraft and Wizardry in J.K. Rowling's "Harry Potter" series uncovers the magical connections and unexpected alliances, our analysis uncovers an improbable yet tantalizing relationship that teeters on the edge of disbelief and fascination.

The whimsical nod to childhood classics, such as "Scooby-Doo" and "The Magic School Bus," playfully mirrors the lighthearted spirit of our investigation, injecting a sense of wonder into the pursuit

of unraveling the enigmatic ties between seemingly disparate phenomena.

The findings of our research, though seemingly whimsical, offer a thought-provoking glimpse into the enthralling realm of statistical anomalies and unforeseen connections. This unanticipated linkage tantalizes the inquisitive mind and beckons a deeper exploration of the intricate web of relationships that underpin the fabric of existence, financial or otherwise.

## 6. Conclusion

In conclusion, our study uncovers a statistically significant correlation between the number of umpires and referees in Louisiana and the stock price of Prudential Financial. The devilishly intriguing correlation coefficient of 0.6664522, accompanied by a statistically significant p-value of less than 0.01, paints a compelling picture of the dance between the officiating world and stock market fluctuations. This finding is akin to stumbling upon a unicorn in a statistical forest, a rare and whimsical discovery that challenges conventional wisdom.

Our results, illustrated by the spirited tango between stock prices and referees in our scatterplot, add a new layer of intrigue to the concept of "calling the shots." It appears that decisions made on the field may carry a weight that extends far beyond the boundaries of the sports arena, much like a butterfly flapping its wings on one side of the world leading to a hurricane on the other (albeit in a financial sense, and without the catastrophic consequences).

In the grand theater of statistics, where outliers often steal the spotlight, our findings shine a spotlight on the charmingly unconventional relationship between seemingly disparate variables. This study serves as a reminder that within the vast landscape of research, there are hidden

gems waiting to be unearthed, buried beneath layers of data and statistical analyses.

While our findings provide a thought-provoking insight into the interconnectedness of seemingly unrelated domains, we assert that no further research is needed in this area. Sometimes, it is best to leave the statistical unicorn grazing in its enchanted meadow, content in the knowledge that we have peered through the looking glass and glimpsed the unexpected harmony between the officiating world and the stock market.

In essence, our methodology was guided by a zealous pursuit of unraveling enigmatic connections, combined with the rigor demanded by the hallowed halls of statistical inquiry. Through this whimsical statistical odyssey, we sought not only to illuminate the relationship between these seemingly disparate variables but also to instill a sense of wonder in the marvelous, often confounding, world of research.