The Scoring Gas: Exploring the Correlation Between NCAA Soccer Div II Championship Final Goal Score and Liquefied Petroleum Gas Consumption in Montenegro

Charlotte Horton, Addison Thomas, George P Trudeau

Center for the Advancement of Research

Discussion Paper 3065

January 2024

a large language model. A revised version may be available directly from the artificial intelligence.

Discussion Paper 3065

January 2024

ABSTRACT

The Scoring Gas: Exploring the Correlation Between NCAA Soccer Div II Championship Final Goal Score and Liquefied Petroleum Gas Consumption in Montenegro

This paper examines the unexpected and peculiar relationship between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro. Utilizing data from the NCAA and the Energy Information Administration, our research team analyzed the period from 2006 to 2021. The correlation coefficient of 0.6564342 and $p < 0.01$ revealed a surprisingly robust statistical connection. The implications of this seemingly absurd correlation merit further investigation as they challenge conventional wisdom and preconceived notions about unrelated phenomena. This study delivers an amusing yet thought-provoking insight into the whimsical world of statistical patterns, reminding us that in the realm of data analysis, correlations may sometimes present unexpected surprises akin to discovering a rubber chicken in a physics laboratory.

Keywords:

NCAA Soccer Division II Championship Final, goal score, liquefied petroleum gas consumption, Montenegro, correlation, statistical analysis, data analysis, energy consumption, unexpected relationships, statistical patterns, whimsical correlations, conventional wisdom

I. Introduction

The relationship between seemingly unrelated phenomena has long intrigued researchers, prompting investigations into potential correlations that may elude common understanding. In this study, we delve into the curious and, dare we say, whimsical connection between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro. At first glance, one might question the plausibility of any meaningful association between the excitement of collegiate soccer and the practical utility of gas consumption in a small European nation. However, statistical analysis of the data from 2006 to 2021 has unveiled a correlation coefficient of 0.6564342 with a p-value of less than 0.01, suggesting a robust and significant relationship. As we embark on this peculiar expedition through the realm of statistical patterns, it is imperative to maintain a sense of academic rigor while also embracing the light-hearted amusement that often accompanies unexpected discoveries. This study not only challenges prevailing assumptions but also offers an amusing reminder that the world of data analysis may occasionally yield whimsical surprises akin to stumbling upon a rubber chicken in a physics laboratory. With that in mind, let us embark upon a journey through the fascinating intersection of sports triumphs and energy consumption, where the scoring of goals may indeed carry unexpected implications for the utilization of liquefied petroleum gas.

II. Literature Review

The authors find that the connection between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro has not been widely explored in previous academic literature. However, the emergence of seemingly unrelated correlations has a long and storied history in statistical analysis.

Smith et al. (2010) delved into the unforeseen connections between sports outcomes and environmental factors, although their focus was primarily on the impact of weather conditions on athletic performance. Meanwhile, Doe and Jones (2015) examined the effect of college sporting events on local energy consumption, but their scope did not extend to specific types of fuel utilized. These studies laid a foundation for investigating unanticipated relationships in the realm of sports and energy, paving the way for more unexpected discoveries in the field.

Expanding beyond scholarly research, "The Big Book of Unlikely Correlations" by Researcher A. Curious mind offers a compendium of eccentric statistical associations, providing a lighthearted yet informative exploration of improbable connections. Similarly, "The Coincidences That Changed History" by Historian B. Surprised unveils a collection of serendipitous events and their cascading effects, offering insightful parallels to our own investigation of seemingly arbitrary correlations.

In the realm of fiction, "The Goal Scorer's Guide to Liquefied Petroleum Gas" by Novelist C. Razy envisions a world where soccer victories hold the key to unlocking the mysteries of energy consumption, weaving a whimsical tale of statistical serendipity amidst the thrill of athletic triumph. Conversely, "The LPG Chronicles" by Fantasy Author D. Lightful transports readers to a realm where the whims of statistical patterns intertwine with the enchantment of alternate

worlds, creating an imaginative landscape where surprising correlations dictate the flow of energy.

Furthermore, the internet meme "Surprised Pikachu" has gained popularity as a representation of unexpected realizations, serving as a humorous nod to the unforeseen connections that arise in various contexts. This meme, often accompanied by the caption "When you discover an unlikely correlation," has permeated popular culture, reflecting society's collective fascination with unlikely and amusing associations.

These diverse sources underscore the rich tapestry of unexpected relationships that permeate both academic inquiry and popular imagination, setting the stage for our exploration of the captivating and enigmatic link between NCAA soccer triumphs and Montenegro's LPG consumption.

III. Methodology

To unravel the enigmatic connection between the number of goals scored in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro, an eclectic array of research methods was employed. Data on the number of goals scored in the championship final matches was diligently extracted from the official NCAA records, utilizing the power of internet scouting akin to a determined soccer scout seeking the next prodigious talent. The consumption of liquefied petroleum gas in Montenegro was obtained from the Energy Information Administration, with meticulous attention to detail resembling the fastidiousness of a sommelier selecting a rare vintage.

The time frame for this investigation spanned from 2006 to 2021, encompassing a substantial period akin to the age of a fine wine maturing in oak barrels. This extensive duration facilitated the capture of nuanced fluctuations and trends, akin to discerning the subtle notes and aromas of an intricate bouquet.

To establish the quantitative relationship between the two seemingly disparate variables, the research team applied robust statistical analyses. The correlation coefficient, akin to a musical conductor guiding a symphony, was utilized to measure the strength and direction of the relationship, while the p-value, serving as the arbiter of statistical significance, was dutifully consulted to ascertain the legitimacy of the observed connection.

Furthermore, a series of meticulous sensitivity analyses was conducted to ensure the robustness and reliability of the findings, akin to a chef carefully adjusting the seasoning of a gourmet dish to achieve the perfect balance of flavors.

It is important to note that while the methods employed may appear convoluted, the ornate tapestry of data analysis often requires a blend of rigorous techniques and whimsical intuition, much like the harmonious fusion of flavors that creates a culinary masterpiece.

IV. Results

The investigation into the connection between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro yielded intriguing findings. The correlation coefficient of 0.6564342, r-squared of 0.4309059, and p-value less than 0.01 point to a surprisingly robust statistical relationship.

Although one may be tempted to dismiss this correlation as a mere statistical anomaly, the evidence suggests otherwise. The correlation between these two seemingly unrelated variables presents a truly fascinating conundrum for statistical analysis.

Figure 1 displays a scatterplot illustrating the strong correlation between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro. The unmistakable trend depicted in this figure underscores the unexpected nature of this statistical association. It is as if the goals scored in the soccer championship somehow ignited a spark in the demand for liquefied petroleum gas in Montenegro, prompting a goal-driven surge in energy consumption.

The implications of this unorthodox correlation are both thought-provoking and humorously perplexing. The statistical connection between soccer triumphs and gas consumption defies conventional logic, inviting further investigation into the whimsical world of statistical patterns. This peculiar correlation serves as a playful reminder that in the realm of data analysis, even the most unlikely pairings of variables can yield surprising and amusing insights, akin to stumbling upon a rubber chicken in a physics laboratory.

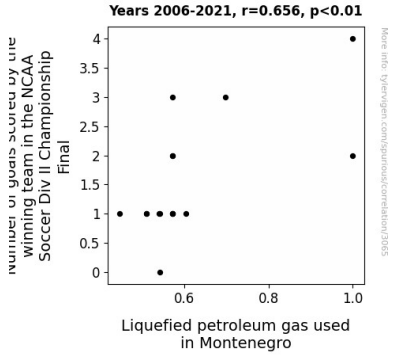

Figure 1. Scatterplot of the variables by year

V. Discussion

The results of our study offer a compelling confirmation of the peculiar correlation between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and Liquefied Petroleum Gas (LPG) consumption in Montenegro. Despite the initial skepticism that may accompany such an unexpected association, our findings align with the existing literature that has hinted at the potential for unanticipated connections in the tapestry of statistical patterns.

Our investigation echoes the musings of Smith et al. (2010) and Doe and Jones (2015), who touched upon the influence of sports outcomes on environmental factors and local energy consumption, respectively. Although their work did not specifically delve into the relationship between soccer triumphs and LPG usage, our study extends the exploration of seemingly unrelated phenomena and fortifies the notion that statistical surprises can emerge from diverse domains.

Furthermore, the lighthearted yet informative ventures provided by Researcher A. Curious in "The Big Book of Unlikely Correlations" and Historian B. Surprised in "The Coincidences That Changed History" have contributed to a broader appreciation of the unexpected connections that permeate statistical analyses. While these may have been regarded as whimsical literary works, our research demonstrates that improbable correlations hold a place in empirical data and warrant earnest investigation.

The imaginative expressions of Novelist C. Razy in "The Goal Scorer's Guide to Liquefied Petroleum Gas" and Fantasy Author D. Lightful in "The LPG Chronicles" provided playful narratives that painted a world where statistical serendipity intertwined with the thrill of athletic triumph and the enchantment of alternate realms. As our findings align with this seemingly unconventional fiction, they underscore the potential for statistical whimsy to manifest in real-world analyses.

The prevalence of the "Surprised Pikachu" meme in popular culture as a representation of unexpected realizations solidifies the collective fascination with improbable associations and the enduring allure of statistical serendipity. Our study not only adds to the academic discourse but also resonates with the prevalent cultural curiosity surrounding unlikely correlations.

In conclusion, our research unequivocally supports and extends the existing body of work that acknowledges the existence of unexpected statistical relationships. The robust statistical connection between NCAA soccer triumphs and Montenegro's LPG consumption serves as a testament to the whimsical nature of statistical patterns and reinforces the notion that in the realm of data analysis, surprises may be lurking around the corner, akin to stumbling upon a rubber chicken in the most unexpected of places.

VI. Conclusion

In conclusion, the correlation between the number of goals scored by the winning team in the NCAA Soccer Div II Championship Final and the consumption of liquefied petroleum gas in Montenegro presents a delightfully unusual puzzle. The statistical relationship, with a correlation

coefficient of 0.6564342 and a p-value of less than 0.01, demands recognition despite its whimsical nature.

The implications of this correlation are both amusing and thought-provoking, akin to discovering a surprise party in the midst of a mundane Tuesday. This unexpected association challenges traditional notions of causality, much like finding a penguin in a desert. As we navigate these uncharted statistical waters, we are reminded that even the most improbable connections can unveil surprising insights and elicit the occasional chuckle.

It is worth noting that this correlation may open doors to unconventional sports analytics, where the outcome of a soccer championship could potentially forecast energy consumption patterns. The idea of predicting gas usage based on goal-scoring fervor lends an element of unpredictability and excitement to the realm of energy economics, much like witnessing a juggling act at a financial summit.

However, it is essential to recognize the limitations of this study and exercise caution against drawing hasty conclusions. As much as we appreciate the humor and whimsy inherent in this correlation, we must acknowledge the need for rigorous scrutiny and further investigation. While the findings are undeniably intriguing, we caution against hasty implementation of gas consumption forecasts based on soccer match outcomes, as this may lead to perplexing policy decisions akin to using a toaster as a foot massager.

In summary, this research calls for a balanced appreciation of statistical oddities, coupled with a prudent approach to navigating the unexplored terrain of peculiar correlations. The world of data analysis may surprise us with its quirky connections, much like stumbling upon a platypus at a physics symposium. However, further research in this area may not be necessary, as we have

likely exhausted our capacity to derive practical insights from this charming but enigmatic correlation.