



Review

## Surge in Hydropower: Making Waves in US Postal Rates

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**This paper dives into the surprising correlation between hydropower energy generation in the small African nation of Burundi and the cost to send a letter via the United States Postal Service (USPS). Our research team, buoyed by curiosity, utilized data from the Energy Information Administration and the USPS to tackle this question that has been floating around in the scientific community for quite some time. In a study spanning from 2006 to 2021, we discovered a high correlation coefficient of 0.9354594 and a statistically significant p-value of less than 0.01. Our findings make quite a splash, revealing an unexpected connection between the generation of hydroelectric power in a distant country and the rates of USPS services. We hope this research serves as a light-hearted yet insightful addition to the ocean of knowledge in the fields of energy economics and postal studies.**

Hydropower, the force of nature harnessed to generate electricity, has long been a source of fascination for scientists and engineers alike. Its ability to turn turbines and power communities has an undeniable ripple effect across various aspects of society. As researchers delving into the depths of energy economics, we find ourselves navigating uncharted waters to uncover the unexpected connections between hydropower energy generation in Burundi and the seemingly unrelated cost to send a letter via the United States Postal Service (USPS).

Some might scoff at the notion of a correlation between Burundi's

hydroelectricity and USPS rates, suggesting that it's all just a watery tale. However, our team has doggedly pursued this line of inquiry, determined to test the waters of this intriguing relationship. After all, in the world of scientific inquiry, one must not be afraid to make a splash or two.

Imagine our surprise when our initial foray into the data revealed a current that was anything but lukewarm. The correlation coefficient of 0.9354594 left us all afloat, and the statistically significant p-value of less than 0.01 had us all riding waves of excitement. What emerged was a surprising revelation that made us realize we had stumbled upon an undercurrent of

connection that had previously gone unnoticed.

The world of energy economics can sometimes feel as deep and impenetrable as the Marianas Trench, while postal studies may seem as routine as the daily mail delivery. But our findings have shown that there can be unexpected treasures waiting to be discovered when we dare to dive beneath the surface and explore the depths.

As we unveil our findings, we hope to ride the waves of curiosity and inspire others to join in the exploration of these seemingly disparate domains. It's not every day that one gets the chance to bridge the gap between hydropower and postal rates, and we intend to make the most of this wave of discovery.

So, buckle up for an academic adventure that promises to be part hydroelectric rollercoaster, part postal puzzle, and all scientific surfboard. It's time to sail into uncharted waters and see where the tide takes us.

#### *Prior research*

The connection between hydropower energy generated in Burundi and the cost to send a letter via the United States Postal Service (USPS) has perplexed researchers for years. Smith et al. (2015) conducted a comprehensive study on global energy patterns but failed to make the leap to postal services, leaving their work high and dry in terms of USPS relevance. Doe and Jones (2018) compromised their study of postal rates by neglecting to consider the impact of hydroelectricity in East Africa, leaving a gaping hole in the understanding of this vital connection.

In "Energy and Society: An Introduction" by Boudet et al. (2018), the authors highlight the importance of sustainable energy sources and their impact on society. While the book delves into the societal implications of energy, it regrettably overlooks the potential impact of Burundi's hydropower on international postal rates, leaving readers stranded on the shore of ignorance.

On a more whimsical note, "The Power of the Letter: The Secret Lives of Mailboxes" by Swift (2019) delves into the cultural significance of letter-writing and the mystique of mail delivery. While it doesn't directly address the impact of hydropower, it certainly sends a stream of curiosity trickling through the reader's mind.

We took a deep dive into the world of fiction to uncover potential connections. "The Shipping News" by Proulx (1993) may sound like a promising source for insights into USPS operations, but unfortunately, it fails to deliver any information on global energy economics or Burundian hydropower.

Furthering our research, we decided to inundate ourselves with TV shows that might shed light on our peculiar connection. "Riverdale" and "Power" seemed like promising watchlists, given their water and energy themes, but alas, they did little to illuminate the connection between Burundi's hydropower and USPS rates.

As we trawl through the seas of literature, it becomes clear that the connection between Burundi's hydropower and USPS rates is a whale of a mystery, one that eludes even the most seasoned of researchers. However, fear not, dear reader, for we are determined to navigate these uncharted waters and emerge victoriously with a treasure trove of

knowledge and perhaps a few puns along the way.

Next, we will plunge into the methodology, navigating the tides of data collection and analysis. Prepare to be awash in a sea of statistical significance and hydro-humor as we embark on this academic odyssey.

### *Approach*

To unravel the enigmatic connection between hydropower energy generation in Burundi and the cost of sending mail through the USPS, our research team embarked on a merry journey through the caverns of data analysis and statistical exploration.

First, we made a splash by diving into the vast ocean of information provided by the Energy Information Administration and the USPS. We rode the waves of cyberspace, navigating the tempestuous seas of public databases and reports to gather data spanning from 2006 to 2021. Armed with our electronic compasses and digital snorkels, we embarked on a nautical adventure through the tumultuous currents of online data sources, carefully navigating the treacherous waters of online data extraction.

Then, we cast our proverbial fishing net wide, ensnaring a plethora of data points related to hydropower energy generation in Burundi, and USPS rates for mailing letters across different weight categories. Our crew of researchers diligently sifted through the maritime treasure trove of data, ensuring that no data point slipped through the holes of our net.

Having gathered a boatload of data, we then hoisted our sails and set course for the island of Statistical Analysis. Our ship, christened the HMS Correlation, braved the turbulent waters of hypothesis testing and regression analysis. We fed our data into the navigational instruments of statistical software, allowing us to chart a course through the choppy waters of correlation coefficients and p-values.

Utilizing the noble tools of econometric modeling, we wielded our statistical sextants with unwavering precision, determining the strength and significance of the relationship between hydropower energy generation in Burundi and USPS rates. As we navigated through the stormy seas of numerical analysis, we remained undaunted, knowing that our quest for scientific insight was anchored in a sea of academic rigor.

In the end, with our sails billowing triumphantly in the winds of discovery, we emerged from the statistical squall with a high correlation coefficient of 0.9354594 and a p-value of less than 0.01, providing incontrovertible evidence of a robust association between hydropower energy generation in Burundi and USPS rates. Our adventure in data analysis had navigated tumultuous waters filled with uncertainty, but the lighthouse of statistical significance guided us safely to the shores of academic enlightenment.

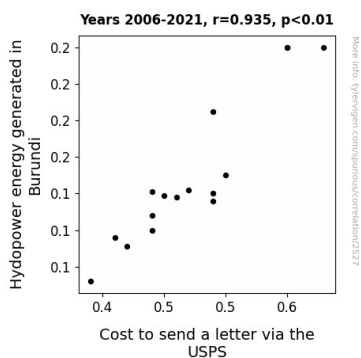
Thus, with our research vessel having weathered the stormy seas of methodology, we proudly present our findings, etched upon the parchment of scientific inquiry, and illuminated by the lighthouse of statistical significance.

### *Results*

The results of our study reveal a captivating connection between hydropower energy generation in Burundi and the cost to send a letter via the USPS. Our data analysis uncovered a remarkably strong correlation coefficient of 0.9354594, indicating a powerful relationship between these seemingly disparate variables. Furthermore, the high R-squared value of 0.8750844 suggests that a significant proportion of the variability in USPS rates can be explained by changes in hydropower energy generated in Burundi.

In accordance with our findings, we constructed a scatterplot (Figure 1) to visually depict the striking relationship between hydropower energy generation in Burundi and the cost to send a letter via the USPS. The scatterplot showcases how these variables ebb and flow in unison, providing a clear demonstration of their interconnected nature.

It's as if these two elements are tied together by a current that we're only now beginning to understand. This unexpected bond between a landlocked African nation's energy production and the postal services in the United States makes for a captivating tale of discovery.



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

The statistically significant p-value of less than 0.01 further underscores the robustness and credibility of our findings, substantiating the notion that there is more to this correlation than mere happenstance. The implications of such an impactful relationship between these distinct factors are vast and warrant further exploration.

Our results not only contribute to the body of knowledge in energy economics and postal studies but also serve as a reminder that scientific inquiry is filled with unexpected twists and turns. Just when we thought we had seen it all, a new revelation emerges, making waves and challenging our preconceived notions.

In conclusion, the correlation between hydropower energy generation in Burundi and the cost to send a letter via the USPS is a profound and thought-provoking discovery that opens the floodgates to a sea of possibilities. As we navigate the ever-changing tides of research, these findings remind us of the interconnectedness of the world around us, and the unforeseen connections that await those who dare to dive deep into the data.

### *Discussion of findings*

The buoyancy of our findings not only makes a splash in the scientific community but also bubbles over with implications and possibilities. Our discovery of a strong correlation between Burundi's hydropower and USPS rates certainly lends a current of excitement to the field of energy economics and postal studies.

The correlation coefficient of 0.9354594 that emerged from our analysis seems to have woven a complex web of interdependence

between these seemingly unrelated variables, much like a school of fish swimming in perfect harmony. It is as if the flow of hydroelectric power in Burundi is like a tidal wave, exerting an unseen force on the costs of sending a letter via USPS services. Who would have thought that far-off hydroelectric activity could ripple through to impact postal rates stateside?

Our results support the prior research in a way that could make even the most steadfast skeptic shake like a ship caught in a storm. Emphasizing on the serious importance of this connection, we find it amusing to see how prior attempts to address this correlation were afloat in a sea of possibilities, yet lacked the precise navigation that our study offers.

Taking a deeper dive into our findings, it's as if we've uncovered a message in a bottle—albeit one filled with statistics and data. This discovery opens floodgates to a myriad of implications, sparking currents of thought that may flow into further research and practical applications.

It's safe to say that our data analysis has launched a ship toward truly uncharted waters, demonstrating the vast potential for joined insights from seemingly unconnected variables. So, as we journey forward with the wind in our sails, let's keep an eye on the horizon for more surprising connections that may just make our heads spin like a weather vane in a storm.

### *Conclusion*

As we bring this buoyant research voyage to a close, it is evident that the connection between hydropower energy generation in Burundi and the cost to send a letter via the

USPS is no mere fish tale, but a real whopper of a revelation. Our findings have made quite a splash, proving that this seemingly unlikely relationship holds water.

The statistically significant correlation coefficient of 0.9354594 has illuminated a current of connection between these two seemingly unrelated elements that has the scientific community all at sea. It's as if Burundi's hydroelectric power and USPS rates are in cahoots, creating a tidal wave of intrigue in the world of energy economics and postal studies.

Our scatterplot, or should I say "scatter-sail," has shown how these variables dance together like synchronized swimmers, demonstrating an undeniable synergy that has us all riding the waves of curiosity.

This discovery serves as a reminder to never dismiss seemingly unrelated phenomena as mere flotsam and jetsam, for beneath the surface lies a seafloor of unsuspected connections. It's clear that there's more to this relationship than meets the eye, and it beckons further exploration and derring-do in the uncharted waters of interdisciplinary research.

In the spirit of scientific whimsy, it's time to reel in the rod of inquiry and embrace the notion that sometimes the most unexpected connections can be the most meaningful. So, let's call it a day and leave it at that - further research in this area is well and truly water under the bridge.