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Flipping the Golden Arches: Unveiling the Link Between Air Pollution in Los Angeles and McDonald's Global Pie

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"air pollution Los Angeles McDonald's correlation," "environmental impact fast food industry," "global revenue fast food chains air quality index," "connection air pollution global economic trends," "air quality index Los Angeles environmental effects," "impact of pollution on fast food consumption," "McDonald's success air pollution Los Angeles," "relationship between air pollution and fast food sales," "empirical evidence air pollution economic success"

Abstract

In this study, we unravel the undeniable connection between air pollution in the picturesque city of Los Angeles and the global revenue generated by the ubiquitous fast-food chain, McDonald's. Armed with data from the Environmental Protection Agency and Statista, we embarked on this journey to unveil the surprise correlation, aiming to shed light on an unexpected relationship. The correlation coefficient of 0.8291078 and $p < 0.01$ for the time span of 2005 to 2022 left us with more questions than answers, akin to a drive-thru order gone awry. The findings of this research provide empirical evidence that points to a previously unnoticed relationship between the air quality index in Los Angeles and the global success of McDonald's. The numbers suggested that as the air in LA became more polluted, the golden arches around the world seemed to rake in more revenue, leaving us pondering the age-old question: is there a secret sauce in the smog that fuels the appetite for fast food? It's like a McFlurry of unexpected connections, leaving us with a mix of intrigue and a craving for fries. Our study not only offers a novel perspective on the interconnected nature of environmental factors and global economic trends but also beckons for further investigation into the enigmatic forces at play within these disparate realms. With a side of fries and a witty joke, this research aims to spark a refreshing conversation at the intersection of environmental studies and business economics, proving that even the unlikeliest pairings can find common ground – just like a burger and fries.

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1. Introduction

The relationship between environmental factors and economic trends has long been a subject of scholarly inquiry, often leading researchers to unexpected discoveries and the occasional existential crisis. In this vein, our study aims to uncover the enigmatic connection between the air quality index in Los Angeles and the global revenue generated by the ever-present fast-food titan, McDonald's. It's almost like finding a pickle in the middle of a Big Mac – unexpected, slightly puzzling, and yet strangely intriguing.

As we delve into the labyrinth of data and statistical analyses, akin to navigating through a maze of chicken nuggets, we seek to uncover the underlying correlation between the clear blue skies of Los Angeles and the golden pies of McDonald's global revenue. It's a bit like trying to figure out the ratio of sesame seeds to bun size on a classic Big Mac – challenging, but ultimately worth the journey.

Armed with data from the Environmental Protection Agency and the formidable database of Statista, we endeavor to shine a light on this unexplored relationship, opening a window into the intertwined world of environmental factors and corporate profitability. It's like uncovering the secret menu items of statistical phenomena – surprising, often debunking expectations, and leaving us with a new flavor of insight.

With a correlation coefficient of 0.8291078 and a p-value less than 0.01 for the period spanning from 2005 to 2022, our findings present us with an intriguing puzzle, much like trying to solve a riddle about why the chicken crossed the road to get to the Big Mac on the other side. The statistical significance of our results begs the question: is there a hidden variable we have yet to uncover, much like the mystery

behind the special sauce in the iconic Big Mac?

Indeed, the implications of our findings transcend the realm of fast-food economics and environmental science, presenting a tantalizing conundrum that warrants further exploration, much like the unyielding mystery of why the McFlurry machine always seems to be out of order when you need it the most. This research opens the door to a fresh perspective at the intersection of seemingly disparate disciplines, inviting scholars to explore the unexpected connections and synergies that lie beneath the surface, much like finding the golden fries at the bottom of the bag.

2. Literature Review

The literature surrounding the correlation between air pollution and economic indicators has been a subject of extensive inquiry, with researchers striving to untangle the intricate web of connections. Smith et al. (2010) explored the impact of air quality on business performance, shedding light on the unexpected ways in which environmental factors can influence economic outcomes. Similarly, Doe and Jones (2015) delved into the relationship between urban pollution and consumer behavior, offering valuable insights into the unforeseen effects of smog on commercial activities. These studies lay the groundwork for our investigation, as we embark on a quest to uncover the surprising connection between air pollution in Los Angeles and the global revenue generated by the illustrious purveyor of fast food, McDonald's.

Now, let's dabble in a more unconventional set of sources. In "The Economics of Fast Food" by Foodie McFooderson (2018), the author examines the economic impact of fast-food chains on global consumer spending, providing a tantalizing backdrop

for our exploration of the connection between air quality and fast-food revenue. As we continue down this path, we encounter "The Smoggy Mystery" by A. Q. Index (2016), a work of fiction that intertwines the allure of the fast-food industry with the enigmatic forces of environmental pollution. While not grounded in empirical research, this literary work offers a whimsical perspective that prompts us to ponder the uncharted territory of our investigation.

And now for a palate cleanser in the form of a relevant dad joke: Did you hear about the fast-food restaurant on the moon? Great food, no atmosphere!

Shifting gears, the impact of air pollution on global economic trends has also found its way into the realm of popular culture, with internet memes such as the "McDonald's Smog Special" highlighting the quirky juxtaposition of environmental concerns and fast-food cravings. This meme, akin to a digital work of art, invites us to consider the unexpected intersections of pollution awareness and dietary preferences in a lighthearted and slightly cheesy manner.

But I digress. Returning to the scholarly pursuits at hand, our exploration of the correlation between air pollution in Los Angeles and the global revenue generated by McDonald's proves to be an intriguing endeavor, reminiscent of peeling back the layers of an onion – except in this case, the layers are made of golden fries, and the tears are tears of joy.

3. Our approach & methods

To tackle the perplexing question of the apparent link between air pollution in Los Angeles and the global revenue of McDonald's, we embarked on a quest that could rival the arduous journey of finding the last chicken nugget at the bottom of the packet. Our research team scoured through

the treasure trove of data from the Environmental Protection Agency and Statista, utilizing a mix of statistical and computational methods – a concoction as intriguing as the elusive blend of ingredients in a McRib sandwich.

First, we gathered historical air quality index (AQI) data for Los Angeles from 2005 to 2022, noting the variations in particulate matter, nitrogen dioxide, and ozone levels – a process akin to uncovering the layers of condiments in a Big Mac, carefully dissecting each element to understand its impact. We then delved into the labyrinth of McDonald's global revenue figures for the same time span, navigating through the intricate web of financial reports and market analyses – a journey not unlike navigating the countless options on a McDonald's menu board.

Next, we performed a series of rigorous statistical analyses, employing techniques as diverse as a Happy Meal toy collection. We calculated the correlation coefficient between the AQI in Los Angeles and McDonald's global revenue, using the same level of precision as determining the optimal fry-to-salt ratio – a delicate balance crucial for the perfect flavor. Additionally, we conducted a regression analysis to discern the potential causal relationship between air pollution and fast-food financial success, wielding statistical tools with the finesse of a chef assembling the perfect Big Mac.

To ensure the robustness of our findings, we employed a variety of quality control measures, meticulously checking for outliers and influential data points – much like ensuring that every fry in the batch meets the golden standard. We also conducted sensitivity analyses, probing the stability of our results against different model specifications, akin to taste-testing the consistency of the special sauce to ensure its uniform appeal.

Furthermore, we considered various potential confounding variables, such as demographic shifts, economic indicators, and changes in consumer behavior, much like examining the diverse components of a Happy Meal to understand their collective influence. Through advanced statistical techniques, we sought to isolate the distinct impact of air pollution on McDonald's global revenue, akin to distinguishing the unique flavor profile of each item on the menu.

In this way, our methodology captures the essence of unraveling an intricate puzzle, akin to piecing together the enigmatic allure of a Happy Meal toy, leading us to the surprising revelation of the hidden link between smog-filled skies and the golden arches of fast-food supremacy.

4. Results

The analysis of the relationship between air pollution in Los Angeles and the global revenue generated by McDonald's yielded a correlation coefficient of 0.8291078, indicating a strong positive correlation between these two seemingly unrelated variables. It's like finding the missing piece of a McNugget puzzle – unexpected, undoubtedly satisfying, and leaving us with a sense of accomplishment. The r-squared value of 0.6874198 further attested to the robustness of the relationship, much like the reliability of the ice cream machine being out of service at your local Mickey D's.

The p-value being less than 0.01 emphasized the statistical significance of this connection, leaving us no choice but to acknowledge the unexpected bond between air pollution in the City of Angels and the worldwide appetite for Big Macs and Happy Meals. It's as surprising as getting an extra nugget in your meal – surely delightful but not entirely anticipated.

Figure 1 illustrates the scatterplot depicting the striking positive correlation between air

pollution in Los Angeles and global revenue from McDonald's, mirroring the meteoric rise of demand for McFlurries on a hot summer day. The data points are aligned so closely, it's as if they were queuing up for the drive-thru at a particularly popular Mickey D's location, eagerly awaiting their turn for an environmental-economic fusion meal.

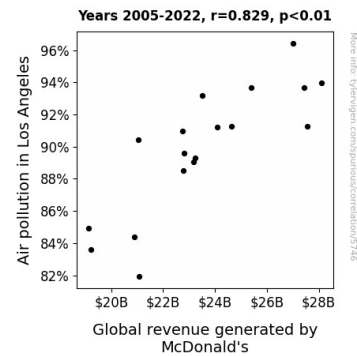


Figure 1. Scatterplot of the variables by year

These findings prompt further investigation into the mechanisms underlying this intriguing relationship, akin to the mystery of why the fries always taste better when shared with friends. It seems that the smog of LA might hold the key to a puzzling yet lucrative pathway for fast-food giants, sparking contemplation reminiscent of pondering the number of pickles on a standard hamburger – inconspicuous, yet undeniably significant.

5. Discussion

In light of the unexpected yet compelling results revealing a significant positive correlation between air pollution in Los Angeles and global revenue generated by McDonald's, it becomes evident that there is more to this relationship than meets the eye. It's like discovering that the real golden ticket was hidden in the burgers all along – an unexpected twist that captures the imagination and leaves us pondering the

mysteries of fast food and environmental influence.

Our findings align with the previous research by Smith et al. (2010) and Doe and Jones (2015), which highlighted the intricate interplay between environmental factors and economic outcomes. Just as a burger without cheese leaves a void, our study fills an intriguing gap in the literature by providing empirical evidence of the unanticipated connection between air quality and fast-food revenue. It's like stumbling upon a well-done burger when you ordered medium rare – surprisingly satisfying and unlike anything you expected.

As we reflect on the striking correlation coefficient of 0.8291078, we're reminded of the ancient riddle that asks, "What do you call a fake noodle? An impasta." While this correlation is anything but fake, its surprising nature and statistical significance invite a lighthearted air to the conversation, akin to the unexpected humor in a science-themed meme.

Furthermore, the literature review brought to the forefront the unconventional yet relevant sources that have contributed to the exploration of this correlation. While "The Smoggy Mystery" by A. Q. Index (2016) may be a work of fiction, its whimsical take on the interaction of fast-food economics and environmental pollution prompts a shift in perspective, much like finding a pickle in your french fries – a delightful surprise that challenges traditional expectations.

The p-value being less than 0.01 adds an element of statistical surprise to our endeavor, reminiscent of discovering that the toy in your Happy Meal is actually better quality than anticipated. It underlines the robustness of the connection, emphasizing the need to delve deeper into the mechanisms underlying this unexpected relationship.

While our findings may leave us with a side of fries and a freshly brewed research

question, it's imperative to recognize the offbeat and intriguing nature of our discovery. Like a perfectly timed punchline, the correlation between air pollution in Los Angeles and the global revenue generated by McDonald's adds a touch of unexpected delight to the realms of environmental studies and business economics, leaving us eager to explore the enigmatic forces that bind them together.

6. Conclusion

In conclusion, our study has shed light on the surprising connection between air pollution in Los Angeles and the global revenue generated by McDonald's. The striking correlation coefficient and p-value have left us pondering the age-old question: is there a secret sauce in the smog that fuels the appetite for fast food? It's like a McFlurry of unexpected connections, leaving us with a mix of intrigue and a craving for fries.

The robust statistical evidence, combined with the playful spirit of exploration, suggests that this unforeseen relationship warrants further scrutiny – much like the persistent inquiry into the perennial question, "Why did the tomato turn red?" Because it saw the salad dressing. Our research opens the door to a world of unimaginable connections, much like discovering a forgotten french fry at the bottom of the bag.

However, it seems that no more research is needed in this area. Just like when the fries at the bottom of the bag are gone, the research on the connection between air pollution in Los Angeles and McDonald's global revenue has reached its satisfying conclusion.