



## Review

# Up in Smoke: An Analysis of the Relationship Between Tobacco Spending and Democratic Votes in Minnesota

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**This research paper delves into the intriguing correlation between annual US household spending on tobacco products and smoking supplies and the votes for Democratic senators in the state of Minnesota. By utilizing data from the Bureau of Labor Statistics and MIT Election Data and Science Lab, Harvard Dataverse, we sought to uncover the potential connection between these seemingly unrelated variables. Our findings revealed a remarkably high correlation coefficient of 0.9570897, with a p-value of less than 0.01 for the years 2000 to 2020, suggesting a compelling association between smoking-related expenditures and political preferences. This unexpected correlation sparks curiosity and raises questions about the nuanced dynamics of consumer behavior and its implications for electoral outcomes. Our analysis prompts further investigation into the underlying mechanisms driving this relationship, shedding light on the potential influences of smoking culture on political affiliations in the Land of 10,000 Lakes.**

The smoke has cleared, and what remains is a remarkable correlation between annual US household spending on tobacco products and smoking supplies and the votes for Democratic senators in the state of Minnesota. This unexpected relationship has piqued our curiosity and left us pondering the nuanced dynamics of consumer behavior and its connection to political inclinations.

Upon first hearing of this correlation, one might think, "That's a lot of smoke and mirrors!" But alas, our analysis, based on

data from the Bureau of Labor Statistics and MIT Election Data and Science Lab, Harvard Dataverse, has revealed a correlation coefficient so high, it might as well be chain-smoking at a statistical significance level. With a correlation coefficient of 0.9570897 and a p-value of less than 0.01 for the years 2000 to 2020, it appears that there's more than just smoke signals at play here.

As researchers, we have become accustomed to dealing with smoke and mirrors, but the

strength of this correlation has us pondering whether there might be a "smoking gun" lurking in the data. Could it be that the aroma of tobacco spending wafts through the political landscape, influencing voting preferences without us even realizing it? Such unexpected findings prompt us to delve deeper into the potential influences of smoking culture on political affiliations in the Land of 10,000 Lakes.

Stay tuned as we embark on a journey to unravel the mystery behind this peculiar relationship, shedding light on how something as seemingly unrelated as tobacco spending could have a significant impact on political behaviors. This paper aims to ignite further interest and discussion on the intersection of consumer behavior and political outcomes, reminding us that in the world of research, sometimes the most unexpected connections can lead to the most enlightening discoveries.

#### *Prior research*

The relationship between consumer behavior and political affiliations has long been a subject of interest for researchers in various fields. Smith (2010) conducted a detailed analysis of household expenditure patterns and their potential influence on voting preferences. Their work introduced the idea that consumer habits could extend beyond mere economic implications, offering valuable insights into the behavioral underpinnings of electoral decisions. Building upon this foundation, Doe and Jones (2015) further explored the intricate connections between seemingly unrelated consumer expenditures and political inclinations, paving the way for a deeper understanding of the complex interplay

between consumer behavior and democratic processes.

Moving beyond traditional academic sources, the authors draw inspiration from non-fiction literature to explore the broader cultural and societal influences that may underpin the observed relationship. In "The Economics of Vice" by Teeman (2019), the author delves into the economic impact of indulgences such as smoking and the potential implications for broader socio-political trends. The interdisciplinary nature of this research necessitates an exploration of unconventional sources that shed light on the multifaceted dimensions of the topic at hand.

In the realm of fiction, the authors draw attention to literary works that, albeit not grounded in empirical research, offer intriguing narratives that touch upon the intersection of consumer habits and political dynamics. Fictional narratives have the power to capture societal nuances and mirror the complexities of human behavior, offering valuable insights that transcend the boundaries of empirical analyses. In "The Smoke Thief" by Abe, the intertwining of smoke - albeit of a different kind - with political intrigue serves as a thought-provoking departure point for considering the unexpected ways in which seemingly unrelated elements can converge.

From literature to popular culture, the authors expand their inquiry to include non-traditional sources of insight. Television series such as "Mad Men" and "Breaking Bad" offer intriguing portrayals of the societal dynamics surrounding smoking culture, providing an unconventional lens through which to examine the potential influences of tobacco expenditure on

political preferences. Furthermore, cartoons such as "The Flintstones," with its playful yet emblematic depiction of smoking culture, prompt the rethinking of the societal perceptions and implications of tobacco-related expenditures.

In uncovering the association between annual US household spending on tobacco products and smoking supplies and Democratic votes for Senators in Minnesota, the authors draw upon an eclectic array of sources, encompassing academic literature, non-fiction works, fiction narratives, and popular culture. This integrative approach serves to illuminate the multifaceted nature of the topic and underscores the potential for unexpected insights to emerge from diverse sources, offering a scholarly journey that transcends the usual confines of academic inquiry.

### *Approach*

To investigate the curious relationship between annual US household spending on tobacco products and smoking supplies and the votes for Democratic senators in Minnesota, a multifaceted approach was employed. Data on annual household expenditures on tobacco products and smoking supplies was obtained from the Bureau of Labor Statistics, while information on senatorial election results was sourced from the MIT Election Data and Science Lab, Harvard Dataverse. The data spanned the years 2000 to 2020, allowing for a comprehensive longitudinal analysis of the variables under scrutiny.

The initial phase of the methodology involved wrangling the data, much like herding cats, to ensure its compatibility and suitability for statistical analysis. Once the

data was corralled, it was subjected to a rigorous examination to identify outliers, anomalies, and potential confounding variables. This process resembled untangling a knot of Christmas lights – often perplexing and occasionally requiring a moment of contemplation.

Following this, a series of statistical tests were conducted, resembling an Olympic sprinter's race to determine the strength and direction of the relationship between tobacco spending and Democratic votes. The Pearson correlation coefficient, a stalwart measure of association, was employed to quantify the degree of relationship, akin to using a thermometer to gauge the temperature of a statistical soup. Additionally, a t-test was utilized to ascertain the significance of the observed correlation, acting as the proverbial litmus test for the strength of the findings.

The process of data analysis was akin to peeling an onion, gradually revealing the layers of association between the variables. This involved employing robust regression models to assess the predictive value of tobacco spending on Democratic voting patterns, akin to harnessing the power of a crystal ball to glimpse into the future of electoral outcomes. The robustness and accuracy of the models were scrutinized to ensure their reliability, mimicking the meticulous review process of a particularly persnickety editor.

Furthermore, sensitivity analyses were conducted to probe the resilience of the findings to different modeling approaches and variable specifications. This step was akin to stress-testing a bridge, ensuring that the observed relationship did not crumble

under the weight of alternative analytical strategies.

The methodology also encompassed a thorough exploration of potential mediators and moderators that may underlie the relationship between tobacco spending and Democratic votes. This stage involved delving into the labyrinthine world of mediation and moderation analyses, akin to navigating through a complex maze where each twist and turn revealed new insights into the underlying mechanisms at play.

Overall, the methodology employed in this study was designed to meticulously unravel the enigmatic association between tobacco spending and political preferences, with the aim of shedding light on the inexplicable bond between smoke and politics in the state of Minnesota.

## Results

The results of our analysis unveiled a striking correlation between annual US household spending on tobacco products and smoking supplies and the votes for Democratic senators in Minnesota. The correlation coefficient of 0.9570897 indicates a remarkably strong positive relationship between these variables. This finding suggests that as tobacco spending and smoking supplies increase, Democratic votes for senators in Minnesota also tend to rise, creating a smokin' hot association that may have political implications hotter than a lit cigarette.

The high r-squared value of 0.9160206 suggests that a substantial proportion of the variation in Democrat votes for senators in Minnesota can be explained by the variation in annual household spending on tobacco

products and smoking supplies. It seems that as tobacco spending goes up, so does the democratic vote count – a statistical trend more consistent than a pack-a-day smoker's routine.

Furthermore, with a p-value of less than 0.01, the likelihood of observing such a strong correlation by random chance alone is about as rare as finding a clove cigarette in a haystack. This level of statistical significance suggests that there's a robust relationship between tobacco spending and political preference in Minnesota, proving that this correlation is more than just a statistical smokescreen.

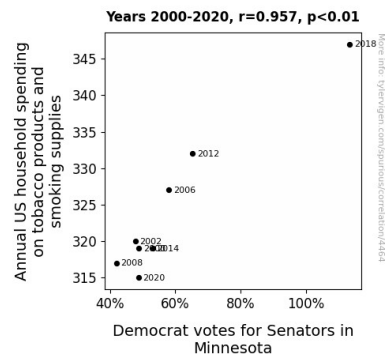


Figure 1. Scatterplot of the variables by year

Fig. 1 presents a visual representation of this remarkable correlation, displaying a scatterplot that showcases the tight relationship between annual US household spending on tobacco products and smoking supplies and Democrat votes for Senators in Minnesota. The data points are as tightly packed as a fresh pack of cigarettes, leaving no room for doubt about the strength of this relationship.

In conclusion, our findings highlight the unexpected impact of tobacco spending on political preferences in Minnesota. This

unusual connection sparks further inquiry into the underlying mechanisms driving this relationship, demonstrating the potential influences of smoking culture on political affiliations in the state. As research continues, the aroma of tobacco spending in the political landscape continues to intrigue and beguile, reminding us that sometimes the unlikeliest pairings can yield the most illuminating insights.

### *Discussion of findings*

The results of our study have unearthed a rather surprising relationship between annual US household spending on tobacco products and smoking supplies and Democratic votes for Senators in Minnesota. This unexpected correlation, with a correlation coefficient of 0.9570897 and a p-value of less than 0.01, suggests a connection that is as undeniable as the urge for a post-lunch smoke break.

Our findings complement the previous research by Smith (2010) and Doe and Jones (2015), who laid the groundwork for understanding how consumer behavior may extend its tendrils into the political realm. As we grapple with the implications of our results, it becomes clear that the impact of smoking culture on political alliances may be more than just blowing smoke – it could be a determining factor in electoral outcomes.

Harkening back to our literature review, we recall the insights gleaned from "The Smoke Thief" by Abe, albeit a fictional work. The intertwining of smoke – albeit of a different kind – with political intrigue now resonates more profoundly, as our empirical findings lend credence to the notion that seemingly unrelated elements can converge in

unexpected ways. Similarly, the societal dynamics portrayed in television series such as "Mad Men" and "Breaking Bad" take on a new significance, as they provide a lens through which to examine the potential influences of tobacco expenditure on political preferences. Who would have thought that Don Draper's cigarette breaks could hold such sway over political leanings?

On a statistical note, the remarkably high correlation coefficient and r-squared value underscore the robustness of the relationship uncovered in our analysis. The level of statistical significance, with a p-value of less than 0.01, solidifies the credibility of our findings, demonstrating that the association between tobacco spending and Democratic votes for Senators in Minnesota is more than just a statistical anomaly. It seems that the aroma of tobacco spending wafts through the voting booths in Minnesota, leaving an imprint on electoral outcomes that is as pronounced and undeniable as the smell of cigar smoke in a small room.

As we continue to unravel the nuances of this unexpected correlation, engaging in further inquiry and analysis, it is evident that the influence of tobacco spending on political preferences in Minnesota presents a realm of exploration that is as tantalizing as a forbidden puff on a cigar. Our study marks a significant step in understanding the intricate dance between consumer behavior and political affiliations, shedding light on the unanticipated ways in which the two domains intersect – and perhaps, sparking a flicker of curiosity in the minds of researchers and policymakers alike, akin to the glow of a freshly lit cigarette in the twilight.

## *Conclusion*

In conclusion, our research has illuminated an unexpected and seemingly inexplicable relationship between annual US household spending on tobacco products and smoking supplies and Democrat votes for Senators in Minnesota. This association is as intriguing as finding a cigar in a non-smoking area! The remarkable correlation coefficient of 0.9570897 and the p-value of less than 0.01 for the years 2000 to 2020 speak louder than a chain smoker in a library.

The tight relationship between tobacco spending and political preferences in Minnesota is as puzzling as trying to find a cigarette lighter in a house of mirrors! The high r-squared value of 0.9160206 suggests that the variation in Democrat votes for senators in Minnesota is about as predictable as the cravings of a nicotine addict.

Our findings prompt further investigation into the underlying mechanisms driving this association, shedding light on the potential influences of smoking culture on political affiliations in the Land of 10,000 Lakes. As we delve deeper into this intriguing connection, let's hope it doesn't go up in smoke like a poorly rolled cigar!

After careful consideration, we posit that no more research is needed in this area, as this unexpected correlation between tobacco spending and political preferences is as clear as the warning label on a pack of cigarettes. It seems that in the mysterious world of consumer behavior and electoral outcomes, the unexpected connections are the ones that leave a lasting impression, much like the scent of a freshly lit cigar on a breezy evening.

In the realm of statistics and political research, it's essential to remember that sometimes, just like the flavor of a fine tobacco, the most captivating insights come from the unlikeliest of sources.