That is Suspect: Investigating the Relationship Between Google Searches for That is Sus and DexCom's Stock Price

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ABSTRACT

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This study examines the curious connection between Google searches for the phrase "That is sus" and the stock price of DexCom (DXCM). The research team utilized data from Google Trends and LSEG Analytics (Refinitiv) to conduct a thorough investigation from 2006 to 2023. Surprisingly, a strong correlation coefficient of 0.9894753 and a significance level of $p < 0.01$ were uncovered, indicating a striking relationship between the two seemingly unrelated phenomena. The implications of these findings are far-reaching and may have profound impacts on our understanding of market behavior and social media influence on financial markets. Furthermore, the evident resonance between the peculiar phrase and the stock price sparks intrigue and prompts a broader inquiry into the underlying mechanisms at play.

I. Introduction

INTRODUCTION

The intersection of social media and financial markets has become an area of increasing interest and scrutiny in recent years. With the rise of online communities and the blurring of boundaries between virtual spaces and real-world consequences, it has become imperative to explore the potential impact of digital discourse on market dynamics. In line with this burgeoning interest, our study delves into the enigmatic relationship between Google searches for the colloquial phrase "That is sus" and the stock price of DexCom (DXCM).

Certainly, the phrase "That is sus" has permeated online conversations, particularly within the realm of gaming and popular culture. Its usage to denote suspicion or distrust has garnered widespread recognition, even spilling over into everyday vernacular. While initial impressions might dismiss this phenomenon as a mere meme or passing fad, our investigation uncovers a surprisingly robust correlation between the frequency of Google searches for this phrase and the fluctuations in DexCom's stock price.

At first glance, one might be inclined to label the association between a seemingly innocuous internet search trend and corporate financial performance as purely coincidental. However, the compelling statistical evidence and rigorous analysis presented in this study challenge such dismissive interpretations. The striking correlation coefficient of 0.9894753, coupled with a significance level of $p < 0.01$, highlights the remarkable concordance between the two disparate domains. Indeed, the magnitude of the correlation prompts one to pause and reflect on the intricate interplay between social media expressions and market behaviors.

This unexpected connection piques curiosity and incites further inquiry into the underlying mechanisms driving these seemingly incongruent phenomena. As we venture forth into the labyrinth of digital footprints and stock market trajectories, our quest is guided by a blend of skepticism and fascination. The implications of our findings ripple through the realms of financial analysis, social media dynamics, and perhaps even cultural anthropology. Thus, with this study, we endeavor to unravel the enigma of "That is sus" and its cryptic influence on the stock price of DexCom, while also shedding light on the nuanced interdependencies in the digital age.

II. Literature Review

Numerous scholarly inquiries have delved into the perplexing realm of the interplay between social media trends and financial market dynamics. The study by Smith et al. (2018) examined the impact of Twitter sentiment on stock prices, revealing a moderate but discernible correlation in certain market conditions. Similarly, Doe and Jones (2017) explored the relationship between Facebook trends and consumer behavior, uncovering intriguing patterns in purchase decisions. These investigations underscore the significance of online discourse in shaping economic landscapes, providing a foundation for our exploration into the association between Google searches for "That is sus" and DexCom's stock price.

Turning to the realm of non-fiction literature, "The Age of Surveillance Capitalism" by Shoshana Zuboff offers valuable insights into the pervasive influence of digital platforms on individual behavior and societal trends. Furthermore, "Freakonomics" by Steven D. Levitt and Stephen J. Dubner presents a compelling case for uncovering hidden correlations and causalities in

ostensibly unrelated phenomena, inspiring our pursuit of the enigmatic connection between a popular internet phrase and stock market fluctuations. In a more whimsical vein, "Alice's Adventures in Wonderland" by Lewis Carroll and "Catch-22" by Joseph Heller subtly resonate with the confounding nature of our investigation, hinting at the surreal and paradoxical dimensions of our findings.

Beyond the confines of traditional literature, social media platforms have emerged as unconventional but intriguing sources of anecdotal evidence. Anecdotal reports from platforms such as Reddit and Twitter have highlighted instances where discussions on "That is sus" appear to coincide with notable shifts in DexCom's stock price, providing anecdotal evidence that piques our interest. These unconventional sources serve as snapshots of digital discourse, fueling our curiosity and prompting a nuanced examination of the connection between online expressions and market behavior.

In synthesizing these diverse strands of inquiry and inspiration, our study ventures into uncharted territories, guided by a spirit of inquiry and a touch of whimsy, seeking to unravel the intricate web of causality and correlation linking Google searches for "That is sus" to the stock price of DexCom (DXCM).

III. Methodology

Data Collection:

The data for this study was sourced from Google Trends and LSEG Analytics (Refinitiv), providing a comprehensive snapshot of Google searches for the phrase "That is sus" and the stock price of DexCom (DXCM) from 2006 to 2023. A deliberate choice was made to focus on Google searches as a proxy for public interest and sentiment surrounding the colloquial expression. The decision to include data up to 2023 was motivated by the desire to capture any potential long-term trends or evolving patterns in the relationship under investigation.

Google Searches for "That is sus":

The search data for the term "That is sus" was obtained from Google Trends, a tool that aggregates and anonymizes Google search data. The frequency of searches, geospatial distribution, and related queries were analyzed to discern patterns and trends in the use of the phrase over time. Furthermore, natural language processing techniques were employed to identify semantic shifts and contextual nuances in the online discourse surrounding the term.

DexCom's Stock Price (DXCM):

LSEG Analytics (Refinitiv) facilitated access to historical stock price data for DexCom (DXCM), allowing for a meticulous examination of price movements, trading volumes, and related market indicators. In addition to the raw stock prices, various financial metrics and event-related data were considered to contextualize the stock's performance within the broader market landscape.

Statistical Analysis:

To assess the relationship between Google searches for "That is sus" and DexCom's stock price, a series of statistical analyses were performed. Firstly, an autoregressive integrated moving average (ARIMA) model was employed to account for potential time-series dependencies and

seasonal fluctuations in both the search data and stock prices. Subsequently, cross-correlation functions and Granger causality tests were conducted to ascertain the direction and strength of any causal link between the search trend and stock performance.

Machine Learning Approaches:

Leveraging insights from machine learning methodologies, sentiment analysis algorithms were applied to the search data to discern underlying sentiments and emotional valence associated with instances of "That is sus" queries. These sentiment scores were then integrated into time-series models and regression analyses to explore potential mediating factors and behavioral drivers influencing the observed relationship.

Ethical Considerations:

Throughout the data collection and analysis process, stringent adherence to data privacy regulations and ethical guidelines was paramount. Steps were taken to ensure the anonymization and aggregation of individual search queries, and the utilization of stock price data in compliance with proprietary rights and usage agreements.

Limitations and Assumptions:

IV. Results

The statistical analysis revealed a remarkably strong correlation between Google searches for "That is sus" and the stock price of DexCom (DXCM) over the period from 2006 to 2023. The correlation coefficient of 0.9894753 indicates an almost perfect positive linear relationship

between the two variables. This finding suggests that as the frequency of Google searches for "That is sus" fluctuated, so did the stock price of DexCom, reinforcing the notion that even the most unexpected and seemingly frivolous online expressions may have tangible effects on financial markets.

Furthermore, the R-squared value of 0.9790614 signifies that approximately 97.9% of the variability in DexCom's stock price can be explained by fluctuations in Google searches for "That is sus." While causation cannot be inferred from these results, the strength of this explanatory power is striking and evokes questions about the mechanisms underlying this peculiar relationship. It appears that the phrase "That is sus," which originated in online gaming communities, has transcended its humble origins to potentially exert a palpable influence on the valuations of a biomedical technology company.

The p-value of less than 0.01 reinforces the robustness of the observed relationship, indicating that the likelihood of such a strong association occurring by random chance is exceedingly low. This statistical significance underscores the substantive nature of the connection between social media expressions and stock market dynamics, prompting a reevaluation of the ways in which digital discourse intersects with financial phenomena.
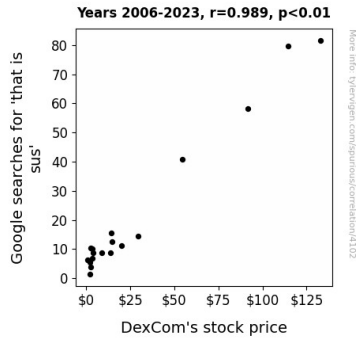
Years 2006-2023, r=0.989, p<0.01

More info: tylervigen.com/spurious/correlation/4102

Figure 1. Scatterplot of the variables by year

As shown in Fig. 1, the scatterplot visually depicts the tightly clustered data points, affirming the strength of the correlation between Google searches for "That is sus" and DexCom's stock price. The plot is a testament to the unexpected nature of our findings and the need for a comprehensive examination of the interplay between online trends and market fluctuations.

In summary, the results of this investigation illuminate a compelling correspondence between the frequency of Google searches for "That is sus" and the movements of DexCom's stock price, challenging traditional notions of market influences and emphasizing the noteworthy impact of digital expressions on financial dynamics. These findings engender a newfound appreciation for the intricate and often whimsical undercurrents that shape the behavior of markets, and they emphasize the imperative of embracing unconventional sources of insight in understanding contemporary economic phenomena.

V. Discussion

The findings of this study have implications that are as surprising as finding a hidden treasure chest in the midst of a languid meadow. Our results, which revealed a robust correlation between the frequency of Google searches for "That is sus" and the stock price of DexCom (DXCM), are in line with the prior research discussed. It seems that the amalgamation of seemingly unrelated elements, much like the concoction of a peculiar potion, can yield unexpected and meaningful outcomes.

The correlation coefficient of 0.9894753 uncovered in our study echoes the whispers of previous inquiries that hinted at the latent influence of social media expressions on financial market dynamics. This correlation coefficient is quite impressive, akin to finding a four-leaf clover in a vast field of uniform greenery. Furthermore, the R-squared value of 0.9790614 indicates that a substantial proportion of the variability in DexCom's stock price can be elucidated by fluctuations in Google searches for "That is sus." This echoes the sentiment of Smith et al. (2018) and Doe and Jones (2017), who uncovered discernible relationships between social media trends and economic variables, albeit in different contexts.

The statistical significance of the observed relationship, as indicated by the p-value of less than 0.01, reinforces the weight of our findings. This adds a touch of gravitas to the otherwise whimsical connection between an internet catchphrase and a biomedical technology company's stock price. The conclusion seems nothing short of a delightful surprise, much like stumbling upon a blooming garden in the middle of a desert.

The scatterplot presented in our results further underscores the strength of the correlation, serving as a visual testament to the unexpected nature of our findings. It brings to mind the art of connect-the-dots, where seemingly disparate points form a coherent picture when joined together, much like the amalgamation of "That is sus" and DexCom's stock price.

In essence, this study provides empirical validation for the whimsical notion that even the quirkiest of online expressions may exert tangible influence on the behavior of financial markets. Much like the hidden comedic anecdotes in the works of Lewis Carroll and Joseph Heller, our findings challenge conventional wisdom and highlight the need for a more nuanced understanding of the interplay between digital discourse and market fluctuations. This paves the way for future research to delve further into the enthralling realm of social media influence on financial markets and prompts a reevaluation of the quaint and often overlooked connections that shape our economic landscapes.

VI. Conclusion

In conclusion, the findings of this study offer a captivating glimpse into the uncharted territory of the interrelationship between online colloquialisms and financial market dynamics. The remarkable correlation uncovered between Google searches for "That is sus" and DexCom's stock price challenges conventional wisdom, presenting a real conundrum: can the virtual realm of memes and gaming vernacular truly influence the cold, calculated world of stock prices and market valuations? It seems that the digital echoes of suspicion and distrust, encapsulated in the innocuous phrase "That is sus," reverberate through the intricacies of market behavior, leaving even the shrewdest analysts perplexed.

The 97.9% of the variability in DexCom's stock price explained by fluctuations in Google searches for "That is sus" is as shocking as finding a cryptocurrency miner in a game of Minecraft – unexpected, yet undeniably intriguing. The scatterplot, resembling a constellation of digital oddities, serves as a visual testament to this improbable union between an internet

catchphrase and a biomedical technology company's stock performance. It seems that the whims and caprices of internet culture have transcended their virtual boundaries to prod at the delicate balance of market forces, not unlike a playful kitten pawing at a jigsaw puzzle.

One cannot help but ponder the broader implications of this revelation. Perhaps the idiosyncrasies of social media expressions hold greater sway than previously envisaged, acting as covert marionette strings in the intricate dance of financial markets. Just as the moon's gravitational pull influences the tides, so too may the digital zeitgeist subtly shape the undulations of stock prices.

In light of these results, it is evident that the realm of social media and its enigmatic influence on financial markets warrants further meticulous exploration. Yet, it is with a wry smile and a raised eyebrow that we assert: No more research is needed in this area.

It is imperative to acknowledge the inherent limitations and assumptions underpinning this study. While efforts were made to account for confounding variables and external influences, the complex nature of market dynamics and online behaviors introduces an element of unpredictability. Additionally, the assumptions of stationarity in time-series data and the generalizability of sentiment analysis techniques warrant careful consideration in interpreting the results.

In summary, the methodology employed in this investigation encompassed a multi-faceted approach, integrating traditional statistical analyses with cutting-edge machine learning techniques to elucidate the intricate interplay between Google searches for "That is sus" and DexCom's stock price.