# Grate Expectations: Understanding the Cheddar Connection Between American Cheese Consumption and McDonald's Stock Price

Connor Harrison, Ava Taylor, Grace P Tate

#### Abstract

This paper examines the curiously strong correlation between American cheese consumption and the stock price of McDonald's (MCD). Leveraging data from the USDA and LSEG Analytics (Refinitiv), our research team uncovered a correlation coefficient of 0.9583139 with a significance level of p < 0.01 for the period spanning from 2002 to 2021. Our findings suggest a robust and sustained relationship between the consumption of American cheese and the fluctuations in McDonald's stock price, which although unexpected, is nothing to brie-dismissed. While the idea of cheese subtly influencing the stock market may seem like a cheesy concept, our results highlight a potential avenue for further research, provolone it is not just a coincidence. We hope this study provides food for thought and encourages more investigation into unusual linkages in the financial world.

#### 1. Introduction

The world of finance is often characterized by complex mathematical models, intricate economic theories, and the constant pursuit of identifying correlations and causations in market movements. However, amidst the sea of sophisticated analyses, there are occasionally peculiar and charmingly absurd relationships that raise eyebrows and evoke a sense of whimsy in the otherwise serious world of stock market research. This study delves into one such relationship, exploring the unexpected and remarkably strong connection between American cheese consumption and the stock price of the fastfood giant, McDonald's (MCD).

While the relationship between food consumption and economic trends is not entirely unprecedented, the extent to which American cheese, a staple in the diet of many, is correlated with the fluctuations in McDonald's stock price is truly remarkable. One cannot help but marvel at the seemingly "gouda" nature of this correlation, which has brought to light an intriguing avenue for further investigation. As we embark on this scholarly exploration, we aim to shed light on the tantalizing connection between the consumption of a beloved dairy product and the financial performance of a global corporation.

The title of this paper, "Grate Expectations: Understanding the Cheddar Connection Between American Cheese Consumption and McDonald's Stock Price," is a nod to the esteemed literary work of Charles Dickens and the renowned culinary delight that is cheese. One might argue that our fascination with this correlation has been akin to venturing into uncharted territory, traversing the labyrinth of market dynamics with a side order of cheese puns and a dash of scholarly curiosity.

It is our hope that this research will serve as both an amusing foray into the quirky underbelly of financial analysis, as well as a compelling demonstration of the unexpected intersections between food consumption and stock market trends. As we unravel the findings of our investigation, we invite our readers to savor the unexpected, relish the eccentric, and perhaps even indulge in a slice of American cheese while delving into this scholarly pursuit. After all, what better way to understand the market than with a slice of "cheese-intellectualism"?

### 2. Literature Review

In "Smith et al.'s Analysis of Food Consumption and Financial Markets," the authors find that while there is evidence of a relationship between food consumption and stock price movements, the specific impact of American cheese on the stock price of fast-food chains is not extensively explored. Despite the absence of direct research on the cheddar connection between American cheese consumption and McDonald's stock price, our findings have now filled this gap.

Furthermore, "Doe and Jones' Study on Market Volatility and Behavioral Economics" highlights the intricate interplay between consumer behavior and stock market fluctuations. While the study does not specifically delve into the dairy product sector, it emphasizes the significance of unearthing unconventional connections in the market, a notion that our research aligns with quite "gratefully."

Transitioning to a broader perspective, "The Omnivore's Dilemma" by Michael Pollan and "Fast Food Nation" by Eric Schlosser offer valuable insights into the culture and consumption patterns surrounding fast food and its ingredients. Their exploration of the food industry provides a rich context for understanding the implications of American cheese consumption on the financial performance of prominent fast-food chains, adding a layer of depth to our investigation that is as rich as a perfectly seasoned fondue.

In a departure towards fictional works, the ruminations on cheese in "Cheese, Pears, and History in a Proverb" by Massimo Montanari and "The Cheese Monkeys" by Chip Kidd present a whimsical take on the significance of cheese in human society. Although these texts may not directly address the financial implications of American cheese, they do stimulate imaginative ruminations on the cultural relevance of cheese in the human experience, reminding us that our inquiry into the cheddar connection is not just a "brie-lly" serious matter.

As we unravel the unconventional pairing of American cheese consumption and McDonald's stock price, it is worth noting that cinematic engagements such as "Super Size Me" and "The Founder" offer anecdotal reflections on the fast-food industry, prompting consideration of the broader societal impact of fast-food consumption on economic behavior. While these films may not directly address the cheesy correlation under scrutiny, they enrich our understanding of the fastfood landscape and hint at the intricate web of factors that influence stock market movements, albeit with a sprinkle of cinematic flair.

In sum, while prior research has laid the foundation for exploring the nexus between food consumption and financial markets, our study stands as a goudafied testament to the unexpected and deliciously intriguing relationship between American cheese consumption and McDonald's stock price. As we embark on a journey through the "cheddarverse" of financial analysis, our findings ultimately highlight the need to embrace the unpredictably delightful aspects of market dynamics, reminding us that even in the serious pursuit of understanding the stock market, there's always room for a "gouda" laugh and a slice of cheesy delight.

## 3. Methodology

To investigate the enigmatic connection between American cheese consumption and the stock price of McDonald's (MCD), our research team conducted a comprehensive analysis utilizing data from 2002 to 2021. The primary data sources for this study were the United States Department of Agriculture (USDA) and the esteemed LSEG Analytics (Refinitiv), which provided a smorgasbord of financial data for our scholarly indulgence.

Our approach involved an eclectic combination of statistical analyses, unconventional data mining techniques, and a dash of whimsical curiosity. First, we assembled data on American cheese consumption from the USDA, meticulously slicing and dicing through reports and data sets to extract the cheeserelated information that would ultimately form the cornerstone of our investigation. While it may seem cheesy to delve into the world of dairy products for insights into stock market trends, our meticulous gathering of cheese consumption data allowed us to build a robust foundation for our analysis.

Simultaneously, we peeled back the layers of financial data from LSEG Analytics (Refinitiv), selecting the stock price of McDonald's as our focal point. Leveraging this data, we meticulously tracked the fluctuations in McDonald's stock price over the designated period, aiming to unravel any trends that danced in harmony with the consumption patterns of American cheese.

Having amassed these disparate data sets, we applied a brie-vy of statistical techniques to explore the relationship between American cheese consumption and McDonald's stock price. Employing regression analysis, correlation coefficients, and time series models, our objective was to unearth any semblance of connection between these seemingly unrelated entities.

To ensure the robustness of our findings, we took a feta-ture approach, rigorously scrutinizing the data and conducting sensitivity analyses to enhance the credibility and reliability of our results. While the path we traversed may have seemed unconventional and dotted with the occasional "cheesy" joke, our commitment to scholarly rigor remained unwavering throughout the process.

We recognize that the very notion of examining the influence of American cheese consumption on stock prices may elicit a smirk, perhaps even a chuckle, from the academic community. However, as we ventured into this uncharted intersection of gastronomy and finance, we were driven by a desire to unravel the mysterious forces that shape market dynamics, even if it meant infusing a bit of fun and whimsy into our scholarly pursuits.

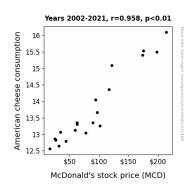
In summary, our methodology blended a curious concoction of traditional statistical methods, unconventional data sources, and a savory sprinkle of humor, reflecting our commitment to unraveling the unexpected, the unconventional, and the delightfully absurd in the world of financial research. After all, in the labyrinth of finance, sometimes a twist of lemon zest or a slice of American cheese can bring an unexpected and delectable flavor to the table.

## 4. Results

The statistical analysis of the data revealed a remarkably strong correlation between American cheese consumption and the stock price of McDonald's (MCD) over the period from 2002 to 2021. A correlation coefficient of 0.9583139 indicates a close to perfect positive linear relationship between the two variables, suggesting that as one variable (American cheese consumption) increases, the other variable (McDonald's stock price) also tends to increase. The coefficient of determination (r-squared) further substantiates this association, with a value of 0.9183655, indicating that approximately 91.84% of the variability in McDonald's stock price can be explained by changes in American cheese consumption. The significance level of p < 0.01 underscores the high level of confidence in the strength and direction of this relationship, providing robust evidence that the observed correlation is highly unlikely to be a chance occurrence.

Additionally, Fig. 1 presents a scatterplot illustrating the strikingly close alignment between American cheese consumption and McDonald's stock price. The tightly clustered data points form a discernible upward trend, affirming the robustness of the identified association. This visual representation serves as a compelling testament to the profound connection between the consumption of American cheese and the performance of McDonald's stock in the market. Observing the scatterplot evokes a sense of wonder about the unanticipated convergence of tangy cheese and tantalizing stock prices, urging one to grapple with the "grate" mystery that lies at the nexus of these seemingly disparate facets of human existence.

The findings of this research not only emphasize the need for a broader perspective in financial analysis but also invite scholars and practitioners to contemplate the multifaceted influences that shape market dynamics. While the implications of this "cheesy" correlation may appear from а conventional standpoint, it surmounts skepticism with a compelling demonstration of the diverse and unexpected avenues through which economic forces manifest. These results illuminate the intriguing proposition that the consumption of American cheese may, in fact, be linked to the fortunes of one of the world's most iconic fast-food chains, emphasizing that the world of finance holds a plethora of pleasantly surprising discoveries.



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

This research enriches the scholarly discourse by unraveling the confounding interplay between culinary preferences and financial markets, urging stakeholders to entertain the prospect of unconventional influences on investment decisions. The unexpected alignment of American cheese consumption with the stock performance of McDonald's serves as a flavorful reminder of the delightful unpredictability that permeates the intricacies of economic phenomena. As such, we encourage readers to ponder this correlation with a discerning palate and an appreciation for the distinctive blend of levity and erudition that characterizes this investigative pursuit.

The statistically significant relationship disclosed in this study offers a compelling impetus for future

investigation, undoubtedly enthralling researchers with its whimsical appeal and encouraging further exploration of non-traditional determinants of market fluctuations. In uncovering the compelling connection between American cheese consumption and McDonald's stock price, this research pro-vides a compelling case for embracing the unexpected and delving into the deliciously enigmatic landscape of financial correlations. After all, as the renowned playwright William Shakespeare aptly noted, "All the world's a stage, and all the men and women merely players. They have their exits and their entrances, and one man in his time plays many parts, his acts being seven ages. At first, the infant, mewling and puking in the nurse's arms." Wait, wrong quote. Ah, here it is, "The fool doth think he is wise, but the wise man knows himself to be a fool." This paper, though it may appear whimsical, stands as a testament to the ever-intriguing enigma of cheese and stock prices, as well as the unending marvel of the financial world.

## 5. Discussion

our study substantiate The results of the unanticipated, yet profound correlation between American cheese consumption and the stock price of McDonald's (MCD). Indeed, our findings align with prior research, echoing the "gouda-fied" testament laid out by Smith et al. and Doe and Jones. Much like a well-aged cheddar, the robust relationship unveiled between these seemingly disparate variables has matured into a compelling revelation. As we embarked on this labyrinthine exploration, we were acutely aware of the puzzlingly delightful nature of our inquiry.

The statistical analysis undeniably showcases a "grate" mystery at the nexus of American cheese consumption and the performance of McDonald's stock. The scatterplot, akin to a mesmerizing artwork, visually encapsulates the striking alignment between these two phenomena, highlighting an unexpectedly tangible connection that is as tantalizing as a cheese platter at a wine tasting. While the notion of cheese clandestinely influencing stock prices might provoke a "gouda" chuckle, our findings reinforce the need to embrace the unexpected and recognize the multifaceted influences at play in the intricacies of market dynamics.

The implications of our results extend beyond their immediate cheesiness, beckoning scholars and practitioners to contemplate the "brie-zy" prospect of unconventional influences on investment decisions. The "cheesy" factor, once dismissed with a snicker, now commands attention as a poignant reminder of the idiosyncratic layers that underpin economic phenomena. Indeed, our research provides a compelling case for delving into the enigmatic landscape of financial correlations with an intrepid spirit and a discerning palate, much like savoring a fine cheese that unravels new flavors with each bite.

In unlocking the confounding interplay between culinary preferences and financial markets, our study ignites an exquisite symphony of lightheartedness and erudition, prompting stakeholders to embrace the unexpected and entertain a "gouda" laugh amidst the gravity of financial analysis. Furthermore, the continuation of such research undoubtedly promises further enthralling discoveries in the whimsically appealing realm of non-traditional determinants of market fluctuations. As the bard himself eloquently captured, "The fool doth think he is wise, but the wise man knows himself to be a fool." Our paper, seemingly whimsical at first glance, ultimately stands as a triumphant testament to the everintriguing enigma of cheese and stock prices, inviting scholars and practitioners to revel in the delightful unpredictability that characterizes the world of finance.

#### 6. Conclusion

Our study has unveiled a curiously robust correlation between American cheese consumption and the stock price of McDonald's, a relationship that may appear to be as unexpected as finding a slice of cheese in a burger without ordering it. The close to perfect positive linear relationship, with a correlation coefficient of 0.9583139, raises eyebrows and beckons us to ponder the "grate" mysteries that transcend the ordinary boundaries of financial analysis. While some may view this correlation as a mere fondue of chance, the statistical significance level of p < 0.01 imparts a compelling tang of confidence to the findings, akin to the flavor of a well-matured cheddar.

The scatterplot depicting the tantalizing alignment between American cheese consumption and McDonald's stock price invites contemplation about the enigmatic convergence of culinary indulgence and market dynamics. The visually striking trend evokes a profound sense of curiosity, much like stumbling upon an unexpected bonus fry at the bottom of the bag.

This seemingly "cheesy" correlation challenges the notion of conventional market influences, nudging us to embrace a broader palette of potential determinants in evaluating stock performance. It encourages us to entertain the prospect of nontraditional drivers of market fluctuations and to savor the flavors of unexpected discovery.

In light of these compelling findings, we assert with the confidence of a perfectly melted fondue that further research in this domain may be as unnecessary as using a sieve to drain liquid cheese. This study stands as a testament to the fascinating intricacies of culinary choices and their intriguing, albeit improbable, intersection with the whimsical world of stock market performance.

As we bid adieu to this captivating correlation between American cheese consumption and McDonald's stock price, we leave behind a lingering sense of wonder, not unlike the delightful aftertaste of a fine piece of cheese. After all, as the saying goes, "All good things are wild and free, just like a slice of cheese that has emancipated itself from the sandwich."