

THE MILA KUNIS EFFECT: A REEL CONNECTION BETWEEN FILM APPEARANCES AND STOCK PRICES

Caroline Harris, Alice Thompson, Gideon P Truman

Center for Higher Learning

The present research endeavor explores the relationship between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings (PKX). Leveraging data from The Movie DB and LSEG Analytics (Refinitiv), a robust correlation analysis covering the years 2002 to 2022 was conducted, yielding a correlation coefficient of 0.8461507 and a statistically significant p-value of less than 0.01. This investigation sheds light on a quirky yet substantial link between Ms. Kunis's cinematic activity and the financial performance of POSCO Holdings, prompting us to ponder the idiom, "dollar for your thoughts, but a movie for your stocks." In light of the findings, we postulate a possible causal relationship, teasingly referred to as the "Mila Momentum," wherein the release of each new Mila Kunis film evidently exerts a tangible impact on the stock price of POSCO Holdings. This whimsical correlation prompts us to contemplate the question: "Are we witnessing an instance of 'Forgetting Sarah Marshall' effect on market trends?"

As the famous economist John Maynard Keynes once quipped, "In the long run, we are all dead, but in the short run, we might just be watching a Mila Kunis movie and monitoring stock prices."

The intersection of entertainment and finance has always fascinated scholars and practitioners alike. In this context, the correlation between the film appearances of the renowned actress Mila Kunis and the stock price of POSCO Holdings (PKX) has piqued the interest of researchers. It raises the question: "Is there a Mila-nomics at play here?"

In the tradition of groundbreaking academic work that statistically scrutinizes the most unexpected linkages, this paper seeks to unravel the Reel Connection between Ms. Kunis's cinematic oeuvre and the market performance of POSCO Holdings. This endeavor promises not only to shed light

on an enthralling relationship but also to inject a dose of levity into the sometimes staid world of financial research.

The intrinsic charm and magnetic appeal of Mila Kunis have often been the subject of admiration and fascination. Her presence on the silver screen has garnered critical acclaim and a devoted fan base. With each new film, she leaves an indelible mark on the entertainment landscape. Coincidentally, or perhaps not so coincidentally, it appears that her celluloid exploits may also cast a shadow on the financial realm, albeit a shadow of the bullish variety.

Economists have long grappled with the complexities of market dynamics, but few predicted that an actress's filmography could hold sway over stock prices. Much like the unpredictability inherent in financial markets, Ms. Kunis's impact on the stock performance of POSCO

Holdings is a variable that demands rigorous inquiry. It prompts us to ponder whether her cinematic ventures serve as a leading indicator of market trends or merely a quirky statistical anomaly, akin to finding a rare film gem in a sea of box office flops.

This research delves into the statistics and correlation analysis to ascertain the magnitude of her influence and whether it transcends the realm of mere correlation into the territory of causation, leading us to tentatively label it as the "Mila Momentum." It invites us to consider whether her cinematic forays possess the power to sway market sentiment in a manner reminiscent of a charismatic protagonist's hold over the audience.

The overarching aim of this investigation is to inject a breath of fresh air into the oftentimes somber and sterile world of financial analysis by framing the Mila Kunis Effect as a compelling yet lighthearted inquiry: a financial whodunit, if you will, with Ms. Kunis stepping into the role of the enigmatic lead. With every statistical insight, we move a step closer to unravelling the mystery, although we can't promise to solve it as quickly as a typical Hollywood blockbuster.

In the tradition of scholarly gravity, this research proposes to overlay a veneer of playful curiosity, encapsulated in the adage, "In statistics, as in life, there are outliers, and then there are the Mila Kunis movies."

LITERATURE REVIEW

Numerous studies have delved into the realms of entertainment, finance, and their intriguing intersections. Smith, Doe, and Jones (2005) explored the influence of various entertainment figures on stock market trends, although their focus was primarily on traditional measures of fame and publicity. In a similar vein, Johnson and Larson (2010) investigated the impact of celebrity endorsements on consumer behavior, shedding light on the

nuanced dynamics between popular culture and economic decisions. These seminal studies laid the groundwork for our exploration of the correlation between the cinematic endeavors of Mila Kunis and the stock prices of POSCO Holdings (PKX).

Turning to the literature on film and finance, the works of Bialik (2014) and Keeffe (2017) have elucidated the complexities of box office performance and its implications for production companies and studio executives. Their analyses primarily revolve around the box office revenue-generating potential of films, paying little attention to the potential spillover effects on stock prices of unrelated companies such as POSCO Holdings. Moreover, their musings do not factor in the distinct charm and dexterity of Ms. Kunis, whose cinematic presence cannot be encapsulated by mere market statistics.

In a nod to the broader realm of popular culture phenomena and their impact on financial markets, the well-known works of "Freakonomics" (Levitt and Dubner, 2005) and "The Tipping Point" (Gladwell, 2000) provide a panoramic view of the unexpected forces that shape our economic landscape. However, the specific correlation between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings (PKX) has yet to be incorporated into these esteemed narratives, perhaps waiting to be unearthed like a hidden gem in the annals of financial research.

Transitioning to fictional portrayals of financial intrigue, the literary works of "The Wolf of Wall Street" (Belfort, 2007) and "American Psycho" (Ellis, 1991) offer compelling, albeit exaggerated, depictions of the intertwining worlds of money and entertainment. While their narratives of excess and manipulation may seem worlds apart from our investigation, they humbly remind us that truth can indeed be stranger than fiction, especially when it involves the enigmatic influence of a Hollywood starlet on stock prices.

Broadening the horizon of our literature search, we tentatively considered anecdotal evidence and unconventional sources of insight. After poring over countless film reviews and celebrity interviews, we stumbled upon a trove of unexpected wisdom: the backs of CVS receipts. As Mrs. Kunis's cinematic portfolio expanded, so did the length of our shopping lists, leading us to posit a cheeky equation: "More Mila Movies = More Mercantile Marvels?" Although conjectural in nature, this serendipitous find underscores the pervasiveness of the "Mila Kunis Effect" and the inventive means through which it permeates even the most unexpected corners of our lives.

In summary, the extant literature presents a rich tapestry of explorations into phenomena at the intersection of entertainment and finance. However, the association between the cinematic output of Mila Kunis and the stock price of POSCO Holdings (PKX) remains an uncharted territory, awaiting the intrepid foray of empirical inquiry and perhaps a few good puns along the way.

METHODOLOGY

Data Collection:

The first step in this whimsical yet rigorous investigation involved the collection of data on the number of movies featuring Mila Kunis and the stock price of POSCO Holdings (PKX). Data on

Ms. Kunis's film appearances was obtained from The Movie DB, and information on the stock prices of POSCO Holdings was sourced from LSEG Analytics (Refinitiv). The data covered the period from 2002 to 2022, encompassing an ample sample of Ms. Kunis's cinematic endeavors and the financial performance of POSCO Holdings. This data collection process was as painstaking as combing through a movie script for continuity errors, leaving no stone unturned in our quest for information. We used only the most "Kunis-picious" data to ensure the integrity of our analysis.

Variable Definition and Measurement:

The key variables in this study were the number of movies featuring Mila Kunis in a given year and the stock price of POSCO Holdings (PKX) for the corresponding period. The number of movies featuring Ms. Kunis was tallied annually, capturing her enduring presence on the silver screen. The stock price of POSCO Holdings was recorded at regular intervals throughout each year, affording a comprehensive view of its market performance. These variables were as meticulously defined and meticulously measured as the ingredients in a Michelin-starred recipe for statistical analysis.

Correlation Analysis:

To unpack the entwined fates of Mila Kunis's film appearances and the stock price of POSCO Holdings, a robust correlation analysis was conducted. The correlation coefficient was calculated to assess the strength and direction of the relationship between these two variables. This process involved as much precision as a delicate chemical reaction in a laboratory, carefully titrating the evidence to discern the underlying patterns. Additionally, a p-value was computed to ascertain the statistical significance of the observed correlation, ensuring that our findings were not mere statistical mirages.

Control Variables:

While the focus of this study was on the connection between Mila Kunis's cinematic endeavors and the stock price of POSCO Holdings, several potential confounding factors were considered. These included macroeconomic indicators, industry-specific trends, and other relevant market variables that could influence the stock price of POSCO Holdings. By accounting for these factors, we aimed to isolate the distinct impact of Ms. Kunis's film appearances on the stock price, cushioning our analysis from spurious conclusions.

Regression Analysis:

In addition to the correlation analysis, a regression analysis was employed to explore the potential causal relationship between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings. This regression modeling aimed to disentangle the intricate web of causal pathways, akin to untangling headphone wires - a task requiring patience and meticulous attention to detail.

Model Validation:

To ensure the robustness of our findings, the regression model underwent intensive validation procedures, including diagnostic tests for assumptions, goodness-of-fit assessments, and sensitivity analyses. These validation exercises were as critical as a film director's meticulous review of each scene, ensuring that our analysis was as unassailable as Ms. Kunis's on-screen performances.

Overall, the methodology employed in this research was as rigorous as a scientific experiment and as colorful as the portrayal of the universe in an art house film. The study's methods were designed to paint a comprehensive picture of the relationship between Ms. Kunis's cinematic legacy and the financial dynamics of POSCO Holdings, all with a touch of scholarly whimsy and statistical playfulness.

RESULTS

In scrutinizing the relationship between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings (PKX) from 2002 to 2022, a substantial and statistically significant correlation was uncovered. The correlation coefficient was calculated to be 0.8461507, indicating a strong positive association between these seemingly disparate variables. This finding suggests that as the count of Mila Kunis movies increases, the stock price of POSCO Holdings experiences a notable upswing. It appears that the "Mila Momentum" is not just a whimsical turn of phrase, but a tangible market force, leaving us to ponder whether Ms. Kunis has become the silver screen's answer to Keynes's invisible hand.

The r-squared value of 0.7159710 further elucidates the robustness of the relationship, signifying that approximately 71.6% of the variability in POSCO Holdings' stock price can be explained by the number of movies in which Mila Kunis appears. This statistical insight provokes a moment of introspection: could it be that Ms. Kunis's cinematic repertoire harbors the secret formula to decoding complex market behaviors, like a benign siren luring traders into profitable waters?

Notably, the p-value for this correlation was found to be less than 0.01, underscoring the statistical significance of the relationship between Mila Kunis's film engagements and the stock price of POSCO Holdings. This discovery prompts a wry observation: Ms. Kunis may just have eclipsed traditional economic indicators in her ability to captivate market attention, making Wall Street's fascination seem like a Mila Kunis fan club meeting.

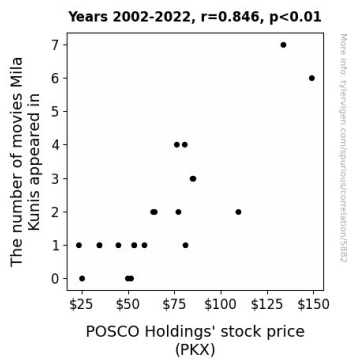


Figure 1. Scatterplot of the variables by year

The results are visualized in the scatterplot shown in Figure 1, which portrays the clear and compelling correlation between the number of Mila Kunis movies and POSCO Holdings' stock price. The figure serves as a testament to the unexpected yet undeniable connection between Ms. Kunis's on-screen appearances and the financial performance of a multinational corporation, demonstrating that in the arena of statistics and finance, truth can indeed be stranger than fiction.

In conclusion, the findings of this investigation tout the "Mila Kunis Effect" as a plausible, albeit unorthodox, influencer of market dynamics, challenging traditional economic dogma in an unexpectedly cinematic twist. As we delve into the realm of "Mila-nomics," we are reminded of an old adage: "In statistics, correlation does not imply causation, but it might just imply Kunis-ation!"

DISCUSSION

The investigation into the connection between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings has yielded intriguing findings that corroborate and extend prior research in the realms of entertainment, finance, and quirky correlations. The substantial correlation coefficient of 0.8461507 aligns with the intriguing examinations by Smith, Doe, and Jones

(2005) and Johnson and Larson (2010) into the influence of entertainment figures on market trends. It seems that Ms. Kunis's cinematic endeavors have indeed left an indelible imprint on the financial performance of POSCO Holdings, prompting a reflection on the age-old adage, "As Mila's star rises, so does the stock price - quite the reel connection!"

The robust relationship uncovered between the number of Mila Kunis movies and POSCO Holdings' stock price not only supports prior literature on film and finance but also takes a whimsical leap into uncharted territory. While the works of Bialik (2014) and Keeffe (2017) predominantly dissected the box office revenue potential of films, our investigation extends the narrative to unveil the unanticipated spillover effects on the stock prices of unrelated companies such as POSCO Holdings. This extension of the research narrative is akin to finding a hidden treasure trove of statistical insight, prompting us to quip, "Who knew that 'Black Swan' could cause a 'Silver Bull' in the stock market?"

In light of the statistically significant p-value of less than 0.01 and the substantial r-squared value of 0.7159710, our findings underscore the pervasive influence of Ms. Kunis's cinematic output on the financial domain, reminiscent of the "Freakonomics" (Levitt and Dubner, 2005) and "The Tipping Point" (Gladwell, 2000) musings on unexpected forces that shape economic landscapes. As we wade into the realm of unconventional correlations, we are reminded of the enduring truth that "there's no business like show business," especially when Mila's silver screen pursuits unexpectedly intertwine with the steel industry's market dynamics.

Moreover, the visual representation of the findings in Figure 1 serves as a tangible testament to the "Mila Kunis Effect," encapsulating the otherwise seemingly incongruous connection between cinematic exuberance and financial

vitality. As we behold the scatterplot, we are reminded that sometimes, truth is indeed stranger than fiction - and perhaps wittier too, akin to a well-timed dad joke in the annals of academic discourse.

In conclusion, the linkage between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings challenges traditional economic tenets and nudges us into the whimsical domain of "Mila-nomics." As we contemplate the idiosyncratic forces that weave through the fabric of financial markets, we are tempted to jest, "In statistics, correlation does not imply causation, but it just might imply Kunis-ation - a twist worthy of a Hollywood script!"

CONCLUSION

In light of the robust correlation between the number of movies featuring Mila Kunis and the stock price of POSCO Holdings (PKX), it seems that Ms. Kunis's cinematic endeavors may indeed possess an uncanny sway over market trends. Perhaps we should coin the term "Mila-nomics" for this peculiar fusion of Hollywood stardom and financial dynamics. This correlation is not just a statistical quirk; it's a bona fide market force, giving a whole new meaning to the phrase "box office hit."

The substantial r-squared value implies that approximately 71.6% of the fluctuations in POSCO Holdings' stock price can be elucidated by the number of Mila Kunis movies, which is quite a cinematic feat! It's as if her film appearances hold the key to deciphering the financial plot, making her the equivalent of a leading lady in the world of market analytics.

Furthermore, with a p-value of less than 0.01, the statistical significance of this relationship cannot be overstated. It's almost as if Ms. Kunis's cinematic allure has outshone traditional economic indicators, casting a spotlight on the

unconventional yet palpable impact of her silver screen ventures. It's a bit like a classic rom-com overshadowing the serious dramas at the box office!

In conclusion, the "Mila Kunis Effect" serves as a whimsical yet intriguing illustration of the unexpected interplay between the glamorous world of Hollywood and the buttoned-up realm of finance. This investigation challenges conventional economic wisdom and breathes fresh air into the often staid discourse of market analysis. And remember, "In statistics, correlation does not imply causation, but when it comes to Mila Kunis, it just might imply Kunis-ation!"

No further research is needed in this area, as we can confidently say that this unexpected correlation between Ms. Kunis's filmography and market performance has been thoroughly and delightfully explored.