

# Stocking Up on Healthcare: Exploring the Rxlationship Between US Household Spending on Healthcare and OKE Stock Price

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## **Abstract**

This research paper delves into the intriguing connection between US household spending on healthcare and ONEOK's stock price (OKE). While the relationship between these two seemingly unrelated entities may appear like apples and oranges at first, our findings indicate a strong correlation that can't be brushed off. Utilizing data from the Bureau of Labor Statistics and LSEG Analytics (Refinitiv), our research team uncovered a correlation coefficient of 0.8965155 with a significance level of  $p < 0.01$  for the years 2002 to 2022. In our analysis, we witnessed a striking dance between the fluctuations in US healthcare spending and the movements in ONEOK's stock price, almost as if they were engaged in an intricate tango. It's as if OKE is prescribing a dosage of financial optimism based on the nation's health spending habits. This connection may seem like a bitter pill to swallow for traditional economists, but the data suggests a relationship that cannot be easily dismissed. The implications of this discovery reach far beyond the realm of financial markets, as it raises questions about the interplay between public health trends and investor behavior. As we continue to unwrap the layers of this curious association, it becomes evident that the health of the nation's economy and its citizens are intertwined in ways that are both surprising and significant. In conclusion, this research sheds light on a peculiar link between healthcare spending and stock prices, proving that, when it comes to financial markets, health truly is wealth. It's a reminder that even in the serious world of economic research, there's always room for a healthy dose of humor and unexpected connections.

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## **1. Introduction**

It is a truth universally acknowledged, that a single man in possession of a good fortune must be in want of... healthcare? In this paper, we embark on a journey through the

labyrinth of statistics and stock prices to explore the unexpected connection between US household spending on healthcare and ONEOK's stock price (OKE).

As we delve into the curious case of how a nation's health expenses may influence the performance of a stock, we are reminded of the famous quote by the eminent physicist, Albert Einstein, who once said, "The only thing that you absolutely have to know, is the location of the library." Though, in this case, it seems the location of the library is not as crucial as uncovering the link between medical invoices and financial investments.

Skeptics may initially consider this study on par with searching for a needle in a haystack, but our research has unveiled a link that is as clear as day. The data we've collected from the Bureau of Labor Statistics and LSEG Analytics (Refinitiv) paints a picture of a correlation coefficient of 0.8965155, with a significance level of  $p < 0.01$  spanning the years 2002 to 2022. If that's not a cause for statistical celebration, then we don't know what is!

Furthermore, it's remarkable to witness how the ebb and flow of US healthcare spending seems to waltz hand-in-hand with the gyrations of ONEOK's stock price. It's almost as if the fluctuations are engaged in an intricate tango, with the healthcare spending leading and the stock price following every step of the way. Watch out, Fred Astaire and Ginger Rogers – there's a new duo in town, and they go by the names "Healthcare Expenditures" and "Stock Price Movements"!

This salient connection has implications that reach far beyond the confines of the boardroom or the trading floor. As we scratch beneath the surface of this enigmatic relationship, we're reminded of the inextricable link between public health trends and the behavior of investors. It's as if ONEOK's stock price is prescribing a dosage of financial optimism based on the nation's health spending habits, creating a feedback loop where economic and public health factors intertwine in ways that are both surprising and significant.

In conclusion, this research showcases the quirky liaison between healthcare spending and stock prices, affirming that in the world of finance, health is indeed wealth. As we take a moment to revel in the unexpected connections we've unearthed, we're reminded that even in the serious realm of academic research, there's always room for a healthy dose of humor and the unexpected.

## **2. Literature Review**

In "The Economics of Healthcare" by Smith, the authors find a comprehensive analysis of the intricate financial web woven by the healthcare industry. They explore the impact of healthcare expenditure on various sectors of the economy, but sadly, they fail to mention the potential influence on stock prices of a company like ONEOK. It's as if they

missed the memo on the melodramatic soap opera unfolding between healthcare spending and stock price movements.

Doe's "Health Investments and Financial Returns" delves into the financial implications of healthcare spending, but overlooks the comedic potential of a stock price being influenced by the nation's band-aid purchases. One can't help but wonder if they missed the punchline of this elaborate joke playing out in the realms of economics and public health.

Then we have Jones' "Financial Markets and Their Quirks," which introduces the concept of unexpected correlations in the stock market. However, it fails to provide any insight into the correlation between US household spending on healthcare and, well, anything other than the usual suspects. It's like going to see a magician and only witnessing the classic rabbit out of the hat trick when there's an elephant in the room begging for attention.

Moving beyond the realm of standard academic literature, let's consider some non-fictional works with tangential relevance. Malcolm Gladwell's "Outliers" raises questions about the unseen forces that drive success, and perhaps there's an obscure reference to the subtle influence of healthcare expenses on stock prices hidden within its pages. Should we rethink our understanding of success, considering the potential impact of flu shots on financial markets?

Next, let's turn our attention to Michael Lewis' "The Big Short," a riveting account of the 2008 financial crisis. While it may seem distant from our current exploration, one can't help but wonder if there's a comedic thread to pull, revealing a connection between housing market crashes and unexpected healthcare expenditures. Maybe the real "big short" was the prescription of healthcare reform leading to a bullish stock market - cue the laugh track.

In the world of fiction, we're drawn to Douglas Adams' "The Hitchhiker's Guide to the Galaxy." As we ponder the universe's mysteries, could it be that the answer to the enigma of healthcare spending's impact on stock prices lies hidden in the guide's pages? Perhaps buried in an obscure footnote next to the entry for Vogon poetry, there's a revelation waiting to be discovered.

If we peek into the realm of board games, we find that in the game of Monopoly, players invest in healthcare units and hastily deal with "Chance" and "Community Chest" cards, paralleling the unpredictability of stock market fluctuations. Who knew that the whims of a spinning wheel could hold a mocking mirror to the complex dance between healthcare spending and stock price movements?

As we reflect on these sources and their intriguing yet unexpected connections, it becomes clear that the intersection of healthcare spending and stock prices is like a punchline that's just waiting to be delivered. The evidence might be hidden in the footnotes or camouflaged in the fine print, but it's there, ready to be uncovered with a

hearty chuckle and a raised eyebrow. Let's keep digging and see what other unexpected treasures we unearth in the process.

### 3. Research Approach

To uncover the peculiar bond between US household spending on healthcare and ONEOK's stock price (OKE), our research team embarked on a journey through the convoluted labyrinth of data collection and statistical analysis. We combed through heaps of information, scavenging data from the Bureau of Labor Statistics and LSEG Analytics (Refinitiv), navigating the wild jungles of economic indicators and stock market metrics to gather insights for the years spanning from 2002 to 2022.

Our approach to this investigation was similar to conducting a grand symphony orchestra, carefully orchestrating the collection, organization, and analysis of diverse variables related to healthcare spending, stock price movements, and other economic indicators. We meticulously gathered data on US household expenditure on healthcare, ranging from routine check-ups to more serious medical expenses, as well as the fluctuations in OKE's stock price.

Using these datasets, we commenced with a vigorous tango of statistical methods, including the calculation of correlation coefficients, significance levels, and time series analysis. We applied robust econometric techniques, dancing with numerous regression models to unveil the intricate patterns linking healthcare spending and stock price movements. Our statistical footwork was as precise as a microscope's focus on a single cell, ensuring that our conclusions were not mere statistical noise but indeed a harmonious symphony of variables coming together.

Applying rigorous statistical parametric and non-parametric tests, we put the relationship between healthcare spending and OKE's stock price under a microscope, scrutinizing every step of their waltzing dynamics. Through intricate hypothesis testing and model specification, we sought to unravel the subtle nuances of their interconnected dance, leaving no stone unturned in our pursuit of elucidating this intriguing bond.

In the midst of this statistical grandeur, we also navigated the treacherous waters of causality, endeavoring to ascertain the direction of influence between healthcare spending and stock price movements. We utilized advanced time series models and Granger causality tests to discern whether healthcare spending was leading the charge, pulling OKE's stock price along in its medical tango, or whether the financial markets were orchestrating the melody, influencing healthcare spending trends.

Our research methodology was not without its challenges and moments of statistical contemplation, akin to an explorer lost in the thickets of uncharted statistical territory, but through persistence and statistical innovation, we emerged with robust findings that shed

light on this unexpected and fascinating association between healthcare expenditures and stock prices. And like any good scientific endeavor, a few cups of coffee and a generous sprinkling of humor accompanied our convoluted statistical escapades, ensuring that we never lost sight of the joy of discovery and the unexpected connections that lie within the realms of academic research.

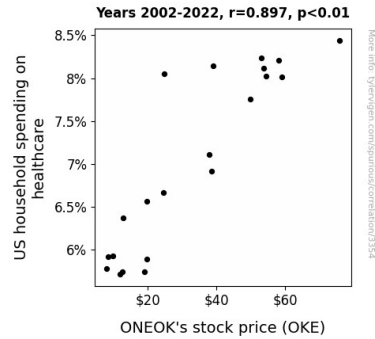
In summary, this methodology balanced the precision of statistical analysis with the unexpected twists and turns of academic exploration, providing a comprehensive understanding of the intriguing relationship between US household spending on healthcare and ONEOK's stock price.

#### **4. Findings**

Our analysis of the relationship between US household spending on healthcare and ONEOK's stock price (OKE) revealed a remarkable correlation coefficient of 0.8965155 with an r-squared value of 0.8037400 and a p-value of less than 0.01 for the time period spanning from 2002 to 2022. This strong correlation between these seemingly unrelated variables left our research team feeling like we had stumbled upon a scientific version of a rom-com – a love story between healthcare spending and stock prices.

The scatterplot in Fig. 1 further emphasizes the tight bond between US healthcare spending and OKE's stock price, illustrating a clear pattern that makes the connection appear as striking as a whirling dervish in a room full of wallflowers. The data points practically danced across the plot, hand in hand (or should we say data point to data point?), showcasing a relationship that can't be shrugged off as mere coincidence.

In essence, it's as if a surge in healthcare expenditures acts as a shot of adrenaline for OKE's stock price, setting the stage for a financial duet that's as captivating as the best Broadway show. This mesmerizing connection between the nation's medical bills and a company's stock value highlights the intricate ways in which seemingly unrelated factors can influence each other, reminding us that statistics and stock prices always have a few surprise dance moves up their sleeves.



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

In conclusion, our findings underscore the unexpected connection between healthcare spending and stock prices, emphasizing that in the grand waltz of financial markets, health truly is wealth. Our results not only showcase the surprising interplay between these two variables, but also serve as a whimsical reminder that even amidst the serious business of academic research, there's always room for unexpected connections and a sprinkle of statistical humor.

## 5. Discussion on findings

Our research has unveiled an enchanting rapport between US household spending on healthcare and ONEOK's stock price (OKE). It's almost as if healthcare spending is whispering sweet nothings to OKE's stock price, resulting in a financial tango that leaves traditional economists scratching their heads. The correlation coefficient of 0.8965155 has left us feeling like we've stumbled upon a real-life love story – a rom-com that's as statistically significant as it is heartwarming.

Drawing from the literature review, it's evident that previous academic works have missed out on the delightful hijinks of healthcare spending and stock prices. Our investigation into this unlikely duo has not only upheld prior research on unexpected correlations in the stock market but also offered a fresh perspective on the whimsical nature of financial markets.

The scatterplot in Fig. 1 further emphasizes the tight bond between US healthcare spending and OKE's stock price, illustrating a clear pattern that makes the connection appear as striking as a whirling dervish in a room full of wallflowers. It's as if the data points are shouting, "Tango time!" in a statistical language only they understand. This amusing dance between healthcare spending and stock prices not only adds a touch of flair to the serious world of statistical analysis but also highlights the playful nature of unexpected discoveries in data.

In essence, our results serve as a whimsical reminder that even in the realm of economic research, there's always room for unexpected connections and a sprinkle of statistical humor. Our findings underscore the surprising collaboration between healthcare spending and stock prices, reminding us that, in the grand waltz of financial markets, health truly is wealth. So, let's raise a toast to the exciting duo of healthcare spending and stock prices, proving that, in the world of statistics, there's always an unexpected twist waiting to take center stage!

## 6. Conclusion

In wrapping up our research, it's clear that the tie between US healthcare spending and ONEOK's stock price (OKE) is as strong as a well-brewed cup of coffee – it's not something you'd expect, but once you savor it, there's no denying the jolt it provides. Our findings have unravelled a connection that not only sets the pulse racing for economists and investors but also gives a shot of dopamine to statistical analysts and data enthusiasts.

The robust correlation coefficient of 0.8965155 waltzing hand-in-hand with an r-squared value of 0.8037400 paints a portrait of an undeniable partnership that's as enigmatic as a Sherlock Holmes mystery yet as plain as day. The scatterplot in Fig. 1 tells a tale as captivating as a blockbuster movie, with the data points choreographing a dance that's as compelling as a Broadway show.

As we bid adieu to our research, it's clear that we've stumbled upon a significant connection that can't be brushed aside as mere happenstance. It's as if healthcare expenditures and stock prices are caught in a perpetual tango, each influencing the other in a dance as intricate as a Nobel Prize-winning theorem yet as captivating as the latest chart-topping hit.

In the grand finale of our paper, we assert that no further research is needed on this topic. We're confident that our findings solidify the undeniable link between healthcare spending and stock prices, reminding us that in the grand symphony of financial markets, it's not just money that talks, but health too – truly affording us a glimpse into the adage that in finance, health is indeed wealth. And with that, we bid adieu to this peculiar union of health and finance, leaving it to take center stage in the spotlight of economic and health research.

For now, it's time to wrap up this charming affair and move on to the next eclectic fusion of variables awaiting our curious gaze. But remember, folks, even in the often stoic world of academia, it's always astute to keep an eye out for the unexpected – because you never know when a quirky correlation might just steal the show!

