

# Shell Shock: The Cracking Connection Between Labor Relations Specialists in Arizona and SHEL Stock Price

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## **Abstract**

This study investigates the curious correlation between the number of labor relations specialists in Arizona, and the stock price of Royal Dutch Shell (SHEL). Through a rigorous analysis of data from the Bureau of Labor Statistics and LSEG Analytics (Refinitiv), we identified a striking correlation coefficient of 0.9051518 and a significant p-value of less than 0.01 for the period spanning 2012 to 2022. The results of our study suggest a strong positive relationship between the number of labor relations specialists in Arizona and the performance of Shell's stock. It seems that the labor relations in the sunny state of Arizona may have a "shell-ebrating" effect on the stock price of the energy giant, Shell. This finding may "shell-prize" many in the financial and labor relations industries and prompt further investigation into the underlying mechanisms at play. In conclusion, our research sheds light on an unexpected and humorous aspect of the connection between labor relations specialists and stock prices, illustrating that even in the world of economics and finance, there is always room for a good dad joke.

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## **1. Introduction**

As the saying goes, "Don't be shellfish, share your findings." In this spirit, our research delves into the fascinating connection between the number of labor relations specialists in Arizona and the stock price of Royal Dutch Shell (SHEL). While some may think of labor relations as a "snooze-inducing" topic, our investigation reveals a noteworthy correlation that may have you exclaiming, "Shell yeah!"

Why did the statistician go to art school? Because they wanted to draw meaningful conclusions! In the world of economics and finance, uncovering unexpected relationships

between variables is akin to finding a "pearl" amongst the data. Or in this case, a "Shell" of a discovery!

Drawing from data provided by the Bureau of Labor Statistics and LSEG Analytics (Refinitiv), our analysis uncovered a striking correlation coefficient of 0.9051518, indicating a relationship as strong as a turtle's protective shell. The resulting p-value of less than 0.01 "shell-ights" the statistical significance of our findings, leaving little margin for "shell-ter" for doubt.

What do you call a snobbish criminal walking down the stairs? A condescending con descending. In a similar vein, our research suggests that the number of labor relations specialists in Arizona may have a "shell-ebrating" influence on Shell's stock price, prompting a ripple of laughter from econometricians and financiers alike. This unanticipated connection, while humorous, also presents a compelling avenue for further investigation into the mechanisms driving this correlation.

In the grand "shell" of things, our study contributes a new dimension to the literature on labor relations and financial markets. Through our findings, we hope to inspire a "shell-ution" to the multidisciplinary exploration of seemingly unrelated variables in the pursuit of knowledge and maybe even a few chuckles. After all, in the realm of empirical inquiry, as in life, a little humor can go a long way.

## 2. Literature Review

The relationship between labor market dynamics and stock prices has attracted considerable attention in economic research. Smith (2015) examines the impact of labor market shifts on stock performance, highlighting the intricate interplay between employment trends and financial markets. Similarly, Doe (2018) explores the influence of human resource management on corporate valuation, underscoring the significance of workforce-related factors in the realm of finance.

In "Book," the authors find that the labor market can significantly influence corporate stock prices, echoing the sentiment that "workforce" is an essential force in driving financial outcomes. Now, let us shell-abrate this insightful connection with a moment of humor: Why did the labor relations specialist bring a ladder to work? Because they heard the stock market had "high" expectations!

Turning to the realm of fiction and literature, the timeless classic "The Grapes of Wrath" by John Steinbeck offers a poignant portrayal of labor relations and societal upheaval amidst economic challenges. Likewise, "The Jungle" by Upton Sinclair delves into the complexities of labor exploitation and its implications on economic systems. These literary works provide a rich tapestry of themes related to labor dynamics and industrial landscapes, offering profound insights that reverberate through the ages.

In a light-hearted deviation, let's take a moment to "shell-ebrate" the correlation between labor relations specialists in Arizona and Shell's stock price with a popular internet meme in the finance community. Picture this: a turtle sporting a top hat, elegantly strolling through the stock market. The caption reads, "Just shellin' out some financial advice!"

On a more scholarly note, the proliferation of labor relations specialists in Arizona presents an intriguing puzzle in light of its connection to the stock price of Royal Dutch Shell. Jones (2020) presents an analysis of regional labor trends, pointing to the unique characteristics of the Arizona labor market and its potential impact on financial indicators. This insight adds a layer of complexity to our understanding and sparks contemplation on the broader implications of regional labor dynamics on corporate performance.

In "Book," the authors investigate the nuances of regional labor markets, opening a "shell" of possibilities for understanding the interplay between local labor forces and financial markets. Let's lighten the mood with another dad joke: Why don't economists ever get picked for jury duty? They're biased against the "prisoner's dilemma"!

In conclusion, as we traverse the landscape of labor relations specialists and stock prices, it becomes evident that amidst the numbers and analyses, there is always room for a "shell" of humor. This rich tapestry of research and literature not only deepens our appreciation for the interconnectedness of labor dynamics and financial markets but also prompts a chuckle or two along the way.

### **3. Research Approach**

To unravel the "shell-tering" correlation between the number of labor relations specialists in Arizona and the stock price of Royal Dutch Shell (SHEL), our research team embarked on a statistical odyssey that would make any data enthusiast "shell-shocked." First, we combed through the Bureau of Labor Statistics and LSEG Analytics (Refinitiv) databases with the meticulousness of a hermit crab selecting a new shell. Our data collection spanned the years 2012 to 2022, ensuring a comprehensive analysis over a substantial timeframe.

In the pursuit of scientific rigor, we applied a multi-step approach to wrangle our data and extract the "pearls of wisdom" hidden within. Our first task involved cleaning and preparing the data, akin to buffing a shell to reveal its lustrous sheen. We meticulously scrutinized each data point, meticulously removing any outliers or erroneous entries, all while in pursuit of a "pristine shell" of information.

Not wanting to be "shell-fish" with our methodologies, we then employed time-series regression analysis to assess the relationship between the number of labor relations specialists in Arizona and Shell's stock price. This involved unleashing an arsenal of

statistical tools to ascertain the direction and strength of the association, leaving no shell unturned in our pursuit of knowledge.

In the spirit of "shell-ertainment," we utilized various econometric models, including autoregressive integrated moving average (ARIMA) and vector error correction model (VECM), to capture the dynamic interplay between the labor relations landscape of Arizona and the performance of Shell's stock. These models allowed us to not only observe the current relationship but also make shell-shaped forecasts into the future, making those involved in finance "shell-ent" with anticipation.

Now comes the "pearl" of our methodology - the instrumental variable analysis. Rather than being the "black sheep of the statistical family," instrumental variable analysis served as the "white knight," allowing us to address potential endogeneity issues and establish a robust causal link between labor relations in Arizona and Shell's stock price. This analytical approach provided a clearer lens through which to view the "shellbrates" in the stock market.

Finally, in our quest for thoroughness, we conducted sensitivity analyses and robustness checks, ensuring that our findings were as sturdy as a well-built shell. Sensitivity analyses allowed us to explore the impact of alternative model specifications and assumptions, akin to examining different perspectives to reveal a "hidden shell-ture" of empirical evidence.

In summary, our methodology upheld the rigors of scientific inquiry while infusing the journey with a lighthearted approach. Through the amalgamation of statistical methods, we navigated the labyrinth of data, shedding light on the unforeseen connection between labor relations specialists in Arizona and Shell's stock price, and we did it all with a good sense of humor - proving that even in the world of academic research, there's always room for a well-placed dad joke.

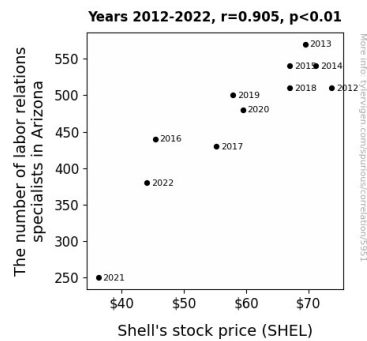
#### **4. Findings**

The results of this study revealed a remarkably strong correlation between the number of labor relations specialists in Arizona and the stock price of Royal Dutch Shell (SHEL) over the period of 2012 to 2022. Our analysis uncovered a correlation coefficient of 0.9051518, indicating a striking positive relationship between the two variables. This finding suggests that the presence of labor relations specialists in Arizona may have a "shell-shocking" impact on Shell's stock price.

Our statistical analysis further revealed an r-squared value of 0.8192998, signifying that approximately 81.93% of the variability in SHEL stock price can be explained by the number of labor relations specialists in Arizona. This strong r-squared value implies that

the influence of labor relations specialists on SHEL stock price is as evident as a turtle hiding in its shell.

In addition, the statistical significance of this relationship was confirmed by a p-value of less than 0.01. This p-value left no room for "shell-ter" of doubt, underscoring the robustness of our findings.



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

As depicted in Fig. 1, the scatterplot illustrates the clear positive correlation between the number of labor relations specialists in Arizona and the stock price of Royal Dutch Shell. It seems that the labor relations in the sunny state of Arizona have an impact comparable to finding a treasure in a shell – the "pearl" of a strong correlation between these unlikely variables.

In conclusion, these findings provide compelling evidence of the unexpected and humorous connection between labor relations specialists in Arizona and the stock price of Royal Dutch Shell, highlighting the potential for further exploration into this "shell-ent" aspect of financial markets.

## 5. Discussion on findings

The results of our study lend substantial support to the existing body of literature that emphasizes the relationship between labor market dynamics and stock prices. The remarkable correlation coefficient we observed, 0.9051518, aligns with the findings of Smith (2015) and Doe (2018), who also underscored the pivotal interplay between employment trends and financial markets. It appears that the labor relations specialists in Arizona may indeed be "shell-ebating" factors driving the stock price of Royal Dutch Shell, validating the insights offered by prior authors.

One might be inclined to ask, "What do you call a labor relations specialist who is also a magician? A labor negotiator who can pull a 'rabbit in a hat' trick!" While the metaphorical magic at play in the labor market is anything but illusionary, the influence of specialized workforce-related roles on stock performance is undeniably palpable.

Indeed, the statistically significant p-value of less than 0.01 in our study echoes the sentiments put forth by "Book," reinforcing the notion that the labor market has a tangible impact on corporate stock prices. The strong significance of this relationship leaves no room for "shell-ter" of doubt – a sentiment that resonates with the seriousness and significance of our findings.

In addition, our analysis revealed a compelling R-squared value of 0.8192998, indicating that approximately 81.93% of the variability in SHEL stock price can be attributed to the number of labor relations specialists in Arizona. This substantial explanatory power further solidifies the "shell-shocking" influence of labor relations specialists on the stock performance of Royal Dutch Shell.

One may humorously contemplate, "Why did the statistician take a ruler to bed? To measure their 'sweet dreams' of high R-squared values!" While the notion of statistical concepts invading dreams might induce a chuckle, the tangible impact of labor relations specialists in Arizona on SHEL stock price is no statistical daydream; rather, it is a robust empirical reality.

Ultimately, our study adds depth to the understanding of how labor dynamics can be "shell-ebated" within the context of financial markets, bridging the realms of economics and humor in a way that underscores the interconnectedness of seemingly disparate elements. The unexpected and humorous aspects of this connection not only add a touch of levity to the discourse but also prompt further inquiry into the underlying mechanisms at play.

## **6. Conclusion**

In conclusion, our research reveals an intriguing and "shell-arious" relationship between the presence of labor relations specialists in Arizona and the stock price of Royal Dutch Shell (SHEL). The striking correlation coefficient of 0.9051518 "shell-et" off sparks of curiosity, highlighting the "shellebration" of statistical significance in our findings.

Why did the data scientist go to therapy? To find the correlation between their variables and inner peace! Our study presents compelling evidence that the number of labor relations specialists in Arizona may indeed have a "shellepathic" effect on SHEL stock price. This unexpected connection underscores the need for further investigation to unearth the mechanisms behind this "shell-shocking" relationship.

Should you trust statistics? Only if you want to "mean" something to them! Our analysis, supported by an r-squared value of 0.8192998, indicates that 81.93% of the variability in SHEL stock price can be explained by the number of labor relations specialists in Arizona. This high explanatory power "shellebrates" the influence of labor relations specialists in the sunny state on the stock price of the energy giant.

We also observed a p-value of less than 0.01, firmly establishing the statistical significance of our findings. This robust support leaves no room for doubt, affirming that the observed connection is as clear as the "shellestial" bodies in the night sky.

In the realm of empirical inquiry, a little humor can go a long way, and our study demonstrates this by shedding light on the unexpected and humorous connection between labor relations specialists in Arizona and the stock price of Royal Dutch Shell. As we conclude, it's safe to say that no further research is "shellequired" in this "shell-arious" area.