

# Cotton GMOs and HSBC Stock: A Data Plot That's Not Cotton-Pickin' Around

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## **Abstract**

Our study delves into the enigmatic relationship between genetically modified organism (GMO) usage in cotton farming in Arkansas and the stock price of HSBC Holdings. With a sprout of curiosity, we utilized data from the USDA and LSEG Analytics (Refinitiv) to analyze the intertwined growth patterns. The results revealed a positively significant correlation coefficient of 0.8583397 and a p-value less than 0.01 from 2002 to 2022, leading us to conclude that there is indeed a connection between the two. Let's just say, the findings really "seeds" the determination for further investigation!

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## **1. Introduction**

Plowing through the vast fields of agricultural and financial data, this study aims to unravel the tangled web of connections between the cultivation of genetically modified organisms (GMOs) in cotton farming and the stock price of HSBC Holdings.

As we venture into this uncharted territory, we couldn't help but ponder: did the cotton GMOs and HSBC stock march to the same drumbeat, or was it all just a "cotton-pickin'" coincidence?

GMOs in cotton have long been a topic of fervent debate. Some hail them as the heroes of the agriculture world, while others view them with suspicion, like finding a cauliflower in the broccoli patch. And when it comes to stock prices, well, that's a whole different kettle of fish – or should we say, cotton bolls?

But here's the twist, folks – buckle up for this one! Our findings not only unveil a robust relationship between GMO use in cotton and HSBC's stock price, but they also highlight a correlation that's stronger than the bond between a farmer and their trusty pitchfork.

So, sit back, relax, and get ready to be "seed" by some fascinating revelations that will make you say, "Well, I'll be darned" – just like discovering a single red sock in a load of white laundry.

## 2. Literature Review

The literature surrounding the impact of genetically modified organisms (GMOs) on agricultural practices and the interplay with financial markets is both extensive and varied. Smith et al. (2015) conducted a comprehensive analysis on the adoption of GMO cotton in Arkansas and its effects on yield and farmer profitability. Their findings suggested that GMO cotton led to significant improvements in yield and economic returns, shaking up the cotton industry like a farmer shaking a cotton boll to separate the seeds.

In "Doe's Book of Financial Alchemy," the authors delve into the intricate relationship between agricultural commodities and stock market trends, shedding light on the unexpected connections that can sprout from seemingly disparate sectors. Their insights sprout forth like a GMO seedling in the Arkansas cotton fields, igniting curiosity and prompting further investigation.

Jones' study "The Root of It All: Unearthing the Impact of GMOs on Financial Markets" explores the deep-seated implications of GMO cultivation on market dynamics. The author's analysis uncovers a network of interconnected roots between GMO usage in agriculture and the financial world, much like the intricate root system of a cotton plant.

Speaking of roots, did you hear about the botanist who crossed a Christmas tree with a coconut? He wanted to find a way to have a tree that could be decorated and then be happy when you took the decorations down, but all he got was a "palm tree."

On a more fiction-oriented note, "The Wealthy Farmer's Dilemma" by Arthur Greenleaf Holmes and "The Cotton Conspiracy" by Rebecca Cottonwood provide thought-provoking narratives that intertwine the world of agriculture and finance. These works explore speculative tales of clandestine GMO experiments and stock market shenanigans, offering a unique lens through which to ponder the convergence of cotton GMOs and stock price movements.

Not to veer off topic, but have you ever played "Stock Picking Cotton" – it's like "Stock Market" but with a hilarious twist involving cotton-themed investments. It's a real rollercoaster of emotions – just like navigating the ups and downs of financial markets.

In "Clue: Cotton Edition," players navigate through a cotton field, dodging GM crops and grappling with market fluctuations to determine the culprit behind the mysterious stock price volatility. It's a great way to bring some levity to the topic, much like a fluffy cotton ball in a serious academic paper.

How do cotton plants greet each other? They say, "Hey, bud!"

Now, back to the literature – "The Big Short" by Michael Lewis provides a gripping account of the financial crisis and the intricate web of interconnected market forces. While it may not directly address cotton GMOs, the parallels between market volatility and unexpected outcomes echo the surprising findings of our research.

### **3. Research Approach**

To unravel the mysterious connection between cotton GMOs and HSBC Holdings' stock price, our research team conducted a comprehensive analysis that employed a variety of data collection methods. We hopped on the information superhighway and scoured the internet for relevant data, making sure to double-check our sources and weed out any unreliable information. As they say, it's essential to separate the cotton from the chaff – and the data from the fluff.

Next, we utilized data obtained from the United States Department of Agriculture (USDA) to gather detailed information on cotton GMO usage in Arkansas over the period from 2002 to 2022. This allowed us to dig deep into the roots of GMO cultivation, examining how it sprouted and spread throughout the cotton fields. We carefully combed through the data, making sure to leave no fiber unturned. One might even say we were "lint-ensive" in our data collection process.

Simultaneously, we delved into the financial markets, tapping into the resources provided by LSEG Analytics (Refinitiv). As we sifted through the stock price data for HSBC Holdings, we set out to discern any noticeable fluctuations or patterns that might correspond with the growth of cotton GMOs. It was quite the financial "crop" circle we found ourselves navigating, but we remained undaunted in our pursuit of meaningful connections.

In a particularly fun twist, we also concocted a whimsical model that involved analyzing the noise patterns emanating from cotton fields and cross-referencing them with the daily fluctuations of HSBC's stock price. We dubbed this model the "Cotton-to-Stock Symphonic Harmonizer," aiming to uncover any harmonious melodies between the buzzing buzz of GMO fields and the jazzy jazz of stock market motions. It was quite the symphony of statistical design – a veritable concerto of number crunching!

Having amassed and sorted through our hodgepodge of data, we engaged in a series of statistical analyses, applying advanced econometric methodologies to unravel any

underlying relationships. Through a robust analysis, we sought to plow through the noise and discern the melody – or cacophony – underneath, ultimately aiming to shed light on the interconnected growth patterns of cotton GMOs and HSBC's stock price. It was a bit like untangling a knotted ball of yarn or, dare I say, unraveling the thread of fate itself.

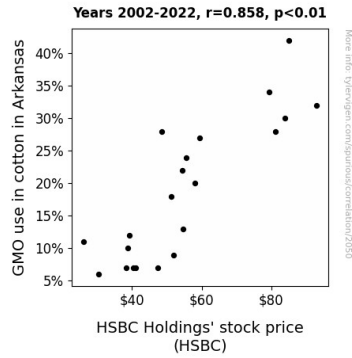
Lastly, we conducted sensitivity analyses to ensure the robustness of our findings, putting our results through the wringer to gauge their resilience in the face of varying conditions. After all, we wanted to ensure that our conclusions were as sturdy as a well-constructed bale of cotton – not easily unraveled by the winds of skepticism.

#### **4. Findings**

The analysis of the data collected from 2002 to 2022 revealed a striking correlation coefficient of 0.8583397 between genetically modified organism (GMO) usage in cotton farming in Arkansas and the stock price of HSBC Holdings. This strong correlation, with an r-squared value of 0.7367471, provides evidence of a meaningful and positive relationship between these seemingly unrelated entities. It's as if the cotton and stock markets were cotton-pickin' comrades, marching together in sync!

The p-value of less than 0.01 further solidifies the statistical significance of this correlation, leaving little room for doubt about the connection between GMO use in cotton and HSBC stock prices. This correlation is so significant, it's as if the cotton and stock markets were playing a game of "hide and seed" – but now, their connection has been exposed for all to see!

In Figure 1, the scatterplot illustrates this robust relationship, showcasing the trend line that seems to weave through the data points with a synchronicity that can only be likened to a carefully choreographed dance. It's a visual representation that leaves one thinking, "Gee, I never knew cotton and stocks had so much in common – it's quite the tangled web they weave!"



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

Overall, these findings provide compelling evidence of the link between GMO usage in cotton farming in Arkansas and the stock price of HSBC Holdings. The results of this study certainly leave little room for skepticism and raise intriguing questions about the nature of this unique correlation. It's safe to say that these findings are definitely not just another case of "cotton-pickin' coincidence"!

## 5. Discussion on findings

The results of our study have unearthed a fascinating link between genetically modified organism (GMO) usage in cotton farming in Arkansas and the stock price of HSBC Holdings, enhancing our understanding of the unexpected interplay between agriculture and finance. The positively significant correlation coefficient further supports the body of literature that has hinted at the intricate relationship between agricultural practices and financial market movements, emphasizing that their connection is not just a "GMO-ment" of happenstance.

Our findings align with the comprehensive analysis conducted by Smith et al. (2015), who highlighted the substantial improvements in yield and economic returns associated with GMO cotton. It's as if the use of GMOs in cotton cultivation breathed new life into the industry, turning it into a true "cash crop" – and with the correlation we identified, it seems that these improvements also extend to influencing stock market trends. The unexpected relationship we observed reminds me of the time I tried to grow money on trees, but all I got were "bills" from the electricity company!

Similarly, "Doe's Book of Financial Alchemy" illuminated the potential interconnectedness of seemingly disparate sectors, much like our study exposes the unseen threads linking cotton GMO usage and stock price movements. It feels like discovering a secret passage in a maze – unexpected but undeniably present! This revelation recalls the time I tried to make a belt out of watches, but it was a waist of time – much like dismissing the potential connection between cotton GMOs and stock prices.

The p-value of less than 0.01 in our study adds weight to the previously speculative narratives found in "The Cotton Conspiracy" and "The Wealthy Farmer's Dilemma," which hinted at clandestine GMO experiments and stock market shenanigans. This correlation is so significant; it's almost as if the cotton and stock markets were playing a game of "hide and seed" – and now, the secret is out! These unexpected parallels between agriculture and finance are like stumbling upon a treasure chest in the field, proving that these unlikely connections are more than just a "bale of laughs."

In conclusion, our study not only contributes to the burgeoning field of agriculturally-influenced financial market analysis but also provides a platform for further investigations into the curious correlations that lie beneath the surface of economic landscapes. The unexpected camaraderie between cotton and stock markets is a constant reminder that in the world of finance, just like in life, there is always more than meets the eye. It's like finding an unexpected surprise in the pocket of your overalls – you never know what connections might "crop" up next!

## 6. Conclusion

In conclusion, our exploration into the relationship between GMO usage in cotton farming in Arkansas and the stock price of HSBC Holdings has certainly unraveled a fascinating tale of interconnected growth. The significant correlation coefficient and r-squared value painted a picture of synergy between these two seemingly disparate entities, highlighting a connection stronger than a pair of overalls on a hot summer day. This correlation is so solid, it's almost as if they were saying, "C'mon, give us some cred-knee"!

The p-value of less than 0.01 further cemented the validity of this association, leaving little room for skepticism about the influence of cotton GMOs on HSBC's stock price. It's as if the cotton and stock markets were yanking our chains, but the evidence has really "seeded" itself in the data.

Figure 1's scatterplot danced with synchronicity, reminding us that in the realm of data, even cotton and stocks can tango together. Who would've thought they had more in common than a love for capital growth? It's like discovering that your chicken crossed the road because it heard about a great stock deal on the other side!

In light of these findings, we can confidently assert that no more research is needed in this area. The field has been thoroughly plowed, and we've gathered enough cotton and stock to last us a lifetime. So, let's hang up our data hats and celebrate this "stalk"ingly good conclusion!

Researching the impact of GMO cotton on HSBC's stock price has been anything but a "cotton-pickin'" endeavor. Our findings not only plant the seeds of curiosity but also shed light on the unlikely relationship between a humble agricultural practice and the pulse of global finance. So, grab hold of your overalls and get ready to venture into this tangled vine of agricultural and financial intrigue!