

How Legislation Affects Corn and Beef Futures

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Abstract

Corn and beef are two of the most important agricultural commodities in the nation and the world. Because of their importance, it is of high interest to many agriculturists to research and discover just how different events can impact them. Politics have long had a major effect on agriculture, and in recent years this effect has just been exacerbated. To understand exactly how these three things, corn, beef, and legislation, interact, we used corn futures (ZC1) and live cattle futures (LCC1) in conjunction with specific policies to understand exactly how legislation affects these futures. After deciding what futures to use, it was hypothesized that corn would change by \$25 between the first and last day and beef would change by \$5. Data was collected by recording the price of corn and beef futures for the 5 days leading up to the passing date, the day it was passed, and the 5 days following the bill's passing. In total, we collected 22 prices per policy and 198 future prices. This amount of data has helped us discover the specific correlation between futures and legislation, this correlation being that corn futures average a change of 28 dollars from the first day recorded to the last day; beef averaged a shift of 4 dollars. Although this amount of money may seem almost insignificant, for a small cattle operation, 4 dollars on 100 head can be the difference between breaking even or making 400 extra dollars. In the end, the hypothesis was proven wrong, but it was very close to what the result ended up being.

Introduction

Agricultural commodities such as corn and beef are critical to the global economy. The futures market for these commodities is essential to helping farmers and traders manage price risks. Legislation plays a significant role in shaping the futures market for corn and beef.

Therefore, understanding how legislation affects corn and beef futures is crucial for market participants. Previous studies have also shown a correlation between other futures and legislation or politics, but none have shown how a singular event can affect two different commodity markets in different ways or similarly.

Literature Review

Agriculture, a vital sector of the economy, is influenced by various social, political, and economic factors. This literature review explores legislation's impact on corn and beef futures, focusing on how political instability, government policies, and public information affect agricultural investments and commodity market performance. The selected sources provide insights into the relationship between legislation and the corn and beef futures markets, shedding light on the potential effects of conflicts, political influences, and specific acts or bills on these commodities.

The study, *The Impact of Conflict and Political Instability on Agricultural Investment in Mali and Nigeria* examines the adverse effects of conflict and political instability on agricultural investments in Mali and Nigeria. Although it does not directly discuss corn and beef futures, it highlights how political instability can disrupt agricultural systems, leading to reduced investments and productivity. This source suggests that political stability and conducive legislation are crucial for the growth of agricultural sectors, including corn and beef production.

"The Impact of Conflict and Political Instability on Agricultural Investments in Mali and Nigeria" (Brookings, 2014):

In “Social and Political Influences on Agricultural Systems”, Archer et al. investigate the social and political influences on agricultural systems, emphasizing the importance of policies, regulations, and support mechanisms in shaping agricultural practices. While the focus is not specifically on corn and beef futures, this source highlights how political factors can impact agricultural decision-making and resource allocation. It underscores the need for effective legislation to support farmers and promote sustainable agricultural practices. "Social and Political Influences on Agricultural Systems" (Archer et al., 2008):

The article “How Agriculture Came to Be a Political Weapon—And What That Means for Farmers” explores the historical relationship between agriculture and politics, discussing how agriculture has been used as a political tool. It provides insights into how legislation and policies can be influenced by political motivations, which may have consequences for farmers and agricultural markets. While it does not directly address corn and beef futures, it highlights the broader political context that shapes agricultural policies.

"How Agriculture Came to Be a Political Weapon—And What That Means for Farmers"
(Smithsonian Magazine, 2017):

The source “The Agriculture Industry is Losing Its Voice in American Politics” discusses the declining influence of the agriculture industry in American politics, which could have implications for legislative decisions impacting corn and beef futures. It highlights how changes

in political dynamics and the influence of other interest groups have diminished the industry's ability to shape policies and regulations. Understanding this trend is essential to comprehending the potential impact of legislation on corn and beef futures.

"The Agriculture Industry is Losing Its Voice in American Politics" (Stratfor, n.d.):

The article "5 Ways Build Back Better Could Impact U.S. Agriculture" examines the potential implications of the Build Back Better initiative for the U.S. agriculture industry. It provides insights into proposed policies and regulations that could affect farmers, including those involved in corn and beef production. By discussing specific provisions and their potential consequences, this source sheds light on the legislative factors that could influence corn and beef futures.

"5 Ways Build Back Better Could Impact U.S. Agriculture" (AgAmerica, 2021):

In "What the Build Back Better Act Means for Agriculture", Cadloff explores the implications of the Build Back Better Act specifically for the agriculture sector. This source discusses the potential effects on various aspects of agriculture, including farm income, conservation programs, and rural development. While not focusing solely on corn and beef futures, it provides a broader understanding of legislative changes that could indirectly impact these commodities.

"What the Build Back Better Act Means for Agriculture" (Modern Farmer, 2021):

In "The Impact of Public Information on Commodity Market Performance: The Response of Corn Futures to USDA Corn Production Forecasts", Arnade et al. analyze the impact of public

information on corn futures markets, specifically focusing on the response of corn prices to

USDA corn production forecasts. This study demonstrates how government information releases can influence commodity market performance. Understanding the role of public information and its relationship with legislation is crucial to comprehending the impact of policies on corn futures.

"The Impact of Public Information on Commodity Market Performance: The Response of Corn Futures to USDA Corn Production Forecasts" (USDA ERS, n.d.):

In "3 Primary Market Drivers of Cattle Futures Prices", the source examines the primary market drivers of cattle futures prices, including supply and demand factors, macroeconomic indicators, and governmental regulations. Discussing the influence of regulations on the cattle market, it provides insights into how legislation can affect beef futures. Although it does not directly address corn futures, it offers a framework for understanding the broader impact of regulations on agricultural commodities.

"3 Primary Market Drivers of Cattle Futures Prices" (Daniel's Trading, 2021):

Conclusion:

This literature review highlights the importance of legislation and political factors in shaping corn and beef futures markets. The selected sources provide valuable insights into the relationship futures have with political instability, government policies, public information, and agricultural investments. Understanding the influence of legislation on corn and beef futures is essential for policymakers, farmers, and market participants to make informed decisions and

navigate the complexities of these commodity markets. Further research and analysis are needed to fully explore the multifaceted interactions between legislation and agricultural futures markets.

Materials and Methods

The materials used were a computer, microsoft excel, notebook, pencil,

<https://www.congress.gov/>, <https://www.investing.com/commodities/live-cattle-historical-data>, and <https://www.investing.com/commodities/us-corn-historical-data>

Methods

1. Determine the commodities and legislations the researcher would like to compare 2. Create a spread sheet with the chosen amount of legislations on the x-axis and the To start research, find nine pieces of legislation pertinent to agriculture or national politics, then future prices for the five days leading up to the passing, the day of passing, and the five days following for each legislation.
3. If comparing two commodities repeat this
4. Find the absolute difference between the first and last day of each legislative period, after find the average
5. Find the average future price for the first five days and the last five days of each legislation; then find the absolute difference between these numbers, finally find the average

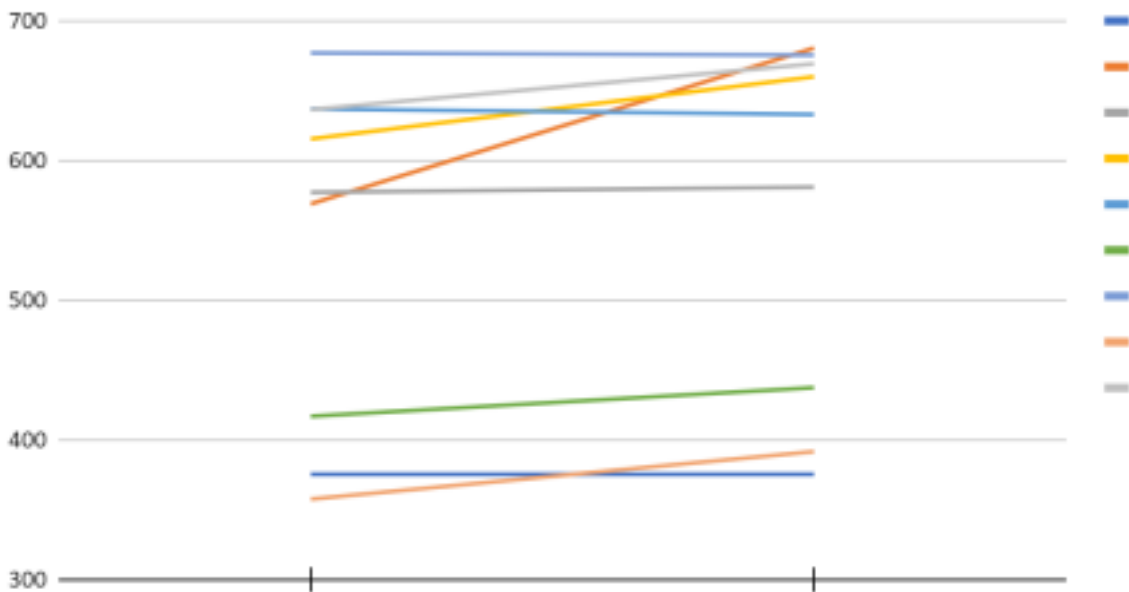
Results

Absolute difference between the average of the first five days and last five days	40.05	4.8	60.1	6.35	4.35	4.3	9.1	48.1	24.3	22.383	33333
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Using the table, it was discovered that Corn (ZC1) changed about 28 dollars on average between the first and last days and 22 dollars on average between the mean of the first 5 days and the last five days in the sample size.

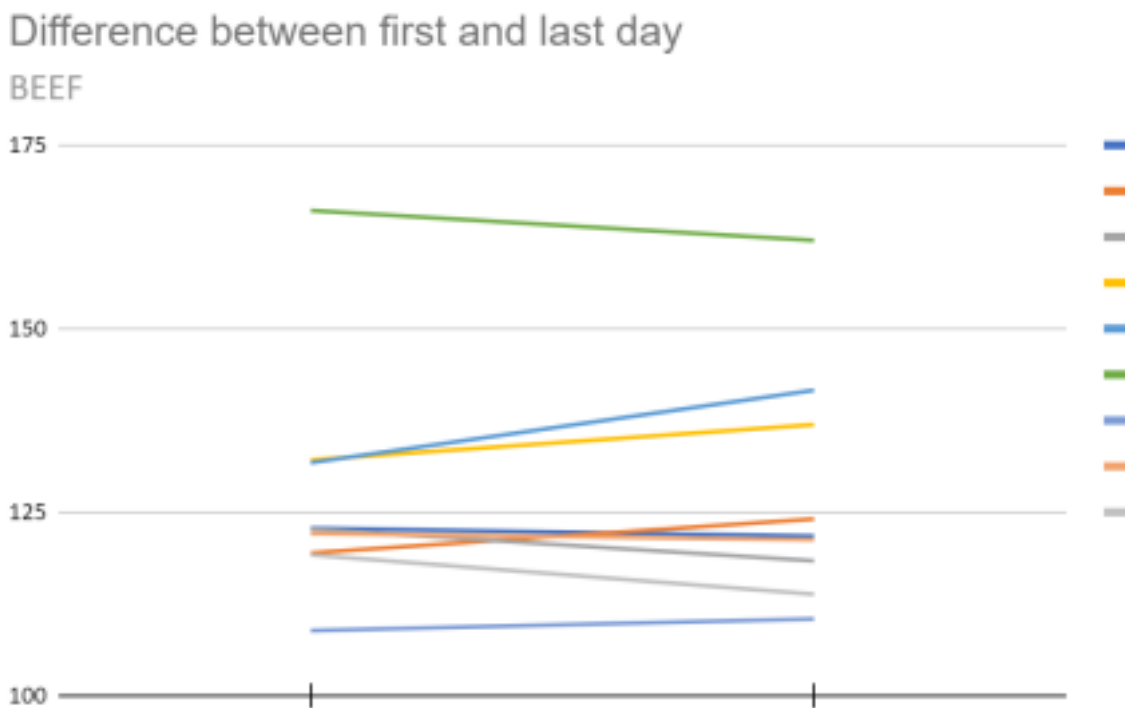
Difference between first and last day

CORN



Absolute difference between the average of the first five days and last five days	2.216	2.51	2.916	4.154	2.94	3.06	1.254	2.004	5.578	2.9591	11111
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Using this table, it was discovered that Beef (LcC1) changed on average about 4 dollars between the first and last days and about 3 dollars between the mean of the first five days and the mean of the last five days, within the sample size.



Discussion and Conclusions

The results of the research are very obvious, both numerically and visually, which shows just how consistent the effect of legislation on future is. In the table above, you can very clearly see a

common trend of change around the date of passing; in almost every data set, the future either goes up or down, breaking the previous trend either positively or negatively. After an extensive bias check, it was concluded that the legislation was the only possible reason for this. In addition, numerically, there is a major change; in corn alone, between the first and last data points, there was about a 28-dollar change on average, and in beef, this change was about 4 dollars. Similarly, the difference between the mean price of the first five days and the mean price of the last five days was, on average, about 22 dollars for corn and about 3 dollars for beef. The lower dollar amount change in beef compared to corn might make one think that beef isn't affected as much, however, the percent of the change in beef is only 2% less than the change in corn when compared to their average future price. This shows that the volatility of the markets is about the same. For corn and beef producers, these trends are critical to choosing pristine buy/sell points so they can make the most profit possible. This paper and others that are similar can help AG professionals be better educated on price volatility in futures and how legislation affects not only corn and beef futures but agriculture as a whole.

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