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Javier D. Donna (University of Florida/The Rimini Centre for Economic Analysis)

Anita N. Walsh (TBA)

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Javier D. Donna[*,**] **and Anita N. Walsh**[***]

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Abstract

In 2020, an antitrust lawsuit was filed against the Pork Integrators alleging a §1 Sherman Act violation. At the center of the Lawsuit, there is an alleged exchange of atomistic information about the Pork integrators' operations using Agri Stats, Inc. as a clearinghouse. We use the Supreme Court benchmark in *American Column & Lumber* to discuss two questions that arise from the Lawsuit. The first is whether the association of Pork Integrators and Agri Stats, Inc. resulted in the restraint of interstate commerce, the main specific issue at stake in the pork Lawsuit. The second is whether information-exchange agreements using clearinghouses like Agri Stats, Inc. lessen competition and offend United States antitrust law, a more general issue beyond the pork Lawsuit. We find that there appears to be ample evidence in the Lawsuit to merit prosecution regarding both trade restraints and information-sharing agreements. We conclude by discussing the role of the Agencies in setting the standards in information-exchange agreements.

Keywords: Antitrust, Price-fixing, Competition, Information Sharing, Cartel, Pork Industry.

JEL Codes: K21, L12, L13, L41, L42, L66.

[*] Department of Economics, University of Florida, Gainesville, FL, USA.
[**] The Rimini Centre for Economic Analysis, Rimini, Italy.
[***] TBA.

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Corresponding Author: Javier D. Donna, Department of Economics, University of Florida, 224 Matherly Hall, P.O. Box 117140, Gainesville, FL 32611- 7140, USA. Email: jdonna@ufl.edu.

I. Introduction

In 2020, an antitrust lawsuit was filed against the Pork Integrators and Agri Stats, Inc., alleging a §1 Sherman Act violation.[1] The Lawsuit alleges that the Defendants engaged in a price-fixing conspiracy to fix, raise, artificially maintain, and stabilize the pork price in the United States domestic market.[2]

At the center of the Lawsuit, there is an alleged exchange of detailed, atomistic information about the Pork integrators' operations, using Agri Stats as a clearinghouse. The Lawsuit alleges that Agri Stats collected, classified, audited, and distributed extremely sensitive information regarding price, inventories, and quantities—the type of information that rivals would not share in a healthy, competitive market—, even training the firms regarding how to properly submit their data.[3]

In this Article, we analyze the Lawsuit using the Supreme Court benchmark in *American Column & Lumber*.[4] Our analysis does not assess nor intend to assess whether the Pork Integrators

[1] Henceforth, *Agri Stats* refers to Agri Stats, Inc. and its subsidiary, Express Markets, Inc., also known as EMI. The Plaintiffs are identified in Section III(A) of the Lawsuit. The Pork Integrator Defendants are Clemens Food Group, LLC; Hormel Foods Corporation; Hornell Foods, LLC; Indiana Packers Corporation; JBS USA Food Company; Seaboard Foods LLC; Seaboard Corporation; Smith eld Foods, Inc; Triumph Foods, Inc; Tyson Foods, Inc; Tyson Prepared Foods, Inc; and Tyson Fresh Meats, Inc.

[2] *In Re Pork Antitrust Litigation. "Case Number: 0:18-cv-01776-JRT-HB," United States District Court, District Of Minnesota, Filed: 01/15/2020*, hereinafter *Lawsuit.* In October 2020, the judge overseeing the litigation, John R. Tunheim, denied the Defendants' joint Motion to Dismiss but granted an individual Motion to Dismiss to Indiana Packers.

[3] See the guidelines issued by the Federal Trade Commission and Department of Justice (2010), "Antitrust Guidelines for Collaborations Among Competitors," available at (accessed May 3, 2022): http://www.ftc.gov/system/files/documents/public_statements/300481/000407ftcdojguidelines.pdf. See also the roundtable on information exchanges by the Organisation for Economic Co-operation and Development (2010), "Information Exchanges Between Competitors under Competition Law," OECD Policy Roundtables, DAF/COMP(2010)37, available at (accessed May 3, 2022): https://www.oecd.org/competition/cartels/48379006.pdf, (hereinafter OECD 2010). Specifically: "Buying collaborations also may facilitate collusion by standardizing participants' costs or by enhancing the ability to project or monitor a participant's output level through knowledge of its input purchases," Federal Trade Commission and Department of Justice (2010) at 14. "Other things being equal, the sharing of information relating to price, output, costs, or strategic planning is more likely to raise competitive concern than the sharing of information relating to less competitively sensitive variables. Similarly, other things being equal, the sharing of information on current operating and future business plans is more likely to raise concerns than the sharing of historical information. Finally, other things being equal, the sharing of individual company data is more likely to raise concern than the sharing of aggregated data that does not permit recipients to identify individual firm data." Federal Trade Commission and Department of Justice (2010) at 15-16. "Information collected and verified by third parties such as auditing firms may strengthen collusion as this may be a mechanism for the colluding parties to verify the accuracy and correctness of the data, given the incentive for cheating that exists in a cartel." OECD (2010) at 378.

[4] *American Column Co. v. United States*, 257 U.S. 377 (1921).

and Agri Stats are innocent or guilty. It is up to the courts to reach such judgment. Instead, we discuss the allegations in the Lawsuit and review the evidence related to the antitrust challenges.[5]

A fundamental question is whether competition, as understood by Congress when the Sherman Law was passed, is consistent with data sharing schemes like the one performed by Agri Stats. In which cases such conduct deserves special scrutiny?

We discuss these issues using the Supreme Court evidentiary standards contained in *American Column & Lumber*. We discuss several similarities and differences between the Open Competition Plan from *American Column & Lumber* and Agri Stats, including the information-sharing structures, alleged coordination, reporting errors, whether the data was public or proprietary, and evidence about output and prices. We discuss the evidence in the Lawsuit regarding whether the association of Pork Integrators and Agri Stats might have resulted in restraint of interstate commerce, whether information-exchange agreements using clearinghouses like Agri Stats restraint competition, and the limits imposed by antitrust law on such coordination.

The Article proceeds as follows. Section II presents the allegations in the Lawsuit. Section III discusses the main features of the United States pork industry. Section IV outlines the evidentiary standards contained in *American Column & Lumber*. Section V compares the standards in *American Column & Lumber* and Agri Stats. Section VI concludes.

II. Lawsuit Summation

The Lawsuit details allegations that a cartel comprised of the Pork Integrators conspired to fix pork prices by systematically lowering pork production from 2009 to 2020. To ensure compliance, the alleged cartel relied on a subscription service provided by Agri Stats, which included "current and forward-looking sensitive information" on unaggregated and identifiable "profits, costs, price and slaughter information."[6]

The Lawsuit alleges that Agri Stats began to market its "benchmarking services" to the Pork Integrators in 2008. This marketing included hints that Pork Integrators could use the service to cut production, such as "the ultimate goal is increasing profitability - not always increasing the level of production"[7] and that "you cannot produce your way to the top of the page."[8] By 2009,

[5] We rely on the Lawsuit and the cited sources regarding the evidence discussed. When analyzing the Lawsuit, we consider all facts alleged in the Lawsuit as true to investigate the feasibility of the Lawsuit for "relief that is plausible on its face." Braden v. Wal-Mart Stores, Inc., 588 F.3d 585, 594 (8th Cir. 2009) quoting Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009).
[6] Lawsuit, ¶ 3.
[7] *Id.* at ¶ 42.
[8] *Id.* at ¶ 57.

every alleged cartel member was subscribed to the Agri Stats service and reported information to it.

Each month, Agri Stats would release reports detailing "performance summary, feed mill, ingredient purchasing, weaned pig production, nursery, finishing, wean-to-finish, market haul, profit, and sales" for the subscribers.[9]

Notably, to ensure the accuracy of the reports, Agri Stats would train the firms on how to properly submit their data, a deviation from "traditional 'benchmarking services, which rely upon unaudited and public, aggregated data."[10] Hog life cycles are predictable enough that this information "provides forward-looking supply information."[11] Agri Stats itself was aware of this feature, as evidenced by a statement by its CEO in December 2010 about how he was "confident that pork supplies would not be increasing" because of "what we know privately."[12] Agri Stats is alleged to have facilitated cartel behavior by informing the subscribers that they must "determine tolerance and outlier status and enforce" to ensure data accuracy.[13]

The Lawsuit alleges that the reports organized data by "company and facility" in such a way that the "ostensibly anonymous" data were identifiable to "long-time industry insiders."[14] The firm and facility identifiers were held constant across months. Specific rows in the reports were highlighted for the firm meant to receive them. The data became identifiable when reports were occasionally mailed to the incorrect company. In addition, some individuals were hired first by Agri Stats and then by a member of the alleged cartel, facilitating the identification of the data. It is alleged that these practices allowed members of the alleged cartel to "police each other's production figures […] for signs of cheating."[15]

The Lawsuit alleges that several pork industry factors allowed the cartel to form. The first is that vertical integration allows pork processing firms to have "near-total operational discretion in deciding how much to produce and when."[16]

The second is the type of contract between the processing firms and hog raisers. The hog raisers manage the hogs before processing and are provided the pigs and the necessary pig maintenance tools by the processing firms. The Lawsuit argues that this practice increased throughout the conspiracy until few independent hog producers were in the open market by 2017.

[9] *Id.* at ¶ 49.
[10] *Id.* at ¶ 48.
[11] *Id.* at ¶ 50.
[12] *Id.* at ¶ 185.
[13] *Id.* at ¶ 56.
[14] *Id.* at ¶ 60.
[15] *Id.* at ¶ 65.
[16] *Id.* at ¶ 68.

The third is that the industry features a large amount of horizontal concentration. By 2015, the four largest Pork Integrators controlled 70 percent of the market. By 2016, the "combined market share of the six largest Defendants translates into an [Herfindahl-Hirschman Index] of 6,724" should they collude.[17] As the industry features high entry barriers (the Lawsuit alleges that it costs hundreds of millions of dollars to open a pork processing facility), it is feasible for a cartel to avoid being undercut by a new entrant.

The fourth is that pork products are homogeneous and the demand for pork is inelastic. The latter allowed members of the alleged cartel to "raise prices without a significant impact on quantity demanded."[18] The former caused prices to be the sole distinguishable feature of pork products sold by different manufacturers, facilitating price-fixing.

The Lawsuit details several instances where the executives of the alleged cartel might have communicated their intentions through industry events. These include the Pork Checkoff (and associated Pork Act Delegates and National Pork Board), the National Pork Producers Council, the National Pork Industry Forum, the National Pork Industry Conference, and the 21st Century Pork Club. The 21st Century Pork Club had a culture of secrecy, as evidenced by one of the club's two rules: "nothing that was said in the meeting was to be repeated outside the group, with a name attached."[19] These events and organizations are alleged to have given executives the ability to "communicate with one another in person."[20]

The Lawsuit includes evidence on pork pricing, firm profits, firm-specific costs, sow herd size, and market shares. According to the USDA, pork prices were "less than $1.40 lb from 2000 to 2009" before increasing "dramatically to more than $1.80 lb in 2014 and never dropping or below $1.40 lb again."[21] Such trend was associated with steady profit increase between 2009 and 2016. Profits were relatively stable before, between 2000 and 2009. The Lawsuit presents data from the Bureau of Labor Statistics' Consumer Price Index to support the idea that these price increases were anomalous as they grew by more than the general inflation amount of food products. (See the Lawsuit about specific examples of pork product inflation levels.[22])

The Plaintiffs hired experts to examine the "spread between pork revenue and pork-related costs" for Tyson and Smith Field as a "proxy for defendant-specific operating costs."[23] The Lawsuit observes that these measures began to diverge at the start of the alleged conspiracy. It uses

[17] *Id.* at ¶ 88.
[18] *Id.* at ¶ 96.
[19] *Id.* at ¶ 106.
[20] *Id.* at ¶ 98.
[21] *Id.* at ¶ 165.
[22] *Id.* at ¶¶ 176-178.
[23] *Id.* at ¶ 168

the 2014 PEDv epidemic in hogs to support the allegations that Clemens Food Group had a "minimal impact" on its production due to the epidemic (unlike other firms) but yet did not "take advantage" of it.[24] Instead, the market shares of the firms alleged to have colluded were stable throughout the period of interest despite having experienced higher volatility beforehand.[25]

The Lawsuit details evidence of changes in the size of sow herds (birthing hogs) during the relevant period. Before the alleged conspiracy period, the expansion of sow herds was treated as a certainty by industry analysts.[26] Despite this, the Pork Integrators reduced production in 2009, 2010, and 2013.[27] The first of these reductions is notable as it was "the first time since […] 1994 [that] the nation's largest 25 producers [cut] sow numbers."[28] The Lawsuit further alleges that the Pork Integrators increased exports to reduce supply on the domestic market, evidenced by a dramatic spike in exports in 2009. The Lawsuit includes evidence from public reports from each member of the alleged conspiracy to document the reduction in pork processing.[29]

The parties impacted by the allegations in the Lawsuit are the consumers of pork products in the United States between 2009 and the present. The plaintiffs Lawsuit are Maplevale Farms, Inc; John Gross and Company, Inc; Ferraro Foods, Inc; Ferraro Foods of North Carolina, Inc; Olean Wholesale Grocery Cooperative, Inc; and Joe Christiana Food Distributors, Inc., all of which directly purchased pork from one or more of the defendants during the period of the alleged conspiracy and allegedly suffered from higher prices than "they would have paid [if] the price of pork had been determined by a competitive market."[30]

The Lawsuit is a class-action lawsuit, which includes the class of all "persons and entities who purchased pork directly from a Defendant […] from January 2009 until the present."[31] Notably, it excludes consumers who would have been harmed by paying higher prices at retail due to the conspiracy raising upstream prices of pork products.

[24] *Id.* at ¶ 160.
[25] *Id.* at Figure 5.
[26] *Id.* at ¶ 119.
[27] The Lawsuit does not allege that reductions in pork processing in 2014 were caused by the conspiracy due to the PEDv epidemic during that year.
[28] *Id.* at ¶ 121.
[29] *Id.* at ¶¶ 124-132.
[30] *Id.* at ¶ 7.
[31] *Id.* at ¶ 0.

III. The United States Pork Industry

A. Overview

In 2021, the pork industry had over 66,000 farmers raising 140 million hogs annually with gross cash receipts of $28 billion.[32] It is estimated that this industry contributes more than half a million jobs annually. They include farmers, meat processors, nutritionists, feed managers, transport businesses, and sales managers. The United States is one of the largest pork producers globally, accounting for roughly 11 percent of world pork production, third behind China (46 percent) and the European Union (21 percent). The United States exports of pork and pork-related products account for 25.5 percent of the world's pork exports, second behind Canada (41 percent).

B. Pork Production

The pork production process is segmented into multiple processes from farm to table. The lifecycle of a market pig can be deconstructed into four phases: (1) breeding and gestation (pregnancy of a female pig), (2) farrowing (birth baby pigs until weaning), (3) nursery (care of pigs immediately after weaning until about 40-60 pounds), and (4) finishing (growing pigs until large enough for slaughter).[33]

Gilts (female pigs) reach maturity and are bred at 170 to 220 days of age.[34] The gestation period lasts approximately four months. Gilts are called sows after the female hog gives birth. Sows (breeding pigs) birth piglets on sow or nursery farms, mostly in the Midwest or North Carolina.[35] During this farrow stage, female hogs produce about 11 to 13 pigs per litter.[36] Females are able to farrow nearly three times per year, producing up 36 piglets in one year. The farrowing stage last 21 days as sows nurse piglets until they are weaned, when piglets grow from 2-3 pounds at birth to 13-15 pounds at weaning. After weaning, these piglets are raised on nursery farms for 6-8 weeks until they have grown into "feeder pigs," weighing 40-60 pounds.[37] Piglets are given a

[32] Statistics are produced by the National Pork Producers Council (https://nppc.org/the-pork-industry/). The estimate of total commercial hogs slaughtered in the United States in 2021 as calculated by the USDA ERS Livestock and Meat Domestic Data is closer to 129 million hogs (https://www.ers.usda.gov/webdocs/DataFiles/51875/MeatStatsFull.xlsx?v=6443.9).
[33] William D. McBride and Nigel Key (2007), "Characteristics and production costs of United States hog farms, 2004," United States Department of Agriculture, Economic Research Service, Economic Information Bulletin, Number 32.
[34] The statistics regarding the life cycle of a pig are obtained from Pork Checkoff (2021), unless otherwise noted. Pork Checkoff (2021), "Life cycle of a market pig," National Pork Board, available at (accessed June 1, 2022): https://porkcheckoff.org/pork-branding/facts-statistics/life-cycle-of-a-market-pig/
[35] NPPC v. Ross, 21, 9th Cir 2021, petition, at 7 (https://www.supremecourt.gov/DocketPDF/21/21-468/193744/20210927102549231_NPPC v Ross Petition for Cert PDFA.pdf).
[36] Lawsuit, ¶ 70.
[37] Key and McBride (2007), *supra* note 33, state the appropriate weight for a feeder pig is 30 to 80 pounds. The NPPC v. Ross, 21, 9th Cir 2021, petition *supra* note 35, offers a tighter range of 40-60 pounds.

corn/soybean diet during this nursery stage, eating roughly 1.4 to 4 pounds per day. Feeder pigs are then moved from nursery farms and raised for 16-17 weeks on "finishing farms."

"Once reaching 240-280 pounds, market hogs are sold to packer-slaughter facilities, often through years-long supply agreements that specify the number and timing of hogs to be delivered to the packer. Packers slaughter market hogs–thousands or tens of thousands daily–to process and pack cuts of pork."[38]

The supply of pork can be affected by shifts in input prices (feed costs, corn/soybean prices, transportation costs) or the death loss of pigs during any stage of their cycle.

C. A Brief History of the Supply-Chain Model in the Pork Industry[39]

Historically, hog production in the United States was characterized by "hundreds of thousands of small farmers raising and selling hogs to their local terminal markets" (Drabenstott, 1998).[40]

During the 1990s, the pork industry began transitioning towards a supply-chain model, according to Mark Drabenstott. In this model, the hog production process is divided into multiple stages, and hog producers specialize in one or more of these stages. Such specialization leads to increased production and efficiency. Key and McBride (2007) describe hog production as "generally classified by the number of stages in which the producer operates: (1) farrow-to-finish (all four stages), (2) farrow-to-feeder pig (phases 1, 2, and 3), (3) feeder pig-to-finish (stage 4), (4) wean-to-feeder pig (phase 3), and (5) farrow-to-wean (phases 1 and 2)." However, there has been a decrease in farrow-to-finish operations over time, and an increase in farrow-to finish operations over the last few decades.

This supply-chain model is supported by contract production and vertical integration. Due to the dramatic increase in contract production in the pork industry revolution, there is a distinction between hog producers and owners. According to Key and McBride (2007), "contract production is an arrangement whereby a hog owner (a contractor) engages a producer (a grower) to take custody of the pigs and care for them in the producer's facilities." Contractors often supply production inputs to hog farmers and are typically responsible for hogs' packing, processing, and marketing..

Pork contractors are typically large firms like JBS, Smithfield, and Tyson, who own or contract all stages of hog production. In some instances, vertically integrated companies may choose to operate from farrow-to-finish (all four stages of production) rather than contract the breeding and

[38] NPPC v. Ross, 21, 9th Cir 2021, petition, *supra* note 35, at 7.
[39] This subsection follows the analyses by Mark Drabenstott (1998). "This little piggy went to market: will the new pork industry call the Heartland home?" Economic Review, Federal Reserve Bank of Kansas City, vol. 83, at 79-97.
[40] *Id.* at 79.

raising of hogs. However, most vertically integrated pork producers typically purchase hogs through a network of affiliated and independent farms under "multi-year contracts and also acquire hogs on the spot-market."[41]

The Lawsuit discusses concerns that, in addition to large operation costs necessary to run pork processing facilities, the use of multi-year contracts adds a barrier to entry into the pork processing market because new entrants must raise large numbers of hogs either through contracts or farming to remain profitable.[42]

D. Vertical Integration

The pork industry is vertically integrated and highly concentrated. The vertically integrated pork producers, commonly called pork or swine integrators, have control over the "breeding, production, growing and processing of pork…through vertical integration and exclusive production contracts with hog farmers."[43] The pork integrators exercise control over multiple stages of the pork production process.

E. Demand

A range of demand price elasticities has been reported over time in the pork industry. The Lawsuit reports a demand price elasticity of demand -0.64.[44] According to Steve Meyer (2009), most elasticities are between -0.90 and -0.64. While pork elasticities might be elastic in specific geographic markets (like large cities) or products (like loin and shoulder),[45] the reported range indicates that the demand for pork is relatively inelastic: A relatively small decrease in the quantity supplied of pork, results in a relatively large increase in pork prices.

Although there is heterogeneity across pork products (by cuts, like loins, shoulder, ribs, and by fat percentage), pork products are generally not distinguishable across brands and firms, like Smithfield, Tyson, and JBS. The lawsuit alleges that it is easier to agree on a common price structure given this homogeneity.[46]

[41] NPPC v Ross, 21, 9th Cir 2021, petition, *supra* note 35, at 10.
[42] Lawsuit, ¶ 95.
[43] Lawsuit, ¶ 67.
[44] Lawsuit, ¶ 96.
[45] Steve Meyer (2009), "Understanding the Measures of Pork Demand," National Hog Farmer, available at (Accessed, June 6, 2022): https://www.nationalhogfarmer.com/marketpreview/0522-understanding-measures-of-pork-demand#comment-0
[46] Lawsuit, ¶ 97.

Glenn Grimes, Steve Meyer and Ronald Plain (2015) indicate that several factors driving the demand for pork include "consumer tastes, consumer income, prices of substitute goods such as beef and chicken, prices of complementary products, and seasonal changes."[47]

Figure 1 shows that monthly United States commercial pork production grew by approximately 53 percent, producing nearly 1.5 billion more pounds of pork each month between 2000 to 2021. Increased global demand for United States pork also contributes to rising domestic pork prices over time. Since the evolution of the pork industry during the mid-1990s, the U.S has become a net exporter of pork products and remains one of the largest exporters today.

Figure 2 shows the growth in net exports from JBS, one of the largest pork integrators in the United States, which produces more than 120,000 tons of pork annually today.

F. Discussion

Meyer, Plain, and Grimes (2015) explain that "the demand for market hogs is derived downward from the demand for pork." To determine the pork retail price (demand) schedule, retailers estimate the demand for pork by consumers and deduct from this price schedule enough to cover their production costs, including the wholesale price of pork and marketing costs. Pork-processors (wholesalers) recognize retailers' demand for pork and deduct a sufficient amount from the retailers' demand schedule to remain profitable. This schedule defines the demand for market hogs upstream faced by pork farmers.

There was an increase in the real pork prices during the alleged conspiracy period, which overlaps a decrease in pork production. Figure 3 shows the historical farm prices, wholesale, and retail prices in real dollars for United States pork between 2000 and 2021. Before 2009, during the pre-alleged-collusion period, the trend in United States pork net farm values and wholesales values appeared stable and retail prices decreased.[48] Retail prices increased during the class period (2009-2018). Wholesale prices increased early during the class period 2009-2014, although not substantially. The spread increased during the alleged conspiracy period, while pork production growth decreased (Figure 1). Figure 4 shows the evolution of wholesale and net-farm values using the year 2000 as a benchmark; Figure 5 does the analog for wholesale and retail values. Both figures show a significant spread increase after 2014.

[47] Steve R. Meyer, Ronald L. Plain, and Glenn Grimes (2015). "How and Where is Price Established?" Pork Information Gateway, available at (accessed June 6, 2022): https://porkgateway.org/resource/how-and-where-is-price-established/

[48] Pork net farm values are calculated as the difference between gross farm values and pork byproducts values.

There was an increase in production costs during the alleged conspiracy period. Cook, Hayes and Goodwin (2021 and 2022) provide a rationale for more recent pork price increases in 2021.[49] They state that the pork industry experienced a decrease in demand, an increase in costs, and a labor shortage at all production levels. Compared to the rise in pork prices observed between 2009 and 2014, there was no similar labor shortage as seen during the COVID-19 pandemic.

According to the Quarterly Census of Employment and Wages, there was a temporary decrease in hog and pig farming total employment between 2009 and 2010. However, employment in the swine industry increased every year from 2011 until 2019, where employment significantly decreased during the pandemic. Goodwin and Meyer (2021) argue that "the low levels of 2011 through 2014 were caused, first, by higher production costs driven by the diversion of corn to ethanol production to fulfill federal mandates, then by high corn and soybean prices because of the 2012 drought and, finally, by the loss of 6 to 8 million pigs in 2013 and 2014 due to the Porcine Epidemic Diarrhea virus (PEDv)."[50]

Figure 6a presents pork production cost data for feeder-to-finishing pork operations on feed costs, variable costs, fixed costs, operation costs, and death loss. There was an increase in feed costs from 2007 to 2008 and 2010 to 2014 (during the alleged conspiracy period). This increase in production costs is also reflected in the livestock prices for gilts and sows, as shown in Figure 6b. The United States real hog prices increased during the alleged collusion period, before prices fell during the swine flu pandemic in 2014.

Figure 7 shows the evolution of the revenues and costs for JBS, Tyson, and Smithfield before and after the alleged collusion period. The difference between revenue and cost tend to increase during the alleged collusion period.

The courts will need to separately identify the extent to which the increase in pork prices reflects other factors, such as the pass-through of increased production costs, relative to the supply restraint due to the alleged coordination between the pork integrators. Two questions to ask are: (1) Is there a significant increase in wholesale-to-retail price margins; and (2) if so, how much of the price increase is reflected in increased production costs?

The retail prices for pork depicted in Figure 3 do not represent a pork demand schedule by consumers but rather the final price determined by the market. Cook, Hayes, Goodwin (2021) plot per capita pork consumption relative to negotiated carcass cutout values as a measure of the United

[49] Holly Cook, Dermot Hayes, and Barry Goodwin (2021), "U.S. Retail Pork Price Inflation," National Pork Producer Council; Holly Cook, Dermot Hayes, and Barry Goodwin (2022), "Concentration in the U.S Pork Industry," National Pork Producer Council.

[50] Barry Goodwin and Steve R. Meyer (2021), "Structure and Importance of the U.S. Pork Industry," National Pork Producer Council.

States pork demand (Figure 6c).[51] The authors indicated that the 2014 increase in retail pork prices represents an increase in demand depicted by a shift in the demand schedule. Consumers were willing to pay higher prices for pork after the PEDv ended in 2014. The increase in pork prices between 2009 and 2013, and consequently decrease in pork consumption is represented as a movement along their original demand rather than a shift in the demand schedule. It might reflect changes in the pork market prices that are independent of the shift in consumer tastes or incomes. A formal demand analysis is required to clarify these issues.

IV. Legal Standard

Next, we analyze the Lawsuit using the legal standard in the Supreme Court Opinion in *American Column & Lumber*.[52]

A. Summary

In 1918, a group of hardwood manufacturers formed the unincorporated "American Hardwood Manufacturers' Association." The association created an "Open Competition Plan" (hereinafter *Plan*), whereby members exchanged detailed information regarding their business operations, including information about prices, production, and inventories, and made recommendations about future prices and production decisions.

The Government[53] filed a lawsuit against American Column & Lumber Company *et al.* (hereinafter *American Column*), alleging that the Plan was a conspiracy that restricted competition in interstate commerce by curtailing production and increasing prices, thereby violating the Sherman Act. At the time of the lawsuit, American Column controlled approximately one-third of the hardwood output in the United States.

American Column alleged that the exchange of information in the Plan was not *per se* unlawful and that the Plan recommendations[54] "to maintain prices or to curtail production, or as "arguments" for higher prices […] does not make out a conspiracy without some evidence that the parties promised each other to act in accordance with such recommendations or arguments."[55]

[51] *Supra* note 49.
[52] *American Column Co. v. United States*, 257 U.S. 377 (1921).
[53] We use the term *Government* to refer collectively to all government agencies and regulators involved in the suit.
[54] These recommendations were made by Mr. F. R. Gadd, who had the title of Manager of Statistics: "Mr. Gadd was a man of large experience in the lumber business, competent and aggressive, and the record makes it clear that he was in complete and responsible charge of all the activities of this "Open Competition Plan."" *American Column Co. v. United States*, 257 U.S. 377 (1921), at 401.
[55] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 382.

The District Court granted a temporary injunction restricting the activities of the Plan. The Supreme Court determined that the Plan violated the Sherman Act by restricting competition and increasing prices.

B. Characteristics of the *Plan* and Execution

The Plan featured the following characteristics. Daily reports by manufacturers on sales and shipments and monthly reports about production, inventories, and prices. Plan members were required a standardized inspection service for their reports to make the "reports more intelligible" for comparing of prices.[56] All reports were subject to a complete audit. Participation was required for a firm to receive reports. Failure to report was cause to be removed from the Plan.

In retribution, the Association issued monthly reports summarizing inventories and quality, and weekly reports with detailed information about each sale, including the prior week's shipments, prices, and purchasers' names. It also sent market reports and coordinated monthly meetings. The Association asked questions about future production and market conditions in the meetings, among other topics. The holding of the court was that the questions on future production allowed for "an expert analyst [to] readily evolve an attractive basis for cooperative […] "harmony" with respect to future prices."[57] In other words, forward looking questions facilitated future price fixing.

A key figure in the conspiracy was the defendant F.R. Gadd. "[T]he Plan was the clearinghouse for information on prices, trade statistics, and practices, so Gadd was the clearinghouse of the Plan, and that what he said and did, acquiesced in by the members, as it was, must be accepted […]."[58] Using the coconspirators' reports, Mr. Gadd created the summaries of the information provided to the Plan members. He would issue reports containing "significant suggestions as to both future prices and production"[59] and repeatedly included warnings against "overproduction."[60]

C. Court Decision

The Court determined that the Plan constituted a conspiracy in restraint of interstate trade and that calling it an *Open Competition Plan* was "plainly a misleading misnomer:"[61]

> "Genuine competitors do not make daily, weekly and monthly reports of the minutest details of their business to their rivals, as the defendants did; they do not contract, as was done here, to submit their books to the discretionary audit and their stocks to the discretionary inspection of their rivals for the purpose of successfully competing with

[56] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 395.
[57] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 398.
[58] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 401-402.
[59] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 401.
[60] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 403.
[61] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 410.

> them; and they do not submit the details of their business to the analysis of an expert, jointly employed, and obtain from him a "harmonized" estimate of the market as it is and as, in his specially and confidentially informed judgment, it promises to be. This is not the conduct of competitors but is so clearly that of men united in an agreement, express or implied, to act together and pursue a common purpose under a common guide that, if it did not stand confessed a combination to restrict production and increase prices in interstate commerce and as, therefore, a direct restraint upon that commerce, as we have seen that it is, that conclusion must inevitably have been inferred from the facts which were proved. To pronounce such abnormal conduct on the part of 365 natural competitors, controlling one-third of the trade of the country in an article of prime necessity, a "new form of competition" and not an old form of combination in restraint of trade, as it so plainly is, would be for this court to confess itself blinded by words and forms to realities which men in general very plainly see and understand and condemn, as an old evil in a new dress and with a new name."[62]

V. Comparison of the *Plan* and Agri Stats.

Several similarities and differences stand out between the Plan and Agri Stats.

A. Information Sharing

Both provided historical and present data. Both provided forward-looking projections about production, prices, and inventories. Both served as clearinghouses to monitor services and ensured association rules compliance. Both audited and standardized reports to ensure data regularity.

While the lumber companies were dissuaded from running night shifts at mills, the pork companies in the Lawsuit allegedly kept single pork processing shifts to restrain production.

B. Coordination

Several quotes from the meetings/reports from the American Lumber conspirators are similar to those attributed to Agri Stats representatives and the Defendants in the pork Lawsuit. They all emphasize the need for industry cooperation to cut supply. Aside from the industry references, the quotes below, taken from the Lawsuit and Supreme Court Opinion, read alike in substance:

[62] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 410.

"*Overproduction will spell disaster*, as it should always be borne in mind that the maximum productive capacity […] of the country is much in excess of any demand the country has ever known."[63] (Emphasis added.)

"*The danger* which we see lurking in the future for the […] industry *is overproduction*."[64] (Emphasis added.)

"If there is *no increase in production* […] there is going to be good business.[…] *No man is safe in increasing his production*."[65] (Emphasis added.)

"We must remember that the ultimate goal is increasing profitability – *not always increasing the level of production*. […]. "*[E]ach* […] *production company should be participating in some type of benchmarking*. To gain maximum benefit, production, cost and financial performance should all be part of the benchmarking program."[66] (Emphasis added.)

"So I think you really need to look at the overall industry balance of supply and demand to be able to determine, and the industry move prices up and collectively as a group. We've got limited ability to do it ourselves if the rest of the industry doesn't follow, but the consumer tends to be willing to pay proportionately higher values […] when *small increments of supply are withdrawn from the marketplace*."[67]

"[G]iven some *restrictions in supply* we have been able to pass price through the system and we are seeing good margins in our […] business. . . . So this is a clear sign that *we have been able to pass price increase* […]."[68]

C. Reporting Errors

The evidence points to a failure to correct an association member for an alleged error in both cases. In the lumber case, there are suggestions that Mr. Gadd "exceed[ed] his authority"[69] in his analyses and suggestions to the coconspirators and that Secretary-Manager failed to stop such behavior. In the pork Lawsuit, Agri Stats individual information from firms was compromised when individuals gathered the competitors' anonymous identification numbers. Agri Stats did not

[63] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 410.
[64] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 403.
[65] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 402.
[66] Lawsuit, ¶ 42.
[67] Lawsuit, ¶ 158.
[68] Lawsuit, ¶ 159.
[69] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 401.

want to recode the numbers, apparently providing a declassification key of the anonymous labeling of firm and factories.[70,71]

D. Public v. Proprietary Data

A remarkable difference between the two cases is the extent to which the data-sharing scheme was public.

The data exchanged and meetings in the lumber case were open to the public: "[A] copy of every report made and of every market letter published has been filed with the Department of Justice, and with the Federal Trade Commission. The district meetings were open to the public."[72]

The information was deeply "confidential, proprietary, and competitively sensitive" in the Pork Lawsuit.[73]

D. Output and Prices

Did the coordinated arrangements serve to limit supply? The economic literature has identified several circumstances where colluding firms benefit from information agreements to deter defection and enforce collusion.[74]

The Supreme Court found that the answer was "yes" in the lumber case.[75] While the District Court is still to decide in the pork case, the evidence in the Lawsuit suggests that the Defendants

[70] Lawsuit, ¶ 61.
[71] The article by David E. M. Sappington and Douglas C. Turner in this special issue discusses three ways through which Agri Stats' clients might infer the identity of their competitors. David E. M. Sappington and Douglas C. Turner. 2022. "Information Sharing and Collusion: General Principles and the Agri Stats Experience" at 15.
[72] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 415.
[73] Lawsuit, ¶ 20.
[74] See, e.g., George J. Stigler (1964), "A Theory of Oligopoly," Journal of Political Economy, 72:1, 44-61, DOI: 10.1086/258853; Edward J. Green and Robert H. Porter (1984), "Noncooperative Collusion under Imperfect Price Information," Econometrica, 52:1, 87-100, DOI: 10.2307/1911462; B. Douglas Bernheim and Michael D. Whinston (1990), "Multimarket contact and collusive behavior," RAND Journal of Economics, 21:1, 1-26, DOI: 10.2307/2555490. See the related discussion in Sappington and Turner (2022), *supra* note 71, §III.C.
[75] *American Column Co. v. United States*, 257 U.S. 377 (1921), at 401.

either cut production or supplied it at a lower rate than a competitive market, resulting in "artificially inflated prices for pork during the Class Period."[76,77,78]

E. Discussion

In our view, two fundamental questions arise. First, whether the association of Pork Integrators and Agri Stats resulted in restraint of interstate commerce, the main issue at stake in the Lawsuit. The second, more general question, is whether information-exchange agreements using clearinghouses like Agri Stats lessen competition offending the statutory provisions of United States antitrust law.[79]

Regarding the first question, Section 1 of the Sherman Act states:[80]

> "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States […] is declared to be illegal."

The Court has repeatedly stated that the statute's purpose is to maintain free competition. Any direct and undue agreement that restrains interstate commerce is therefore unlawful.[81] The evidence presented in the Lawsuit and the settlements in several related class-action cases indicate that there appears to be support for the Plaintiffs' Lawsuit.

A topic requiring exceptional handling, in our view, concerns the second question. Namely, whether information-exchange agreements *à la* Agri Stats restrain competition and the limits to such coordination imposed by antitrust law. Settlements are useless to deter future conspiracies unless there is a structural change in antitrust enforcement. Harm compensation might remain

[76] Lawsuit, ¶¶ 5 and 7, ¶¶ 119-191. Before the time period of the alleged conspiracy, the expansion of sow herds was treated as a certainty by industry analysts (Lawsuit, ¶ 119). Despite this, the pork integrators reduced production in 2009, 2010, and 2013. The first of these reductions is notable as it was "the first time since... 1994 [that] the nation's largest 25 producers [cut] sow numbers." Lawsuit, ¶ 121.

[77] "Wholesale and retail price data from the USDA reflects a rise and stabilization in consumer prices since early 2008, when the conspiracy is alleged to have started affecting the market, particularly in pork. After remaining relatively stable between 2000 and 2008, pork retail prices shot up almost 50% from January 2008 to a then-record high in September 2014. After that peak, retail prices remained high, always at least 25% higher than 2008 levels." Eli Hoff, 2021. "'Is this legal?': Why an obscure data service has been sued nearly 100 times for facilitating anti-competitive behavior." Midwest Center for Investigative Reporting, available at (accessed May 3, 2022): https://investigatemidwest.org/2021/07/29/is-this-legal-why-an-obscure-data-service-has-been-sued-nearly-100-times-for-facilitating-anti-competitive-behavior/

[78] See Subsection 3.F, *supra*, for details.

[79] Section 7 of the Clayton Act, 15 U.S.C. § 18; Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1–2; and Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45.

[80] 15 U.S.C. § 1.

[81] *Inter alia* see *Northern Securities Co. v. United States*, 193 U. S. 197 (1904); *United States v. Union Pacific R. R. Co.*, 226 U. S. 61 (1912); *Eastern States Retail Lumber Dealers' Association v. United States*, 234 U. S. 600 (1914);

[81] *American Column Co. v. United States*, 257 U.S. 377 (1921).

incomplete if this issue is resolved.[82] Crucially, sharing information using these clearinghouses might continue to be profitable for firms at the expense of other market participants. If using clearinghouses to share, standardize, and analyze information does not offend antitrust law, we need to ask: Why would genuine competitors share such detailed reports of the minutest business items with rivals?

One answer is that the information-sharing arrangements allows firms to be better informed and more efficient.[83] While this answer is satisfactory in justifying the firms' incentives and might be true under certain circumstances,[84] it remains silent regarding the central antitrust issue: When does an information-sharing arrangement render into anticompetitive conduct by facilitating collusion either tacit or express?

In any case, the involvement of the Agencies in information-sharing suits might force Courts to take a stand, as emphasized by Peter Carstensen.[85] Alternatively, the Agencies might issue guidelines regarding the allowed information-sharing standards.[86]

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[82] As noted in Section II, *supra*, final pork consumers are excluded from the class-action lawsuit in the Lawsuit. However, they would have also been harmed by the higher retail prices due to the alleged pork cartel conspiracy.

[83] D. Sappington and D. Turner explain that the impact of information-sharing agreements depends on many factors, including the characteristics of the industry and the type and form of the information shared. They also discuss the Agri Stats' case and, while they do not attempt to assess the net impact of Agri Stats data-sharing agreements on consumer welfare, they state: "We find that although some elements of Agri Stats' activities may have had the potential to enhance consumer welfare, several other elements entail features of information sharing that the common wisdom suggests are relatively likely to harm consumers." Sappington and Turner (2022), *supra* note 71 at 1.

[84] Agri Stats' information-sharing agreements might help firms identify production activities that are less efficient than their competitors and facilitate more accurate benchmarking. "For example, if a pork producer's costs rise, an Agri Stats report can help the producer determine the extent to which its elevated costs reflect higher feed prices, delivery costs, vaccination costs, etc. Agri Stats reports also have the potential to reduce suppliers' uncertainty about future industry prices and cost conditions." *Id.* at 13-14.

[85] Peter Carstensen (2021), "Paltry Poultry Settlements and a Paralyzed Public Interest Protection," ProMarket, Stigler Center (March 8, 2021). Available at (accessed May 3, 2022): https://www.promarket.org/2021/03/08/poultry-pork-meat-price-fixing-lawsuit-settlement-antitrust/

[86] P. Carstensen states:

> "This is why the antitrust enforcement agencies, the DOJ and the FTC, should be directly involved in these cases, as they did in a somewhat similar case involving an airline prices information exchange in the early 1990s. They have a duty to protect the public interest in keeping markets workably competitive. This requires standards for what is permissible, both for the information exchanged and the circumstances in which this exchange occurs. *The private litigants and their lawyers in antitrust cases have limited incentive to undertake the heavy lifting of identifying appropriate remedies to balance the need for market information with the need to limit the potential to use information to coordinate production.* The attorneys for these parties are not well positioned to propose or enforce such remedies, even though the standard complaint demands injunctive relief as well as damages. […]
>
> "There is guidance of sorts in the 1996 Statements of Antitrust Enforcement Policy in Health Care, which the agencies issued to explain enforcement policy and provide guidance to lawyers and health care providers. The guidance on information exchange *requires at least five participants only sharing aggregated (averaged) data that is at least three months old.* These guidelines do not, however, make exchanges that violate their standards illegal. They are only competitively suspect. This is not an unreasonable position given that many factors can make such exchanges more or less threatening to competition. *Nevertheless, applied to the kind of current, plant-by-plant data provided by AgriStats the guidelines would make this exchange clearly*

VI. Concluding Remarks

Section 1 of the Sherman Act makes it unlawful agreements that unreasonably restrain trade. True, information-sharing agreements through clearinghouses, like the Plan in *American Column & Lumber* and Agri Stats in the Pork Lawsuit, might allow firms to be better informed and more efficient. It is also true that §1 does not prohibit all unreasonably trade restraints: an agreement, tacit or overt, is needed.

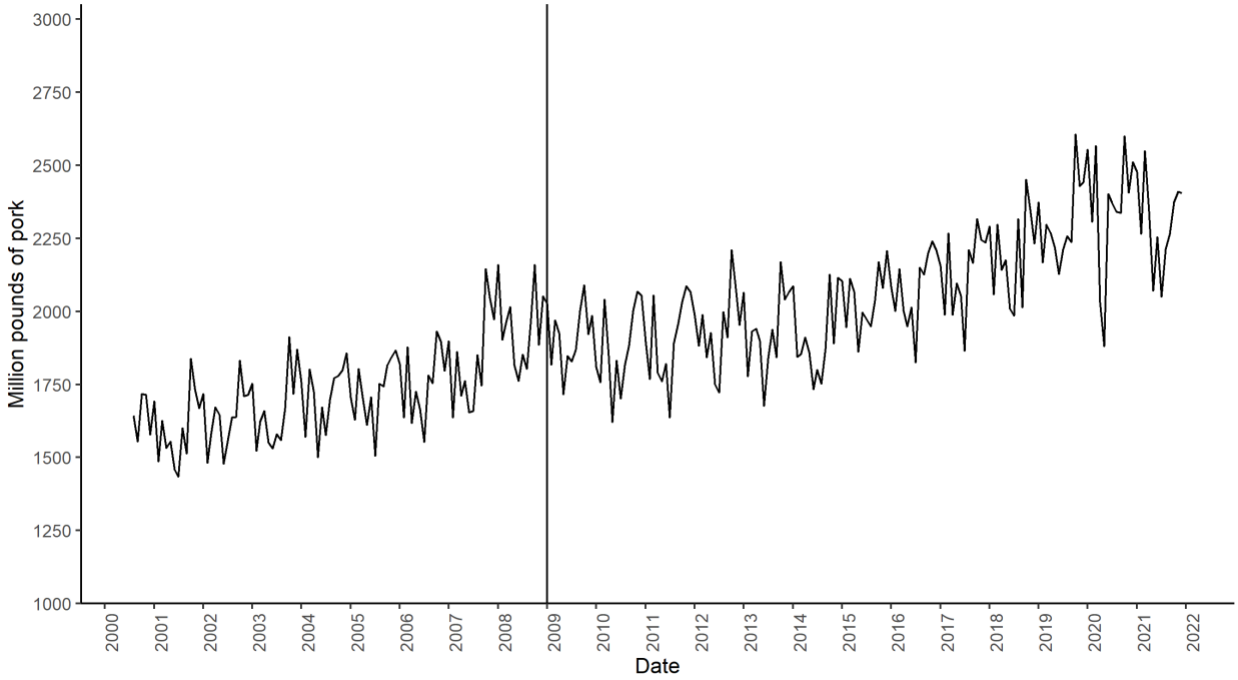
Yet, neither of these points, when viewed through the lens of the Opinion in the *American Column & Lumber* case, most likely applicable here, forecloses a §1 prosecution. There appears to be ample evidence in the Lawsuit to merit prosecution regarding both trade restraints and information-sharing agreements. It is up to the courts to judge such evidence.

The thorny issue, in our view, rest on determining the standards of information-sharing agreements that violate the statutory provisions of antitrust law. Settlements are useless to deter future conspiracies unless there is a structural change in antitrust enforcement. Unlawful information-sharing agreements will continue to be profitable for firms, while consumers, intermediaries, and producers harmed by such agreements will continue to be incompletely compensated.

Two possible solutions might involve the Agencies' participation either directly in the suits—forcing the Courts to take a stand—or through the distribution of official standards—guiding market participants regarding the information-sharing agreements that do not offend antitrust law.

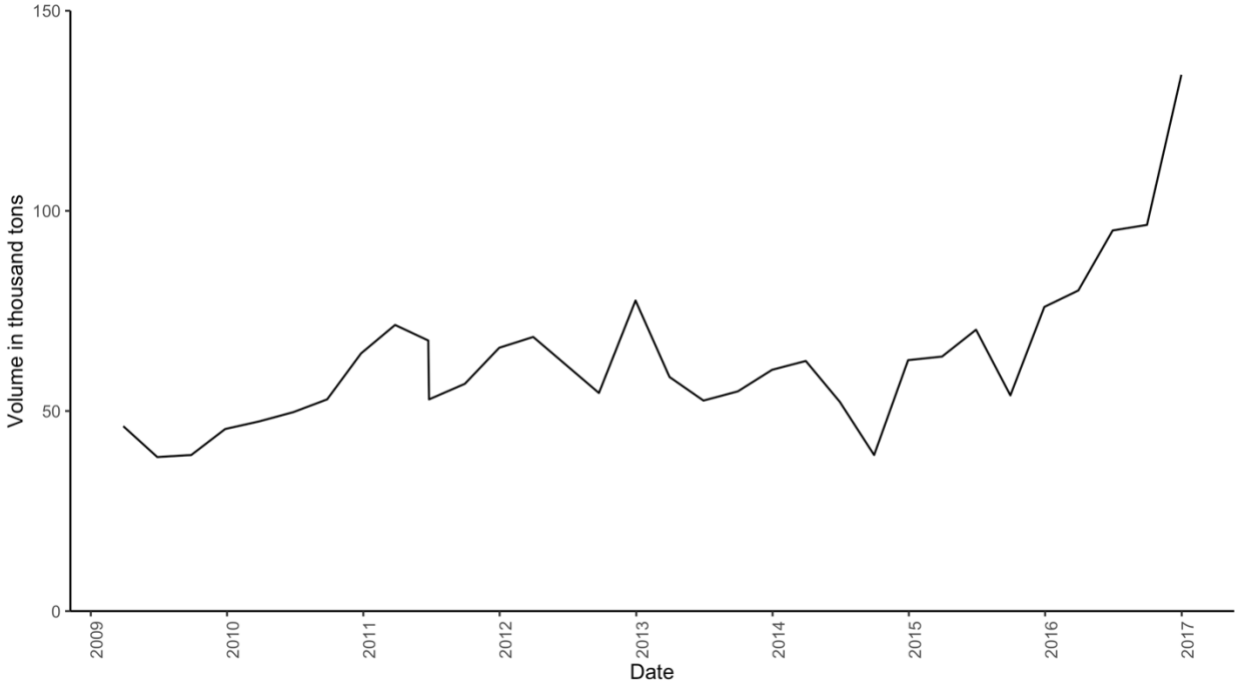
unacceptable. It takes only a "quick look" to see that there is no legitimate business justification for the exchange of such detailed, proprietary information. The only possible use is to facilitate coordinated restraint of competition among the participants." (Emphasis added.) *Id.* at ¶ 16 and ¶ 18.

Figure 1 - Monthly U.S. commercial pork production (2000 – 2022)



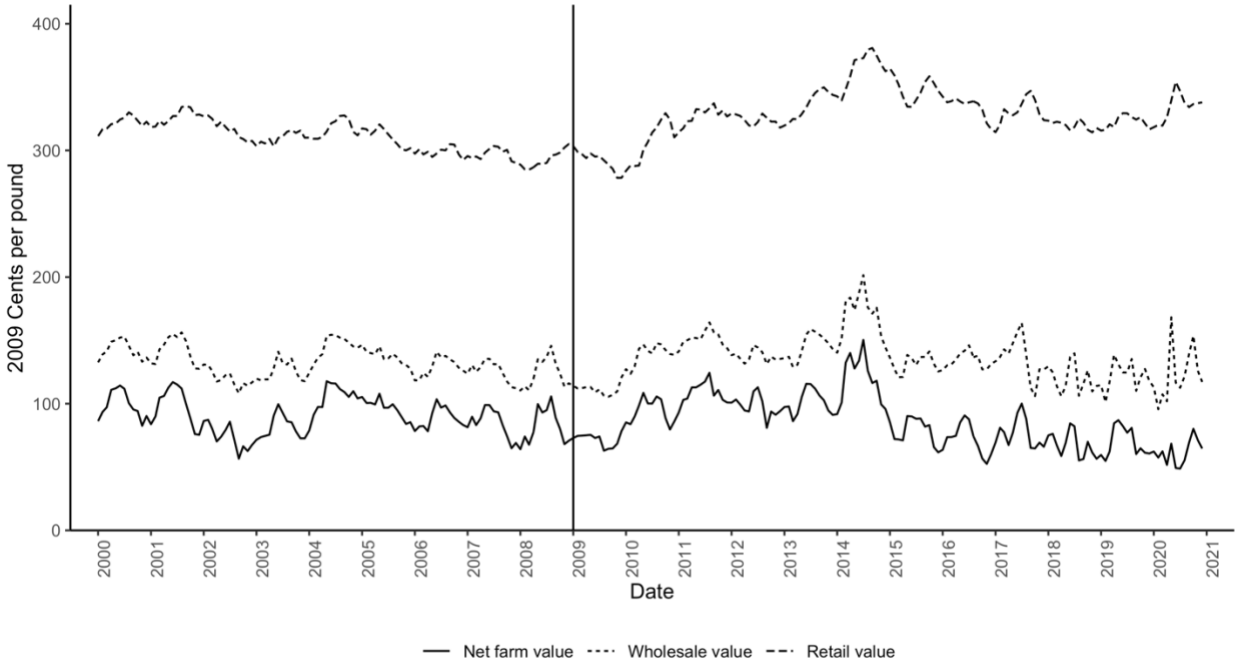
Notes: Own elaboration. The vertical line represents the start of alleged collusion. The mean values of the series before and after collusion are 1730.57 and 2067.13, respectively. Source: Meat Statistics, USDA, Economics Research Service, available online (accessed May 3, 2022): https://www.ers.usda.gov/data-products/livestock-and-meat-domestic-data/

Figure 2 - JBS USA pork exports (2009 – 2017)



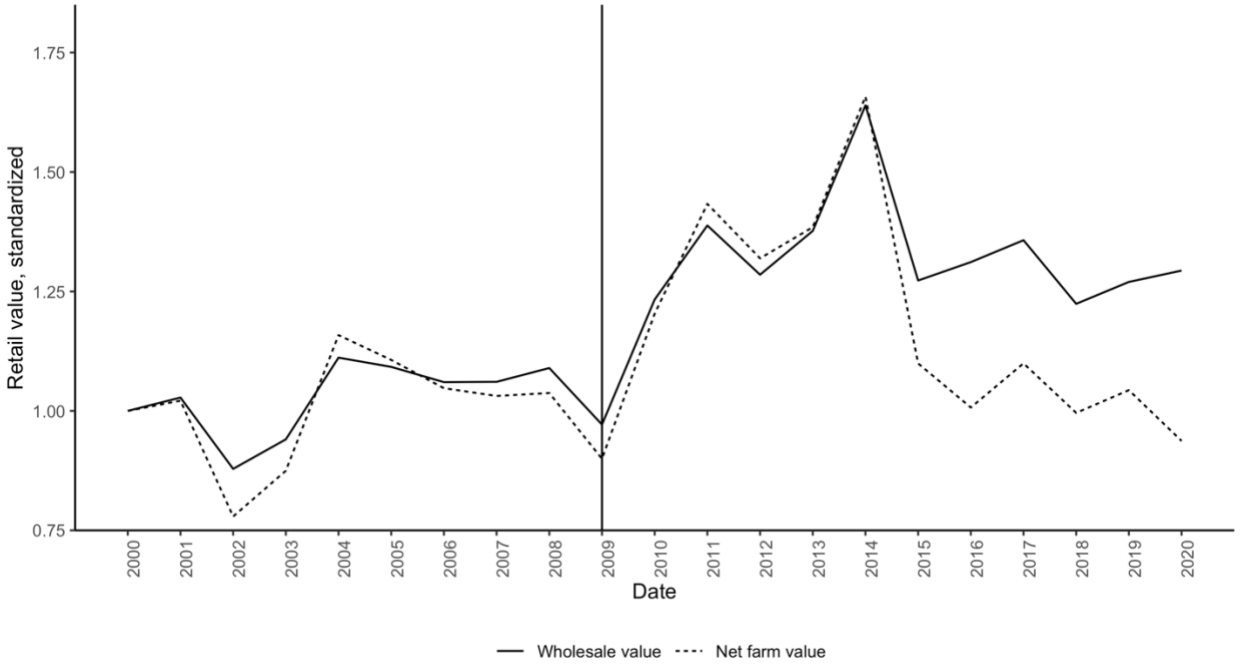
Notes: Own elaboration. The mean value of the series is 62.85. Source: JBS USA financial reports.

Figure 3 – U.S. pork prices (2000 – 2021)



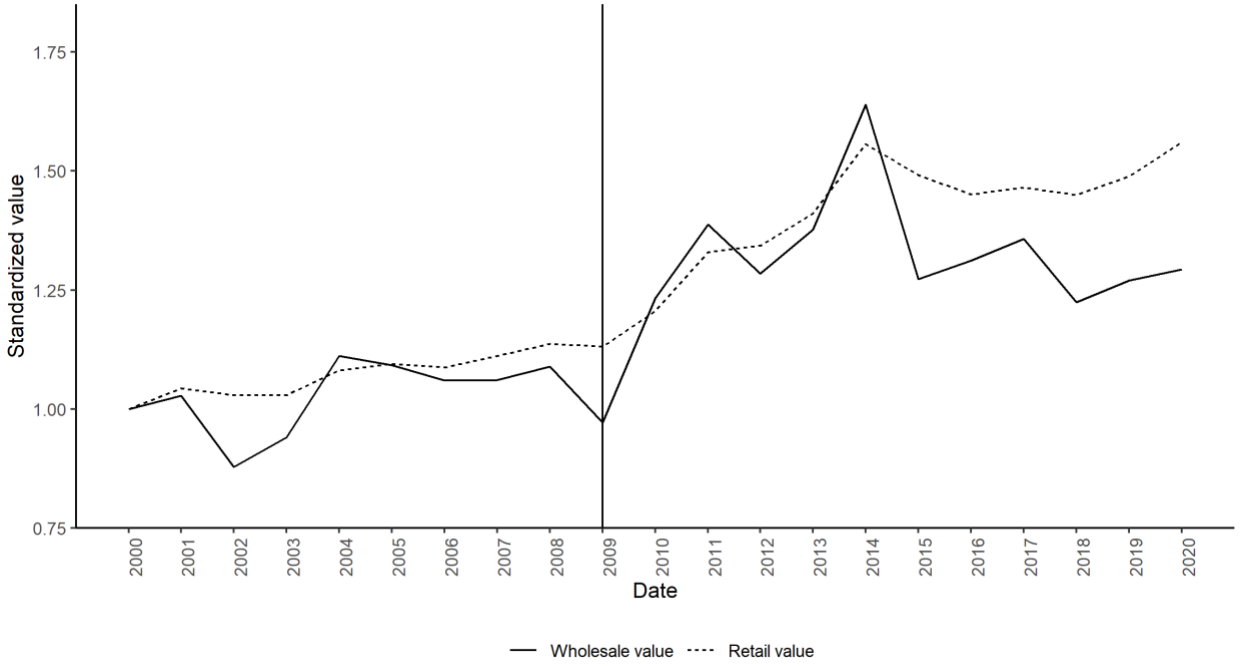
Notes: Own elaboration. The Vertical line represents the start of alleged collusion. The mean values of the series before and after the period of alleged collusion are: Net farm value (before: 162.43; after: 85.04), Wholesale value (226.62; 135.23), Retail value (367.42; 328.61). Data are obtained from USDA ERS based on USDA Agricultural Marketing Service data for the farm, wholesale, and byproduct values. The retail values are based on Bureau of Labor Statistics retail price data. Source: Meat Statistics, USDA, Economics Research Service, available online (accessed May 3, 2022): https://www.ers.usda.gov/data-products/livestock-and-meat-domestic-data/

Figure 4 – Value of pork over time



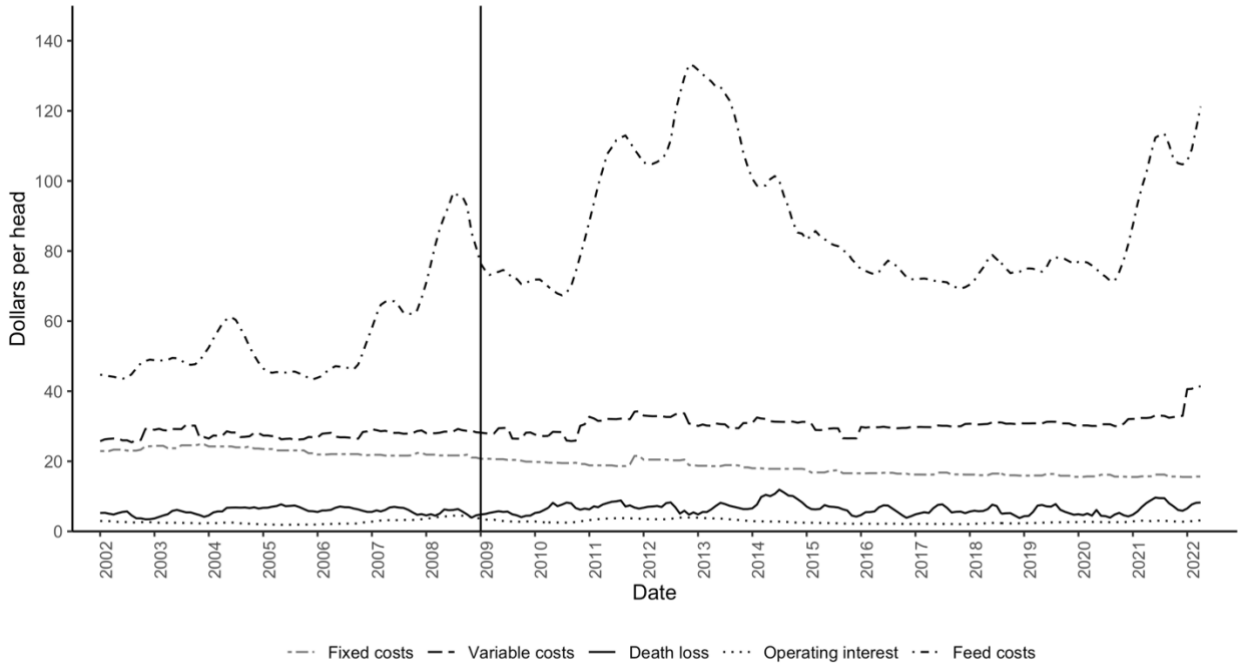
Notes: Own elaboration. The values are standardized annual means found by dividing by the mean for 2000. The vertical line represents the start of alleged collusion. The mean values for the series before and after collusion: Wholesale value (before: 1.02; after: 1.33), Net farm value (0.99; 1.20). Source: USDA, Economic Research Service, Historical monthly price spread data for beef, pork, and broilers. Available online (accessed January 26, 2022): https://www.ers.usda.gov/webdocs/DataFiles/52160/history.xls?v=8653.9

Figure 5 – Wholesale vs. retail pork prices, standardized



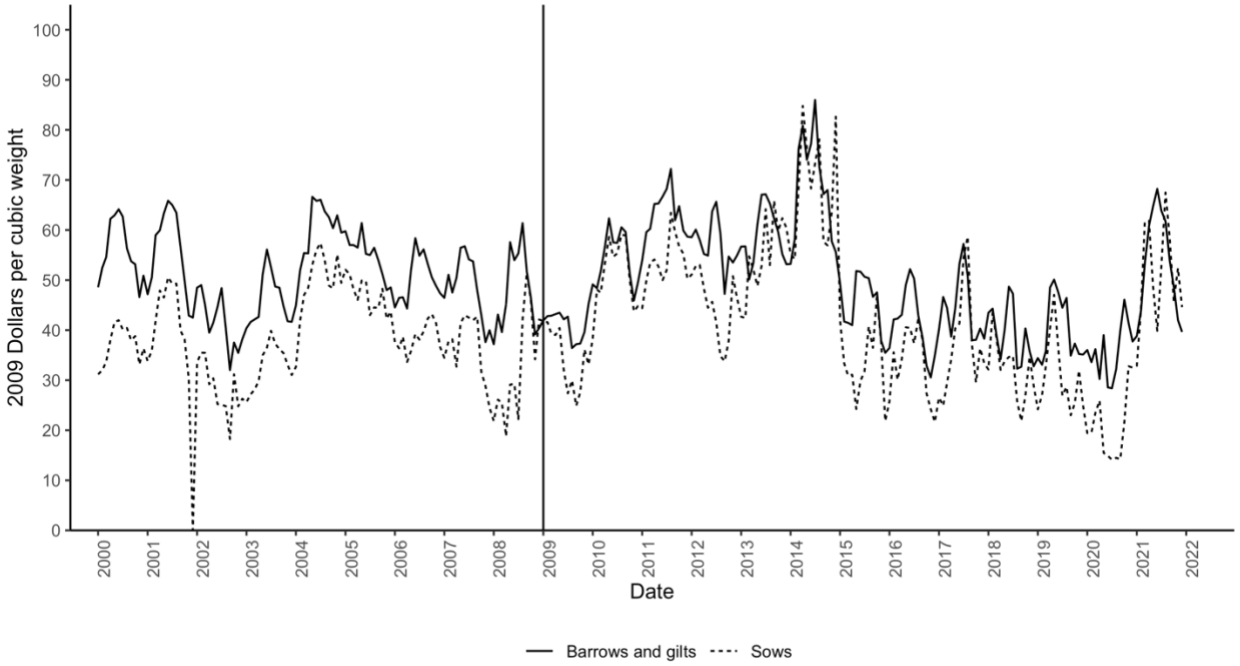
Notes: Own elaboration. The values are standardized annual means found by dividing by the mean for 2000. The vertical line represents the start of alleged collusion. The mean values of the series before and after the period of alleged collusion: Wholesale value (before: 1.02; after: 1.33), Retail value (1.07; 1.43). Source: Historical monthly price spread data for beef, pork, broilers, USDA, Economic Research Service. Available online (accessed January 26, 2022): https://www.ers.usda.gov/webdocs/DataFiles/52160/history.xls?v=8653.9

Figure 6a – Total Farrow-to-Finish production costs (2002 - 2022)



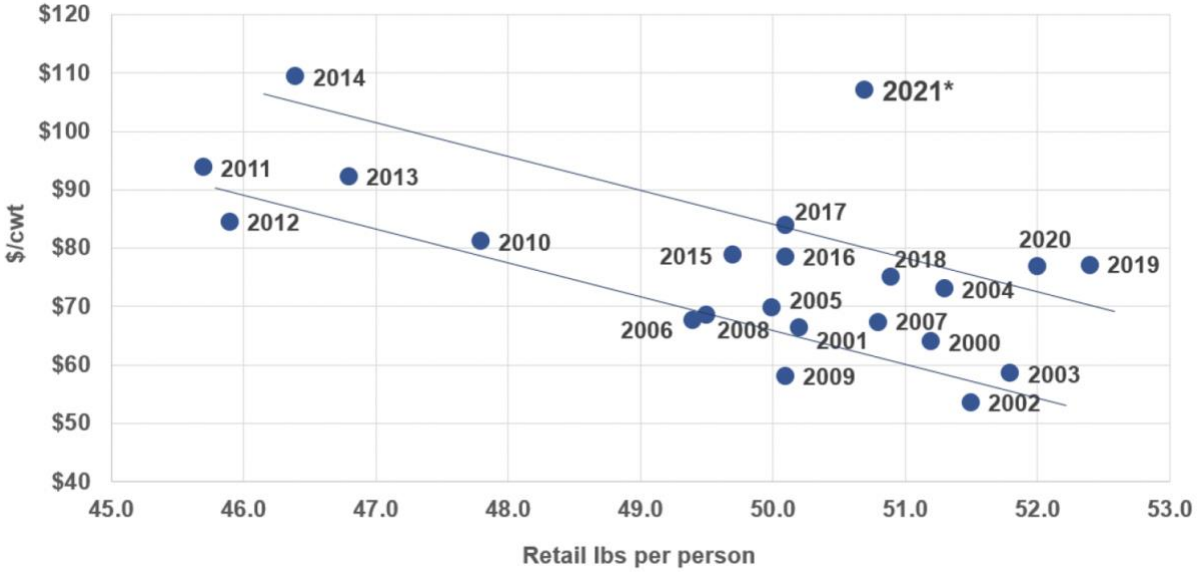
Notes: Own elaboration. The vertical line represents the start of alleged collusion. The mean values before and after period of alleged collusion: Fixed costs (before: 22.86; after: 17.58), Variable costs (27.73; 30.70), Death loss (5.74; 6.50), Operating Interest (2.72; 2.79), Feed costs (56.4; 88.52). Source: ISU, Estimated Livestock Returns, available online (accessed May 3, 2022): https://www2.econ.iastate.edu/estimated-returns/

Figure 6b – Real hog prices (2000 – 2022)



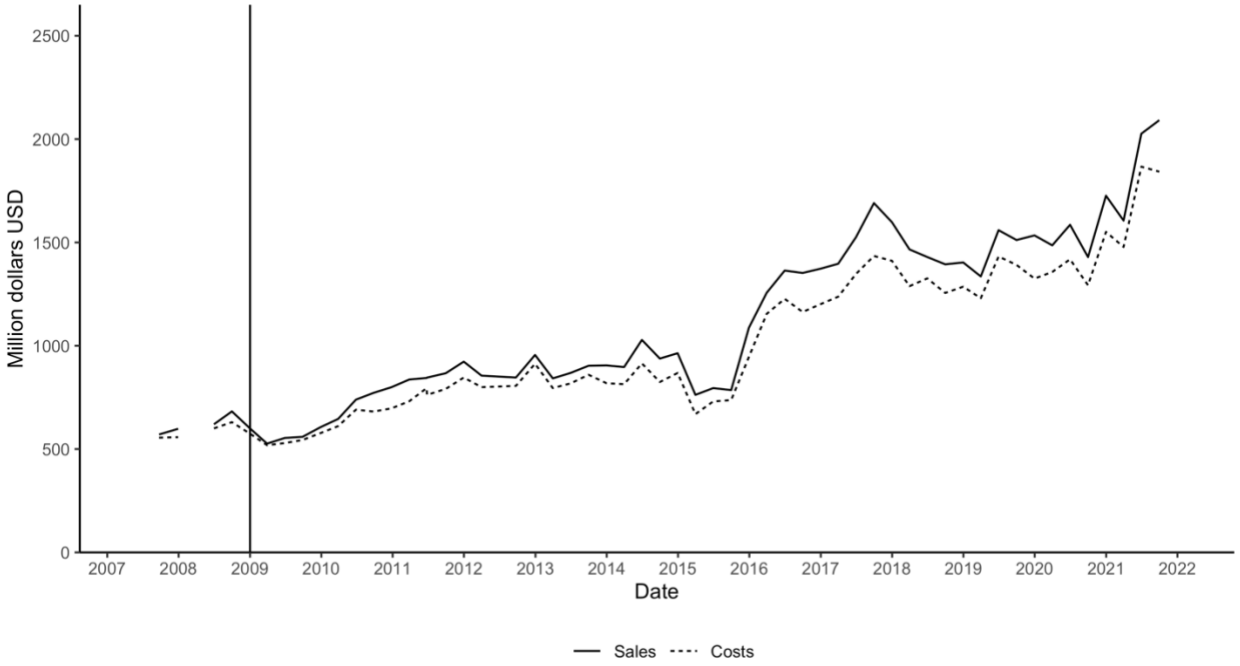
Notes: Own elaboration. The vertical line represents the start of alleged collusion. The mean values of the series before and after collusion: Barrows and gilts (before: 51.04; after: 49.51), Sows (37.91; 42.01). Source: USDA, National Agricultural Statistics Service; USDA, Agricultural Marketing Service; and USDA, Economic Research Service.

Figure 6c – Per capita pork consumption vs. negotiated carcass cutout values.



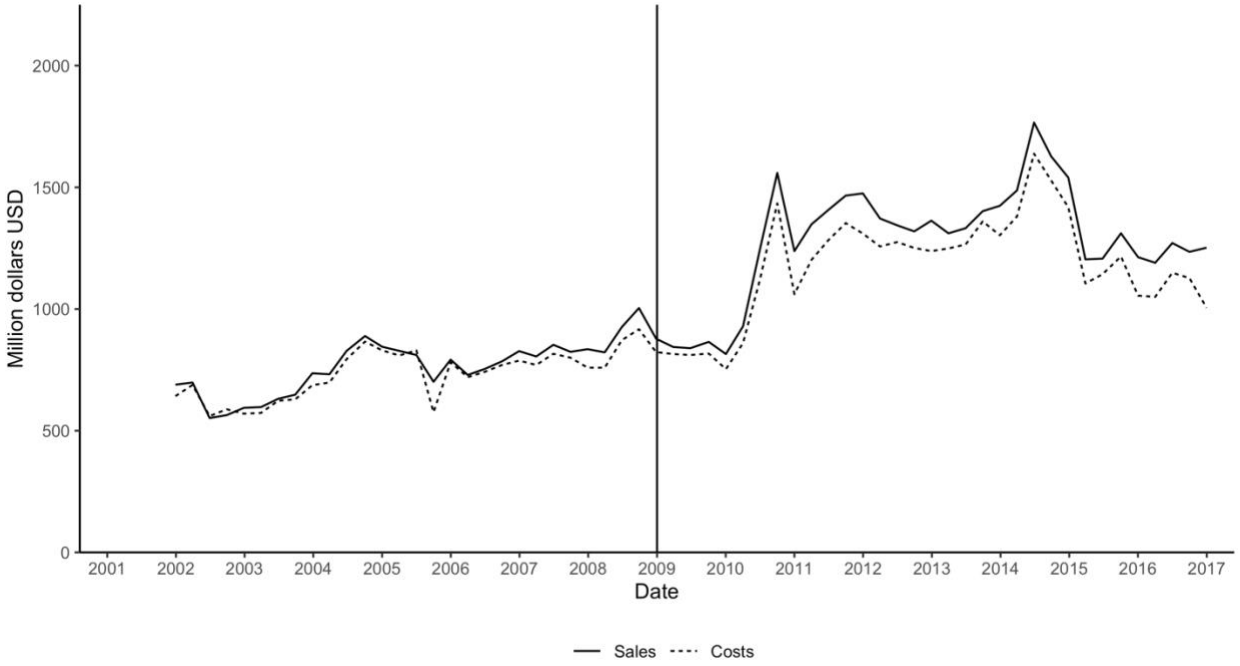
Notes: Source: Figure 4 from Cook, Hayes, Goodwin (2021), *supra* note 49. Data source from USDA AMS, USDA LMS.

Figure 7a – JBS USA pork revenues vs. costs



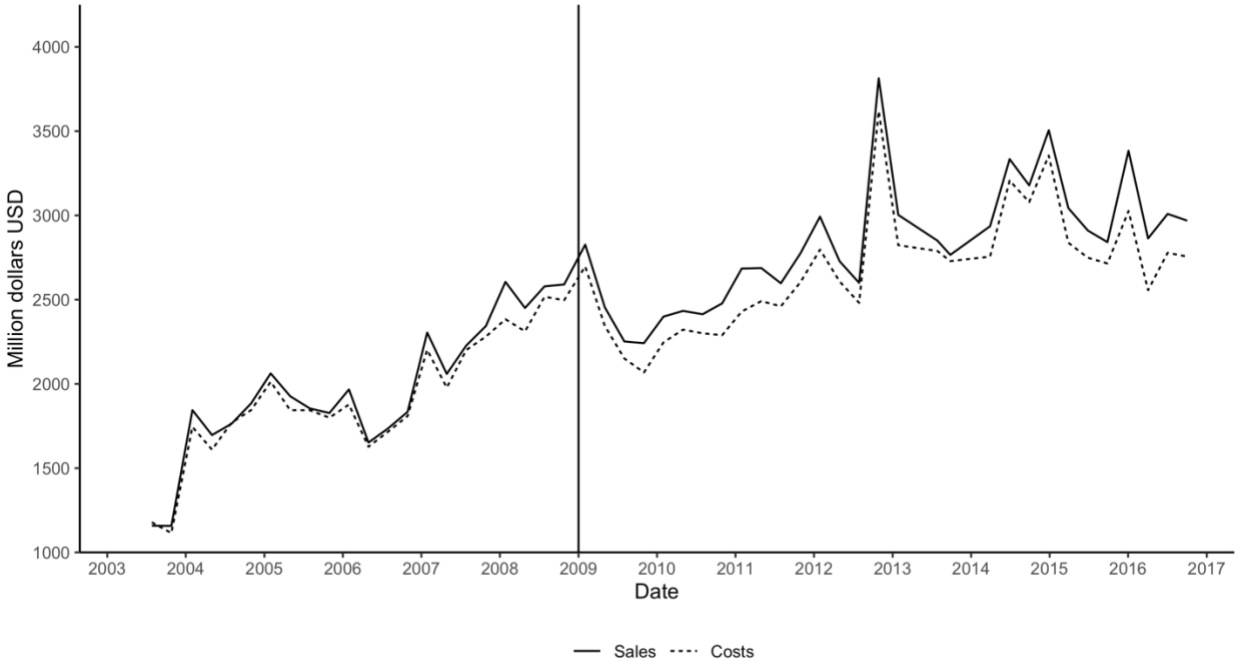
Notes: Own elaboration. JBS did not report the financial data for its USA beef segment during the first quarter of 2008. The vertical line represents the start of alleged collusion. The mean values of the series before and after the period of alleged collusion: Sales (before: 614.26; after: 1139.04), Costs (583.56; 1031.496). Source: JBS financial reports.

Figure 7b – Tyson pork revenues vs. costs



Notes: Own elaboration. The values plotted are annual means. The vertical line represents the start of alleged collusion. The mean values for the series before and after the period of alleged collusion: Sales (before: 764.72; after: 1302.10), Costs (733.79; 1198.49). Source: Tyson financial reports.

Figure 7c – Smithfield pork revenues vs. costs



Notes: Own elaboration. The values plotted are annual means. The vertical line represents the start of alleged collusion. The mean values of the series before and after period of alleged collusion: Sales (before: 1978.373; after: 2832.350), Costs (1916.568; 2668.83). Source: Smithfield financial reports.