Case Study

Buyer Market Power in the U.S. Broiler Chicken Industry

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Abstract
The motivations for this case study are recent developments in the U.S. broiler chicken industry involving allegations of an illegal exercise of buyer market power by the five largest broiler processors in the country in the market for broiler grow-out services. This case study introduces economic, business, and legal issues related to the alleged input price-fixing cartel of the five largest broiler processors. The case study describes the processors' conduct and presents a theoretical framework that may explain market and price effects of the alleged input price-fixing cartel. The teaching note provides suggested answers to discussion and analytical questions, and it also includes multiple-choice questions that can be used as in-class assignments, quizzes, and exam questions. This case study is suitable for a variety of undergraduate and graduate courses taught in agricultural economics and agribusiness programs and for Extension and outreach audiences.

1 Introduction

This case study is motivated by recent developments in the U.S. broiler chicken industry (the broiler industry) involving allegations of an illegal exercise of buyer market power by the five largest broiler processors in the country in the market for broiler grow-out services.[1] The broiler industry is a highly concentrated industry meaning that a relatively small number of large processors control a large share of the broiler production volume and sales in the industry. The broiler industry is a vertically integrated industry. Broiler processors control production processes at consecutive stages of the broiler supply chain by using complex production contracts with broiler growers and by operating their own farms. Under production contracts, broiler growers (farmers) raise broilers for processors (they provide broiler grow-out services).

In 2017, a group of broiler growers filed a class action antitrust lawsuit against the five largest broiler processors in the country: Tyson Foods, Inc., Pilgrim's Pride Corporation, Perdue Farms, Inc., Koch Foods, Inc., and Sanderson Farms, Inc. (Shaffer 2017; *Haff Poultry, Inc. et al. v. Tyson Foods, Inc. et al.* 2017 and 2021; Goeringer 2022). The growers (plaintiffs) alleged that these processors (defendants) engaged in an unlawful conspiracy to artificially suppress compensation they paid to broiler growers for broiler grow-out services below competitive levels and violated the Sherman Antitrust Act (1890) and the Packers and Stockyards Act (1921). The plaintiffs claimed that they were underpaid due to this price-fixing conspiracy. The lawsuit was settled for the total amount of $169 million (In re Broiler Chicken Grower Antitrust Litigation No. II. 2025). The defendants did not admit to any wrongdoing.

The objective of the case study is to introduce economic, business, and legal issues related to the alleged input price-fixing cartel of the largest broiler processors in the country.[2] In particular, the case study describes business methods that the largest broiler processors used to allegedly illegally exercise their buyer market power and a theoretical framework that may explain market and price effects of the alleged input price-fixing cartel.

[1] Broiler chickens are chickens raised for meat production.
[2] Broiler grow-out services that growers provide for processors are the input for processors. The compensation that processors pay to growers for these services is the input price for processors.

Table 1: Student Learning Objectives

	Student Learning Objective (SLO)
SLO #1	To explain the broiler industry's structure, production system, and production contracts.
SLO #2	To discuss the broiler industry characteristics and conduct of the five largest processors that may have indicated a presence of the input price-fixing cartel in the market for broiler grow-out-services.
SLO #3	Using a graphical analysis, to explain a theoretical framework incorporating buyer market power in the broiler industry and the market power effects on processors and growers.
SLO #4	To discuss legal (antitrust) issues related to the alleged input price-fixing cartel of the five largest broiler processors in the United States.

This case study is suitable for a variety of undergraduate and graduate courses taught in economics, agricultural economics, and agribusiness programs, including microeconomics, agricultural marketing, agricultural markets and prices, and applied industrial organization. The case study is also suitable for Extension and outreach audiences. Table 1 summarizes student learning objectives.

2 U.S. Broiler Industry

2.1 Structure

The broiler industry is concentrated meaning that a relatively small number of large firms (processors) control a large share of the broiler production volume and sales in the industry. For example, in 2007 the five-firm concentration ratio (CR5) was 60.9 percent, and the ten-firm concentration ratio (CR10) was 75.8 percent (U.S. International Trade Commission 2014).[3] As of 2007, Pilgrim's Pride and Tyson Foods were the two largest firms with respective market shares of 31.3 percent and 25.9 percent; Perdue Farms was the third largest firm with a market share of 10.0 percent (Congressional Research Service 2009).

JBS S.A., a Brazilian company, purchased Pilgrim's Pride in 2009.[4] After acquiring Pilgrim's Pride, JBS became the second largest broiler processor in the country. As indicated by changes in CR4, market concentration decreased over the last 15 years. Given since 2006 smaller companies grew faster than the largest companies, CR4 decreased from 57.8 percent in 2006 to 52 percent in 2020 (O'Keefe 2021). The combined market share of the two largest broiler processors (CR2) decreased from approximately 45 percent in 2006 to 35 percent in 2020 (O'Keefe 2021). As of 2020, the four largest firms in the industry were Tyson Foods, Pilgrim's Pride (JBS USA), Sanderson Farms, and Mountaire Farms, followed by Perdue Foods and Koch Foods (Table 2).

[3] The N-firm concentration ratio is a commonly used measure of market concentration, which represents a combined market share of the N largest firms in the industry (Besanko et al. 2006). CR4 (N = 4) is the most frequently used measure. The firms' market shares are typically calculated using the firms' revenue (sales), but production volumes can be used as well (Table 2). A high level of market concentration can facilitate anticompetitive conduct of firms operating in concentrated industries. It is considered that if CR4 exceeds 75 percent, an industry is conducive to collusion, and if CR4 is smaller than 40 percent, an industry is not likely to present competition concerns (Hovenkamp 2005).

[4] Pilgrim's Pride filed for bankruptcy in 2009 because it could not maintain a viable profitability level due to increasing feed prices and low chicken prices (Chasan and Burgdorfer 2009; Spector, Etter, and Stewart 2009; Bolotova 2022a).

Table 2: U.S. Broiler Chicken Industry: The Ten Largest Companies and Their Market Shares, 2020

	Company	Production	Market share
		Million pounds per week	Percent
1	Tyson Foods	200.70	20.38
2	Pilgrim's Pride	161.66	16.4 (36.8)
3	Sanderson Farms	94.31	9.6 (46.4)
4	Mountaire Farms	62.13	6.3 (52.7)
5	Perdue Foods	61.26	6.2 (58.9)
6	Koch Foods	60.74	6.2 (65.1)
7	Wayne Farms	48.80	5.0 (70.0)
8	Peco Foods	36.04	3.7 (73.7)
9	George's	30.60	3.1 (76.8)
10	House of Raeford Farms	28.90	2.9 (79.7)
	Industry Total	**984.74**	**100.0**

Note: The broiler production is the ready-to-cook weight of broilers produced; the data are from WATT PoultryUSA (2021) and O'Keefe (2021). Market shares are calculated by the author. The cumulative market shares are in parentheses.

2.2 Production System

The broiler production process includes six vertically aligned stages (MacDonald 2008 and 2014; U.S. International Trade Commission 2014; National Chicken Council 2024). Figure A1 included in the Appendix visualizes the production stages.[5]

1. ***Primary breeding stage:*** primary breeding companies produce breeder chicks with desirable genetics characteristics, which are delivered to breeder farms.
2. ***Breeder stage:*** on breeder farms, breeder chicks are raised to produce fertilized eggs, which are delivered to hatcheries.
3. ***Hatching stage:*** in hatcheries, fertilized eggs are placed in incubators (the incubation period is 3 weeks); young chicks are hatched, vaccinated, and delivered to grow-out farms.
4. ***Feed manufacturing stage:*** feed mills mix feed rations, which are used to feed breeder chicks and broiler chicks. The feed mixes include corn, soybean meal, and added vitamins and minerals.
5. ***Grow-out (farm) stage:*** on farms owned and operated by broiler growers, young chicks are raised to a desirable market age and weight (6 to 7 weeks).
6. ***Processing stage:*** in processing plants, broilers are slaughtered and processed in various chicken cuts and chicken products to be sold to wholesalers, retailers, restaurants, institutional buyers, and export customers. Chicken by-products are utilized by rendering plants.

2.3 Vertical Integration, Production Contracts, and Compensation System

[5] Another figure conveniently explaining these production stages can be downloaded on the webpage of the National Chicken Council, https://www.nationalchickencouncil.org/industry-issues/vertical-integration/.

The broiler industry has a high degree of vertical integration, meaning that broiler processors (integrators) maintain the ownership of broilers at all stages of the broiler supply chain. Approximately 90 percent of broilers are raised under production contracts between broiler processors and broiler growers, about 9 percent of broilers are raised on the farms owned by broiler processors, and the remaining 1 percent is raised by independent chicken growers (National Chicken Council 2024; National Chicken Council Chicken Check In 2024a).[6]

Under production contracts, growers provide broiler grow-out services for processors.[7] While growers own broiler grow-out farms, they do not own broilers they raise for processors. Processors own broilers, and they also own feed mills, hatcheries, and processing plants (U.S. International Trade Commission 2014; National Chicken Council 2024). Production contracts specify responsibilities of broiler processors and broiler growers in great details (Pilgrim's Pride Broiler Production Agreement 2005; MacDonald 2008 and 2014).

Typically, under production contracts, processors are responsible for providing young chicks, feed, veterinary supplies and services, and transportation of chickens to and from the farms, and they also determine production management practices.[8] Growers are responsible for providing chicken housing facilities, land, labor, utilities, operating expenses, and following production management practices determined by processors.

The grower compensation system used in production contracts is based on a relative performance of each grower. This compensation system is referred to as the tournament system (Knoeber 1989; Knoeber and Thurman 1995; Federal Register 2022; National Chicken Council Chicken Check In 2024b). The payment to an individual grower is calculated based on this grower's performance relative to the group of growers located in a certain area, who deliver broilers to the processor during the same period of time (for example, during the same week). The individual grower's performance is compared to the group average performance.

The performance measure (formula) is developed by the processors. The cost-based performance measure has been used in the industry in the last decades (Knoeber 1989; Knoeber and Thurman 1995; Pilgrim's Pride Broiler Production Agreement 2005; Federal Register 2022). The cost-based performance measure (dollars per pound of broilers) is the ratio of costs attributed to young chicks, feed, and medications divided by the gross weight of broilers.[9] The payments to growers are calculated as follows.

Payment to a grower performing ***above*** **average** =
= **base pay + bonus** for the ***above*****-average** performance

Payment to a grower performing ***below*** **average** =
= **base pay - penalty** for the ***below*****-average** performance

[6] A wide adoption of production contracts was a response to technological innovations taking place in the industry (Knoeber 1989; Dimitri, Jaenicke, and Effland 2009). These innovations included the development of new disease control and eradication methods, the development of new genetically superior breeding stocks that were geared toward meat production rather than egg production, and the innovations in composition of feed rations.

[7] Production contracts should be distinguished from marketing (forward) contracts that are common in many agricultural industries. Under marketing contracts, agricultural producers own agricultural commodities that they produce and sell, and consequently they make production, marketing, and pricing decisions (Bolotova 2022b).

[8] Feed is the major input used in broiler production. The primary feed components are corn and soybean meal with vitamins and minerals added (U.S. International Trade Commission 2014). The weight shares of corn and soybean meal are about 70 percent and 25 percent, respectively. The feed costs represent approximately 65 to 75 percent of broiler production costs (U.S. International Trade Commission 2014; National Chicken Council Chicken Check In 2024b).

[9] This cost-based performance measure (dollars per pound of broilers) reflects the processors' Average Variable Costs at the broiler production stage of their vertically integrated operations.

The bonus (penalty) is typically the deviation of the performance measure calculated for an individual grower from the group average. Growers performing above the group average are low-cost growers for processors. Growers are rewarded for high feed efficiency, low mortality rates, and the quantity of liveweight pounds of broilers delivered to processors (National Chicken Council Chicken Check In 2024b). Growers performing below the group average are high-cost growers for broiler processors.

3 Alleged Broiler Processor Input Price-Fixing Cartel

In their complaint filed in the court, the broiler growers alleged that since at least 2008 the five largest broiler processors agreed not to compete for broiler grow-out-services with the purpose and effect of fixing, maintaining, and/or stabilizing the grower compensation below competitive levels and violated the Sherman Act (1890) and the Packers and Stockyards Act (1921). The plaintiffs alleged that the following industry characteristics and conduct of the defendants indicated a presence of the input (broiler grow-out service) price-fixing cartel of the five largest broiler processors in the country (*Haff Poultry, Inc. et al. v. Tyson Foods, Inc. et al.* 2017 and 2021: paragraphs 68–128).

3.1 The Broiler Industry Characteristics Facilitating Collusion

1. The industry is ***highly concentrated.*** Large processors can exercise buyer market power in the input market and seller market power in the output market to increase their profit above competitive levels.

2. The industry is ***vertically integrated.*** Processors control broiler production process, as well as agricultural inputs and broiler grow-out services used in this process. As a result of vertical integration, there is no spot (cash) market for live broilers.

3. The industry has ***high entry barriers for new processors***. High barriers to entry are high costs that new processors have to incur to enter the industry. For example, these costs include fixed costs incurred to build or purchase a chicken processing plant, costs associated with establishing a distribution network for processed chicken products, and costs incurred to comply with federal regulations.

4. The industry has ***high exit barriers for growers.*** High exit barriers are high costs that growers have to incur to exit the industry. To enter the industry, growers make substantial financial investments in broiler-specific housing facilities and equipment typically required by processors. These facilities and equipment have no use outside of the broiler industry. To pay their financial debts, growers must keep caring for broilers and are unlikely to exit the industry. Therefore, growers become insensitive to changes in compensation paid by processors (i.e., they will not exit the industry).

5. ***Broiler grow-out services are fungible (homogenous).*** Growers raise broilers for processors using young chickens, feed, and medications supplied by these processors. Growers provide labor, investment capital, housing facilities, and land that are practically homogenous.

6. There are numerous ***opportunities to collude*** in the industry. The processors' representatives participate in various ***industry meetings*** on a regular basis, where they have opportunities to meet and communicate with one another.

3.2 Alleged Anticompetitive Conduct of the Largest Broiler Processors

1. ***The processors agreed to share detailed data on the broiler grower compensation with the purpose and effect of artificially decreasing grower compensations below competitive levels.*** By disclosing to each other highly sensitive and confidential compensation rates, processors suppressed competition for broiler grow-out services and decreased compensation rates to increase their profit. These illegal information exchanges decreased compensation rates paid to all broiler growers in the country.

   To facilitate illegal information exchanges, the processors "partnered" with Agri Stats, a third-party data aggregation service. Agri Stats collected detailed, competitor-sensitive, non-public information about grower compensation from the processors, processed these data, and shared them back with the processors.

   The processors, who are cartel members, operate approximately 120 broiler complexes (broiler processing plants), encompassing about 98 percent of broiler production in the country. The data that the five largest processors share through Agri Stats are related to production, costs, and profit. The data are sorted by geographic regions and are viewable at the grower, flock, and plant level. Box 1 includes an excerpt from the complaint filed by the broiler growers that explains the type of data that the five largest processors provided to Agri Stats.

   While data that Agri Stats shares back with broiler processors are anonymous, given the level of data disaggregation, anyone familiar with the industry can use these data to recognize which data belong to which processor, including a geographic location of each specific complex (broiler processing plant). Consequently, the cartel members can identify the grower compensation rates, as well as the cost and profit per live pound of broilers for each complex. The cartel members can monitor compensation rates they pay to growers to ensure that they pay the same compensation rates.

2. ***The processors agreed not to compete for broiler grow-out services and not to solicit each other growers*** *(not to hire growers from each other)*. By agreeing not to compete for broiler grow-out services, the processors reduced their exposure to normal competitive pressures. In addition, this illegal "no poach" agreement reduced potential cheating of cartel members on their agreement.[10] As a result, growers are not able to switch from one processor to another. In addition, production contracts that growers sign are on "take-it-or-leave" basis.[11]

3. ***The processors engaged in a "feedmill cross-testing" program.*** Some processors exchanged feed and chicks to determine which processors' feed and/or chicks are of a superior quality. Participating in this type of program is against the economic rational behavior of firms operating in a truly competitive market. To maintain a competitive advantage, firms competing against each other would not share proprietary feed and/or chicks among them.

4. ***The cartel members allow their CEOs to access each other's production complexes on a regular basis. The cartel members also allow high-level employees to move among the companies.*** Both business practices allow CEOs and employees of the cartel members to learn proprietary production methods and other aspects of business operations.

[10] Cartel members may have incentives to deviate from the cartel agreement (to cheat on the cartel agreement), if they decide to maximize their individual profit, rather than the *joint* profit of all cartel members (Stigler 1964).

[11] "Take-it-or-leave" means that growers cannot change and/or negotiate terms and conditions of the production contracts that are drafted by processors. Growers either sign production contracts or do not sign them.

"Cartel members provide granular data to Agri Stats. The data includes, inter alia:

a. Grower compensation;

b. the sex, breed, genetic makeup, and genetics company used for the primary breeder stock of the Broilers used by each Complex's Integrator;

c. the type of equipment and grow-out houses used by each Complex's Integrator, including numerous mechanical aspects of the facilities;

d. Broiler weight for each Complex;

e. the type of feed and medicine utilized by (and costs for) each Complex;

f. Broiler transportation costs from Grow-Out facilities to each Complex;

g. the number of chicks delivered, bird mortality by week and overall percentage, average daily weight gain by chicks (weighted against the feed utilized, referred to as a feed-conversion ratio) for each Complex;

h. live pound of Broiler produced per square foot of grow-out house for each Complex;

i. monthly operating profit per live pound, sales per live pound, and costs per live pound for each Complex;

j. anticipated capacity and future output for each Complex; and

k. the general geographic location of each Complex by Sub-Region (Agri Stats includes at least 50 and likely more Sub-Region identifier codes)."

Box 1: Data that the Largest Broiler Processors Provided to Agri Stats

Sources: Haff Poultry, Inc. et al. v. Tyson Foods, Inc. et al. 2017 and 2021: paragraph 70.

4 Theoretical Framework

Figure 1 is a graphical representation of economic models explaining the profit-maximizing behavior of a perfectly competitive industry, oligopsony, and monopsony (the three scenarios for the broiler industry explained in this section). This figure depicts three curves: Marginal Revenue Product (MRP), Marginal Cost (MC) for a perfectly competitive industry, and Marginal Expenditure (ME) for monopsony.[12]

[12] Under perfect competition, MRP curve coincides with demand curve for processed chickens, and MC curve coincides with supply curve for broiler grow-out services. MRP is additional revenue received from using one additional unit of input. $MRP =$

The three *input* price-quantity combinations corresponding to the three scenarios are depicted in the figure. Q denotes the quantity of broiler grow-out services that processors purchase from growers; it is the *input* quantity for processors.[13] W denotes the compensation rate that processors pay to growers; it is the *input* price for processors. Processors make decisions on the *input* quantity to purchase to maximize their profit. The *input* price that processors pay is a function of the *input* quantity they purchase.

Based on the number of processors operating in the broiler industry, the industry is a classic oligopsony—market structure with a relatively small number of large buyers. To maximize their profit, oligopsonists (the largest processors) purchase the *input* quantity (Qo), which is smaller than the *input* quantity purchased by a perfectly competitive industry represented by many buyers (Qc). The *input* price oligopsonists pay (Wo) is lower than the *input* price a perfectly competitive industry pays (Wc). As compared to a perfectly competitive industry, oligopsonists make a positive profit: Wc-Wo in $ per unit or (Wc-Wo)*Qo in total dollars. The oligopsonists' profit increases due to the input cost decrease.[14]

Assume that oligopsonists (the largest processors) form an *input* price-fixing cartel. Theoretically, they would aim to act as a single buyer in the industry (i.e., a monopsonist). To maximize their *joint* profit, oligopsonists decrease the *input* quantity they purchase (Qo) possibly to the *input* quantity

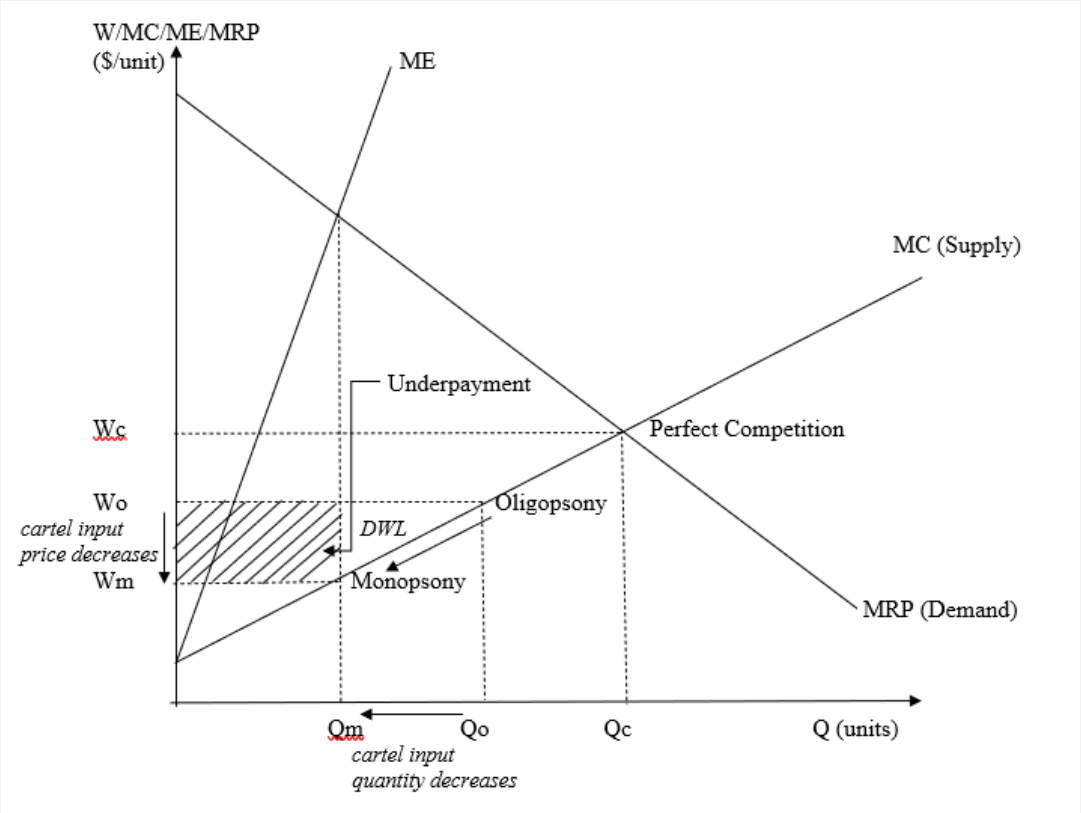

Figure 1: The U.S. Broiler Industry as a Classic Oligopsony: The Effects of Buyer Market Power of Processors on the Grow-Out Service Quantities and Compensation

Note: Grow-out services are the input for processors.

$P \times \frac{dQ_{output}}{dQ_{input}}$, where P is the output price and $\frac{dQ_{output}}{dQ_{input}}$ is the Marginal Product. For broiler processors, processed chickens are the output, and broiler grow-out services are the input.

[13] The quantity of broiler grow-out services can be thought of as the quantity of broilers (live weight) produced by growers for processors.

[14] In this case study, "profit" refers to *economic* profit, which is different from *accounting* profit. Accounting profit is equal to revenue minus costs associated with generating that revenue. Economic profit is equal to revenue minus costs associated with generating that revenue and minus opportunity cost. Opportunity cost is the forgone benefit of using capital in an alternative business venue. A simple example is earning interest on the money deposited in a savings account in a bank.

purchased by a monopsonist (Qm).[15] As a result, oligopsony price (Wo) would decrease to possibly approach monopsony price (Wm). Due to the cartel, the *joint* profit of oligopsonists acting as a monopsonist further increases by Wo - Wm in $ per unit or by (Wo - Wm) * Qm in total dollars, which is a cartel underpayment to sellers of the input. The monopsonist's profit increases due to the input cost decrease.

The cartel underpayment to sellers of the input (broiler growers) expressed in total dollars is the shaded rectangle in Figure 1. The cartel underpayment is the basis for damages that broiler growers aimed to recover during the antitrust litigation. In summary, the buyer cartel's effects on sellers of the cartelized product (service) are a decrease in the product (service) quantity purchased from these sellers, a decrease in the product (service) price paid to these sellers, and a deadweight loss (DWL). The latter is the "DWL" triangle in Figure 1. Because of DWL, there are sellers who do not sell their product (service) due to lower prices.

5 Antitrust Issues

In their complaint filed in the court, the broiler growers argued that the processors' price-fixing cartel was a violation of Section 1 of the Sherman Act (1890) (*Haff Poultry, Inc. et al. v. Tyson Foods, Inc. et al.* 2017 and 2021). Section 1 of the Sherman Act prohibits contracts, combinations, and conspiracies in restraint of trade in interstate commerce (Federal Trade Commission 2024a). Price-fixing agreements (cartels or conspiracies) among competitors (firms selling or purchasing the same or similar products) are examples of the restraints of trade that are most damaging to the market. Price-fixing agreements aim to increase, decrease, or fix (stabilize) product prices, and can be verbal, written, or inferred from the conduct of firms (Federal Trade Commission 2024b).

The broiler growers alleged that the exchanges of confidential business information among the five largest broiler processors (accomplished through Agri-Stats, a third-party data aggregation service) indicated a presence of a price-fixing agreement violating Section 1 of the Sherman Act. Sharing competitor-sensitive information may be used as a factor when a price-fixing agreement violating Section 1 of the Sherman Act is to be inferred from the firms' conduct.[16]

For violations of the Sherman Act, private parties (plaintiffs) are entitled to recover treble damages under the Clayton Act (1914; Hovenkamp 2005).[17] The underpayment is the basis for damages in the input price-fixing cartel cases. The underpayment is the difference between the product (service) price received by sellers (service providers) and the product (service) price they would have received absent the cartel times the product (service) quantity sold. The service is broiler grow-out service in the broiler chicken antitrust litigation.

The broiler growers were entitled to recover three times the underpayment. The lawsuit was settled (In re Broiler Chicken Grower Antitrust Litigation No. II. 2025). In June 2021, Tyson Foods and Perdue agreed to pay broiler growers $21 million and $14.750 million, respectively. In May 2022, Koch Foods, and in February 2023, Sanderson Farms agreed to pay broiler growers $15.5 million and $17.750 million, respectively. In January 2025, Pilgrim's Pride agreed to pay broiler growers $100 million. The settlements were calculated for the period of January 27, 2013, to December 31, 2019 (the period of allegedly anticompetitive conduct included in the settlement agreements). In their settlement agreements, the broiler processors did not admit to

[15] Monopsonist maximizes its profit when it purchases the input quantity, which is at the intersection of Marginal Expenditure (ME) and Marginal Revenue Product (MRP) curves on the graph. Given a linear supply (Marginal Cost) curve, ME curve is twice as steep as the supply curve, and both curves have the same Y-axis intercept. Assume that a linear supply is $W = a + bQ$, where W is the input price and Q is the input quantity. Then the Total Costs $TC = WQ = (a + bQ)Q = aQ + bQ^2$. Consequently, the Marginal Expenditure $ME = {}^{dTC}/_{dQ} = {}^{d(aQ + bQ^2)}/_{dQ} = a + 2bQ$. Economic models of oligopsony and monopsony are explained in standard textbooks used in economics and agricultural economics programs (Besanko and Braeutigam 2002; Norwood and Lusk 2008).

[16] The U.S. Federal Trade Commission guides that sharing competitor-sensitive information (information on prices, quantities, costs, and customers) may have anticompetitive effects and is likely to raise competition concerns (Bloom 2014).

[17] Treble damages mean three times the damage amount.

any wrongdoing.

6 Analytical and Discussion Questions

The teaching note provides additional guidance for selected questions and suggested answers to all questions. The teaching note also includes multiple-choice questions that can be used as in-class assignments, quizzes, and exam questions.

1. Discuss the structure of the U.S. broiler industry.

2. Explain the U.S. broiler supply chain and production system.

3. Explain the nature of production contracts used in the U.S. broiler industry (broiler ownership and major responsibilities of processors and growers) and design of the growers' compensation system used in these contracts.

4. Discuss the U.S. broiler industry characteristics and conduct of the five largest processors that may have indicated a presence of the input price-fixing cartel.

- **4.1.** Explain the industry characteristics that may have facilitated collusion among the five largest processors in the country in the market for broiler grow-out services.
- **4.2.** Explain business practices that the five largest processors in the country used to allegedly illegally exercise buyer market power in the market for broiler grow-out services.

5. Using a graphical analysis, explain conduct and performance of the U.S. broiler industry in the situations described in Questions 5.1, 5.2, and 5.3 In the case of each question, draw and label relevant curves and depict relevant input (broiler grow-out service) price-quantity combinations to complete the graphical analysis.

- **5.1.** Assume that the broiler industry is an oligopsony exercising buyer market power in the market for broiler grow-out services. Explain changes in the input quantity, price, and industry profit in the oligopsony scenario, relative to a hypothetical perfectly competitive industry scenario. Describe the effects of the buyer (oligopsony) market power on processors and growers.
- **5.2.** Assume that the largest processors—oligopsonists—form an *input* price-fixing cartel. They aim to act as a monopsonist to maximize their *joint* profit. Explain changes in the input quantity, price, and industry profit in the monopsony scenario (i.e., the *input* price-fixing cartel), as compared to the oligopsony scenario. Describe the effects of the buyer (monopsony) market power on processors and growers.
- **5.3.** Assume that the largest processors act as a single monopsonist by operating an *input* price-fixing cartel (the original scenario). Broiler growers discover the existence of this cartel and file an antitrust lawsuit against the processors. Assume that during the antitrust litigation period (the new scenario), the largest broiler processors stop coordinating (colluding) on compensation rates they pay to growers for broiler grower-out services (i.e., the input price-fixing cartel collapses). Determine the type of market structure of the broiler industry in the period of antitrust litigation. Explain changes in the input quantity, price, and industry profit in the antitrust litigation period, as compared to the original scenario of the input price-fixing cartel. Describe the effects of the identified changes on processors and growers.

6. Explain the reasons that broiler growers filed an antitrust lawsuit against the five largest broiler processors in the United States. Discuss the role of Section 1 of the Sherman Act in regulating conduct of broiler processors in the analyzed industry situation. Explain recent outcomes of the antitrust litigation described in this case study.

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Appendix

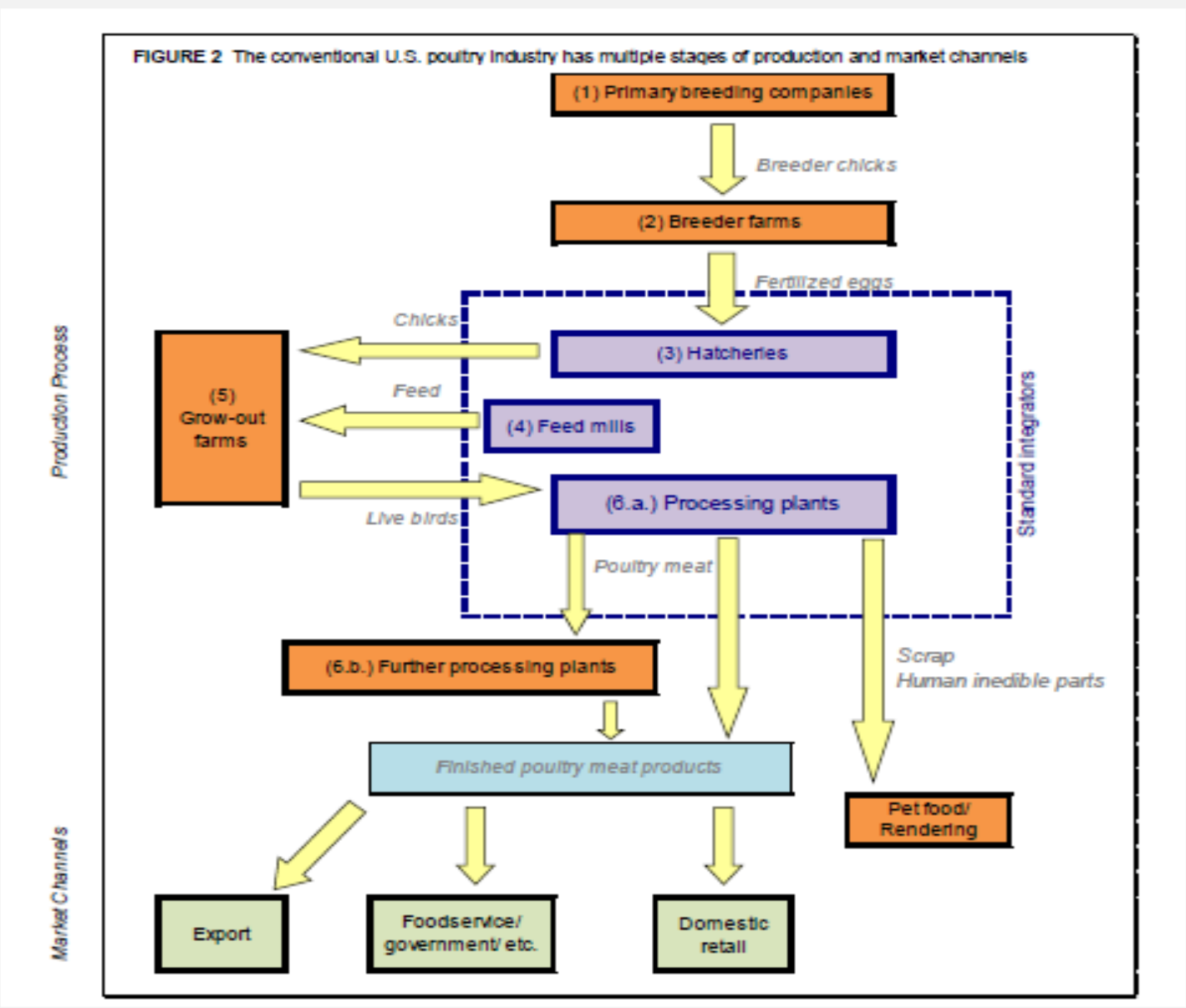

Figure A1: U.S. Poultry Supply Chain

Note: This chart is copied from the U.S. International Trade Commission Report (2014).

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