Analysis of Processing Plant Closures in the Broiler Industry

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Market Background

Over the last 20 years, U.S. broiler production has increased on average by 2 percent annually. The most recent data from USDA's World Agricultural Outlook Board (WAOB) suggests this year is no different. Current forecasts place 2023 U.S. broiler production at 47.98 billion pounds or 2 percent higher year-over-year (USDA-WAOB, 2023). Despite continued growth in U.S. broiler production, the industry struggles with several factors impacting integrator profitability and grower margins. These factors include expensive feed, higher capital costs, labor availability, lower wholesale prices, and poor genetics.

Data from USDA's Economic Research Service (ERS) presented in Figure 1 provides a barometer for integrator profitability. Feed costs declined 3 percent during the second quarter of 2023, but wholesale broiler prices are outpacing that decline, down 22 percent during the same period. Falling wholesale broiler prices have outpaced feed cost improvements since the fourth quarter of last year. Overall, the Figure suggests lower integrator profitability—primarily driven by lower wholesale broiler prices.

Weekly data from USDA’s Agricultural Marketing Service shows wholesale prices significantly lower for all broiler products (Figure 2). The national composite whole bird price is averaging $1.07 per pound or 19 percent lower year over year. Skinless wholesale chicken breast prices have declined the most year over year, from $3.62 per pound in May 2022 to $1.30 per pound in August 2023. Wholesale chicken wing prices are also significantly lower, from $2.71 per pound in January 2022 to $1.19 per pound in August 2023.

Poor broiler genetics and fertility have been a lingering problem for the industry. One way to measure this performance is with the number of chicks hatched per broiler-type layer. This data is available in the *Broiler Hatchery* Report from USDA’s National Agricultural Statistics Service (NASS). The most recent data shows 2.97 chicks hatched per layer for June 2023, down 3 percent compared to last year and 7 percent lower compared to the previous five-year average. Hatchery issues are not new and have been difficult for the industry to overcome.

Processing plants and broiler farms are generally located in rural communities. An aging rural population and a robust labor market have exacerbated labor availability. Data from the Bureau of Labor

Statistics shows 0.6 unemployed persons per job opening, the lowest since before the Great Recession. Rising interest rates have made capital more expensive. For growers, the broiler industry is a capital-intensive business because they are responsible for finding the financing for new construction and farm upgrades.

On August 7, 2023, Tyson Foods announced the closing of four chicken processing plants. Among those processing plants, two plants are in Missouri, one in Arkansas, and one in Indiana. It is difficult to know all of the factors that led to the recent announcement from Tyson Foods. At any rate trying to understand those factors would not necessarily be constructive. Instead, the discussion highlighting industry challenges is intended to provide context for the industry and the broader public moving forward. The remainder of this report is forward-looking, trying to describe and explain the likely outcomes of processing plant closures.

IMPLICATIONS OF PLANT CLOSURES

Grower Impacts

The supply chain for broilers starts with poultry growers who are contracted by integrators. These contracts are provided by the integrator to service the demands of a processing plant to maintain continuous business. When a processing plant closes, this leads to two outcomes for growers servicing the plant: 1) their production is rerouted to a different processing plant for the duration of their contract or 2) they lose their contracts. Those rerouted will predominantly see little impact in their day-to-day lives but may see more stress in birds from the longer deliveries, potentially affecting weight. It may also lead to longer out times (i.e., the time between flocks during which facilities are idle) to fit into the new processing plant's processing cycle schedules.

For growers not rerouted, if they are at or near the end of their contract, they will not be renewed. They would be paid for any time remaining on their contract based on their average performance or a base payment per square foot. In order to remain in operation and maintain cash flows, these growers would then need to secure a contract with a different integrator. How difficult it is to secure a contract with a different integrator will be influenced by the age and quality of the grow out facilities or by the level of processing competition in the area. The age of the grower's facilities may limit contract options. Older facilities or those that do not meet current technological specification may not receive a contract without investing in modernizing technology or renovations. These typically require access to a line of credit, putting a larger financial burden on the grower in the middle of losing their current contract. However, newer farms are not exempt from the stresses of securing a new contract. Newer farms may still face contract uncertainty if there are limited processors in an area. Limited processors may mean that there is not another integrator to contract with or that any alternative contract may have different, potentially less favorable, contract terms. Any other processor may also have limited capacity. For the recent closure, many farms were reallocated to other nearby processors. Farms with little time left on their contract were paid out the remainder and will be looking for another local integrator for a contract. Many of these farms undoubtedly have outstanding debt to service. Ultimately, the grower remains responsible for any loan repayment for the enterprise.

Processing Impacts

Processing plants rely on a steady supply of birds to maintain cost effective production levels. Even though plants are highly automated, they still rely on significant labor inputs to operate efficiently and effectively. The closing of a plant thus creates major job losses for a community. It is possible that a plant could be purchased by another firm, with employees getting rehired by the new owner. However, this may not be feasible if another firm doesn't have capacity to grow or does not have a presence in a geographical location. In any case, a change in plant ownership following a plant closing would represent a highly complex transaction that would almost certainly entail a lengthy plant closing.

The likely scenario is that some of the capacity of the closed plant will need to be absorbed by nearby processing facilities. Assuming there is excess capacity to absorb the additional birds, this could lead to increased labor demands at that facility to run additional shifts or process the additional birds. This would also increase the transportation needs and movement of birds to the nearby plant. If a firm has too much excess capacity, a potential reason for closing a plant, the rerouting of birds would help to make a plant more efficient and reduce the cost per bird, effectively capitalizing on economies of scale, though in this scenario employment at the plant expanding operations wouldn't much be affected.

Industry Impacts

A single plant closing may reflect changing technologies or aged-out facilities. Multiple closures should more likely be construed as a market signal. These signals may reflect the effects on the firm of poor returns or a contraction of production expectations. In the case of the 2023 third fiscal quarter report from Tyson announcing multiple plant closures, this led to a closing stock price change of -4% for Tyson (August 7, 2023)[1]. Negative impacts on equity prices will not necessarily be limited to the company announcing the closure. The negative impact on market expectations can have spillover effects for the entire sector. For example, Pilgrim's Pride closed at -0.5% and JBS at -3.7% while the NASDAQ composite was up 0.6%. While equity values may rebound, the initial response to Tyson's plant closings illustrates the interdependence and industry wide impacts in the poultry sector.

Financial impacts are not limited to holders of poultry industry equities. The uncertainty of plant closures raises questions about the level of risk facing financial institutions in providing capital for growers. While longer-term contracts have become commonplace in the poultry industry, especially for new houses, it is still not uncommon for financing terms to extend well beyond the term of a grower's contract. Since poultry grow-out facilities have little value outside of contract production, this mismatch between contract terms and loan terms represents an obvious risk. Growers and lenders alike have accepted this risk because of well-established expectations within the industry that grower contracts would not be terminated without cause. In other words, growers who continued to operate according to company standards would have contracts renewed more or less indefinitely. Under this arrangement (essentially a hand-shake agreement among industry participants) the mismatch between contract terms and loan terms was not considered particularly risky. The poultry industry as a whole has benefited from this arrangement, as it has made capital far more accessible than it would otherwise have been. The recent plant closings have seen growers in good standing lose their contracts, likely rendering them unable to service outstanding loans. This experience calls into question the continued viability of the longstanding arrangement between integrators, growers, and lends in the poultry sector.

Community Impacts

Communities may rely on the processing plant for jobs and tax support. A processing plant in a remote location, may not be an attractive target for acquisition by other firms. If the closing processing plant workers migrate to find work, this can lead to community decline in services provided and property values. Income earned has a multiplier effect in a community, supporting other businesses and services.

[1] https://www.nasdaq.com/market-activity/stocks/tsn/historical

The loss of a major employer thus has negative impacts for the community that exceed the direct impact of lost wages. Additionally, the identity of a community may be closely tied to the processing plant. This can lead to community stress in trying to attract new industries to revitalize the local economy.

Industry Implications and Future Work

Simultaneously closing four processing plants of varying size and function is not normal for the broiler industry. The broiler industry, rural communities, and growers are all impacted by this event. The effects on the broiler industry will be long-lasting, likely leading to structural change and the adoption of new business practices. Unfortunately, a lack of public data prevents us from commenting on those effects with any degree of precision. The last comprehensive update on the industry was by Ollinger, MacDonald, and Madison (2005). More work is needed in that area. Such work will not be possible until the release of data collected with the 2022 Census of Agriculture.

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APPENDIX A: FIGURES

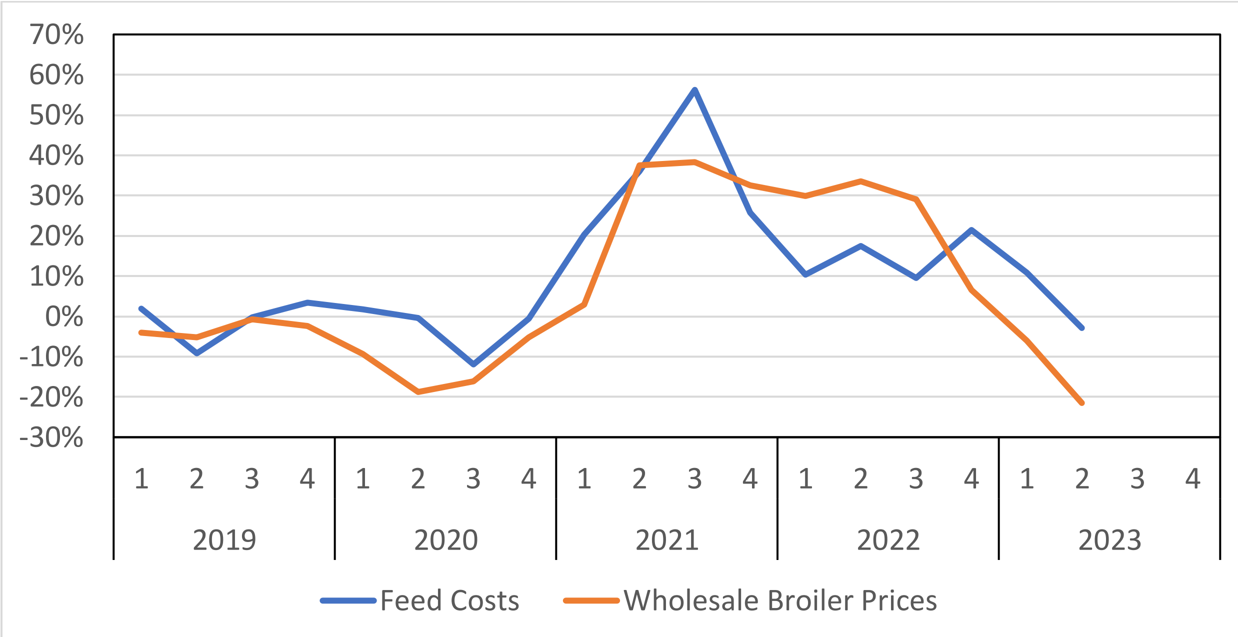

Figure 1. Year over year changes in feed prices and wholesale broiler prices.
Source: USDA-ERS (2023)

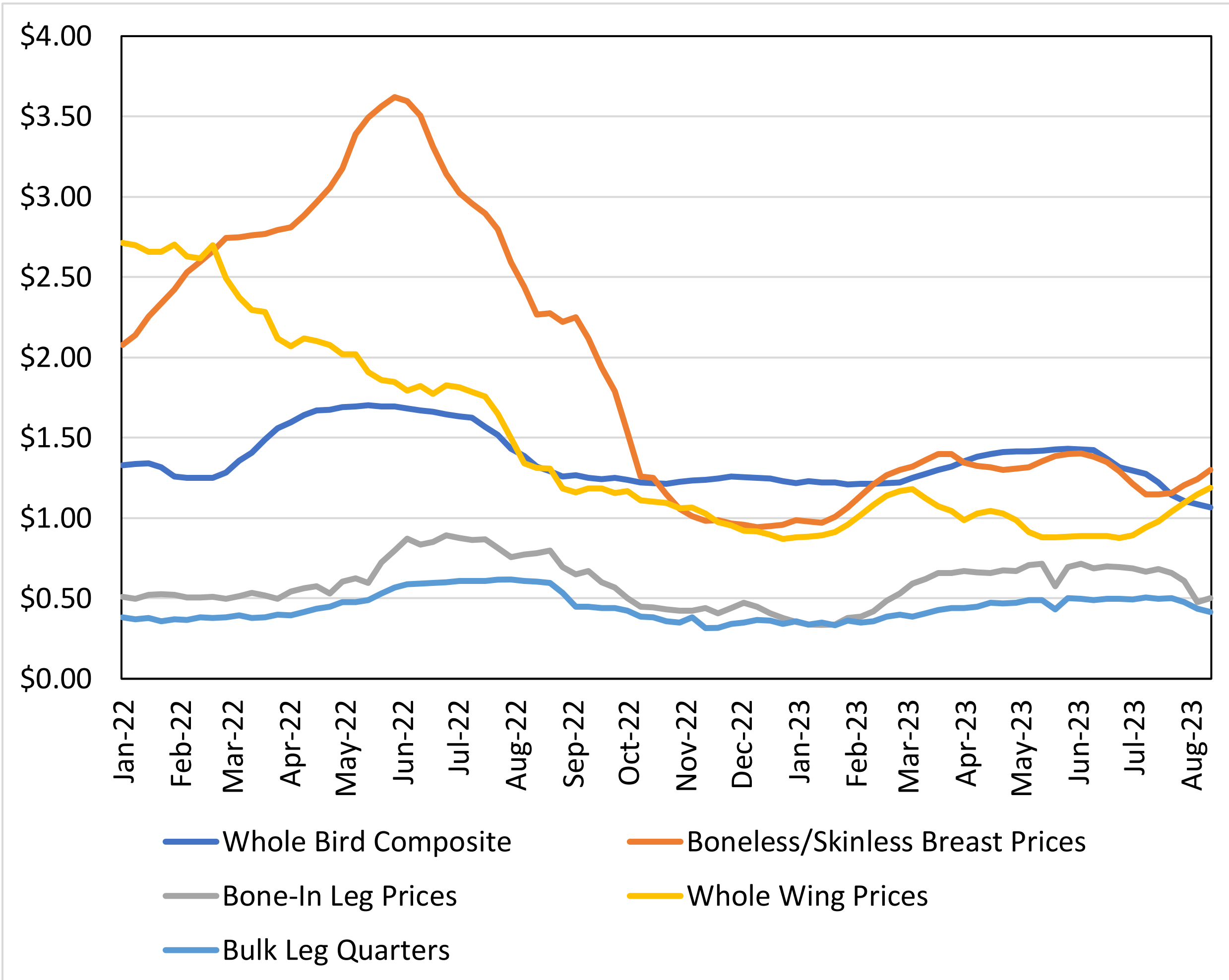

Figure 2. Wholesale broiler prices ($ per pound), Jan 2022 – Aug 2023.
Source: USDA-AMS. Accessed from LMIC