Overview

Poultry production in the United States is comprised primarily of producers contracting with a vertically integrated firm to raise poultry. Contract broiler chicken and turkey production differs from egg production because contract producers provide labor, utilities, management and the buildings to raise poultry while the vertically integrated firm provides all other inputs – namely the birds, feed, medication and technical assistance. In instances where broilers are produced on independently owned farms, the producers are responsible for providing all necessary inputs and make all marketing decisions.

In the broiler industry, contract producers’ exposure to price risk is minimized, but growers are exposed to production (poor poultry performance and decreased placements) and revenue risk. Since poultry is produced primarily in contract growing arrangements, there are few spot (cash) markets in which poultry is sold at the farm level, like is done with cattle or hog production. The minimal number of spot markets limits the pricing information available to producers and those interested in the broiler industry, and information related to the volume of poultry production also is somewhat limited when compared to other major livestock industries.

Although the majority of broiler production in the United States is on a contract basis, the U.S. Department of Agriculture’s National Agricultural Statistics Service and Agricultural Marketing Service regularly release information to assist in decision making by stakeholders in the livestock and poultry industries. The reliability of this information is variable since not all vertically integrated firms voluntarily provide information. As with most USDA data, information is subject to revision on a periodic basis, and many USDA reports are based on voluntary reporting. This publication discusses the data provided by branches of USDA and its limitations, as well as background information on some relationships within the data that is publicly available for the broiler chicken industry.

Supply/Production Information

The broiler chicken supply chain is highly coordinated, with scheduled production cycles to meet retail marketing campaigns. As little as eight weeks can elapse from the time an egg is hatched until the day the chicken is harvested and served to the ultimate consumer. Once a hen enters the hatchery supply flock at approximately 24 to 25 weeks of age, the hen will lay approximately five fertilized eggs weekly until approximately 70 weeks of age. Eggs are collected from contract growers’ farms and set in vertically integrated firm-owned incubators for the 21 day incubation period. Once an egg hatches, the young broiler chicken is placed on a contract grower’s farm for the grow-out phase, which can last from five to nine weeks but on average is seven weeks in length. Broiler chickens are then collected from contract growers’ farms, harvested, processed and sent to retail distribution channels. If necessary, frozen whole chicken may be placed into cold storage for a year, while frozen parts may be stored for nine months.

The monthly Chicken and Eggs report from USDA's National Agricultural Statistics Service is the most comprehensive USDA report on the size of the breeding flock (hatchery supply) in the table egg and broiler chicken industries. USDA makes efforts to collect information from all known hatcheries, but the information collected may not reflect the entire broiler industry. This report contains information on the number of eggs laid during the month, average number of layers on hand for the egg and broiler industries during the month and estimated cumulative potential replacements for future months. The report primarily includes information on U.S. placements of young females into the U.S. broiler breeding flock, but there are some categories that reflect production occurring in the United States but intended for placement in other countries.

The Chickens and Eggs report also includes the number of pullet chicks hatched each month intended for placement in the United States. This provides the earliest glimpse into the size of the breeding flock six months into the future. Pullets are the young females that become the breeding flock after reaching sexual maturity at approximately 24 to 25 weeks of age. Once a broiler pullet reaches sexual maturity and begins laying eggs, the number of suitable eggs produced for hatching is approximately 165 eggs per layer (breeder hen). A broiler breeder hen is laying a fertilized egg approximately five times a week. For a pullet to be ready to produce eggs for the beginning of the peak production season in May, that female must be hatched in August of the previous year. This allows for its first offspring to be hatched in April and reach market weight as early as May.

Pullets begin to lay broiler hatching eggs at roughly six months of age and are kept in the breeding flock until approximately 15 months of age. Cumulative potential placements contained in the Chickens and Eggs report provides an indication of the size of the broiler breeding flock based on pullet chicks hatched. Although not every pullet intended to enter the breeding flock does, these estimates also provide an indication of potential expansion in the broiler industry breeding flock. Figure 1 illustrates the number of pullets that are between seven and 15 months of age that may be placed in the broiler breeding flock. Increases (or decreases)
in the number of pullets available to enter the breeding flock may suggest expansion (or contraction) in the broiler chicken industry. Figure 1 depicts the increased placements of pullets that would be of age to enter the broiler breeding flock during 2010 and 2011, as well as the contraction during 2012 because of poor economic conditions for the broiler industry.

**Figure 1. Cumulative potential broiler pullet placements**

![Graph](image)

Data source: USDA National Agricultural Statistics Service, Compiled by LMIC

The total number of broiler hens in the broiler hatchery supply flock is reported as the quantity of layers on the first day of the month and the average for the month. Size of the broiler hatchery flock provides an important indication on the realization of expansion plans that vertically integrated firms may be undertaking that is first reflected in the cumulative potential broiler-type pullet placements. As Figure 2 illustrates, the number of broiler-type hatching layers (breeding flock) seasonally increases during the first and second quarter of each calendar year. The number of broiler laying hens retained in the breeding flock decreases in the third quarter because less production is needed in subsequent months.

The weekly Broiler Hatchery report provides information on the number of broiler-type eggs set in hatcheries and the number of broiler-type chicks placed for production in 19 selected states and the U.S. total. Information included in this report lags by one week to provide vertically integrated firms a chance to collect and submit data to the USDA’s National Agricultural Statistics Service. Because this report is weekly, it provides the first indication that placements are declining, which is later confirmed by the monthly Chickens and Eggs report through the number of broiler-type layers and broiler-type eggs hatched. Data for each of the 19 states is published for a six-week period since data for each state is subject to revision. Annual revisions are released only at the aggregate U.S. level.

Figures 3 and 4 illustrate seasonal hatching patterns for U.S. and Louisiana broiler-type chicks, respectively. Unlike broiler-type chicks hatched nationally, Louisiana does not see the decline in the number of chicks hatched in the fourth quarter of each year. This reflects the needs of vertically integrated firms in the state for a constant supply of chickens throughout the year and the time for those chickens to reach slaughter weight. The decline in the minimum index for Louisiana broiler-type chicks hatched to 70 percent of the annual average reflects the temporary closure of the Farmerville facility in 2009.

Once chicks are placed with contract growers, it takes five and a half to eight weeks for the birds to reach market weight. This allows contract growers to raise four to five and a half broiler flocks per year. The final weight at slaughter varies by each complex of the vertically integrated firm because certain vertically integrated firm complexes are raising birds for a specific market or customer (rotisserie bird versus further processing for the quick service market). As a result, there is more variation in the final weights of birds than the cattle or hog industries. A vertically integrated firm may have a contract with a quick service restaurant and may decrease final weight of the broiler to coincide with a marketing campaign by that restaurant. This type of marketing agreement illustrates the

**Figure 2. Seasonal index for U.S. broiler-type hatching layers, 2002-2011.**

![Graph](image)

Data source: USDA National Agricultural Statistics Service, Compiled by LMIC

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1The 19 selected states account for approximately 97 percent of the broilers produced annually. The selected states are Alabama, Arkansas, California, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Missouri, Mississippi, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia and West Virginia. Totals for the states of California, Missouri, Tennessee and West Virginia are aggregated.
Another important piece to understanding the broiler industry is exports. U.S. consumer tastes and preferences are for white meat because of its lean nature and associated health benefits. Chicken breasts are the most important cut for the domestic U.S. market, and profitability for the U.S. broiler industry is tied to its movement. A significant portion of the broiler cut-out is dark meat, however, and it sells at a heavy discount compared to white meat due to U.S. consumer preferences. The dark meat is preferred in many other countries, and the ability to export dark meat to those countries is crucial to vertically integrated firm’s profitability. USDA’s Economic Research Service is the agency that reports monthly export carcass weight data for the broiler industry by applying coefficients to the data on a product weight basis that are compiled by USDA’s Foreign Agricultural Service. Export data has a two-month lag before being published, so, for example, the January data is not published until March.

The USDA National Agricultural Statistics Service’s Cold Storage monthly report provides a breakdown of various frozen chicken cuts in warehouses in various regions of the United States. The report captures product for future sales, including frozen chicken bound for export markets (if stored for more than 30 days). Levels of dark meat items such as wings, thighs and paws kept in cold storage can provide early indications of export strength or weakness. The amount of breast meat in cold storage is an important benchmark of the strength of the domestic market. Stocks of breast meat in cold storage typically build up during the fourth quarter of each calendar year and begin to be drawn down during the first part of each year. Increases in stocks outside of these time periods can signify broiler production is increasing faster than the ability of the market to absorb increases.
Pricing Information

Due to the vertically integrated structure in the poultry industry, there is no public cut-out pricing information like that for other livestock sectors. The first level of available pricing information for broiler chickens is at the wholesale level. The USDA Agricultural Marketing Service’s Broiler Market News Report is published three times a week and provides pricing information for national and major regional markets. Prices are reported for the major chicken cuts, including boneless/skinless breast, tenderloins, leg quarters, and wings, as well as other types of poultry (turkeys, hens, and fryers) for the regional markets. One of two major composite bird prices is the Georgia FOB (free on board) dock price reported weekly by USDA’s Agricultural Marketing Service in the Broiler Market News Report. The quoted price for Georgia dock broilers is for 2.5 to 3 pound birds, which are smaller than the average broiler. Summaries of other major broiler-related USDA reports (including Broiler Hatchery and Estimated Slaughter under Federal Inspection) also are included in the Broiler Market News Report. Individual reports contained in the Broiler Market News Report also are available through USDA’s Agricultural Marketing Service.

A second important wholesale composite broiler price is the 12 city average published weekly in the USDA Agricultural Marketing Service’s report Weekly Final Broiler/Fryer. The 12 cities are primarily located in the northeastern United States but include other major markets such as Detroit, Denver, Los Angeles and San Francisco. Daily and weekly prices are available for the Northeast, Southern, Midwestern and Western regions for whole birds and broiler parts. Prices also are available for selected cities such as Chicago and Los Angeles and states such as Georgia, North Carolina and Arkansas.

Wholesale prices for cuts of chicken follow seasonal patterns. The prices for primary cuts (leg quarters and breasts) and the composite price (Georgia FOB or the 12 city average) peak in the late second quarter to the third quarter. The exception is the seasonal price index for whole wings that typically peaks in the first quarter, due to their popularity among consumers during important sporting events (college football bowls, Super Bowl and March Madness).

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2 An index is a percentage of the annual average calculated by using a centered moving average technique. For example, a value of 0.96 for October in the 12 city composite prices suggests that price is 4 percent below the annual average.
This publication described the major public sources of information available to help understand the supply factors affecting the U.S. broiler chicken industry, which is almost completely vertically integrated. Subscription-based information from private companies is available, but USDA agencies regularly provide information on the size of the broiler-type breeding flocks, as well as broiler meat production, in addition to pricing information for broiler meat. The U.S. broiler industry is heavily reliant on export markets to absorb dark meat associated with chicken production because U.S. consumers prefer white meat. Although the poultry industry has the shortest production cycle from the point of increasing the number of available breeding animals until the chickens reach the final consumer, it still takes about a year for increases (or decreases) in supply to be fully felt in the marketplace and that is partially why chicken will remain relatively cheaper than pork or beef in the near future.

**Links to Major Publicly Available Reports:**

- **Broiler Hatchery report, USDA National Agricultural Statistics Service:**

- **Broiler Market News Report, USDA Agricultural Marketing Service:**

- **Chicken and Eggs report, USDA National Agricultural Statistics Service:**

- **Livestock and Meat Trade Data, USDA Economic Research Service:**

- **Weekly Estimated Slaughter of U.S. Broilers/Fryers and Fowl, USDA Agricultural Marketing Service:**

- **Weekly Fast Food Report, USDA Agricultural Marketing Service:**

- **Weekly Final Broiler/Fryer, USDA Agricultural Marketing Service**:3:

- **Weekly National Whole Broiler Fryer Report, USDA AMS:**

- **Weekly Poultry Slaughtered Under Federal Inspection, USDA Agricultural Marketing Service:**
  [http://www.ams.usda.gov/mnreports/nw_py017.txt](http://www.ams.usda.gov/mnreports/nw_py017.txt)

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3Report discontinued at end of 2012, but historical information is still available. Weighted average prices and volumes now included in Weekly National Whole Broiler Fryer Report.
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