Competition in the U.S. Chicken Sector

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Table of Contents

Introduction

The United States Department of Agriculture (USDA) and Department of Justice (DOJ) have launched a joint examination of the state of competition in U.S. food and agriculture. The chicken industry is included in that effort. This study was prepared for the National Chicken Council as inputs to the May 21, 2010, Normal, Alabama poultry workshop.

The study will examine the history and current state of the following areas of interest to USDA/DOJ and the chicken industry:

1. The state and nature of competition in the chicken market:
    a. Concentration of production;
    b. Chicken prices relative to overall consumer prices;
    c. Chicken prices relative to competing meats prices;
    d. Chicken prices relative to cost of production, and integrator returns;
    e. Competitiveness in domestic markets;
    f. Competitiveness in export markets;
    g. Barriers to entry; and
    h. Viability and longevity by producer-processor size.
2. The impact of vertical integration on competition:
    a. Market share of chicken versus competing meat production;
    b. Cost of production over time, and relative to other meats; and
    c. Rates of innovation.
3. Buyer power, or monopsony, in the contract grower portion of integration.
4. Adequacy of the current Federal market regulation system.
5. Market price and transaction transparency.

State and Nature of Competition

Over the last 50 years, increasing concentration of production, processing and distribution have been an ongoing theme in U.S. agriculture. Farms and food production companies have become fewer and larger as technology advances and transportation improvements have created cost efficiency advantages in manufacturing and distribution advantages for large scale business operations operating over large trade areas. As meat, poultry and dairy sectors consolidated, that consolidation has raised questions about potential market power abuse.

There are two major economic forces that need to be considered in assessing the impact of increasing concentration. In general, as firms become fewer, price competition may decline as the fewer players are able to exert more market power over product prices and buyers lose options for product purchases. Also, fewer firms may be able to exert more market power over

specialized resources that they purchase, thus lowering their costs and reducing returns for their suppliers.

Countervailing the potential negative economic impact of increased concentration are the very economics of scale of larger firms that create increasing concentration. By taking advantage of the lower costs from economies of scale, fewer and larger companies can operate at lower costs per unit of production. As long as there is adequate price competition among the remaining firms, lower costs will be passed along to the benefit of consumers. In recent DOJ comments to the Organization for Competitive Markets (Weiser, 2009), it was recognized that both of these major factors need to be considered.

A third factor that needs to be considered is that of "countervailing power." Chicken producer-processors serve a domestic customer base of retail and foodservice companies. That customer base has become increasingly consolidated, but nonetheless remains competitive. Consolidation of chicken production has served to counteract the increased bargaining power of their evolving customer base. It can be argued that the consolidation of the food marketing and distribution system has been a factor in the consolidation of chicken production.

A recent General Accounting Office study (GAO, 2009) reviewed the economic literature on the effects of increasing concentration on the beef, pork, dairy and retail food sectors. The study concluded that:

> "The empirical economic literature has not established that concentration in the processing segment of the beef, pork, or dairy sectors or the retail sector overall has adversely affected commodity or food prices. Most of the studies that we reviewed either found no evidence of market power or found efficiency effects that were larger than the market power effects of concentration."

While not directly addressing effects of chicken or poultry production concentration, the 4-Firm Concentration Ratios as reported by GAO for beef and pork processing are substantially higher over time than those for chicken production and processing (see table below). Since 2006 the concentration ratios for beef and chicken have not changed significantly, while pork concentration has increased from 61 to 65 percent.

4-Firm Concentration Ratios for Beef, Pork and Chicken Sectors

Sector	*1982*	*1987*	*1992*	*1997*	*2002*	*2006*	*2007*	*2008*
Steer and heifer slaughter	41%	67%	78%	78%	79%	81%	80%	79%
Hog slaughter	36%	37%	44%	54%	55%	61%	65%	65%
Chicken production	27%	36%	40%	44%	48%	57%	57%	57%

Sources: USDA. Grain Inspection, Packers and Stockyards Administration. Annual Report, 2008 and 2009. GAO. "Agricultural Concentration and Agricultural Commodity and Retail Food Prices". Briefing for Congressional Staff.

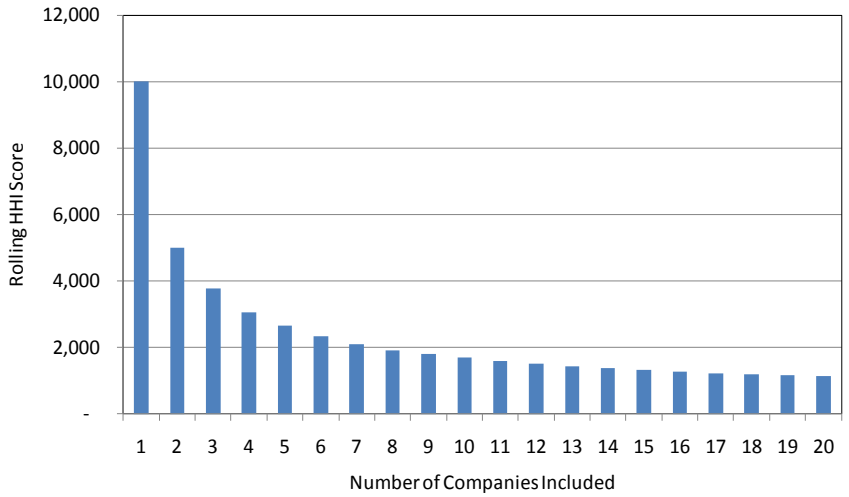
The Herfindahl-Hirschman Index (HHI) for national 2009 RTC chicken production was 979. This is a level that is regarded as a "relatively unconcentrated" market by Department of Justice guidelines. A HHI of between 1,000 and 1,800 is regarded as "moderately concentrated" and

over 1,800 as "highly concentrated" (DOJ, 1997). It would require significant further concentration in chicken production to push the national chicken industry HHI over 1,800.

In any proposed chicken industry merger, DOJ would compute the HHI on the basis of the "relevant market" which would likely have a narrower scope than the national HHI. DOJ might also further restrict the scope to particular product classes. Either of these considerations would raise the computed HHI.

For illustrative purposes, a "rolling" HHI based on RTC production was computed for the top 20 producer-processors. It was assumed that the companies had national market shares based on 2009 production, and the production of companies above them in the ranking. The rolling HHI declines rapidly as the first few firms are added, then more slowly. At the 20th firm, this HHI calculation declines to 1,135, slightly into the "moderately concentrated" area. The calculations are shown in the appendix table on company rankings and in the chart below.

Rolling HHI Score for Increasing Number of Chicken Producer-Processors



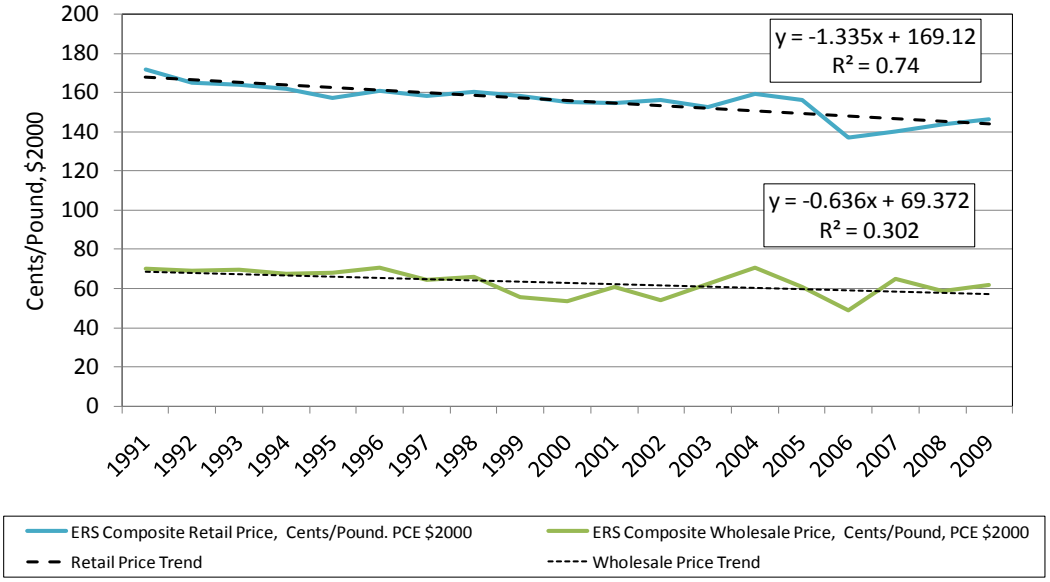
One unknown not addressed by the GAO study is the effect of existing regulatory authority on current concentration. That is, in absence of regulation, would the concentration ratios have been higher? The GAO conclusion and HHI scores may be indirect evidence that past and current regulation has been effective in maintaining competition on a national scale.

Chicken Prices Relative to Overall Consumer Prices

One indirect measure of the effectiveness of competition in a market can be the trend of retail product prices relative to overall prices in the economy. If an industry is able to innovate and reduce costs (as will be shown later is the case for chicken), those innovations should be passed along to consumers as lower real (inflation-corrected) prices in the marketplace. The chart below shows that, in the case of chicken, there has been a significant (P=0.98) declining trend of both the ERS retail and wholesale chicken prices from 1991 to 2009.

Competition in the U.S. Chicken Sector

Trends of Inflation-Corrected ERS Retail and Wholesale Chicken Prices, 1991-2009



Data Sources: USDA, Economic Research Service (ERS), Composite Retail and Wholesale Chicken Prices, found at http://www.ers.usda.gov/Data/meatpricespreads/. Bureau of Economic Analysis (BEA), Personal Consumption Expenditures (PCE) Price Index, found at http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=4&ViewSeries=NO&Java=no&Request3Place=N&3Place=N&FromView=YES&Freq=Year&FirstYear=1991&LastYear=2009&3Place=N&Update=Update&JavaBox=no (the index base year was converted from 2005 to the data period's midpoint of 2000)

Another way to look at the trends in the chart above is that, even as concentration increased in the chicken industry, there was a steady decline in inflation-corrected wholesale and retail chicken prices. On average the inflation-corrected retail price declined by 1.335 cents per year and the wholesale price by 0.636 cents per year.

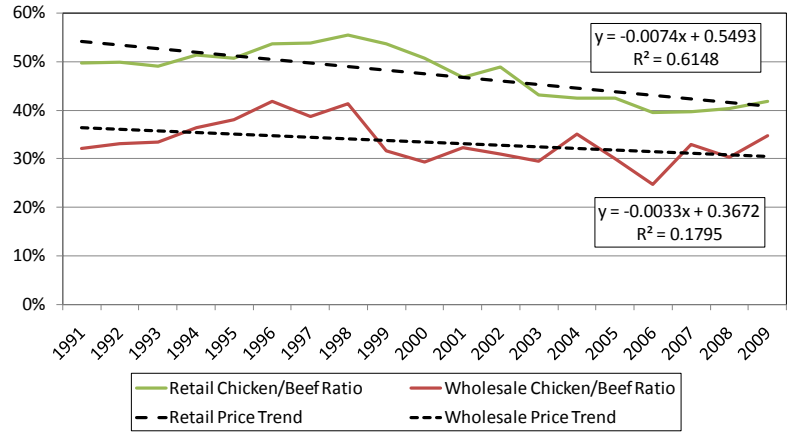
Wholesale and retail chicken prices in 2007-2009 were influenced by sharp increases in feed costs that have affected all meat and poultry producers. Higher costs caused some chicken producer-processors to make sharp reductions in late 2008 and 2009 chicken production, and as a result wholesale and retail prices were affected. Nonetheless, even with higher feed costs, both inflation-corrected price series remain lower than they were in the 1990s.

Lower real costs of chicken production have been passed along to consumers as costs declined. That is, technological improvements that were adopted by chicken producer-processors to lower costs resulted in lower inflation-corrected prices for consumers. As will be seen later, profit margins for producer-processors have not improved in recent years, indicating that most, if not all, benefits of lower real costs were competed away by market forces.

Chicken Prices Relative to Competing Meat Prices

Chicken producer-processors compete in an overall market for meat. The two major competing meats are beef and pork. Chicken prices in relation to beef and pork can give an indication of how the chicken sector is performing compared to its two major competitors. ERS data for retail and wholesale composite chicken, beef and pork prices are graphed in the charts below and on the next page. From 1991 to 2009, both wholesale and retail chicken prices declined relative to beef. The average decline in relative chicken retail price was 0.74 pct. points per year (P=0.98) while wholesale price declined on average by 0.33 pct. points per year. Due to high variance, the wholesale price relationship was only marginally statistically significant (P=0.90).

Wholesale and Retail Chicken Prices Relative to Beef, 1991-2009



Data Source: USDA, Economic Research Service (ERS), Composite Retail and Wholesale Chicken and Beef Prices, found at http://www.ers.usda.gov/Data/meatpricespreads/.

The uptick in 2007-2009 wholesale chicken prices relative to beef is due to the fact that beef producers had not adjusted production to reflect higher feed costs since 2007. According to an Iowa State budget model (Iowa State, 2010), cattle feeders were experiencing significant financial losses during this period. Much of the chicken sector has adjusted production in response to higher costs, and chicken prices have reflected that adjustment. As cattle and beef market prices rise to reflect higher feed costs, the ratio of chicken prices to beef prices will likely decline.

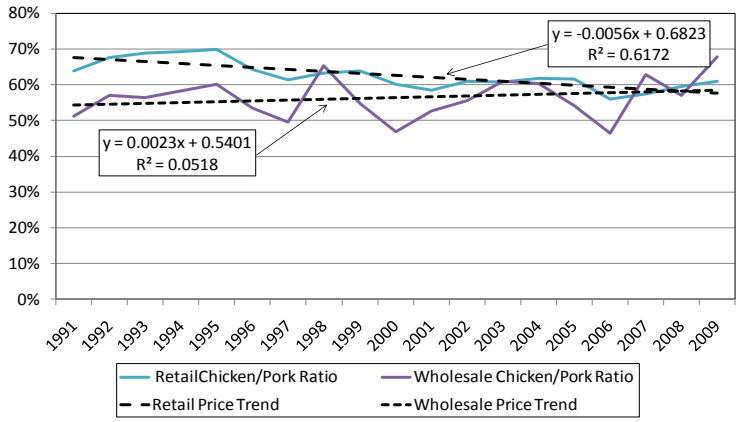
Trends for retail and wholesale chicken versus pork prices are shown in a chart on the next page.

Between 1991 and 2009 the relative retail price of chicken declined by an average 0.56 pct. points per year compared to pork (P=0.98). Wholesale prices of the two products were not statistically related over this time period, but numerically there was a small increase in average chicken prices compared to wholesale pork. The spike in wholesale chicken prices in 2009 was

the result of chicken producer-processors making a more rapid adjustment to higher costs than pork producers. Ignoring 2009, there is no trend in relative wholesale prices.

As was the case with beef, hog and pork prices in 2007-2009 do not reflect full costs of production (Iowa State, 2010). As hog prices increase to reflect higher costs, the wholesale price ratio of chicken relative to pork will likely decline.

Wholesale and Retail Chicken Prices Relative to Pork, 1991-2009



Data Source: USDA, Economic Research Service (ERS), Composite Retail and Wholesale Chicken and Beef Prices, found at http://www.ers.usda.gov/Data/meatpricespreads/.

Summary: Broadly speaking, from 1991 to 2009, average retail and wholesale chicken prices generally declined relative to overall consumer prices and major competing meats. Chicken production was generally profitable over this period, indicating that inflation-corrected costs were also declining and those lower costs were being passed along to consumers via the retail sector. These price trends occurred even as the chicken processing 4-firm concentration ratio increased from 40% in 1992 to 57% in 2008.

It should be noted that the retail prices used in this analysis reflect only fresh and frozen retail grocery meat sales. Excluded are value-added products, the retail foodservice channel, and the export channel.

Chicken Prices Relative to Cost of Production

Overall chicken sector margin trends: One symptom of increasing market power affecting price competition may be increasing producer-processor profit margins. As firms gain increasing control over pricing, they may find it possible to charge customers prices that are a premium to competitive prices. Another related symptom of market power may be that prices do not respond to productivity increases and cost reductions.

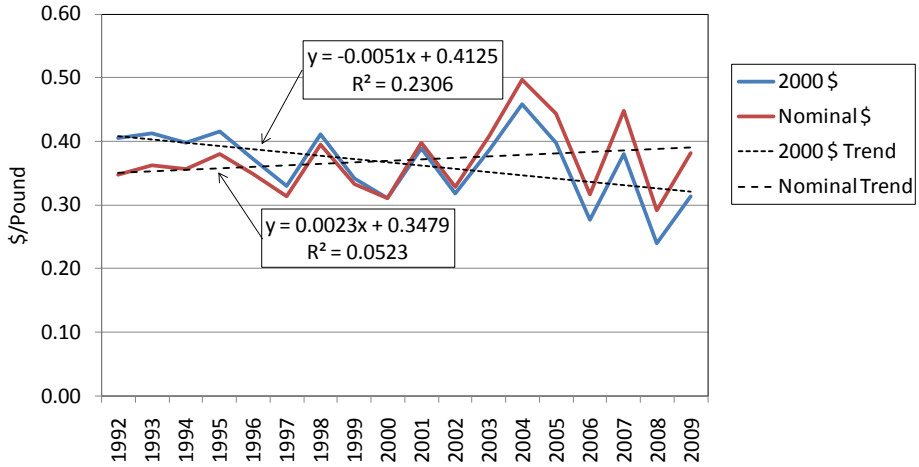
Chicken integrator profit margins are volatile over time. Variation arises from both feed ingredient and wholesale chicken and chicken parts prices. That volatility has increased recently, even as concentration increased, due mainly to increasing volatility of feed ingredient

prices. Volatility of margins also illustrates that chicken companies have, individually, little control over wholesale margins, and thus cannot readily pass along to wholesale prices changes in feed ingredient costs.

FarmEcon LLC uses a computed margin over feed cost model as a measure of average integrator profitability. This margin measures the revenue from wholesale chicken sales that is left over after feed costs are paid. Feed is an important, and volatile, cost, so this margin reflects swings in both wholesale chicken prices and the prices of corn, soybean meal and other feed ingredients.

In nominal, current dollar, terms margin over feed cost has improved slightly since 1991, but the trend is not statistically significant. Inflation-corrected margin over feed cost has declined over time, and that regression is statistically significant (P=0.95). Since chicken companies have been generally profitable over this period, the trend shows that inflation-corrected cost-over-feed is declining, and those declining costs are being passed along to consumers via lower inflation-corrected wholesale prices. This observation is consistent with the chart on page 5.

Wholesale Chicken Market, Margin Over Feed Costs, Nominal $ and 2000 $, 1992-2009



Data Sources: USDA, ERS, Composite Wholesale Chicken price, found at http://www.ers.usda.gov/Data/meatpricespreads/.
BEA, Personal Consumption Expenditures (PCE) Price Index, found at http://tiny.cc/3jdamhttp://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=4&ViewSeries=NO&Java=no&Request3Place=N&3Place=N&FromView=YES&Freq=Year&FirstYear=1991&LastYear=2009&3Place=N&Update=Update&JavaBox=no (index base year was converted from 2005 to the data period's midpoint of 2000).
USDA, Agricultural Marketing Service (AMS), found at http://marketnews.usda.gov/portal/lg.
Chicken feed costs are calculated based on USDA/AMS feed ingredient prices using a FarmEcon LLC formula.

While volatile, the margin data do tend to vary around a stable equilibrium. This shows that if margins increase to unusually profitable levels (as in 2004/2005) chicken companies tend to respond with higher production so that chicken prices and margins fall and the situation is temporary. Conversely, if margins are depressed (as in 2008) companies tend to respond with

lower production and chicken prices and margins increase. The next section will show this production response to margin variation.

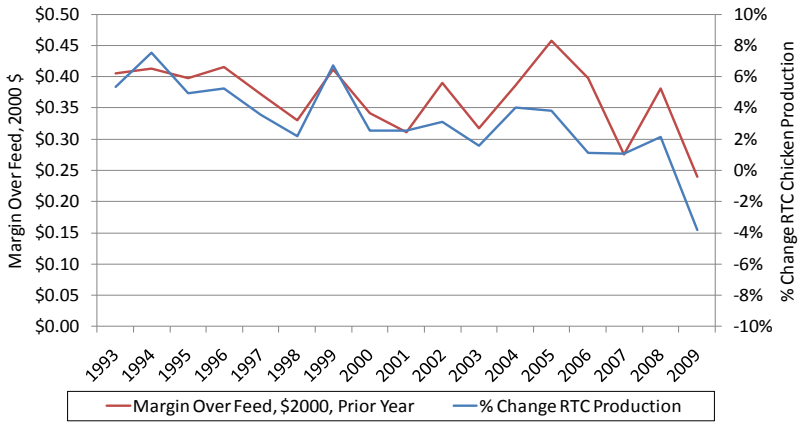
The volatility of integrator margins does not affect payments made to contract growers. Growers receive their payments regardless of whether or not the integrator is making money. One major reason that the vertically integrated system evolved in this manner was that integrators need growers to be financially secure in order to ensure a steady supply of live birds regardless of current business conditions and their short run profit margins.

Production response to margin variation: In a competitive industry, production responds to changes in profitability. The response of chicken companies to margin variation illustrates a market that is working in a competitive and economically efficient manner. Above-equilibrium margins elicit higher production that causes prices and margins to fall. Depressed margins are an indication that production is in excess of market demand, production is reduced, and prices and margins increase.

A model of chicken producer-processor margins above feed costs is maintained by FarmEcon. This margin model is used by FarmEcon to predict the potential for chicken production changes in the following year. If the margin increases it is a strong indication of rising chicken production, and conversely, if margins fall, production tends to decline.

The behavior and trends shown in the graph below are indicative of a competitively operating sector where individual production decisions are largely driven by market prices, demand and costs. This outcome is economically efficient because market demand is driving production. Consumers get the chicken they are willing and able to buy, producer-processors get rewarded with generally positive profit margins, and contract growers are assured that funds for their payments are forthcoming.

Prior Year FarmEcon Margin Over Feed Cost, 2000 $ and % Change in RTC Chicken Production



Data Sources: USDA, National Agricultural Statistics Service (NASS), Poultry Slaughter, found at http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1131. Margins based on ERS chicken price data, AMS feed ingredient prices, and a FarmEcon LLC feed cost model.

A regression of percent change production and the prior year margin (to give the sector time to respond to changes in margins) shows a statistically significant (P=0.99) and positive relationship between prior year margin and next year production changes. That is, when margins weaken, the rate of production increase also typically declines.

The detailed regression result is shown below.

%Production Increase = A + B * Prior Year Margin (2000 $)

A = -0.10
B = 0.36 (t statistic = 4.90)
R^2 = 0.62

A +1 cent change in margin is associated with a +0.36% change in production in the next year. When the inflation-corrected margin declined to only $0.24 per pound in 2008, chicken production declined by a record 4% the following year (2009). Strong margins in 2004-2005 resulted in an increase in production growth. Also note that the long term decline in inflation-corrected margin has been accompanied by a long term decline in production growth rates.

Again, the margin model and production record shows an industry that responds to both its costs and consumer demand. Chicken gets produced at prices that earn profits for producer-processors, enable them to pay their costs, but also throttles production back if costs increase or demand falls. This is how a competitive industry responds to market forces and remains viable in the long run.

Major chicken parts wholesale pricing: There are significant trends in major chicken parts prices that are also revealing. Chicken parts are priced based on an overall chicken supply that in large part determines the potential supply of parts. Demand for the individual parts can vary independently over time, giving rise to changing relative parts prices. Depending on these different parts' demand movements, parts prices can, and do, move independently of prices for whole birds and the overall supply of chicken. The chart on the next page shows historical trends for major chicken parts prices relative to wholesale prices for whole chickens.

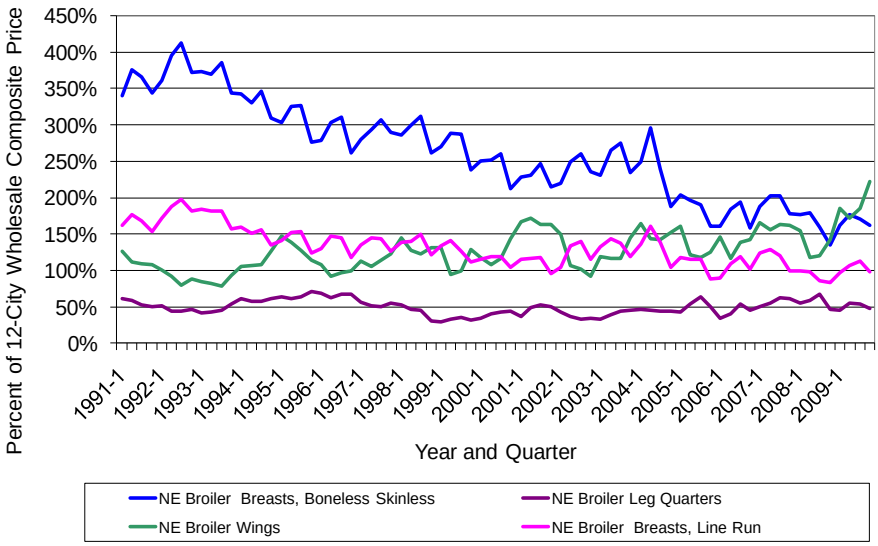
Long term declines in relative boneless, skinless, breast meat (BSBM) and line run breast meat prices can be attributed to several factors. First, relatively high breast meat prices have attracted the attention of chicken companies, and their breeding operations. Genetics were changed to increase the yields of breast meat as a percent of the chicken carcass. The genetic changes were focused on large-sized broiler birds, further boosting breast meat production. The combined effect was a shift the supply of breast meat to a higher share of overall chicken production. That higher breast meat supply alone helped reduce prices.

At the same time, automation of the labor-intensive process of de-boning chicken breasts to make the boneless breast product reduced costs and waste. The combination of higher supply and lower costs was translated by market forces to halving of the BSBM relative price between 1991 and 2006-2009. Relative line run breast prices also dropped, but did not benefit from the cost-reducing automated de-boning innovations that had a major impact on BSBM pricing.

Competition in the U.S. Chicken Sector

The U.S. preference for chicken white breast meat has given chicken producer-processors incentives to increase breast meat production as a percent of total production. Together with cost-reducing de-boning automation, since 1991, wholesale breast meat prices have trended lower relative to other major chicken parts. Prices fell because price competition ensured that, over time, chicken producer-processors did not capture excess profits from cost-reducing and yield-increasing innovation.

Primary Chicken Parts Prices as a Percent of USDA 12-City Wholesale Composite Chicken Price



Data Sources: USDA, NASS, 12-City Wholesale Chicken Prices, Livestock Dairy and Poultry Situation. Chicken parts, USDA, Agricultural Marketing Service (AMS), found at http://marketnews.usda.gov/portal/lg.

Summary: Chicken industry returns at the wholesale level show little trend over time, but substantial variation. By changing production in response to profitability changes, the chicken sector responds to margin variation in a generally economically efficient manner. Margin variability in recent years has been a result of volatile feed costs that chicken companies cannot offset by simply changing wholesale product prices in what is essentially a commodity market. Rather, it takes broad-based production adjustments to move wholesale prices. The industry production adjustments made are consistent with the behavior of a competitive sector.

Contract growers are insulated from integrator margin risk by fixed price contract terms. They receive payments that are not tied to market variations in prices of chicken and feed.

Prices of boneless/skinless breast meat have declined substantially in response to innovation that increased breast meat yields and deboning operation production efficiency.

Competitive markets for chickens and chicken parts have kept prices in line with costs, and ensured that benefits of innovation are ultimately passed along from producer-processors to domestic and export customers.

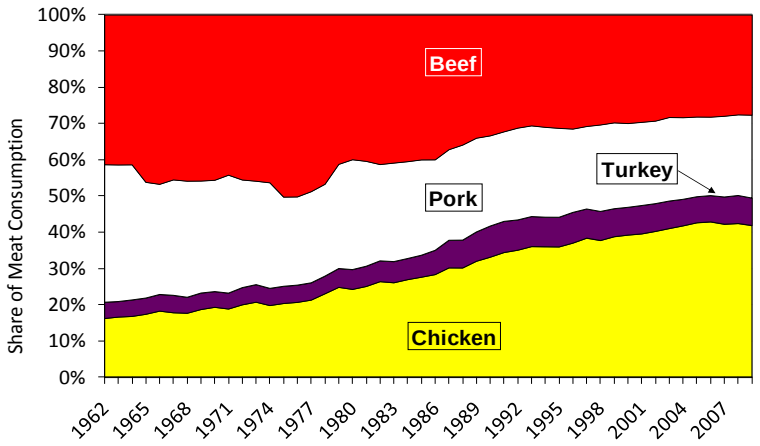
Competitiveness in Domestic Markets

Since 1962, chicken producer-processors have generally won an increasing share of the U.S. meat diet. The same trend has been true on a global scale, and for the same reasons. While the appeal of chicken is multi-dimensional, the price competitiveness discussed above has played a major role in this share increase. Other factors have included, but are not limited to:

1. Inherent cost and management advantages of vertical integration;
2. Feed efficiency that is much better than competing meats;
3. Integrator focus on evolving intermediate and final customer product needs;
4. Resulting in rapid innovation in production, processing and products;
5. Tight control and targeting of genetics programs;
6. Ability to relatively quickly adjust production to accommodate changing demand;
7. Favorable health profile of chicken vs. red meats;
8. Increased attention to food safety; and
9. Sophisticated, data-driven, marketing and management systems

U.S. consumption share: Chicken has gained substantial market share at the expense of red meats since 1962. The decline in chicken share since 2007 shown in the graph below is likely to be temporary. In 2009, many chicken producer-processors reduced production in response to both higher feed costs and the 2008/2009 recession. In doing so, they have maintained the profitability required to sustain operations, and might increase 2010 production. Beef and pork producers were slower to adjust production, and continued to operate at a loss as of early 2010. As they reduce production in 2010, and if chicken production grows, the chicken share will increase.

U.S. Meat Consumption Shares, Retail Weight Basis, 1962-2009

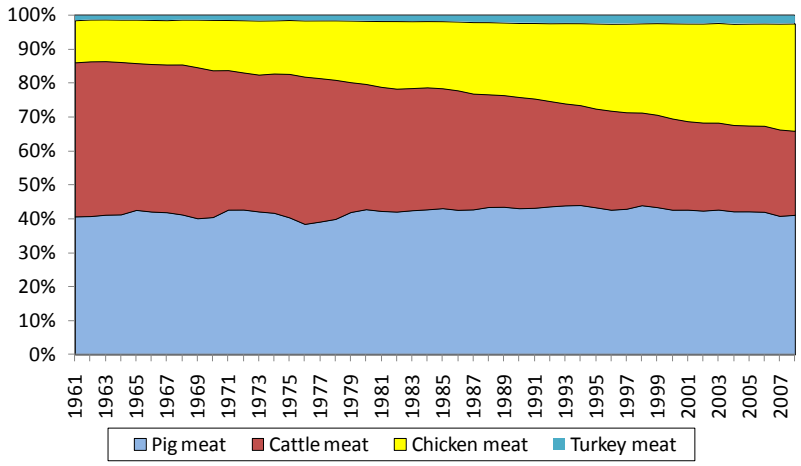


Data Source: USDA, ERS, Livestock, Dairy and Poultry Situation, 1962-2009.

Global production share: Similar long term trends for global meat production show chicken increasing much faster than beef or pork, increasing share in the process. Using production

systems similar to chicken, turkey producer-processors have also increased share over time. The ability of global poultry producer-processors to increase share in competitive markets is partially the result of the global adoption of the U.S. integrated business model and the other factors listed above.

Global Meat Production Shares, 1961-2008



Data Source: FAO, FAOSTAT database, Accessed 4/9/2010.

Product innovation: Innovation has occurred at a more rapid rate in chicken products than either pork or beef. This has been carefully documented in the case of beef versus chicken. A study done at Kansas State University (Mintert, 2009) showed a major difference between U.S. beef and chicken product introductions between 1997 and 2008. Over that period there were 3,579 new beef product introductions claiming convenient, microwaveable or ease of use versus 5,633 for chicken.

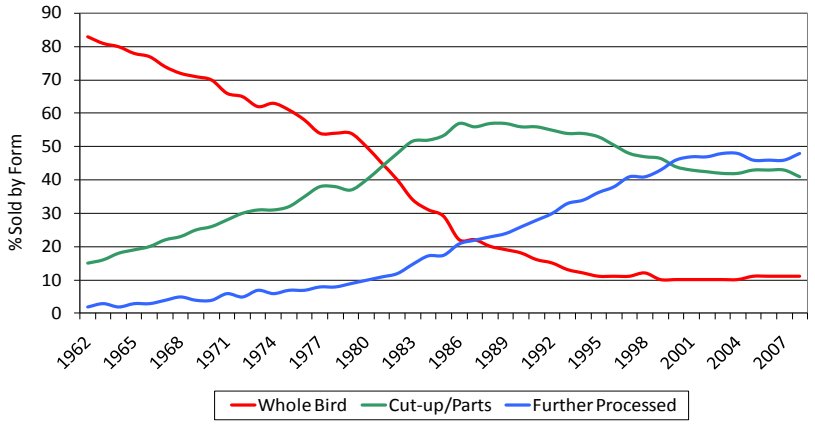
It is not unusual for chicken producer-processors to have in-house new product innovation centers where customers are invited to participate in the process of product design. This can lead to the potential for rapid translation of evolving customer product ideas into products on grocery shelves and in eating establishments.

Another indicator of new product introduction in the chicken sector has been the rate at which producer-processors have moved away from selling whole chickens and into cut-up and further processed products. In 1962, almost all chicken was sold as fresh or frozen meat, and most of that was in the form of whole birds. By the early 2000s, whole bird sales had dropped to about 10% of total sales and further processed products were almost 50% of the sales mix. Within the further processed product category, there are thousands of product offerings designed to meet a wide variety of needs in both the retail and foodservice channels. The product transformation record of the sector is an indirect indication of intense competition for volume and market share.

In recent years, sales trends by major product form have flattened, but as shown by the Mintert study cited above, new product introductions have continued. The flattening likely represents a maturation of the further-processed market more than any lessening of competitive pressures.

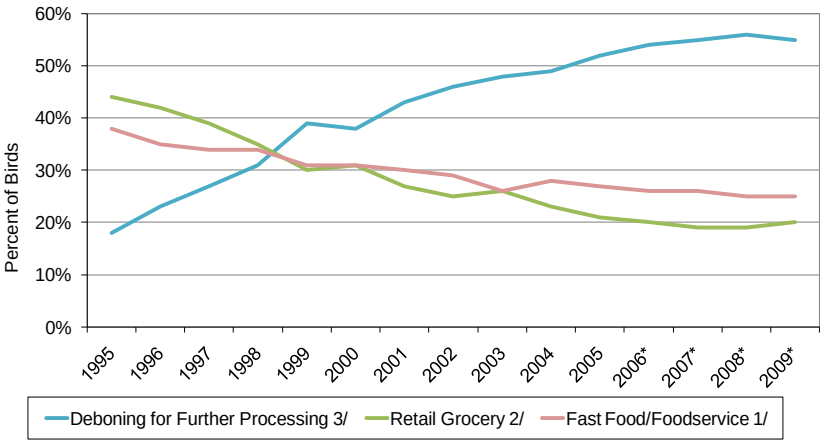
In addition to the product form data in the graph on the next page, the National Chicken Council has also collected aggregated data on share of chickens sold by market channel. As shown in the graph on the next page, changing consumer eating patterns have also caused distribution patterns to shift rapidly since the 1990s. The shifts were led by changing consumer demand patterns working through a competitive marketplace. The 2009 shifts were somewhat influenced by the recession, and resulting consumer demand for less value-added/foodservice products and more retail fresh chicken.

Percent of Chicken Sold by Major Product Form, 1962-2009



Data Source: National Chicken Council, annual member survey.

Estimated Share of Broilers for Major Domestic Market Segments



Note: Share is measured in number of broilers sold into each category, not pounds of meat.
* 2006 forward estimated by FarmEcon LLC and NCC based on new AMS weight categories.
1/ Primarily cut-up/parts for fried chicken and similar. May also include Cornish hens. 4.20 pounds and smaller, liveweight.
2/ Primarily fresh, unprepared parts prepackaged for supermarket meat departments. 4.21 to 5.25 pounds, liveweight.
3/ May also include young, heavy roasters for retail grocery. 5.26 pounds and larger, liveweight.
Data Source: Poultry Market News/AMS/USDA.

Competition in the U.S. Chicken Sector

Vertical integration: The vertically integrated system used by chicken companies has been a major contributor to its ability to compete with other meats. The system allows control of the production process from inception to final product form. Integrated companies have a broad span of control, and thus product accountability. They have the sole responsibility to control product safety, quality and integrity from breeding, to live production, through slaughter and into processing operations.

USDA's Food Safety and Inspection Service randomly tests for drug residues. One result of the tight control of the vertically integrated system is a drug residue violation rate that is a small fraction of the overall level for animal protein products (FSIS, 2000-2008).

FSIS Drug Residue Monitoring Results, 2000-2008

	Young Chicken			All Production Classes		
Year	Samples	Residue Violations	Violation Rate	Samples	Residue Violations	Violation Rate
2008	883	0	0.00%	17,876	20	0.11%
2007	1,520	0	0.00%	20,853	56	0.27%
2006	944	0	0.00%	21,073	75	0.36%
2005	637	0	0.00%	21,479	62	0.29%
2004	1,677	1	0.06%	19,001	70	0.37%
2003	2,245	0	0.00%	26,214	87	0.33%
2002	2,137	0	0.00%	26,995	75	0.28%
2001	2,432	3	0.12%	32,162	64	0.20%
2000	2,463	2	0.08%	33,920	154	0.45%
Total	**14,938**	**6**	**0.04%**	**219,573**	**663**	**0.30%**

Summary: Competition in the chicken sector has driven product innovation and increased chicken's market share. Vertical integration is seen as a competitive advantage over non-integrated production systems. The chicken industry is highly responsive to changing consumer demand.

Competitiveness in Export Markets

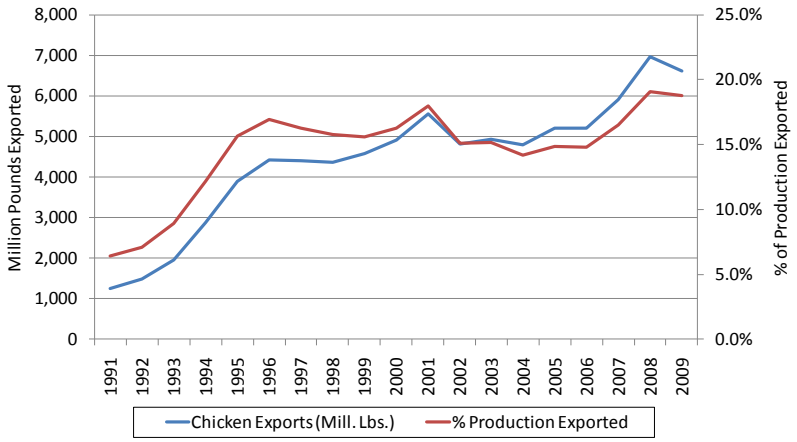
U.S. chicken producer-processors have also had success in exporting chicken, especially dark meat. Also, the vertically integrated model of chicken production that evolved in the U.S. in the 1950s has been adopted by much of the global chicken production system.

Since 1991 there have been two major increases in U.S. chicken exports and a stable period between (see chart, next page). In 2010, the most recent growth trend will be challenged by a Russian effort to reduce chicken exports, and China is in the process of placing steep anti-dumping import levies on U.S. chicken. In part, both of these restrictions are due to the fact that local producers in both countries find it difficult to compete with low cost U.S. production.

Competition in the U.S. Chicken Sector

The export success of the U.S. chicken sector is in part due to efficiencies of large scale production, and in part to the low demand for dark meat relative to white meat chicken by U.S. consumers. Precise data are difficult to find, but the cost of U.S. chicken production is generally considered to be lower than any other major producer except Brazil.

U.S. Chicken Exports, 1991-2009



Data Source: USDA, Foreign Agricultural Service (FAS), found at http://www.fas.usda.gov/psdonline/psdQuery.aspx

Barriers to Entry, Market Share, and Market Niches

Barriers to entry: Effective competition may require that entry to a sector not be blocked by existing firms or other factors. Entry may be by a new firm, or geographical expansion of an existing firm. The major barrier to commercial chicken production entry is not so much access to markets and customers as it is a wide range of government food safety, worker safety, and environmental regulations that set high standards that must be met for food production in general, and poultry in particular. Low, and highly variable, profit margins may also be a barrier to entry. Despite barriers, there has been entry into the market in recent years.

Brand power can also be a barrier to entry. In the chicken business, the only brands of importance are on products sold in retail grocery stores. Products that move through the foodservice channel may carry company brand names on the packaging, but these are not often presented to the end customers in restaurants and other eating places. It is also a common practice for large foodservice companies to source chicken products from multiple suppliers to promote price competition.

In the retail fresh, frozen and further processed channels, it is also common to see multiple brands in stores and regional differences in chicken suppliers within both national and regional retail food chains. As is the case with foodservice, retail chains also often buy from multiple chicken suppliers to promote price competition. Retail stores also have the option of carrying private label fresh, frozen, and further-processed chicken products.

Competition in the U.S. Chicken Sector

Despite barriers, entry into integrated U.S. poultry production has occurred in recent times. Entry has taken the form of both new firms and expansion of trade areas to new regions.

- Custom Poultry Processing planned to start chicken production and processing in Iowa as early as April 2010. This company plans to specialize in halal, organic and antibiotic-free products. The company has invested approximately $5 million in a production plant.

- A second potential market entry in 2010 is Loecher Capons, also of Iowa, moving into chicken processing.

- In 2009, Foster Farms of California entered the southern U.S. chicken market with the purchase of a Pilgrim's complex at Farmerville, Louisiana. Though Foster entered the chicken business in 1939, its market has been largely limited to the western U.S.

- In 2010, Sanderson Farms will expand into the eastern U.S. market when the company completes a new North Carolina production complex. Plans for a second North Carolina complex were announced on March 29, 2010.

Also, there have been recent, and significant, entries into turkey production and processing. In one case, a group purchased an existing plant, and the other was a start-up company in a new facility.

- In 2004, a group of Pilgrim's Pride contract turkey growers, working together with a management group, purchased a Virginia turkey processing plant that Pilgrim's was divesting. They established the Virginia Poultry Growers Cooperative, Inc. as a privately held Virginia corporation. The company was the #9 producer-processor of U.S. turkey in 2009. The company is currently a major supplier of turkey meat to other processors.

- While the Virginia cooperative started with an existing plant, Dakota Provisions entered the turkey processing business with a new facility that went into production in December, 2005. Organized by 44 contract owner/growers, the company ranked as the #12 turkey producer-processor in 2009. They supply turkey to retail stores, foodservice and export channels. Product forms produced include fresh, frozen and fully cooked turkey meat. The company plans to invest about $2.5 million in 2010 for expansion and production facility upgrades.

Finally, over the last decade, we have seen the creation of a small scale meat production sector that specializes in free range and organic production. One directory listing some of these small producers can be found at http://www.greenpeople.org/OrganicMeat.html. The directory lists over 500 producers and suppliers of organic and free range meat, poultry and dairy products. According to the 2008 Agricultural Census, 30.6 million organic chickens were raised by 285 organic chicken producers in 2008 (USDA, 2010).

Countervailing power: Another major issue that has led to increasing concentration of the chicken industry has been the consolidation of their customer base. There are two major issues

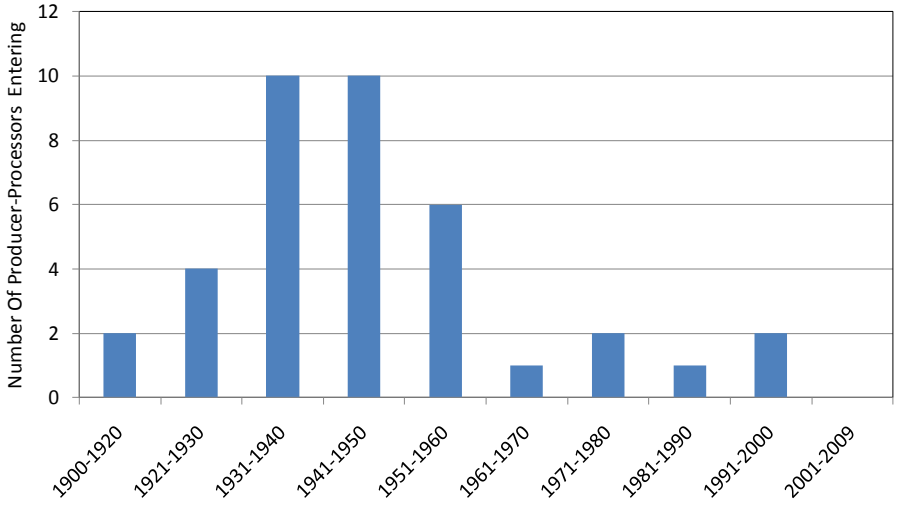
that the consolidation of the foodservice and retail channels have caused for all of their supplying companies:

1. The increased bargaining power of ever-larger foodservice and retail chains has led to the desire on the part of their suppliers to offset that power with scale and power of their own. It is difficult to imagine that numerous small, independent, chicken suppliers could bargain effectively with large national and regional retail food chains.
2. Large foodservice and retail chains want suppliers that are dependable and can furnish large amounts of a diverse set of products for their operations. It would be more difficult for small companies to independently cope with this set of demands, especially the volume requirements.

Company longevity and size: There were 38 commercial chicken production companies listed in the 2010 *Poultry USA* annual survey of commercial producer-processors. A list of those companies with related statistics is in the appendix to this study. Of the 38, there were no entries in the 2000s, two in the 1990s, one the 1980s and two in the 1970s. Thirty-three entered the chicken business before 1970. The lack of market entry since the 1970s and the longevity of companies indicate that while those in the business are viable, new entry has become difficult and not particularly attractive to investment. The situation is not likely to change as regulatory barriers continue to increase.

The average entry date of the smallest 10 companies was 1947, for the largest 10 companies it was 1950, and for the middle 18 it was 1945. Total weekly 2009 RTC production of the smallest 10 companies was 2.5% of the production of the largest 10. In 2009 production of the smallest 10 companies averaged 2.3% growth over 2008, while the largest 10 reduced production by an average of 2.7%. The middle 18 companies increased 2009 production by 0.6%.

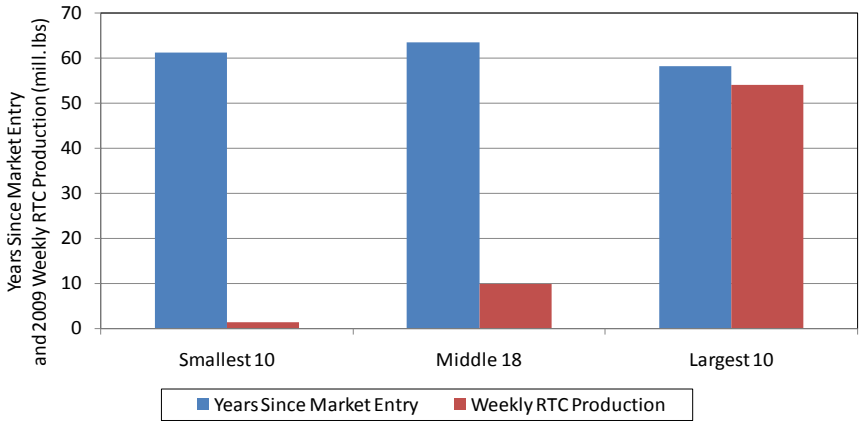
Chicken Integrator Market Entry by Decade of Initial Entry



Data Sources: Company names from *Poultry USA*, February, 2010. Decade of entry dates are from company web sites, general Internet search, and personal contact with company personnel. Potential 2010 market entries were not finalized as of the date of this study, and are not included.

The longevity and production growth in a very challenging year for these smaller companies indicates that economics of scale of the largest producer-processors are not sufficient to foreclose expansion among the much smaller competitors, nor prevent them from growing in the very challenging year of 2009.

Average Company Longevity Since Chicken Market Entry and 2009 Weekly Average RTC Chicken Production (mill. lbs.)



Data Sources: Weekly RTC production from *Poultry USA*, February, 2010. Entry dates are from company web sites, general Internet search, and personal contact with company personnel.

The chart above shows that scale of operation is largely unrelated to longevity for the 38 companies. The average age of the smallest 10 and middle 18 companies is slightly more than the largest 10, but the differences in average age of the three groups are small.

Market niches: In the last 20 years there has also arisen a small scale poultry sector that specializes in free range and organic production. Though numerous in terms of companies, the organic segment accounted for only 0.3% of 2008 U.S. chicken production (USDA, 2010). Though still not a major part of total chicken production, production of premium-priced organic and free range chicken has been growing rapidly. Companies in the segment also promote the small scale, local, nature of their companies. Entry in this smaller sized operation segment selling fresh chicken to mainly local markets is apparently a viable option.

Some of the smaller companies in the *Poultry USA* list also specialize in this emerging segment. Several examples follow:

Hain Pure Protein Corp., originally founded in 1929, the company now sells free range and organic chicken under the "Free Bird" brand. See http://www.freebirdchicken.com/.

Miller Poultry, founded as Pine Manor, Inc. in 1929, entered the chicken market in 1974. The company produces chicken on contracted Amish family farms in northeast Indiana. The company serves a small regional market in Indiana, Michigan and Illinois. Miller promotes its products based on an all-natural vegetable diet with no antibiotics. Miller also stresses that its chickens are raised on small family farms in its marketing area. See http://www.millerpoultry.com/about.php.

Gerber's Poultry is an Ohio company founded in 1952. The company markets chicken in an 18 state area. Like Miller Poultry, Gerber's raises its chickens on local Mennonite and Amish family farms. The company also promotes an all-vegetable diet. See http://www.gerbers.com/about.html.

Coleman Natural Foods (Petaluma Poultry) is owned by Petaluma Holdings. Petaluma Poultry, founded in 1969, operates as a subsidiary of Coleman. The company sells premium priced organic and free range chicken products primarily to a regional market in the Western U.S. Their first organic chickens were produced in 1989. See http://www.petalumapoultry.com/history.php.

Role and Adequacy of Federal Antitrust Oversight and Regulation: The chicken industry has matured to its current form under a long-standing regulatory system that includes comprehensive federal antitrust and fair trade oversight by DOJ, FTC and USDA's Grain Inspection, Packers and Stockyards Administration (GIPSA), as well as state agencies and attorneys general. In addition, the Securities and Exchange Commission also regulates industry financial reporting practices. USDA/GIPSA regulates contract and payment terms for chicken growers.

To date, DOJ has not raised objections to vertical or horizontal chicken company consolidation. It is not possible to know what the industry might look like had these federal regulations not been in place. However, the presence of antitrust and other regulations have, no doubt, affected the current state of the industry.

The recent DOJ challenge to the proposed purchase of National Farms by JBS/Swift demonstrates that the current mechanism is effective in preventing food sector mergers that the government deems to be not in the public interest. Recent and broad USDA regulatory actions affecting contract terms for growers also demonstrate that the government has the scope of regulatory authority to address issues in that arena.

Publically Traded Company Profitability

Only four of 38 commercial chicken producer-processors were publicly held corporations with published financial data in 2009. Those four are Cagle, Pilgrim, Sanderson, and Tyson. A summary record of their 5 year financial trends is presented in a table on the next page.

These companies are very different, and the data need to be carefully interpreted with that fact in mind. Tyson results include beef and pork production which account for about 60% of sales. Pilgrim purchased Gold Kist in their fiscal year 2007, and that had a material effect on sales and profitability in subsequent years. Also, in the summer of 2008, Pilgrim purchased significant amounts of feed ingredients at a very high cost, contributing to the large loss of that year and their subsequent Chapter 11 bankruptcy filing. JBS now owns Pilgrim.

Net profits of all four companies were highly volatile. Five-year average returns on sales and assets, as measured by net income after taxes, were positive only for Sanderson's.

Competition in the U.S. Chicken Sector

Publicly Traded Chicken Producer-Processors, 5 Year Financial Trends ($000)
(ROS=Return on Sales, ROA=Return on Assets, Net Income After Tax Basis)

Fiscal Year	Company	Net Sales	Total Assets	Net Income	ROS	ROA
2005	Cagle	$246,343	$94,270	$11,539	4.7%	12.2%
2006	Cagle	$237,266	$95,204	($574)	-0.2%	-0.6%
2007	Cagle	$233,936	$84,019	$559	0.2%	0.7%
2008	Cagle	$283,649	$91,974	($773)	-0.3%	-0.8%
2009	Cagle	$292,585	$91,152	($11,494)	-3.9%	-12.6%
5-Year Avg.	Cagle	$258,756	$91,324	($149)	-0.1%	-0.2%
2005	Sanderson	$1,053,192	$445,791	$70,638	6.7%	15.8%
2006	Sanderson	$1,047,930	$485,067	($11,501)	-1.1%	-2.4%
2007	Sanderson	$1,474,844	$600,373	$78,833	5.3%	13.1%
2008	Sanderson	$1,723,583	$681,158	($43,129)	-2.5%	-6.3%
2009	Sanderson	$1,789,508	$636,176	$82,319	4.6%	12.9%
5-Year Avg.	Sanderson	$1,417,811	$569,713	$35,432	2.5%	6.2%
2005	Pilgrim	$5,666,275	$2,511,903	$264,979	4.7%	10.5%
2006	Pilgrim	$5,152,729	$2,426,868	($34,232)	-0.7%	-1.4%
2007	Pilgrim*	$7,498,612	$3,774,236	$47,017	0.6%	1.2%
2008	Pilgrim**	$8,518,757	$3,298,709	($998,581)	-11.7%	-30.3%
2009	Pilgrim	$7,088,055	$3,060,504	($151,582)	-2.1%	-5.0%
5-Year Avg.	Pilgrim	$6,784,886	$3,014,444	($174,480)	-2.6%	-5.8%
2005	Tyson	$24,801,000	$10,504,000	$372,000	1.5%	3.5%
2006	Tyson	$24,589,000	$11,121,000	($196,000)	-0.8%	-1.8%
2007	Tyson	$25,729,000	$10,227,000	$268,000	1.0%	2.6%
2008	Tyson	$26,862,000	$10,850,000	$86,000	0.3%	0.8%
2009	Tyson	$26,704,000	$10,595,000	($537,000)	-2.0%	-5.1%
5-Year Avg.	Tyson	$25,737,000	$10,659,400	($1,400)	0.0%	0.0%

* Includes sales from Gold Kist acquisition
** Company filed for Chapter 11 bankruptcy, subsequently acquired by JBS

Data Sources: Company SEC filings for FY 2008 and FY2009. ROS and ROA calculated from published data. Tyson reports financial information in $millions which was converted to $000 by adding three zeros to reported data.

To the extent that there is a public record of profitability of chicken producer-processors, it would suggest that average profit margins have been modest, at best, in the recent past. The volatility of net income is somewhat the result of volatile feed costs (over which these companies have little or no control) coupled with a competitive chicken market that largely determines chicken pricing. The profitability picture in 2010 can be expected to improve for most producer- processors as feed costs are declining and competing meat prices are increasing.

Competition for Contract Growers

A high percentage (approximately 97%) of live chicken is produced by independent farmers under contract to the 38 vertically integrated commercial chicken companies. The growers produce live chickens for processing plants, limiting their potential trade area. The number of potential producer-processors for most contract growers is limited to a small number of integrators (typically 1-3) in their area. Theoretically, there exists the potential for abuse of bargaining power in the terms of these grower contracts. Market forces and government regulations both act as countermeasures to potential abuses. Market forces include the fact

that any integrator routinely abusing market power over contract growers would potentially threaten the reliability of their supply of live chickens.

The typical contract arrangement calls for the grower to furnish the growing facility, utilities, and labor. The integrator typically supplies baby chicks, feed and medications, technical advice and a guaranteed market for the grower's birds. The grower is typically compensated with a fixed base fee per live pound raised that can be adjusted upward if their performance is better than other growers who supply chicken to the integrator (MacDonald, 2008). Contract growers who are at the lower end of the relative performance scale are also eligible for technical assistance from the integrator. Performance is generally measured by feed efficiency, condemnations, death losses, and meeting a target live weight.

An individual integrator may produce anywhere from several hundred to several thousand different chicken products. Many of those products have narrow specifications for live chicken weights. Modern chicken production thus relies on the grower to help manage a complex production system and produce live chickens that meet a potentially wide range of end product specifications. Integrators target a range of different bird sizes that can vary from under 4 to over 8 pounds. The grower must meet the target weight in a specified number of days if the integrator is to maintain a constant flow of product through their processing facility, and meet their contract requirements that may have been set months in advance. The integrator need for tight production and quality control to satisfy customer product demand is a driving force behind the performance dimensions of grower contracts.

Under grower contract terms, the integrator absorbs essentially all market risk from chicken, feed, baby chick and medication price variability. Under USDA regulations, so long as the integrator is financially solvent, full payment to the contract grower must be made within 15 days of the week of sale, or the next day for cash sales. If the integrator experiences a business failure, its assets are placed in trust and growers are given priority over unsecured creditors.

Under this arrangement, growers are protected from chicken and feed price risk, but not the risk of the loss of a market for their birds if their integrator needs to reduce production. Contracts may be as short as a single flock (40-60 days), with no certainty of renewal (MacDonald, 2008).

The use of the relative performance ranking system of bonus payments also protects growers from performance risks that are caused by factors that affect all growers in their area. If a period of unfavorable weather were to cause bird performance to fall, all growers would be affected, but not their rankings. If absolute performance standards were used in contracts, all growers would have their bonuses reduced by adverse conditions. The ranking system essentially eliminates adverse grower payment risk caused by general conditions that affect all growers. These risks are largely shifted to the integrator, who absorbs the financial losses from adverse weather, general disease outbreaks, feed quality, and other factors potentially adversely affecting live chicken performance. In many cases integrators have elected to make full grower payments even when entire flocks were wiped out by natural disasters.

Competition in the U.S. Chicken Sector

Chicken companies have ongoing production requirements and must compete to attract growers. Competition for growers occurs not only among firms within the chicken sector, but also encompasses all income opportunities that growers may have in their area. That is, growers have the opportunity to earn their living outside the chicken industry, and thus must be convinced that raising chickens is at least as good as those opportunities.

However, once a grower is committed to producing chicken, he or she has made a substantial long term investment in chicken-growing facilities, and may also forgo other income opportunities. There is the possibility that there may be only one integrator in the trade area where the grower farms.

Growers are, however, not lacking for recourse. USDA's GIPSA regulations spell out detailed requirements for grow-out contracts, bird weighing on the day of delivery to processing plant, payment terms, and other important dimensions of the grower-integrator relationship.

The 2001 Grower Study: In a landmark 2001 study of 1,010 contract chicken growers (Farmers' Legal Action Group, 2001), there were a number of areas of concern identified by those who participated in the survey. However, for the most part, the study also showed that growers were generally satisfied with their decision to enter chicken production.

The survey that is the core of the study consisted of 412 potential questions that could have been answered. Only a few key answers will be highlighted here.

Length of Tenure: Growers are not completely locked into chicken production after they build a facility. They can sell their buildings to other growers, or if they have paid off any facility debts, they can quickly exit the business and find alternative employment. The survey showed the following results:

Q. How many years have you been a broiler grower? (998 of 1,010 responded)

Years Growing	Percent
5 or less	14%
6-10	24%
11-15	20%
16-20	14%
Over 20	28%

Eighty-six percent of the growers responding had been producing for 6 or more years. Sixty-two percent had been producing for more than 11 years. A more recent 2006 USDA national survey (MacDonald, 2008) showed that 75% of growers had been in business for 11 years or more. Both studies would indicate that a high percentage of growers are sufficiently satisfied to remain in the business for a considerable period of time. The average age of growers in the 2001 study was 51 years, also an indicator of tenure. Long tenure of growers indicates that raising chickens was a viable business for most of these growers.

Satisfaction with Decision to Enter the Business: Growers were asked to respond to "Getting into broiler growing has been good decision for me." (1,003 of 1,010 responded) Seventy-five percent either "completely agreed" or "agreed" with that statement. Twelve percent "disagreed", 7 percent "completely disagreed" and 6 percent checked the "other" response. The high percent that agree with the statement reinforces the length of tenure data.

A recent broad-based survey by Salary.com (Salary.com, 2009) showed that 65 percent of employees were satisfied with their jobs while 35 percent were not satisfied. In light of this general level of job satisfaction in the economy it should not be surprising that 19 percent of chicken growers would not be satisfied with their job status.

Income Versus Expectations: Growers were asked if actual production income has met their expectations at the time they entered the business.

Q. Based on the information you received from the company when you were starting out, has your income from broiler growing been more than you expected, about what you expected, or less than you expected? (967 of 1,010 responded)

Response	Percent
More than expected	10%
About what I expected	47%
Less than expected	43%

The answers to this question are subjective, but 57% of the growers stated that they either met or exceeded the income expectations at the time they started the business. It is difficult to know if the other 43% did not have realistic expectations, experienced unexpected production problems, or did not get realistic guidance from the integrator or other advisor. In a related question (943 responses out of 1,010) 83% (783) recalled that they sought advice on expected income from other growers in the area at the time they started in the business. Only 78% (736) recalled similar advice from the integrator. Apparently, about 231 (967-736) growers responded to the question in the table above, but actually did not recall receiving important income guidance from the integrator. Also, in many cases, it had been a number of years since the grower entered the business, and that lapse of time may have affected their opinions.

In a follow-up to this question, growers indicating that income was less than expected were given a list of reasons why that happened. Most of the growers responded that either costs had risen faster than expected, or there were perceived quality problems associated with chicks and feed furnished by the integrator.

Regardless, in a price competitive setting, it would not be expected that the vast majority of growers would have exceeded their income expectations. Answers to this question are also somewhat at odds with the 75% who were satisfied with the decision to enter the business.

A number of integrators report that they typically have waiting lists of people who have applied for production contracts. Some of those on these lists have not raised chickens in the past,

while others are looking to expand their current operation. If, in general, growers were chronically earning less than a competitive return on their investment and labor, these waiting lists would likely not exist.

Number of Marketing Alternatives and Switching Integrators: In some cases, growers do not have alternatives to their integrator. However, the average number of companies offering chicken contracts in the areas of the surveyed growers was 2.48 (989 of 1,010 responded). Of 992 responding, 32% of growers indicated that for a variety of reasons they had actually switched integrators at least once.

Study Observations: The 2001 study made a number of observations relative to the grower concerns identified in the survey. In many cases, the concerns were already addressed in federal and state law, or by legal case law precedent. In some cases additional or changed regulations would have been required to address the concerns. Recent regulatory actions by USDA have addressed some of the areas highlighted in the study (see Recent GIPSA Actions).

There were seven specific policy reforms recommended in this study:

1. Encourage collective bargaining between growers and integrators;
2. Ensure that growers are given complete and full understanding of their contract arrangements;
3. Ensure that laws currently on the books are effectively enforced;
4. Reform the grower-ranking system of incentive payments and penalties;
5. Make the trust securing grower payments available for disputes over payment calculations;
6. Increase the awareness of dispute resolution procedures; and
7. Reduce grower risks related to integrator-mandated capital improvements.

Alternatives to Contracted Live Chicken Production: While the current contracting system is not perfect, and never will be, the only two major alternatives also have major drawbacks.

Integrators and growers could abandon the current contracting system and re-establish a live chicken market: In doing so, growers would absorb the price risk of the live bird market. The current contracting system grew, in part, out of growers' desire to reduce financial risk and integrators' desire for a stable supply of chickens. Growers would find it more difficult and expensive to secure long term financing without the assurance of a price or a market for their birds. Integrators would find it more difficult to control the safety, quality and quantity of their basic input – live chickens. Both parties would potentially lose, and this alternative is not likely to be attractive to either. In fact, the two turkey cooperatives established in recent years both rely on contract payments to growers, not buying and selling live birds.

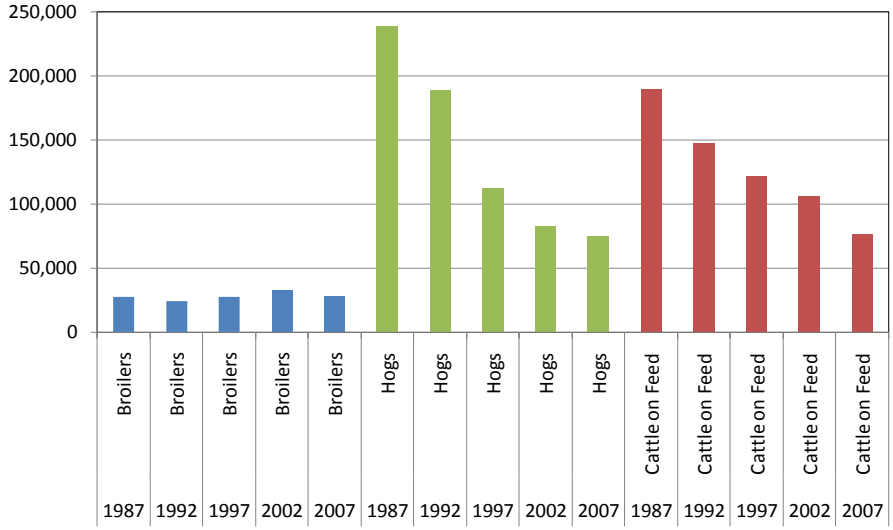
Integrators could convert to company-owned growing facilities. If contracts with independent growers become too burdensome or costly, chicken companies have the option of building or buying grow-out facilities and operating them with company employees. In some cases, integrators already do own and operate some of their hatching and growing facilities. About

3% of chicken growing operations are currently company owned. However, integrators have been reluctant to take this step due to the investment requirements. Formerly independent growers would be converted to company employees. If both parties agree that this is mutually to their advantage, it would have already happened, but has not, at least to any significant degree. Again, the two recently established turkey companies utilize contract growers, not company-owned facilities. The recent Sanderson and Foster geographic expansions will also both use contract chicken growing. Company ownership may, nonetheless, be a viable option. Foster Farms owns all of its California live production operations. At least one turkey company, Zacky Farms of California, also owns all of its live production facilities.

Current business environment and challenges: In the past, with the chicken industry experiencing sustained year-on-year production growth, contract growers who met or exceeded contract performance standards were at low risk for loss of market for their birds. Since 2007 the chicken industry has experienced increased, and highly volatile, feed costs, reduced demand and production, high levels of financial stress, and the bankruptcy of the largest producer-processor, Pilgrim's. A reduction in chicken production and processing plant closures in late 2008 and 2009 caused business disruptions for some producer-processors and growers. In this adverse business environment, contract growers have found that their risks of loss of market have also increased somewhat. However, the number of growers affected has been relatively small.

Trends in grower numbers: In general, producer numbers have been declining rapidly in animal agriculture for many years. However, the chicken industry has been somewhat of an exception. According to USDA Agricultural Census data the number of farming operations selling broiler chickens was virtually unchanged from 1987 to 2007 (chart below). Farm operations selling hogs declined from 238,819 to 74,789 over that same period. Operations selling fed cattle declined from 190,008 in 1987 to 76,396 in 2007.

Broiler, Hog and Cattle Feeding Operations with Sales, 1987-2007



Source: USDA. Census of Agriculture. 1987, 1992, 1997, 2002, 2007

The chicken industry has been able to provide relative stability of on-farm employment. A major contributor to that outcome has been stability of income offered by production contracts, with no chicken price or feed cost risk for the contract grower. Hog and fed cattle producers, who face substantial price and feed cost risks, have dwindled in numbers. Particularly affected have been smaller producers with limited financial resources, and limited sales, at risk.

Another significant difference between broiler operations and cattle or hogs is that the broiler sector consolidated its smaller operations many years ago. While the number of producer-processors selling broilers is smaller than either cattle or hogs, broiler operations have proven to be more sustainable over time.

From 1987 to 2007, chicken production grew from 16 to 37 billion pounds, or about 130%. With essentially unchanged grower numbers, each grower also had the opportunity to grow with the increase in total production. Growers were able to participate in the financial rewards of general industry growth and the success of the integrator they work with. General growth of the chicken business has also contributed to grower financial sustainability and the longevity of grower operations.

Recent GIPSA actions: The regulation of chicken grower contract terms is the responsibility of the USDA's Grain Inspection, Packers and Stockyards Administration (GIPSA). Under "Live Poultry Dealer Responsibilities" regulations, GIPSA has broad powers to regulate the contracting arrangements between growers and integrators. The broadest powers come from the "Unfair Practices" provision of the Live Poultry Dealer Responsibilities section of the Packers and Stockyards Act. This provision reads "It shall be unlawful for any live poultry dealer to engage in or use any unfair, unjustly discriminatory, or deceptive practice or device."

Coinciding with the recent, and challenging, business environment, GIPSA has recently modified regulations to address concerns over grower contract terms (Federal Register, 2009). These changes also address several issues identified in the 2001 study discussed above, and include:

1. Contracts must be in written form and include specifications for poultry houses (addresses points 2, 6 and 7 in the 2001 study).
2. Growers are expressly granted rights to discuss contract terms (addresses point 1 in the 2001 study) with:
    a. Federal and State agencies;
    b. Financial advisors and lenders;
    c. Legal advisors;
    d. Accounting services retained by the grower;
    e. Other growers serving the same integrator;
    f. Immediate family members; and
    g. Business associates with a business relationship to the production business.
3. Contracts must specify in writing full details of any performance improvement plan (addresses points 2 and 4 in the 2001 study) including:

   a. Factors considered when placing the grower on the performance improvement plan;
   b. Guidance and support to be furnished by the company;
   c. Factors considered for removal from the performance improvement plan; and
   d. Factors considered for termination of the contract if actual performance does not meet the plan.
4. A 90 day contract termination notice is required for both the company and the grower. If the company terminates or does not renew a grower contract (addresses points 2 and 6 in the 2001 study) it must furnish the grower :
   a. Reasons for termination;
   b. Effective date; and
   c. Appeal rights, if any.

Summary: Contract production of chickens came about as a mutually agreeable arrangement between growers and integrators. Though not perfect, both parties have significant economic advantages under the current vertically integrated system. The broad powers granted GIPSA to regulate poultry contracts should be sufficient to remedy legitimate issues for either growers or integrators. However, if GIPSA regulations were to become excessive and burdensome, integrators at some point will very likely begin to abandon contracting and convert chicken growing facilities to company-owned operations. The fact that recent turkey market entries follow the current contracting system speaks to inherent advantages over live bird markets or company-owned growing facilities. However, as illustrated by Foster and Zacky, company ownership of live chicken production can also be a viable option.

Market Transparency and Price Discovery

Market transparency issues may arise when there is limited public information for products available for sale, prices and terms of sale, or where products may be purchased. When market information of interest to potential buyers and sellers is not available to both it may give a substantial bargaining power advantage to one party of a potential transaction.

There is a wealth of publicly available information on chicken markets. Detailed pricing, production and international trade information for U.S. chicken products is readily obtainable from several government and private sources. In addition, there are a number of sources of market intelligence, analysis and price and production outlook.

Pricing: USDA, Agricultural Marketing Service (AMS): USDA publishes a wide range of spot market price data on whole chickens and chicken parts (http://www.marketnews.usda.gov/portal/py). Wholesale and retail price data on major chicken parts and whole birds is published in a daily, weekly and monthly basis and is provided free of charge. These USDA prices are for immediate sales (spot market) and are frequently used by buyers and sellers as benchmarks for contract price negotiations.

The weekly AMS retail price report includes pricing of parts, whole birds, branded vs. private label, promotions and organic chicken products. Selected international chicken prices are also quoted.

Pricing: USDA Economic Research Service (ERS): ERS computes monthly wholesale and retail prices for chicken. These price series consist of weighted averages of whole bird and parts prices.

Pricing: Agri Stats/Express Markets, Inc. (EMI): EMI publishes historical pricing data on whole birds and chicken parts that is considerably more detailed than the USDA reports. EMI collects their data from actual sales of chicken companies that represent the vast majority (about 95%) of sales. Their daily report currently includes more than 75 items at the wholesale level. Reported data include weighted average price, top third average, bottom third average and volume traded. Reports are available on a daily, weekly and monthly basis. Prices reported include both spot market and contract sales, and reflect actual transaction pricing and volume.

A copy of a 2002 daily EMI price report is included in the appendix of this study. The current report is in the same general format, but includes more items.

In addition to the daily report, EMI also publishes detailed weekly and monthly summaries. The monthly publication, *Vital Signs*, includes selected technical performance benchmarking information in addition to historical prices.

The subscription to this service is currently priced at about $225 per month.

Pricing: Urner Barry (UB): UB has a long history of providing spot market price reporting to chicken producer-processors and the wholesale and retail trade. Their weekly *Poultry Report* includes wholesale prices, promotional retail pricing, production, cold storage and export data.

The cost of this publication is approximately $200 per year.

Pricing: Fresh Look Marketing Group: Fresh Look collects and reports retail prices for fresh product grocery sales. Chicken price data include retail prices for whole birds and major chicken parts in major metropolitan areas. Prices by brand name, volumes and percent of stores selling each item are reported. The cost of this service depends on the coverage desired.

Pricing: The Nielsen Company: Using point-of-sale and sampling systems to capture data Nielsen measures chicken product sales, market share, distribution, price and merchandising conditions from tens of thousands of retail outlets such as grocery stores, drug stores, mass merchandisers and convenience stores. Reporting periods are as short as a single day for selected electronic point-of-sale (POS) information or up to bimonthly for manual field audits. Data-collection methods vary by country and type of outlet being reported.

Through its consumer panels, Nielsen also measures the purchasing behavior of more than 250,000 households in 27 countries.

Clients include the retail grocery trade and chicken producer-processors.

Market Outlook and Analysis: Agri Stats/EMI: In addition to prices and volumes Agri Stats also provides to subscribers chicken market analysis and outlook. Clients receive forecasts for supply, demand, exports and prices for whole chicken and chicken parts.

Market Outlook and Analysis: Informa Economics: Informa provides a service similar to that of Agri Stats, but this company relies primarily on USDA/AMS for its production, trade and price data. Clients include chicken producer-processors, foodservice and the retail trade.

Market Outlook and Analysis: Private Consultants: In addition to the major market intelligence suppliers there are a number of small consulting practices that provide customized analysis and outlook information to chicken producer-processors and purchasers.

International Trade Data: USDA Foreign Agricultural Service (FAS): USDA maintains a detailed database on monthly volume and value of U.S. chicken exports. Whole birds and parts details are reported. Further-processed chicken product exports are also reported.

Production Information: USDA: USDA is also the provider of basic chicken production information. In addition to actual weekly and monthly production, weekly eggs sets and chick placements (indicators of future production) are published.

Summary: The sources cited above are not an exhaustive list of available pricing and market information. At the wholesale and retail level there is a wide variety of current and historical pricing data on whole chicken and chicken parts. Missing from this data are (nonexistent) live chicken prices and much of the further wholesale-level further-processed chicken product trade.

Live chicken prices disappeared as contracted vertical integration almost completely replaced live chicken trading between growers and producer-processors. Without trades between sellers and buyers there is no basis for establishing a fair market price for commercially grown live chickens.

Further-processed chicken products are produced to a wide variety of specifications, and prices for each would be less meaningful than commodity chicken parts. While such prices could be collected their usefulness to both buyers and sellers would be limited by substantial quality differences among the items.

Summary and Conclusions

This study is a broad-based look at the current state of competition in the U.S. chicken production sector. It is recognized that there may be regional and local competition issues that are beyond the scope of the study. However, on the national scale, it is the overall conclusion of this study that the chicken industry is a competitive and thriving sector. Producer-processor profit margins appear to be modest, but volatile. Innovation appears to be transmitted to

prices, not producer-processor profits. Small firms have longevity that suggests that they are viable, and competitive with the largest firms in the industry.

Wholesale and retail chicken prices, adjusted for inflation, have declined relative to overall consumer prices and major competing meats. In the case of white meat chicken preferred by U.S. consumers, that preference has resulted in innovation that led to increased yields, higher production, and lower relative prices.

Since the 1960s chicken has captured an increasing share of both the U.S. and global market for meat. The increasing acceptance of chicken over a long period of time, and on a global scale, is evidence that the industry has provided products that consumers prefer and integrators can produce at a profit. This mutually satisfactory exchange between consumers and producer-processors is the very basis of successful, competitive, markets.

U.S. chicken producer-processors have also been very price competitive in global markets. In recent years about 15-20% of U.S. chicken production was exported.

U.S. commercial chicken producer-processors control every stage from genetics to end products. That control is a competitive advantage in an evolving market with changing demands. The integrated model allows chicken companies to respond quickly to evolving customer product needs. As a result, product innovation in chicken has outpaced both beef and pork.

Vertical integration has proven to be a very successful and cost competitive method to organize chicken production and marketing. As a result, the success of vertically integrated chicken production in the U.S. has spread to the global chicken sector. Chicken companies in Latin America, Europe and parts of Asia have adopted vertical integration in order to reduce costs and compete more effectively.

Since 1991, inflation-adjusted (real) retail and wholesale chicken prices have declined in absolute terms. Average retail chicken prices have also trended lower relative to retail beef and pork prices. The declining real prices of retail and wholesale chicken are evidence that real costs savings are being passed on to consumers via market competition.

Based on national ready-to-cook chicken production, the Herfindahl-Hirschman Index (HHI) measure of industry concentration stood at 979 as of 2009. This is a level that is regarded by DOJ as relatively unconcentrated. The index would be higher if regional markets or product subsets were measured.

Reflecting that HHI score, price competition in U.S. chicken production has transferred the benefits of product and technical innovation to consumers. Evidence from financial statements of publicly traded chicken producer-processors, a FarmEcon margin model, and market prices, uniformly show a picture of an industry that has small, volatile, profit margins and where lower costs result in lower prices. Faced with volatile feed costs in recent years, individual chicken producer-processors were not able to adjust selling prices to offset those higher costs.

Competitive forces in the chicken market were sufficient to prevent any one firm from making those price adjustments. Rather, many of the firms in the industry reduced 2009 production.

There are barriers to entry to chicken production. Regulatory and financial constraints are substantial. The industry's competitive, volatile, and low, rates of return also raise barriers. Nonetheless, there will likely be two chicken market entries in 2010, both in Iowa. An established chicken producer-processor, Foster Farms, entered the southern U.S. chicken market in 2009. Another established producer-processor, Sanderson Farms, will expand in 2010 from its traditional Deep South U.S. base with a new production complex in North Carolina, and is proposing a second complex in North Carolina. The turkey market – with a competitive structure similar to chicken – has also seen two successful market entries since 2005. Niche markets for free range, organic and locally produced products have also seen successful recent entry by both new and established firms.

The longevity and viability of small chicken integrators is evidence that economies of scale are not a major barrier to entry. The average age of the smallest 10 chicken producer-processors is actually slightly higher than the average for the largest 10. In both cases, the average company age is about 60 years.

An area of potential interest is that of chicken company power over prices and purchase terms for purchased inputs, or monopsony power. The only significant and highly-specialized input used by integrators is the services of contract growers. Feed, medications, buildings, equipment, labor, utilities, and other inputs are general in nature, and have so many alternative uses, that chicken producer-processors have little or no control over prices.

Contracting practices have reduced the financial risks for growers. Fixed grower payments have eliminated risks of changing broiler prices and feed costs. The grower incentive bonus payment system based on grower ranking among a peer group has essentially eliminated grower payment variation caused by events that affect the entire group of growers.

As would be expected in any price competitive market, grower contracting terms have the potential to be an area of conflict between buyers (integrators) and sellers (growers). The reduction in chicken production and processing plant closures in late 2008 and 2009 caused business disruptions for some producer-processors and growers.

Evidence on grower tenure, turnover, and job satisfaction indicates that producing live chickens is a viable business. Over the last 20 years a relatively stable number of growers have participated in a 130% increase in total U.S. chicken production.

Recent changes in GIPSA regulations were designed to give contract growers greater contract transparency, a 90 day notice of termination, and explicit rights to discuss contract terms with their peer grower group and business advisors. These measures address some of the issues identified in a 2001 study of contracting arrangements.

Growers have recourse if they feel that they are not being treated fairly by their integrator. GIPSA regulations establish standards for production contracts, compensation terms and

conditions, and offer growers general protection against unfair practices or discrimination. State law and legal precedent case law offer additional protections to growers.

In regulation of grower contracts, it needs to be considered that integrators do have the option of producing live chickens in company-owned facilities. An overly-burdensome set of contract requirements could tip the scales and cost growers their status as independent businesses.

There is substantial and detailed publicly available data on chicken product pricing, volume traded, production, storage stocks and exports. Several private services and a number of independent consultants supply market analysis and outlook to chicken producer-processors and their customers.

Commercial U.S. chicken production has evolved since the 1950s in an environment shaped by antitrust and other Federal, state and local regulation. It is not possible to say to what extent that regulation has a role played in the current structure of the industry. The current DOJ/USDA regulatory framework appears to contain adequate remedies for abuses of power.

As it exists today, chicken production is a price competitive sector with modest, but volatile, profit margins. Product pricing has reflected declining real costs of production, and consumers have derived significant economic benefits from integrator product and technical innovation. The chicken industry has been rewarded with an increasing share of U.S. and global meat consumption. Contract chicken growers have historically been able to expand their businesses as chicken production has grown, and have had the opportunity to share in the financial success of the entire sector.

Intense competition for the U.S. and global consumers' meat consumption has resulted in a "win-win" outcome for all concerned.

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Appendix

U.S. Commercial Chicken Producer-Processors, 2009

RTC Rank	Company	Chicken Market Entry	Slaughter Plants	Million Head/Week	Average Liveweight	Million Lbs. RTC/Week	RTC % Change Vs. 2008	RTC Share	Cumulative RTC Share	RTC Share Squared	"Rolling" HHI
1	Tyson Foods, Inc.	1935	35	37.70	5.25	146.2	0.8%	20.2%	20.2%	409.0	10,000
2	Pilgrim's Pride Corporation	1946	31	34.23	5.07	135.3	-11.8%	18.7%	38.9%	350.2	5,008
3	Perdue Farms, Inc.	1920	10	12.04	5.77	54.0	-1.2%	7.5%	46.4%	55.8	3,784
4	Sanderson Farms, Inc.	1947	8	7.63	7.07	46.7	1.7%	6.5%	52.9%	41.6	3,066
5	Koch Foods, Inc.	1973	6	8.80	5.06	33.0	-5.4%	4.6%	57.4%	20.8	2,661
6	Wayne Farms, LLC	1957	8	5.50	6.85	32.7	-6.5%	4.5%	61.9%	20.5	2,340
7	Mountaire Farms, Inc.	1959	3	4.93	7.68	31.5	-0.8%	4.4%	66.3%	19.0	2,086
8	House of Raeford Farms, Inc.	1936	5	3.65	7.15	21.8	-5.9%	3.0%	69.3%	9.1	1,900
9	Keystone Foods, LLC	1995	3	3.54	6.58	19.8	0.3%	2.7%	72.1%	7.5	1,798
10	Foster Farms	1939	6	5.31	5.69	19.0	2.1%	2.6%	74.7%	6.9	1,686
11	Peco Foods, Inc.	1937	4	3.39	7.00	17.9	4.6%	2.5%	77.2%	6.1	1,590
12	O.K. Foods, Inc.	1950s	2	3.00	6.70	15.8	5.3%	2.2%	79.3%	4.8	1,511
13	Fieldale Farms Corporation	1946	2	3.25	5.75	15.7	0.0%	2.2%	81.5%	4.7	1,439
14	Simmons Foods, Inc.	1949	4	3.60	5.11	14.4	0.0%	2.0%	83.5%	3.9	1,377
15	George's, Inc.	1920s	3	4.62	4.05	14.0	-2.3%	1.9%	85.4%	3.8	1,320
16	Townsends, Inc.	1937	2	1.91	7.95	13.0	0.5%	1.8%	87.2%	3.2	1,271
17	Case Foods, Inc.	1987	3	1.78	8.14	12.0	3.5%	1.7%	88.9%	2.8	1,227
18	Allen Family Foods, Inc.	1919	3	1.78	5.96	10.9	-8.2%	1.5%	90.4%	2.3	1,189
19	Amick Farms, Inc./OSI Group	1941	1	1.30	8.20	8.4	8.3%	1.2%	91.6%	1.4	1,161
20	Cagle's, Inc.	1945	2	2.20	4.10	7.9	-0.5%	1.1%	92.7%	1.2	1,135
21	Mar-Jac Poultry, Inc.	1954	1	2.00	4.40	7.2	0.0%	1.0%	93.7%	1.0	
22	Marshall Durbin Companies	1935	2	2.29	3.99	7.1	8.0%	1.0%	94.6%	1.0	
23	Gold'n Plump Poultry, Inc.	1926	2	1.70	4.83	6.6	0.0%	0.9%	95.6%	0.8	
24	Claxton Poultry Farms	1949	1	1.70	4.90	6.5	3.7%	0.9%	96.5%	0.8	
25	Harrison Poultry, Inc.	1947	1	0.93	6.13	4.6	-5.1%	0.6%	97.1%	0.4	
26	Golden-Rod Broilers, Inc.	1959	1	1.10	4.15	3.4	3.7%	0.5%	97.6%	0.2	
27	Coleman Natural Foods	1969	2	0.64	6.01	2.9	-5.4%	0.4%	98.0%	0.2	
28	Farmers Pride, Inc.	1939	1	0.80	5.50	2.8	-5.9%	0.4%	98.3%	0.1	
29	Draper Valley Farms, Inc.	1935	1	0.58	5.31	2.3	5.5%	0.3%	98.7%	0.1	
30	Holmes Foods	1925	1	0.65	4.00	2.2	27.5%	0.3%	99.0%	0.1	
31	MBA Poultry, LLC	1998	1	0.32	6.15	1.3	0.0%	0.2%	99.1%	0.0	
32	Gerber's Poultry	1952	1	0.30	4.97	1.1	0.0%	0.1%	99.3%	0.0	
33	Lady Forest Farms	1939	1	0.35	4.05	1.1	0.0%	0.1%	99.4%	0.0	
34	Gentry Poultry Co., Inc.	1950	1	0.31	4.35	1.0	0.0%	0.1%	99.6%	0.0	
35	Park Farms, Inc.	1946	1	0.33	4.00	1.0	0.0%	0.1%	99.7%	0.0	
36	Hain Pure Protein Corp.	1929	1	0.22	5.30	0.8	0.0%	0.1%	99.8%	0.0	
37	Miller Poultry	1974	1	0.18	5.30	0.7	-16.7%	0.1%	99.9%	0.0	
38	Empire Kosher Poultry, Inc.	1938	1	0.23	4.98	0.6	15.0%	0.1%	100.0%	0.0	
	Totals/Averages		**162**	**165.35**	**5.61**	**722.9**	**-3.2%**	**100.0%**		**979.4**	
										HHI	

Source: *Poultry USA*, February, 2010 issue. Date of entry from company web sites, general web search and personal contact with company personnel where required. Market share and HHI calculated by FarmEcon LLC.

Example of the EMI Daily Broiler Price Report

EMI Express Markets, Inc.™

COMMODITY BROILER REPORT: FRESH ITEMS
Friday, June 7, 2002

	ALL TRANSACTIONS							TRUCKLOADS: Invoices 30,000 lbs minimum							
	LBS (,000)	# Sales	Inv'd Cts/Lb	Change vs Pvs	Top 3rd Cts/Lb	Bot 3rd Cts/Lb	Mkt Ind	# Loads	Inv'd Cts/Lb	Change vs Pvs	Top 3rd Cts/Lb	Bot 3rd Cts/Lb	# Loads vs EMI Avg 100%+	90%+	89%-
WHOLE BIRD, <3.0 LBS	526	236	56.75	3.25	61.00	53.25	⇑	-	-	-	-	-	-	-	-
WHOLE BIRD, >= 3.0 LBS	3,960	1,035	56.75	1.00	59.50	54.25	⇑	-	-	-	-	-	-	-	-
WHOLE BIRDS, UNSIZED	31	14	66.25	(1.25)	68.50	64.25	⇑	-	-	-	-	-	-	-	-
WOG, <2.5 LBS	180	50	58.50	(1.50)	64.50	50.50	⇓	-	-	-	-	-	-	-	-
WOG, 2.5 - 4.0 LBS	1,334	245	56.50	(0.25)	64.00	48.50	⇓	7	53.00	(2.25)	56.50	48.50	2	2	3
WOG, >= 4.0 LBS	80	16	52.25	(1.75)	61.00	48.00	⇑	1	48.00	-	48.00	48.00	-	1	-
WOG, UNSIZED	8	4	50.00	7.00	55.75	47.00	⇑	-	-	-	-	-	-	-	-
WOG, MARINATED	1,178	184	65.75	1.00	73.50	59.25	⇑	10	59.75	0.50	61.25	58.00	-	7	3
8 & 9 PC, < 2.5 LBS	592	156	69.00	(0.50)	72.00	66.00	⇑	-	-	-	-	-	-	-	-
8 & 9 PC, 2.5 - 3.0 LBS	693	121	68.00	(0.50)	73.25	63.75	⇑	5	66.00	(0.50)	68.00	64.00	1	4	-
8 & 9 PC, >= 3.0 LBS	145	60	69.75	2.50	74.75	64.00	⇑	-	-	-	-	-	-	-	-
8 & 9 PC, MARINATED	1,463	971	68.25	0.50	74.75	62.75	⇑	-	-	-	-	-	-	-	-
FRONT HALVES	105	3	59.00	(0.25)	59.00	59.00	⇑	3	59.00	0.50	59.00	59.00	3	-	-
FRONT HALVES, SMALL	778	28	60.75	(0.75)	65.00	58.25	⇓	17	61.50	(0.50)	66.25	58.50	6	11	-
BREAST, WHOLE & SPLIT	1,208	411	85.25	0.25	91.50	80.00	⇑	4	79.00	(0.75)	82.50	73.25	-	3	1
BREAST, WHOLE & SPLIT, SMALL	65	22	87.50	(2.75)	90.00	85.00	⇓	-	-	-	-	-	-	-	-
B/S BREAST, UNSIZED	2,194	378	142.25	1.50	153.25	131.25	⇓	19	136.50	0.75	148.00	125.00	4	9	6
B/S BREAST, UNSIZED, SMALL	143	28	154.50	8.25	163.75	141.75	⇑	-	-	-	-	-	-	-	-
B/S BREAST, SIZED	311	60	178.50	(7.25)	207.00	162.75		1	-	-	162.75	162.75	-	1	-
B/S BREAST, <= 4 OZS	150	18	195.00	(11.25)	223.75	167.25	⇓	-	-	-	-	-	-	-	-
B/S BREAST, 5 - 7 OZS	59	17	204.00	(9.00)	234.75	166.00	⇓	-	-	-	-	-	-	-	-
B/S BREAST, >= 8 OZS	56	25	192.75	(15.25)	223.75	165.00	⇓	-	-	-	-	-	-	-	-
B/S BREAST TRIM < 15% FAT	288	13	105.00	2.00	116.50	96.25	⇑	4	-	-	120.00	95.50	2	1	1
B/S BREAST TRIM, <= 5% FAT	42	4	102.75	7.75	102.75	102.75	⇑	-	-	-	-	-	-	-	-
B/S BREAST TRIM, 6% - 15% FAT	245	9	105.50	(2.00)	119.00	95.25	⇓	-	-	-	-	-	-	-	-
TENDERS	463	61	114.75	0.25	149.75	87.50	⇓	2	102.25	6.25	113.00	92.00	-	1	1
WHOLE WINGS, JUMBO	129	25	55.50	1.25	59.50	51.25	⇑	1	51.00	1.00	51.00	51.00	-	1	-
WHOLE WINGS	673	318	58.50	4.00	63.00	52.50	⇑	-	-	-	-	-	-	-	-
WINGS, DRMTS & MIDJNT	1,000	186	71.00	(0.50)	78.25	65.25	⇓	10	67.00	1.25	70.75	64.50	1	8	1
LEG QUARTERS	3,101	335	20.50	0.25	24.25	17.50		34	19.00	(0.50)	21.50	17.25	12	8	14
LEG QTRS, RTL BAG 4/10'S	413	67	22.50	(1.25)	26.25	19.25	⇓	6	21.50	(3.75)	23.75	18.50	1	4	1
WHOLE LEGS, JUMBO	421	21	28.00	(0.50)	29.75	26.75	⇑	9	27.75	0.75	28.75	26.50	4	5	-
WHOLE LEGS	493	237	37.50	0.25	40.50	33.25	⇓	1	30.00	-	30.00	30.00	-	-	1
THIGHS	1,249	81	28.50	0.50	32.25	24.00	⇑	28	27.50	(0.25)	30.75	24.00	15	-	13
DRUMSTICKS	502	196	37.75	3.25	41.50	32.50	⇑	1	30.00	-	30.00	30.00	-	-	1
B/S THIGHS	405	134	77.00	(0.75)	81.25	74.00		1	75.00	-	75.00	75.00	-	1	-
B/S LEGMEAT	48	4	75.00	2.00	77.00	72.75	⇑	1	75.50	-	75.50	75.50	1	-	-
NECKS	337	26	3.50	(3.00)	6.75	.75	⇓	3	3.00	(4.50)	6.00	0.50	2	-	1
LIVERS	40	30	32.50	1.25	36.25	28.75	⇑	-	-	-	-	-	-	-	-
GIZZARDS	63	50	40.00	1.75	44.75	35.50	⇑	-	-	-	-	-	-	-	-
BACKS	408	8	1.75	(1.50)	3.50	.75	⇓	4	1.50	(0.25)	2.75	0.75	3	-	1
RIB CAGES	471	17	3.75	0.00	5.00	1.75	⇓	9	4.25	0.50	5.00	3.00	7	-	2
MDM, <= 15% FAT	42	3	12.75	(0.75)	12.75	12.50		-	-	-	-	-	-	-	-
MDM, > 15% FAT	1,328	33	13.00	0.25	14.50	11.50		32	13.00	0.25	14.50	11.50	18	7	7
FRESH TOTALS:	27,422	5,940						213							