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Preface

The United States International Trade Commission (USITC) initiated its current Industry and Trade Summary series of reports to provide information on the rapidly evolving trade and competitive situation of the thousands of products imported into and exported from the United States. International supply chains have become more global, and competition has increased.

Each Industry and Trade Summary addresses a different commodity/industry and contains information on trends in consumption, production, and trade, as well as an analysis of factors affecting industry trends and competitiveness in domestic and foreign markets. This report on the poultry industry primarily covers the period 2006 through 2012.

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Abbreviations and Acronyms

APHIS	Animal and Plant Health Inspection Service
AD	Antidumping
ARF	Automatic Registration Form
AI	Avian influenza
CAP	Common Agricultural Policy (European Union)
CIF	Cost, insurance, and freight
CV	Countervailing
CVD	Countervailing duty
CY	Crop year
EC	European Commission
EU	European Union
FSIS	Food Safety and Inspection Service
FAS	Foreign Agricultural Services
FTA	Free trade agreement
GDP	Gross domestic product
HS	Harmonized Schedule
HTS or HTSUS	Harmonized Tariff Schedule of the United States
HACCP	Hazard Analysis and Critical Control Points systems
HPAI	High pathogen avian influenza
IREP	Import to Re-Export Program
kg	Kilogram
LPAI	Low pathogenic avian influenza
MAP	Market Access Program
mt	Metric ton
MFN	Most favored nation
MOFCOM	Ministry of Commerce (People's Republic of China)
NTM	Nontariff measures
NAFTA	North American Free Trade Agreement
P&SP	Packers and Stockyards Program
PRT	Pathogen reduction treatment
lb	Pound
PPIA	Poultry Products Inspection Act
R&D	Research and development
m^2	Square meter
TRQs	Tariff-rate quotas
UNA	Mexican Association of Poultry Producers
USDA	U.S. Department of Agriculture
USITC or Commission	U.S. International Trade Commission
USAPEEC	USA Poultry and Egg Export Council
OIE	World Organisation for Animal Health
VAT	Value-added tax
WTO	World Trade Organization

Key Points

The United States is the largest poultry producer in the world, accounting for approximately one-quarter of global poultry production during 2006–12. Moreover, the United States is considered among the most efficient poultry (chicken and turkey for the purposes of this report) producers in the world and is considered highly competitive globally. The highly vertically integrated structure of the U.S. broiler (chicken) and turkey industries provides poultry processors (also called "integrators") with a high level of control over their product, with the resulting meat having both standardized taste and quality. Consolidation over time has led to fewer, larger, and more efficient grow-out farms (that raise birds to market weight) and processing facilities, which capture economies of scale. The U.S. poultry industry seeks to increase efficiency at all stages of the production process through extensive research and development to improve all areas of production including disease control, breeding, feed compositions, and housing systems at grow-out facilities.

Despite its efficiency, the U.S. poultry industry struggled with lower profitability during most of 2006–12 due to historically high feed prices and lower domestic consumption. Feed prices reached historic highs during crop years 2005/06–2011/12 because of several factors that reduced global supplies (i.e., droughts and export controls) and increased global demand (i.e., rising personal incomes, growing populations, and growing biofuel production) for corn and soybeans—the primary components of poultry feed. Further, in 2007–09, the first-ever recorded three-years-in-a-row decline in U.S. chicken consumption occurred, primarily because of record-high meat prices (driven in part by high grain prices) and the 2008–09 economic recession. In response, some integrators tried to increase efficiency by closing underperforming facilities and to lower meat production by reducing bird placements at grow-out farms, but some companies were forced to go out of business.

The United States is the world's largest poultry meat consumer, accounting for about one-fifth of world consumption during 2006–12. Over 80 percent of U.S. production was consumed domestically. Chicken is the most commonly consumed meat in the United States, averaging 84 pounds per capita annually during 2006–12. U.S. per capita consumption of turkey meat averaged 17 pounds annually during this same period—less than for beef or pork, but more than for seafood. Poultry consumption is stimulated by being the lowest-priced meat, as well as by other factors such as increased awareness as a healthier alternative to red meat and the convenience of reduced preparation time (e.g., pre-marinated items, pan-ready meals, microwavable items, and prepackaged meals).

As one of the world's largest and most efficient poultry producers, U.S. imports are negligible, accounting for only about 0.3 percent of domestic consumption of both live poultry and poultry meat in 2006–12. The efficiency and scale of the U.S. poultry industry poses difficulties for foreign countries to compete in the U.S. market solely on the basis of price.

In 2012, U.S. exports accounted for about 34 percent of global broiler and turkey meat exports by volume. Mexico, followed by Canada, China/Hong Kong, and Russia, together accounted for an average of 63 percent of all U.S. exports (by value) in 2006–12. However, the global export market has become increasingly competitive. Brazil, which has become a highly efficient producer over the past decade, was the world's largest

poultry exporter for most of 2006–12. The European Union, Thailand, and China are also among the world's leading poultry exporters. Russia, followed by Saudi Arabia, Mexico, and Japan are the world's largest poultry net importers.

Exports are becoming more important for the U.S. poultry industry, increasing from 14 percent of production in 2006 to 19 percent in 2012, partly because domestic consumption fell. The U.S. poultry industry was able to increase exports despite facing challenges in exporting to two of its largest export markets—Russia and China. U.S. exports to these foreign markets fell by 79 percent (by volume) from their 2008 peak to their low in 2011 because of a number of measures imposed on U.S. poultry. Russia banned imports of poultry treated with a chlorinated rinse to reduce pathogens, effectively blocking U.S. poultry exports for over one-half of 2010. Additionally, Russia lowered its tariff-rate quota between 2009 and 2010, thereby reducing the amount of poultry that entered at the lower duty rate. For its part, in 2010, China imposed antidumping duties rates ranging from 50.3 to 105.4 percent ad valorem and countervailing duties rates ranging from 5.1 to 30.3 percent ad valorem on imports of U.S. poultry meat.

Introduction

Definition and Scope

This industry and trade summary examines the structure of the U.S. industry, trends in U.S. production and trade, trade barriers, and conditions in key markets and producing countries. It covers both live poultry raised for meat and poultry meat.[1] The poultry meat industry includes producers of broilers (chickens) and turkeys, as well as smaller industry segments producing ducks, geese, guinea fowls, etc. Nevertheless, the primary focus of this summary is on broilers and turkeys, the largest poultry industry sectors in the United States.[2] This summary presents information on the structure of the U.S. and foreign industries, the production process and market channels, consumer preferences, trade levels and trends, domestic and foreign tariff and nontariff measures, and the factors affecting international competitive conditions for the U.S. poultry industry. This summary primarily reports on developments during 2006–12. However, it also discusses events prior to 2006 that are relevant to explaining the industry's current structure and, where 2012 data are not available, uses the most recent data available.

The United States is one of the largest and is considered among the most efficient poultry producer in the world, accounting for approximately one-quarter of global poultry production in 2006–12. U.S. exports rose almost 40 percent during 2006–12, and accounted for about 34 percent of global broiler and turkey meat exports by volume in 2012. The U.S. industry, which is highly vertically integrated, continues to become more efficient over time due to factors such as economies of scale and extensive research and development. Nevertheless, the U.S. industry also faced some significant challenges. High feed prices and lower domestic demand led to a decline in U.S. poultry industry profitability during much of 2006–12. Further, the global export market has become increasingly competitive, with Brazil becoming a more competitive global producer in the last decade and the European Union, Thailand, and China also expanding exports. In addition, the United States has faced challenges in exporting to two of its largest foreign export markets—Russia and China. U.S. exports to these foreign markets fell by 79 percent (by volume) from their 2008 peak to their low in 2011 because of restrictions imposed on imports of U.S. poultry meat.

Poultry production was valued at $30.2 billion in 2012.[3] Chicken is the most commonly consumed meat in the United States and is widely consumed throughout the world. Turkey is the fourth-most commonly eaten meat in the United States, but is not widely consumed worldwide. Poultry meat is attractive to consumers because it is competitively priced compared with other meats, is considered healthier than red meats, and offers the convenience of reduced cooking and preparation time. Additionally, consumption of

[1] Live poultry raised for meat and poultry meat are classified for tariff purposes under heading 0105; heading 0207; and headings 1602.20.20, 1602.31, 1602.32, and 1602.39 of the Harmonized Tariff Schedule of the United States (HTSUS or HTS). See appendix A table A.5.

[2] There are two types of chicken—broilers (birds raised for meat purposes) and layers (birds raised to produce eggs)—and each type comes from different poultry breeds. Broilers can be either male or female. Only hens become layers, which are then processed into meat when they have completed their egg-producing years (that is, when they are "spent layers").

[3] USDA, NASS, *Poultry Production and Value: 2012 Summary*, April 2013, 7, 9. Broiler production accounted for 82 percent of the total value of production.

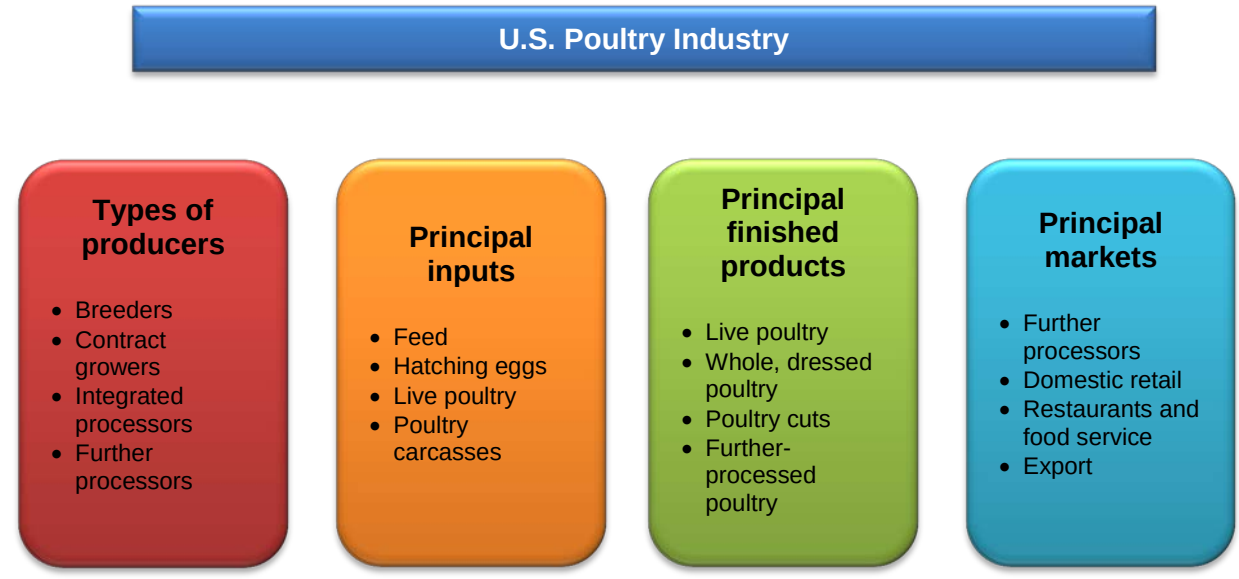
poultry meat is generally not subject to the same types of dietary rules that prohibit pork and beef consumption by members of certain religious groups.

Broiler meat is commonly processed and sold as fresh, chilled, or frozen in a variety of forms, including whole chickens, breast meat, chicken leg quarters, and wings. Turkey meat is also normally processed and sold fresh, chilled, or frozen, primarily as whole dressed birds. Poultry meat may also be further processed into a number of items, including ready-to-cook products such as microwaveable meals, deli meats, and sausages. Poultry meat products are widely sold through domestic retail and food service outlets.

U.S. Industry and the Global Market

The United States is considered to be among the most efficient poultry producers in the world in large part due to its industry structure, which has been largely unchanged for the past few decades (figure 1). Specifically, breeders provide hatching eggs to vertically integrated poultry producers, known as "integrators." Producers primarily contract out the services of raising live birds to independent "grow-out" farmers. Upon reaching the desired weight, live birds are returned to integrators, who slaughter and process them into whole dressed birds or cuts. Poultry meat may be further processed by the integrators, or by independent further processors who purchase uncooked meat as an input. Finished meat products are primarily sold within the domestic market, but are also exported.

FIGURE 1 The U.S. poultry industry includes multiple types of producers, principal inputs, finished products, and markets



Source: Compiled by USITC staff.

During 2006–12, the United States produced an average 25.6 million metric tons (mt) of broilers and turkey per year.[4] After rising through 2008, production fell in 2009 in response to the 2008–09 economic recession and the corresponding decline in poultry meat demand. U.S. poultry production is highly concentrated. On average during 2006–12, the top three U.S. broiler integrators accounted for 49 percent of the nation's chicken production; in the turkey industry, the top three turkey producers accounted for over 50 percent.[5] Additionally, production is geographically concentrated in a few states. Georgia, Arkansas, Alabama, North Carolina, and Mississippi were the largest broiler-producing states, with 59 percent of the U.S. production during 2006–12. In this same period, Minnesota and North Carolina were the largest turkey-producing states, with 31 percent of U.S. production. Of total U.S. poultry production, about 83 percent was consumed domestically in 2006–12.

Between 2006 and 2012, global chicken and turkey meat production increased from 70.5 million mt to 88.3 million mt, or by about 25 percent (appendix A table A.1). The United States is the largest poultry producer in the world, accounting for almost one-quarter of global production in 2006–12. Brazil and China each accounted for approximately 15 percent of global production, and the European Union (EU) [6] for 13 percent. In 2006–12, Brazil recorded the highest overall period growth rate (36 percent) among the top four producers. China also had a high growth rate (32 percent between 2006 and 2012) attributable to continuing modernization and expansion of its domestic production capabilities.

Over this same seven-year period, global poultry meat consumption increased from 70.3 million mt to 86.4 million mt, or by about 23 percent (appendix A table A.2). The United States, followed by China, the EU, and Brazil are also the largest poultry consumers, together accounting for about 60 percent of the global total on average during 2006–12.[7] During that period, consumption increased more quickly on average annually, in the developing markets of China (5 percent) and Brazil (5 percent) than in the mature markets of the EU (2 percent)[8] and the United States (zero average annual growth). A major reason cited for increased consumption in China and Brazil is rising per capita incomes.[9]

Global poultry meat exports increased by 52 percent from 7.1 million mt in 2006 to 10.8 million mt in 2012 (appendix A table A.3). Generally, the world's largest producers are also the major exporters. The United States has long been a major exporter of poultry meat. Brazil became an increasingly significant poultry producer especially in the past decade, and for most of 2006–12 was the largest exporter in the world. Brazil and the United States together accounted for almost three-quarters of global exports annually in 2006–12. Brazilian exports increased by 38 percent and U.S. exports by 39 percent between 2006 and 2012. Other important exporters were the EU, Thailand, and China,

[4] USDA, NASS, *Poultry: Production and Value*, 2007, 2008, 2009, 2010, 2011, and 2012 summaries.

[5] Based on surveyed production. See Number and Concentration of Firms.

[6] The (27) EU member states covered in this report are Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. However, PSD Online data for 2006–12 include Croatia, which became an EU member state in 2013.

[7] Respectively, the United States, China, the EU, and Brazil accounted for 20 percent, 15 percent, 13 percent, and 11 percent of global consumption.

[8] The EU average growth is based on 2007–12 data. See Foreign Industry Profiles, EU.

[9] USDA, FAS, *Brazil: Poultry Annual 2011*, September 2, 2011, 1, 3; USDA, FAS, *Brazil: Poultry; Semi-annual*, February 3, 2011, 2; USDA, ERS, *USDA Agricultural Projections to 2020*, February 2011, 13, 18; USITC, *China's Agricultural Trade*, March 2011, 3-1 to 3-13.

which together accounted for 19 percent of global poultry exports during 2006–12. In that period, Thailand recorded the highest export growth rate (106 percent) of any of the top five exporters, exporting mostly cooked poultry product. However, Thailand is the only major exporter that is not among the leading global producing countries.

Global imports increased by 32 percent, from 6.8 million mt in 2006 to 9.0 million mt in 2012.[10] Imports have been less highly concentrated than exports; in fact, they became less concentrated among top importers during the period. The top five importers—the EU, Japan, Mexico, Saudi Arabia, and Russia—accounted for 55 percent of worldwide imports in 2006, but only 43 percent in 2012.[11] This decline was largely because of fewer imports by Russia, which reduced its imports by 55 percent between 2006 and 2012 in an effort to become more self-sufficient in poultry meat production.

Industry Issues

The U.S. poultry industry faced several issues during 2006–12 that affected its ability to remain competitive in the global market. Among the most prominent ones were rising feed costs, which lowered industry profitability, and foreign trade barriers that reduced U.S. exports, especially to Russia and China.

Feed for live birds is the costliest input into poultry meat production, accounting for 65–75 percent of production costs.[12] The two major components are corn and soybeans, whose prices reached historically high levels during crop years (CY) 2005/06–2010/11 and continued to rise in CY 2011/12.[13] Prices were impacted by several long- and short-term factors affecting both supply and demand. Globally available supplies fell primarily because of drought and export controls, while at the same time global demand rose in response to growing populations, rising personal incomes, and expanding biofuel production.[14] As a result of high feed costs and reduced domestic customer demand, the U.S. poultry industry was less profitable during much of 2006–12. In response, integrators tried to increase efficiency by closing underperforming facilities and reducing production to help increase prices. However, some poultry companies also went out of business during this period.[15]

Although the United States remains highly competitive on global markets, U.S. poultry meat exports to several key foreign markets were disrupted, particularly by trade measures enacted by Russia and China—especially in 2010. China imposed antidumping

[10] USDA, FAS, PSD Online (accessed August 20, 2013); (Appendix A table A.4).

[11] The top five importers for most, although not all, of 2006–12 were EU, Japan, Mexico, Saudi Arabia, and Russia.

[12] For further information, see the Factors Affecting Production section below.

[13] USDA, ERS, Feed Grains Yearbook Tables, table 19 (accessed August 28, 2012); USDA, ERS, Oil Crops Yearbook, table 3 (accessed August 28, 2012).

[14] Trostle et al., *Why Have Food Commodity Prices Risen Again?* June 2011; USITC, *Shifts in U.S. Merchandise Trade 2008*, July 2009, AG-7 and AG-13; Trostle, *Global Agricultural Supply and Demand*, July 2008, 16 and 20–21; ADB, *Soaring Food Prices*, May 2008; USDA, ERS, Oil Crops Outlook, June 10, 2011, 1–3; Thornton, "Grain Prices and Poultry Demand," April 2013, 16–24.

[15] O'Keefe, "Coping With High Feed Prices," June 2008, 18–20; O'Keefe, "No Growth in RTC Production in 2008," February 2009, 18–25; O'Keefe, "Can Cutbacks Lead to Quick Turnaround?" February 2009, 44–46; USDA, ERS, *Livestock, Dairy, and Poultry Outlook*, March 28, 2009, 2; USDA, ERS, *Livestock, Dairy, and Poultry Outlook*, December 17, 2009, 13; Thornton, "Tyson Foods Focuses on Chicken Pricing," August 11, 2011; Thornton, "Grain Prices and Poultry Demand," April 2013, 16–17.

and countervailing duties (AD/CVD or AD/CV duties) on certain U.S. poultry products (in a manner that the World Trade Organization (WTO) determined, in August 2013, violated numerous obligations under the WTO Antidumping Agreement and Subsidies Agreement).[16] Russia banned imports of poultry treated with chlorinated rinse, a common pathogen reduction treatment (PRT) in the United States.[17] U.S. poultry meat exports to China and Russia fell from their peak of 1.6 million mt in 2008 to a low of 0.35 million mt in 2011, a decline of about 79 percent. While China and Russia were the two largest buyers of U.S. poultry meat between 2006 and 2009, on average receiving about 34 percent of exports yearly by value, only about 11 percent of U.S. poultry meat exports went to Russia and China in 2011–12. [18]

U.S. Industry

Industry Structure

Number and Concentration of Firms

A key factor that enhanced the global competitiveness of the U.S. broiler and turkey industries is consolidation over time, leading to fewer, larger, and more efficient production and processing facilities. Overall, the number of poultry farms that reported sales of live birds declined slightly between 2002 and 2007 driven by fewer broiler and turkey farms (table 1).[19] The largest decline (15 percent) was in broiler and other meat-type chicken farms.[20] This reflects the long-term trend towards fewer and larger grow-out farms, which raise increased numbers of birds to capture economies of scale. However, farms producing chickens for egg production ("layers and pullets") and other poultry (ducks, geese, etc.) grew 9 percent and 11 percent, respectively.

TABLE 1 U.S. poultry farms: Number reporting sales of live poultry, by type, 2002 and 2007

Type	2002	2007	Percent change
Layers and pullets	26,814	29,140	9
Broiler and other meat-type chickens	32,006	27,091	(15)
Turkeys	8,436	8,284	(2)
Ducks, geese, and other poultry	19,732	21,857	11
Total	86,988	86,372	(1)

Source: USDA, *2007 Census of Agriculture*, February 4, 2009, table 27.

Note: Parentheses indicate negative numbers.

[16] China applied antidumping duties rates ranging between 50.3 to 105.4 percent ad valorem and countervailing duties rates ranging from 5.4 and 30.3 percent ad valorem on U.S. poultry. USDA, FAS, *China: Poultry and Products; Annual*, 2010, September 30, 2010, 4. USTR, "United States Wins Trade Enforcement Case for American Farmers, Proves Export-Blocking Chinese Duties Unjustified Under WTO Rules," Press release Aug. 2013.

[17] Johnson and Becker, *U.S.-Russia Meat and Poultry Trade Issues*, April 2, 2010, 9; Bottemiller, "Russia Agrees to Lift Ban," June 25, 2010; USDA, FAS, *Russian Federation: Russia Resumes Imports*, September 21, 2010. For further information see the U.S. Exports sections on China and Russia, below.

[18] USITC, DataWeb (accessed August 26, 2013).

[19] Most recent data available.

[20] Other meat-type chickens include spent layers—birds which are bred to produce eggs, and which when no longer able to do so, are ready for slaughter.

The U.S. poultry industry went through significant and rapid concentration after World War II. However, in the past few decades, the pace of concentration has slowed considerably, and during 2006–12, the industry actually became slightly less concentrated. More specifically, between 2006 and 2012, the share of production of the top three U.S. broiler companies fell 10 percent (although it hit its low in 2010), while the share of the top 10 companies remained the same at about 77 percent (table 2). The largest drop in industry concentration occurred between 2008 and 2009, primarily because of a 12 percent decline in production by Pilgrim's Pride Corp., coupled by more modest production declines at other large firms such as Perdue Farms Inc. (2 percent) and Tyson's Foods Inc. (Tyson's) (1 percent).[21] The declines in production at these firms reportedly are attributable to the 2008–09 economic recession, which weakened demand. Nonetheless, during 2006–10, there was some consolidation in the poultry industry, including the Pilgrim's Pride purchase of Gold Kist Inc.; [22] Pilgrim's Pride's sale of its turkey operations to other turkey producers;[23] and the Simmons Food Inc. purchase of the broiler operations of Peterson Farms Inc.[24] In 2011, the concentration of the broiler industry production among the largest firms began increasing, due in part to higher year-on-year production for all but two of the ten-largest firms, and continued rising in 2012.[25] The top three turkey integrators' share of U.S. production fell slightly (5 percent) during 2006–12 (table 2). However, the concentration of the top ten firms rose slightly (3 percent).

TABLE 2 Poultry: Share of U.S. production accounted for by the top 3, 5, and 10 firms, 2006–12 (percent)

Sectors	2006	2007	2008	2009	2010	2011	2012
Broilers:[a]							
Top 3 firms	53.1	50.9	49.3	46.5	45.7	46.6	47.6
Top 5 firms	62.6	60.9	60.5	57.5	57.0	58.7	60.7
Top 10 firms	76.6	75.8	75.7	74.8	74.5	76.7	78.8
Turkeys:[b]							
Top 3 firms	52.0	50.7	50.5	53.1	51.2	50.2	49.5
Top 5 firms	58.8	58.1	58.1	60.9	61.0	59.7	59.5
Top 10 firms	75.2	75.0	74.7	78.9	78.9	77.6	77.5

Source: Thornton, "Broiler Companies; Top 10 Pulls Away from Pack," February 2007, 21; Thornton, "Cutbacks, Expansions," February 2008, 26; O'Keefe, "No Growth in RTC production in 2008," February 2009, table 1; Thornton, "Shakeup at the Top," February 2010, 16; Thornton, "U.S. Chicken Producers," February 2011, 12; Thornton, "Tough Economics " March 2012, 13; Thornton, "Mid-Size US Turkey Producers," March 2012; Thornton, "US Chicken Companies Enter 2013 with Production Increases?," March 2013, 13; Thornton, "Turkey Companies Plot Production Growth for 2013," March 2013, 44.

[a]Based on ready-to-cook weight from surveys of 35 to 42 firms, depending on the year.
[b]Based on live weight pounds of processed turkeys from surveys of 23 to 26 firms, depending on the year.

Employment, Earnings, and Productivity

Even though poultry production increased in 2006–11, employment remained relatively stable at about 239,000 workers from 2006 to 2008 (table 3). However, the number of

[21] Thornton, "Shakeup at the Top," February 2010. Pilgrim's Pride's sharper decline is likely due to issues resulting from its filing for bankruptcy.

[22] Thornton, "Broiler Companies Top 10 Pulls Away from Pack in 2006," February 2007, 20; Pilgrim's Pride, "Pilgrim's Pride Completes Acquisition of Gold Kist," January 9, 2007. Both companies were among the three largest producers before the acquisition.

[23] Pilgrim's Pride kept its broiler operations.

[24] O'Keefe, "Top Broiler Companies: No Growth," February 2009, 18–25.

[25] Thornton, "Tough Economics," March 2012, 13; Thornton, "US Chicken Companies Enter 2013 with Production Increases?," March 2013, 13.

TABLE 3 U.S. poultry-processing industry: Employment and earnings, 2006–11

Item	2006	2007	2008	2009	2010	2011
	Thousand workers					
Employment:						
Production workers	212.7	212.5	211.4	204.8	201.5	200.5
Other workers	26.9	26.4	27.4	26.1	25.1	24.2
Total workers	239.6	238.9	238.8	230.9	226.6	224.7
	Dollars per period					
Average hourly earnings	10.80	10.91	11.37	11.31	11.29	11.64
Average weekly earnings	415.55	433.23	446.88	432.43	442.62	455.77

Source: AMI, *Meat and Poultry Facts 2012*, April 2012, 22.

employees fell to 230,900 in 2009 and 224,700 in 2011. Poultry plants generally hire two categories of workers: (1) production-line workers, who perform relatively low-skill tasks, such as cutting and packaging, and are paid relatively low wages, and (2) highly skilled staff who serve in management, technical, and scientific capacities. Production-line workers accounted for about 200,500, or 89 percent, of all poultry workers in 2011. Most of these employees work in processing chicken. The turkey industry directly employs between 20,000 and 25,000 workers, excluding contract growers.[26]

The poultry industry pays lower wages on average than other food processing or manufacturing industries. This is largely because most poultry-processing plants are located in more rural, less unionized parts of the country, such as the southeast.[27] In 2011, the average hourly wage for poultry processing was $11.64, compared to $14.70 for other meat processing and $14.63 for all food processing.[28] On average, the weekly earnings of poultry-processing workers were $456 in 2011, much lower than the $629 earned by other meat processing workers and the $785 earned by manufacturing workers.

From the mid-1940s until the early-1990s, productivity in the poultry industry grew rapidly, as measured by factors such as efficiency of feed conversion (i.e., the number of pounds of feed to produce a pound of meat), days of feeding to reach market weight (market age), average market weight, and mortality rate (table 4). A number of advances contributed to these gains, including better veterinary medicine to control and eradicate diseases, enhanced genetics and breeding, improved feed compositions, and better housing systems at grow-out facilities.[29] Further, consolidation during the 1950s and 1960s facilitated the industry's establishment of the current integrator system, including the basic automated slaughtering process,[30] which enabled the industry to achieve greater economies of scale. Over the past decade, improvements in most productivity measures slowed as technical advances yielded diminishing marginal returns. For example, the chicken feed conversion ratio improved on average by 15 percent per decade during 1940–80, and by 2 percent per decade between 1980 and 2010.

[26] National Turkey Federation, "Turkey Industry Structure," accessed August 13, 2013. http://www.eatturkey.com/consumer/history.

[27] DOL, *Union Members Summary*, January 21, 2011.

[28] AMI, *Meat and Poultry Facts 2012*, April 2012, 26.

[29] See, e.g., Knoeber, "A Real Game of Chicken," autumn 1989; Havenstein, Ferket, and Qureshi, "Growth, Livability, and Feed Conversion," October 1, 2003.

[30] Ollinger, MacDonald, and Madison, *Structural Change in U.S. Chicken and Turkey Slaughter*, September 2000, 1, 7.

TABLE 4 Broilers: Performance indicators for the U.S. industry, 1940–2010

Indicator	Unit	1940	1950	1960	1970	1980	1990	2000	2010
Average market age	(days)	85	70	63	56	53	48	47	47
Average market weight	(pounds, live weight)	2.89	3.08	3.35	3.62	3.93	4.37	5.03	5.70
Conversion rate	(pounds of feed per pound of live weight)	4.00	3.00	2.50	2.25	2.05	2.00	1.95	1.92
Mortality rate	(percent)	12	8	6	5	5	5	5	4

Source: NCC, "U.S. Broiler Performance," February 7, 2011.

Vertical and Horizontal Integration

For the past few decades the broiler and turkey industries have been highly vertically integrated,[31] with about 90 percent of turkeys and broilers being produced in the United States by vertically integrated companies.[32] These integrators usually own hatcheries, feed mills, and slaughter and processing plants.[33] The only part of the production process not normally handled by integrators is raising birds from chick to the chosen market weight, a task primarily performed by farmers who have contracts with integrators.[34] Vertical integration allows poultry processors to maintain a high level of control over their product, thereby enabling them to produce meat that has a standardized taste and quality, and to maintain a steady and controllable supply of birds for processing. Dealing with large numbers of birds also enables the U.S. poultry industry to take advantage of economies of scale, making it one of the most efficient in the world.

Many poultry companies concentrate on poultry products only. However, some companies have horizontally integrated with other agricultural industries, especially meat packing. For example, Tyson's, Kraft Foods Inc., and Cargill Inc. all produce a variety of agricultural products in addition to poultry. Moreover, some poultry companies are subsidiaries of other food companies. For example, Carroll's Turkeys LLC, a smaller turkey company, is owned by Smithfield Foods Inc., a major pork-producing company.

Extent of Globalization of the Industry

The poultry breeder sector includes a number of major global companies. One of the world's major breeding companies is Aviagen Group Ltd., owned by a German company that has a presence in several countries, including, in the United States, as Aviagen Turkeys, Inc. (formerly Nicholas Turkey Breeding Farms) and as Aviagen Group (for broiler chicks), which was originally established as Ross Breeders USA.[35] Another major U.S. breeding company, Cobb-Vantress Inc., has a worldwide network of distributors, many of which are subsidiaries or joint ventures.[36]

Overall, the U.S. poultry industry is not highly globalized at the integrator level. Most companies are U.S. owned and operated. However, there are some notable exceptions,

[31] A company is considered "vertically integrated" when it is involved in multiple aspects of an item's production, including raw material, manufacture, and distribution.

[32] Martinez, *Vertical Coordination of Marketing Systems*, May 2002, 3.

[33] MacDonald, *The Economic Organization of U.S. Broiler Production*, June 2008, 3.

[34] For further information, see the Production Process section below.

[35] Aviagen Group, "en.aviagen.com/" (accessed September 3, 2013); Aviagen Turkeys, http://www.aviagenturkeys.com/us/products/nicholas.aspx (accessed September 5, 2013)

[36] Cobb-Vantress "Our History," http://www.cobb-vantress.com/about-cobb/our-history, (accessed September 3, 2013).

especially among the largest U.S. broiler producers. For instance, Tyson's, one of the largest broiler integrators in the United States, owns companies—either directly or through joint ventures—in many other countries, including Brazil, China, India, and Mexico. A majority share of U.S. broiler company Pilgrim's Pride was purchased by JBS S.A., a Brazilian meat company, in 2009.[37] Cargill VAM, a U.S. company that grows and produces turkey, is a subsidiary of privately owned Cargill Inc., a large agricultural company with poultry facilities in the Brazil, Canada, France, Honduras, Ireland, the Netherlands, Nicaragua, Thailand, and the United Kingdom.[38] Some nonagricultural businesses have also become involved in overseas poultry markets. For example, Goldman Sachs—which is primarily a financial services firm—invested in 10 Chinese poultry farms in 2008.[39]

Production Process and Market Channels

Poultry production and marketing in the United States is considered among the most efficient in the world. Conventional U.S. poultry production occurs in six general stages (figure 2), which are similar for both broilers and turkeys. The primary/controlling entities in the production process are the integrators. The major difference between broiler and turkey integrators is that very few broiler integrators own grow-out operations, while a number of turkey integrators raise poults (young turkeys) in-house.[40] Some integrators may have ownership in other related business (e.g., breeding companies, farms, and rendering plants).

Production Process[41]

Primary breeding companies maintain numerous types of birds which are crossbred to create breeder chicks.[42] These chicks are selected for such traits as efficient feed conversion and the potential to produce large amounts of breast meat. Breeder farms raise breeder chicks to sexual maturity. Once the breeder chicks become adults they are used to produce fertilized eggs, which are sold primarily to integrators. At the hatcheries, fertilized eggs are received from the breeder farm and placed in incubators.

[37] Pilgrims, "The Pilgrim's Story" (accessed June 22, 2011).

[38] Cargill.com, Web site, Our Businesses, http://www.cargill.com/company/businesses/index.jsp (accessed June 22, 2011).

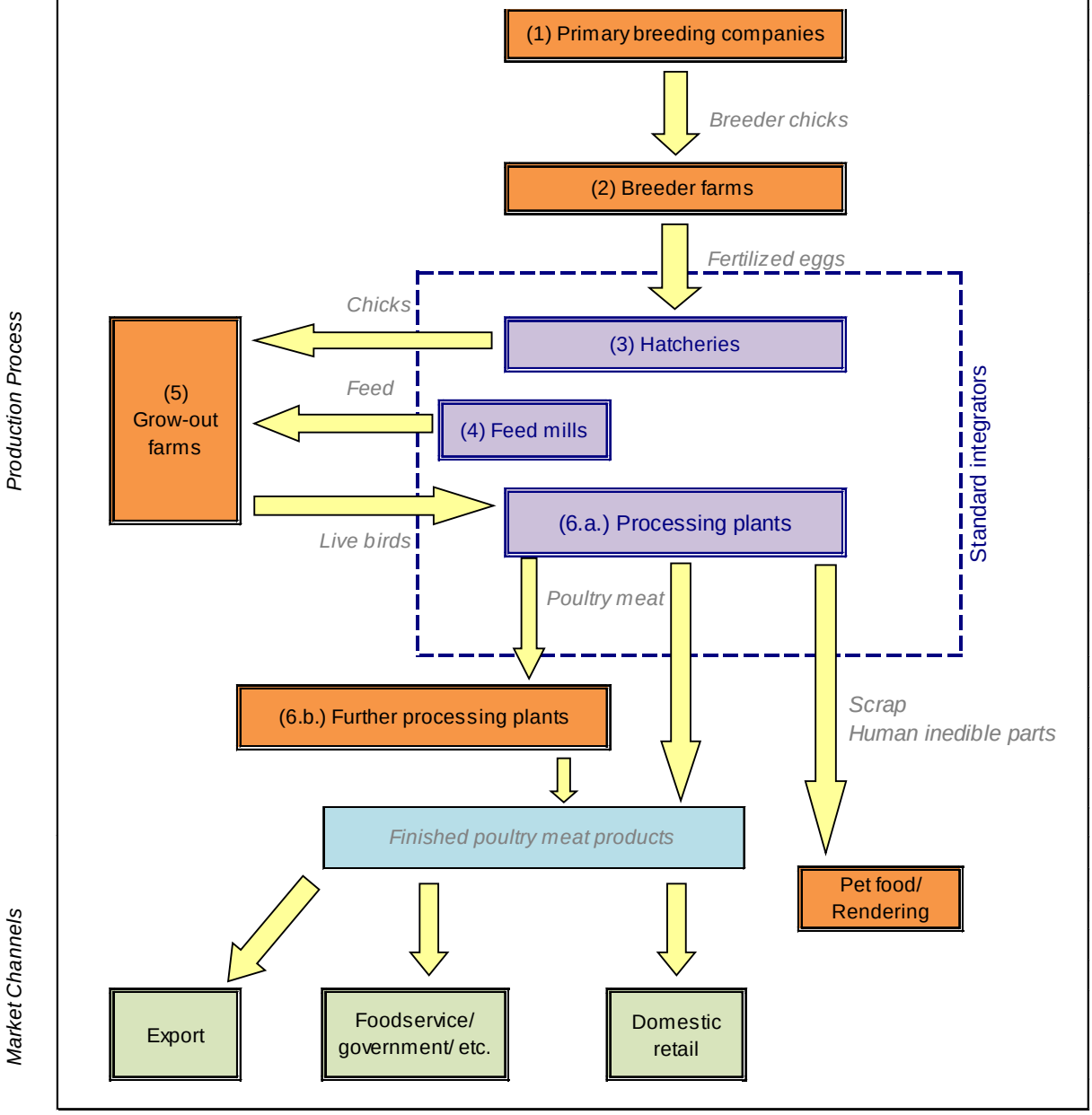
[39] The Poultry Site.com, "Goldman Sachs Buys Chinese Poultry Farmers," August 22, 2008.

[40] While the majority of poults were raised at independent farms, approximately two-fifths of turkey integrators owned grow-out facilities.

[41] NCC, "The Chicken Industry" (accessed February 1, 2010); NCC, "About the Industry" (accessed February 1, 2010); Plant Tour, USITC staff, April 21, 2009; USDA, APHIS, "Poultry & Eggs" (accessed September 15, 2009); USITC, *Poultry: Industry and Trade Summary*, December 1998, figure 1; National Turkey Federation, "Raising Turkeys," 2009.

[42] In this section, the term "chicks" refers to poults (baby turkeys) as well as baby chickens.

FIGURE 2 The conventional U.S. poultry industry has multiple stages of production and market channels



Sources: NCC, "The Chicken Industry" (accessed February 1, 2010); NCC ,"About the Industry' 2002–07 (accessed February1, 2010); USDA, APHIS, "Poultry & Eggs" (accessed September 15, 2009); USITC , *Poultry: Industry and Trade Summary*, December 1998, figure 1.

The incubation period is 21 days for chickens and 28 days for turkeys. The eggs are periodically rotated, usually mechanically, during the incubation period to keep the embryo from sticking to the shell. To hatch, the eggs are placed in special hatching trays. At the hatcheries, the chicks are vaccinated against certain diseases; some vaccines are administered even while the chick is still inside the shell. At the hatcheries, eggs are sorted into batches for the grow-out barns. For broiler meat production, chicks of both sexes are typically used. By contrast, chicks are separated by sex if they are going to be

grown into specialized products such as Cornish hens (females only) or roasters (males only).[43]

Feed is a very important part of poultry production process, for it influences the speed and efficiency chicks reach market weight. Feed mills are usually owned by integrators in order to control the feed given to their birds. Feed is developed by poultry nutritionists and its exact composition changes at each stage of development in the grow-out period. Poultry feed primarily consists of corn and soybean meal along with added vitamins and minerals.[44]

At grow-out farms, birds are raised from chicks to the desired market weight. A grow-out house (a type of specialized barn) is generally owned by an independent farmer who has a contract with an integrator. About 99 percent of broilers are raised by contractors.[45] A large number of turkeys are also raised by contract farmers, although a substantial minority is still raised in-house by the integrator. Currently, about 80 percent of turkeys are raised under contract, a marked increase from the approximately 56 percent raised under contract in 2002.[46] Most farmers and integrators have long-term relationships, largely because the grow-out houses are expensive to build and difficult to convert to other uses, and many years of use are required to recoup the initial investment. Contract farmers do not normally own the birds. Rather, birds are almost always owned by the integrator, who pays the contractor to raise or "grow them out." As of 2006, there were 70,000 broiler houses in the United States. Most contract farmers (70 percent) own one to four houses. The size of these houses has increased over time, from an average of 12,750 square feet in the 1960s to an average of about 20,000 square feet in the mid-2000s.[47]

While contract terms may vary, integrators normally provide veterinary services and feed to the farmer. Farmers provide water, litter, electricity, and labor.[48] Farmers are usually paid a set amount, with bonuses for good performance (compared to other contractors). Once the birds reach the intended market weight they are collected and transported to the processing plant by the integrator.

At the processing plants, the birds are slaughtered and have their feathers, heads, and feet removed—chicken feet are often cut into "paws" and frequently collected for export sales.[49] The carcasses are inspected in accordance with state or federal regulations.[50] Sanitary measures, such as a chlorine rinse, are used to reduce pathogens in the raw meat.

Once they pass inspection, carcasses are selected to be sold either whole or cut into pieces. Whole birds are sent to be packaged, while the other carcasses go through various processing lines where they are cut up. This process may also include mechanically deboning parts of the carcass.[51] Cuts include breasts, wings, thighs, legs, and leg quarters.

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[43] A chick's sex is determined by examining its wing feathers since female and male chicks have different length wing feathers.

[44] By weight, broiler feed is about 70 percent corn and 25 percent soy. Industry official, telephone interview by USITC staff, June 27, 2011.

[45] MacDonald, *The Economic Organization of U.S. Broiler Production*, June 2008, 7.

[46] Industry official, telephone interview with USITC staff, July 5, 2011; Martinez, *Vertical Coordination of Marketing Systems*, May 2002, 3.

[47] MacDonald, *The Economic Organization of U.S. Broiler Production*, June 2008, 11.

[48] At integrator-owned farms, all facilities and inputs are owned/purchased by the company.

[49] Chicken feet and paws are very similar products, differing only in the amount of leg that is attached to the foot. Chicken paws and feet are popular in China and Hong Kong.

[50] For further information, see the Factors Affecting Production section below.

[51] Mechanically deboned poultry meat can be used in items like sausages.

After being cut up, the meat may be packaged for sale. Some integrators only process birds to this stage. In the case of broilers, just over one-half of the meat is sold either whole or cut up, with the remainder sold for further processing.[52] About 25 percent of turkeys are sold whole, while the rest is sold cut up or further processed.[53]

Further processing plants undertake several activities, including cooking, breading, marinating, and preparing meat into sausages or nuggets, as well as incorporating poultry meat into products such as microwaveable meals and pot pies. Ground turkey and cooked turkey breast for deli meat are also very popular items with U.S. consumers.[54] In some cases, integrators own further processing facilities, either integrated with their slaughter plants or as separate facilities. However, poultry meat (either whole or cut) is also commonly sold to independent further processing facilities.

Market Channels

There are four primary distribution channels for poultry. Three are for finished poultry meat products: exports; food service, government, etc.; and domestic retail. The fourth channel—pet food/rendering[55]—is for scraps and parts that are otherwise inedible by humans. Export sales are handled either directly by an integrator or a further processor, or indirectly through a broker, distributors, or trading company. In the United States, domestic sales are made either directly by integrators or further processors, or indirectly by distributors (who buy product from integrators or further processors). In 2007, the biggest market channel was domestic retail, mainly grocery stores (figures 3 and 4). However, the share of broiler meat exported grew from 15 percent of production in 2006 to 19 percent in 2008, when it stabilized.[56]

U.S. Production and Consumption Trends

Production Trends

National Production

In 2012, about 9.2 billion live broiler chicks and poults were hatched for meat production in U.S. commercial poultry meat operations (table 5). This number represents a decline from 2006 levels and is the lowest level of the seven-year period 2006–12. Hatched broiler chicks and poults fell steadily from their peak numbers in 2007 reflecting lower meat consumption in response to the economic recession starting in 2008.

[52] An estimated 55 percent was sold whole or as cuts in 2010. NCC, "How Broilers Are Marketed," (accessed February 7, 2011).

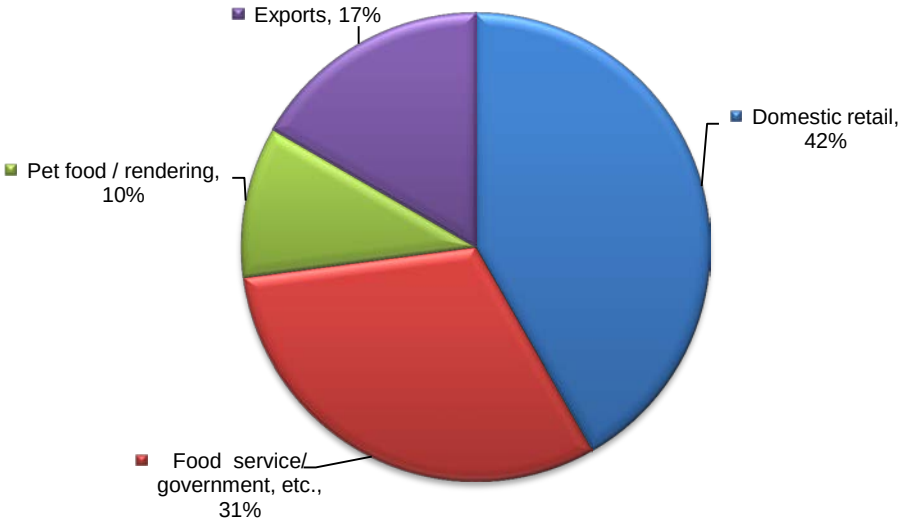
[53] National Turkey Federation, "Turkey Industry Structure" (accessed April 26, 2011).

[54] Ibid.

[55] Rendering is a process whereby animal by-products and dead animals are converted into ingredients for a wide range of goods such as animal feed, pharmaceuticals, and soaps. Becker, *Animal Rendering*, March 17, 2004.

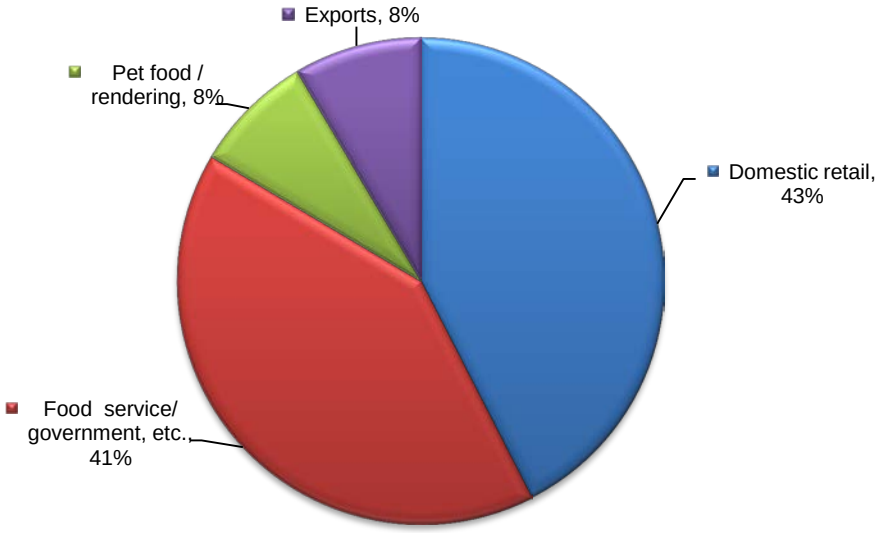
[56] USDA, FAS, PSD Online (accessed August 20, 2013). The share of turkey that is exported was relatively stable at about 10 percent of production during 2006–10, then grew to about 12 percent during 2011–12.

FIGURE 3 The largest share of U.S. broiler meat was marketed through domestic retail outlets in 2007



Source: Industry representative, interview by USITC staff, Washington, DC, March 11, 2009.

FIGURE 4 Turkey meat was largely marketed through domestic retail outlets and food services in 2007



Source: National Turkey Federation, "Turkey Industry Structure," 2009.

TABLE 5 Poultry: U.S. production of live broilers and turkeys, 2006–12 (million birds)

Items	2006	2007	2008	2009	2010	2011	2012
Chicken: broiler chicks hatched	9,414	9,590	9,468	9,147	9,276	9,055	8,931
Turkey: poults	297	308	296	274	275	285	288
Total	9,711	9,898	9,764	9,421	9,551	9,340	9,219

Source: USDA, ERS, data, August 2012; USDA, NASS, *Hatchery Production: 2012 Summary*, April 2013, 5-7 and 36.

During 2006–12, annual poultry meat production (from broilers and turkeys) was relatively stable, ranging between a high of 58.4 billion pounds (in 2008) and a low of 54.9 billion pounds (in 2009) (table 6). Production in this period fluctuated from year to year, growing by as much as 3 percent (in 2008) and contracting by as much as 6 percent (in 2009). Chicken and turkey meat production rose between 2006 and 2008, fueled by both growth in consumer demand for poultry meat (a long-term trend), as well as by high poultry meat prices in 2007 and 2008. Subsequently, production fell in 2009 due to efforts by some individual integrators to reduce supply and thus bolster falling prices in response to the poor economic conditions during 2008–09.[57]

State Production

U.S. poultry meat production is largely concentrated in the southeastern and mid-Atlantic states (table 6). The states with the highest poultry meat production tend to be those with the highest live-bird production, as grow-out farms tend to be clustered around integrators' hatcheries.

The majority of U.S. broiler production is concentrated in a small number of states.[58] During 2006–12, the top five states (Georgia, followed by Arkansas, Alabama, North Carolina, and Mississippi) accounted for 59 percent, on average, of U.S. broiler meat production.[59] Overall growth rates were mixed for this period, with higher production in Georgia (8 percent) and North Carolina (11 percent), and reduced production in Arkansas (8 percent) and Mississippi (3 percent). Production during the period peaked in 2008 and, as a result of the global economic recession, all of the top five producing states experienced declines between 2008 and 2009.

Likewise, most U.S. turkey production is also concentrated in a small number of states.[60] During 2006–12, the top two states (Minnesota and North Carolina) accounted for approximately one-third of total U.S. turkey meat production, and the top five states accounted for about 54 percent of production.[61] Between 2006 and 2012, Minnesota's production fell by 4 percent, while North Carolina's production rose by 5 percent.

[57] See, for example, USDA, ERS, *Livestock, Dairy, and Poultry Outlook*, issues from January 2007 to December 2009); USDA, ERS, Meat Price Spreads, Retail Prices (accessed April 21, 2012; April 25, 2011; June 14, 2012); USDA, NASS, *Agricultural Prices*, (monthly February 2006—March 2012).

[58] In choosing where to establish broiler production, integrators seek areas with available labor, low wage rates, low-cost grains, geographically concentrated grow-out farmers (to raise the birds), lower transport costs (i.e., lower rail rates and fuel costs), and a favorable community attitude towards the industry. Harrison and Sambidi, "A Conjoint Analysis," December 2004; Ollinger, MacDonald, and Madison, *Structural Change in U.S. Chicken And Turkey Slaughter*, September 2000; Sambidi and Harrision, "Special Dependency," July 24–25, 2005.

[59] The top two states, Georgia and Arkansas, accounted for over one-quarter of broiler production.

[60] One-seventh as much turkey meat as chicken meat was produced annually in 2006–12 (table 6).

[61] The top five producers are North Carolina, Minnesota, Indiana, Arkansas, and Missouri.

T**ABLE 6** Poultry: U.S. broiler and turkey production, by major states, 2006–12 (million pounds)

Items	2006	2007	2008	2009	2010	2011	2012
Broilers							
Georgia	7,066	7,414	7,469	6,874	6,883	7,426	7,626
Arkansas	6,283	6,232	6,380	5,780	5,938	5,856	5,765
Alabama	5,688	5,625	5,846	5,513	5,787	5,820	5,620
North Carolina	5,099	5,390	5,493	5,317	5,419	5,587	5,678
Mississippi	4,662	4,614	4,876	4,602	4,766	4,626	4,508
Texas	3,330	3,266	3,461	3,611	3,645	3,657	3,495
Kentucky	1,590	1,668	1,653	1,658	1,673	1,705	1,733
Maryland	1,607	1,592	1,612	1,401	1,433	1,649	1,611
South Carolina	1,408	1,480	1,516	1,522	1,557	1,542	1,537
Delaware	1,614	1,598	1,579	1,597	1,625	1,525	1,505
All other	10,482	10,452	10,556	9,877	10,427	10,684	10,452
U.S. broiler total[a]	48,829	49,331	50,441	47,752	49,153	50,077	49,530
Turkeys							
North Carolina	1,125	1,147	1,208	1,090	969	1,030	1,177
Minnesota	1,211	1,218	1,306	1,161	1,175	1,163	1,164
Indiana	462	481	519	543	574	578	606
Arkansas	585	572	611	568	552	607	577
Missouri	634	646	651	611	583	565	576
South Carolina	386	382	478	433	428	481	498
Virginia	555	483	484	449	449	460	449
California	428	450	435	390	409	422	431
Ohio	191	227	230	203	193	201	219
South Dakota	158	173	189	187	191	186	194
All other	1,729	1,787	1,811	1,514	1,588	1,581	1,656
U.S. turkey total	7,464	7,566	7,922	7,149	7,111	7,274	7,547
U.S. broiler and turkey total	56,293	56,897	58,363	54,901	56,264	57,351	57,077

Source: USDA, NASS, *Poultry: Production and Value*, 2007, 2008, 2009, 2010, 2011, and 2012 summaries.

[a]Excludes states producing less than 500,000 broilers.

Production grew in both Minnesota and North Carolina through 2008, and then declined in 2009 in response to the global economic recession. North Carolina—like most states in the Atlantic region—experienced further production declines in 2010 because of additional cuts by some integrators, including two of the largest companies (Butterball LLC and Cargill VAM) which both have plants throughout the mid-Atlantic region.[62] This was part of the attempt by some integrators to restrict supplies to increase prices.

Factors Affecting Production

The primary inputs for producing poultry meat are eggs/birds, feed, water, housing, labor, medicine, and machinery. Grow-out houses and processing plants are fixed assets that cannot be readily converted to other uses, so their availability is stable over long periods

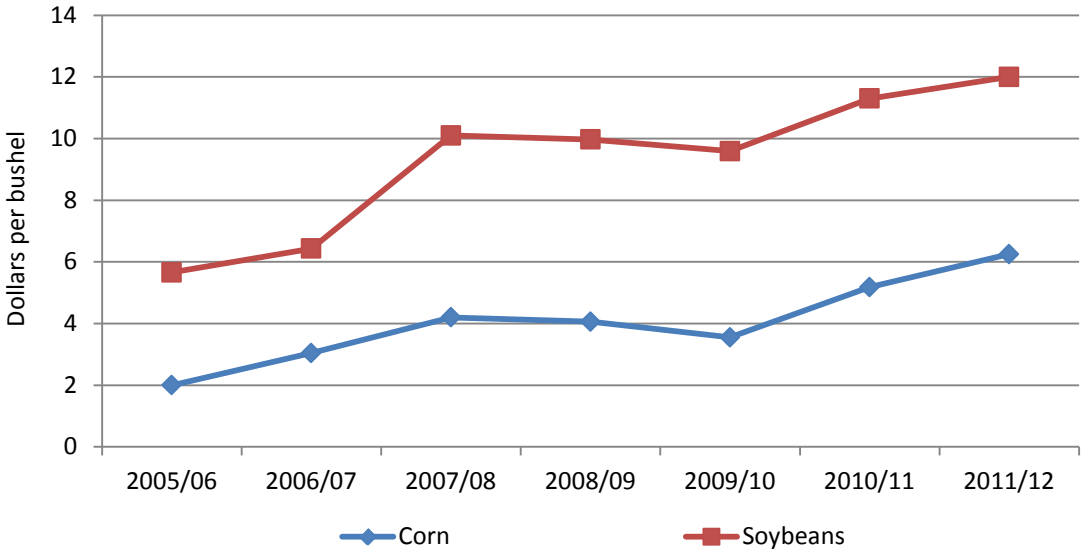
[62] Thorton, "Turkey's 2010 Formula for Success," February 2011, 10, 40; Cargillmeatsolutions.com, Web site, http://www.cargillmeatsolutions.com/about_us/tk_cms_about_loc_meat.htm (accessed August 2, 2011); Butterball.com, Web site, http://www.butterballcorp.com/content.aspx?pin=e8ccf04a-f4a9-4b84-8fea-b4c35bca3abb (accessed August 2, 2011).

of time. A reduction in the supply of birds from their 2007 peak was a response to the economic recession. During 2006−12, feed was the most volatile input in terms of cost, reflecting high global prices for its constituent ingredients.

Costs

Feed, which is primarily made from corn and soybean meal, is by far the biggest expense, accounting for about 65–75 percent of all poultry meat production costs.[63] Hence, feed costs are driven by the prices of corn and soybeans, which are affected, in turn, by factors such as weather, fuel and energy prices, demand levels, and government policies. Corn and soybean prices were particularly volatile during 2006–11. Between CY 2005/06 and 2007/08, corn and soybean prices soared to record highs (figure 5). After prices declined in CY 2008/09 and 2009/10, due to higher production and the worldwide economic recession, they rose to new record highs in CY 2011/12.[64]

FIGURE 5 Soybean and corn price rose to record highs multiple times between 2006/07 and 2011/12



Source: USDA, ERS, Feed Grains Yearbook, table 12 (accessed July 13, 2011); USDA, ERS, Oil Crops Yearbook, table 3 (accessed July 14, 2011).

Notes: "Year" is calendar year for soybeans and crop year (September to August) for corn.

High corn and soybean prices are attributable to long-term trends that began in 2002 and shorter-term phenomena that caused price spikes in certain years after 2006. Factors contributing to higher prices since 2002 included[65] (1) growth in both world population

[63] The Poultry Site.com, "High Feed Prices," January 2009; The Poultry Site.com, "Formulating Feed for Broiler Performance," August 2005; The Poultry Site.com, "What Does 2009 Hold for Feed Prices?" December 5, 2006.

[64] Trostle et al., *Why Have Food Commodity Prices Risen Again?* June 2011, 9; USITC, *Shifts in U.S. Merchandise Trade 2008*, July 2009 AG-13; USDA, ERS, *Feed Yearbook*, table 12 (accessed April 28, 2011); USDA, ERS, Oil Crops Yearbook, table 4 (accessed April 28, 2011).

[65] Trostle et al., Why Have Food Commodity Prices Risen Again? June 2011; USITC, *Shifts in U.S. Merchandise Trade 2008*, July 2009, AG-7, AG-13; Trostle, *Global Agricultural Supply and Demand*, July 2008, 16; ADB, *Soaring Food Prices*, May 2008.

and per capita incomes, which increased demand;[66] (2) expanding biofuel production and subsequent diversion of corn to its production, which further increased demand;[67] (3) depreciation of the U.S. dollar, which increased global demand for dollar-denominated products, including U.S. corn and soybeans; (4) rising worldwide energy prices, which drove up the cost of energy-intensive crop production inputs, especially fertilizer; and (5) declining growth rates of agricultural productivity. Between 2006 and 2011, short-term factors contributing to increased prices included[68] (1) adverse weather, primarily droughts, in major grain- and oilseed-producing countries, including Australia, Russia, Ukraine, and the United States, which reduced world supply; (2) export controls established by some national governments to combat domestic food price inflation, which further reduced international market supply;[69] (3) purchases to replenish depleted public stockpiles, which increased demand; and (4) government-set price controls in certain countries, which further increased demand for artificially cheap commodities.

Largely as a result of higher feed costs and lower domestic consumption,[70] poultry meat producers faced lower profit levels in 2008–10.[71] Some integrators responded by reducing production, closing and consolidating inefficient facilities in an effort to improve productivity, and even going out of business.[72] According to an industry representative, rising feed prices in 2010 and 2011 meant that some broiler integrators were not able to sell meat at prices that covered their costs of production. In 2011, the U.S. government responded by purchasing $40 million of chicken meat to support the industry.[73]

U.S. Government Policy and Programs

Poultry meat production is governed by federal laws and regulations to ensure food safety.[74] Primary among them is the Poultry Products Inspection Act (PPIA), which gives the U.S. Department of Agriculture's (USDA's) Food Safety and Inspection Service (FSIS) the authority to inspect and monitor poultry products sold between states and abroad.[75] For federally inspected plants, the PPIA (1) requires both ante- and post-mortem inspections for most aspects of poultry processing; and (2) mandates certain sanitary practices, labeling requirements, and container standards. The PPIA also establishes what safety, sanitary, or other conditions constitute violations of the act and

[66] In particular, there is strong Chinese demand for soybeans (especially from the United States).

[67] For example, there was increased use of corn for ethanol. The share of U.S. corn used for ethanol rose from 10 to 24 percent between crop year 2002/03 and 2007/08. USITC, *Shifts in U.S. Merchandise Trade 2008*, July 2009, AG-7, AG-13; Trostle, *Global Agricultural Supply and Demand*, July 2008, 16.

[68] Trostle, *Global Agricultural Supply and Demand*, July 2008, 20–21; USDA, ERS, Oil Crops Outlook, June 10, 2011, 1–3; Trostle et al., *Why Have Food Commodity Prices Risen Again?* June 2011.

[69] For example, Argentina raised export prices on corn and soybeans, and China imposed an export tax on grains. Trostle, *Global Agricultural Supply and Demand*, July 2008, 23–24.

[70] Due to higher prices and the 2008–09 economic recession. For further detail see the "Consumption" section below.

[71] Thornton and O'Keefe, "When Will Profits Return?" October 2008, 20–21; Thornton, "U.S. Chicken Producers Increased Volume in 2010," February 2011, 10; Kavilans, "U.S. Places $40 million Chicken Order," August 16, 2011.

[72] O'Keefe, "Coping with High Feed Prices," June 2008, 18–20; O'Keefe, "No Growth in RTC Production in 2008," February 2009, 18–25; O'Keefe, "Can Cutbacks Lead to Quick Turnaround?" February 2009, 44–46; USDA, ERS, *Livestock, Dairy, and Poultry Outlook*, March 28, 2009, 2; USDA, ERS, *Livestock, Dairy, and Poultry Outlook*, December 17, 2009, 13; Thornton, "Tyson Foods Focuses on Chicken Pricing," August 11, 2011; Johnston, "Butterball to Close Plant Due to High Input Costs," September 15, 2011.

[73] Kavilans, "U.S. Places $40 Million Chicken Order," August 16, 2011.

[74] Some plants are inspected under state laws. Only products from federally inspected plants can be sold across state borders or internationally.

[75] USDA, FSIS, "Federal Inspection Programs" (accessed April 28, 2011).

penalties for such violations. All federally inspected plants have USDA inspectors on-site to ensure compliance with federal laws. In addition to the PPIA, the FSIS requires that all processing and slaughter plants develop and follow a plan to prevent food safety hazards—a Pathogen Reduction and Hazard Analysis and Critical Control Points (HACCP) systems plan—as required by the FSIS's HACCP Rule.[76] This plan should enable plants to (1) identify biological and physical hazards; (2) find "critical control points" in the production process; (3) monitor the control points to ensure they are operating within predetermined limits; (4) correct deviations from those limits; and (5) maintain thorough records of the plan.[77] No federal inspection can commence unless a plant has an HACCP plan in place.[78]

Research and Development

Research and development (R&D) can be broadly classified into three groups: (1) animal genetics, health, and nutrition; (2) production and processing technology; and (3) product development. R&D within the U.S. poultry industry makes a critical contribution to its global competitiveness.

Animal genetics researchers work to improve the quality of birds. Genetics are extremely important for producing a healthy, meaty bird that grows quickly (i.e., is efficient at converting feed into meat). Research studies have shown that genetic selection was responsible for 85–90 percent of the improved broiler growth rate over the past half century, with feed improvements providing the remaining 10–15 percent of the gains.[79] There is ongoing research into the control and prevention of diseases, particularly those that affect live birds, including avian influenza (AI), spinal abscesses, clostridial dermatitis, and foot pad conditions, as well as diseases that are harmful to consumers, such as salmonellosis (the infection caused by salmonella). There is also continuous R&D to improve the quality and efficiency of feed. This includes research into enzymes, formulation, particle size, and differences in grain varieties.[80] For example, during 2006–10 researchers sought ways to formulate feed to enrich poultry meat with omega-3 fatty acids.[81]

Production and processing technology R&D seek to improve efficiency at all stages of the production process. Researchers continuously explore ways to improve the conditions and cost effectiveness of grow-out houses. Efforts include improving ventilation, heating, and cooling systems, as well as developing ways to use solar or wind power. Ongoing studies seek to make processing machinery more efficient and to automate parts of processes that are still done manually. For example, the Georgia Technology Research Institute has worked on developing an efficient automated deboning machine.[82]

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[76] USDA, FSIS, The Final Rule on HACCP Systems, July 1996.

[77] Hulebak and Scholosser, "HACCP History and Conceptual Overview" (accessed January 12, 2011).

[78] Code of Federal Regulations (CFR) Parts 304.3(b) and (c).

[79] Havenstein, Ferket, Qureshi, "Growth, Livability, and Feed Conversion of 1957 versus 2001," 2003.

[80] See, for example, Atlantic Poultry Research Institute, "Poultry Publications of Factsheets from Current Research"; ThePoultrySite.com, "Study Shows Effects of Feed Particle Size on Laying Hens," July 2008; *Watt Poultry USA*, issues from 2006–12.

[81] Omega-3 fatty acids are considered by many consumers to have health benefits due to scientific research and corresponding positive press. This has started a trend where some producers are enriching foods, including eggs and pasta, with omega-3. University of Guelph, "U of G Prof Working to 'Hatch' Omega-3 Chicken," June 29, 2006; *The Australian*, "Fish Food the Key," January 17, 2007; The PoultrySite.com, "Algae May Boost Omega-3 in US Chicken," January 23, 2009; Mayo Clinic, "Omega-3 Fatty Acids," November 5, 2010; Harvard School of Public Health, "The Nutrition Source: Omega-3 Fatty Acids" (accessed July 20, 2011).

[82] McMurray and Britton, "Automation to the Rescue?" December 2009, 18.

Improving the management of water (which is both an input and a waste product) and wastes (e.g., litter and poultry excrement) is also a focus of ongoing research. For example, researchers are testing ways to use water more efficiently in processing facilities and improving methods of recycling wastewater, including capturing its nutrients and energy potential.[83]

Poultry product development focuses mainly on health and safety issues (such as identifying causes of spoilage and ways to prevent it), and the development of new products for customers. R&D of new poultry products is undertaken by all large integrators. With regard to retail customers, R&D are focused on further processed items including ready-to-cook products, pre-flavored (e.g., marinated) products, and easier-to-use products, such as individual packages for freezing.

Consumption

Consumption Trends

The United States is the world's largest poultry meat consumer, accounting for about one-fifth of world consumption during 2006–12 (appendix A table A.2). Chicken is the most commonly consumed meat in the United States. Americans ate an average of 84 pounds per capita per year during 2006–12, and chicken accounted for about 38 percent of all U.S. meat consumption in 2012 (table 7). Per capita consumption of turkey meat averaged 17 pounds in 2006–12—less than beef or pork, but more than seafood.

TABLE 7 U.S. annual per capita consumption of meat and seafood, 2006–12

Meat type	2006	2007	2008	2009	2010	2011	2012
	Pounds						
Chicken	88	86	85	81	84	84	82
Turkey	17	18	18	17	16	16	16
Beef	66	65	63	61	60	57	57
Pork	49	51	49	50	48	46	46
Commercial fish and shellfish	17	16	16	16	16	16	16
All other	1	2	1	2	1	1	1
Total	238	238	232	227	225	220	218
	Percent						
Chicken	37	36	37	36	37	38	38
Turkey	7	7	8	8	7	7	7
Beef	28	27	27	27	27	26	26
Pork	21	21	21	22	21	21	21
Commercial fish and shellfish	7	7	7	7	7	7	7
All other	<1	<1	<1	<1	<1	<1	<1
Total	100	100	100	100	100	100	100

Source: NCC, "Statistics and Research," January 11, 2013.

Total U.S. per capita meat consumption peaked during 2004–06 during the height of the high-protein diet trend, and declined 8 percent in 2006–12 due to record-high meat prices and the economic recession. The first-ever recorded three-years-in-a-row U.S. decline in chicken consumption occurred in 2007–09. Chicken consumption regained some of its

[83] See, for example, O'Keefe, "2009 Clean Water Awards," May 2009.

losses in 2010, partly because of expanded supply resulting from increased production and reduced exports to Russia and China due to trade restrictions. However, lower production and higher exports lead to higher consumer prices, and as a result, chicken consumption declined again in 2012.[84] Turkey consumption declined (11 percent) between 2008 and 2010 and then stabilized.

U.S. consumers eat poultry in a variety of forms but generally prefer white meat, such as breast meat or wings. However, in recent years dark meat has become more popular, especially among growing immigrant communities.[85] In the United States, an estimated 12 percent of chicken was consumed whole and 42 percent in parts (e.g., breast, leg, and wing) in 2011.[86] The remaining 46 percent was further processed into products such as chicken nuggets and microwaveable meals. In 2009, the most popular turkey products were whole birds (which make up approximately one-quarter of sales), ground turkey, and deli meat.[87] Ground turkey was the fastest-growing turkey product over the past decade. Many dark-meat cuts (such as leg quarters), as well as parts not generally consumed in the United States (such as paws), are exported.

Import Penetration Levels

Because the United States is one of the world's largest and most efficient poultry producers, its imports are negligible. Imports represented only about 0.3 percent of domestic consumption of both live poultry and poultry meat in 2006–12 (appendix A tables A.2 and A.4).

Factors Affecting Consumption

One of the most important factors impacting consumers' meat purchasing decisions is price. Studies show that a price increase for one type of meat causes an increase in consumption of another as a substitute. For example, a rise in the price of chicken may cause a shift toward increased consumption of beef.[88] For lower income consumers, an increase in poultry meat prices may cause their consumption to shift to lower-priced protein sources, such as eggs. Nevertheless, as the lowest-priced major meat, poultry generally has a marketing advantage with consumers (table 8). In 2012, retail consumers paid on average almost 46 percent more per pound for pork and 62 percent more per pound for beef than for chicken.

Several other factors also affect poultry demand, including science, consumer lifestyles, and cultural traditions, among others. For example, increased awareness about health issues has benefited poultry, as it is considered healthier than red meat. Additionally, consumers are spending less time cooking and want products that reduce preparation time. Poultry companies have developed a number of products to meet these criteria, including pre-marinated items, pan-ready meals, microwavable items, and prepackaged

[84] *Growing Georgia,* "Per Capita Meat, Poultry and Fish Consumption," February 3, 2011; WattAgNet, "US Chicken Consumption Increases," April 5, 2011; USDA, ERS, *Long-term Projections,* February 2012, 2. See also the U.S. Trade and Foreign Industry Profiles below.

[85] See, for example, WattAgNet.com, "Demand for Dark Poultry Meat on the Rise," April 16, 2012.

[86] NCC, "How Broilers Are Marketed," (accessed February 7, 2011).

[87] National Turkey Federation, "Turkey Industry Structure" (accessed May 2, 2011).

[88] Schroeder, Marsh, and Mintert, *Beef Demand Determinants*, March 2000.

TABLE 8 Average retail prices for chicken, beef, pork, and eggs, 2006–12

Product[a]	2006	2007	2008	2009	2010	2011	2012
	Dollars per pound (retail weight equivalent) or per dozen eggs						
Chicken	1.57	1.65	1.75	1.78	1.75	1.77	1.89
Beef	3.97	4.16	4.33	4.26	4.40	4.83	5.02
Pork	2.81	2.87	2.94	2.92	3.11	3.43	3.47
Eggs (grade A, large)	1.31	1.68	1.99	1.66	1.66	1.77	1.84

Source: USDA, ERS, Meat Price Spreads: Historical Monthly (accessed February 22, 2010; April 26, 2011; September 6, 2012; September 11, 2013); U.S. Department of Labor, Bureau of Labor Statistics, Consumer price Index- Average Price Data (Eggs U.S. City Average) (accessed September 13, 2012; September 11, 2013) .

[a]Chicken, beef, and pork data are based on composite.

meals. These products have helped keep poultry demand robust. Seasonal demand is an important factor in turkey consumption peaking during the end-of-year holiday season.

U.S. Trade

Overview

Although the U.S. poultry industry continues to produce primarily for the domestic market, the share of production sold abroad rose from 14 percent in 2006 to 19 percent in 2012 (figure 6).[89] Between 2006 and 2012 the value of poultry exports increased 114 percent ($2.9 billion) (table 9).[90] Exports reached a historical peak in 2008, driven by lower domestic consumption, depreciation of the dollar (which made U.S. poultry comparatively cheaper than that from other countries), and rising global incomes.[91]

However, beginning in 2009, exports declined due to the global economic recession that reduced demand and because U.S. poultry integrators reduce production (by raising fewer birds) in response to declining profitability. In 2010, exports remained below their peak largely because Russia banned imports of U.S. poultry for more than six months for the stated reason that U.S. poultry is treated with chlorinated rinse (to reduce pathogens), and because China imposed AD/CVD orders on imports of U.S. poultry meat. In 2012, however, U.S. exports reached their highest level of the period due to a surge in exports to Mexico and Canada.

As noted earlier, the United States is not a major importer of poultry, with imports only accounting for about 0.3 percent of U.S. poultry consumption by quantity during 2006–12.[92] The efficiency and scale of the U.S. poultry industry make it difficult for foreign

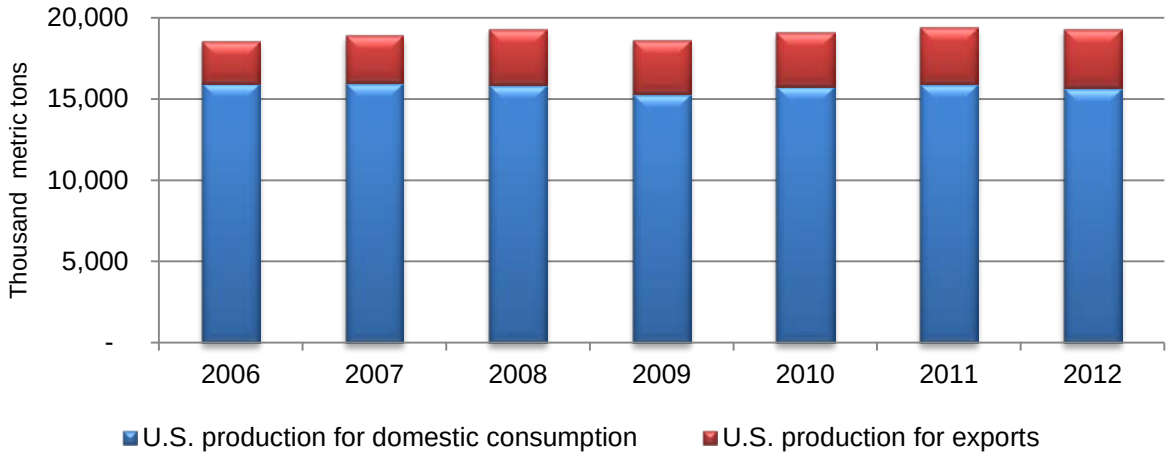
[89] Based on broiler and turkey meat quantity, the two largest exports. USDA, FAS, PSD Online (accessed August 20, 2013). On average about 18 percent of poultry meat production by volume was exported in 2006–12 (appendix A tables A.1 and A.3).

[90] Based on all live poultry and poultry meat and offal exports.

[91] *Poultry USA*, "U.S. Poultry, Egg Exports Set All-time Record in 2008," February 18, 2009; USDA, ERS, *Livestock, Dairy, and Poultry Outlook*, March 19, 2008, 6. See also country-specific write ups in the U.S. Exports section below.

[92] Based on the volume of chicken and turkey meat consumption and imports. USDA, FAS, PSD Online (accessed August 23, 2013).

FIGURE 6 Only a small percentage of U.S. poultry meat production is exported



Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

TABLE 9 Live and meat poultry: U.S. exports of domestic merchandise, imports for consumption, and trade balance, by selected trade partners and trade partner groups, 2006–12 (million dollars)

Trade partner (group)	2006	2007	2008	2009	2010	2011	2012
U.S. exports of domestic merchandise							
Mexico	447.3	483.0	554.4	542.7	647.9	823.9	1,018.3
Canada	344.0	436.7	462.3	460.0	504.6	502.1	623.0
Hong Kong	77.7	72.6	139.8	174.3	643.0	776.3	412.5
China	324.9	597.5	745.1	708.1	203.4	208.5	396.3
Russia	461.8	766.5	823.5	762.6	315.6	246.7	304.3
Angola	53.4	70.6	109.2	59.0	140.3	185.0	218.9
Taiwan	68.7	70.2	83.0	84.8	114.1	121.6	177.5
Cuba	44.7	77.9	136.0	141.2	103.1	92.9	158.0
Kazakhstan	16.4	10.9	19.9	7.2	14.6	28.2	103.6
United Arab Emirates	9.8	24.1	63.0	51.3	52.3	84.9	99.9
All other	737.5	1,044.4	1,469.6	1,304.9	1,557.5	1,937.4	2,021.5
Total	2,586.2	3,654.4	4,605.8	4,296.1	4,296.4	5,007.5	5,533.8
U.S. imports for consumption							
Mexico	15.8	19.9	19.1	12.3	11.8	11.8	12.8
Canada	174.9	215.1	226.5	220.7	238.3	243.9	286.8
Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.0
China	0.0	0.0	32.0	0.0	0.0	0.0	0.0
Russia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Angola	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cuba	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kazakhstan	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All other	3.2	7.5	10.6	30.4	50.5	54.4	73.3
Total	193.9	242.5	256.2	263.4	300.6	310.1	372.9
U.S. merchandise trade balance							
Mexico	431.5	463.1	535.3	530.4	636.1	812.1	1,005.5
Canada	169.1	221.6	235.8	239.3	266.3	258.2	336.2
Hong Kong	77.7	72.6	139.7	174.3	643.0	776.3	412.5
China	324.9	597.5	745.1	708.1	203.4	208.5	396.3
Russia	461.8	766.5	823.5	762.6	315.6	246.7	304.3
Angola	53.4	70.6	109.2	59.0	140.3	185.0	218.9
Taiwan	68.7	70.2	83.0	84.8	114.1	121.6	177.5
Cuba	44.7	77.9	136.0	141.2	103.1	92.9	158.0
Kazakhstan	16.4	10.9	19.9	7.2	14.6	28.2	103.6
United Arab Emirates	9.8	24.1	63.0	51.3	52.3	84.9	99.9
All other	734.2	1,036.9	1,458.9	1,274.4	1,507.0	1,883.0	1,948.2
Total	2,392.2	3,411.9	4,349.4	4,032.6	3,995.8	4,697.4	5,160.9

Source: Compiled from tariff and trade data in USITC, DataWeb (accessed July 14, 2011, February 11, 2013, September 27, 2013).

countries to compete in the U.S. market solely on the basis of price. In addition, imports into the United States are subject to health and sanitary requirements. Most U.S. poultry imports were from Canada (81 percent by value on average during the period) which has advantages over other foreign suppliers because of its geographic proximity and duty-free access under the North American Free Trade Agreement (NAFTA).

The value of U.S. trade in live birds was much smaller than that of poultry meat. Annually, U.S. live poultry exports accounted for only 4 percent of all poultry exports by value in 2006–12.[93] However, between 2006 and 2012, the value of U.S. live poultry exports grew 64 percent because live U.S. birds were sought to expand foreign poultry flocks, especially in China and Indonesia.[94] U.S. live bird imports were about one-fifth the level of exports (by both volume and value) on average in 2006–12.[95] U.S. imports of live birds grew 46 percent by value during 2006–12, with over 99 percent imported from Canada.

U.S. Exports

Export Levels

The United States exported a substantial amount of poultry during 2006–12. Overall U.S. poultry exports (live birds and meat) grew from $2.6 billion in 2006 to $5.5 billion in 2012.[96] In 2012, 79 percent of U.S. poultry exports were fresh, chilled, or frozen chicken; 11 percent were fresh, chilled, or frozen turkey; 6 percent were prepared or preserved poultry other than turkey; and 4 percent were live poultry (all types).[97]

During 2006–12, U.S. exports of live poultry increased by $78 million (64 percent) and 41 million birds (80 percent).[98] The largest foreign markets for live U.S. poultry were Canada, China, and Mexico, which together accounted for 46 percent of U.S. exports (by value) in 2006–12 (figure 7). Growth in U.S. exports of live birds to China and Indonesia was particularly high during the period (by 226 percent and 359 percent, respectively) due to increased poultry production in these countries, which increased demand for imported breeding stock.[99]

U.S. exports accounted for about 34 percent of global poultry meat exports by volume in 2012.[100] U.S. exports of poultry meat grew by $2.9 billion (116 percent) and 1.1 million mt (39 percent) during 2006–12 (table 10). These exports consisted primarily

[93] USITC, DataWeb (accessed February, 20, 2013).

[94] Because overall U.S. poultry exports more than doubled between 2006 and 2012, the share of live bird exports fell from 4.7 percent to 3.6 percent over this period.

[95] Imports ranged between $30 and $44 million by value during 2006–12. USITC, DataWeb (accessed February, 20, 2013).

[96] USITC, DataWeb (accessed February, 20, 2013).

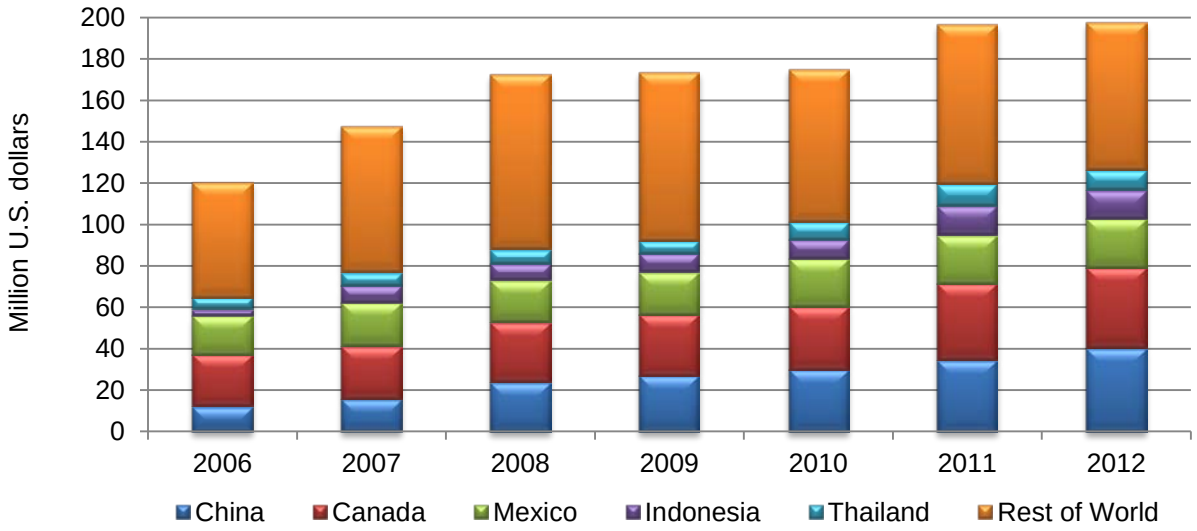
[97] Ibid.

[98] Ibid.

[99] Ibid.

[100] USDA, FAS, PSD online (accessed August 30, 2013). Meat may be fresh, chilled, frozen, prepared or preserved.

FIGURE 7 During 2006–12 U.S. poultry exports of live birds to China and Indonesia grew significantly



Source: USITC, DataWeb (accessed Feburary 20, 2013).

TABLE 10 Poultry meat: U.S. exports of domestic merchandise, by principal markets, 2006–12

Country	2006	2007	2008	2009	2010	2011	2012
	Value (million dollars)						
Mexico	428	462	534	522	625	801	995
Canada	319	411	433	430	474	465	584
Hong Kong	77	72	140	174	643	776	411
China	313	582	721	681	174	174	356
Russia	461	766	823	763	316	247	304
Angola	53	71	109	59	140	185	219
Taiwan	67	68	81	82	112	120	175
Cuba	45	78	136	141	103	93	158
Kazakhstan	16	11	20	7	15	28	104
United Arab Emirates	10	24	63	51	52	85	100
All other	677	962	1,373	1,212	1,467	1,837	1,930
Total	2,466	3,507	4,433	4,122	4,121	4,811	5,336
	Quantity (thousand metric tons)						
Mexico	377	330	468	485	577	638	746
Canada	138	161	164	157	167	175	204
Hong Kong	81	74	142	172	451	560	306
China	410	698	797	741	138	134	288
Russia	748	868	834	738	330	215	268
Angola	80	81	105	78	151	167	186
Taiwan	90	61	67	77	106	104	143
Cuba	79	97	145	147	141	95	151
Kazakhstan	21	11	18	6	15	27	90
United Arab Emirates	13	23	53	55	57	76	83
All other	875	964	1,245	1,197	1,542	1,678	1,586
Total	2,912	3,368	4,038	3,853	3,675	3,869	4,051

Sources: USITC, DataWeb (accessed September 27, 2013).

of fresh, chilled, or frozen whole birds; cuts; or offal (organ meats). Chicken was by far the most commonly exported type of poultry meat, followed by turkey. For most of the period, the principal markets for U.S. poultry meat were Mexico, followed by Canada, China/Hong Kong, and Russia, which together accounted for an average of 63 percent of all U.S. poultry meat exports by value during 2006–09. However, during 2010–11, exports to China and Russia fell sharply due to China's imposition of AD/CV duties on imports of U.S. imports of certain chicken products,[101] and a temporary Russian ban on imports of U.S. poultry. A surge in U.S. poultry meat exports to Hong Kong in 2010 and 2011 offset the sharp decline in U.S. exports to China in those two years. In 2012, Mexico and Canada became the leading export markets for U.S. poultry, while sales to Russia and China also increased. In addition, between 2009 and 2012, U.S. exports of poultry meat to Angola surged 271 percent by value, making Angola the sixth-largest U.S. export market, driven by Angola's rising crude-petroleum export revenues and a weak agricultural sector following three decades of civil war.[102]

U.S. Government Programs

The USDA's Market Access Program (MAP) funds assistance programs for the creation, expansion, and maintenance of foreign markets for U.S. agricultural products.[103] Implementation occurs through overseas marketing activities, which include promotions, educational programs, trade shows, and market research. These activities are carried out through partnerships with trade associations, agricultural cooperatives, or similar groups, which share the cost of market promotion with the USDA. The USA Poultry and Egg Export Council (USAPEEC) is the trade association representing industries that export poultry and egg products. During 2009–11, USAPEEC received $5.7 million annually on average in MAP funds which helped to fund participation in U.S. and foreign trade shows, trade missions, and in-store promotions. To help conduct such activities, facilitate trade, and provide technical assistance, USAPEEC maintains offices in a number of countries, including China, Hong Kong, Mexico, Japan, Lebanon (covering the Middle East), and Sweden (covering Europe and the Balkans).[104]

Principal Markets[105]

China/Hong Kong

U.S. poultry meat exports to China and Hong Kong totaled $767 million in 2012, more than double their value in 2006.[106] During 2006–12, exports to China and Hong Kong accounted for an average of 18 percent of all U.S. poultry meat exports per year. The United States was the largest supplier of poultry to China and a major supplier to Hong Kong, with exports to these markets consisting mostly of chicken paws, frozen chicken cuts, and offal.

[101] USTR, "United States Files WTO Case Against China to Protect American Jobs," Press release September 2011.

[102] eFeedlink.com, U.S. poultry exports to Angola on the rise, October 8, 2012, http://www.efeedlink.com/contents/10-08-2012/3bfce207-ce4a-4758-97ee-c141c2a046c2-b621.html, (accessed February 14, 2013).

[103] USDA, FAS, "Market Access Program (MAP)," June 2011.

[104] USAPEEC, International offices, http://www.usapeec.org/international'offices.cfm (accessed February, 20, 2013).

[105] Unless otherwise specified, the data in "Principal Markets" are for poultry meat.

[106] USITC, DataWeb (accessed February 20, 2013).

The pattern of U.S. poultry meat exports to China and Hong Kong has varied over time. U.S. firms started to export poultry directly to China beginning in the 1990s.[107] However, before 2005, poultry entered China through Hong Kong because it was difficult to ship directly to China owing to poor internal transportation and high tariffs. During 2006–09, the United States exported substantially more poultry directly to China than via Hong Kong. U.S. poultry exports to Hong Kong fell sharply during 2005–07 before increasing slightly in 2008 and 2009 due to competitive U.S. prices, increased transshipments to Macao and Taiwan through Hong Kong, and a sharp decline in imports from the EU and Argentina, thereby raising the demand for U.S. and Brazilian product.[108] In 2010, the pattern shifted again, as the value of direct shipments to China plummeted by 75 percent following the imposition of AD/CV duties[109] on U.S. poultry, and exports to Hong Kong rose by 269 percent.[110] Between 2010 and 2011, U.S. poultry meat exports to Hong Kong increased another 21 percent by value.[111] In 2012, this pattern reversed, with a sharp decline in U.S. poultry exports to Hong Kong, partially offset by an increase of direct exports to China. China's imports of U.S. poultry rose because import prices from alternative sources (in South America) rose high enough that some Chinese importers were willing to pay the AD/CV duties for higher quality U.S. product.[112]

Growth of direct and indirect U.S. poultry exports to China was spurred by increased consumer demand resulting from rising personal incomes and cultural changes, particularly increased dining out at fast-food restaurants, such as Kentucky Fried Chicken (KFC) and McDonald's.[113] Additionally, from 2007 to 2009, poultry consumption rose in response to lower production and consumption of pork following an outbreak of blue-ear disease in Chinese swine herds.[114]

Mexico

U.S. poultry meat exports to Mexico increased significantly, with most of the increase occurring since 2010. U.S. poultry meat exports to Mexico were $995 million in 2012, 132 percent higher than in 2006.[115] During 2006–12, Mexico accounted for about 15 percent by value of all U.S. poultry meat exports, purchasing mostly chicken leg quarters, mechanically deboned chicken, and fresh or chilled turkey cuts/offal. In that period, approximately 38 percent by value of Mexican poultry imports from the United States was turkey, making Mexico the largest importer of U.S. turkey meat.[116] Turkey was primarily imported as an ingredient by the Mexican cold-cuts industry for products such as turkey ham.[117]

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[107] In 2004, a quarantine law to crack down on poultry smuggling from Hong Kong made it more difficult to transship poultry to China from Hong Kong. USDA, FAS, *China: Annual Poultry Report*, September 24, 2004, 3; USDA, FAS, *China: Poultry and Products*, February 1, 2005, 3.

[108] Industry representative, e-mail to USITC staff, November 11, 2009.

[109] USTR, "United States Files WTO Case Against China to Protect American Jobs," September 2011.

[110] According to industry and government officials, when poultry products are restricted from directly entering China, they will enter China through "grey" channels (primary through routes in Vietnam or Hong Kong). This is true of product from all countries. USITC, *China's Agricultural Trade*, March 2011.

[111] USITC, DataWeb (accessed February 11, 2013). Based on data rounded to thousand dollars.

[112] USDA, FAS, *China: Poultry and Products Annual*, September 18, 2013, 3-4.

[113] USITC, *China's Agricultural Trade*, March 2011.

[114] USITC, *China's Agricultural Trade*, March 2011, 2-7, 3-3; USDA, FAS, *China: Poultry and Product*, March 1, 2008, 3; USDA, FAS, *China: Poultry and Products*, September 1, 2008, 5.

[115] USITC, DataWeb (accessed February 11, 2013). For further details on why imports from the U.S. increased, see Foreign Industry Profiles: Net Importers: Mexico, below.

[116] One-quarter by volume. GTIS, GTA database (accessed August 29, 2013).

[117] USDA, FAS, *Mexico: Poultry and Products*, September 2, 2008, 14. Domestic pork and imported turkey meat are mixed to make the hams.

The United States was Mexico's largest poultry supplier during 2006–12, accounting for almost 90 percent of the import market value annually.[118] However, Mexico also diversified its import suppliers by increasing its purchases from Chile.[119] Chilean poultry is attractive to Mexican buyers because it enters at a zero tariff rate, is competitively priced, and is suitable for processing by producers willing to use frozen product.[120]

Canada

Canada accounted for about 11 percent of total U.S. poultry meat exports during 2006–12, and U.S. exports of poultry meat to Canada trended upward during the period. In 2012, U.S. poultry meat exports to Canada reached a record $584 million, an 83 percent increase from 2006, consisting mostly of fresh or chilled chicken cuts/offal and frozen other prepared chicken meat.

Canada has imposed a tariff-rate quota (TRQ) system on chicken and turkey meat, hatching eggs and chicks, and eggs that limit in-quota shipments to its ceiling under either WTO commitments or NAFTA, whichever is higher.[121] However, at least two types of poultry imports are exempt from the TRQs. Under Canada's Import to Re-Export Program (IREP), duty-free access is granted to certain poultry meat for further processing, provided the finished product is exported.[122] Most of the poultry entering Canada under its IREP was subsequently re-exported as finished products to the United States. Supplementary import permits allow permit holders to import poultry duty-free, and Canada regularly increases the number of supplementary import permits it issues under the IREP.[123] In addition, spent layers are not subject to Canada's TRQ system. Overall, although Canada's TRQ for chicken was 77,000 mt in 2012, it is estimated that Canada imported from all countries about twice that amount duty-free.[124] That year, Canada imported about 81,000 mt of chicken meat from the world that were not subject to a tariff under the Canadian TRQ system.[125]

Russia

Between 2006 and 2009, Russia was the largest export market for U.S. poultry meat, accounting for an average of about 19 percent of U.S. exports annually during those four years.[126] However, U.S. exports of poultry meat to Russia fell sharply in 2010, and fell

[118] GTIS, GTA database (accessed August 28, 2013).

[119] USDA, FAS, *Mexico: Poultry and Products*, September 24, 2007; USDA, FAS, *Mexico: Poultry and Products*, September 2, 2008. Chile supplied 9 percent of Mexico's poultry meat imports on average in 2006–12. GTIS, GTA database (accessed August 28, 2013).

[120] The majority of turkey that Mexico imported from the United States is fresh or chilled, while most product from Chile is frozen. The United States can ship fresh or chilled turkey to Mexico because of the proximity of the two countries, and Mexican producers are used to processing both types of products. GTIS, GTA database (accessed August 28, 2013).

[121] Under its WTO agreement Canada's TRQs are 7.949 million hatching eggs and chicks, 39.9 million kg of eviscerated chicken, 5.6 million kgs of eviscerated turkey, and 21.4 million dozen eggs. Under NAFTA, Canada's TRQs are 21.1 percent of anticipated current-year production for hatching eggs and chicks, 7.5 percent of the previous-year production for chicken, 3.5 percent of anticipated current-year production for turkey, and 2.988 percent of the previous-year production for eggs and egg products. Agriculture and Agri-Food Canada, "Canada's Poultry Import Regime" (accessed August 15, 2011).

[122] USDA, FAS, *Canada: Annual Poultry Report, 2008*, September 2, 2008, 3, 8. Processing usually entails adding marinates and flavor.

[123] USDA, FAS, *Canada: Annual Poultry Report, 2008*, September 2, 2008, 3, 8; USDA, FAS, *Canada: Annual Poultry Report, 2009*, August 31, 2009, 6–7.

[124] USDA, FAS, *Canada: Poultry and Product Annua*l, August, 2012, 2.

[125] Ibid., 10.

[126] By value. Almost all exports were frozen, and chicken leg quarters were the most exported item.

further in 2011 after Russia banned imports of poultry meat treated with a chlorinated rinse. In 2010 Russia was the fourth-largest U.S. export market, purchasing only about 8 percent (by value) of total U.S. poultry meat exports. Some industry analysts view the ban was imposed not for sanitary concerns, but rather as part of a drive by the government to achieve national self-sufficiency in poultry production.[127] Due to such measures, U.S. poultry meat faced greater competition from domestic poultry than from imports sourced from other foreign suppliers in the Russian market.

Foreign Trade Measures in Principal Markets

China

During 2006–12, U.S. poultry exports to China were affected by AD/CV duties and nontariff measures (NTMs). In April 2009, China initiated AD and CV duty investigations against U.S. chicken, which resulted in the imposition of company-specific AD duties ranging from 50.3 to 105.4 percent ad valorem, plus CVD from 4 to 30.3 percent ad valorem, on U.S. poultry meat products in 2010.[128] In September 2011, the United States requested consultations with China under the WTO Dispute Settlement mechanism, about these determinations.[129] These consultations failed to resolve the dispute, and as a result the United States requested in December 2011 the formation of a WTO dispute resolution panel which was formed in January 2012.[130] In August 2013, the WTO dispute settlement panel found that China violated numerous WTO obligations in conducting its investigations and imposing AD and DVD duties on chicken imports from the United States.[131] China did not appeal the decision and is now entitled to a period of time to bring itself into compliance with its WTO obligations.[132]

During 2006–12, China banned imports of U.S. poultry that were produced in, or shipped through, some U.S. states because of the presence of low pathogenic avian influenza (LPAI).[133] While China has lifted bans on some states, as of early 2013, bans were still in

[127] USDA, FAS, *Russian Federation: Chlorine Ban Postponed until January 1, 2010*, December 29, 2008; USDA, FAS, *Russian Federation: Chlorine Use in Poultry Production Banned*, July 1, 2009; USTR, *2009 National Trade Estimate Report*, March 2009, 418; USTR, *2010 National Trade Estimate Report*, March 2010, 311–13; WattAgNet, "Russia to Ban US Imports," September 14, 2009; Schwirtz, "Russia Seeks to Cleanse Its Palate," January 19, 2010; USDA, FAS, *Russian Federation: Big Moves to Self-Sufficiency*, April 6, 2010, 1–2, 4–6. See "Foreign Industry Profiles" for more detail on Russia tariffs and barriers to trade.

[128] DOC, U.S. Products Subject to Foreign Antidumping and Countervailing Duty Measures: China, http://ia.ita.doc.gov/trcs/foreignadcvd/china.html. AD and CV duties are cumulated. The investigation included the following Harmonized Schedule (HS) numbers: 0207.11.00, 0207.12.00, 0207.13.11, 0207.13.19, 0207.13.21, 0207.13.29, 0207.14.11, 0207.14.19, 0207.14.21, 0207.14.22, 0207.14.29, and 0504.00.21. USTR, "United States Files WTO Case Against China to Protect American Jobs," September 20, 2011.

[129] USTR, "United States Files WTO Case Against China to Protect American Jobs," September 20, 2011.

[130] USTR, "To Protect American Jobs, United States Announces Next Step," December 2011.

[131] USTR, "United States Wins Trade Enforcement Case for American Farmers, Proves Export-Blocking Chinese Duties Unjustified Under WTO Rules," Press release Aug. 2013.

[132] USTR, "World Trade Organization Adopts Report Ruling in Favor of the United States in Chicken Products Trade Dispute with China," Press release Sept. 2013.

[133] USTR, *2012 Sanitary/Phytosanitary Report*, March 2012; USDA, FSIS, *Export Requirements for People's Republic of China*, December 23, 2010; USTR, *2010 Report on Sanitary and Phytosanitary Measures, 2010*, 35. The World Organisation for Animal Health (OIE) distinguishes between LPAI and HPAI. Under OIE rules, both types of AI must be reported, but OIE guidelines require member countries to permit imports of poultry from a country, zone, or compartment that has LPAI but is free of HPAI.

effect for poultry producers in Arkansas, New York, and Virginia.[134] In the view of U.S. officials, China's ban on the basis of the presence of LPAI appears to be contrary to the internationally accepted standard.[135] China also restricted U.S. access to its market through the intermittent application of a zero-tolerance pathogen standard on U.S. poultry for salmonella, E. coli, and listeria. According to the Office of the United States Trade Representative (USTR), China's standard is not based on scientific principles, nor is it consistently applied.[136] Moreover, USTR maintains that China does not appear to apply this to its domestically-produced poultry meat.[137]

The Chinese government monitors poultry imports through Automatic Registration Forms (ARFs).[138] An importer must obtain an ARF from China's Ministry of Commerce (MOFCOM), but only certain entities in China are eligible to apply for an ARF.[139] The purported purpose of the ARF is to gather information, thus enabling the Chinese government to monitor the amount of poultry being imported.[140] However, two problems have reportedly arisen from China's administration of ARFs: the ARF does not always appear to be issued automatically, and reportedly, the ARF has been used to slow the entry process during periods of trade tension, such as after the U.S. imposition of safeguard import duties on Chinese tires in 2009.[141] Additionally, when the ARF for poultry was first established, only 73 entities, many of them not poultry importers, were allowed to receive an ARF. As of 2010, U.S. industry officials stated that about 200 entities had access to an ARF to import poultry, but the updated list of companies had not been made public.[142]

Mexico

Although Mexican imports of U.S. chicken leg quarters were subject to TRQs from mid-2003 to year-end 2007, all U.S. poultry has entered Mexico duty-free since January 1, 2008. Periodically during 2006–12, however, Mexico imposed poultry import bans on different U.S. states and counties or third counties due to LPAI outbreaks.[143] On February 8, 2011, Mexico's Secretariat of the Economy announced that it had initiated an AD investigation of U.S. chicken products covered under Harmonized Schedule (HS) numbers 0207.13.03 and 0207.14.04, which include chicken leg quarters and thighs.[144] In August 2012, the Mexican government announced both the investigation's final AD rates

[134] USDA, FSIS, *Export Requirements for People's Republic of China*, January 3, 2012; Johnston, "China lifts bans on Texas, Penn. Poultry," April 23, 2013.

[135] USTR, *2012 Sanitary/ Phytosanitary Report*, March 2012, 33; USTR, *2009 National Trade Estimate Report*, March 2009, 95; USTR, *2010 Report on Sanitary and Phytosanitary Measures*, 2010, 35.

[136] USTR, *2012 Sanitary/Phytosanitary Report*, March 2012, 33.

[137] USTR, *2012 Sanitary/Phytosanitary Report*, March 2012, 33; USITC, *China's Agricultural Trade*, March 2011, 9-7.

[138] USITC, *China's Agricultural Trade*, March 2011, 9-11.

[139] Many of these entities were, reportedly, not themselves poultry importers, but instead sold the import permits to traders, imposing an additional cost on imports. USDA, FAS, *China: FAIRS Export Certificate Report*, December 7, 2009, 8; industry official, interview by USITC staff, Hong Kong, September 20, 2010.

[140] Industry representative, interview by USITC staff, Hong Kong, September 20, 2010.

[141] USITC, *China's Agricultural Trade*, March 2011, 9-11.

[142] USITC, *China's Agricultural Trade*, March 2011, 9-11; industry representative, interview by USITC staff, Hong Kong, September 20, 2010.

[143] See e.g., USDA, FAS, *Mexico: Poultry and Products*, September 2, 2008, 11; USDA, FAS, *Mexico Bans Poultry*, April 17, 2009; USDA, FAS, *Mexico Bans Poultry Products from Polk County*, April 8, 2011.

[144] USDA, AMS, *International Egg and Poultry Review*, February 7, 2011. HS 0207.13 covers fresh and chilled product. HS 0207.14 covers frozen product. Mexico receives more fresh or chilled product than other countries importing U.S. poultry. Most, if not all, of the exports to Russia and China are frozen. See Mexico's tariff schedule available at: http://www.siicex-caaarem.org.mx/

ranging from 25.7 percent ad valorem to 127.5 percent ad valorem, depending on the company.[145] However, the Mexican government also announced that, due to a high pathogen avian influenza (HPAI) outbreak in the state of Jalisco, AD duties will not be imposed until further notice.[146] As of August 2013, the AD duties still had not been imposed on U.S. broiler imports because further HPAI outbreaks occurred in Jalisco and other Mexican states in 2013.

Canada

Canada maintains TRQs for many poultry products. All U.S. poultry products subject to the TRQ that enter Canada within the quota limits have a zero tariff,[147] and imports in excess of those quota levels are subject to tariff rates between 154.5 percent and 253 percent ad valorem.[148] The TRQs, which Canada uses to help manage supply of chicken and turkey, limit the ability of U.S. producers to increase exports to Canada.[149]

Russia

Russia maintains a number of measures which effectively restrict imports of U.S. poultry. Russia has reduced its in-quota TRQ ceilings between 2008 and 2012, thereby reducing the quantity of poultry imports eligible to enter at lower in-quota tariff rates, in an effort to reduce poultry imports to promote domestic self-sufficiency in poultry production.[150] In 2010, the in-quota tariff stood at 25 percent ad valorem and the over-quota tariff rate was 95 percent ad valorem but not less than €0.80 ($1.06) per kg.[151] In addition to tariffs, poultry imports are subject to a value-added tax (VAT) of 18 percent ad valorem on the cost, insurance, and freight (CIF) value plus duty price, and a "customs procedure fee" (for processing a customs entry) of 0.15 percent of the CIF value of the shipment.[152] In 2012, Russia divided its single global poultry TRQ into three separate TRQs, two of which are global and a third which provides country-specific allocations mainly to the EU.[153]

Some NTMs also restrict access of U.S. poultry to the Russian market. In 2010, Russia banned entry of poultry treated with a chlorine rinse to reduce pathogens. Although this ban applied to chlorine-washed poultry from all countries, it primarily affected the United States where this PRT practice is standard. Russia subsequently approved an export certification system in mid-2010 for U.S. poultry treated other than with chlorine.[154] In 2010 and 2011, Russia also banned the use of frozen poultry in a number of specialty

[145] The Poultry Site, CME: "US/Mexico Anti-Dumping Saga Continues," August 8, 2012. The AD rate of 25.7 percent ad valorem applies to Simmons, Tyson, Sanderson, and Pilgrim's Pride, while all other U.S. companies will be assessed at the 127.5 percent ad valorem rate.

[146] The Poultry Site, CME: "US/Mexico Anti-Dumping Saga Continues," August 8, 2012.

[147] CBSA, Customs Tariff, August 17, 2011.

[148] Products also have a minimum tariff rate, either a price per kg or a price per bird, which varies by product.

[149] USTR, *2012 National Trade Estimate Report*, March 2012, 53

[150] USDA, FAS, *Russian Federation: Poultry Semi-Annual Report; 2009*, March 13, 2009, 9. See "Foreign Industry Profiles" for further details on Russia's tariffs, TRQs, and NTMs.

[151] U.S. government official, e-mail to USITC staff, April 22, 2011; IMF, Exchange Rate Query Tool (accessed December 21, 2011).

[152] AriVist.com, "Customs Clearance in Russia" (accessed August 3, 2011); Management Dynamics, "Country Summaries: Russia," January 24, 2008; USAPEEC, "Russia: Tariffs and Quantitative Restrictions for Poultry" (accessed September 15, 2009).

[153] USTR, *2012 National Trade Estimate Report*, March 2012, 324.

[154] Bottemiller, "Russia Agrees to Lift Ban," June 25, 2010; USDA, FAS, *Russian Federation: Russia Resumes Imports*, September 21, 2010.

products, including baby foods and diet foods.[155] These restrictions go beyond the normal regulations affecting frozen-food imports, which set an upper limit on the amount of water in frozen and chilled chicken.[156] Russia claims that these bans were enacted for health and safety reasons, but U.S. industry officials view the ban as lacking scientific basis, and view it as another effort to promote self-sufficiency in poultry.[157]

U.S. Imports

Import Levels

Between 2006 and 2012, the value of U.S. imports rose sharply, but remained at low levels compared with the value of U.S. exports. In 2012, major imported items were fresh, chilled, or frozen poultry (53 percent); prepared and preserved poultry (35 percent); and live birds (12 percent). U.S. imports of fresh, chilled, or frozen poultry grew 130 percent in 2006–12, rising from $87 million to $200 million (table 11). A $98 million increase in imports of chicken cuts, mostly frozen, accounted for the majority of this growth. Growth in imports of poultry cuts was partially offset by a 36 percent decline in imports of whole chickens, turkeys, and "other poultry" during 2006–12. U.S. imports of prepared or preserved poultry grew more slowly than those of uncooked poultry, increasing 68 percent between 2006 and 2012.[158] During 2006–10, U.S. imports of live birds increased by only 2 percent. However, between 2010 and 2012 U.S. imports of live birds grew 43 percent from 2010 levels. Almost one-half of U.S. imports of live poultry were birds (other than chickens) not over 185 grams (6.5 ounces) in weight.

Principal Suppliers

Between 2006 and 2012, the vast majority of U.S. poultry meat[159] imports came from Canada, reflecting a number of factors, including: a zero tariff rate under NAFTA, proximity to the U.S. market, and Canada's IREP for poultry meat to be further processed and re-exported as finished products.[160]

Until 2008, Mexico was the second-largest supplier of poultry meat to the United States. Like Canada, Mexico benefits from proximity to the U.S. market and a zero tariff under NAFTA. However, Mexico is currently a net poultry meat importer and is not a large exporter of poultry meat. Mexico's share of U.S. imports declined from just under 10 percent of U.S. imports in 2006 to 4 percent during 2010–12 (in terms of both volume and value) (table 12).

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[155] USDA, FAS, *Russian Federation: Poultry Annual Report; 2008*, September 15, 2008, 1; USDA, FAS, *Russian Federation: Frozen Poultry Use, December 29, 2010*; USDA, FAS, *Russian Federation: Big Moves to Self-Sufficiency*, April 6, 2010, 8; USDA, FAS, *Russian Federation: Frozen Poultry Use*, December 29, 2010.

[156] USTR, *2009 National Trade Estimate Report*, March 2009, 418.

[157] USDA, FAS, *Russian Federation, Frozen Poultry Use*, December 29, 2010; Bottemiller, "Russia Agrees to Lift Ban," June 25, 2010; WattAgNet, "New Regulation Prohibits Imports of Poultry Meat Treated with Chlorine of a Certain Concentration," September 11, 2009; Schwirtz, "Russia Seeks to Cleanse Its Palate," January 19, 2010; USDA, FAS, *Russian Federation: Poultry Semi-Annual Report, 2009*, May 13, 2009.

[158] Prepared poultry products are covered by HTS headings 1602.31, 1602.32, and 1602.39.

[159] Based on HTS 0207, 1602.31, 1602.32, and 1602.39.

[160] Described in the "Canada" section below.

TABLE 11 Poultry: Composition of U.S. imports for consumption, by product type, 2006–12

Product	2006	2007	2008	2009	2010	2011	2012
	Value (thousand dollars)						
Live chicken, not over 185 grams	7,643	7,623	7,224	7,240	10,364	11,895	10,728
Live poultry, other than chicken, not over 185 grams	13,749	17,310	15,641	15,373	12,172	15,391	23,123
Live chicken, over 185 grams	331	243	191	327	323	248	912
Live poultry, other than chicken, over 185 grams	8,586	7,100	7,148	7,071	8,207	7,702	9,614
Total poultry, live	30,309	32,276	30,204	30,011	31,066	35,236	44,377
Chickens, whole	13,077	12,490	14,518	13,635	8,878	5,200	9,968
Turkeys, whole	4,695	4,361	2,082	295	155	471	1,369
Other poultry, whole	4,861	4,498	4,103	3,207	2,959	3,240	3,177
Chickens, cuts and offal	55,859	97,531	113,400	120,477	134,517	131,819	154,141
Turkeys, cuts and offal	4,473	7,588	10,818	15,608	22,896	22,695	24,280
Other poultry, cuts and offal	3,837	3,980	3,460	3,458	5,439	6,501	6,692
Total poultry, fresh, chilled or frozen	86,802	130,448	148,381	156,680	174,844	169,926	199,627
Goose liver	66	108	51	19	6	73	0
Animal livers, other than goose liver, prepared or preserved	2,958	2,454	2,250	2,581	2,768	2,913	3,146
Turkey meals and meat (except liver), prepared or preserved	11,423	13,340	11,983	2,753	5,853	6,722	6,196
Poultry, other than turkey, meals & meat (except livers) prepared or preserved	62,377	64,095	63,560	71,333	86,084	95,225	119,760
Total poultry, prepared or preserved	76,824	79,997	77,844	76,686	94,711	104,933	129,102
Total poultry	193,935	242,720	256,429	263,377	300,621	310,095	373,106
	Percent						
Share of total							
Live	15.6	13.3	11.8	11.4	10.3	11.4	11.9
Fresh, chilled or frozen	44.8	53.7	57.9	59.5	58.2	54.8	53.5
Poultry, prepared or preserved	39.6	33.0	30.4	29.1	31.5	33.8	34.6

Source: USITC, DataWeb (accessed March 1, 2011, February 13, 2013, September 27, 2013).

TABLE 12 Poultry meat: U.S. imports for consumption, by principal markets, 2006–12

Country	2006	2007	2008	2009	2010	2011	2012
	Value (thousand dollars)						
Canada	142,578	181,461	194,817	189,061	205,148	206,391	239,893
Chile	0	0	2,850	22,139	42,008	45,508	64,937
Mexico	15,814	19,875	19,079	12,337	11,793	11,773	12,840
Israel	1,229	5,356	6,353	6,823	7,795	8,149	7,690
All other	981	1,191	826	406	37	50	12
Total	160,602	207,883	223,924	230,766	266,781	271,871	325,372
	Quantity (thousand kilograms)						
Canada	52,137	60,722	66,255	63,820	66,515	63,135	66,018
Chile	0	0	1,062	8,321	13,869	15,897	20,156
Mexico	5,474	7,004	6,699	3,517	3,356	3,414	3,248
Israel	252	842	952	1,006	1,040	1,089	963
All other	401	125	77	43	2	6	4
Total	58,264	68,693	75,045	76,707	84,782	83,541	90,389

Sources: USITC, DataWeb (accessed October 28, 2013).

Chile obtained access to the U.S. market in December 2007, when the FSIS determined that Chile's poultry meat inspection system was equivalent to that in the United States.[161] The first shipments of Chilean poultry meat entered the United States in 2008, with imports amounting to $2.9 million that year. By 2012, imports rose to $64.9 million, accounting for about 20 percent of all U.S. poultry meat imports in terms of value and 22 percent of volume.

U.S. Trade Measures

Tariff Measures

U.S. tariffs on poultry imports generally are low.[162] For example, in 2012, the ad valorem equivalent tariff was less than 0.5 percent on live birds; less than 3 percent on fresh, chilled, or frozen whole birds; and about 7 percent on poultry cuts. In addition, most U.S. poultry imports are sourced from countries with free trade agreements with the United States, so dutiable imports are negligible.

Nontariff Measures

U.S. imports of live poultry and poultry meat are subject to the PPIA, as amended, and as administered by the USDA's FSIS.[163] These regulations require that poultry meat imports be healthful, wholesome, and fit for human consumption, and that they comply with any standards, rules, and regulations that apply to domestic like products (U.S.-produced poultry meat). Poultry and poultry products may be imported only from countries and plants whose output FSIS considers equivalent in safety to U.S.-produced foods, based on the application of sanitary measures that protect against food hazards.[164] Additionally, countries may not ship product to the United States if they have been restricted by the USDA's Animal and Plant Health Inspection Service (APHIS) due to the presence of certain poultry diseases—such as HPAI—in their flocks. APHIS also requires that live poultry imports from all countries, except Canada, be quarantined for 30 days and be tested for communicable poultry diseases;[165] Canadian live poultry need only be accompanied by a veterinary certification that is less than 30 days old. As of early 2013, the only five countries approved to export both raw and processed poultry meat to the United States were Canada, Chile, France, Mexico (with certain restrictions), and the United Kingdom.[166]

[161] Eligibility of Chile to Export Poultry and Poultry Products to the United States, 72 Fed. Reg. 61793 (November 1, 2007).

[162] HTSUS subheadings and rates of duty applicable to U.S. imports of live poultry, poultry meat, and prepared or preserved poultry meat covered by this summary are shown in appendix A.5.

[163] PPIA, 21 U.S.C. 451 (et seq.) (accessed November 2, 2009).

[164] USDA, FSIS, "Regulations & Policies Equivalence Process" (accessed November 2, 2009).

[165] For further detail see USDA, APHIS, "Animal and Animal Product Import: Live Poultry," (March 6, 2012).

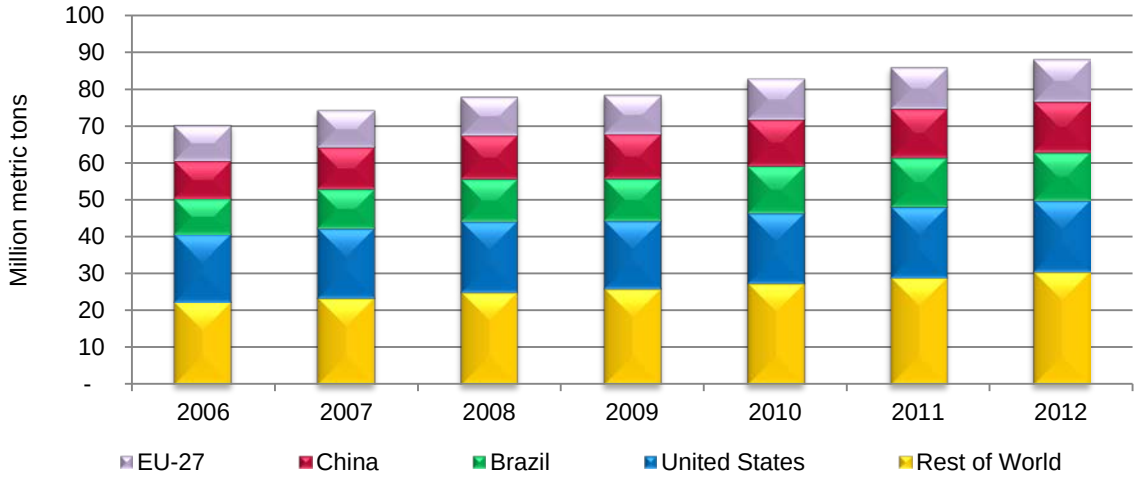
[166] USDA, FSIS, "Countries/Products Eligible for Export to the United States," May 1, 2013. In addition, Australia and New Zealand are approved to export raw and processed ratite (flightless bird) meat, but no other types of poultry meat.

Foreign Industry Profiles

Overview

Although poultry[167] is widely produced throughout the world, a few countries account for the bulk of global production. The top four poultry producers—the United States, China, Brazil, and the EU—together accounted for about 67 percent of global production in 2006–12 (figure 8).[168] In 2006–12, the United States accounted for approximately one-quarter of global production, China and Brazil each accounted for about 15 percent, and the EU for 13 percent (figure 8 and appendix A table A.1). The United States, China, the EU, and Brazil are also the largest poultry consumers, together accounting for about 60 percent of total consumption in 2006–12 (appendix A table A.2).[169] The next four largest consumers—Mexico, Russia, India, and Japan—together accounted for about 14 percent of global consumption.[170]

FIGURE 8 Global production of poultry meat was highly concentrated in 2006–12



Source USDA, FAS, PSD Online database, (accessed August 20, 2013).

Since the world's major consumers are also its major producers, international poultry trade as a share of production is small between 2006 and 2012, approximately 11 percent of global production was traded. Global exporters were highly concentrated, with the United States and Brazil accounting for almost three-quarters of such exports during the period, and the EU (the third-largest exporter) accounting for about 11 percent (appendix

[167] In this section poultry refers to meat, not live birds.

[168] Production, consumption, export, and import figures in this section are for chicken and turkey. USDA, FAS, PSD Online (accessed August 20, 2013).

[169] Respectively, the United States, China, the EU, and Brazil accounted for 20 percent, 15 percent, 13 percent, and 11 percent of consumption. USDA, FAS, PSD Online (accessed August 20, 2013).

[170] Mexico, Russia, India, and Japan each accounted for between 3 and 4 percent of global production. USDA, FAS, PSD Online (accessed August 20, 2013). Unlike, Mexico, Russia, and Japan, India does not import fresh, frozen, or chilled poultry. India has sanitary and phytosanitary (SPS) barriers and other NTMs that bar poultry imports from the United States and several other countries. USITC, *India: Effects of Tariffs and Non-tariff Measures*, November 2009, iii, 2-5.

A table A.3). The fourth-largest exporter, Thailand, is the only major exporter that is not a major producer. Both Brazil and Thailand have highly export-oriented poultry industries. China, which is a much larger producer than Thailand, was the fifth-largest global exporter. Both Thailand and China accounted for about 4 percent of poultry exports in 2006–12.

Global imports became less concentrated between and 2006 and 2011. The share of global imports by the top five markets—the EU, Japan, Mexico, Saudi Arabia, and Russia—declined from over one-half in 2006 to 43 percent in 2012 due to a drop in imports by Russia, related to actions aimed at reducing its import dependency (appendix A table A.4).[171] The type of poultry product imported differs among importing countries. For example, China was a major global market for chicken paws, and Russia was a principal buyer of dark meat, mainly in the form of chicken leg quarters. Moreover, Saudi Arabia and other Islamic countries usually import *halal* poultry products.[172]

During 2006–12, there were a small number of major poultry trade flows. These included the United States supplying Russia, China, Mexico, and Canada, while Brazil supplied Saudi Arabia, Japan, Hong Kong, and the EU (figure 9).

Global Net Exporters

Brazil

Global Position

Brazilian poultry production grew 36 percent between 2006 and 2012 (table 13). As a result of its rapid increase in production in 2006, Brazil surpassed the EU to become the third-largest poultry producer in the world. Brazil held this position for most of 2006–12, although in 2010 and 2011, it took China's spot as the second-largest producer after the United States (appendix A table A.1). Overall, Brazil is home to three of Latin America's largest poultry producers: Brazil Foods (BRF), Marfrig Frigorificos e Comercio de Alimentos S.A. (Marfrig), and Doux Frangosul S/A Agro Avicola Industrial (Doux Frangosul).[173] Even with a 39 percent rise in consumption between 2006-2011,[174] Brazil's domestic poultry production was more than sufficient to meet its domestic consumption needs. Brazil imported only nominal amounts of poultry during 2006–12.

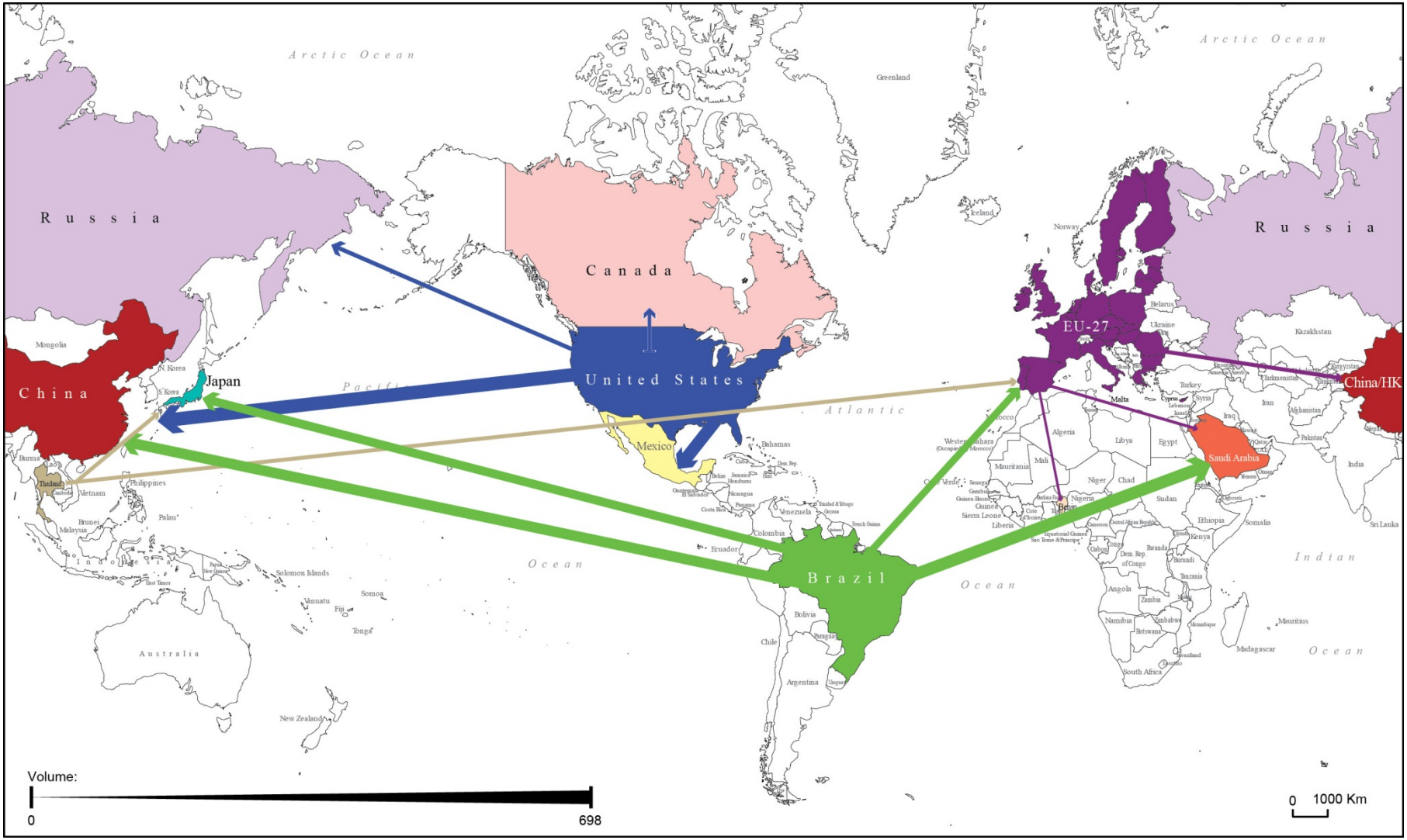
[171] The top five importers for most, although not all, of 2006–12 were EU, Japan, Mexico, Saudi Arabia, and Russia.

[172] *Halal* is the Arabic word meaning "lawful" or "permitted." Although there are currently no universal *halal* food production standards or certifications, broadly, *halal* refers to food that is produced in accordance with Islamic law. See, for example, USDA, FAS, *Indonesia: Approved U.S. Halal Certifying Bodies*, March 22, 2011; USDA, FAS, *Malaysia: Poultry and Products Annual*, September 2, 2005, 7–9; USDA, AMS, *International Egg and Poultry Review*, June 26, 2007.

[173] Clements, "Latin America's Top Poultry Producers," December 2010, 25. In 2007, the five largest Brazilian poultry companies were expected to account for 41 percent of all Latin American production. The share of production by the top producers has probably grown as the industry has further consolidated since 2007. The two largest Brazilian poultry companies, Sadia and Perdigão, merged to form BRF in 2009, although the deal did not receive final approval until mid-2011. In January 2010, Marfrig finalized its takeover of Seara Alimentos, which was one of the top five poultry producers in Brazil. Shane, "Has the 'Brazilian Giant' Stumbled?" January 2007, 20; WattAgNet, "Perdigão Combines with Sadia to Form Brasil Foods," May 19, 2009; WattAgNet, "Marfrig," (accessed March 7, 2010).

[174] Brazil's consumption fell by 3 percent between 2011 and 2012.

FIGURE 9 There are a small number of major poultry meat trade flows, as demonstrated by world trade in 2011 (thousand metric tons)



Source: Compiled by USITC staff; GTIS, GTA database (accessed July 10, 2011).

TABLE 13 Brazil: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	9,708	10,763	11,498	11,489	12,797	13,352	13,155
Consumption	7,050	7,665	8,053	8,104	9,368	9,770	9,494
Exports	2,658	3,099	3,446	3,386	3,430	3,584	3,663
Imports	0	1	1	1	1	2	2
Trade balance	2,658	3,098	3,445	3,385	3,429	3,582	3,661

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

[a]Based on broiler and turkey meat exports.

For most of 2006–12, Brazil was the world's largest poultry exporter (by volume) (appendix A table A.3). The exception was in 2008, when it was the second-largest exporter after the United States. On average, Brazil accounted for approximately 37 percent of global poultry exports annually in 2006–12, and Brazilian poultry export grew 38 percent during the period. Brazil primarily exports frozen whole chickens or frozen chicken cuts.[175] During 2006–12, on average over 50 percent of Brazil's poultry exports were destined for five markets: Saudi Arabia, Japan, the EU, Hong Kong, and the United Arab Emirates.[176]

Factors Affecting Trade

One of Brazil's most important competitive advantages as an exporter is its product differentiation.[177] For example, it has developed export-oriented complexes[178] that focus on "feed formulation" and bird size to meet preferences in different overseas markets. It also has a complete *halal* system for production and slaughter, which has allowed Brazil to become a major supplier to Islamic countries. Brazil's focus on producing for the foreign consumer differs from the approach taken by most U.S. companies. U.S. firms primarily focus on exporting products, such as chicken legs and feet, that are in low demand domestically and therefore can be sold for higher prices in foreign markets.

Brazil has other competitive advantages, including (1) an abundant supply of grains for feed; (2) sufficient availability of both water and labor; (3) relatively low labor costs compared with those of the United States and the EU (although they have risen in recent years and are becoming less of an advantage); (4) freedom from AI, unlike the United States; (5) sophisticated processing lines used by leading companies to produce different poultry cuts and prepared dishes; (6) diversified poultry exports that are not highly dependent on specific markets; and (7) high-quality and attractively packaged products. [179] Additionally, the Brazilian poultry industry benefits from government

[175] GTIS, GTA database (accessed August 27, 2013). GTIS data are based on all poultry exports (not just turkey and broiler meat). Unless otherwise noted, all GTA database calculations are based on quantity.

[176] GTIS, GTA database (accessed August 27, 2013).

[177] USITC, *Brazil: Competitive Factors*, April 2012, 8-13–8-15.

[178] Feed mills, grow-out farms, and processing facilities.

[179] USDA, ERS, "Brazil's Booming Agriculture Faces Obstacles," November 2006; USDA, FAS, *Brazil: Poultry and Products; Annual Report 2004*, August 31, 2004, 3; USDA, FAS, *World Poultry Overview*, November 2005; Thornton, "Chicken Executives Upbeat on 2011," December 2010, 18–19; Shane, "Has the 'Brazilian Giant' Stumbled?" January 2007, 21; industry representatives, telephone interview by USITC staff, June 15, 2011; The PoultrySite.com, "BRF Starts Further Processing Plant in the Middle East," August 15, 2011; industry representatives, interview by USITC staff, São Paulo, Brazil, August 25, 2011.

policies—especially the biggest companies, which receive the largest share of assistance. Relevant government programs for the poultry industry include tax exemptions and special access to financing and credit—e.g., subsidized loans through the National Bank for Economic and Social Development ("BNDES") and programs to provide cash advances for export sales to reduce exporting costs.[180]

There are also factors that hinder Brazil's competitiveness, including (1) periodic appreciation of the Brazilian real against the U.S. dollar and the euro; (2) poor infrastructure, which increases the cost of transportation; (3) occasional incidence of Exotic Newcastle Disease;[181] and (4) market constraints in some foreign markets.[182] For example, the EU imposes import quotas on Brazilian poultry.

European Union

Global Position

The EU accounted for an average of about 13 percent of world production in 2006–12 (appendix A table A.1).[183] While the EU was the world's third-largest poultry producer before 2006, it fell to fourth place (behind China and Brazil) that year. Though EU production increased during 2006–12, its rate of growth remained slower than that of Brazil and China during 2006–12 (table 14).[184] Some of the largest poultry processors in the EU were the 2 Sisters Food Group (United Kingdom), Agricola Italiana Alimentare (AIA) S.p.A. (Italy), and Astenhof BV (Netherlands).[185] These and other EU poultry companies produce enough poultry meat to meet the vast majority of its domestic demand.

TABLE 14 European Union: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	9,598	10,110	10,424	10,551	11,148	11,270	11,530
Consumption[b]	9,503	10,136	10,414	10,511	10,865	10,899	11,089
Exports	813	750	847	871	1,063	1,184	1,240
Imports	718	776	837	831	780	813	799
Trade balance	95	(26)	10	40	283	371	441

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

Note: Negative numbers are in parentheses.

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

[180] USTR, *2009 National Trade Estimate Report*, March 2009, 41; USDA, ERS, "Brazil's Booming Agriculture Faces Obstacles," November 2006; Shane, "Has the 'Brazilian Giant' Stumbled?" January 2007, 23; USITC, *Brazil: Competitive Factors*, May 2012, 3-35.

[181] Due to these outbreaks the United States and Canada ban imports of fresh, chilled, and frozen poultry from Brazil.

[182] USDA, ERS, "Brazil's Booming Agriculture Faces Obstacles," November 2006; industry representatives, interview by USITC staff, São Paulo, Brazil, August 25, 2011; industry representatives, interview by USITC staff, Washington, DC, November 3, 2011; Shane, "Has the 'Brazilian Giant' Stumbled?" January 2007.

[183] The PSD Online data for the EU (shown in Appendix A and table 14) include data for Croatia, which became an EU member state in July 2013.

[184] The EU average annual production growth rate was 3 percent during 2006. Overall, EU production grew 20 percent between 2006 and 2012, compared with 36 percent for Brazil and 32 percent for China. Appendix A table A.1

[185] Clements, "European Producers Confront Mixed Outlook," October 2009, 18; *WATT Poultry USA*, "Challenges Continue for Top European Poultry Producers," December 2010, 32–35.

The EU was the third-largest consumer of poultry in the world in 2006–12, accounting for about 13 percent of global consumption (appendix A table A.2). Consumption grew 17 percent during this period, largely due to a 7 percent increase in 2006–07, as consumption rebounded from decreased demand following AI outbreaks in 2006. Between 2007 and 2012, EU poultry consumption grew at an average rate of about 2 percent per year, a more typical rate for a mature market.

EU exports rose 65 percent between 2007 (its lowest point) and 2012. During this period, the EU was the third-largest poultry exporter in the world (appendix A table A.3) and accounted for an average of 11 percent of world exports, substantially less than United States or Brazil. While the EU is a net exporter in most years, it was also one of the world's top three importers of poultry during 2006–12 (appendix A table A.4). Between 2006 and 2012, EU imports grew 11 percent and accounted for about one-tenth of global imports annually. These imports mostly consisted of cooked chicken and frozen boneless chicken cuts.[186]

Factors Affecting Trade

The competitive position of EU poultry exporters is supported by a safe, modern, and integrated production infrastructure and high production levels. Additionally, there are government programs to enhance EU firms' global competitiveness. For example, export refunds are granted under the EU's Common Agricultural Policy (CAP) to facilitate certain poultry exports.[187] The meat export refund program currently covers whole chickens sold primarily to the Middle East.[188] Poultry exporters also benefit from government programs and funding to control poultry diseases (e.g., AI and Exotic Newcastle Disease).[189]

Despite these positive factors, the EU poultry industry is less internationally competitive than its counterparts in the United States and Brazil. Indeed, despite increased exports since 2008, the European Commission (EC) anticipated that poultry exports would decline and imports would increase moderately, thus returning the EU to net importer status by 2020.[190] A number of long-term factors may also hurt the global competitiveness of the EU. Chief among these is the high cost structure of the EU poultry industry, which makes its products more expensive than those of many other countries.[191] In addition to high costs for feed, energy, labor, land, and capital,[192] regulations and laws

[186] GTIS, GTA database (accessed August 27, 2012).

[187] Europa, Agriculture and Rural Development, "Agricultural Markets: Poultry Meat," February 20, 2008; Europa, Agriculture and Rural Development, "The Export of Agricultural Products to Third Countries," December 17, 2008. Export refunds for "pigs, eggs, and poultry" totaled €201 million in 2008, up from €111 million in 2007. South Centre, *EU's Common Agricultural Policy*, March 2011, 9.

[188] The HS numbers covered are 0207.12.10.9900, 0207.12.90.9190, and 0207.12.90.9990. The countries covered are Angola, Saudi Arabia, Kuwait, Bahrain, Qatar, Oman, United Arab Emirates, Jordan, Yemen, Lebanon, Iraq, and Iran. EC, Commission Regulation (EC) "Fixing the Export Refunds for Beef and Poultry" (draft), March 17, 2011; government officials, e-mails to USITC staff, January 4, 2010, and April 6, 2011.

[189] Government official, e-mail to USITC staff, January 4, 2010; Europa, "Animal Diseases: Eradication and Monitoring Programmes; Legislation" (accessed July 15, 2011).

[190] EC, Directorate-General for Agriculture and Rural Development, *Prospects for Agricultural Markets and Income in the European Union 2008–2015*, March 2009; EC, Directorate-General for Agriculture and Rural Development, *Prospects for Agricultural Markets and Income in the EU 2010–2020*, December 2010, 27.

[191] Van Horne, *Production Costs of Broiler Meat*, 2009.

[192] EC, Directorate-General for Agriculture and Rural Development, *Prospects for Agricultural Markets and Income in the EU 2010–2020*, December 2010, 27.

that impact animal welfare (e.g., stocking densities, air temperature, moisture levels, and disease prevention) and seek to control the industry's impact on the environment also affect production costs.[193]

The EU does maintain a number of measures which restrict imports from other countries, thereby boosting the competitiveness of domestic poultry in the EU marketplace. These include TRQs on cooked chicken and turkey and on uncooked salted poultry, which were established in 2007.[194] Most of the TRQs are allocated to Thailand and Brazil, which typically fill their quotas.

The EU prohibits entry of poultry products from certain countries for sanitary reasons.[195] For example, the EU banned fresh, frozen, or chilled poultry from China and Thailand beginning in 2004 following AI outbreaks in those countries. In 2008, the EU began allowing some cooked meat from China to be imported.[196] The EU measure that most affects U.S. exports is an EC regulation that prohibits the import of poultry treated with any substance other than water unless that substance has been approved by the EC.[197] As a result, the EC prohibits the import of poultry that has been processed with chemical PRTs designed to reduce the amount of microbes on the meat, effectively prohibiting the shipment of virtually all U.S. poultry to the EU since 1997. In 2002, the United States asked the EC to approve the use of four PRTs in the production.[198] In June 2008, the EC Standing Committee on Food Chain and Animal Health rejected a proposal to allow the import of poultry treated with these four PRTs, and in December 2008, the EC Agricultural and Fisheries Council also rejected the proposal. In January 2009, the United States requested establishment of a WTO panel. A panel was established in November 2009. As of August 2013, the panel had not been composed.[199]

Thailand

Global Position

Thailand was among the top-five exporters, although its production was significantly lower than that of other major exporters and it was not among the top 10 global producers until 2012 (appendix A table A.1). Thai production accounted for approximately 2 percent of worldwide production annually during 2006–12. After falling in 2007, Thai production subsequently grew an average of 8 percent annually during 2007–12 (table 15).

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[193] USDA, FAS, *EU: Poultry and Products; Annual, 2005*, July 15, 2005, 8; USDA, FAS, *EU: Poultry and Products; Annual Report; 2008,* July 31, 2008, 8; USDA, FAS, *EU: Sanitary/Phytosanitary/Food Safety*, June 19, 2007; government official, e-mail to USITC staff, January 4, 2010.

[194] EC, Commission Regulation (EC) No. 616/2007, June 4, 2007; EC, Commission Regulation (EC) No. 580/2007, May 29, 2007; USDA, FAS, *EU: Poultry Sector Growth to Slow in 2011*, September 1, 2010, 1–2, 6; USDA, FAS, *EU: Poultry and Products Semi-Annual*, April 9, 2010, 4; government official, e-mail to USITC staff, April 4, 2011.

[195] USDA, FAS, *EU: Poultry and Products, Annual*, 2007, July 20, 2007, 6.

[196] European Voice, "China Food: EU-27 Ban on Chinese Poultry Eased," August 8, 2009; *Seedling*, "Big Meat Is Growing in the South," October 2010, 8.

[197] WTO, *European Communities−Certain Measures Affecting Poultry Meat and Poultry Meat Products from the United States*, (accessed February 6, 2013).

[198] The PRTs in question are chlorine dioxide, acidified sodium chlorite, trisodium phosphate, and peroxyacids. USDA, FAS, *EU: Sanitary/Phytosanitary/Food Safety*, July 18, 2008.

[199] WTO, *European Communities−Certain Measures Affecting Poultry Meat and Poultry Meat Products from the United States*, (accessed August 20, 2013).

TABLE 15 Thailand: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	1,100	1,050	1,170	1,200	1,280	1,350	1,550
Consumption[b]	811	821	790	820	839	864	932
Exports	261	296	383	379	432	467	538
Imports	0	0	0	0	1	1	1
Trade balance	261	296	383	379	431	466	537

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

Despite relatively low production levels, Thailand was the fourth-largest exporter of poultry globally in 2012, accounting for about 4 percent of global exports in 2006–12 (appendix A table A.3). [200] Thai exports increased 106 percent during this period, partly because its export volumes started from a low base. In 2006, exports were particularly low following an outbreak of HPAI in 2005, which reduced demand from foreign customers. Due to growth during the period, in 2012 Thai exports finally surpassed their pre-AI outbreak record high from 2003.[201] Thailand's largest export markets during this period were Japan and the EU.[202]

Factors Affecting Trade

Thailand has created a niche market for its cooked poultry product in response to bans on its uncooked poultry following the HPAI outbreaks. Thailand enhanced its export competitiveness in this market segment by offering lower prices and higher quality than its competitors, particularly Brazil and China.[203] During 2006–11, 93 percent of Thai poultry exports, by volume, consisted of cooked products, and increased production of cooked product helped Thailand regain a larger share of the global market.[204]

Thai export competitiveness has been hurt by numerous AI outbreaks, typically of the high-pathogenic variety, between 2004 and 2008.[205] Foreign bans resulting from these outbreaks greatly restricted Thailand's ability to export uncooked poultry products to major import markets, including the EU and Japan. In response to these outbreaks and to meet EU and Japanese market requirements, large integrators in Thailand have upgraded their facilities, from the grow-out barns to the processing plants.[206] For example, grow-out houses that provide broilers to major producers now have evaporative cooling systems which are credited with helping to reduce outbreaks of HPAI. Thai companies have also put in place strict biosecurity measures at grow-out facilities and processing plants. Because Thailand has not had an HPAI outbreak since 2008, in May 2012, the EU

[200] Thailand was the fifth-largest exporter of poultry, behind China, in 2006 and 2007.
[201] USDA, FAS, PSD Online (accessed August 20, 2013)
[202] GTIS, GTA database (accessed August 27, 2013).
[203] USDA, FAS, *Livestock and Poultry: World Markets and Trade*, November 2005, 17.
[204] USDA, FAS, *Livestock and Poultry: World Markets and Trade*, November 2005; GTIS, WTA, database (accessed May 13, 2013). In 2011, about 52 percent (by volume) of uncooked poultry from Thailand was exported to Laos and Malaysia.
[205] USDA, AMS, *International Egg and Poultry Review*, April 3, 2007; USDA, FAS, *Thailand: Poultry and Products; Annual, 2010*, September 1, 2010, 4; USDA, FAS, *Livestock and Poultry: World Markets and Trade*, October 2011, 13.
[206] USDA, FAS, *Thailand: Poultry and Products; Annual, 2010*, September 1, 2010, 2–4; USDA, FAS, *Thailand: Poultry and Products; Annual, 2011*, August 31, 2011, 3.

announced that it would reopen its market to uncooked chicken from Thailand in July 2012, a major gain for Thai exporters.[207] As a result, Thai exports of uncooked poultry grew 76 percent between 2011 and 2012 and constituted 17 percent of Thai poultry exports in 2012.[208]

China

Global Position

In 2012, China was the second-largest poultry producer in the world, accounting for about 15 percent of global production annually in 2006–12 (appendix A table A.1). On average, annual growth was 5 percent in that period (table 16). Part of China's poultry production increase was a response to the sharp decline in the country's pork production in 2006 and 2007 following a swine disease outbreak.[209] China is also the second-largest poultry consumer in the world, accounting for about 15 percent of global consumption annually in 2006–12. Consumption grew at the same pace as production (5 percent annually). A number of factors drove China's consumption growth, foremost of which were increased urbanization and rising personal incomes.[210]

TABLE 16 China: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	10,354	11,296	11,845	12,105	12,556	13,206	13,706
Consumption[b]	10,392	11,450	12,004	12,242	12,489	13,055	13,590
Exports	322	358	285	291	379	423	411
Imports	360	512	444	428	312	272	295
Trade balance	(38)	(154)	(159)	(137)	67	151	116

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

Note: Negative numbers are in parentheses.

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

During 2006–12, China's exports grew 28 percent and accounted for 4 percent of global exports on average (appendix A table A.3). In 2012, China ranked fifth among poultry-exporting countries. China's exports accounted for about 3 percent of its total production during 2006–12, the lowest ratio of the top-five global exporters. China's export levels are relatively low because Chinese consumption has normally been higher than domestic production. However, in 2010 China became a net exporter. In 2006–12, over one-half of China's exports were cooked chicken, which primarily went to Japan, and about 44 percent were frozen chicken cuts or chilled chicken, which primarily went to Hong Kong.[211]

[207] Rabobank, "The Return of Thai Raw Chicken," May 2012.
[208] GTIS, GTA database (accessed August 29, 2013).
[209] USDA, FAS, *China: Poultry and Products; Annual Report*, 2008, September 1, 2008, 3.
[210] USITC, *China's Agricultural Trade*, March 2011, 3-1 to 3-13. For more detail see U.S. Trade, above.
[211] GTIS, GTA database (accessed August 27, 2013).

China is also a major importer of poultry, having accounted for 5 percent of global imports during 2006–12 (appendix A table A.4).[212] However, China's imports peaked in 2007 at 512,000 mt. Imports then fell in each of the following years through 2011 (to 272,000 mt) and in 2012, despite an increase in imports, remained below 2006-10 levels. This was due, in part, to trade disruptions resulting primarily from a temporary ban on imports from Brazil in 2008 and to AD/CV duties imposed on U.S. imports beginning in 2010.[213] The United States, Brazil, and Argentina were the primary suppliers to China during 2006–12, but their individual shares of Chinese imports fluctuated significantly from year to year.[214] During the period 2006–09, the United States was the largest direct supplier of poultry, supplying about three-quarters of Chinese imports.[215] Despite the temporary 2008 ban, imports from Brazil reached 61 percent of total imports in 2011. Argentina's share of the Chinese market also fluctuated, accounting for as little as 5 percent (in 2006) and as high as 24 percent (in 2010). Argentinian product substituted for Brazilian and U.S. product in some years. Frozen chicken cuts and offal (HS 0207.14) constituted an average of 94 percent of Chinese imports in 2006–12, with chicken paws—a popular snack food—accounting for about one-half of all poultry imports. China also imports wing tips and chicken leg quarters.[216]

Factors Affecting Trade

A number of factors enhance the export competitiveness of the Chinese poultry industry.[217] China is modernizing its integrated poultry production system through better flock management and by incorporating advanced technologies in an increasing number of grow-out houses, among other improvements. The presence of foreign investors in the poultry industry is helping to bring about these and other positive changes, including raising quality and production standards. In addition, the government provided direct payments to some producers and eliminated corporate income taxes on companies raising poultry (or other livestock).

Chinese production is hampered by high feed prices, partly resulting from dependence on soymeal derived from imported soybeans and from relatively high domestic corn prices (compared to prices on the world market).[218] These feed costs have raised Chinese poultry prices and thus limited the marketability of Chinese poultry products in new export markets, such as those in Africa. Sanitary concerns, such as those related to

[212] USDA, FAS, PSD Online (accessed August 20, 2013).

[213] For further detail on U.S. exports to China, including trade measures which affect them, see U.S. Trade, above.

[214] GTIS, GTA database (accessed August 27, 2013).

[215] The U.S. share of China's imports was 85 percent in 2009 and 20 percent in 2010–11. GTIS, GTA database (accessed August 27, 2013).

[216] Most imported chicken leg quarters are used for further processing in China for re-export, owing to foreign buyers' aversion to residues found in Chinese broiler meat. Industry representative, interview by USITC staff, Hong Kong, September 20, 2010.

[217] Industry representative, interview by USITC staff, Shandong province, China, September 13, 2010; USDA, FAS, *China: Poultry and Products; Annual Report, 2010*, September 30, 2010; industry representative, interview by USITC staff, Shanghai, China, September 13, 2010; USITC, *China's Agricultural Trade*, March 2011, 4-13, 4-14, 4-30.

[218] USDA, FAS, *China: Poultry and Products; Annual Report, 2008*, September 1, 2008, 5; industry representative, interview by USITC staff, Shandong province, China, September 13, 2010; USDA, ERS, Corn: Trade (accessed June 29, 2012); USITC, *China's Agricultural Trade*, March 2011, 6-10 to 6-11; USDA, FAS, *China: Poultry and Products; Annual Report, 2010*, September 30, 2010, 3. Feed accounts for approximately 55–70 percent of total production costs in both China and the United States.

disease outbreaks, residues, and contaminants, have also restricted Chinese access to some overseas markets.[219]

China is an attractive market for poultry exporters because of its size and consumer preference for cuts that are not popular elsewhere. China's large population, increased urbanization, and rising personal incomes have led to increased poultry consumption.[220] Broiler meat, which is less expensive than red meat, has become an important substitute for pork, the most popular meat in China.[221] Increased dining out, especially by younger consumers, has also boosted poultry consumption, since chicken is a mainstay at fast-growing, quick-serve restaurants like KFC and McDonald's.[222]

China maintains a number of measures which affect access for imports. For example, China continues to enact bans for outbreaks of LPAI, and maintains a zero-tolerance policy for bacteria in imports of poultry (although reportedly such standards are not applied to its domestic production).[223] The Chinese government also requires importers to obtain certain certifications and licensing, such as the ARFs.[224] In addition, imports are subject to a 13 percent ad valorem VAT which does not seem to be assessed on domestic producers, thus making imported poultry more expensive.[225]

Global Net Importers

Russia

Global Position

In terms of both production and consumption, Russia's poultry sector is among the world's leaders. Russia was the seventh-largest poultry producer globally in 2012 and accounted for about 3 percent of global production in that period. Russia's poultry production grew an average of 16 percent annually during 2006–12 (table 17 and appendix A table A.1). Some of the largest poultry firms in Russia include the Cherkizovo Group, Prioskolye, and the Prodo Group.[226] During 2006–12, Russia was the

[219] Incidences like the 2011 addition of barium sulphate to live chicken to increase their weight and the 2008 discovery that melamine had (for several years) been widely added to powdered milk and animal feed contribute to these perceptions. Barium sulphate, or barium powder as it is more commonly called, is often added to oil drilling mud, paint, and brakes. See, for example, Barboza, "China's Contaminated Food Scandal Widens," October 31, 2008; BBC News, "Chinese Melamine Scandal Widens," October 31, 2008; Behreandt, "Melamine Concerns Widen," November 3, 2008; ThePoultrySite.com, "Another Scandal Hits Chinese Chicken—China," May 10, 2011.

[220] EIU, "China: Food, Beverages and Tobacco Profile," January 17, 2008.

[221] USDA, FAS, *China: Poultry and Products*; *Annual Report*, 2008, September 1, 2008, 4.

[222] USDA, FAS, *China: Annual Report, 2008*, September 1, 2008, 5; USDA, FAS, *China: Poultry and Products Annual*, September 16, 2009; USDA, FAS, *China: Poultry and Products; Semi-Annual, 2010*, April 14, 2010.

[223] USTR, *2009 National Trade Estimate Report*, March 2009, 95; USITC, *China's Agricultural Trade*, March 2011, 9-7.

[224] For instance, as mentioned earlier, licenses for poultry imports were reportedly delayed following U.S. imposition of duties on Chinese tire imports in 2009. Industry representative, interview by USITC staff, Hong Kong, September 20, 2010.

[225] USITC, *China's Agricultural Trade*, March 2011, 9-12 to 9-13.

[226] *Watt Poultry USA*, "Challenges Continue for Top European Poultry Producers," December 2010, 34–35.

TABLE 17 Russia: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	1,196	1,440	1,719	2,091	2,380	2,665	2,930
Consumption[b]	2,484	2,743	2,948	3,054	3,062	3,130	3,441
Exports	2	2	5	7	9	25	69
Imports	1,290	1,305	1,234	970	691	490	580
Trade balance	(1,288)	(1,303)	(1,229)	(963)	(682)	(465)	(511)

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

Note: Negative numbers are in parentheses.

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

world's sixth-largest consumer of poultry; its poultry consumption grew 39 percent and accounted for an average of about 4 percent of total global consumption (appendix A table A.2).

Imports accounted for 17 percent of Russian poultry consumption in 2012. However, due to a concerted effort to increase domestic production and reduce the country's dependency on foreign poultry, Russian imports fell by over one-half during 2006–12. Hence, Russia shifted from being the largest importer in the world in 2006 to the sixth-largest in 2012 (appendix A table A.4).

Between 2006 and 2009, the United States supplied an average of 70 percent of Russian poultry imports.[227] Because of trade disruptions, this share dropped to 45 percent in 2010 but rose to 57 percent in 2011 once the major trade issue was resolved. Most other imports during 2006–12 were supplied by Brazil and the EU. Almost all imports were of uncooked poultry products (HS 0207), the majority of which were frozen chicken halves and quarters.[228]

Russia's poultry exports were small between 2006 and 2010, and, while remaining competitively small globally, they increased substantially both in 2011 and 2012 because Russia poultry supplies (from domestic production and imports) exceeded the needs of the country.[229] According to USDA, most of these new exports were to Kazakhstan, which is in a customs union with Russia.[230] Based on reported data, during 2009–12, Russian exports consisted primarily of frozen chicken cuts supplied to Hong Kong. [231] In light of Russia's accession to the WTO and its growing domestic production, a Russian industry association believes that the industry has a chance to increase exports Kazakhstan, Commonwealth of Independent States countries, and countries where paws are popular, like China and Hong Kong.[232]

[227] GTIS, GTA database (accessed August 27, 2013).
[228] Ibid.
[229] USDA, *FAS, Russian Federation: Increases Broiler Production and Imports*, August 15, 2012, 2 and 8. Stating in 2011, no data are available on Russia's exports to Kazakhstan or Kazakhstan's imports from Russia in Global Trade Atlas. GTIS, GTA database (accessed August 27, 2013).
[230] USDA, FAS, *Russian Federation: Increases Broiler Production and Imports*, August 15, 2012, 2, 8.
[231] GTIS, GTA database (accessed August 27, 2013). The majority of Russia's exports were to Georgia between 2006–09.
[232] USDA, FAS, *Russian Federation: Increases Broiler Production and Imports*, August 15, 2012, 8.

Factors Affecting Trade

Russia has traditionally been a large import market, as domestic production does not meet consumer demand. Rising personal incomes have led to greater overall demand, while food price inflation, a persistent problem in Russia, drives customers towards cheaper meats, especially poultry.[233] Russian consumers largely favor dark meat, which makes Russia an attractive destination for exporting countries, such as the United States, where domestic consumers prefer white meat.[234]

The Russian government actively promotes poultry self-sufficiency by bolstering domestic production and restricting imports.[235] For example, the National Priority Project in Agriculture supplies credit subsidies to domestic producers.[236] The government also provides interest rate assistance, aimed at increasing access to commercial capital to fund expansions and improvements.[237]

The Russian government also limited imports by lowering its TRQ levels on poultry beginning in 2008 (figure 10). In 2013, consistent with its WTO accession commitments, Russia raised its poultry TRQ above 2011 levels, although it was still low compared with the 2006–10 TRQs. In 2006–09, about three-quarters of the TRQ was allocated to the United States and about one-fifth to the EU.[238] In 2010, a ban on imported poultry washed with chlorinated water reduced the TRQ fill rate to 79 percent.[239] In 2011, Russia announced that its 2011 TRQ no longer had country-specific allocations for most products, and narrowed the range of products covered by the TRQ.[240] While the use of quotas has helped boost domestic production, it has also resulted in higher domestic poultry prices and a drop in domestic demand.[241]

Russia has also reduced imports through bans, including the one in 2010 on poultry treated with chlorine rinse. Although this ban applied to chlorine-washed poultry from all countries, it primarily affected the United States, where the treatment is a standard practice. However, in mid-2010 an export certification was approved for U.S. poultry treated with alternatives to chlorine.[242] In 2011, a number of Brazilian poultry and other

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[233] USDA, FAS, *Russian Federation: Poultry Annual Report, 2008*, September 15, 2008, 8; USDA, FAS, *Russian Federation: Poultry Semi-Annual Report, 2009*, May 13, 2009, 3; Clements, "Russia Invests in Poultry's Future," August 6, 2009.

[234] EIU, "Russia Food, Beverages and Tobacco Profile," January 14, 2008.

[235] See, e.g., Clements, "Russia Invests in Poultry's Future," August 6, 2009; WattAgNet, "Russia to Decrease Poultry Imports," May 21, 2009; USDA, FAS, *Russian Federation: Big Moves to Self-Sufficiency*, April 6, 2010. For further information on Russian TRQs and other barriers to trade see U.S. Trade, above.

[236] See, e.g., Clements, "Russia Invests in Poultry's Future," August 6, 2009; USDA, FAS, *Russian Federation: Poultry Semi-Annual Report; 2009*, March 13, 2009, 3.

[237] USDA, FAS, *Russian Federation: Big Moves to Self-Sufficiency*, April 6, 2010, 5.

[238] Ibid., 7.

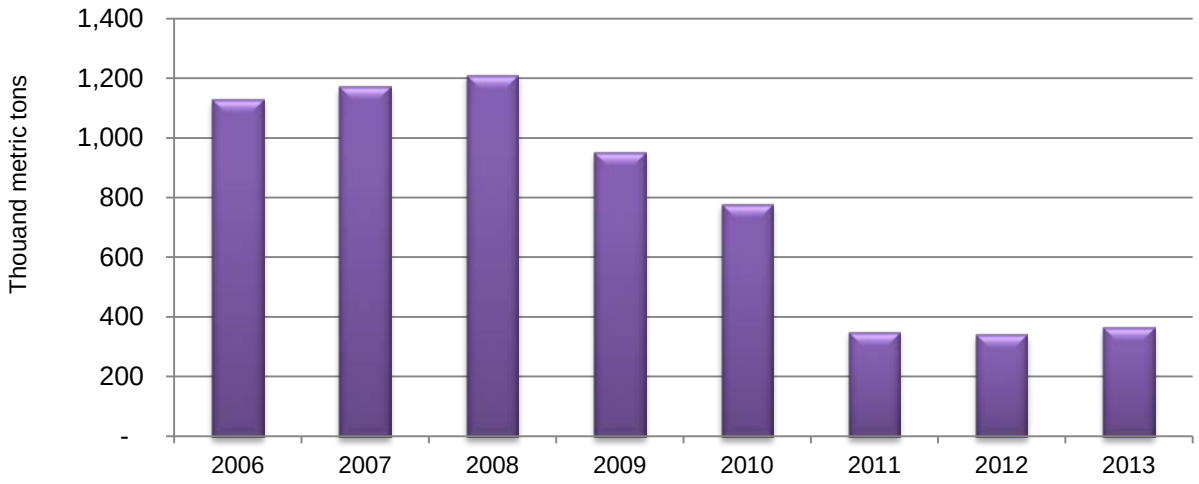
[239] USDA, FAS, *Russian Federation: Consumption Falls*, March 2, 2011, 5.

[240] USDA, FAS, *Russian Federation: Big Moves to Self-Sufficiency*, April 6, 2010; USDA, FAS, *Russia Announces 2011 TRQ Quantities*, December 27, 2010. The products allowed access under the TRQs are chicken cuts (both bone-in and deboned) and deboned turkey cuts. The TRQs limit access for whole birds, restrictions that primarily effect imports from Brazil. USDA, FAS, *Russian Federation: Meat and Poultry TRQ Quantities for 2011*, December 17, 2010. A country specific TRQ remains for frozen boneless boilers the majority (80 percent) of which was allocation to the EU. USDA, FAS, *Russian Federation: GOR Distributes Meat and Poultry TRQs for 2012*, January 11, 2012, 1. On average, 99 percent of U.S. exports to Russia were of chicken and turkey cuts. USITC, DataWeb June 9, 2011.

[241] EIU, "Russia Food, Beverages and Tobacco Profile," January 14, 2008; USDA, FAS, *Russian Federation: Consumption Falls*, March 2, 2011.

[242] Bottemiller, "Russia Agrees to Lift Ban," June 25, 2010; USDA, FAS, *Russian Federation: Russia Resumes Imports*, September 21, 2010.

FIGURE 10 Russia's poultry tariff-rate quota amounts fell between 2009 and 2012



TRQ, November 27, 2012, 2.

meat plants were delisted (i.e., lost their eligibility to export) on the grounds that they do not meet Russian food safety requirements.[243] In February 2013, Russia announced it would ban U.S. turkey meat reportedly because of possible residues of ractopamine.[244]

Saudi Arabia

Global Position

Saudi Arabia is a relatively small producer of poultry. It ranked 24th among global producers in 2012 and accounted for less than 1 percent of global production annually in 2006–12 (appendix A table A.1). Annual production fluctuated significantly but growth averaged only 2 percent during 2006–12 (table 18). Two of the largest Saudi poultry producers are Al Akhawain and Al Watania.[245] Saudi Arabia exported a small, but fairly consistent, amount of poultry for most of 2006–12. Exports averaged 3 percent of production annually. Most exports were to small neighboring countries, including Kuwait, the United Arab Emirates, and Bahrain.[246]

[243] See e.g., The Poultry Site.com, "Russia Bans Brazilian Meat from Three States," June 3, 2011; The Poultry Site.com, "Russia Keeps Embargo on Brazilian Meat Imports," December 18, 2012.

[244] The PoultrySite.com, "Weekly Overview: Russia Bans Imports of US Turkey Meat," February 7, 2013.

[245] *Watt Poultry USA*, "Investments Continues for Poultry Producers," December 2010, 39.

[246] GTIS, GTA database (accessed August 28, 2013). Detailed data on Saudi Arabian exports are limited, and no country-specific data are available for 2008–12.

TABLE 18 Saudi Arabia: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	548	490	427	476	426	509	590
Consumption[b]	961	950	927	1,071	1,097	1,263	1,359
Exports	10	10	10	10	10	35	30
Imports	423	470	510	605	681	789	799
Trade balance	(413)	(460)	(500)	(595)	(671)	(754)	(769)

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

Note: Negative numbers are in parentheses.

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

Saudi Arabia consumed about twice as much poultry as it produced in 2006–12. It had the 13th-highest consumption in the world in 2012 and accounted for less than 2 percent of global consumption in 2006–12 (appendix A table A.2). Consumption grew at an average annual growth rate of 6 percent in 2006–12. Between 2006 and 2012, Saudi Arabia met about one-half of its domestic consumption needs with imports. It was tied (with the EU) for the world's second-largest importer in 2012 and accounted for about 8 percent of global imports during 2006–12 (appendix A table A.4). During 2006–12, Saudi Arabian imports grew at an average rate of 11 percent per year. Saudi Arabia's biggest product class for imports was whole frozen chickens, primarily from Brazil.[247]

Factors Affecting Trade

Several factors make Saudi Arabia an attractive market for global poultry suppliers. Broiler meat consumption has grown because of its competitive price (compared to other meats), a growing preference for chicken by health-conscious consumers, and increased official and business travel to the country, which raised food demand.[248] Imported poultry is usually less expensive than domestic poultry, strengthening the competitive position of foreign suppliers. Additionally, in March 2008, the Saudi government reduced poultry tariffs to 5 percent ad valorem, from the higher of either 20 percent ad valorem or 0.267 cents per kilogram.[249] Saudi Arabia also levies additional import taxes.

Saudi Arabia requires certain certifications and maintains some bans that affect which countries can supply poultry. Foremost among the requirements is that all poultry entering Saudi Arabia must meet *halal* standards.[250] Two additional certifications are required for U.S. poultry: a FSIS export certification and a producer "self-certification to

[247] GTIS, GTA database (accessed August 28, 2013). No data are available for 2012.

[248] USDA, FAS, *Saudi Arabia: Poultry and Products, Annual*, September 12, 2006, 4; USDA, FAS, *Saudi Arabia: Exporter Guide*, November 9, 2010, 5.

[249] USDA, FAS, *Saudi Arabia: Poultry and Products, Annual*, September 12, 2006, 5. USAPEEC, Saudi Arabia: Tariffs and Quantitative Restrictions for Poultry (accessed September 15, 2009); USTR, 2009 *National Trade Estimate Report*, March 2009, 431.

[250] Saudi Arabia is an Islamic country and eating *halal* food is a religious requirement. Saudi Arabia requires certification that poultry imports are from chickens that have not been fed animal remnants and another certification that the poultry are hormone free, which is necessary for meats to be *halal*. USDA, FAS, *Saudi Arabia: Poultry and Products, Annual*, September 12, 2006, 5–6.

cover any additional requirements not related to food safety or animal health issues." [251] Saudi Arabia also has maintained bans on product from countries with AI outbreaks.[252]

Mexico

Global Position

In 2012, Mexico was the sixth-largest poultry producer in the world (appendix A table A.1). Its production, which grew by 14 percent during 2006–12 (table 19), was larger than that of any other net importing country during this period. The country's largest producer is Mexican-owned Industrias Bachoco. It is followed by Pilgrim's Pride de Mexico[253] and Tyson's de Mexico, which are subsidiaries of U.S. companies.

TABLE 19 Mexico: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

Item	2006	2007	2008	2009	2010	2011	2012
Production	2,606	2,698	2,868	2,792	2,833	2,919	2,972
Consumption[b]	3,207	3,272	3,493	3,419	3,527	3,637	3,752
Exports	1	2	5	9	8	12	6
Imports	602	576	630	636	702	730	786
Trade Balance	(601)	(574)	(625)	(627)	(694)	(718)	(780)

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

Note: Negative numbers are in parentheses.

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

Mexican exports grew substantially from 2006 to 2009, and from 2010 to 2012, despite erratic growth, remained above historical levels. Most of the growth in 2010-11 was due to increased exports of frozen chicken cuts to Hong Kong.[254] However, Mexican exports continue to constitute less than one-half of 1 percent of total production.

Mexico was also the fifth-largest global consumer of poultry in 2012 (appendix A table A.2). Mexican poultry consumption grew 17 percent in 2006–12, accounting for about 4 percent of world poultry consumption per year. Mexico was the fourth-largest global importer of poultry in 2012 (appendix A table A.4), with imports accounting for 21 percent of domestic consumption. Mexican poultry imports increased 31 percent during 2006–12 and accounted for 8 percent of global poultry imports per year.

The majority of Mexican imports (96 percent) during 2006–12 came from the United States,[255] while remaining imports were almost exclusively from Chile. About one-quarter percent of imports were of turkey (fresh, frozen, or chilled) in 2006–12. Additionally, almost one-quarter were of mechanically deboned chicken (fresh, frozen, or

[251] USTR, *2009 National Trade Estimate Report*, March 2009, 433. For Saudi Arabia, FSIS issues a Meat and Poultry Certificate of Wholesomeness. FSIS, Export Requirements for Saudi Arabia, http://www.fsis.usda.gov/regulations/Saudi_Arabia_Requirements/index.asp. The producer self-certification covers additional requirements, such as certifying that feed was free of animal protein.
[252] USDA, FAS, *Saudi Arabia: Poultry and Products, Annual*, September 12, 2006, 4.
[253] Pilgrim's Pride is a U.S. company owned by a major Brazilian meat producer, JBS SA.
[254] GTIS, GTA database (accessed August 28, 2013).
[255] Ibid.

chilled) and 15 percent of imports were of chicken legs and quarters (fresh, frozen, or chilled). Firms that further processed poultry for use in products such as sausages, hams, and cold cuts are a major source of import demand. Imports reportedly account for 90 percent of the input into these poultry products. [256]

Factors Affecting Trade

Rising poultry consumption has led to growth in Mexican imports. Several factors that have contributed to Mexico's consumption growth include population growth; poultry's affordability compared with other meats; effective marketing campaigns by the industry, including those by the Mexican Association of Poultry Producers (UNA) and the USAPEEC to encourage poultry consumption; increased poultry use in processed foods; and improved product quality. [257]

The United States enjoys a competitive advantage in the Mexican poultry market due to the absence of import duties under NAFTA, a shared border, efficient border crossings, and the fact that many tourists visiting Mexico are from the United States and Canada and seek familiar food products.[258] However, Mexican imports of U.S. chicken will likely fall when Mexico imposes its temporarily suspended AD duties on certain U.S. chicken products. [259] Mexico also has no import tariffs on Chilean poultry products under the Mexico-Chile Free Trade Agreement.[260] However, longer shipping times between Chile and Mexico compared with the United States place Chilean imports at a competitive disadvantage. Generally, Mexican importers purchase Chilean poultry to diversify their supply and in response to AI outbreaks in certain regions of the United States.[261]

Japan

Global Position

Japan was the 13th largest producer of poultry in the world in 2012 (appendix A table A.1). Its production level fell 3 percent between 2010 and 2011 because of a major outbreak of HPAI and the earthquake and tsunami that struck Japan in the spring of that year (table 20).[262] Some of the largest poultry producers in Japan are Jumonji Chicken Co. Ltd., Nippon White Farm Co. Ltd., and Zennoh Chicken Foods Co. Ltd.

Japan was the eighth-largest consumer of poultry in the world in 2012 (appendix A table A.2). Between 2006 and 2012, Japan accounted for about 3 percent of world consumption, with its own domestic consumption growing by 2 percent on average over the period. During 2006–12, Japan produced enough poultry to meet almost two-thirds of its domestic demand.

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[256] USDA, FAS, *Mexico: Poultry and Products, Semi-Annual*, February 4, 2011, 4.

[257] USDA, FAS, *Mexico: Poultry and Products; Annual Report*, 2008, September 2, 2008, 10.

[258] USDA, FAS, *Mexico: Exporter Guide, Report 2007*, October 13, 2007, 3. Sophisticated border crossings can be characterized by automated customs clearance and the use of risked-based inspections.

[259] The Poultry Site, CME: "US/Mexico Anti-Dumping Saga Continues," August 8, 2012.

[260] USDA, FAS, *Mexico: Poultry and Products; Annual Report*, August 13, 2004, 20. A ban on Chilean poultry was lifted in 2003, opening the Mexican market. USDA, FAS, *Mexico: Poultry and Products; Annual Report*, August 13, 2004, 20.

[261] USDA, FAS, *Mexico: Poultry and Products; Annual Report*, July 14, 2005, 18–19.

[262] USDA, FAS, *Japan: Poultry and Products Annual*, September 26, 2011.

TABLE 20 Japan: Poultry[a] production, consumption, exports, imports, and trade balance, 2006–12 (thousand metric tons)

	2006	2007	2008	2009	2010	2011	2012
Production	1,258	1,250	1,255	1,283	1,295	1,251	1,332
Consumption[b]	1,971	1,946	1,928	1,979	2,079	2,104	2,219
Exports	1	5	5	9	11	4	7
Imports	716	696	737	645	788	895	876
Trade balance	(715)	(691)	(732)	(636)	(777)	(891)	(869)

Source: USDA, FAS, PSD Online database (accessed August 20, 2013).

Note: Negative numbers are in parentheses.

[a]Based on broiler and turkey meat exports.
[b]Domestic consumption.

Japan was the largest importer in the world in 2012 and accounted for 10 percent of global imports annually in 2006–12 (appendix A table A.4). Japanese poultry imports increased 22 percent during 2006–12. During the period, on average, imports accounted for 38 percent of domestic consumption. The Japanese food service sector was a major consumer of imported poultry.[263] Japan imports the vast majority of its poultry from Brazil, Thailand, and China, which together supplied 94 percent of all imports in 2006–12.[264] Japan imported frozen chicken cuts, especially boneless leg meat, which is preferred over breast meat, primarily from Brazil, and cooked chicken products, such as skewered grilled chicken, primarily from China and Thailand.[265] Owing to AI outbreaks abroad, Japan restricts imports of uncooked poultry from Thailand and China.[266] Annually, about 47 percent of Japanese imports were of cooked poultry in 2006–12.[267]

Factors Affecting Trade

As a mature market, Japan is a relatively reliable outlet for its foreign suppliers: poultry consumption, production, and imports have remained fairly stable over time. Low prices for broiler meat compared with those of other meats are the main reason why chicken consumption remains high in Japan.[268] However, in 2008 Japanese imports from China fell as food contamination scandals related to dumplings and infant formula raised concerns about the safety of all Chinese-origin foods, including poultry.[269] Further, overall imports fell in 2009 as a result of the economic downturn. Imports reached a period high in 2011 due to lower domestic production caused by a major outbreak of HPAI and the natural disasters which struck Japan that year.[270] The United States

[263] USDA, FAS, *Japan: Broiler Annual, 2008*, October 1, 2008, 3; USDA, FAS, *Japan: Poultry Annual, 2009*, September 8, 2010, 2–3. Domestically produced poultry dominates the retail markets.
[264] Brazil provided about 47 percent of all imports and Thailand and China each provided just under one-quarter of imports on average in 2006–12. GTIS, GTA database (accessed August 28, 2013).
[265] USDA, FAS, *Japan: Broiler Annual, 2008*, October 1, 2008, 3–4; USDA, FAS, *Japan: Broiler Annual, 2007*, November 2, 2007, 4; USDA, FAS, *Japan: Broiler Market Outlook*, July 2, 2010, 3.
[266] USDA, FAS, *Japan: Poultry Annual, 2004*, September 13, 2004; USDA, FAS, *Japan: Broiler Market Outlook*, July 2, 2010, 5.
[267] GTIS, GTA database (accessed August 28, 2013).
[268] USDA, FAS, *Japan: Broiler Market Outlook*, September 1, 2010, 4–5.
[269] USDA, FAS, *Japan: Broiler Annual, 2008*, October 1, 2008, 4; USDA, FAS, *Japan: Poultry Annual, 2009*, September 8, 2010, 4.
[270] USDA, FAS, *Japan: Poultry and Products Annual*, September 26, 2011.

benefited from this increase in imports, as Japan's 2011 imports of frozen chicken cuts (HS 0207.14) from the United States reached their highest level by volume since 2003.[271]

Import bans were the largest trade barrier for poultry entering Japan in 2006–12. Throughout the period, Japan continued its long-running ban on uncooked poultry from Thailand and China on the grounds of AI outbreaks.[272] Some plants in these two countries are exempt from this ban, although reportedly many of the exempt plants are joint ventures with Japanese companies.[273] Owing to outbreaks of AI (including the low pathogenic variety), Japan also imposed temporary bans on poultry products from many other countries, including the Netherlands, United Kingdom (England in particular), and United States, either from the entire country or only from specific regions.[274]

[271] Highest volumes both in absolute terms and the share of Japan's total broiler meat imports. GTIS, GTA database (accessed August 28, 2013).

[272] USDA, FAS, *Japan: Poultry Annual, 2004*, September 13, 2004, 3; USDA, FAS, *Japan: Broiler Annual, 2007*, November 2, 2007, 3; USDA, FAS, *Japan: Broiler Annual, 2008*, October 1, 2008.

[273] USDA, FAS, *Japan: Poultry Annual, 2004*, September 13, 2004, 4.

[274] See, e.g., USTR, *2009 National Trade Estimate Report*, 276, November 24, 2009; EIU, "Japan/UK Trade: Bird Flu Prompts Poultry Suspension," June 4, 2008; The Poultry Site, "Japan Halts Dutch Poultry Imports," March 17, 2006; USDA, FSIS, "Export Requirements for Japan," April 14, 2011.

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APPENDIX A
STATISTICAL TABLES

TABLE A.1 Broiler and turkey meat: World production, by selected countries and country groups, 2006–12 (thousand metric tons)

Country	2006	2007	2008	2009	2010	2011	2012
North America:							
Canada	1,135	1,176	1,197	1,178	1,182	1,187	1,205
Mexico	2,606	2,698	2,868	2,792	2,833	2,919	2,972
United States	18,473	18,890	19,357	18,470	19,090	19,286	19,296
South America/Caribbean:							
Argentina	1,200	1,320	1,435	1,500	1,680	1,770	1,936
Brazil	9,708	10,763	11,498	11,489	12,797	13,352	13,155
Chile	517	480	504	508	499	556	586
Colombia	850	925	1,011	1,020	1,067	1,075	1,098
Cuba	31	31	25	27	29	30	30
Venezuela	707	740	695	680	650	625	655
Europe:							
European Union	9,598	10,110	10,424	10,551	11,148	11,270	11,530
Russia	1,196	1,440	1,719	2,091	2,380	2,665	2,930
Turkey	946	1,012	1,170	1,250	1,430	1,614	1,687
Ukraine	372	475	570	650	733	767	821
Asia:							
China	10,354	11,296	11,845	12,105	12,556	13,206	13,706
Hong Kong	29	26	18	10	10	12	11
India	2,000	2,240	2,490	2,550	2,650	2,900	3,160
Indonesia	1,260	1,295	1,350	1,409	1,465	1,515	1,540
Japan	1,258	1,250	1,255	1,283	1,295	1,251	1,332
Korea, South	523	570	565	613	653	685	726
Malaysia	922	931	945	945	945	950	955
Philippines	645	650	695	725	750	760	790
Taiwan	570	553	522	542	558	589	578
Thailand	1,100	1,050	1,170	1,200	1,280	1,350	1,550
Vietnam	344	359	417	467	616	708	743
Middle East:							
Iran	691	710	722	745	765	785	805
Iraq	50	95	95	110	160	150	150
Kuwait	37	37	37	38	46	46	46
Saudi Arabia	548	490	427	476	426	509	590
United Arab Emirates	29	26	36	40	40	40	40
Africa:							
Angola	8	8	8	8	8	8	8
South Africa	1,118	1,166	1,247	1,258	1,308	1,378	1,403
Other:							
Australia	758	772	765	787	888	962	990
World	70,510	74,590	78,138	78,630	83,105	86,119	88,272

Source: USDA, FAS, PSD database (accessed August 20, 2013).

TABLE A.2 Broiler and turkey meat: World consumption, by selected countries and country groups, 2006–12 (thousand metric tons)

Country	2006	2007	2008	2009	2010	2011	2012
North America:							
Canada	1,129	1,134	1,161	1,145	1,146	1,156	1,176
Mexico	3,207	3,272	3,493	3,419	3,527	3,637	3,752
United States	15,974	15,994	15,869	15,309	15,776	15,938	15,674
South America/Caribbean:							
Argentina	1,109	1,200	1,275	1,327	1,475	1,556	1,659
Brazil	7,050	7,665	8,053	8,104	9,368	9,770	9,494
Chile	472	483	467	459	487	540	565
Colombia	859	951	1,037	1,047	1,098	1,107	1,136
Cuba	146	157	201	203	207	164	226
Venezuela	831	903	1,047	861	887	859	851
Europe:							
European Union	9,503	10,136	10,414	10,511	10,865	10,899	11,089
Russia	2,484	2,743	2,948	3,054	3,062	3,130	3,441
Turkey	923	986	1,129	1,165	1,320	1,409	1,402
Ukraine	524	609	814	813	845	776	852
Asia:							
China	10,392	11,450	12,004	12,242	12,489	13,055	13,590
Hong Kong	269	252	254	263	305	422	311
India	2,000	2,239	2,489	2,549	2,648	2,891	3,151
Indonesia	1,264	1,300	1,355	1,412	1,465	1,515	1,540
Japan	1,971	1,946	1,928	1,979	2,079	2,104	2,219
Korea, South	596	624	615	679	739	795	830
Malaysia	939	965	975	971	975	981	991
Philippines	679	699	751	805	865	892	926
Taiwan	683	625	588	613	665	694	688
Thailand	811	821	790	820	839	864	932
Vietnam	352	403	499	502	655	752	798
Middle East:							
Iran	690	751	732	763	824	838	856
Iraq	174	281	322	507	682	748	762
Kuwait	120	124	142	147	167	145	123
Saudi Arabia	961	950	927	1,071	1,097	1,263	1,359
United Arab Emirates	211	264	276	279	226	242	248
Africa:							
Angola	138	146	179	169	247	295	309
South Africa	1,408	1,441	1,466	1,477	1,558	1,717	1,796
Other:							
Australia	742	748	739	760	867	934	963
World	70,279	74,196	77,005	77,555	81,796	84,568	86,385

Source: USDA, FAS, PSD database (accessed August 20, 2013).

TABLE A.3 Broiler and turkey meat: World exports, by selected countries and country groups, 2006–12
(thousand metric tons)

Country	2006	2007	2008	2009	2010	2011	2012
North America:							
Canada	137	166	177	172	171	165	165
Mexico	1	2	5	9	8	12	6
United States	2,609	2,926	3,463	3,335	3,333	3,481	3,639
South America/Caribbean:							
Argentina	94	125	164	178	214	224	281
Brazil	2,658	3,099	3,446	3,386	3,430	3,584	3,663
Chile	64	39	63	87	79	90	93
Colombia	0	0	4	2	5	5	1
Cuba	([a])	([a])	([a])	([a])	([a])	([a])	([a])
Venezuela	([a])	([a])	([a])	([a])	([a])	([a])	([a])
Europe:							
European Union	813	750	847	871	1,063	1,184	1,240
Russia	2	2	5	7	9	25	69
Turkey	23	26	42	86	110	206	285
Ukraine	6	6	8	18	32	43	75
Asia:							
China	322	358	285	291	379	423	411
Hong Kong	([a])	([a])	([a])	([a])	([a])	([a])	([a])
India	0	1	1	1	2	9	9
Indonesia	([a])	([a])	([a])	([a])	([a])	([a])	([a])
Japan	1	5	5	9	11	4	7
Korea, South	3	6	9	11	16	15	21
Malaysia	0	1	3	6	9	10	10
Philippines	2	5	4	6	8	13	12
Taiwan	2	3	3	3	4	3	3
Thailand	261	296	383	379	432	467	538
Vietnam	0	0	1	0	1	0	0
Middle East:							
Iran	3	2	0	0	0	0	0
Iraq	([a])	([a])	([a])	([a])	([a])	([a])	([a])
Kuwait	1	1	2	1	1	1	1
Saudi Arabia	10	10	10	10	10	35	30
United Arab Emirates	0	0	0	1	9	11	15
Africa:							
Angola	([a])	([a])	([a])	([a])	([a])	([a])	([a])
South Africa	4	4	3	13	16	10	10
Other:							
Australia	16	25	27	30	26	33	34
World	7,094	7,892	9,003	8,970	9,455	10,162	10,755

Source: USDA, FAS, PSD database (accessed August 20 ,2013).

[a]Not applicable.

TABLE A.4 Broiler and turkey meat: World imports, by selected countries and country groups, 2006–12
(thousand metric tons)

Country	2006	2007	2008	2009	2010	2011	2012
North America:							
Canada	122	135	142	138	133	139	146
Mexico	602	576	630	636	702	730	786
United States	34	43	49	54	59	59	61
South America/Caribbean:							
Argentina	3	5	4	5	9	10	4
Brazil	0	1	1	1	1	2	2
Chile	19	42	26	38	67	74	72
Colombia	9	26	30	29	36	37	39
Cuba	115	126	176	176	178	134	196
Venezuela	124	163	352	181	237	234	196
Europe:							
European Union	718	776	837	831	780	813	799
Russia	1,290	1,305	1,234	970	691	490	580
Turkey	0	0	1	1	0	1	0
Ukraine	158	140	252	181	144	52	106
Asia:							
China	360	512	444	428	312	272	295
Hong Kong	243	215	236	253	295	410	300
India	([a])	([a])	([a])	([a])	([a])	([a])	([a])
Indonesia	4	5	5	3	0	0	0
Japan	716	696	737	645	788	895	876
Korea, South	76	60	70	71	106	131	130
Malaysia	17	35	33	32	39	41	46
Philippines	36	54	60	86	123	145	148
Taiwan	115	75	69	74	111	108	113
Thailand	0	0	0	0	1	1	1
Vietnam	8	44	83	35	40	44	55
Middle East:							
Iran	2	43	10	18	59	53	51
Iraq	124	186	227	397	522	598	612
Kuwait	84	88	107	110	122	100	78
Saudi Arabia	423	470	510	605	681	789	799
United Arab Emirates	182	238	240	240	195	213	223
Africa:							
Angola	130	138	171	161	239	287	301
South Africa	294	279	222	232	266	349	403
Other:							
Australia	0	1	1	3	5	5	7
World	6,809	7,440	8,012	7,705	8,191	8,606	8,990

Source: USDA, FAS, PSD database (accessed August 20, 2013).

[a]Not applicable.

TABLE A.5 Poultry meat: Harmonized Tariff Schedule of the United States (HTS) subheadings, descriptions, and column-1 rates of duty, 2012

HTS subheading	Brief description	Column-1 rate of duty	
		General	Special[a]
	Live poultry:		
0105.11.00	Live chickens weighing not over 185 g each	0.9¢ each	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0105.12.00	Live turkeys weighing not more than over 185 g each	0.9¢ each	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0105.13.00	Live ducks, weighing not more than185 g each	0.9¢ each	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0105.14.00	Live geese, weighing not more than 185 g each	0.9¢ each	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0105.15.00	Live guinea fowls, weighing not more than 185 g each	0.9¢ each	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0105.94.00	Live poultry; chickens	2¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0105.99.00	Live ducks, geese, turkeys and guineas, weighing over 185 g each	2¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
	Poultry meat:		
0207.11.00	Chickens, not cut in pieces, fresh Or chilled	8.8¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.12.00	Chickens, not cut in pieces, frozen	8.8¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.13.00	Cuts and offal of chickens, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CO, D, E, IL, J, JO, MA, MX, OM, P, PA, PE, SG), See 9911.02.25–9911.02.30 (CL), 15.8¢/kg (KR)
0207.14.00	Cuts and offal of chickens, frozen	17.6¢/kg	Free (A+, AU, BH, CA, CO, D, E, IL, J, JO, KR, MX, P, PA, PE, SG), See 9911.02.25–9911.02.30 (CL), 5.2¢/kg (MA), 3.5¢/kg (OM)
0207.24.00	Turkeys, not cut in pieces, fresh or chilled	15¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, MA, MX, OM, P, PA, PE, SG), 12¢/kg (KR)
0207.25.20	Turkeys, not cut in pieces, valued less than 88¢/kg, frozen	8.8¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL,J, JO, MX, P, PA, PE, SG), 7.9¢/kg (KR), 2.6¢/kg (MA), 1.7¢/kg (OM)
0207.25.40	Turkeys, not cut in pieces, valued 88¢ or more per kg, frozen	10%	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, MA, MX, OM, P, PA, PE, SG), 8% (KR)
0207.26.00	Cuts and offal of turkeys, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CO, D, E, IL, J, JO, MA, MX, OM, P, PA, PE, SG), See 9911.02.25–9911.02.30 (CL), 15.8% (KR)
0207.27.00	Cuts and offal of turkeys, frozen	17.6¢/kg	Free (A+, AU, BH, CA, CO, D, E, IL, J, JO, MA, MX, OM, P, PA, PE), See 9911.02.25–9911.0230 (CL), 15.8¢/kg (KR), 1.7¢/kg (SG)
0207.41.00	Ducks, not cut in pieces, fresh or chilled	8.8¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.42.00	Ducks, not cut in pieces, frozen	8.8¢/kg	Free (A, AU, BH, CA, CL, CO, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)

TABLE A.5 Poultry meat: Harmonized Tariff Schedule of the United States (HTS) subheadings, descriptions, and column-1 rates of duty, 2012—***Continued***

HTS subheading	Brief description	Column-1 rate of duty	
		General	Special[a]
	Poultry meat—***Continued***		
0207.43.00	Fatty livers of ducks, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.44.00	Cuts and offal, other than fatty livers, of ducks, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.45.00	Cuts and offal of ducks others, frozen	17.6¢/kg	Free (A+, AU, CA, CL, CO, D, E, IL, J, JO, MX, P, PA, PE, SG), 5.2¢/kg (BH, MA),15.8¢/kg (KR), 3.5¢/kg (OM)
0207.51.00	Geese, not cut in pieces, fresh or chilled	8.8¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.52.00	Geese, not cut in pieces, frozen	8.8¢/kg	Free (A, AU, BH, CA, CL, CO, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.53.00	Fatty livers of geese, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.54.00	Cuts and offal, other than fatty livers, of geese, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.55.00	Cuts and offal of geese, frozen	17.6¢/kg	Free (A+, AU, CA, CL, CO, D, E, IL, J, JO, MX, P, PA, PE, SG), 5.2¢/kg (BH, MA),15.8¢/kg (KR) 3.5¢/kg (OM)
0207.60.10	Guinea fowls, not cut in pieces, fresh or chilled	8.8¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.60.20	Guinea fowls, not cut in pieces, frozen	8.8¢/kg	Free (A, AU, BH, CA, CL, CO, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.60.30	Fatty livers of guinea fowls, fresh or chilled	17.6¢/kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.60.40	Cuts and offal, other than fatty livers, of guinea fowls, fresh or chilled	17.6¢kg	Free (A+, AU, BH, CA, CL, CO, D, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)
0207.60.60	Cuts and offal of guinea fowls, frozen	17.6¢/kg	Free (A+, AU, CA, CL, CO, D, E, IL, J, JO, MX, P, PA, PE, SG), 5.2¢/kg (BH, MA),15.8¢/kg (KR), 3.5¢/kg (OM)
	Prepared or preserved poultry meat:		
1602.20.20	Prepared or preserved liver of goose	4.9¢/kg	Free (A+, AU, CA, CL, CO, D, E, IL, J, JO, MA, MX, P, PA, PE, SG), 1.4¢/kg (BH), 4.2¢/kg (KR), 2.9¢/kg (OM)
1602.31.00	Prepared or preserved meat or meat offal of turkeys, nesi	6.4%	Free (A, AU, BH, CA, CL, CO, E, IL, J, JO, MA, MX, OM, P, PA, PE, SG), 5.1% (KR)
1602.32.00	Prepared or preserved meat or meat offal of chickens, nesoi	6.4%	Free (A, AU, BH, CA, CL, CO, E, IL, J, JO, KR, MA, MX, OM, P, PA, PE, SG)

TABLE A.5 Poultry meat: Harmonized Tariff Schedule of the United States (HTS) subheadings, descriptions, and column-1 rates of duty, 2012***—Continued***

HTS subheading	Brief description	Column-1 rate of duty	
		General	Special[a]
	Prepared or preserved poultry meat—*Continued*		
1602.39.00	Prepared or preserved meat or meat offal of ducks, geese or guineas, nesoi	6.4%	Free (A, AU, BH, CA, CL, CO, E, IL, J, JO, MA, MX, OM, P, PA, PE, SG), 5.1% (KR)

Source: USITC, Harmonized Tariff Schedule of the United States (2012) supplement 1 (revision 1), October 31, 2012.
Note: "nesoi" = "not elsewhere specified or included."

[a]Programs under which special tariff treatment may be provided and the corresponding symbols for such programs as they are indicated in the "Special" subcolumn are as follows:
Generalized System of Preferences (A, A* or A+);
United States-Australia Free Trade Agreement (AU);
United States-Bahrain Free Trade Agreement Implementation Act (BH);
North American Free Trade Agreement: Goods of Canada (CA);
United States-Chile Free Trade Agreement (CL);
Colombia-U.S. Free Trade Agreement (CO);
African Growth and Opportunity Act (D);
Caribbean Basin Economic Recovery Act (E or E*);
United States-Israel Free Trade Area (IL);
Andean Trade Preference Act or Andean Trade Promotion and Drug Eradication Act (J, J* or J+);
United States-Jordan Free Trade Area Implementation Act (JO);
Korea-U.S. Free Trade Agreement (KR);
United States-Morocco Free Trade Agreement Implementation Act (MA);
North American Free Trade Agreement: Goods of Mexico (MX);
United States-Oman Free Trade Agreement Implementation Act (OM);
Dominican Republic-Central America-United States Free Trade Agreement Implementation Act (P or P+);
Panama-U.S. Free Trade Agreement (PA);
United States-Peru Trade Promotion Agreement Implementation Act (PE); and
United States-Singapore Free Trade Agreement (SG).