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Assessing the Growth of U.S. Broiler and Poultry Meat Exports

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Abstract

The United States is the world's second largest broiler meat exporter, and exports have become a valuable source of income for the U.S. broiler industry. This study highlights the growth in broiler meat exports to several major markets. Factors that have affected U.S. broiler meat exports include increased efficiency in domestic production, income and population growth in destination markets, exchange rate shifts, trade policy and trade conflicts, and relative price changes for other meats. Exports have benefited in particular from foreign markets that prefer cuts that are less valued in the United States. Also, exports are supported by the general expansion of U.S. broiler production, which has been stimulated by slower consumer price increases than for most competing products and by consumer perceptions of the health benefits of eating poultry versus red meats. U.S. broiler meat exports are projected to rise about 12 percent between 2013 and 2022.

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Approved by USDA's
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Introduction

Exports are a significant income source for the U.S. broiler meat industry.¹ In 2012, U.S. broiler meat exports totaled \$4.2 billion and accounted for 20 percent of U.S. broiler meat production by weight. Moreover, U.S. broiler meat exports have experienced strong growth over the past 16 years. Between 1997 and 2012, exports climbed from 2 million metric tons (mmt) to 3.3 mmt, an increase of 65 percent, with much of this growth occurring between 2006 and 2008. At the same time, the destinations for U.S. broiler meat exports have expanded. In 2012, the United States exported broiler meat to just over 150 countries, compared with about 120 countries in 1997.

This report identifies the main factors underlying the growth of U.S. broiler meat exports over the past 16 years and discusses the outlook during the coming decade. The report examines both the main drivers of export growth within the U.S. broiler meat sector and the economic and policy conditions in key foreign markets that have affected U.S. broiler meat trade. The report also presents the 10-year commodity projections from the *USDA Agricultural Projections to 2022* (USDA, OCE, 2013) and highlights the factors affecting the trade outlook with several specific countries and regions. For further information on the baseline results and methodology, see the box “USDA Long-Term Projections.”

¹Broiler meat is defined as chicken meat that comes from the leg, thigh, leg-quarter, breast, wing, or any other part of a young bird except paws and feet.

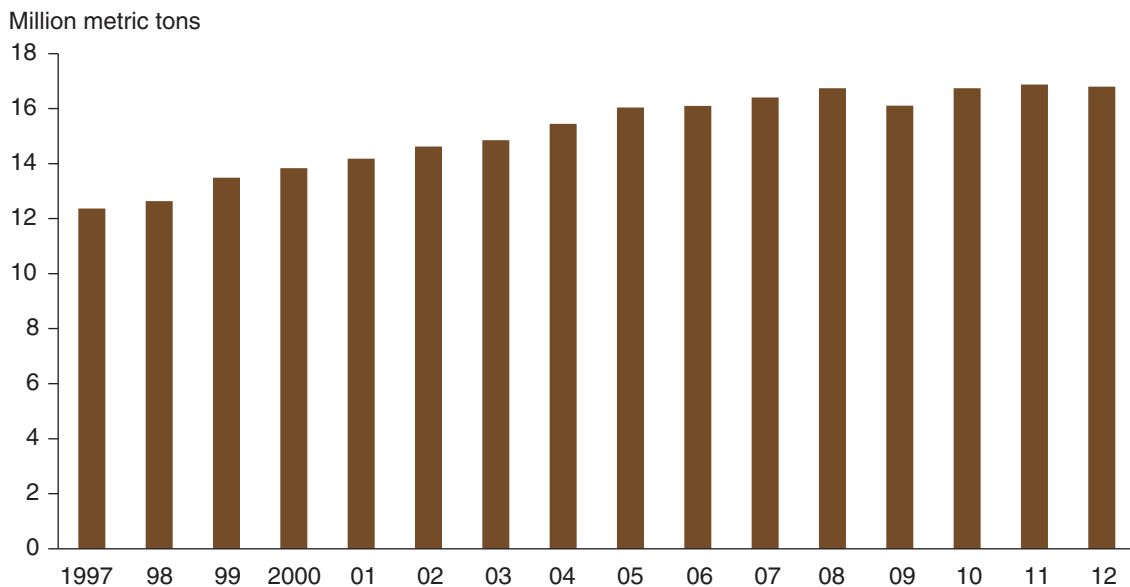
Trends in U.S. Broiler Industry

Growth in U.S. broiler production was stimulated first by increased demand in the domestic market and, eventually, by rising demand in international markets as well. Over the last 16 years, expanding domestic broiler production has been a key factor in the growth of U.S. exports. Between 1997 and 2012, U.S. broiler meat production rose by 35.8 percent, from 12.2 mmt in 1997 to a high of 16.6 mmt in 2012 (fig. 1). The expansion was driven by efficiency gains in the broiler production and processing sectors, changes in the types of products consumers want, and higher use of broiler meat in the food service sector.

Some of the efficiency gains in production resulted from the development of broilers with new genetic characteristics. Changes in broiler genetics allowed the broiler industry to control increases in production costs; grow birds to heavier weights in a shorter period of time and with less feed; and develop birds with a larger amount of breast meat, the premium product in the U.S. broiler meat market.

During the past 16 years, firms in the broiler industry continued to decrease in number and grow in size, thereby gaining further economies of scale and scope in processing and marketing. According to the National Chicken Council, 55 federally inspected broiler firms operated in 1995, compared with 41 firms in 2010. The broiler industry differs somewhat from both the hog and beef cattle industries in that it is almost entirely vertically integrated, with broiler-processing firms coordinating almost all aspects of production, processing, and marketing. Control over the number of birds delivered to the processing plants allows processors to match more closely inputs to plant capacities and lower per-unit processing costs, as well as to better meet consumer requirements.

Figure 1
U.S. broiler production, 1997-2012



Note: Broiler production is based on ready-to-cook weight.

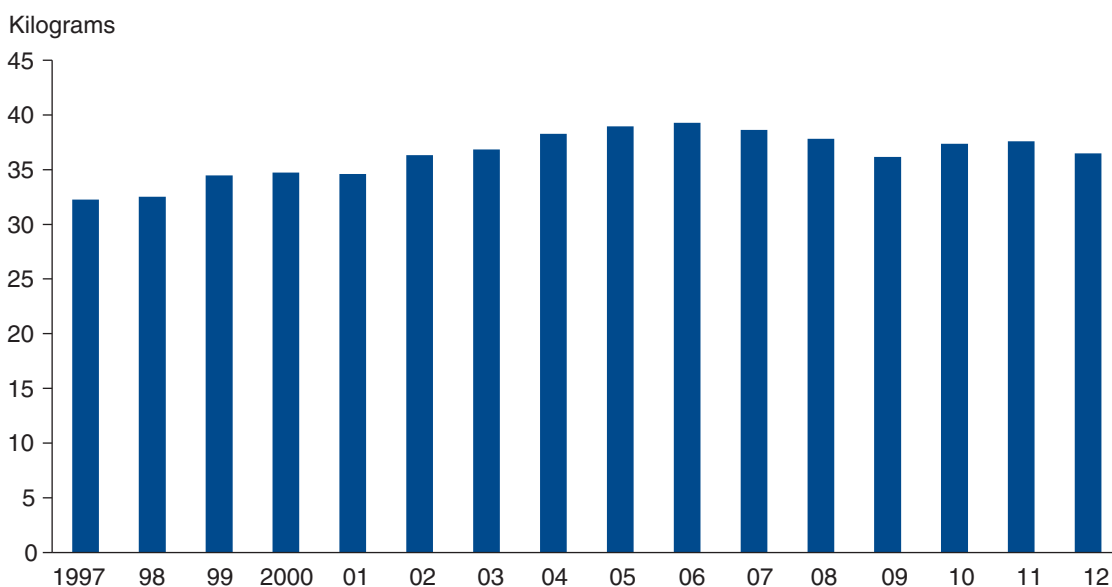
Source: USDA, National Agricultural Statistics Service, *Poultry Slaughter, 1997-2011*.

A number of forces drive consumer demand for broiler products, such as breast meat and thigh meat. For example, people today spend less time preparing foods and eat out more frequently than they did two decades ago. Some consumers demand food products that require minimal preparation. Broiler products are adaptable to a wide variety of food styles, such as grilling, boiling, baking, or frying. The growing incidence of obesity and medical issues caused by poor diets has led consumers to focus on products perceived to have low calorie and fat contents. Boneless/skinless broiler products meet consumer requirements for nutrition and for short preparation times. In the food service industry, broiler product use expanded as an alternative to beef products during a time when the percentage of meals consumed away from home was growing.

In 1997, U.S. per capita disappearance of broiler meat totaled 32.4 kg on a retail weight basis (fig. 2). With the exception of the recession of 2001, this amount generally trended upward until 2006. After 2006, as U.S. economic activity slowed, domestic broiler meat disappearance dropped for 3 consecutive years. Following the onset of the recession in December 2007, broiler meat per capita disappearance fell from 37.8 kg in 2008 to 36.2 kg in 2009. As the economy recovered, and supplies of red meat tightened, broiler meat disappearance again rose, although 2012 per capita disappearance of broiler meat is estimated at 36.5 kg, down slightly from 2010 and 2011.

Beef, pork, and broiler meat are the three major sources of animal protein for most Americans. Thirty years ago, pork and beef generally were the top sources of protein for consumers. In 1993, retail per capita broiler disappearance exceeded that of beef. Between 1997 and 2012, broiler disappearance extended its lead in per-capita disappearance over beef and pork (fig. 3), because of broiler meat’s ease and quickness of preparation, its increasing use by fast food industries, its price advantage over most red meats, and consolidation of the broiler industry, creating greater economies of scale at both the production and processing levels. During this period, the pork industry consolidated dramatically as well.

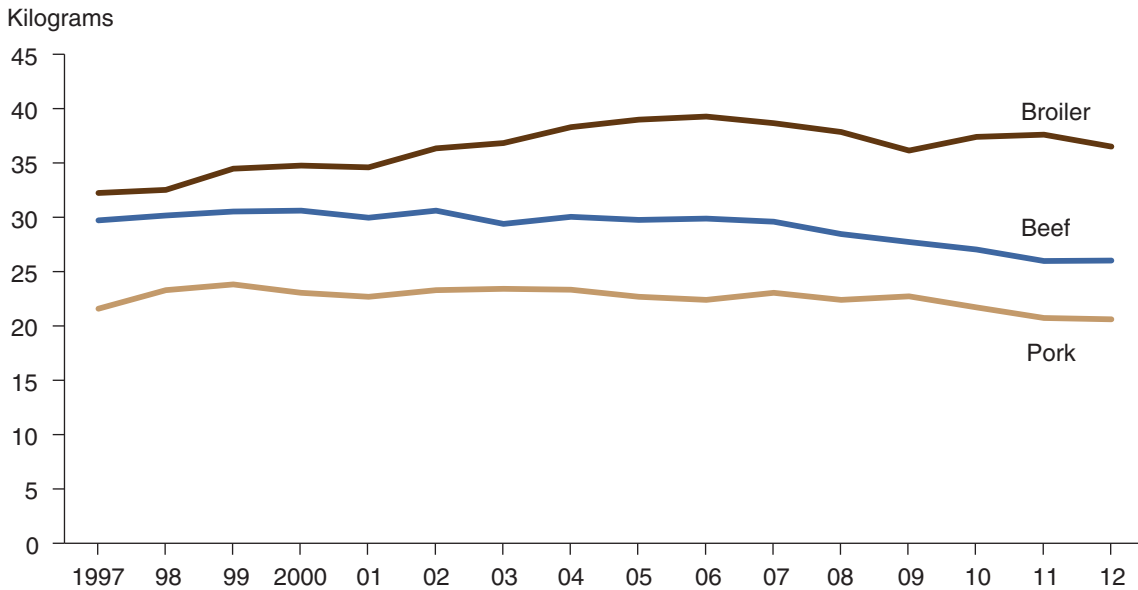
Figure 2
U.S. broiler per capita disappearance by carcass weight, 1997-2012



Note: Broiler consumption is based on ready-to-cook weight.
 Source: USDA, Office of the Chief Economist, *World Agriculture Supply and Demand Estimates Report*.

Figure 3

U.S. per capita disappearance of beef, pork, and broiler by retail weight, 1997-2012



Note: Broiler disappearance is based on retail weight.

Source: USDA, Office of the Chief Economist, *World Agriculture Supply and Demand Estimates Report*.

U.S. broiler meat exports have generally grown at the same or a higher rate than U.S. broiler production. In 1997, broiler production totaled 12.2 mmt (carcass weight), 16 percent of which was exported. By 2005, broiler production had grown 30 percent, with domestic consumers using over 16 mmt and 2.4 mmt—or 15 percent of production—being exported. Despite declining domestic disappearance, U.S. broiler production reached its second highest level in 2008 as exports continued to support broiler meat sales. The decline in broiler meat exports in 2009 resulted from the downturn of the global economy and restrictive import policies imposed by several countries. In 2012, broiler meat exports rose to an estimated 3.3 mmt, 19.6 percent of domestic production.

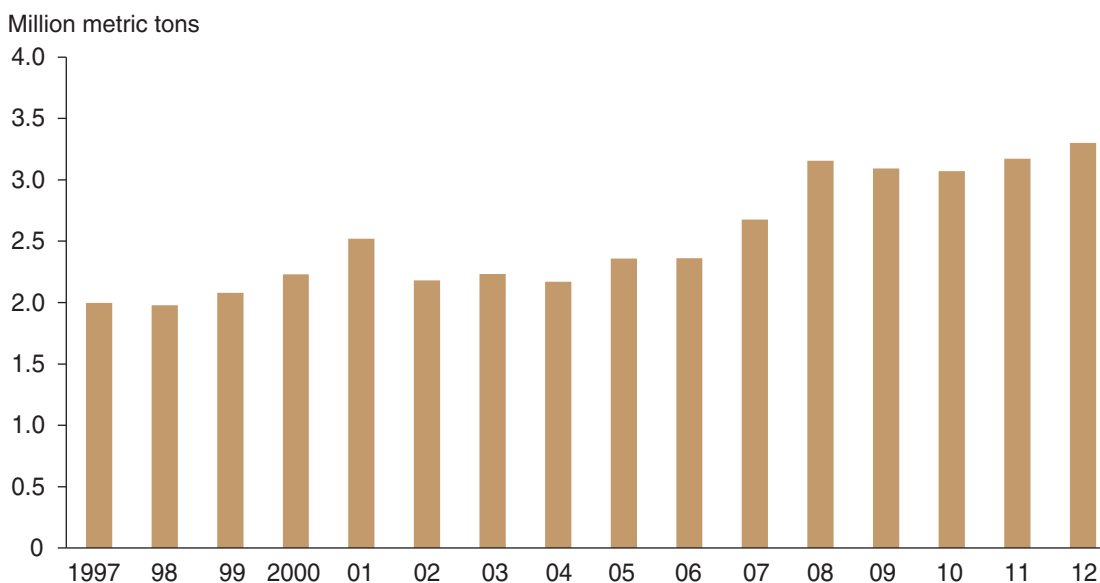
Growth in domestic production of selected broiler meat cuts is a primary driver of U.S. broiler meat exports. Other key factors are changes in foreign income and population, exchange rate changes, the status of trade policy and trade conflicts, and domestic price changes of alternative sources of animal protein. These factors have had positive and, at times, negative effects on U.S. broiler meat exports. An important positive factor that has influenced the expansion of broiler meat exports has been the opening of markets previously closed to U.S. broiler meat shipments, such as Cuba.

U.S. Role in the World Broiler Market

Export shipments of U.S. broiler meat increased just over 4 percent per year, on average, between 1997 and 2012. Poultry² became the leading U.S. meat product export in 2004, partly because of a loss of U.S. beef export markets due to the discovery of Bovine spongiform encephalopathy (BSE) in a U.S. cow. By 2012, broiler meat accounted for 45 percent (3.3 mmt) of total U.S. meat exports, and the United States was the world's second-largest broiler meat exporter after Brazil. (See box, "Major Shifts in World Poultry Trade," for more information on trends in the world poultry market.) According to USDA's Foreign Agricultural Service, Brazil accounted for 35 percent of global poultry meat exports, and the United States accounted for 33 percent. Figure 4 shows U.S. broiler meat exports by carcass weight from 1997 to 2012.

Broiler leg quarters, composed of dark meat, carry a relatively low domestic price but are more in demand in foreign markets. The most consumed part of broilers in the U.S. market is breast (white) meat. Of course, increasing production to meet the domestic demand for white meat likewise increases the supplies of dark meat available for export. Large supplies of lower priced dark meat have helped expand broiler meat exports to many countries seeking lower cost meat products. Frozen leg quarters represent the largest share of U.S. broiler meat exports.

Figure 4
U.S. broiler meat exports, 1997-2012



Note: Broiler disappearance is based on retail weight.

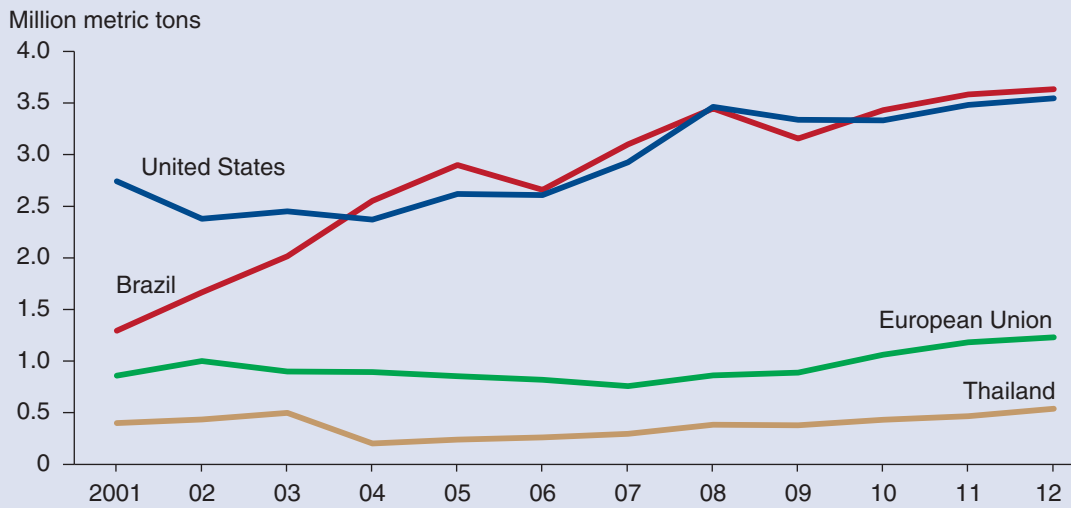
Source: USDA, Office of the Chief Economist, *World Agriculture Supply and Demand Estimates Report*.

²Poultry includes broiler and turkey meat only. USDA does not separate poultry meat into categories in its projections of world import demand, but broilers account for the vast majority.

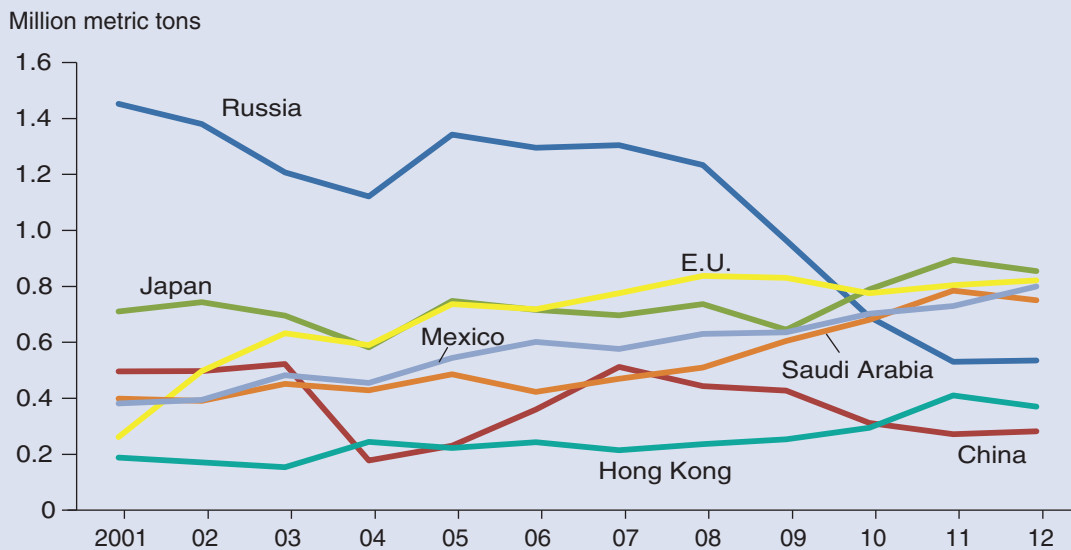
Major Shifts in World Poultry Trade

Two major developments occurred in international poultry trade during the first decade of the 21st century: a rapid increase in poultry meat exports from Brazil and a sharp decrease in imports by Russia. Between 2001 and 2012, Brazilian exports more than doubled, increasing from 1.2 mmt to 3.5 mmt. Brazil's broiler meat exports rose because of low corn prices and cheap labor. Total U.S. broiler meat exports grew by 9.2 percent between 1997 and 2002 and by 31 percent between 2001 and 2012. Growth in Russia's poultry industry, coupled with reduced tariff rate quota (TRQ) volumes for imported broiler meat, has contributed to a sharp decline in exports to Russia, especially over the past several years.

Major poultry meat exporters



Major poultry meat importers

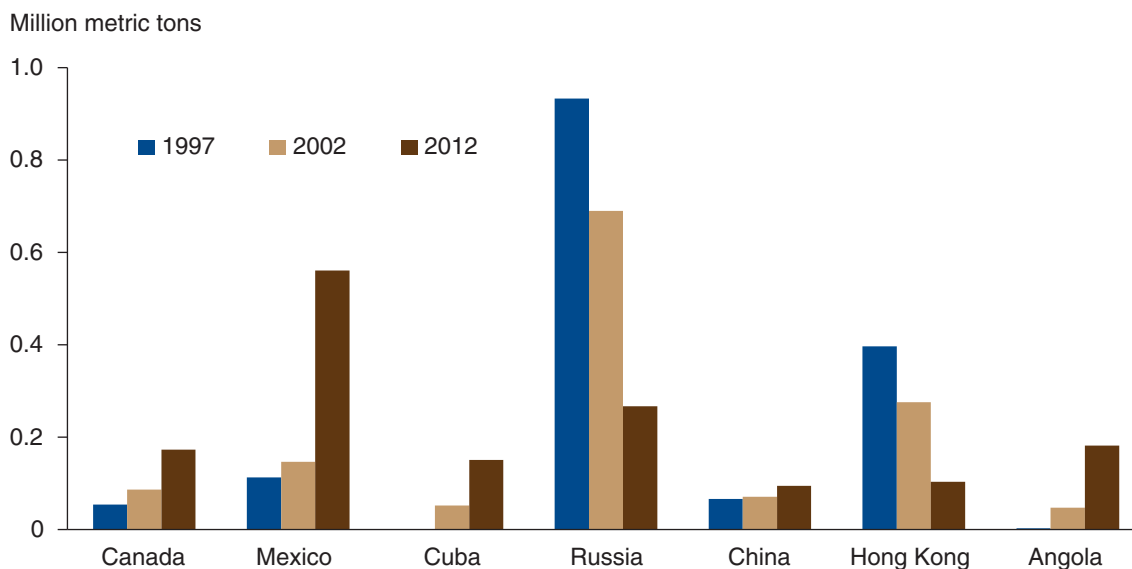


Source: USDA; Foreign Agricultural Service; Production, Supply and Distribution, 2013.

Major U.S. Markets and Market Share

During the last 16 years, the relative importance of some export destinations has changed considerably. Seven of the top foreign markets for U.S. broiler meat, on average during 1997-2012, were Mexico, Russia, Angola, Canada, Cuba, Hong Kong, and China (fig. 5). However, while sales of U.S. broilers to most of these larger markets rose during this period, U.S. exports to some countries fell. For example, Russia was the leading destination for U.S. broiler meat exports for most of the past decade, but exports to Russia dropped sharply after 2008. In 2012, 17 percent of U.S. broiler meat exports went to Mexico, while almost 8 percent were shipped to Russia, 5.5 percent to Angola, 5.2 percent to Canada, and less than 5 percent to each of the remaining major markets. Several countries that were once minor destinations for U.S. broiler meat exports have grown in importance as trade partners. For example, exports to Angola rose to 181.9 thousand metric tons (tmt) 2012 from 3 tmt in 1997. In 2002, Cuba became a major broiler market. From 2002 to 2012, the U.S. broiler exports to Cuba increased from 52.3 tmt to 150.9 tmt.

Figure 5
U.S. broiler meat exports to selected countries



Source: U.S. Department of Commerce, Census Bureau.

Evolving Traits of Foreign Markets

Economic growth in foreign countries, particularly middle- and lower-income countries with rising demand for animal proteins, has been an important driver of global consumer demand for broiler meat. Increases in meat disappearance are associated with population growth, changes in per capita income, urbanization, and other demographic factors. Among the major export markets for U.S. broiler meat, Angola and China have had sizable growth in broiler meat imports, fueled at least in part by strong growth in gross domestic product (GDP). Of the major broiler-meat export markets, Angola and Mexico have had the highest percent of population growth (table 1), which (along with strong-to-moderate growth in GDP) boosted their demand for broiler products. As incomes in many of these countries grew, many consumers increased the amount of meat in their diets. For these consumers, chicken meat was usually less expensive than most cuts of beef or pork.

In many countries, growth in income facilitated higher broiler meat imports and per capita disappearance. Income growth accompanied population growth in most emerging markets for U.S. broiler meat exports. Russia is an exception, with negative population growth since 1997, but rising per capita incomes have contributed to stronger Russian demand for broiler meat. However, Russian domestic investment, trade policies, and the 2009 economic crisis have contributed to volatility in U.S. broiler meat exports to Russia.

In emerging markets like China and Angola, more people have migrated from rural to urban areas. Higher urban populations and rising poultry disappearance at restaurants prompted a higher demand for more processed broilers, which in turn spurred import growth. For example, in China, a much higher share of chicken in urban areas is consumed in the form of chicken parts rather than whole chickens (Hsu et al., 2002).

Table 1
Real GDP, population, and U.S. broiler meat export (percent) growth rates—for selected countries, 1997-2012

	Growth in real GDP	Growth in population	Growth in U.S. broiler exports
<i>Selected countries</i>			
Canada	50.6	13.2	219.0
Mexico	48.6	19.9	398.0
Cuba	75.6	5.2	189.0
Russia	89.8	-7.2	-71.4
China	281.9	9.0	99.4
Hong Kong	76.1	10.6	-65.3
Angola	279.1	38.1	5,966.6

Note: GDP = gross domestic product. GDP growth is computed based on real 2005 values in U.S. dollars.

Source: U.S. Department of Agriculture, Economic Research Service, International Macroeconomic Data Set, and U.S. Department of Commerce, Census Bureau.

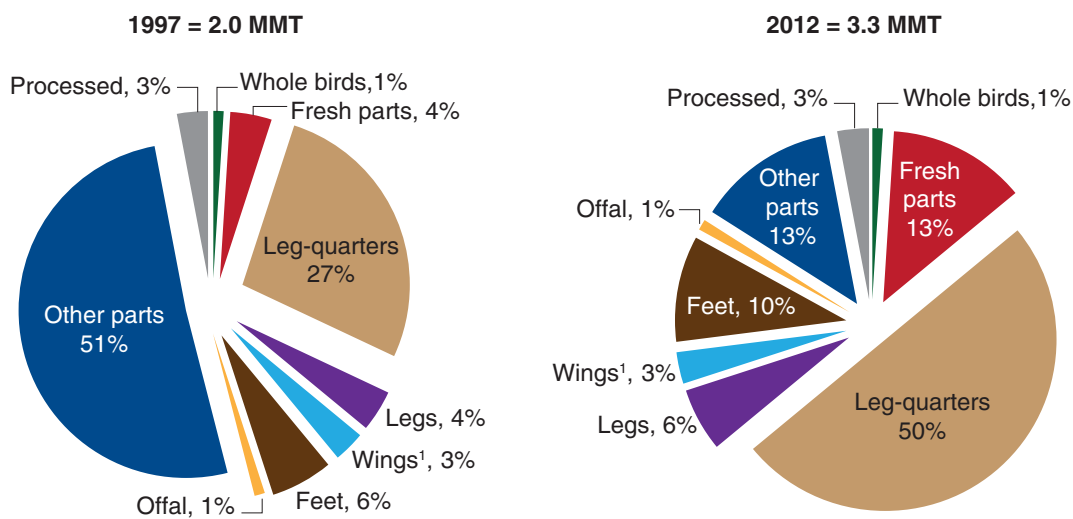
Characteristics of Consumer Demand

The composition of U.S. broiler exports is guided by cross-country differences in consumer preferences and changes in those preferences across time. In the United States, chicken breast meat is in high demand, while in the international markets chicken leg-quarters are in high demand. To meet domestic demand for breast meat, U.S. broiler producers had to increase the overall production of broiler meat, which in turn increased the availability of leg-quarters for export.

In addition to changes in foreign income and population, consumer preferences for various broiler parts have been evolving over time. Figure 6 shows the types of broiler products exported by the United States in 1997. The category known as “other parts,” which includes the breast, backbone, and neck, accounted for 51 percent of the quantity of U.S. broiler meat exports in 1997. Broiler leg quarters were the second largest cut exported, accounting for 27 percent of the total. Broiler feet consisted of 6 percent of the total broiler meat exported, while legs accounted for only 4 percent. Between 1997 and 2012, the composition of U.S. broiler meat exports changed substantially, becoming more complementary to U.S. domestic preferences. Leg quarters in 2012 accounted for 50 percent of total U.S. broiler meat exports, compared with only 27 percent in 1997 (fig. 6). In 2012, fresh and other parts placed second, while broiler feet moved up to third place from the shares recorded in 1997. Over 16 years, the amount of fresh parts exported grew by 225 percent.

The change in the composition of U.S. broiler meat exports reflects the different preferences of consumers in foreign markets. Canada has a high per capita income, and its consumers strongly prefer breast meat, similar to Americans. In contrast, Mexico and Angola do not strongly prefer breast meat and import mostly leg-quarters, which is an attractive alternative to buying a whole bird for many consumers. From 1997 to 2012, the share of wings exported remained the same, while leg-quarter exports rose, partly because overseas consumers were willing to outbid Americans for that product.

Figure 6
U.S. broiler meat exports by product type



Note: ¹Wings represents not whole wings, but instead, wing tips (third wing segment). All product types are measured in metric tons.

Source: U.S. Department of Commerce, Census Bureau.

Role of Trade and Sanitary Policies

Concerns about the movement of animal diseases, conflicting standards for processing, and policies related to domestic production and trade are common factors affecting broiler meat trade. Sanitary measures affecting broiler meat trade include veterinary and inspection border provisions generally in place to protect domestic animal populations and human health.

Changes in trade policies have had a significant impact on U.S. broiler meat exports. There are several examples of both trade liberalizations that have encouraged and trade sanctions that have discouraged U.S. broiler meat exports. Cuba has had one of the largest annual increases in imports of U.S. broiler meat despite having moderate population growth from 1997 to 2012. This growth reflects both growth in Cuba's GDP and the creation of an exemption in October 2000 within the U.S. trade embargo of Cuba for U.S. agricultural and medical exports.

In the case of Mexico, from July 2003 to December 2007, trade was limited by a voluntary safeguard agreement between the U.S. and Mexican Governments that established an annual tariff-rate quota (TRQ) on U.S. chicken leg quarters imported into the interior of Mexico. This safeguard was not part of the North American Free Trade Agreement (NAFTA), which had removed all tariff and quotas governing bilateral broiler trade by January 2003 (Zahniser and Roe, 2011). After the expiration of the voluntary safeguard in 2008, broiler shipments to Mexico increased 81.8 percent between 2008 and 2012, and Mexico became the largest export market for U.S. broiler meat in 2011. Canadian broiler meat imports from the United States almost doubled under NAFTA, growing from an annual average of 61,007 metric tons during 1989-93 to 120,649 metric tons during 1994-2000. The rapid increase occurred after the TRQ restriction was phased out under NAFTA. From 2003 to 2012, Canada increased its imports of U.S. broiler meat 88.6 percent and became the fourth largest U.S. broiler market by 2012.

Animal health and food safety concerns have been an important factor shaping China's broiler trade. Outbreaks of a strain of highly pathogenic avian influenza (H5N1) in poultry and people in China led to a steep decline in its broiler meat exports and curtailed domestic demand during 2004-05. The Chinese broiler industry has sought to improve confidence in its products through vaccination programs, crackdowns on the use of pharmaceuticals in poultry production and promoting food safety certifications in processing plants. China has frequently imposed bans on imports of U.S. poultry from various States over concerns about low-pathogenic avian influenza (LPAI), even though the bans are inconsistent with international animal health standards, and China has used its zero-tolerance standards for pathogens like *Listeria* and *E. coli* (even for uncooked poultry) to place a number of temporary bans on imports from certain U.S. plants. Complaints from importers sometimes arise due to health certificate requirements and delays by Chinese officials in processing them.

During the 2000s, Russia imposed various restrictions on meat imports from many countries because of perceived health and sanitary concerns. The restrictions affected imports from not only the United States, but also the European Union (EU), Brazil, and Mexico (among others). Russia's sanitary concerns for poultry meat imports have included the use of chlorine as an antimicrobial disinfectant.

A number of major importing countries have tried to limit their imports of U.S. broilers by imposing new requirements concerning animal diseases, processing methods, and animal welfare that may surpass the recommendations of the international organizations that set standards for animal health and food safety.

Animal Diseases. Since exports account for up to 20 percent of total U.S. broiler meat production, the ability to export is critical to the industry, especially for dark meat. Like all animals, poultry have a number of contagious diseases that, if present or suspected to be present, can severely limit the ability of a country to export poultry meat. Two of the more notable diseases affecting global poultry trade are Newcastle’s disease and the various strains of avian influenza (AI), especially highly pathogenic AI (HPAI). USDA maintains programs to prevent and control poultry diseases. Likewise, USDA monitors poultry and poultry meat imports to prevent foreign-origin poultry diseases that pose a serious threat to the domestic industry from being introduced into the United States. In some situations, importing countries responded to poultry diseases in exporting countries by limiting or banning imports, so international animal health standards recognize the importance of protecting poultry from the introduction of diseases and pathogens and have science-based standards that support safe trade.

Since 1997, the United States has had a number of small-scale detections of various strains of LPAI. Some of these detections resulted in the imposition of trade restrictions and suspended exports of U.S.-origin poultry and poultry products from specific geographic regions. Because most LPAI detections were restricted to small geographic areas, U.S. exporters were mostly able to meet their commitments by sourcing products from other U.S. locations. In general, LPAI-related restrictions placed on exports of U.S.-origin poultry and poultry products are not consistent with international animal health standards, which recommend imposing only limited bans for specific commodities, based on the risk associated with each commodity. However, the Food and Agriculture Organization (FAO) of the United Nations has indicated that the impact of AI globally could shift as much as 10 percent of consumer preferences away from poultry toward other meats (UN, FAO-CTD, 2006).

USDA’s Animal and Plant Health Inspection Service (APHIS) is responsible for detecting and addressing U.S. poultry disease outbreaks. If HPAI or LPAI of specific strains (H5 and H7) are detected in commercial poultry, APHIS notifies the World Organization for Animal Health (OIE).³ In a few cases, importing countries banned shipments of poultry and poultry products from the State or region in which the outbreak occurred (USDA, APHIS, 2007). After a set period of time, APHIS works with the importing country to review its response to the detection.

Processing Issues. Processing standards and pathogens levels are another set of food safety issues that can result in restrictions on poultry trade. While a number of processing standards exist throughout the world, the United States supports Codex Alimentarius⁴ and its mandate to protect consumer health, ensure fair practices in the food trade, and observe the rules and procedures Codex has established in carrying out this work. Whereas conflicting standards between exporting and importing countries may result in unnecessary trade restrictions, Codex standards—which are based on science—serve as an unbiased reference point. One example of a dispute is the lack of poultry trade between the United States and the EU. The two parties have not been able to agree on a system that would meet the processing standards in place in each area. USDA’s inspection program emphasizes the wholesomeness of the end product with the use of various pathogen-reduction treatments and the use of hazard analysis and critical control points (HACCP) to achieve a preferred end product. In contrast, the EU’s inspection program, like that of many other countries, takes a more

³Per OIE Terrestrial Code Chapter 10.4, notifiable avian influenza (NAI) is defined as an infection of poultry caused by any influenza A virus of the H5 or H7 subtypes 4 or any AI virus that meets specific pathogenicity or mortality criteria.

⁴The Codex Alimentarius Commission, established by FAO and WHO in 1963, develops harmonized international food standards, guidelines, and codes of practice to protect the health of the consumers and ensure fair practices in the food trade.

prescriptive approach and mandates a specific set of steps when slaughtering and processing poultry. Also, several areas or countries have specific methods that must be used when broilers are slaughtered and processed. Meeting these conditions are requirements for shipments to areas or countries where such standards are enforced.

Animal Welfare. The methods and procedures used in growing and slaughtering broilers are concerns to some consumers. Countries vary in their standards regulating the conditions under which birds must be grown, transported, and slaughtered. Animal welfare-related issues are expected to become an increasingly important concern of some trading partners in the coming years, and this could have some future trade-related ramifications for U.S. poultry and poultry product exports.

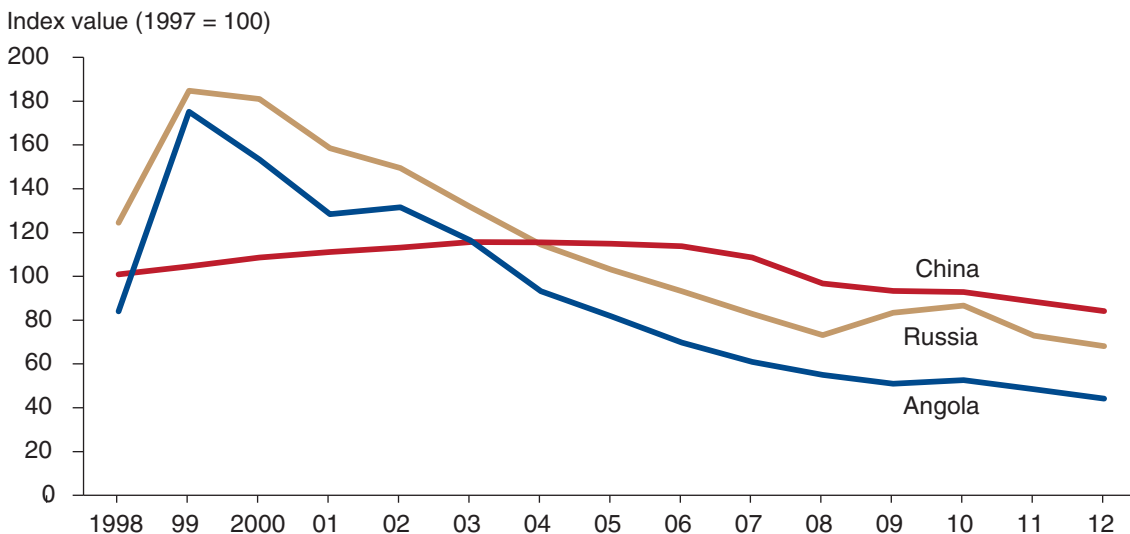
Product Cost. Because worldwide broiler meat exports are dominated by two low-cost producing countries, the United States and Brazil, broiler producers in some importing countries are not price competitive with major exporters. The cost of producing a broiler differs from country to country, depending on the price of feed, labor, birds, technology, and production facilities as well as the ability of producers to achieve economies of scale. For broiler production, feed is the largest single production cost. One reason that the United States and Brazil are major producers and exporters is their position as large feed grain producers, which allows their broiler industries access to feed at prices and quantities unavailable to many producers in importing countries.

Changes in Real Exchange Rates

Although the general trend in U.S. broiler meat exports has been upward, macroeconomic factors such as exchange rates and economic growth within countries have caused fluctuations. The influence of exchange rates on agricultural trade is well established. Studies have found that exchange rate fluctuations significantly affect trade flows, and impacts tend to be sector- and/or commodity-specific (Shane, Roe, and Somwaru, 2008; De Grauwe and Skudelny, 2000; Langley et al., 2000). Changes in real exchange rates occurred from 1997 to 2012 in many of the major export markets for U.S. poultry. Figure 7 shows the value of the dollar versus these other countries' currencies. Among the major foreign markets for U.S. broiler meat, Angola, China, and Russia have experienced the largest changes in exchange rates relative to the United States. The appreciation of the Angolan new Kwanza relative to the dollar over time in Angola has made U.S. broiler meat more affordable to Angolan consumers, helping to expand U.S. broiler meat exports there. The more gradual appreciation of the Chinese Yuan relative to the U.S. dollar from 2005 to 2012 also made U.S. broiler meat more competitive in the China market. In Russia, potential growth in U.S. broiler imports was offset by growth in Russia's domestic poultry industry and reduced TRQ volumes for imported broiler meat.

From 1999 to 2000, the effect of a strong dollar (relative to the Angolan new Kwanza) was very apparent, as it kept exports to Angola almost 30 percent lower than 1998 shipments. In 2001, economic activity slowed, and the United States entered into a recession. Before the recession, Angola's currency started to appreciate relative to the U.S. dollar, and the effect was clearly seen as broiler meat exports to Angola increased 27 percent from 2000 to 2001. Downturns in the U.S. economy caused the dollar's value to drop in the first quarter of 2002. It remained weak until the end of the second-quarter in 2008 and has fluctuated ever since. As the dollar's value dropped, the new Kwanza's strength grew, facilitating a 508 percent increase in U.S. broiler meat exports to Angola from 2001 to 2012.

Figure 7
Real exchange rate indices of selected countries



Note: Exchange rate indices are based on the average broiler trade weights from 2008-2010 for the above three countries and index value (1997=100). These index values are in local currency/U.S. dollar, and an increase means a depreciation against the U.S. dollar.

Source: Economic Research Service Macroeconomic Data Set.

Projected World Import Demand

According to USDA's long-term projections (USDA, OCE, 2013), world poultry disappearance is projected to increase 21 percent during 2013-22 (fig. 8). World import demand for poultry meat is projected to grow 1.56 mmt over the next 10 years, with Brazil supplying most of the new global demand for imports. Of the many poultry-exporting countries, Brazil is projected to account for 36 percent of the world's total increase in poultry exports over the next 10 years (fig. 9). Poultry exports from Brazil are expected to grow 27 percent by 2022 compared with 11 percent total projected growth in U.S. poultry exports. Low production costs and competitive export prices are among the reasons Brazil is expected to continue to be the largest exporter of poultry products and fulfill most projected growth in global import demand. Strong growth in poultry imports is projected for much of the world except for Russia and the EU (see fig. 8).

Africa and the Middle East now account for more than 40 percent of poultry imports by major importers (see fig. 8). In Africa, the Middle East, Mexico, and the Central America and Caribbean region, rising consumer incomes and population growth are projected to increase poultry disappearance and imports. Domestic poultry production in Mexico is expected to continue to grow, but more slowly than disappearance, leading to a projected 50-percent increase in Mexico's poultry imports during the next 10 years.

Russia, the largest U.S. broiler market up until 2010, is expected to reduce its poultry imports substantially over the next 10 years, as a result of domestic policies that stimulate meat production and curb imports. Rising international poultry prices and negative population growth may also inhibit Russia's poultry disappearance and volume of imports.

Figure 8
Poultry imports for selected countries

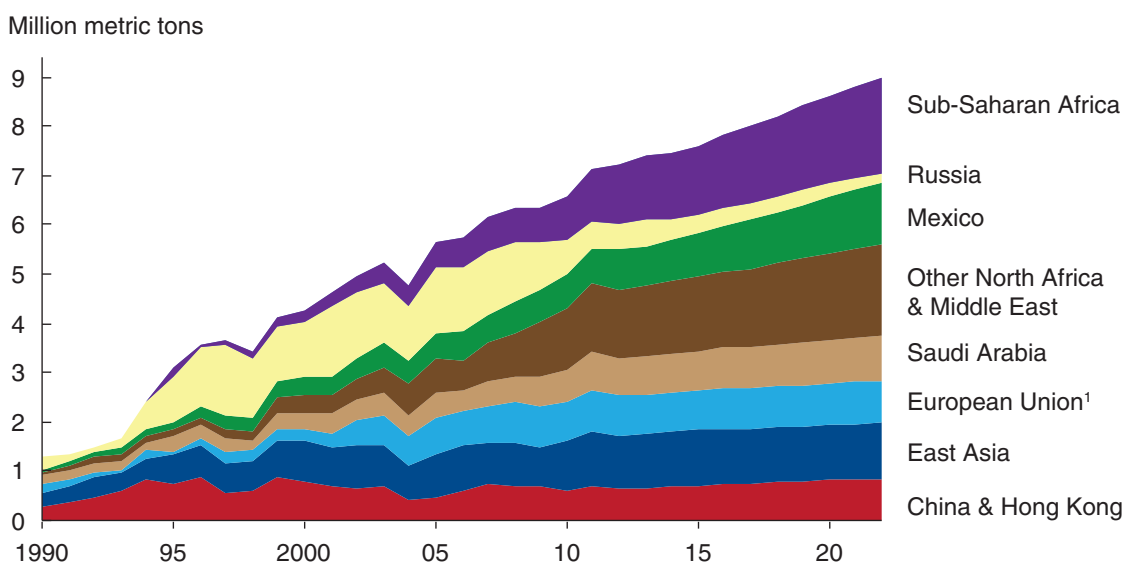
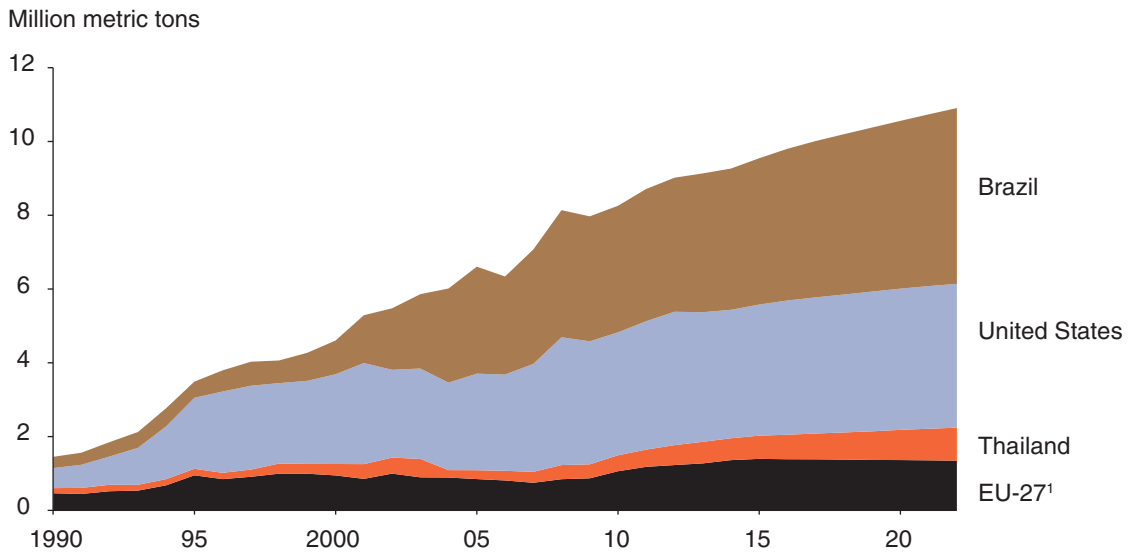


Figure 9
Poultry exports by selected countries



Note: ¹Excludes intra-EU trade.
 Source: U.S. Department Agriculture, Office of the Chief Economist, 2013.

South Korea’s poultry imports are projected to increase 30 percent during the next decade because of rising per capita disappearance and environmental concerns that limit expansion in domestic production. China’s rising demand for poultry meat is accompanied by expanding domestic production. Over the next 10 years, China’s growth in poultry exports is projected to slightly exceed its increase in imports.

USDA Long-Term Projections

The broiler trade projections in the *USDA Agricultural Projections to 2022* assume trends concerning use and assume that countries comply with existing bilateral and multilateral agreements affecting agriculture and agricultural trade. The projections incorporate the effects of international trade agreements and U.S. domestic policies in place or authorized as of November 2012. International macroeconomic assumptions were completed in October 2012.

While international trade is important to USDA baseline projections, bilateral trade—including U.S. exports to specific countries—are not a part of USDA projections. Each (reported) country's imports and exports are projected but not the specific bilateral trade flows. The same developments that are projected to affect world imports (up in some countries, down or stable in others) are implicitly the same factors that will affect U.S. (and other suppliers') exports. Domestic agricultural and trade policies in individual foreign countries are assumed to evolve along their current paths, based on the consensus judgment of USDA analysts: in particular, long-term economic and trade reforms in many developing countries are assumed to continue. Similarly, the development and use of technology and changes in consumer preferences are assumed to continue evolving based on past performance and analysts' judgments regarding future developments.

For additional information on the methods and current assumptions behind the USDA long-term projections, please see:

- The Agricultural Baseline Projections topic pages on the ERS website. (<http://www.ers.usda.gov/topics/farm-economy/agricultural-baseline-projections.aspx#Uh5qxbzjZHY>)
- *USDA Agricultural Projections to 2022*. (http://www.ers.usda.gov/publications/oce-usda-agricultural-projections/oce131.aspx#Uh5ftha4_bg)

Russian Poultry Meat Imports Projected to Decline

USDA projects that total Russian broiler imports will drop from 0.54 mmt in 2012 to 0.21 mmt in 2022 (table 2).⁵ Russia will continue to substitute domestic broiler production for imports, as from 2012 to 2022, Russian poultry meat output is expected to rise from 2.85 to 3.55 mmt. Pursuant to Russia's World Trade Organization accession, Russia will maintain a TRQ regime for imported poultry meat (as well as beef and pork), with an out-of-quota import tariff of 80 percent. As a result of all of these factors, Russia's status as the largest foreign market for U.S. broilers during the 2000s is projected to decline by 2022. Nevertheless, U.S. market penetration remains strong, with the United States accounting for 47 percent (by volume) of Russian broiler meat imports in 2012.

In late 1991, with the breakup of the former Soviet Union and Russian independence, Russia began to transition from a planned to a market economy. The country became a large importer of broiler meat, especially from the United States (Liefert and Liefert, 2012). During 2001-10, Russia's annual imports of broilers averaged 1.18 mmt, with imports from the United States averaging 0.73 mmt. The United States became Russia's main foreign supplier of broilers, with a 62 percent market

⁵In 2012, broilers composed 97 percent of Russia's imports of broilers and turkey meat. USDA long-term projections assume that the vast majority of Russian poultry meat imports will remain broilers.

Table 2

Russian poultry meat disappearance, production, and imports

	2000	2005	2012	2017	2022
<i>Macroeconomic variables</i>					
Population (millions)	147	143	138	135	131
GDP (index: 2000 value = 100)	100	135	173	209	250
Real exchange rate ¹ (index: 2000 value = 100)	100	176	253	308	348
Disappearance (mmt)	1.52	2.30	3.34	3.59	3.69
Production (mmt)	0.41	0.96	2.85	3.31	3.55
Imports (mmt)	1.11	1.35	0.54	0.35	0.21

Note: Figures for 2000, 2005, and 2012 are historical numbers, and figures for 2017 and 2022 are USDA projections.

¹The exchange rate is U.S. dollars per ruble, such that an increase in the index shows ruble real appreciation.

mmt = million metric tons.

Source: USDA, Production, Supply and Distribution; international macroeconomic data set generated by USDA, Economic Research Service analysts; and USDA, Office of the Chief Economist, 2013.

share over the decade, and Russia was the largest foreign market for U.S. poultry, responsible for 28 percent of total exports.

During the 2000s, Russia's GDP grew about 5 percent annually, which increased consumer income and food demand, including for imports (table 2). From 2000 to 2012, poultry disappearance rose from 1.52 to 3.34 mmt. Imports also rose because of strong appreciation of the ruble in real terms. Although the ruble was fairly stable during the decade relative to the U.S. dollar and other major currencies in nominal terms, Russia had higher price inflation than its major trading partners. This higher inflation appreciated the ruble in real terms, decreasing the real prices of imported goods relative to competing domestic output.

In 2003, Russia established a TRQ regime for beef and pork and a pure quota for poultry, converted in 2006 to a TRQ. The annual quota for poultry imports was set in 2003 at 1.05 mmt, which compares to 2002 poultry imports of 1.37 mmt (Liefert and Liefert, 2012). In 2009, the TRQ volume was reduced and the over quota tariff rate was increased. For poultry, the tariff for in-quota imports was kept at the existing 25 percent, but the TRQ volume was reduced from 1.25 to 0.95 mmt, and the over-quota tariff was raised to 95 percent. For U.S. broiler exports, the TRQ volume was cut from 0.93 mmt in 2008 to 0.75 mmt in 2009, and again to 0.60 mmt in 2010. During the 2000s, Russia also imposed many sanitation-based restrictions on imports of U.S. poultry, as well as on meat imports from many other countries. In concert with reduced imports, Russian Government support (such as interest rate subsidies) helped the Russian poultry industry expand during the 2000s.

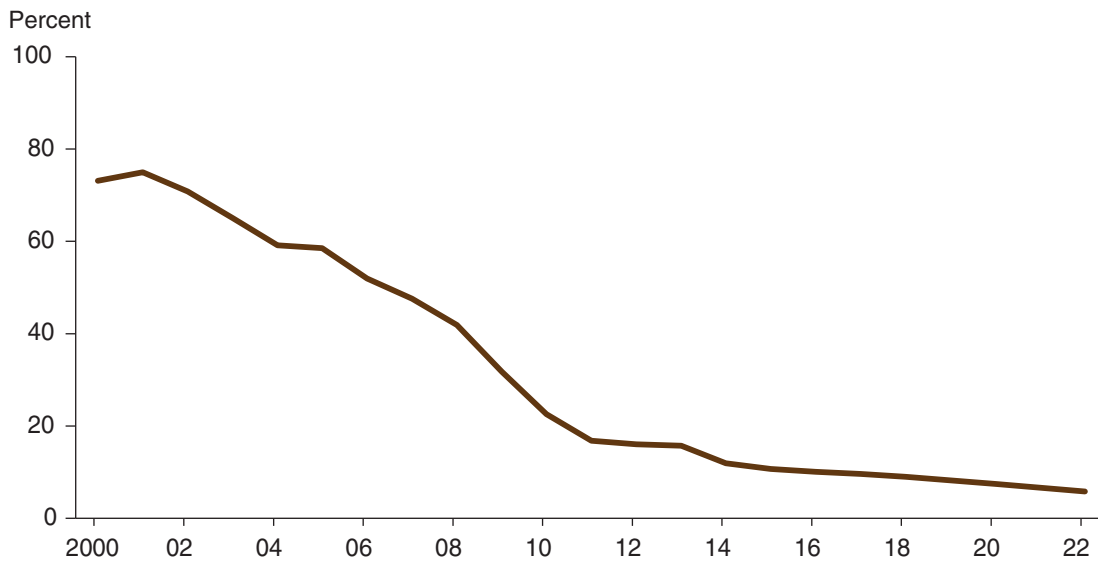
Another factor in rising output was farm-level improvements that raised feed efficiency and overall input productivity within the poultry sector. Such changes included improved genetics, new equipment and technology, and a move to larger, more modern farms. Russian poultry meat output grew from 2000 to 2012 by almost 600 percent. The surging domestic production, along with trade protection, explains the 60-percent drop in Russian poultry imports from 2005 to 2012. The combination of rising

domestic poultry disappearance and falling imports reduced the share of imports in domestic poultry disappearance from around 60 percent in 2005 to about 15 percent in 2012 (fig. 10).

Table 2 presents USDA’s projections for Russia’s disappearance, production, and imports of poultry meat to 2022, as well as the macroeconomic assumptions behind the projections. Russia’s population is projected to continue to decline, dampening demand for poultry meat. However, GDP is projected to rise over the projection period at the average annual rate of 3.5 to 4 percent, and the Russian ruble is projected to appreciate in real terms. Growing GDP and consumer income will increase Russian poultry demand, while currency appreciation will again make poultry imports more price competitive vis-à-vis domestic production.

Although the overall *isolated* effect of these macroeconomic developments should be to expand Russian poultry meat imports, these factors are expected to be offset by domestic production gains and trade policies. Russian poultry meat production is projected to continue to rise, from 2.85 mmt in 2012 to 3.55 mmt by 2022. Russia is also strengthening its customs union with Belarus and Kazakhstan, such that Belarus will be exempt from Russia’s TRQ restrictions for imported poultry meat. This change should increase poultry meat imports from Belarus and proportionally reduce the imports from other countries.

Figure 10
Russian poultry meat imports as a share of domestic disappearance



Source: U.S. Department Agriculture, Office of the Chief Economist, 2013.

China-Hong Kong: Strong Growth in Production and Disappearance

According to the USDA projections, China and Hong Kong's volume of poultry production and disappearance will both rise, with little change in the region's net imports. The projections anticipate that China's poultry production will continue to grow rapidly, meeting growth in disappearance. China's future trade in broiler meat is difficult to predict because consumer preferences for certain chicken parts are changing and because changes in China's farm sector may challenge its ability to sustain its historical growth in broiler output.

China both imports and exports broiler meat—a result of complementary preferences for different broiler parts between Chinese and Western consumers. Historically, China has shifted back and forth between net importer and exporter status in its broiler trade. Hong Kong, an urbanized region and a relatively mature market, relies on a steady flow of imports from China and other countries for most of its broiler meat supply.

Traditionally, per capita disappearance of chicken was low in China, but officials began encouraging production of broilers in the 1980s as an efficient source of animal protein. Given China's scarce feed and pasture availability, chicken's efficient conversion of feed to animal protein gives it an important cost advantage compared with other meats. The retail price of chicken is lower than prices of beef, mutton, and pork, giving it appeal to low-income groups. The popularity of restaurant chains serving poultry helped accelerate demand (*China Food News*, 2011).

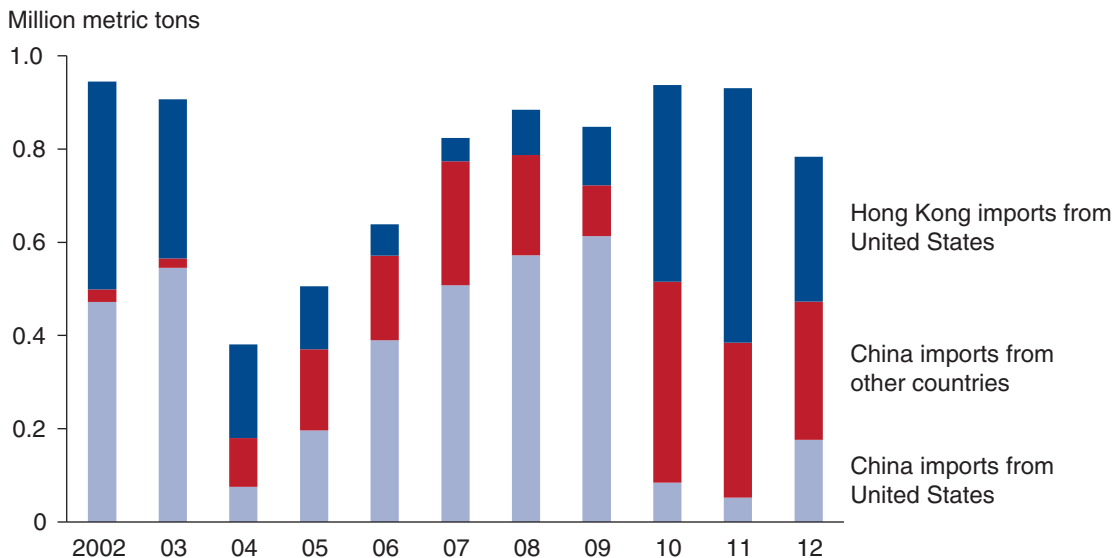
Broiler production expanded rapidly to supply China's growth in disappearance, but many processing companies have low profit margins because of excess capacity, rising production costs and price-based competition (Liu and Wang, 2011). Rapid increases in wages, rising domestic prices, and appreciation of the Chinese currency have made imported broiler meat attractive to buyers in China. On August 14, 2009, the China Animal Agriculture Association (CAAA) filed a petition with China's Ministry of Commerce (MOFCOM) alleging that the U.S. poultry industry had benefited from subsidies, engaged in dumping⁶, and created a "serious impact" on China's broiler industry. In response, on September 27, 2009, MOFCOM initiated an antidumping and countervailing duties investigation of broiler products from the United States (*China Food News*, 2011). The Ministry later announced antidumping duties of 50.3 to 105.4 percent and countervailing duties of 4 to 30.3 percent on U.S. broiler meat for the 5 years beginning September 2010.

The countervailing duties led to a dramatic drop in China's imports of U.S. broiler meat after 2009, but demand for imported broiler meat remained strong (fig. 11). The volume of imports from Brazil and Argentina increased sharply after the duties were assessed against the United States, partially filling the gap left by the decline in U.S. broiler meat. Hong Kong imports of U.S. broiler meat tripled in 2010 and rose further in 2011. China's imports of U.S. broiler meat rebounded slightly in 2012, but were still about two-thirds lower than 2009 shipments.

The relationship between China's production of broilers and its trade in broiler meat is complicated by local preferences for dark meat, wings, and feet. Breast meat has relatively low value in the domestic market, and Chinese producers are eager to export it. However, many trade partners limit poultry meat imports from China because of food safety and disease concerns. Consequently,

⁶Dumping is the act of charging a lower price for a good in a foreign market than one charges for the same good in a domestic market for consumption in the home market of the exporter.

Figure 11
China and Hong Kong broiler meat imports, 2002-12



Note: Chart shows imports of chicken meat and offal.
 Source: Economic Research Service analysis of China and Hong Kong customs statistics.

increased production of Chinese broilers to meet demand for dark meat also yields a surplus of low-value white meat that reduces the value and profit from each chicken produced. This phenomenon constrains growth in domestic production and tends to keep Chinese prices of dark meat and feet relatively high. According to customs statistics, China imported over 300,000 metric tons of broiler feet from the United States in 2009 (the year before antidumping and countervailing duties took effect), roughly half of its imports of U.S. chicken⁷ meat and offal that year.

Chinese production and trade is also vulnerable to potential losses from outbreaks of AI and other diseases. Imports and exports of broiler meat took several years to recover from a 2004-05 domestic outbreak of AI. Chinese officials are on guard against recurrences, but smaller outbreaks of disease continue to affect Chinese growers.

USDA projections anticipate that China’s poultry production will grow fast enough to meet the region’s robust demand growth. Broiler production’s efficient conversion of feed to meat and relatively low land requirements are well suited to China’s land-scarce resource endowment (Liu and Wang, 2012; CFN, 2011).

In 2012, Chinese consumers had food safety concerns in response to news media revelations of pharmaceutical abuse by some chicken growers. Media reports revealed that producers used banned antiviral drugs. Further, because the producers worried about disease threats to broilers raised in crowded conditions, they did not stop administering the antiviral drugs the prescribed number of days before slaughter. Tighter regulation and strict enforcement to address food safety concerns may raise costs for Chinese producers and processing enterprises by inducing them to adopt expensive new equipment and management systems (Wang, Yuan, and Gale, 2009). Growth in broiler output may slow as rising regulatory costs and improved off-farm earning prospects make it more difficult

⁷USDA excludes feet and paws data from its broiler meat calculations.

to recruit farmers to raise chickens. Expansion of large-scale, company-owned production facilities may be limited by scarce land and rising labor costs.

China's Ministry of Agriculture called for shifting poultry production growth away from broilers toward native "yellow-feathered" chicken breeds and waterfowl in its strategic plan for 2011-15, but these types of poultry are much less efficient at converting feed to meat and, consequently, cost more to raise than broilers. The plan set general objectives of increasing the quality of products, raising the scale of farms, upgrading poultry breeds, and establishing a domestic breeding system that is intended to reduce the industry's reliance on imported breeding stock.

Mexico: Prospects for Continued Growth in Import Demand

Mexico's poultry meat imports (from all countries) are projected to increase from 825,000 metric tons in 2013 to 1.2 mmt in 2022, according to USDA projections. In 2012, broiler meat accounted for 84 percent of Mexico's poultry meat imports. Because of Mexico's geographic proximity to the United States and the liberalization of U.S.-Mexico poultry meat trade as part of NAFTA, the United States is likely to remain Mexico's primary foreign supplier of broiler meat throughout the coming decade.⁸

Several factors explain the large projected increase in Mexico's poultry meat imports. On the supply side, Mexico's domestic production of poultry meat is projected to grow substantially over the next decade, but not at a rate sufficient to meet the country's growing demand (fig. 12). Poultry production is projected to rise at a compound annual rate of 1.9 percent during the projection period, compared with a 2.5 percent rise for disappearance.

On the demand side, income growth, population growth, a gradually appreciating peso, and changes in the Mexican diet and food system are expected to boost disappearance and imports of broiler meat. Cross-country analysis indicates that high-income countries tend to devote a larger share of their food expenditures to meat and dairy products than middle- and lower-income countries (Regmi et al., 2001). As Mexico's real per capita income increases over the next decade, its per capita disappearance of poultry meat is projected to rise from 33 to 36 kg (fig. 13). In historical data, there is generally a strong positive relationship between real per capita income and poultry consumption. The only years when this was not the case (see fig. 13) were 2002 and 2003, when the price of imported poultry was high due to disease outbreaks in certain U.S. States and a voluntary safeguard on U.S. chicken-leg quarters (Flores and Hernandez, 2003), and 2008, when supplies were unusually abundant due to the combined effects of increased bird weights and the economic downturn (San Juan and Williams, 2009). In the projections, real per capita income is assumed to grow at an average annual rate of 2.6 percent—similar to the average rate experienced over the past 40 years.

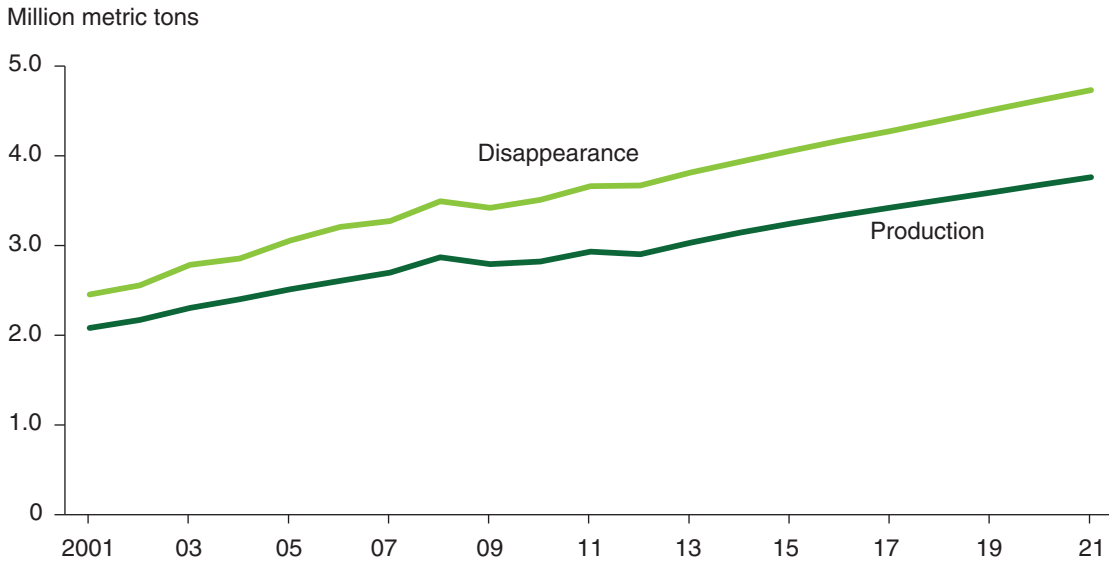
Population growth will give an extra boost to aggregate disappearance and imports of broiler meat, even though Mexico's population growth rate no longer exceeds that of an average country. Over the next decade, Mexico's population is projected to grow at an annual rate of 1.0 percent, compared with 0.8 percent in the United States and 1.0 percent in the world as a whole. Among the macroeco-

⁸Poultry meat trade with Canada—also a member of NAFTA—is small in volume because Canada sharply limits such imports as part of its supply management policies for the dairy, egg, and poultry sectors. NAFTA largely exempted Canadian poultry meat trade from the agreement's project of regional trade liberalization. In 2012, Canada's broiler meat trade (with all countries) consisted of just 141,000 metric tons of exports and 197,000 metric tons of imports, according to Canadian trade statistics. Canada has a re-export program that provides for poultry imports above the import quota if the imports are further processed and the resulting products exported.

conomic assumptions in the USDA projections is a slight appreciation of the Mexican peso. Between 2012 and 2022, the U.S.-Mexico real exchange rate (base year 2005) is assumed to decrease gradually from 11.63 to 11.27 pesos per dollar. The peso's appreciation increases its buying power, making imported broiler meat more affordable to Mexican buyers relative to domestic products.

Figure 12

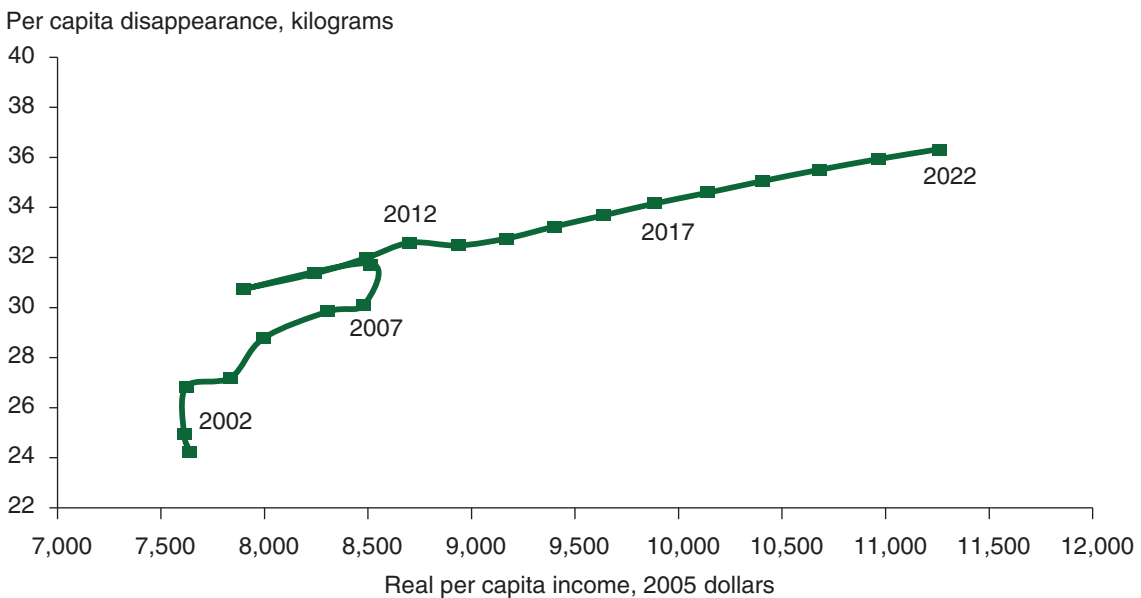
Mexico's poultry meat disappearance is projected to grow faster than its domestic production



Source: U.S. Department Agriculture, Office of the Chief Economist, 2013.

Figure 13

Mexico: Real income versus poultry meat disappearance, actual and projected, 2001-22



Source: U.S. Department Agriculture, Office of the Chief Economist, 2013.

More boosts to Mexican disappearance and imports of broiler meat come from changes in the Mexican diet and food system. Traditionally, Mexican consumers have purchased poultry meat in the form of recently slaughtered whole birds in public markets or specialty shops. Accordingly, the country's poultry industry has focused on the production and marketing of whole birds, rather than cuts, parts, and processed poultry meats. While this traditional orientation of demand is still prevalent, disappearance is shifting toward more processed products, where foreign suppliers have a comparative advantage. Rapid expansion of the Mexican supermarket sector has given consumers different venues in which to purchase meat, including imported broiler meat (Zahniser, 2003).

Cuts and edible offal account for 94 percent of Mexico's broiler meat imports, according to Mexican trade statistics for 2012 (information from Mexico's Secretariat of Economy [SE], compiled by Global Trade Information Services (GTIS), 2013). The large share corresponding to cuts and edible offal reflects the shift among consumers toward more processed products, as well as the domestic poultry industry's traditional focus on producing and marketing whole birds.

The leading category of imported cuts and edible offal is chicken legs, thighs, and leg quarters, which accounted for 39 percent of broiler meat imports in 2012 (GTIS, 2013). Leg quarters, in particular, are an attractive and affordable product to those consumers who wish to prepare a meal featuring chicken, but do not want to purchase a whole chicken. Thus, imported chicken legs and muscle are a substitute for domestically produced whole birds, and with the liberalization of U.S.-Mexico poultry trade, imports of U.S. chicken leg and muscle have increased. In 2012, Mexican imports of U.S. chicken legs, thighs, and leg quarters equaled about 247,000 metric tons, compared with 162,000 metric tons in 2008 (Global Trade Information Services, 2013).

Rising Mexican imports of U.S. chicken leg and muscle have been accompanied by allegations that some of these imports were priced below the U.S. cost of production. In February 2011, the Mexican Government launched a formal antidumping investigation of this subject and, in August 2012, published its final decision: chicken leg and muscle imports from Simmons, Sanderson, Tyson Foods, and Pilgrim's Pride Corporation would be subject to an antidumping duty of 25.7 percent, while imports from other U.S. suppliers would be subject to a duty of 127.5 percent (Mexico, Secretariat of Economy, 2012). However, in an effort to help stabilize the poultry market following an outbreak of AI in the State of Jalisco—one of Mexico's main producing regions for table eggs—in June 2012, the Mexican Government opted not to apply these duties "for the time being" (Hernandez and Branson, 2013b). Since then, Mexico has taken no action to apply the duties, in response to further outbreaks in Jalisco and the States of Aguascalientes and Guanajuato in early 2013 (Branson, 2013; Hernandez, 2013; Hernandez and Branson, 2013a,c).

Central America and the Caribbean: Cuba, Guatemala, and Haiti Are the Leading Importers

Poultry meat imports by the countries of the Central America and Caribbean (CAC) region are projected to increase at a compound annual rate of 2.8 percent between 2013 and 2022. Factors similar to those driving Mexican poultry meat imports are also present in the CAC region. On the supply side, poultry production in the CAC region is projected to grow at a compound annual rate of 1.1 percent over the next decade, compared with a 1.4 percent rise for disappearance. On the demand side, annual per capita disappearance of poultry meat is projected to rise from 20 kg to 22 kg. The projected increase in disappearance is driven by real per capita income growth at a

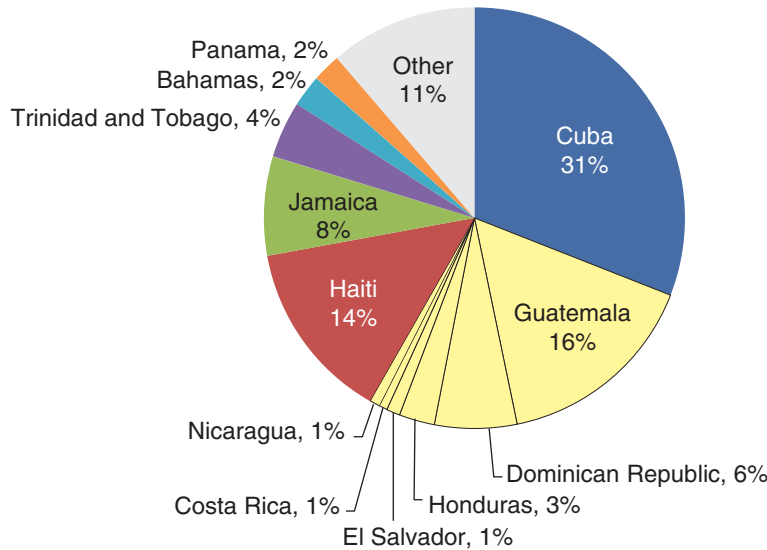
compound annual rate of 2.9 percent during the projection period. Population growth at a compound annual rate of 1.0 percent provides an additional boost to aggregate disappearance.

The United States exported an annual average of 422,000 metric tons of broiler meat to the CAC region during 2010-12 and supplies roughly 40 percent of the region’s broiler meat imports.⁹ A wide variety of countries in the region import U.S. broiler meat—ranging from Cuba, a country subject to a U.S. trade embargo, to free-trade partners in the Central America-Dominican Republic-U.S. Free Trade Agreement (CAFTA-DR) and the U.S.-Panama Trade Promotion Agreement (U.S.-Panama TPA).

Cuba is the region’s leading importer of U.S. broiler meat, accounting for about 30 percent of U.S. broiler meat sales to the CAC region (fig. 14). In response to stagnant growth in domestic agricultural production and occasional hurricane damage to national food supplies, Cuba has opted over the last decade to rely more heavily on imports of many agricultural commodities, including broiler meat (Messina, 2012). The United States is one of several countries that export agricultural products to Cuba. In 2000, the U.S. Government relaxed its trade embargo on Cuba by providing for exemptions for certain U.S. agricultural and medical exports. For qualifying U.S. agricultural products to be exported to Cuba, a shipment must be licensed in advance by the U.S. Department of Commerce’s Bureau of Industry and Security, and payment must be made in advance using a confirmed, irrevocable letter of credit completed with a third-country bank.¹⁰

Figure 14

U.S. broiler meat exports to Central America and the Caribbean, by destination, 2010-12 annual average (volume)



Note: Chart is based on an annual average total volume of 422,000 metric tons. Guatemala, the Dominican Republic, Honduras, El Salvador, Nicaragua, and Costa Rica are all members of the Central America-Dominican Republic-U.S. Free Trade Agreement.

Source: U.S. Department of Agriculture, Foreign Agricultural Service (2013).

⁹The share is calculated by dividing the U.S. export figure from the U.S. Department of Commerce, Census Bureau, by the region’s chicken meat import figure from UN, FAO (2012) and covers the period 2009-10.

¹⁰USDA, Foreign Agricultural Service, Office of Global Analysis (2008) provides a detailed description of the U.S. and Cuban requirements governing U.S. agricultural exports to Cuba.

Trade liberalization under CAFTA-DR and the U.S.-Panama TPA is expected to increase the market access of U.S. broiler meat producers to the member countries of those agreements (USDA, FAS, 2005; Hornbeck, 2012).¹¹ When all six CAFTA-DR partners of the United States—Guatemala, the Dominican Republic, Honduras, El Salvador, Costa Rica, and Nicaragua—are considered together, they form the second leading destination for U.S. broiler exports in the CAC region, accounting for about 27 percent of this trade. In contrast, Panama accounts for a little more than 2 percent (see fig. 14). In general, both CAFTA-DR and the U.S.-Panama TPA gradually reduce and then eliminate the tariff barriers that impede these exports. The transitional periods for the liberalization of broiler meat trade are as long as 17 years from the date when the respective agreement took effect for the respective importing country. With respect to chicken leg quarters, both agreements establish transitional TRQs that provide the United States with a gradually expanding amount of duty-free access for this product (see “Appendix—Table”). Imports in excess of the quotas are subject to high tariffs that are gradually reduced during the transition to free-trade and then eliminated at the end of the transition. Among other broiler meat products, CAFTA-DR creates similarly structured transitional TRQs for U.S. exports to the Dominican Republic of mechanically deboned chicken meat and turkey meat.

Haiti is the CAC region’s third largest importer of U.S. broiler meat, with a 14-percent share of this trade during 2010-12 (see fig. 14). Haiti imports broiler meat largely because of the country’s limited growth in domestic broiler production. Journalistic accounts (Bauduy, 1998) suggest that the domestic industry was struggling to compete with imports of chicken parts, primarily of dark meat, well before the devastating earthquake of 2010. Since the earthquake, several nongovernmental organizations and private investors have expressed interest in promoting poultry production in Haiti.

¹¹CAFTA-DR took effect between 2005 and 2009, with the precise date varying by member country. The U.S.-Panama TPA was ratified by Panama in 2007 and by the United States in 2011, but has not yet taken effect.

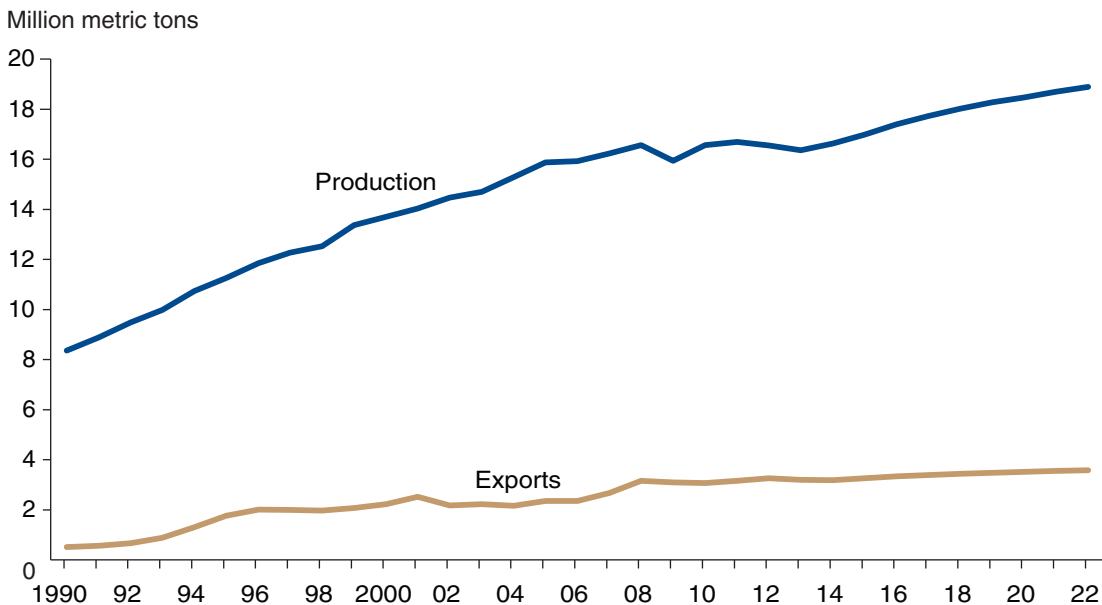
Outlook for U.S. Broiler Exports

According to the current USDA projections (USDA, OCE, 2013), U.S. broiler meat export growth is expected to continue during 2013-22, but more slowly than the last two decades. U.S broiler meat exports expanded by 301 percent in the 1990s and 38 percent in the 2000s. Exports are projected to expand just over 12 percent between 2013 and 2022, from 3.20 mmt to 3.59 mmt (fig. 15). The USDA baseline projections are conditioned on specific assumptions for U.S. farm and trade policies, multilateral trade policies, and global macroeconomic conditions and are not intended as a forecast of the future.

Over the next decade, U.S. broiler meat production is also expected to increase, although the rate of growth is expected to be modest. A major factor expected to boost domestic broiler demand in the near-term is tight supplies of competing meats such as beef and pork, putting upward pressure on their prices. Unlike disappearance of red meats, broiler per capita disappearance is forecast to expand through the end of the projection period and surpass the levels of the past decade. Demand will also be supported by a rising U.S. population. Among the meat categories, broiler production is projected to increase the most, by 15.5 percent. Broiler production growth is expected to come from both higher bird numbers and higher average weights.

Economic growth in a number of importing countries is expected to rise, increasing the demand broiler meat. Broiler meat exports are expected to expand over the next several years as global demand for inexpensive proteins rises, especially from developing countries where rising incomes are stimulating increased meat disappearance. Another factor expected to increase the demand for broiler products is the dollar's relative weakness.

Figure 15
U.S. historical and projected broiler production and exports



Source: U.S. Department of Agriculture, Office of the Chief Economist, 2013.

The broiler industry has actively sought new markets or expanded shipments to existing markets in Africa and the former Soviet Union (other than Russia) to replace shipments that had gone to its two previously largest markets, Russia and China. The Russian market is likely to decline as long as the Russian Government continues to protect its domestic poultry industry by restricting imports. Exports to China have been temporarily limited by countervailing duties, but rising incomes and increasing production costs mean that China's robust demand for certain cuts of broiler meat is not likely to be satisfied solely by domestic supplies, and exports to the China and Hong Kong region may exceed expectations. U.S. exports may be aided by the relative weakness of the dollar, but the United States will likely face strong competition from other exporters, particularly Brazil.

Conclusions

U.S. broiler meat exports tripled in the 1990s largely because of shipments to Russia. In the 2000s, U.S. broiler meat exports grew by another 38 percent. Global demand for U.S. broiler meat is expected to continue expanding, although more slowly than in the 1990s and 2000s. With feed costs rising worldwide, the efficiency of broilers, relative to cattle and hogs, at converting feed grains (chiefly corn and soybean meal) into meat protein is a key factor driving the expansion of broiler production. Also, fewer widespread religious restrictions exist on poultry consumption than on consumption of other meats, offering many potential markets for broiler meat.

Other factors that will affect the pace of growth in U.S. domestic production and exports are the strength of the domestic economy and world economic growth, the continued concentration of population growth in urban centers, and the value of the U.S. dollar relative to currencies in importing countries. Thus, the United States is expected to export more broiler meat, particularly broiler parts, to new importing countries, with much of the expansion occurring in price-sensitive developing country markets. The United States and Brazil, both with a combination of adequate land to produce feed, large internal markets, and strong processing sectors, are expected to remain the major broiler producers and exporters. However, Brazil, with its cost advantage, is projected to account for a rising share of the world market.

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Appendix—Table

Appendix table 1

Transitional tariff-rate quotas for imports of chicken leg-quarters from the United States under CAFTA-DR and the U.S.-Panama TPA

Year	Duty-free quota							Over-quota tariff			
	Guatemala	Honduras	El Salvador	Nicaragua	Dominican Republic	Costa Rica	Panama	Guatemala, Honduras, El Salvador, & Nicaragua	Dominican Republic	Costa Rica	Panama
	<i>Metric tons</i>							<i>Percent</i>			
2006	21,810	Zero	Zero	Zero	**	**	**	164.4	**	**	**
2007	21,810	Zero	Zero	Zero	550	**	**	164.4	99	**	**
2008	20,494	534	464	317	600	**	**	164.4	99	**	**
2009	19,179	1,069	928	635	650	330	**	164.4	99	151	**
2010	17,683	1,603	1,391	952	700	360	**	164.4	99	151	**
2011	16,548	2,138	1,855	1,269	750	390	**	164.4	99	151	**
2012	15,232	2,672	2,319	1,587	800	420	660	164.4	99	151	260
2013	13,917	3,206	2,783	1,904	850	450	726	164.4	99	151	260
2014	12,601	3,741	3,247	2,222	900	480	799	164.4	99	151	260
2015	11,285	4,275	3,711	2,539	950	510	878	164.4	99	151	260
2016	9,970	4,810	4,174	2,856	1,000	540	966	150.8	99	151	260
2017	8,654	5,344	4,638	3,174	1,050	570	1,063	137.3	91.1	151	260
2018	*	*	*	*	1,100	600	1,169	123.7	83.2	151	260
2019	*	*	*	*	1,150	630	1,286	110.1	75.2	130.8	260
2020	*	*	*	*	1,200	660	1,415	96.6	67.3	110.7	260
2021	*	*	*	*	1,250	690	1,556	69.0	59.4	90.6	260
2022	*	*	*	*	1,300	720	1,712	41.5	47.5	68.0	227.5
2023	Unlimited	Unlimited	Unlimited	Unlimited	1,350	750	1,883	Zero	35.6	45.3	195.0
2024	Unlimited	Unlimited	Unlimited	Unlimited	1,400	780	2,071	Zero	23.8	22.7	162.5
2025	Unlimited	Unlimited	Unlimited	Unlimited	1,450	Unlimited	2,278	Zero	11.9	Zero	130.0
2026	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	2,506	Zero	Zero	Zero	97.5
2027	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	2,757	Zero	Zero	Zero	65.0
2028	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	3,033	Zero	Zero	Zero	32.5
2029 onward	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Zero	Zero	Zero	Zero

Notes: The base tariffs are 164.4 percent for Guatemala, Honduras, El Salvador, and Nicaragua, 99 percent for the Dominican Republic, 151 percent for Costa Rica, and 260 percent for Panama.

*Aggregate quantities during years 13 to 17 shall be determined through consultations between the United States and the respective importing country. In the event that the two countries fail to reach an agreement, the aggregate quantity of goods entered in any such year shall be equal to 5 percent of the importing country's national chicken production.

**CAFTA-DR (or U.S.-Panama FTA, in the case of Panama) not yet in effect for the importing country.

Sources: Texts of Central America-Dominican Republic-U.S. Free Trade Agreement and U.S.-Panama Trade Promotion Agreement.