



ANALYSIS AND COMMENTS

Livestock Marketing Information Center

State Extension Services in Cooperation with USDA

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TRADE IN THE U.S. HOG/PORK COMPLEX: Animals and Tonnage

Introduction

International trade between two countries is often viewed as simply exports or imports of a certain product. In the livestock industries, international trade is a bit more complex as it often entails the import and export of both live animals and meat products. Although this might appear to be simplistic, the impact of U.S. imports of live animals on total domestic meat supplies is often overlooked. That is, when the U.S. imports live animals, whether feeder or slaughter animals, eventually those animals are processed in the U.S. and assimilated into the domestic meat production. In turn, the processed product is either consumed by the domestic market or sold to foreign buyers.

Taking this a bit further, sometimes live animals imported by the U.S. are fed, processed, and then re-exported as meat to the original source country. In the hog/pork complex, the U.S. imports feeder pigs from Canada, which are fed and processed in the U.S. and then essentially re-exported as pork back to Canada. At the same time, the U.S. exports and imports pork products not just from Canada, but also several other nations.

To better understand the interactions of both meat and live animal trade in the livestock industry, all imports (both meat and live animals) can be converted to similar terms. In other words, all live animal imports could be evaluated at an assumed weight (i.e. slaughter) and the calculated carcass of meat imports and exports converted to head at slaughter. This method does not differentiate the weight at which an animal is imported or exported, an important limitation of the approach. Still, it does give units to trade that most market participants and policy makers can relate to. Additionally, this type of analysis does NOT use dollar values as a common denominator, which is a very useful perspective and clearly shows that the U.S. is a significant net exporter of pork, hog and products (lard, variety meat, etc) on a dollar basis¹.

Analysis

This analysis utilizes monthly meat and live animal trade data for hogs and pork reported by the USDA Economic Research Service (ERS) from 1988 through 2004. This analysis pays particular attention to live hog and pork product trade between the U.S. and Canada. In the hog/pork complex, the U.S. imports live feeder pigs and slaughter hogs (barrows, gilts, sows, and boars) from Canada. In this analysis, there is no distinction made between feeder pig and

¹ See "International Trade: Export Versus Import Values in the U.S. Hog/Pork Complex", Analysis and Comments, Letter#19, May 7, 2004, Livestock Marketing Information Center. LMIC members can access annual graphs at www.lmic.info.

slaughter imports, as both feeder pigs and slaughter hogs are eventually assimilated into the U.S. pork supply.

Annual calculations to combine live animal with meat trade were done using two methods. The first conversion method computes the animal equivalent (head) of U.S. annual carcass weight pork trade (imports and exports) and combines that with live animal trade. So, an estimate of the live animal equivalents imported and exported by the U.S. is made on an annual basis. The second method calculates the total tonnage of pork imported into the U.S. by converting the live animal imports into a carcass equivalent amount. By converting live animal and meat imports into a single figure (i.e. all live animals or all meat imports), a picture of the total amount of trade (tonnage or head) occurring between the U.S. and its trading partners within the hog/pork complex can be examined.

As stated, this analysis does not differentiate between feeder and slaughter hog imports nor does it include any seasonal impacts in terms of slaughter numbers and hog weights. Therefore, under this assumption, the two conversion methods applied in this analysis are based on all animals evaluated to an annual slaughter weight. The annual average dressed weight for commercial hogs for each year evaluated (1998 through 2004) is utilized to convert animal equivalent (head) figures to annual carcass weight pork trade (imports and exports) and visa versa.

Pork and Hog Trade

In the first approach of the analysis, the import tonnage value is converted into an animal equivalent number. In 2004, the U.S. imported 1.1 billion pounds (carcass weight basis) of pork products, slightly below the 1.2 billion pounds imported in 2003. During the past ten years, annual U.S. imports of pork have grown on average about 5 percent each year. The majority of U.S. pork imports are sourced from Canada, which in recent years has typically accounted for about 80 percent of total U.S. pork import tonnage. Among other major trading partners, Denmark represents about 12 percent of total U.S. pork imports, followed by Poland. Total U.S. imports of pork in 2004 on an animal equivalent basis would translate into approximately 5.6 million head of hogs. On a per country basis, annual U.S. imports of pork from Canada would represent about 4.5 million head of hogs followed by Denmark at 699 thousand head of hogs.

In 2004, U.S. pork exports totaled 2.2 billion pounds on a carcass weight basis. That was the largest U.S. pork export tonnage reported since USDA began reporting the trade series in 1987. Pork exports have grown tremendously over the past decade, as exports have increased each year on average by nearly 16 percent. In 1995, the U.S. first became a net exporter of pork products on a tonnage basis. U.S. pork exports on a carcass weight basis when converted to a live animal basis represented nearly 11 million head of hogs in 2004. For the major trading partners, U.S. pork exports to Japan would translate into 4.6 million hogs, followed by Mexico at 2.7 million hogs, and Canada at 1.2 million head.

Each year since 1995, on a tonnage basis, the U.S. has exported a greater amount of pork than imported (net exporter). In 2004, U.S. pork net exports on a slaughter animal equivalent basis exceeded 5 million head for the first time. In trade with Canada, the U.S. has been and continues to be a net importer of pork (pork alone was equivalent to over 3 million head in 2004).

U.S. imports of feeder pigs and slaughter hogs have increased for many years, those animals when slaughtered become part of U.S. pork production. Last year the U.S. imported a total of 8.5 million head of hogs, of which over two-thirds were pigs weighing less than 110 pounds (feeder pigs). When converted into a carcass equivalent value, the 8.5 million head of hogs imported represented approximately 1.7 billion pounds of pork. In 2001, live hog imports

when converted to a carcass equivalent figure (tonnage) surpassed the 1 billion pound level for the first time.²

The U.S. does export a small number of live hogs each year, which were included in the analysis for computing net trade values but are not significant for discussion purposes. For example, in 2004, the U.S. exported about 174 thousand head of live hogs which when converted into a carcass equivalent value would represent approximately 34 thousand pounds of pork. Mexico is the primary outlet for U.S. live hog exports.

Although the U.S. is a net exporter of pork and a net exporter of pork industry products on a dollar value basis, when converted to animal equivalents (head) based on the assumptions used here (all animals evaluated to slaughter weight) the U.S. is a net importer. With respect to hog and pork trade with Canada, since 2003 the animal equivalent net U.S. imports have been at least 10 million head annually (see graphs page). But, when the rest of the world is considered, the U.S. net imports of hogs and pork have been under 5 million animal equivalents.

Impacts on U.S. Hog Slaughter

Sometimes the question is asked, what would U.S. slaughter levels be without live hog imports and exports? In this analysis, as assumed in the prior subsection, all imported hogs are included in the slaughter of the current year (in any one year this may under or overstate the case some, over-time it is rather accurate). Canada essentially is the sole source for live hog imports by the U.S.

Over the past ten years, U.S. commercial hog slaughter including imports of feeder pigs and slaughter hogs from Canada has increased on average about one percent each year. In 1998, U.S. commercial hog slaughter surpassed the 100 million head mark and has remained fairly large since, only falling below the one million head level twice (2000 and 2001). At the same time, total U.S. imports of live hogs from Canada have grown on average 27 percent annually during the last ten years. Since the trade series began in 1998, U.S. live hog imports have only posted a year-to-year decline in imports numbers twice, in 1990 and 1992 and set a new record figure in 2004.

In 2004, U.S. commercial hog slaughter totaled 103 million head, the largest ever. Imports of feeder pigs and slaughter hogs from Canada totaled 8.5 million head, also record large. When all live hog imports are excluded from the commercial slaughter mix, total U.S. commercial hog slaughter in 2004 would have declined by 8 percent. In other words, live hog imports accounted for 8 percent of total U.S. slaughter in 2004. On average, during the last five-years (2000-2004) when live hog imports are excluded, total U.S. hog slaughter would have fallen by 6 percent. Since U.S. exports only a small number live hogs, any change in U.S. commercial hog slaughter when net live trade (i.e. imports less exports) is taken into account are minimal. As stated, similar changes on U.S. commercial pork production are incurred when live hog imports are converted into a carcass weight value.

U.S. Meat Supply Availability

After evaluating the impacts of live hog imports on U.S. slaughter, the next step is to assess the impacts of total pork imports and live trade on the U.S. meat supply. Thus, live hog imports are converted to a carcass weight equivalent and combined with imported pork products to evaluate the influence of trade on the annual U.S. available supply of pork. The relationships between net trade and domestic production are essential when evaluating the role of international trade on the U.S. pork industry.

² It should be noted, the increase in the domestic supply of pork contributed from imported live hogs may not always occur in the same year as imports due to such factors as time of import and finishing periods.

In 1995, U.S. commercial pork production including all imports (live and product) totaled 17.8 billion pounds. In 2004, U.S. production totaled 20.5 billion pounds, a record. Over the ten-year period, pork production as grown each year on average about one to two percent. The year-to-year increases in commercial pork production can be attributed to several factors such as improved breeding herd efficiency, heavier average hog weights, larger slaughter hog numbers and expansion in live hog trade between Canada.

As mentioned earlier, last year the U.S. pork supply that included live and meat imports (carcass equivalent) totaled 20.5 billion pounds. When all trade between the U.S. and other trading partners are eliminated, the U.S. available pork supply would decline to 18.8 billion pounds. On a per country basis, the available U.S. pork supply excluding carcass weight equivalent imports of both live hogs and pork product from Canada would have fallen by 8 percent in 2004. The similarity in the percentage change of total U.S. pork supply when all trade and only trade with Canada is excluded, is not surprising since Canada is the dominant trading partner for both live hogs and pork. Over the past decade, net trade with Canada has on average represented an additional 5 percent to the U.S. domestic pork supply.

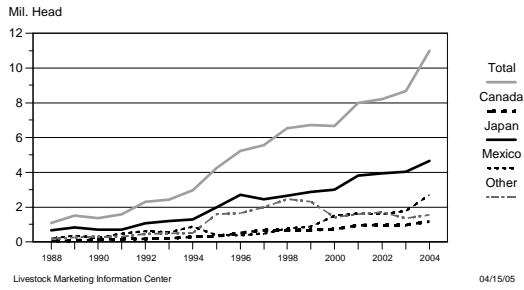
Summary

Unlike many other industries, international trade in the livestock sectors is a bit more complex as it involves the trade of both live animals and meat products. Often overlooked are the impacts of live animal trade on total domestic meat supplies. That is, eventually live animals imported into the U.S. as feeder or slaughter animals are processed in the U.S. and included into the available domestic pork supply.

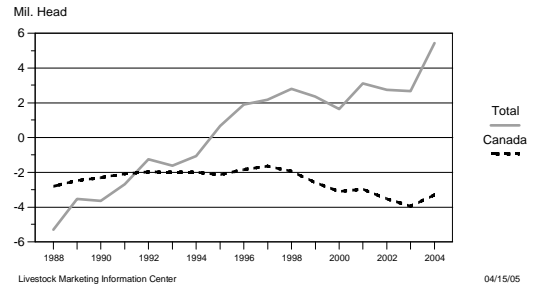
Nations trade products because there is an inherent economic benefit in the comparative advantage each party possess in the production of certain products. Thus, net trade (i.e. imports less exports) between the U.S. and its partners of live animal and meat products also plays a role in the total U.S. meat supply. Often times, the U.S. exports of pork include product from live animals once imported into the U.S. as either feeder pigs or slaughter hogs.

This analysis examined the impacts of both meat and live animal trade in the pork complex on a total live animal equivalent basis and a total carcass (meat tonnage) basis. The purpose of the conversion to similar units was to gain a better understanding of how total imports and net trade between the U.S. and its main trading partners impact the U.S. domestic supply of pork products. This analysis did not consider the overall ramifications of the U.S. dollar value gained from net trade, which does have a vital influence on the type of products traded between countries. It can be concluded from this analysis, that when trade is suspended between the U.S. and its trading partners, the U.S. supply of pork is notably impacted. Thus, trade in the U.S. in the pork complex is a key factor in the overall U.S. pork and meat industries.

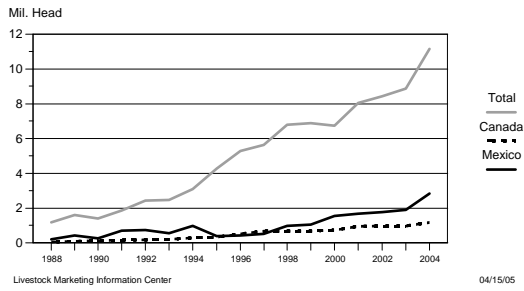
U S PORK EXPORTS Animal Equivalents, Annual



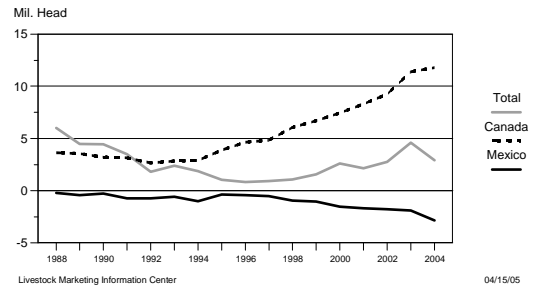
U S PORK NET EXPORTS Animal Equivalents, Annual



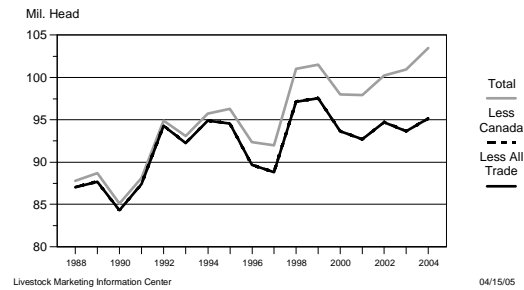
U S PORK & LIVE HOG EXPORTS Animal Equivalents, Annual



U S PORK & LIVE HOG NET IMPORTS Animal Equivalents, Annual



U S COMMERCIAL HOG SLAUGHTER Total & Adjusted for Live Trade, Annual



U S PORK AVAILABILITY Total & Adjusted for Trade, Annual

