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Protein Passport: Export Market Volatility is Worth the Risk

Key Points:

- Per capita animal protein consumption in the U.S. will reach an all-time high in 2019 and is expected to plateau shortly thereafter.
- Export growth will be key for U.S. beef, pork, and chicken producers as growing meat supplies and processing capacity outstrip domestic demand.
- Greater reliance on export markets has resulted in higher price volatility for the animal protein sectors in other exporting nations like Australia, Canada and Brazil.
- Higher profitability has offset higher price volatility for beef, pork and poultry producers in Australia, Canada and Brazil, respectively, despite declining domestic consumption in Australia and Canada.
- Exports have driven industry growth in Australia, Canada and Brazil, and would likely underpin further industry expansion for the U.S. in the years ahead.

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Inside...

Introduction 1

The Need for Exports 2

Bigger Risk, Bigger Reward 3

Exports Drive Industry Growth 3

Conclusion 4

Introduction

U.S. animal protein supplies have reached all-time highs in both production and domestic consumption. However, domestic consumption growth will surely slow from the rate seen the last five years, making export growth essential to a profitable supply and demand balance. With the shift to a focus on trade, animal protein producers often ask whether increased exposure to exports will negatively affect their businesses through greater price volatility, lower profits and more complicated production practices.

The U.S. is one of the global leaders of animal protein trade, in addition to many other agricultural products, but a number of other countries export a significantly higher proportion of their production than the U.S. Australia and Canada export approximately two-thirds of their beef and pork production, respectively, and Brazil exports more than a quarter of its poultry production. (*See Exhibit 1.*) These three markets have grown successfully over decades and are largely driven by a focus on exports. Livestock and poultry prices over the last 15 years indicate that while producers in these foreign markets may experience slightly more price volatility, their prices have fared much better than in the U.S. There are a litany of factors that influence the success of protein exports including trade agreements, currency fluctuations, political disputes, and domestic tastes and preferences. But U.S. livestock and poultry producers should not fear the shift to an export focused market in the years to come.

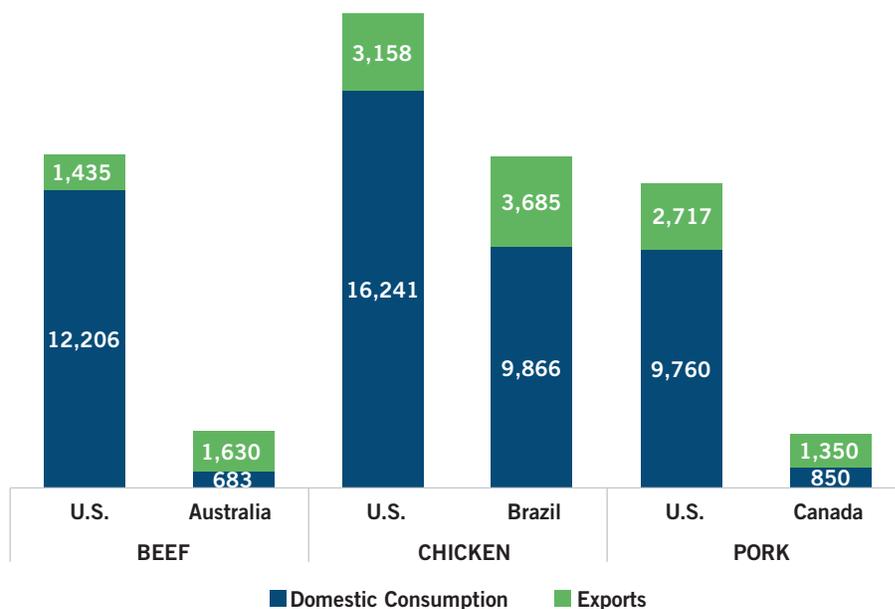


EXHIBIT 1: Animal Protein Consumption and Exports (Thousand Tons)

The Need for Exports

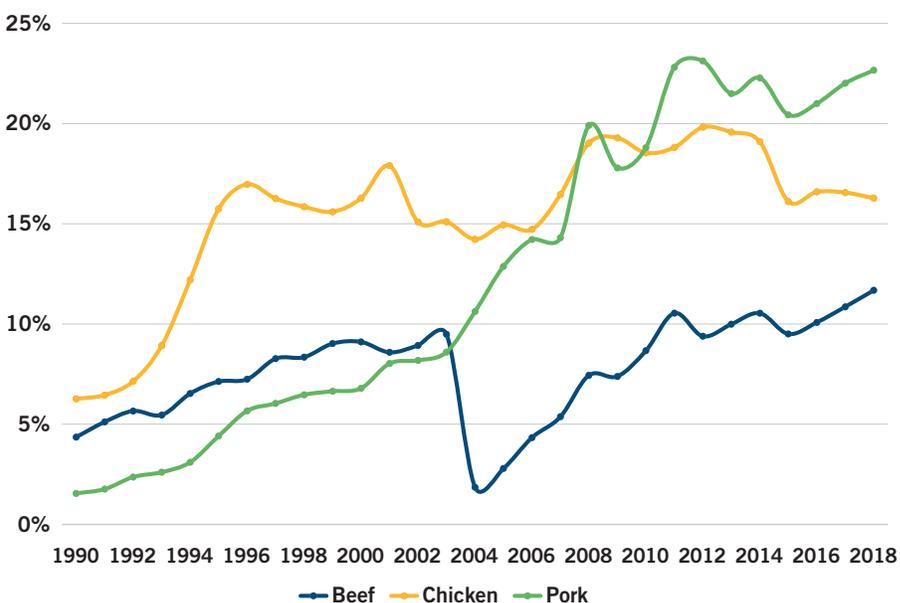
U.S. per capita animal protein consumption will climb to an all-time high in 2019, surpassing the previous record set in 2006 prior to the financial crisis and the run-up in feed costs. This 204 pounds of beef, pork and chicken consumption on a retail weight basis will equate to a 10 percent increase from the lows set in 2014 of 185 pounds. With limited future upside for domestic consumption, and with higher economic and consumption growth abroad, the U.S. animal protein sectors must increasingly look to international markets for growth. In 2018, the U.S. exported 12 percent of beef production, 16 percent of chicken production and 23 percent of pork production. (See Exhibit 2.) While these figures are far higher than 20 years ago, further growth in exports will be needed if U.S. producers are to expand output in the coming years.

Prioritizing exports isn't new to the U.S. beef, pork and poultry sectors. Industry trade groups including the U.S. Meat Export Federation (USMEF) for beef, pork and lamb and the U.S.A. Poultry & Egg Export Council (USAPEEC) for chicken, turkey and eggs have long promoted the security, consistency, and value of U.S. animal protein. These efforts are bolstered by industry groups at various points in the supply chain from producer to processor to end-user, and with governments at both national and local levels.



Source: USDA PSD

EXHIBIT 2: U.S. Animal Protein Exports Percent of Production



Source: USDA PSD

Now with the U.S. beef cow herd at multi-year highs and pork and poultry processors expanding capacity, there is a renewed focus on exports. The need for increasing exports is clear, but the call to action is

EXHIBIT 3: Comparative Market Analysis of U.S. Animal Protein Prices with International Trading Peers

		Production Exported	Average ¹ Return	Volatility ²	Risk-to-Reward ³	Correlation ⁴	Reference Price for Analysis
Beef	U.S.	11.7%	3.1%	12.6%	4.0	0.06	U.S. Fed 5-Area Weighted Dressed Steers, USD/lb
	Australia	70.9%	3.4%	10.3%	3.1		Queensland Grainfed Steers, AUD/lb
Pork	U.S.	22.7%	1.2%	17.0%	14.3	0.84	U.S. Hog Price (National, USD/lb)
	Canada	68.9%	2.7%	23.0%	8.6		Canada Hog Price (Ontario, CAD/lb)
Chicken	U.S.	16.3%	2.6%	11.7%	4.5	0.25	U.S. Composite Chicken (USD/LB)
	Brazil	27.2%	6.0%	14.8%	2.5		Brazil Whole Frozen Chicken (BRL/LB)

Sources: USDA, LMIC, CEPEA, and MLA

¹ Average year-over-year change of monthly prices since January, 2004.

² Standard deviation of year-over-year change of monthly prices.

³ Coefficient of variation as standard deviation divided by average annual return; a lower number is better.

⁴ Correlation between the year-over-year change of prices of the U.S. and the international market compared.

frequently met with concern and skepticism from industry participants from all major species and all links in the supply chain. Most of those that are concerned in the industry equate higher export share to increased volatility and lower margins.

Bigger Risk, Bigger Reward

By increasing focus on exports, producers and the sector at large expose themselves to new and heightened risks.

Despite the uncertainty, there are countries that have been successful. Comparing prices for cattle in Australia, hogs in Canada, and poultry in Brazil, to U.S. prices, there is evidence that while prices in some markets have been slightly more volatile than the U.S., they have also come with higher returns for their producers. Producers in these more export oriented markets have realized better prices relative to price volatility.

In the comparison of Brazilian poultry to U.S. poultry, Brazilian poultry price volatility over the last fifteen years has averaged approximately 15 percent per year while in the U.S. it has been slightly less at around 12 percent. (See Exhibit 3.) Conversely, over that same time period Brazil's poultry producers have seen an average increase in prices of 6 percent while prices for U.S. producers have increased just 2.6 percent. In other words, Brazilian producers experience just 2.5 percent of price volatility

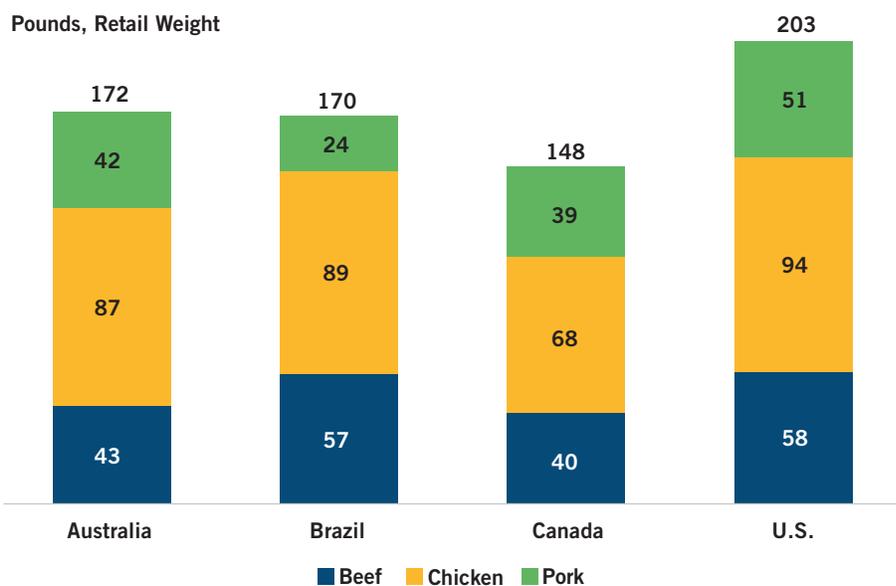
for every percent increase in prices while U.S. producers endure 4.5 percent of price volatility for the same degree of price change.

This superior risk-to-reward level is also true for Canadian pork and Australian beef relative to the U.S.. In the case of Australia, fed cattle prices have actually been slightly less volatile than what U.S. producers have experienced over the last fifteen years all while having a slightly higher rate of return. This is quite significant as Australia exported 71 percent of its production in 2018 where the U.S. exported just 12 percent which were all-time highs for both markets.

Exports Drive Industry Growth

In addition to these international markets being significant exporters of their respective animal protein species, in the case of Australia and Canada, they are also strong examples of industries that have grown through exports rather than consumption. Brazil's poultry sector, on the other hand, has grown through both exports and consumption – hence its track record of 3.5 percent average growth each of the last 15 years. Brazil's developing economy and favorable low cost feed environment has allowed it to become a top producer and exporter of a number of agricultural commodities including poultry.

EXHIBIT 4: 2018 Per Capita Animal Protein Consumption



Source: USDA PSD

Canada and Australia, though, have been driven solely by exports as consumption growth of beef and pork have struggled. Since 2004, the Australian beef industry has grown by just 0.6 percent, which may not sound very impressive. But when considering beef consumption has declined by 1.1 percent per year, the modest increase in growth is much more notable. Since exports have more than offset the decline in consumption by growing 1.3 percent per year, the Australian beef industry has been able to weather consumer switching from beef and into pork and poultry. As a result, exports today account for 71 percent of Australia's beef production, up from 65 percent in 2004.

Likewise, Canada's pork consumption has declined by 0.5 percent per year since 2004. But thanks to a 2.4 percent increase in exports, the pork sector has grown 0.7 percent. In a similar fashion, Canada exported 69 percent of its pork production in 2018, which is up from just 55 percent 15 years prior.

These examples are important as U.S. animal protein enters uncharted territory in terms of per capita consumption. With consumption climbing to 203 pounds per person in 2018, it will match the all-time peak that was set prior to the recession in 2006. (See Exhibit 4.)

Prices for animal protein are already on the decline especially for pork and poultry as those sectors have added capacity in recent years and look to add additional capacity in 2019 and 2020. This indicates that U.S. consumers' stomachs may finally be close to full of animal protein. This is a scary prospect for the animal protein sector at large, having benefited from rising per capita consumption for decades. Going forward, producers in each of the three major protein sectors will need to continue to expand their definition of "consumer"

beyond U.S. borders and with that comes additional complexities and opportunities.

Conclusion

The U.S. animal protein sector is in a period of transition as four consecutive years of significant domestic consumption growth is now beginning to pressure prices and producers' bottom lines. Profitable growth has always been at the core of the industry allowing producers and processors to recover from the historic volatility and costs from 2007 through 2012.

With meat supplies back at all-time highs, opportunity for growth lies in international markets. The increased market volatility that is likely to follow greater exposure to export markets, though, is offset by higher prices and improved profitability for producers. The groundwork has already been laid by the supply chain and industry representatives to let trade drive the industry forward over the next decade. In the long term, exports will be the key driver for further expansion across the animal protein sector. ■



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