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The Exit of Commodities' Bear Market? Agribusiness Margins in 2017

2016 Margins and Market Performance Review

Ethanol's Bull Market

Big Profits in the Meat Packing Industry



WORLD PERSPECTIVES: AG REVIEW

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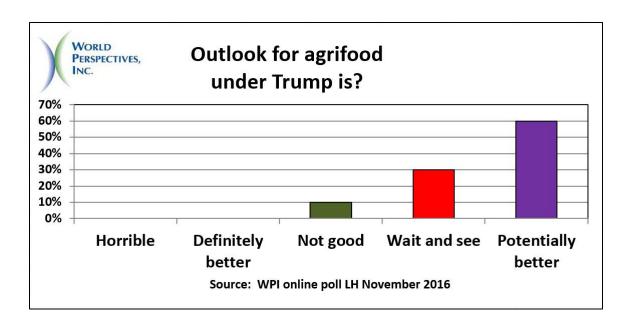
"Character, in the long run, is the decisive factor in the life of an individual and of nations alike."

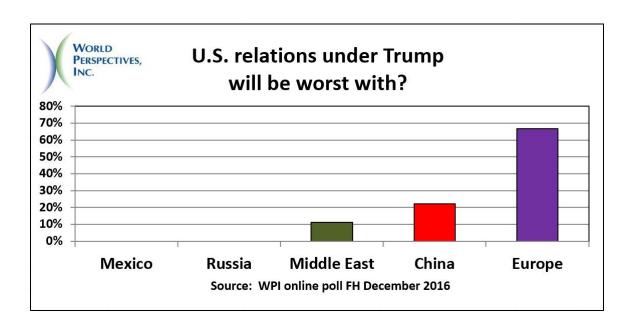
— Theodore Roosevelt

HARVESTED DATA			
Energy Matters			
Boost Biofuels	60 percent of respondents in a recent survey indicated that the EPA should increase the use of biofuels, and the 23 percent who were opposed also advocated for repeal of the Renewable Fuel Standard.		
	Zimm Poll		
Environment and Agriculture			
Ag Influencer	When asked who has the most impact on agriculture, 80 percent of those surveyed said that it is the EPA administrator, and 20 percent opted for the USDA secretary.		
	AgWeb.com		
	Global Risk		
Dietary Health According to the Gallup Indicators of Dietary Health, low fruit consumption dietary risk globally.			
	Gallup		
	The Retail Shelf		
Tender Beef	The FDA's recent Food Safety Survey reports that 65 percent of U.S. adults have not heard of mechanically tenderized beef and that 44 percent claim they would not buy it if they saw it in a grocery store. Labels indicating a product was mechanically tenderized were required starting in May, 2016.		
	U.S. Food & Drug Administration		

WPI POLLING

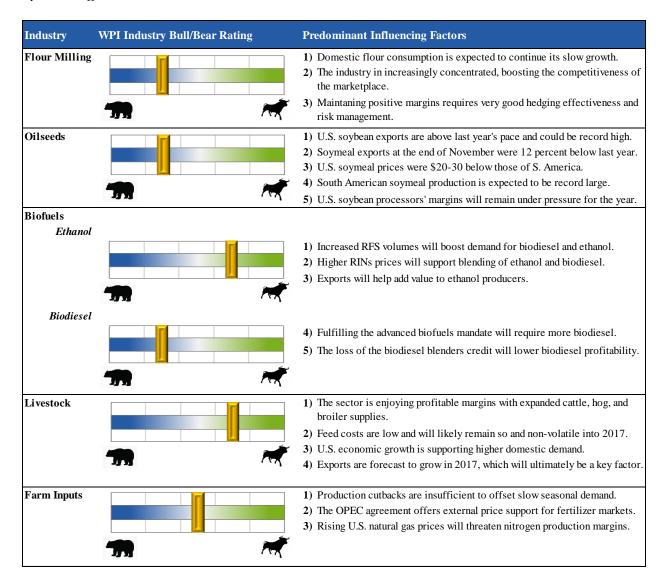
Below are the results of two recent WPI polls. Visit <u>www.worldperspectives.com</u> to cast your vote in our current survey.

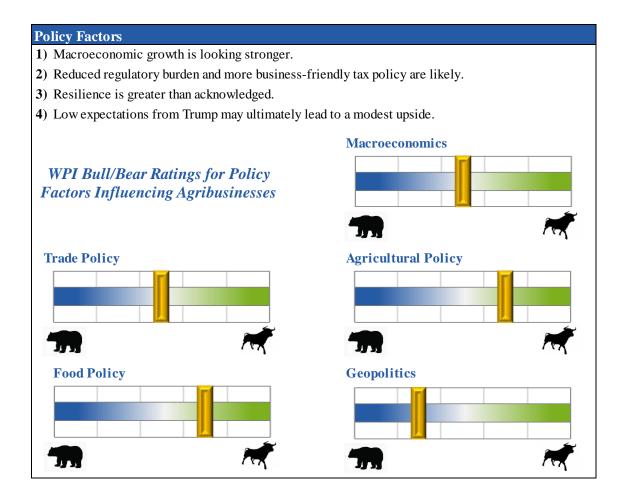




WPI BULL/BEAR LEANINGS FOR AGRIBUSINESS

By WPI Staff





THE FLOUR MILLING INDUSTRY

By Robert W. Kohlmeyer

Top Three Reasons WPI is Bearish the Flour Milling Industry

- Domestic flour consumption is expected to continue its slow growth.
- The industry is increasingly concentrated, boosting the competitiveness of the marketplace.
- Maintaining positive margins requires very good hedging effectiveness and risk management.

he grinding of indigestible seeds between two stones to produce finer, digestible material probably originated near the end of the last Ice Age some 12,000-13,000 years ago with nomadic inhabitants of the Middle Eastern region known as Mesopotamia. Primitive tools found in the region that were apparently used to cut grass have been dated back to that era. The use of stones of one sort or another to grind or mill wheat, barley, millet and other grains persisted until relatively modern times, although the source of the power that moved the stones changed markedly. The power source went from human hands to animals to water to steam and eventually to engines driven by electricity or fuel.

If wheat is the staff of life, the milling of wheat into flour is the process by which the staff of life is delivered to consumers in edible form. The importance of wheat in sustaining human existence can be seen in the fact that throughout recorded history and even into modern times, the first industry to be developed by societies has often been flour milling. As a grass, wheat is grown in almost all parts of the world, and the milling of wheat into flour takes place wherever wheat is grown and wheat products are consumed.

One of the first tasks of the earliest settlers in North America was construction of grist mills to grind wheat and the indigenous grain known as maize. Wheat flourished in the piedmont areas of the Mid-Atlantic region, and milling centers sprang up along waterways such as the Hudson, Brandywine and James Rivers as well as the

Chesapeake Bay. Wheat had also been planted by the early settlers in New England, but the rocky soil and less hospitable climate prevented it from becoming a major crop in that region. It was only after the Civil War that many of the main U.S. flour milling centers shifted to the Midwest.

Flour milling used to be concentrated near the major wheat-growing areas and transportation centers because it was usually cheaper to transport flour than wheat. However, this began to change in the 20th century, especially after the deregulation of railroads, when it became more economical to ship wheat instead. The result is that the modern U.S flour milling industry is widely dispersed throughout the country.

Another factor that has contributed to this is that unlike most other major wheat-producing regions of the world, there are five distinct types or classes grown in the U.S. The largest is hard red winter wheat, grown primarily in the Great Plains. Among the others, hard red spring wheat is produced in the northern most parts of the Plains; soft red winter wheat is grown in the Midwest, mid-South and Southeast; soft white wheat is cultivated mainly in the Pacific Northwest, but small amounts are grown in upstate New York and Michigan as well; and the smallest class of wheat grown in the U.S. is durum wheat, which is also produced in the far northern Plains. Each class has distinct characteristics that make it suitable for specific types of products, and pricing that tends to reflect its fundamental supply/demand balance. Price relationships among the various wheat classes tend to fluctuate sometimes quite widely.

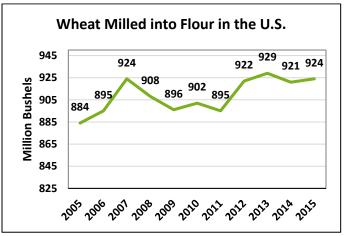
Like other agribusinesses and industries, there has been a trend toward consolidation in the flour milling industry. To some extent, that trend developed in the early 20th century when companies like General Mills and Pillsbury owned and operated multiple flour mills that supplied flour for their retail grocery products. However, some large food manufacturers have greatly reduced or eliminated their flour milling activities by selling facilities to other operators. Today's U.S. flour milling industry can be seen as comprised of two parts. There are large national or regional millers producing a wide variety of different types of flours, and numerous local or boutique millers producing certain kinds of flour for niche markets.

The largest U.S. flour miller is Ardent Milling Company, formed two years ago by a merger of the facilities of ConAgra and the Horizon Milling Company. Horizon was itself a joint venture between Cargill and the CHS cooperative in 2002, which combined their milling facilities. It is estimated that Ardent has about 34 percent of the U.S. flour market with ADM Milling Company (its nearest competitor) at 17 percent, bringing the combined total to over 50 percent.

The North American Millers Association is the principal trade group representing grain millers in the U.S. and Canada. Members of the flour milling section of the group account for more than 90 percent of North American flour production. There are 26 members of that particular section, but just two, Ardent and ADM, hold a larger market share than the balance of the group combined. There was considerable concern about possible anti-competitive aspects of the formation of Advent, and the Justice Department filed a suit in federal court to block the Horizon-ConAgra merger unless the parties agreed to divest themselves of certain flour mills in California, Texas and Minnesota. This was accomplished, and the suit was withdrawn.

In our view, the biggest problem facing the flour milling industry is not the degree of concentration. Rather, it is the fact that flour milling is a marginal growth industry as overall demand has barely increased, evidenced by a comparatively static volume of wheat milled into flour each year.

According to data from USDA's Economic Research Service (ERS), per capita consumption of flour in the U.S. was about 146 pounds in the mid-1990s when nutritionists were encouraging consumption of grain-based foods. Ten years later, it had declined to about 135 pounds as the nutritional pendulum swung away from grainbased foods, especially items such as white bread. In 2015, it slipped still lower to 133 pounds. Thus, even as the U.S. population slowly increased, the per capita consumption of flour decreased enough that overall production and use barely changed. The most wheat used annually for flour production in the last eleven years was 924 million bushels in 2007 and again in 2015. Flour exports have not been much help either. The volume has been equally flat, usually amounting to only 1-1.5 percent of total annual U.S. flour production.



Source: USDA/ERS, WPI

Flour pricing can be a complex process and dependent on a number of constantly varying factors. Obviously, there is the price of the physical wheat used to produce flour. Wheat values are determined by wheat futures prices and the cash wheat basis – the difference between the price of physical wheat and the appropriate wheat futures contract. Also important to the pricing equation is the value of mill feed, which is the residue left after flour has been extracted from the

milling process. About 75 percent of the volume of wheat is extracted as flour. The remaining 25 percent does have value as an ingredient in animal feeds; thus, the name mill feed. This can compete with corn in a variety of livestock feeds, so its value can quite often be linked to the corn futures market.

Basically, flour milling companies cannot count on market growth as a way of increasing profits unless they are able to take market share away from competitors, find niche markets for specialty products with potentially better margins or expand through mergers and acquisitions.

Flour milling has a well-earned reputation of being a low margin business. The opportunities for improving profits by becoming more efficient and increasing productivity are limited in a very mature industry. However, it is possible to widen margins by timely purchasing of wheat and blending different classes and qualities when possible in ways that lower input costs as well as achieving savings when possible in procuring the ingredients used to enrich flour. Equally astute merchandizing of flour products and mill feeds to customers is another key factor.

However, perhaps most important of all is the establishment of hedging risk management programs and techniques. Flour millers face a variety of potentially costly variables. These include the prices they pay for wheat and other ingredients; changes in the value of owned wheat; flour and mill feed inventories; the changes in values of wheat they anticipate buying and milling; the risks in short positions in cash wheat resulting from sales of flour for deferred delivery; and risks from potential changes in the cost and value of transportation. Transforming raw grain into semi-processed or processed products involves a constant shifting of these and other variables that must be managed effectively. Many of them can potentially be hedged in futures and options markets, but not all of them can. Flour milling is an industry in which most participants use comparable processes and face very similar needs, risks, costs and opportunities. Thus, companies that consistently do the best job of managing the risks of adverse changes in prices and values are the ones likely to achieve the best operating margins.

OILSEED PROCESSING

By John Baize

Top Five Reasons WPI is Bullish the Oilseed Processing Industry

- U.S. soybean exports are well above last year's pace and are forecast to be record high.
- U.S. soymeal exports at the end of November were 12.1 percent below last year's pace.
- U.S. soymeal prices in early December were \$20-30/MT above those of South America.
- South American production is on track to be record large, potentially limiting U.S. soymeal exports for the remainder of the marketing year.
- U.S. soybean processors' margins will likely be pressured for the remainder of the marketing year.

he U.S. produced its third record soybean crop in a row in 2016. This year's production totaled 4.361 billion bushels (118.7 MMT), 435 million bushels (11.83 MMT above the previous record set in 2015. Put that in perspective, the one-year increase in U.S. soybean production was more than China produced in 2015 (11.785 MMT) and 22 percent greater than India's forecast production for 2016 (9.7 MMT). China and India are the world's fourth-largest and fifth-largest soybean-producing countries, respectively.

One would think that with such a huge soybean crop, the U.S. would be destined to set records exporting soybeans and soy products. That appears to be the case for soybeans with USDA forecasting those exports in 2016/17 at 2.05 billion bushels (55.8 MMT). Combined U.S. soybean exports and outstanding unshipped soybean sales on 24 November totaled 1.535 billion bushels (41.789 MMT), a 27.2 percent gain over the 1.206 billion bushels (32.825 MMT) of a year earlier. However, because both Brazil and Argentina are projected to produce large soybean crops in 2017, it is far from certain that U.S. soybean exports will reach USDA's record volume forecast.

The outlook for U.S. soymeal exports is not so bright. USDA initially forecast 11.16 MMT in 2016/17, an increase from 10.85 MMT the previous year. However, lackluster exports and

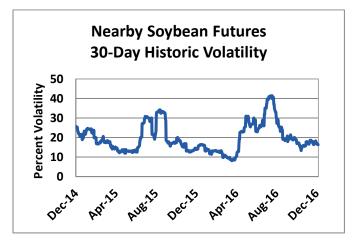
accumulated sales in October caused USDA to lower its projection to 10.89 MMT in November. The disappointing export sales continued that month, and combined U.S. exports and outstanding unshipped sales of soymeal totaled 4.751 MMT as of 24 November 12.1 percent lower than the total 5.407 MMT a year earlier. Particularly disappointing was the total exports and sales to the EU on 24 November of only 52,400 MT versus 289,300 MT a year earlier. The major decline in those sales and exports is important because the EU is the world's largest soymeal importer at around 20 MMT.

There are several reasons for the drop in U.S. soybean exports thus far in 2016/17. First, Argentina is exporting a greater share of its 2016 soybean crop as soymeal. This is because a sizable portion of its soybean crop was of poor quality due to excessive rainfall and flooding late in the crop year, making those beans more suitable for crushing. Consequently, USDA is forecasting Argentina's soymeal exports in 2015/16 at 30.25 MMT, up from 28.575 MMT a vear earlier. The government of Argentina also continues to assess a lower export tax on soymeal than it does on soybeans, which incentivizes those exports at the expense of the latter. In addition, because of the relatively small domestic soymeal market in Argentina, crushers have a much greater need to export their soymeal production.

Strong export demand for U.S. soybeans this year coupled with greater inflows of fund money into the futures market kept U.S. soymeal futures prices high this year. Despite the record soybean crop, soybean prices have also remained high with futures trading at around \$10.30/bushel in early December. At the same time, U.S. soybean prices were strong as South American export prices declined. Crushers in both Argentina and Brazil kept enough soybeans in stock to be able to supply the domestic market and export demand until the new crop is harvested in 2017. In late November, U.S. soymeal for export was priced \$20-30/MT above South American prices. This soymeal clearly stymied U.S. exports, particularly to Europe.

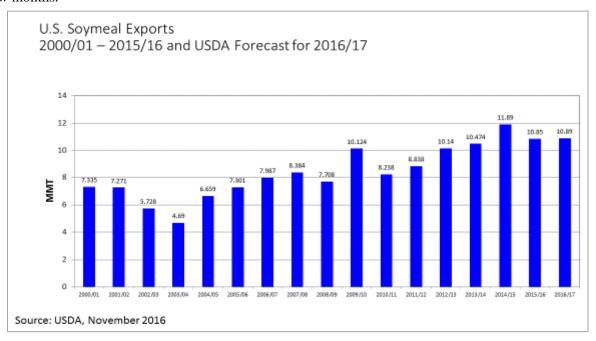
Barring unforeseen substantial weather problems in South America in the next five months, the outlook for a substantial improvement in U.S. soymeal exports in the remaining months of MY 2016/17 is not good. Brazilian analysts are predicting farmers in the state of Mato Grosso will harvest 7 MMT of soybeans by the end of January 2017. The harvest will start sooner than normal this year because rains began earlier there in September. Once started, it will put downward pressure on soybean and soymeal prices. The odds favor USDA further reducing its forecasts for U.S. soymeal exports in 2016/17 in the next few months.

The outlook could change if U.S. soybean prices decline substantially enough in the next few months to make U.S. soymeal exports more competitive prior to the harvests in South America. That does not appear likely considering the large positions of commodity trading funds in the soybean market. However, the soybean market has been particularly volatile and unpredictable this year, so anything is possible.



Source: WPI Analysis

Because of the poor U.S. soymeal exports thus far and the forecast for large South American soybean harvests in 2017, U.S. soybean crusher profits have an unfavorable outlook for the remainder of MY 2016/17. Once large supplies of South American soymeal are available, the



window for U.S. exports largely closes except for select markets. Options for U.S. soymeal exports will likely be limited to nearby markets and those like the Philippines that strongly prefer to source from the United States. The domestic market for soymeal is also being challenged this year by increased supplies of DDGS caused by China's imposition of anti-dumping duties on U.S. stocks. Soymeal demand could be strong this winter if the weather is colder than normal as many weather forecasters predict, which would help demand and crushing margins remain strong until spring.

The bottom line is that the current outlook calls for U.S. soybean crushing margins to be depressed for much of the marketing year, including those of Archer Daniels Midland (ADM) and Bunge (BG). Those companies also have crushing operations in South America, Europe and elsewhere. Thus, while possibly seeing better profits there, they will nevertheless face challenges.

THE U.S. BIOFUELS INDUSTRY

By Dave Juday, Mike Kruger, and Matt Herrington

Top Five Reasons WPI is Bullish the Biofuels Industry

- Increased RFS volumes will boost demand for biodiesel and ethanol.
- Higher RINs prices will support blending of ethanol and biodiesel.
- Exports will help add value to ethanol producers.
- Fulfilling the advanced biofuels mandate will require more biodiesel.
- The loss of the biodiesel blenders' credit will lower biodiesel profitability.

n 23 November, the U.S. EPA finalized the 2017 Required Volume Obligations (RVOs) for biofuels under Renewable Fuel Standard (RFS). The overall volume was increased to 19.28 billion gallons versus the 18.8 billion gallons proposed by the agency on 18 May. This was the fourth consecutive year the EPA has boosted final volumes from the initial proposal and only the third time they have been finalized by the 30 November statutory deadline. The announcement was welcome news for the renewable fuels sector and will mean growth in both ethanol and biodiesel production as well as consumption in 2017.

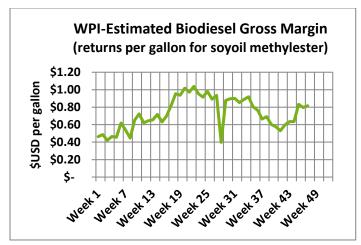
Required Volume Obligations (billion gallons)			
	2016	2017 Proposed	2017 Final
Total Renewable Fuel	18.11	18.80	19.28
Overall Advanced	3.61	4.00	4.28
Biomass-based Diesel	1.90	2.00	2.0
Cellulosic biofuel	230	0.311	0.311
Implied Conventional (corn ethanol)	14.50	14.80	15.0

Source: EPA, WPI

The 428-million-gallon boost in the renewable fuel volume was based on the increases of 200 million gallons for the implied conventional biofuel (i.e., corn ethanol) category and 228 million gallons for the advanced category.

Biodiesel

Biodiesel producers generally have maintained profitable margins this year and will see slightly higher biodiesel supply and demand in 2017 as a result of the RVOs.



Source: USDA, EIA, WPI

While the 2017 and 2018 RVOs for biodiesel remained the same as the proposed rule, the increase in the overall advanced category will likely rely on that particular fuel to meet the target. This is because there is neither enough cellulosic nor other advanced biofuels supply to meet the overall volume requirements. Indeed, on the day of the EPA's announcement, the January soyoil futures contract rose from \$0.34 to \$0.37 based on the assumption that more biodiesel

production would draw down end-of-the-year stocks.

However. the soyoil market seemingly overreacted given the nuances of the biofuels market. Back in May, the EPA proposed the advanced category be set at 4 billion gallons, which would be split between biodiesel and cellulosic biofuels with important implications for Renewable Identification Numbers (RINs). Biodiesel RINs are based on an ethanol gallon equivalency of 1.5-1.7, depending on the type of biodiesel. Thus, one wet gallon of biodiesel generates 1.5 or 1.7 RINs. The weighted average for the overall supply of biodiesel is about 1.54 RINs/wet gallon. Accordingly, the 2 billion gallon volume established for the biodiesel category will actually generate about 3.08 billion ethanol-equivalent RINs. Adding to the biodiesel RINs is the cellulosic category of 311 million RINs. As a result, the proposed volumes provided for a residual volume for undifferentiated advanced biofuel of 609 million gallons.

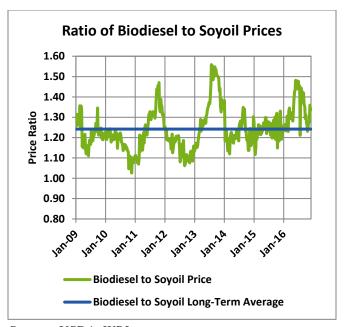
In setting the final volume for advanced biofuel at 4.28 billion gallons, however, 280 million gallons were added to the overall advanced biofuel category, making the undifferentiated category grow to 889 million gallons. There is unlikely to be a supply of either cellulosic or other qualifying undifferentiated biofuel to fulfill this category, meaning most of it will be made up by excess biodiesel. Indeed, if biodiesel were to make up all of this category, it would require about 577 million wet gallons of physical biodiesel, implying a mandate of 2.577 million gallons.

Trends through September in biomass-based diesel and renewable diesel production in the U.S. plus imports indicate the total biodiesel supply is likely to reach nearly 2.5 billion gallons. This would suggest the market overreacted to the EPA announcement, and yet the January soyoil contract closed the month at \$0.37.

The biggest threat to the biodiesel sector is the fate of the \$1.00 per gallon blenders' tax credit, which is set to expire 31 December 2016. Congress did not extend the bill during the lame-

duck session, and any further action on the credit will have to wait until the new year. There is a slight chance a tax reform package may move through Congress in 2017 that could apply the credit retroactively. Moreover, it is possible that potential legislation could reform it into a producers' credit instead, but the odds are very high that there will be no credit to start 2017. The safer bet is that Congress will take up tax reform in 2018.

The tax credit has faced expiration before. According to a paper by Scott Irwin of the University of Illinois that analyzed representative Iowa biodiesel plant, The Profitability of Biodiesel Production in 2016: Feasting on an Expiring Tax Credit? (farmdocdaily.illinois.edu, 27 July, 2016), the biodiesel industry was profitable in 2011 and 2013, which were both years when the credit faced expiration. During those years, blenders bid up the price of biodiesel to secure the value of the credit, making biodiesel production profitable. An analysis of the ratio of biodiesel prices to sovoil prices shows that 2016 is following the same pattern as 2011 and 2013, whereby the yearly ratio is exceeding the long-term average. Based on the price action of 2012 and 2014 (years following credit expiration), biodiesel profitability is likely to fall again in 2017.



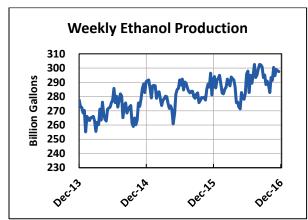
Source: USDA, WPI

Ethanol

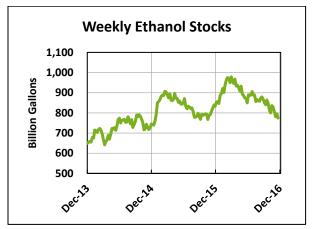
Ethanol has, in some respects, become a forgotten industry. Production and consumption have been assumed to stay flat, and there is little talk of new ethanol plants being built or of updates or expansions to existing ones. The U.S. is, by most accounts, up against the blend wall unless the percentage of ethanol blended in gasoline is pushed above the 10 percent level. Gasoline consumption in the U.S. has been declining as the automobile fleet becomes more efficient.

In contrast to a stagnant domestic industry, ethanol production has been better than expected over the past several months, primarily on the strength of ethanol exports. The following charts show that weekly ethanol stocks have been rapidly declining even while weekly ethanol production has been growing.

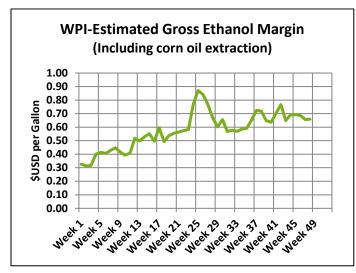
The combination of declining stocks amid higher production has led to a boom in ethanol margins that started in late April 2016 and has continued since, largely based on cheaper corn prices and strong RIN values.



Source: EIA and WPI

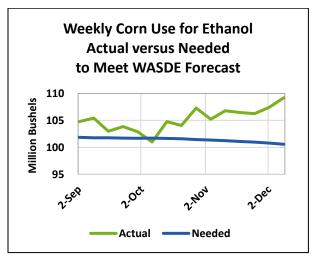


Source: EIA and WPI



Source: USDA, EIA, WPI

The profitability of ethanol production is sending more corn into the plants than was previously expected. The next chart compares weekly corn use in ethanol production against the weekly amount needed to meet USDA's goal of 5.3 billion bushels for the 2016/17 corn marketing year. Note the target in the previous two marketing years was 5.2 billion bushels and that 5.3 billion bushels represent 35 percent of the record 2016 U.S. corn crop. To meet USDA's forecast, ethanol producers must use 100.1 million bushels of corn per week; 109.2 million bushels were used during the week of 9 December. If the current trend continues, USDA will have to raise its ethanol demand forecast for the 2016/17 crop year.



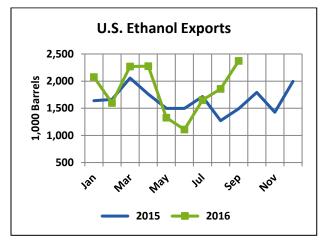
Source: EIA, USDA WASDE, WPI

Under the EPA's final RVOs, the implied conventional mandate for corn ethanol is now at the statutory maximum of 15 billion gallons. This is because the agency did not use its general waiver authority to avoid breaching the blend wall. Total motor gasoline consumption is projected to be 144 billion gallons based on the the U.S. Energy Information Administration's (EIA's) October Short-Term Energy Outlook (STEO). In the proposed rule, the EPA assumed the use of 14.4 billion gallons of ethanol and the conventional category's remaining 400 million gallons to be made up of non-advanced renewable fuels.

In the final rule, however, the EPA states it is assuming an increase in motor fuel use in 2017, but the mandated volume is still likely to exceed the 10 percent blend wall. Ethanol production over the mandated volume will go into stocks and exports. WPI is projecting that 2017 ethanol production will reach 15.5-15.75 billion gallons, which would represent 5.3-5.6 billion bushels of corn use.

Ethanol prices have been more expensive than gasoline blendstock for much of the year. That has limited discretionary blending, but exports are picking up the slack. They totaled more than

830 million gallons last year and are trending 13 percent higher through September.



Source: EIA, WPI

The primary reaction to the EPA's announcement of a higher ethanol volume has been in the RINs market where prices spiked nearly 15 percent. In addition to being a compliance mechanism under the RFS, RINs are the implicit subsidy to produce ethanol and thus part of the value of each gallon of biofuel to which they are attached. According to the EIA, RINs provide "... an economic incentive to use renewable fuels. If RIN prices increase, blenders are encouraged to blend greater volumes of biofuels, based on their abilities to sell both the blended fuel and the separated RIN." Under the RFS, the effective cost incurred by obligated parties is the cost of ethanol-net-of-RINs. This is derived from the ethanol mills' ability, as described above by EIA, to blend the fuel and separate the RIN. Thus, as RIN prices rise, the net marginal cost of blending ethanol at a fixed price is actually reduced for obligated parties.

Ethanol margins should remain strong for the foreseeable future. Corn supplies are certainly plentiful with U.S. ending stocks projected to exceed 2.4 billion bushels. Crude oil prices are near their highs for the year but will be dependent on the success or failure of an OPEC agreement to limit production going forward.

THE U.S. LIVESTOCK INDUSTRY

By Dave Juday

Top Four Reasons WPI is Bullish the Livestock Industry

- Profitable margins in 2016 will carry over into 2017 with expanded supplies of cattle, broilers, and hogs.
- Feed costs are low and likely to remain so as well as non-volatile into 2017.
- U.S. economic growth is supporting higher domestic demand.
- Exports are forecast to grow in 2017, which will ultimately be a key factor.

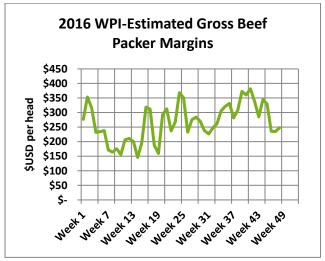
fter a decade of volatile corn prices, export hurdles and a soft U.S. economy, the meat and poultry sector has enjoyed a strong comeback in 2016, and additional growth for the sector can be expected next year.

Cattle and Beef

Beef packer margins have been following seasonal patterns going into the end of 2016. Packers have held leverage over feeders for most of the second-half of this year despite lower feed costs for feeders. During the last week of November, however, live cattle futures prices were creeping up in the out-month contracts even as feeder cattle futures contract prices were slipping. Heavy slaughter volumes for an extended period late this year has utilized a large portion of fed cattle, pointing to a potential reordering of leverage between feeders and packers. The question, though, remains: how much?

As noted above, slaughter numbers have been running high with steer and heifer slaughter up 5.2 percent in October, and they were ahead of last year's totals in November as well. Meat demand, meanwhile, remains strong, and packers are pushing to keep slaughter runs large. They are seemingly willing to give up a bit of margin, evidenced by the cash market now running ahead

of futures prices during the latter half of November.



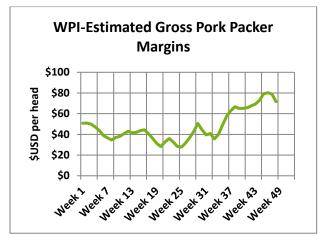
Source: USDA, WPI

Hogs and Pork

Pork packer margins have been sky high to date, based largely on a record supply of slaughter hogs that has been challenging packing capacity. For the last week of November, slaughter was estimated at 2.54 million head, a new record. Weekly hog slaughter has never been above 2.5 million head prior to this year, but it hit that mark four out of seven weeks in October and November. Meanwhile, carcass cutout values have held up with strong meat demand. Indeed,

the spread between slaughter hog carcass prices and cutout values has grown from about \$13/cwt to more than \$30/cwt since the end of July.

Holiday demand for roasts and hams will support cutout values through the end of the year. According to the National Pork Board, the fourth quarter is typically the strongest quarter for retail sales. It accounted for 28 percent of the yearly total in 2015 and is expected to be at a similar pace this year.



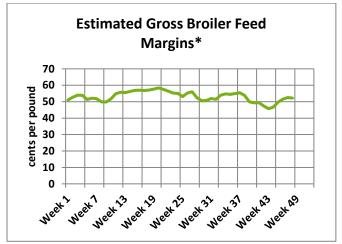
Source: USDA, WPI

Going into next year, new packing capacity will be coming on line. Ultimately, this will create competition among packers to find hogs to fill shackle space and put bullish pressure on those prices, eating into the current huge margins. April lean hog futures contracts are up significantly over the nearby months, reflecting that pending new capacity, and June contracts broke \$72/cwt during the last week of November.

The cash markets also saw some price adjustments in the last week of November as hog prices rose while cutout values were down slightly. The national negotiated carcass price on 2 December moved up to 63.5 percent of the cutout value after spending much of November in the 55-56 percent range. Until recently, cutout values were supported by lighter slaughter weights. While slaughter is up 1.8 percent so far for the year, pork production is up only 1.1 percent.

Broilers

Margins in the broiler sector have been good this year, but they are steadily declining moving toward 2017 as the sector faces increased competition from large supplies of red meat. Chicken prices are below the three-year average and trending down seasonally, but additional supplies of beef (up 5.7 percent to date) and pork (up 1.1 percent) are squeezing broiler margins further. Broiler production has leveled off in the second-half of this year, and slaughter was up only 1 percent year to date through the end of November. Meanwhile, ready-to-cook production is up 2 percent over last year.



*Excludes costs of chicks and grower payments Source: USDA, WPI

Looking ahead, the slowdown in chicken production that started in September will impact the outlook for 2017 with somewhat lower production than was anticipated earlier this year. On the year so far, smaller birds marketed to food service and fast food chains comprise the largest segment of production at 31 percent while slightly larger birds for retail grocery represent 20 percent. Larger birds for further processing, individually quick-frozen and roasters, are at 39 percent. The total average slaughter weight for the year has been 6.14 pounds.

It should also be noted that broiler production is currently undergoing a structural change in response to consumer demand. Approximately 37 percent of broilers are conventionally-produced, 51 percent are now produced without antibiotics approved for human use, and another 10 percent fall under the "never-ever" category of antibiotic use. The remaining 2 percent are organically-produced.

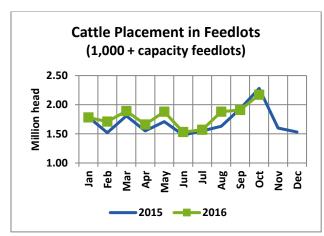
2017 Red Meat and Poultry Outlook

USDA's November WASDE report projected total red meat and poultry production will increase about 3 percent in 2017, boosted primarily by beef production.

Red Meat and Poultry Production Projections (million pounds)			
	2016	2017	Change (Pct.)
Beef	25,055	26,160	4.2%
Pork	24,946	25,800	3.3%
Chicken	40,725	41,550	2.0%

Source: USDA, WPI

Beef production is projected to grow because of the slaughter pace, driven by feedlot placements in late 2016 and moving into early 2017 as well as slightly higher carcass weights.



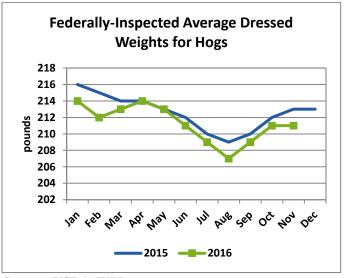
Source: USDA, WPI

On the pork side, USDA's September Quarterly Hogs and Pigs report indicates a large number of hogs still moving through the system, at least through the first quarter of 2017.

USDA Hogs and Pigs Report as of 1 September 2016			
	Million Head	Pct. of Last Year	Slaughter Months
Under 50 lbs.	21.09	102%	Jan, Feb, Mar
50-119 lbs.	18.851	102%	Nov, Dec, Jan

Source: USDA, WPI

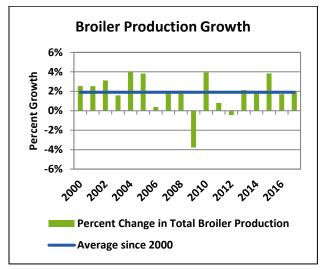
Given that high volume of hogs, however, pork production will moderate on slower gains in carcass weight.



Source: USDA, WPI

Broiler production will be slower in 2017 than originally anticipated, although it will still expand more than last year and be on track with the sector's long-term average.

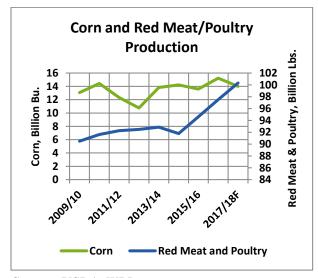
It is worth noting that the decrease in production in 2009 and 2012, when feed prices were at record highs, were the only two years of contraction for the sector since 1975. The large increase in broiler production in 2015 coincided with the outbreak of Highly Pathogenic Avian Influenza (HPAI), which only affected turkey and egg production. It did lead to trade restrictions on U.S. broiler meat exports, however, and resulted in higher domestic supplies.



Source: USDA, WPI

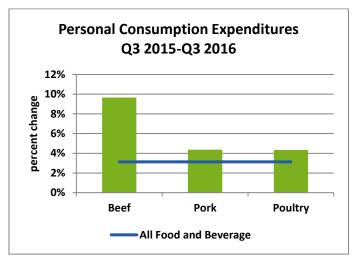
Key Factors Looking Forward

Looking forward, there are a few key factors for the meat and poultry industry with one being feed supply availability. This year's corn harvest is estimated at a record 15.2 billion bushels, and the 2017/18 crop is currently expected to reach 14 billion bushels, which would be the fourth-largest ever. Ethanol utilization of corn has plateaued with the statutory cap of 15 billion gallons. In other words, it is likely that feed will remain abundant and its prices will stay low next year. This larger feed supply will in turn be used to produce red meat and poultry.



Source: USDA, WPI

Another positive factor is the state of the U.S. economy, which is fueling domestic meat demand. The latest set of economic data this fall shows personal income up, payrolls expanded and unemployment down. For the third quarter of 2016, gross domestic product (GDP) was revised to an annual growth rate of 3.2 percent, the fastest in two years. Moreover, personal consumption expenditures are up. Consider the food sector: the 12-month inflation rate for all food in October 2016 was -0.4 percent. Yet, food expenditures for home consumption were up in the third quarter of 2016 with that of beef (9.7 percent), pork (4.3 percent) and poultry (4.3 percent) leading the allfood category (3.1 percent). In short, although retail meat prices have gone down, consumers have purchased more.



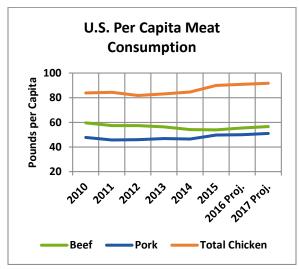
Source: U.S. Bureau of Economic Analysis, WPI

There has been a rise in U.S. annual per capita consumption of beef (+ 1.5 pounds), pork (+ 0.2 pounds) and chicken (+ nearly 1 pound) this year versus 2015. In addition, the expanded red meat production in late 2016 and 2017 is forecast to result in another boost in consumption of beef (+ 1.2 pounds) and pork (+ 1.1 pounds) next year. However, that of chicken is projected to stay relatively level.

In summary, the outlook for the meat and poultry sector is bullish for 2017. There is, though, at least one significant caveat: the pace of exports. In 2017, the U.S. is projected to export about 21 percent of its pork production, 17 percent of its

broiler production and 10 percent of its beef production. The export market has been the most impactful on the sector's expansion and will fuel additional growth. It not only allows for greater U.S. production, but the exporting of cuts that are otherwise undervalued in the U.S. market add value to the overall carcass.

For broilers, domestic consumption clearly has been the driving factor for the sector (see below), but it has also supported the supply of exportable low-cost dark meat, which is undervalued in the U.S.



Source: USDA, WPI

For beef and pork, a review of last year's export totals shows the value derived from that market. In 2015, beef exports created a value of \$15.77/cwt and pork exports a value of \$17.07/cwt.

Value of Exports to Livestock 2015			
	Unit	Beef	Pork
Total Export Value	\$ billion	\$6.302	\$5.575
Slaughter	1,000 head	22,682*	115,425**
Export Value	\$/head	\$277.87	\$48.30
Export Value	\$/cwt	\$19.98	\$17.07

Source: WPI, USMEF, USDA

This export premium also supports pork producers and cattle feeders. USDA's WASDE

report indicates the price of a fed steer in 2015 was \$148.12/cwt and that of barrows/gilts was \$50.32/cwt. The export premium directly affects the amount that livestock finishers can pay for feed.

2015 Budget for One Feeder Pig			
Non-Feed Costs			
10-12 lb. pig	\$38.00		
9% interest (5 months)	\$1.44		
Variable costs (5 months)	\$19.17		
Fixed costs	\$8.63		
Total	\$67.24		
Breakeven Feed Cost/Head			
With export premium	\$73.66		
Without export premium	\$25.86		

Source: USDA, Iowa State Extension, WPI

2015 Budget for One Feeder Calf			
Non-Feed Costs			
600 lb. calf	\$1,560.00		
9% interest (7 months)	\$81.43		
Variable costs (7 months)	\$123.80		
Fixed costs	\$21.00		
Total	\$1,786.23		
Breakeven Feed Cost/Head			
With export premium	\$272.64		
Without export premium	(\$5.08)		

Source: USDA, Iowa State Extension, WPI

Meat and poultry exports could face some headwinds as U.S. monetary policy will likely tighten or at least become less expansionary in 2017. Moreover, a high-priced U.S. dollar makes other origins such as Brazil more competitive in the global market. Policy shocks are also a threat to the export market, especially non-tariff trade barriers from countries like China as well as other export bans that arise from animal disease issues; HPAI bans that hit the broiler sector in 2015 is one example.

Overall, however, exports are projected to grow in 2017 with those of beef, pork and chicken forecast to increase 6.5 percent, 4.1 percent and a modest 0.5 percent, respectively. Should these projections hold, the outlook for the meat and poultry sector in 2017 is bullish.

^{*} fed cattle slaughter

^{**} commercial hog slaughter

FARM INPUTS

By Joost Hazelhoff

Top Three Reasons WPI is Neutral the Farm Inputs Industry

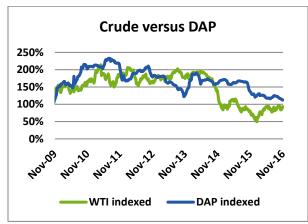
- Demand: Production cutbacks and problems in major fertilizer-producing regions are not enough to offset slow seasonal demand.
- External price drivers: The fading rally in crude prices took away an external pillar of support for fertilizer prices. However, the OPEC agreement reached on 30 November prompted renewed crude strength and thus brought it back.
- Production cost/margins: The retreat in thermal coal prices should help to moderate margin pressure for Chinese coal-based nitrogen production. In the U.S., rising spot gas futures prices are weighing down theoretical nitrogen margins.

n nitrogen, urea prices moved up through most of October and November. Short **L** covering was followed by position building in anticipation of additional strength, and expectations of an Indian tender helped solidify the move higher. However, the rally ended abruptly when it became apparent last week that India wouldn't complete the 800,000 MT tender as expected. India's demonetization has had significant impact on domestic fertilizer purchases. Banknotes of 500 and 1000 INR can be used for seeds, but rules allowing them to be used for fertilizers have yet to be finalized as of this writing. Following the tender cancellation, international urea prices moved lower instantly. Further decreases into Q1 2017 should be (partly) mitigated by the upcoming season for Northern Hemisphere spring demand. Moreover, India may return for a final tender before the end of the year as year-to-date imports of 3.4 MMT have been far below last year's 6 MMT.

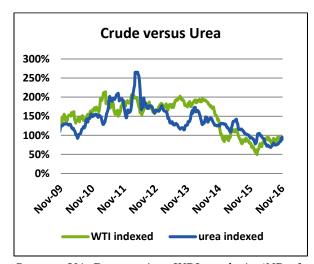
In phosphates, DAP prices have come down over the month in review, and the near-term outlook remains weak. Production problems (Tunisia and Turkey) and cutbacks/turnarounds (Morocco and Russia) in response to a seasonal demand so far have not been able to stem the weakening of DAP prices. In previous years, fill buying in Europe and the U.S. in anticipation of the Northern Hemisphere spring season would sometimes be able to cover (part) of the hole left by Latin America and Asia seasonal downturn in demand. That is not the case this time around.

Crude Oil versus Fertilizers

Current urea values continue in the range of the historical price band between crude and urea. Energy-led support for fertilizers required an extended rally in crude, and the OPEC agreement reached on 30 November has been helpful in that regard. The historical correlation between crude and urea suggests that crude oil stabilizing at current levels and/or even extending the rally higher would keep urea prices from falling despite demand-led weakness.



Source: UA Dataservice, WPI analysis (NB: 1 May 2009=100%)

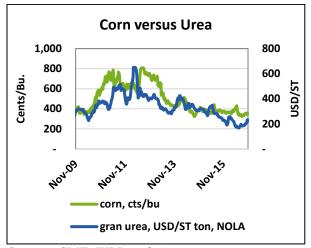


Source: UA Dataservice, WPI analysis (NB: 1 May 2009=100%)

Near-Term Grains versus Fertilizers

Crude oil weakness spilled over into many commodity markets, including grains. As such, the price reversal prompted by the OPEC agreement is helpful in an otherwise bearish price environment for (U.S.) grains. Record supplies and growing stocks continue to weigh down corn prices. The silver lining offered by very strong

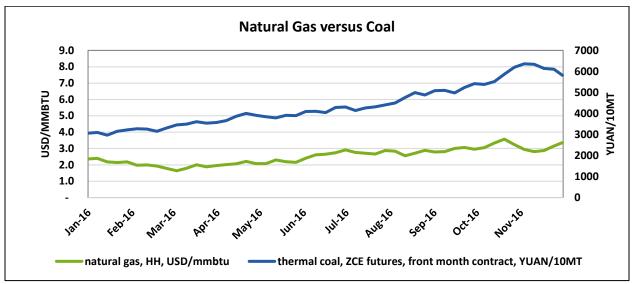
export demand isn't sufficient to fundamentally change the tone of an overall bearish story. Consequently, grain prices shouldn't be expected to offer any support in the near term for fertilizers.



Source: CME, WPI analysis

Nitrogen Cost of Production: Gas-Based versus Coal-Based

Last month we noted that spot cost of gas-based nitrogen production benefitted from lower gas/feedstock while prices. coal-based production (most notably Chinese) production was dealing with the ever-increasing cost of its feedstock, thermal coal. This was pushing up Chinese FOB prices and driving a shutdown of the least efficient production. It's too early to tell whether that is a reversal of the trend or merely a blip. Either way, thermal coal prices have come down slightly (see following graph) while natural gas prices in the U.S. have resumed their steady upward trend. Should the trend be extended, look for Chinese prices to come down again and the profitability of U.S. gas-based production to encounter increased headwinds from higher gas prices.



Source: CME, CSI data, WPI analysis

POLICY TRENDS

By Gary Blumenthal

Top Four Reasons WPI is Bullish Policy's Implications for Agribusiness

- Macroeconomic growth is looking stronger.
- Reduced regulatory burden and more business-friendly tax policy are likely.
- Resilience is greater than acknowledged.
- Low expectations for Trump may ultimately lead to a modest upside.

onald Trump was named magazine's person of the year, which is given to a person, a group, an idea, or an object that "for better or for worse...has done the most to influence the events of the year." Moreover, he is likely to continue greatly influencing events in 2017. If Barack Obama's election in 2008 brought hope, Donald Trump in 2016 brings intrigue. To the millions of people who find him repugnant, the influence is interpreted to be hugely negative. However, the investor class is messaging through a strong rebound on Wall Street that it expects good things ahead.

Interpreting Trump

Trump campaign pollster Tony Fabrizio says that everyone looked at the candidate through the traditional hard and fast ideological filter and concluded he could not win. Now post-election, both media and analysts continue to make mistaken assumptions about President-elect Trump. Washington Examiner reporter Salena Zito characterized the problem as Trump being taken literally but not seriously. Trump brings much of the trouble on himself through his bombast on Twitter, but for the business class, there is much hope that via Republican control of Congress, Washington will reduce the stultifying burden of taxes and regulation.

Evidence of this hope is the stock market, which bounced along flat to declining prior to Labor Day. Now, however, the Dow has grown postelection by nearly 8 percent and the S&P 500 by over 6 percent. Richard Madigan of JP Morgan says that the prospect for regulatory and tax reform has unleashed the economy's previously bottled up "animal spirits." Another important indicator is Chinese exports and imports, which grew in November based on growing global demand. In addition, the OECD now says that some developed and larger developing countries will see accelerated growth in 2017. The solution to the current commodity market doldrums is demand, and the improved macroeconomic outlook will be buoying commodities.

Agricultural commodity prices have not shown the same rebound across the board as equities but the Purdue/CME Group Agricultural Economy Barometer of farmer attitudes hit 116 in November, the highest reading in over a year. However, not all is positive. Some companies have begun listing the election of Donald Trump as a risk to their corporate situation. This is especially true of those entities strongly dependent on trade with Mexico or government green energy subsidies. Trade wonks remain concerned about Trump's disfavor when it comes to trade agreements. They are issuing warnings over his proposal to equilibrate U.S. tax policy on exports and imports with that of American

trading partners. The concept is to end the income tax deduction for the cost of imported goods. Most other countries assess a value-added tax (VAT) on imports but then waive it on exports. However, a WTO dispute settlement panel may consider such a machination by the U.S. to be too clever by half.

Painful Message in Europe

The dominance of political liberals in Europe was already under threat with Brexit and challenges from the right by rising conservatives such as Geert Wilders in the Netherlands, Marine Le Pen in France, Viktor Orban in Hungary and Matteo Salvini in Italy. The left's disdain was illustrated by German Prime Minister Angela Merkel's admonishment to Trump following his election that she would only work with him based on his acquiescence to European values. This was just prior to her proposed ban on Muslim women wearing the niqab. Indeed, Europe's political leaders on the left should heed the forewarning of Eleanor Roosevelt: "We arrive at catastrophe by failing to meet situations."

As in the U.S., many Europeans have become frustrated with an economic situation that does not serve them well. Southern European countries are burdened by debt and unable to inflate their way to growth due to the German-controlled euro. The entire Continent is under-performing. As Martin Wolf of the *Financial Times* points out, nominal demand in the EU is just one-fourth the level of consumption before the financial crisis, and real domestic demand (sans inflation) remains below that period.

The unification of Europe brings benefits, but immense pushback there micromanagement imposed by Brussels. Dutch Deputy Minister of Trade Marten van den Berg says there is the need for some decentralization in Europe and a return of more authority back to the member states. At the same time, he says that many Europeans do not want their "high" standards of environmental and health protections watered down by trade agreements. This contradiction between the burdens and benefits of regulation will continue to weigh on Europe.

Angst in Asian

After it was revealed that Trump had accepted a telephone call from Taiwanese President Tsai Ing-wen, the media characterized the breach of a 40-year-old protocol with mainland China as the mistake of a diplomatic neophyte. However, it was an intentional poke at Beijing, and there are likely to be more. In a negotiation, each side has defensive issues, things they want to defend, as well as offensive issues ,objectives they'd like to achieve. The goal is to assemble more offensive objectives and fewer defensive needs than the opposition. With the mere acceptance of a telephone call, Trump added another defensive issue to the Chinese side.

Now Trump has put U.S. recognition of a "One China" policy up for renegotiation. Originally conceded by the U.S. as part of the Shanghai Communiqué, it was merely intended to assure smooth diplomatic relations. But Trumpian logic is that the U.S.-China relationship is imbalanced in favor of Beijing and that making an omelet requires the breaking of some eggs. Katsuji Nakazawa of the Nikkei reports that former U.S. Secretary of State Henry Kissinger advised Chinese Premier Xi Jinping that Trump is unpredictable and, furthermore, that it is best not to react immediately in a harsh way toward him but instead seek cooperation. Trump's use of unpredictability to unnerve opponents has worked as Nakazawa reports that Xi is indeed afraid of him.

Now there is new trouble between China and its trading partners. Japan has joined the U.S., and likely the EU, in refusing to accept Beijing's interpretation of WTO requirements that China now be treated as a "market economy" when it comes to safeguard measures (AD, CVD). China says it is entitled to market economy treatment under Article 15 and that it will have the authority to retaliate if other countries continue to utilize safeguard formulas intended for nonmarket economies. Typically, Beijing collects support from developing countries in exchange for

special treatment, but other nations have become more afraid of the competition from China. It remains unclear how this issue will play out in the months ahead.

To handle future U.S.—China relations, Presidentelect Trump has nominated Iowa Governor Terry Branstad as his ambassador to the Middle Kingdom. Branstad has no diplomatic experience, but what he does have is a personal relationship with Xi Jinping, who he met in 1985 when the future Chinese premier was in Iowa studying American agriculture. Given all of the venom being spit by Trump toward China, Branstad may be taking one of the most difficult jobs in government.

Agricultural Policy

EU leaders are seeking to reform the Common Agricultural Policy, likely with stronger market intervention measures, support for sustainability and aid to beginning farmers. By contrast, the EU farm lobby prefers less regulation and easier money. Meanwhile, U.S. farm groups are demanding that the incoming Trump administration lower the regulatory burden imposed on them by its predecessor. A conventional farmer from Illinois with around 1,000 acres commented that all he hopes is that the new USDA won't be pushing small, local or organic.

The direction of U.S. farm policy will in part be directed by the next secretary of agriculture, who has yet to be named. That position ranks sixth in line in the cabinet for succeeding to the presidency in the event of calamity; there are nine other departments behind it in succession order. Yet, the new head of the agency will be the last selected by President-elect Trump. What does it mean for USDA to be the last cabinet level agency with a nominated leader?

One factor to note is that the USDA opening has received little mention by the national media. It is likely the last because it is the least controversial agency from a partisan politics standpoint.

USDA's main legislative vehicle, the farm bill, gets divided loyalties between urban food aid interests and rural production advocates, but unlike environmental laws, labor rules or financial policies, there is bipartisan support for the farm bill. Moreover, there is no "anticipated" major change in policy under USDA's purview.

Farm groups have committed to submitting their proposals for the next farm bill in February even though the Senate Agriculture Committee will be distracted well into the spring by the confirmation process for Trump's appointees. A common flaw is for new farm policy to be drafted based on immediate past market experience, and that is particularly true for dairy. A key agriculture advisor to President-elect Trump recently cited the dairy program as possibly in need of reform, but that is a narrow understanding of the current market situation.

Some dairy producers are upset because they have paid a total \$100 million into the margin insurance fund while just \$20 million has been issued in indemnities. Part of the problem is the fact that farmers paid the lower premium cost for catastrophic protection, and dairy markets have been "satisfactory" and not catastrophic. Indeed, some in the dairy industry advise that \$80 million may be left on the table this year, although some years could bring the flow of hundreds of millions of dollars to farmers above their premium costs. After all, that is the nature of insurance.

Indeed, a larger problem, say some, is the lack of processing capacity, which has forced farmers to dump excess milk in places like Michigan, New York and Indiana. The advice is for coops to retain capital and invest in processing capacity.

Generals and CEOs

Donald Trump's appointment of corporate CEOs and generals is provoking snark from Washington elites. Trumpians counter that with public confidence in government so low, agencies need seasoned managers - not more lawyers.

Going forward, prices are expected to remain satisfactory despite expanding production, partially due to developments in Europe. However, the EU also has its dairy policy cockeyed with the market. Buried under the 800 million pounds of NFDM that have accumulated over the past two years, Europe offered its farmers approximately \$7/cwt for milk not produced. The program initially attracted 52,000 farmers, but the price of milk has since stabilized at \$15-18/cwt, which is beckoning more production.

Overall, most agricultural economists forecast continued low commodity prices in 2017, although some point to low odds for yet another year of perfect weather. At minimum, the sector shares the viewpoint of Wall Street that the prospect for reduced regulatory burden is welcomed even if Trump's immigration and trade policies are worrisome (see WPI opinion graph in this issue).

