



QUARTERLY U.S. RURAL ECONOMIC REVIEW

Risks and Rewards, Realigning

This quarterly update is prepared by the Knowledge Exchange Division and covers the key industries served by CoBank, including the agricultural markets and the rural infrastructure industries.

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Key Points:

- **Analysts are becoming increasingly concerned about the medium-term economic outlook. The global and U.S. economies enter 2012 with more downside risk than upside potential.**
- **Producers abroad have substantially increased this year's global coarse grain and oilseed crops. Grain prices, in turn, have receded from the record-highs posted last fall.**
- **Global grain inventories, however, have not grown dramatically. The biggest impediment to increases in those stocks was the poor performance of the U.S. wheat and coarse grain crops due to adverse weather.**
- **Risks in the grain markets are tilting to the downside. During 2012, acreage shifts and more normal harvests in the U.S. would bolster global stocks and weaken prices.**
- **The recent easing in grain and oilseed prices has provided relief and improved margins for the cattle, hog, poultry, and dairy industries even as they continue to adapt to the high input prices.**
- **Going forward, regulatory issues around hydraulic fracturing and its effect of water quality will remain at the forefront of U.S. energy policy.**
- **The Federal Communication Commission (FCC) finally has issued its revision of the Universal Service Fund and Intercarrier Compensation regulations.**

Macroeconomic Outlook

Analysts are becoming increasingly concerned about the medium-term global economic outlook. Annual global economic growth is now projected to slow to less than 4 percent in the next 12-18 months. Much of Europe is enmeshed in a recession, and the European banking system is less and less willing and able to extend credit. The U.S. is wrestling with its own debt problems. And these problems are contributing to distortive realignments in exchange rates. Against this backdrop, the MF Global debacle serves as a pointed reminder of how disruptions in the financial markets impede Main Street's economic activity and well being.

“*The global economy enters 2012 with more downside risk exposure than upside potential.*”

The global economy enters 2012 with more downside risk exposure than upside potential. Each of the three pillars of the global economy – U.S., Europe and China – faces substantial challenges that are unlikely to be resolved in the next 12-18 months. The growing economic interdependency of these three pillars, the major elections scheduled for 2012 in Europe and the U.S., and leadership transitions in China and North Korea in 2012 are likely to complicate the resolution process. The European Union (EU) will struggle with sovereign debt issues even as it partners with the European Central Bank to contain a brewing European banking maelstrom. The U.S. economy will continue to face slow growth as consumers struggle with debt, weak job markets and declining housing prices. China will attempt to sustain its economic dynamism with internal consumption growth while its exports to the U.S. and Europe weaken.

The consensus outlook for the U.S. economy calls for subpar economic growth of 1.5-2.0 percent a year over the next 12-18 months, assuming that the euro zone countries are able to manage their sovereign debt and avoid triggering a banking crisis. Past overreliance in the U.S. on consumption spending as a major catalyst for overall economic expansion will continue to limit its growth prospects over the next 12-18 months. Indeed, continuing declines in housing values, weak job growth and the imperative for consumers to reduce their debt levels will likely constrain consumer spending as the coming year unfolds. Business investment, particularly capital spending for information and productivity enhancing technology, remains strong and is a key to maintaining corporate profitability. Companies will continue to shed labor or delay hiring until a solid growth path for the economy begins to emerge. The weak U.S. dollar relative to Asian currencies continues to support export growth, particularly for natural resources and agricultural commodities, and will limit any drag on growth from the standpoint of net exports.

U.S. Agricultural Markets

U.S. agriculture will face a different set of challenges in 2012 than in the past year or two. Increasing global supplies, weaker export markets, realignments in foreign

exchange markets, and the potential for big increases in U.S. grain output provide equal measures of upside and downside risk to the near-term outlook for the grain sector. The near-term prospects for the animal-protein and dairy complexes will rely heavily on the resilience of U.S. export markets but also on whether the upside or downside risk predominates in the grain sector.

Grains, Oilseeds, and Ethanol

World coarse grain and oilseed supplies appear to be headed higher. Although global grain inventories have not grown dramatically during the past season, producers abroad have posted substantial increases in their crops. Last year, the biggest impediment to global stock increases was the poor performance of U.S. wheat and coarse grain crops due to unusually adverse weather. This year, more normal harvests in the U.S. would push global stocks much higher and prices commensurately lower. Alternatively, another round of poor harvests in the U.S. similar to last year's would probably support prices at their current high levels.

Going forward, foreign supplies and demand rationing will play critical roles in driving the world grain and oilseed markets. High grain and oilseed prices have spurred record-high production not only in the traditional export markets such as China, Australia, and South America, but also in less traditional regions such as the Black Sea. In the coming year, U.S. exports of corn, wheat, and soybeans may well taper off, but a persistently tight domestic corn supply should maintain U.S. crop prices at elevated levels.

Corn, Wheat, and Soybeans

Now that the U.S. corn crop for 2011/12 has been harvested and stored in elevators, analysts have shifted their focus overseas to assess how the remainder of the marketing year will shape up. Weather in South America has taken center stage, as severe heat and drought have

stricken vital corn growing areas, particularly in Argentina. A smaller than expected South American crop will limit the region's exports while it expands trade opportunities for the U.S. and the Black Sea region. U.S. exports are still projected to fall 10 percent compared with last year, however, due to the availability of larger, cheaper supplies grown in Europe and Eurasia. The abundance of feed-quality wheat in other parts of the world is also constricting U.S. corn exports. Wheat prices are now very competitive with corn, and global wheat use for feed is expected to climb 16 percent year over year (YoY).

Global corn production is projected to increase 4-6 percent in 2011/12, which would set a new record. With corn consumption expected to grow at a similar pace, the world's stocks-to-use ratio would remain largely unchanged at 15 percent. (See Exhibit 1.) At the same time, however, the U.S. corn crop for 2011/12 is estimated to be slightly less than last year and will lower the U.S. stocks-to-use ratio to about 7 percent from nearly 9 percent in 2010/11. Such a tight U.S. corn market will likely sustain elevated corn prices for the remainder of the year. The projected season-average

farm price for corn is \$5.70-6.70 a bushel in 2011/12, well above last year's average of \$5.18 a bushel.

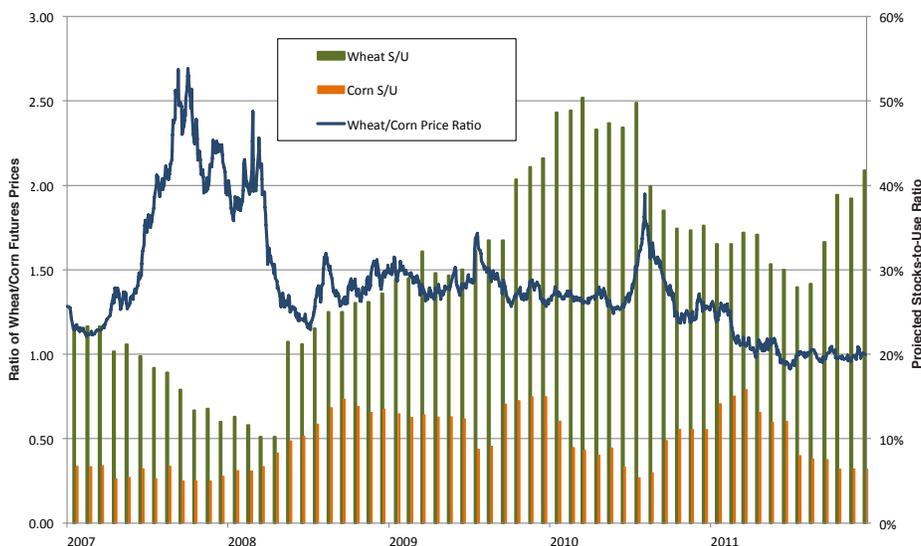
As with corn, foreign production is also the main driver in the wheat market. During the past few years, the market supply situation has been reversed from one of extreme tightness to a record-high supply, with significant improvement in the stocks-to-use ratio. World wheat stocks are at near-record levels, with global wheat production and consumption setting new records. Supplies from the Black Sea countries have recovered from the 2010 drought, and Australia is expecting another large harvest. Record-high consumption is a result of abundant wheat supply and the price inversion between wheat and corn. Constricted supplies of global coarse grains had been the principal support for wheat prices.

Strong global export competition will likely curtail U.S. wheat exports in 2012 by as much as 25 percent YoY. As of early January, weekly U.S. wheat export sales were below year-ago levels in 31 of the past 33 weeks, and the Black Sea countries, Australia, Argentina, and Canada are likely to dominate trade in the latter half of the

marketing year. Despite a higher stocks-to-use ratio for U.S. wheat (41 percent) than the world (31 percent), U.S. prices will continue to be uncompetitive in world markets because corn sets an effective floor-price for U.S. wheat. The domestic season-average farm price range for 2011/12 is projected at \$6.95-7.45 a bushel, still well above last year's average of \$5.70 a bushel.

U.S. soybean prices are likely to ease as the 2011/12 season continues to unfold, but the extent of the moderation will depend on the size of the South American crop. The U.S. soybean crop is expected to be about 8-9 percent below last year's, but total demand is expected to slump even more than production. Exports are the

Exhibit 1: U.S. Wheat and Corn Stocks-to-Use Ratios and Relative Future Prices



Sources: USDA and CoBank.



U.S. grain and oilseed crops have now been harvested and stored in local elevators.

culprit, owing to stiff competition from the abundant and attractively priced South American soybean stocks still being sold from last year's crop. Exports for all of 2011/12 are projected to fall 15 percent YoY, largely reflecting a marketing-year-to-date 75 percent drop in sales to the EU and a 24 percent drop in sales to China (the top two U.S. export markets). The projected season-average farm price for U.S. soybeans is \$10.95-12.45 a bushel in 2011/12, in line with last year's average price of \$11.30, while the stocks-to-use ratio is expected to edge up to 9 percent.

The U.S. soybean crush is projected to fall to an eight-year low in 2011/12, largely as a result of reduced demand by the shrinking broiler flock. Domestic use of soybean meal (SBM) will be flat, and exports are still expected to be down only marginally. World production of SBM is projected to rise 4 percent on the year.

U.S. soybean oil (SBO) output will be down slightly in 2011/12. Prices are projected to decline 7 percent, but remain considerably above what they were two years ago; domestic stocks today are about 32 percent below what they were in 2009/10. Exports will be under continued pressure from South American SBO and Southeast Asian palm oil. As of early January, exports were down 80 percent for 2011/12, and the pace of shipments was at an 11-year low. Full marketing year exports are expected to decline 63 percent. World SBO production will rise 4 percent but will not keep pace with demand, causing global ending stocks to fall 12 percent.

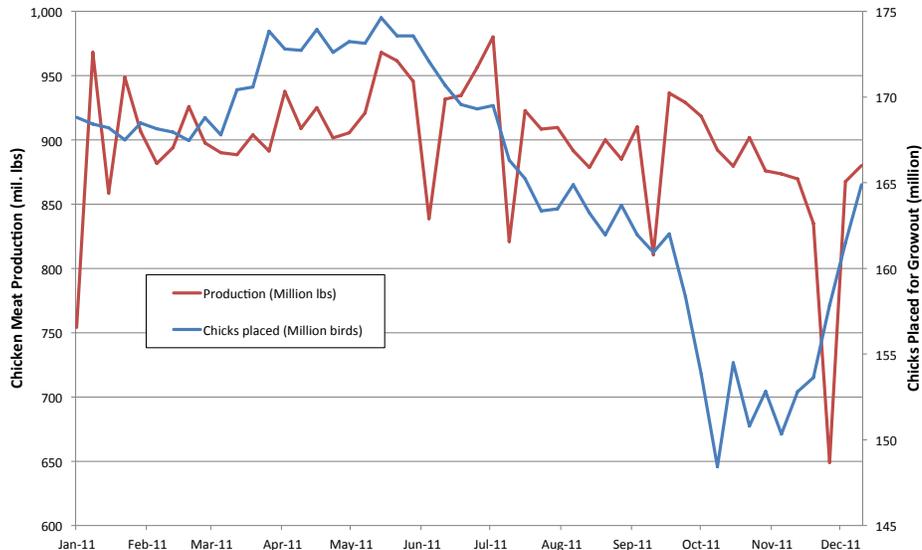
Ethanol

Ethanol producers will be navigating very unfamiliar territory as they enter 2012. The blender tax credit of \$0.45 per gallon and the import tariff of \$0.54 per gallon expired at year-end 2011. Most analysts expect the impact of these two policy changes to be relatively benign for the industry. The federal biofuel mandate (i.e., the Renewable Fuel Standard) will continue to guarantee a market for much of the industry's production, and strong export demand from Canada, Brazil, and Europe should account for the balance.

Ethanol output reached a record-high in early December as the industry rushed to supply the market with as much ethanol as possible before the credit expired. From October 1 until the first week of December, producer margins were very strong, reaching \$1.00 per gallon in some areas. The combination of high gasoline prices, weak natural gas (a key input) prices at a 9-year low, and strong demand from blenders has kept ethanol prices high. In December, however, the bulge in production caused inventories to balloon by 10 percent YoY, and ethanol futures prices responded by falling 32 percent from the summer highs. A month later, prices have rebounded only slightly, and excess stocks continue to weigh on margins.

The biggest uncertainty for the ethanol industry in 2012 will be the blend wall. Fuel blenders face an upper limit – the so-called blend wall – as to how much ethanol can be blended into the total volume of gasoline used by the nation's drivers. The amount is dictated by the Environmental Protection Agency's prevailing blending limit (currently 10 percent) and also by the volume of gasoline purchased by motorists. U.S. ethanol production is now bordering on that upper limit, and any domestic ethanol produced above the limit must either be exported or stored as inventory. In addition, impelled by the weak U.S. economy and high fuel prices, American motorists may curtail their driving, thereby dampening demand for gasoline and lowering the potential for U.S. ethanol blending.

Exhibit 2: U.S. Weekly Chicken Production and Chick Placements, 2011



Sources: USDA and CoBank.

Animal Protein and Dairy

The recent easing in grain prices has provided relief and improved margins for the cattle, hog, poultry, and dairy industries even as they continue to adapt to the high input prices. Additionally, strong export demand has created lucrative market opportunities and is bolstering prices for the poultry, beef, pork, and dairy industries.

Broilers

With production finally beginning to decline and prices rising, the broiler industry should stage a turnaround and become profitable in Q1-2012. Recent declines in corn and soybean meal prices are contributing to the industry's improvement. Throughout most of 2011, the industry ignored market signals to reduce the size of the flock and continued to overproduce. Finally, by the closing months of 2011, poultry integrators had reduced egg sets and chick placements to the point where broiler production had begun to shrink. Indeed, during Q4-2011, chick placements were down sharply YoY, and broiler production is expected to be down 4-6 percent YoY. (See Exhibit 2.)

The current year could turn out to be highly profitable for the industry, but integrators will largely determine their own fate. Analysts were surprised by the steep, year-end upticks in chick placements and broiler production and have generally dismissed them as statistical anomalies. However, if the industry expands production too quickly in response to the improving market signals, margins will again retreat.

Strong exports throughout 2011 have cushioned the industry's downturn. In previous years, integrators had largely ignored export markets, with sales consisting mostly of leg quarters

going to Russia. During the past two years, as Russia greatly expanded its own domestic chicken industry and slashed its chicken imports, U.S. integrators secured new export markets in Mexico, Asia, and southern Africa. Broiler exports set a record in Q3-2011, and should continue to be strong through the first half of 2012.

Turkeys

The broiler industry should take note of the turkey industry's success during the past two years. Turkey producers have curtailed flock expansion despite strong profitability. Their restraint has kept prices high and stable, and the outlook for the first half of 2012 is continued profitability.

Cattle and Beef

The U.S. beef cattle industry in 2011 was buffeted by a devastating drought, record-high feed costs, and record-high beef prices. Cow liquidation, forced upon ranchers in the drought-ravaged Southern Plains, will constrict cattle herds and beef supplies for the next two to three years, propping up cattle prices. The domestic beef supply shrank by an estimated 1 percent in 2011, while exports surged 21 percent to a level that finally eclipsed the

pre-BSE (bovine spongiform encephalopathy) high-water mark. The value of U.S. exports for beef through October was greater than in any full year in history, and imports into the U.S. were flat, preventing any supply relief.

The U.S. beef supply is expected to shrink 2-4 percent during the first half of 2012, and the volume of U.S. beef exports should rise about 2-4 percent. Taken together, these two developments should produce higher prices for cattle and beef across the supply chain. Looking ahead to the second half of 2012, the beef supply will likewise continue to decline as the cattle herd shrinks – and could reach levels that severely limit continued growth in exports.

As a result of the shrinking cattle herd, the nation's calf crop has also shrunk, falling to the lowest level in 50 years. Feeder cattle prices, in turn, have soared, to the benefit of cow-calf operations; and feedlot break-even levels climbed to an all-time high in the closing months of 2011. Nonetheless, feedlot operators posted improved margins (though still mostly negative) in December, as grain prices declined and cattle days-on-feed were reduced due to improving pasture conditions in the Southern Plains.

High prices have moved up the entire supply chain. Meatpackers' margins have been squeezed by record-high prices for fed cattle leaving the feed yards. Actual margins for feedlots and packers vary widely, but in both cases appear to be in the red on average. In the near term, these underwater margins will lead to a reduction in cattle slaughter and eventually to higher cattle prices.

Consumers, too, have been pinched by higher cattle prices, as packers have been able to pass along some of their increased costs. Retail beef prices set a new all-time high during Q4-2011, but are likely to taper off in the opening weeks of 2012 in response to seasonal increases in the beef supply coupled with consumers' resistance to those high prices. However, by March or April 2012, the constricted supply of beef should cause prices to resume their rise.

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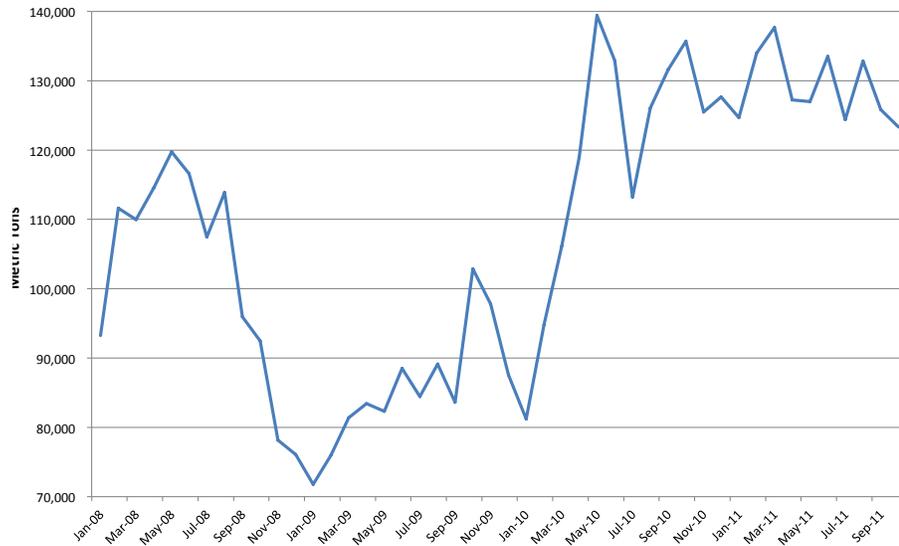
Swine and Pork

Strong hog and retail pork prices are expected to persist in the near-term, resulting in healthy margins for packers and producers. Still, margins will not be exorbitant, so significant herd expansion is unlikely until possibly later in 2012.

The hog industry has experienced strong profitability in recent months. Producer margins in the closing months of the year are typically negative due to seasonal increases in hog supplies and lower prices. However, the U.S. swine herd posted slim growth during 2011, and hog prices remain roughly 30 percent higher than a year ago. Compared to producers of the other two animal-protein species, hog producers benefited the most from exports in 2011, with 23 percent of production shipped overseas. And while pork exports have increased 18 percent YoY, imports fell to their lowest level since 1998, keeping domestic supplies tight.

The current retreat of grain prices should bolster producer margins in Q1-2012, and continued strong exports will absorb any marginal increase in production. Exports will be the key to profitability for the industry throughout 2012, and Asia will be a critical component of overseas demand. China's pork industry is recovering from disease outbreaks, and has been unable to keep pace with demand. Japanese imports of U.S. pork are expected to remain strong, thanks partly to the favorable exchange rates between the U.S. dollar, the yen, and currencies of competing countries. U.S. exports are projected to grow at roughly a 5 percent pace YoY during the first half of 2012.

Exhibit 3: U.S. Dairy Exports (30-day Months)



Source: Daily Dairy Report.

Dairy

Dairy output prices remain high, with the all-milk price, for example, peaking at around \$21 per hundred weight (cwt) during Q3-2011 and easing to about \$18.75/cwt in mid-December. Although demand remains vibrant, the outlook for milk prices remains mixed. The bulls foresee high prices driven by strong export demand, whereas the bears anticipate oversupply and moderately falling prices.

The bears would appear to have the upper-hand in this debate. The weak global and U.S. economies suggest that total dairy demand will be lackluster in coming months, although U.S. exports have proved to be surprisingly resilient. Meanwhile, U.S. milk producers have continued to rebuild their herds in recent months, pointing to a modest, near-term expansion in the domestic milk supply. The outlook thus calls for slightly lower dairy prices in the U.S. during 2012. At the same time, feed grain prices are also expected to decline, easing the squeeze on producer margins. Dairy producer prices should edge lower during 2012 but probably will not fall below the break-even range of \$16-19/cwt.

For the first 10 months of 2011, U.S. fluid milk sales declined 1.4 percent YoY, consistent with the trend of the past several years. At the same time, a larger share

of fluid milk has been diverted to manufactured products such as butter, skim milk powder, cheese, whey and Greek yogurt. The cheddar cheese market has been volatile in recent weeks. Cheddar production reached a 4-year low in October, and prices have been erratic. Cheddar block prices, for example, fell to \$1.69/lb in late-October, recovered to \$2.00/lb by mid-November but then dropped to \$1.54/lb by mid-December.

Milk production is projected to edge up less than 1 percent in 2012. By comparison, milk production for the first 10 months of 2011 increased about 1.7 percent YoY, in line with the 2 percent growth in 2010. For

most of 2011, high milk prices more than offset high feed prices, and dairy producers posted positive margins. Those margins have widened a bit in recent weeks, as grain prices have receded from their record-highs.

Milk producers continued to add cows throughout 2011, pushing the total U.S. herd to its highest level since mid-2009. Additionally, producers have also replaced older or less productive cows with more productive ones. Slaughter cows have commanded high prices lately, providing milk producers with a compelling incentive to cull their herds. Despite upgrades to herd quality, the combination of high corn and soybean prices and lower quality feed this year has kept per-cow milk production relatively flat during 2011, with little to no relief in sight for 2012.

U.S. dairy exports continue to trend upward and are a key revenue source for processors and manufacturers. (See Exhibit 3.) As of October 2011, dairy exports posted their 15th consecutive month of volumes exceeding 125,000 tons, and U.S. dairy exports for the first 10 months of 2011 were valued at \$3.96 billion, up 29 percent from the previous year. Shipments of skim milk powder and nonfat dry milk, the largest U.S. dairy export category, were down about 30 percent from the



Dairy farmers are continuing to expand and upgrade their cow herds.

record high levels of a year ago, but cheese exports were up 22 percent from those in 2010.

On the international front, global milk production is estimated to have increased by 5.4 million tons in 2011. EU milk production is projected to be up about 2.2 percent during 2011. The average milk price in the EU was significantly higher in 2011 than in the previous two years, although average dairy prices have been declining recently, largely driven by a drop in EU butter prices. Dairy production posted substantial gains in the Southern Hemisphere. In New Zealand, production is projected to have increased around 8 percent in 2011, in Australia 2.5 percent, and in Argentina around 15 percent.

Other Commodities

Sugar

The U.S. sugar outlook for 2011/12 has changed little in recent months. Beet sugar production in 2010/11 was down 3 percent YoY due to poor early season weather conditions, whereas cane production was up 6 percent on above-average growing conditions in the South. Total production was up marginally for the year. The real story, however, is the steady increase in sugar consumption. The U.S. consumed 8 percent more sugar this year than just 3 years ago, while production has increased by less than 5 percent. Demand has outstripped supply in each of the past four years, lowering beginning stocks for each subsequent year. The U.S. stocks-to-use ratio will likely fall for the fifth consecutive year in 2011/12.

Global sugar production and consumption will rise in tandem in 2011/12 for the third consecutive year. Supply has kept pace with demand in each of the past 4 years as the global stocks-to-use ratio has remained constant at 19 percent. Brazil, the world's largest sugar producing country, will produce 12 percent less sugar this year than in 2010/11, but every other major producing country is expected to increase production, which should ensure an adequate world supply.

Cotton

The U.S. cotton crop in 2011/12 was severely impacted by the Texas drought. Production is estimated to have declined by 13 percent on fewer harvested acres and a decline in yields. Total use, however, is projected to be down 19 percent on weak global demand for exports. In Q4-2011, China proved to be the only consistent importer of U.S. cotton, although they bought mostly to build reserves rather than for mill use. The U.S. average farm price range remained virtually unchanged from the third quarter at \$0.85-0.95 per pound.

U.S. cotton has become relatively unattractive on the world market, because of expanded world production and the unwillingness of the U.S. government to subsidize cotton as it has in the past (due to the Brazil cotton dispute). When U.S. cotton re-enters the battle for acres in spring 2012, cotton prices will be less attractive than those for corn or soybeans in the Southeast. Moreover, if this year's U.S. and foreign cotton crops approach normal supply levels, cotton prices would fall sharply.

Rice

The outlook for the U.S. rice market has also changed little in recent months. Total U.S. production in 2011/12 is projected to be down 23 percent YoY, and ending stocks are expected to decline 20 percent as a result of the smallest crop since 1988/89. Total use is also projected to fall by 13 percent, with exports down 18 percent due to increased competition from Australia and Egypt. In contrast to the U.S., the global rice crop for 2011/12 is the largest on record and will produce the largest ending stocks since 2002/03.

U.S. marketing year prices for 2011/12 have moved in opposite directions for the two rice classes. U.S. long grain prices have moved markedly higher due to the anticipated short harvest in the South, while medium/short grain prices have moved lower than year-ago levels due to record production and ample stocks in California. The disparity in season-average price ranges narrowed during the closing months of 2011, with long-grain rice trading in the \$13.50 to \$14.50/cwt, and medium/short grain prices varying from \$15.00 to \$16.00/cwt. Anticipated returns will again play a significant role in planted acreage for 2012/13 as rice will need to compete with corn and soybeans for farmland in the South.

Fruits, Nuts, and Vegetables

Growers and retailers in the fruits, nuts, and vegetables (FNV) complex have had a successful year, thanks to high produce prices and strong foreign and domestic demand. For several fresh fruit and vegetable products, delayed harvests and smaller yields tightened supplies during the second half of 2011, bolstering prices for growers and retailers alike. Pecan and peanut prices soared in the face of a severe drought, while almond, walnut and pistachio growers reaped the benefits of record harvests and eager export markets. Export volumes of fresh fruits and vegetables also increased. However, on a slightly sour note, acres planted for contracted processing vegetables continued to fall, as this industry segment copes with intensifying competition from abroad, including Mexico and China.

The FNV industry appears to be poised for continuing prosperity. The U.S. government's renewed emphasis on health and nutrition, coupled with the general consumer trend toward more nutritious foods, will continue to fuel domestic demand growth. Additionally, U.S. growers and retailers are expecting to export a record \$28 billion of horticultural products in 2012. Projections anticipate that Canada, Europe and Japan will increase their consumption of U.S. fresh fruits and vegetables, and that China will expand its imports of tree nuts. The newly enacted free trade agreement with South Korea will solidify its status as a top destination for U.S. fresh fruit, and South Korea's imports could even eclipse those

of Japan, which historically has been the biggest Asian importer of fresh U.S. produce.

Success in the current year, however, is not guaranteed. The fruits, nuts, and vegetables industry faces several challenges, including food safety, labor shortages, and pest and disease control. The recent outbreak of listeria linked to cantaloupe reawakened the public's interest in food safety, even as it decimated all melon sales. Mindful of the perils of food-borne illnesses, many FNV growers and processors are considering costly production improvements to mitigate the risk of contamination. Without a new guest worker program, the FNV industry will struggle with severe labor shortages for years to come. (Some growers have even resorted to using prison inmates for their harvests.) Growers would also welcome closer border inspections of horticultural imports, as several serious pests and diseases appear to have entered the U.S. since border-patrol duties were shifted toward anti-terrorism efforts.

Farm Supply

Farm cooperatives and their customers continue to worry about the price volatility of crops and crop inputs. While grain prices have receded from their record-highs in recent weeks, they remain high by historical standards, spurring farmers to plant more acreage and input retailers to boost their prices. Crop input prices, in fact, ratcheted higher fairly steadily from January through October 2011. (See *Exhibit 4*.) In recent weeks, however, as grain prices have eased, fertilizer prices have leveled off – and in a few cases have slipped.

With crop input prices typically lagging behind commodity price swings, production margins are likely to deteriorate further in 2012, as grain supplies increase. Granted, many uncertainties cloud the outlook, including final 2011 ending-stocks and 2012 production expectations, but many farm coops and their customers are concerned that market dynamics in 2012 could be similar to those that whipsawed them in 2009. This time around, however, farm income and balance sheets are much healthier than they were in 2009, so coops and their customers should be better able to withstand

a squeeze on their operating margins than they were two-plus years ago. Efforts to mitigate this volatility will likely require continued adjustments of inventory and purchasing practices, especially regarding fertilizer.

Growers have begun to formulate their plans for this spring's crops, and the battle for acreage will soon be in full swing. Looking ahead, planted acres are likely to increase in 2012 and so will harvested acres, given the large amount of land that went unused in 2011, largely due to flooding in the North and drought in the South. Moreover, analysts continue to see economic advantages to corn production over soybeans considering yield trends and price levels, and U.S. growers are likely also to shift their crop acreage mix in favor of corn over cotton. Corn usually accounts for around 40 percent of total domestic fertilizer demand, so a substantial increase in corn acreage would bolster the demand for fertilizers throughout the fall season application.

Analysts are projecting that nitrogen demand will grow 3-5 percent in 2012, given the increased corn acreage and extension of production to marginal land. UAN 32

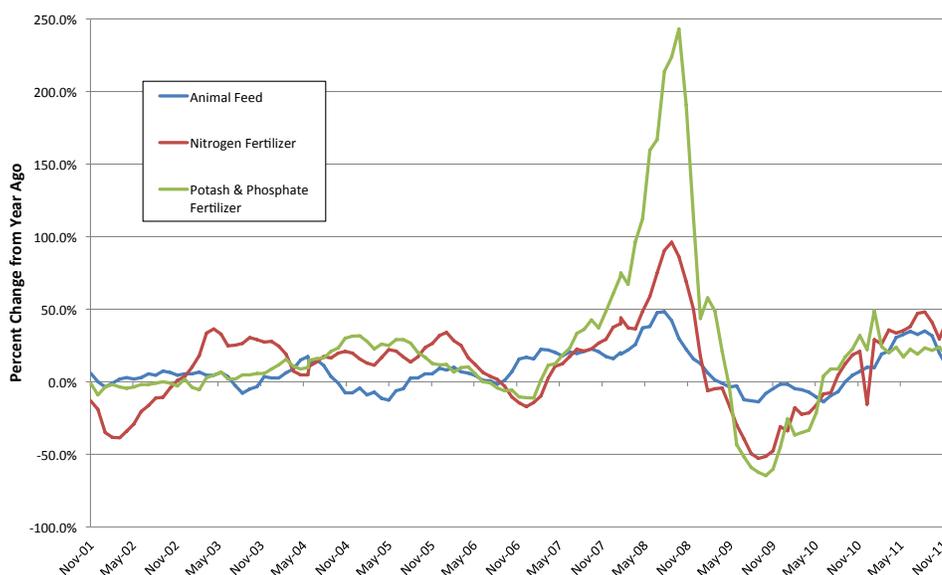
and urea imports are running well ahead of last year, and producers' inventories appear to be slightly above year-ago levels. Prices have remained flat for UAN 32 while sliding in recent weeks for urea. The near-term outlook for the urea market is decidedly bearish, owing to weakening grain prices, sluggish economic growth within the euro zone, and downward pressure on negotiated contract prices in countries battling sovereign debt and banking issues.

Over the near term, as commodity prices soften, potash prices should remain relatively flat. New potash production facilities or mines continue to face severe environmental challenges. According to a recent study, it would cost roughly \$4-6 billion to build a new greenfield potash plant. The substantial capital investment required to build new factories has spurred consolidations, mergers, and acquisitions aimed at gaining control of existing assets and permitted mines. However, despite the hefty capital costs, new potash production capacity is expected to have a substantial impact on the market over the next several years.

Phosphate product markets appear to be softening in response to lower commodity prices. Importers in India recently renegotiated some of their fertilizer contracts to reduce prices for future delivery. In fact, prices of MAP/DAP products have posted the smallest appreciation over the past year, and demand is likely to weaken in coming months, as grain prices recede from their recent highs. If phosphate prices were to decline, producers would probably curb output to mitigate the price erosion.

Despite their recent slippage, grain prices remain high enough to spur producers to plant every available acre, thus bolstering

Exhibit 4: Key Crop Input Prices, 2001-11



Sources: USDA and CoBank.

demand for crop inputs. Input retailers, in turn, will respond by raising their prices accordingly. USDA's November 2011 Farm Income and Cost Report projects that seed prices will have increased 6.5 percent in 2011, primarily driven by the high cost of new complex genetic trait seeds. (Recent press reports have suggested that beneficial pesticide attributes of certain varieties of BT corn have been less effective than the seed companies have represented, but the seed companies have disputed these claims and stand-by their genetic trait seeds.) Pesticide prices are expected to be flat in 2012, after increasing about 1 percent in the previous year. Diesel fuel prices are expected to decline 5-10 percent in 2012, after shooting up in the previous year.

Rural Infrastructure

Electricity Industry

Looking forward, total U.S. consumption of electricity is projected to edge down 0.5 percent in 2012. Weather patterns will remain a significant driver of electricity demand, and the long-range forecast for 2012 calls for temperatures to trend towards normal. Given the projected moderation in the average temperature during 2012, residential and commercial demands for electricity should ease from a year ago, while the economic malaise should temper growth in manufacturing and industrial electricity demand.

Preliminary estimates for 2011 indicate that total U.S. electricity consumption was relatively flat, with weak growth of just 0.3 percent. The warm start to this winter's heating season lowered average household heating expenditures during the fourth quarter. For 2011, natural gas expenditures are estimated to have declined 3 percent, and electricity expenditures are estimated to have increased 1 percent. Residential electricity prices are continuing to trend upward, albeit at a slower pace than previously. In the 5-year period ending in 2010, electricity prices increased on average over 5 percent a year, but since then, price increases have averaged less than 1 percent per year.

During 2011, renewable energy and natural gas expanded their shares in the power-generation mix;



Natural gas continues to displace coal as the nation's preferred source of fossil-fuel generation of electricity.

natural gas, hydropower, and wind together accounted for all of the modest growth in electricity generation. Indeed, renewable generation grew around 11 percent in 2011 YoY, driven by a 23 percent increase in conventional hydropower. (U.S. hydropower generation surged to its highest level since 1999 due to unusually heavy precipitation in the Pacific Northwest.) Natural gas continues to displace coal as the preferred source of fossil-fuel generation.

Energy Commodity Markets

The U.S. Energy Information Administration's forecast calls for crude oil prices to hover around the \$100/bbl mark during the next 12-18 months. Since dropping to a low of about \$76/bbl in early October, the NYMEX price for crude oil has trended upward, peaking at just over \$100/bbl in early December. More recently, the NYMEX futures price fell to below \$96/bbl as members of OPEC agreed to maintain their total production level and voiced caution about global economic growth prospects in 2012.

During 2011, natural gas prices were on a consistent downward trend due to strong growth in production and abundant supply in storage. Working inventories of natural gas posted a record high in November 2011 and were about 1 percent above what they were a year ago.

The Henry Hub spot price is projected to have averaged about \$4.02/MMBtu during 2011 – or \$0.37/MMBtu below the average for 2010.

Energy Policy Issues

Growth in the renewable energy segment, particularly wind and solar, has been significant over the last several years, with wind energy growing by 22 percent and solar energy installations more than doubling from 2010 to 2011. The federal investment and production tax credits and the U.S. Treasury's 1603 cash-grant program have bolstered the utilities' investments in green energy. But the 1603 cash-grant program expired on December 31, 2011, and the production tax credit is scheduled to expire at the end of 2012. The growth in renewable energy projects is projected to slow as these government support programs are phased out.

Environmental regulation and the risk of water contamination from hydraulic fracturing remain at the forefront of energy policy. The U.S. Environmental Protection Agency is developing a national standard for the disposal of water from shale gas drilling, and state-by-state regulation of hydraulic fracturing continues to generate controversy. In 2012, regulatory issues around hydraulic fracturing and its effect on water quality will remain a key policy topic.

Water

The nation's water infrastructure underpins both the agriculture and energy industries, inasmuch as water is a vital input in the production of food and electricity. Much of this infrastructure, however, is old and in disrepair. Financing replacements or upgrades of this infrastructure remains a key challenge for the water industry as these investments are costly and time-consuming. In addition, many utilities are finding that they must invest in new technologies such as membrane filtering and desalination to meet increasingly rigorous environmental standards and also to maintain a reliable water supply for industrial, commercial and residential users.

The rural water utilities have continued to expand at a muted pace, focusing their capital budgets mostly on system maintenance rather than on expansion. There

“*The FCC finally issued its revision of the Universal Service Fund and Intercarrier Compensation regulations on October 28, 2011.*”

are three reasons. First, the U.S. housing slump, the worst one in 75 years, persists, with no relief expected before 2013 at the earliest. New residential connections are a key source of revenue growth for the water utilities, and the dearth of new housing starts has limited their expansion plans. Second, under the lengthening shadow of fiscal austerity, federal and state governments have had to curtail their grants and low-interest loans issued to water utilities, which are used to finance investments in infrastructure upgrades. Third, many water utilities are falling short of achieving their allowable rates of return on equity, largely because of the sluggish U.S. economy. Additionally, the regulators have become less flexible and have either denied utilities' applications for rate hikes or allowed lesser rate increases than those requested.

Communications

The Federal Communications Commission (FCC) finally issued its revision of the Universal Service Fund (USF) and Intercarrier Compensation (ICC) regulations on October 28, 2011. Details of the FCC's reform order were not released until nearly one month later, and analysts continue to pore over the 759-page document to assess the full impact of the new rules. Initial reports suggest that the FCC's order addresses the 3-5 year transition period to the new regulatory regime, but falls short of specifying what the long-term support programs will be. The FCC's reform order fails to provide the clarity and breadth that the industry had hoped for, but in failing to do so has created an opportunity for it to shape the final programs during the transition period.

One point is clear, however. Rural communications carriers will realize considerably less support and fewer subsidies in coming years. In general, providers that have been shifting to non-regulated revenue streams will adjust to the new rules in the FCC's order with little impact on

the bottom line. Alternatively, providers that rely heavily on federal subsidies will face difficulty as the support ratchets down beginning in 2012. As small rural players struggle, mergers and acquisitions (M&A) will likely surge. Companies will be striving to find economies of scale and revenue diversification, and if unsuccessful may have to exit the business.

Going forward, subsidy programs will no longer fund geographic areas with multiple broadband providers. In this stricter environment, rural cable companies and other rural broadband providers, which have

not historically relied upon federal support for their networks, should emerge as very strong competitors in the marketplace. Wireless players will continue to see increased data revenues, although they will have to wean their consumers from the current one-price-for-all-you-can-eat system to a revised pricing structure calibrated to data consumption. Meanwhile, to accommodate the deluge of internet traffic, the data transport and data center sectors will continue to invest heavily in infrastructure and to engage in M&A activities. ■

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