CoBANK
KNOWLEDGE EXCHANGE

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QUARTERLY U.S. RURAL ECONOMIC REVIEW, Q4-2012

Weak Global Growth and Continuing Crop Concerns

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:

- ***U.S. economic growth will hover around 1.5 to 2 percent in 2013 due to fiscal drag from major declines in government spending and increases in tax revenues.***
- ***In its closing hours, the 112th Congress passed, and the President signed, the American Taxpayer Relief Act (ATRA) of 2012, blunting but not totally averting the so-called Fiscal Cliff.***
- ***Embodied in the ATRA were temporary extensions (through September 30, 2013) of the key provisions of the 2008 Farm Bill, including direct payments for corn, soybeans, and other commodities; the dairy MILC Program; the Market Access Program; and most conservation programs.***
- ***American farmers have finished harvesting their 2012/13 grain crops. Drought-impaired yields have left U.S. grain stocks at unusually tight levels relative to demand, especially for soybeans.***
- ***Analysts and market participants have turned their attention to next year's crops – those in South America as well as those here in the U.S. Lingering in the background are worries that the severe drought of the past two years will persist into the 2013/14 crop year.***
- ***Faced with high feed costs and limited opportunities to pass those costs on to consumers, the animal protein and dairy complexes are "treading water" on the assumption that record South American crops will be harvested in early 2013 followed by bumper U.S. crops in 2013/14.***
- ***Low water levels along a portion of the Mississippi River, caused by the worst drought in 50 years, are restricting barge traffic and boosting freight rates.***
- ***The two dominant driving forces within the communications industry are new, affordable, user-friendly technology and the resulting surge in data usage.***
- ***Rural local exchange carriers have virtually ceased investing in their networks due to regulatory uncertainty surrounding the Federal Communications Commission's USF-ICC Transformation Order.***
- ***As a result of the sharp fall in natural gas drilling during the past year, the near-term gas glut may not last through the winter 2013-14 season – a viewpoint that underpins futures prices for 2013.***

Preview

Global economic growth will remain weak in 2013. The U.S. and European economies continue to struggle with fiscal deficits and mounting debt, and face an extended period of fiscal drag and policy uncertainty. China and other emerging markets have become the primary growth engine for the global economy, but they must find ways to stimulate internal consumption to offset the weakness in their exports to the advanced economies. Central banks in every region of the world will continue to promote growth through enhanced liquidity but are unlikely to be able to offset the uncertainties created by major fiscal policy shifts.

The agriculture sector remains focused on supply concerns. Global grain and oilseed stocks have dwindled to extremely low levels relative to current demand; and wheat, corn and soybean prices remain elevated. Faced with high feed costs and limited opportunities to pass those costs on to consumers, the animal protein and dairy sectors are employing short term strategies designed to "tread water" on the assumption that record South American crops will be harvested in early 2013 followed by bumper U.S. crops in 2013/14. Commodity markets will remain highly volatile until the supply situation achieves greater clarity. Net cash farm income will likely remain near record levels in 2013 with significant differences among regions and commodities.

Macroeconomic Outlook

The U.S. and Europe pose significant challenges to global economic growth whereas China and emerging markets offer the most promise. China will need to take aggressive actions in early 2013 to promote internal growth since the U.S. and Europe, its two major export markets, will continue to be extremely weak, particularly through the first half of 2013.

Europe will continue to struggle with sovereign debt and financial market issues. Economic growth in the EU will likely remain under 1 percent with continuing debates over financial assistance to the weakest economies. With 2013 elections scheduled in several countries, particularly Germany in September, it is unlikely that all of the Eurozone countries and other involved parties will be able to reach a comprehensive agreement prior to year-end 2013. This uncertainty is casting a destabilizing shadow over global financial markets.

> *"As the new year began, Congress passed and the President signed the American Taxpayer Relief Act of 2012, blunting but not entirely averting the Fiscal Cliff.*

U.S. economic growth will hover around 1.5 to 2 percent a year in 2013 due to fiscal drag from major declines in government spending and increases in tax revenues. The uncertainty over the breadth and extent of these changes has already depressed economic growth in Q4-2012 and will contribute significant drag through the first half of 2013. Monetary policy will remain accommodative as the Federal Reserve continues to use its balance sheet to moderate the long end of the yield curve.

As the new year began, the 112th Congress passed, and the President signed, the American Taxpayer Relief Act (ATRA) of 2012, thereby blunting but not entirely averting the Fiscal Cliff. While keeping personal tax rates unchanged for about 99 percent of taxpayers, the newly enacted ATRA has raised tax rates for high-income taxpayers, limited exemptions and deductions for all taxpayers, and increased the estate tax rates for estates valued at more than $5 million – all of which will constrict consumers' cash flows. But the most immediate impact of the new bill relates to the payroll tax holiday and unemployment benefits. The payroll tax holiday was not extended, and all taxpayers will see their take-home pay reduced by 2 percent effective January 1, 2013. Extended unemployment benefits were continued for another year.

In addition, the ATRA of 2012 also essentially extends the key provisions of the Farm Bill of 2008 for another nine months. In particular, the government's direct payments programs for corn, soybeans, and other commodities will be temporarily extended. And so will the Market Access Program, the Dairy Product Price Support Program, the MILC program, and most agricultural conservation programs.

What the new ATRA of 2012 did not do, however, was to address the expenditure side of the ledger. The clock is now ticking on several significant budgetary issues that will almost certainly reignite Congressional squabbling in subsequent months:

- The automatic budget sequester that would reduce Federal spending by $1.2 trillion over the next ten years will become effective on March 1, 2013. Before then, Congress must decide whether to accept the sequester, postpone it, or agree to an alternative combination of spending cuts that add up to $1.2 trillion.
- The U.S. debt ceiling was again reached on December 31, 2012. Congress has until early March to raise the debt ceiling or risk triggering a U.S. government default on its bills and financial obligations.
- The continuing budget resolution covering Federal spending in 2013 will expire on March 27, 2013, and Congress must then extend the resolution or pass appropriation bills for the fiscal 2013 year that began on October 1, 2012.

Meanwhile, as they did in the closing months of 2012, businesses will continue to defer hiring and investment decisions until deficit-reducing measures that affect them are enacted. With government spending at the federal, state, and local levels constrained and likely to continue to shrink, housing investment may be the one positive sector as both multifamily and single home construction appears to be rebounding.

Foreign exchange valuations still favor U.S. agricultural exports, especially in the Asian markets. The trade-weighted U.S. dollar has increased 6 percent since bottoming out in August 2011, but remains about 27 percent below the 1997-2003 average level. The recent gain in the U.S. dollar value has occurred mostly against the European euro and Japanese yen. At the same time, the value of the dollar has fallen against the Chinese renminbi. If the U.S. Congress can reach agreement on the budget sequester, the debt ceiling, and the budget resolution for 2013, it is likely that the U.S. dollar will appreciate further against the advanced economies, which are struggling with their own sovereign debt issues and recessions, while stabilizing against the Asian currencies.

U.S. Agricultural Markets

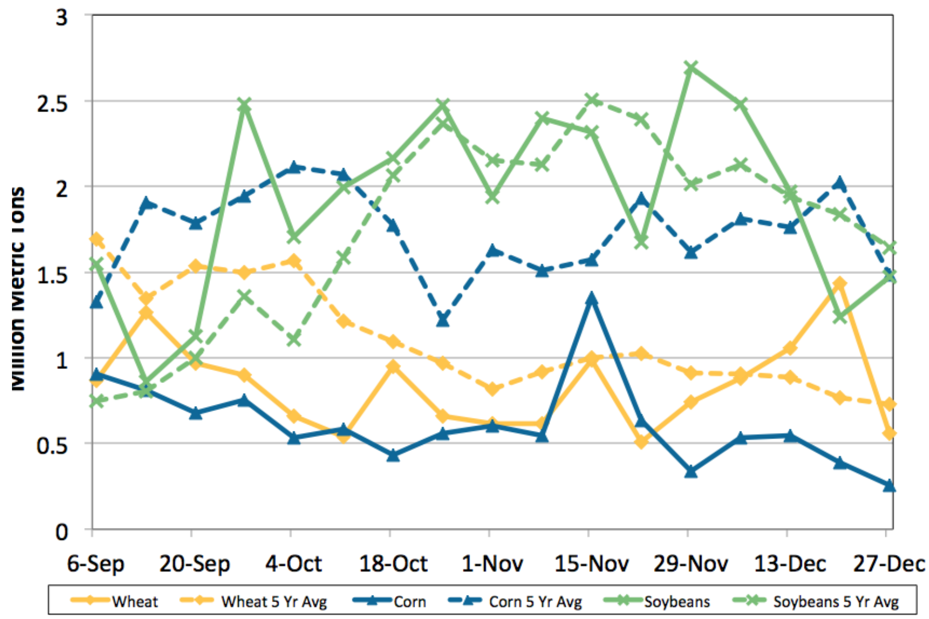
The hoped-for record South American harvests in early 2013 and continuing drought concerns in the U.S. have left commodity markets on edge. Weather events trigger a succession of market rallies and sell-offs. Grain and oilseed prices remain elevated, and the grain-consuming sectors are struggling to bridge to the coming year's larger harvests and the resulting easing in cost pressures. These struggles will be particularly intense during the first half of 2013 when grain supplies will be limited and consumer demand will be squeezed by increased taxes. This scenario bodes ill for the animal protein and dairy sectors during 2013.

Going forward, cash flow to the agriculture sector should remain strong, keeping land values elevated. The key question is whether there will be an improvement in the balance of income between the grain producing and grain consuming sectors of the agricultural economy. Without a better balance, the mounting losses will impose severe financial hardship on the animal protein and dairy complexes, with many producers and processors unable to survive.

Grains, Oilseeds, and Ethanol

Entering 2013, the U.S. grain markets faced unusually tight grain stocks relative to demand, especially for soybeans. And with fairly reliable estimates of the U.S.'s 2012/13 crop sizes now in hand, analysts and market participants have turned their attention to the next year's crops – those in South America as well as those here in the U.S. Lingering in the background are worries that the severe drought of the past two years will persist into the 2013/14 crop year.

Exhibit 1: U.S. Grain Exports, Weekly



Source: USDA-FAS

Wheat

The closing months of 2012 were rather uneventful for U.S. wheat. Exports have been slow since the start of the marketing year in June, to the degree that since 1981 there have been only four years with fewer exports through December. *(See Exhibit 1.)* However, dwindling stocks in the Black Sea region and weather-reduced harvests in Australia and Argentina fanned the flame of optimism that U.S. exports would be jolted back to life in Q1-2013. Expectations for improved foreign demand and tightening world supplies kept U.S. prices stable through November, but the persistence of weak exports undercut those expectations in the closing weeks of the year, causing futures prices to fall about $1.00 per bushel by early January.

Meanwhile, the U.S. drought is also intensifying in the Plains states. In the USDA's final crop progress report in late November, the U.S. winter wheat crop was reported to be in the worst condition of the past 10 years. Now that the crop is in dormancy, this concern will move to the backburner. Dormant wheat does not require much moisture, but the poor condition of the crop will make it more susceptible to winter kill without adequate snow cover. For the stands that survive, adequate spring rains will be essential to salvage the crop. In contrast, winter wheat crops in Eastern Europe and Russia are faring better than in the U.S. Some regions in the FSU countries have been experiencing a drought since the summer months, but overall the region is showing promise for a good harvest in 2013.

The USDA's highly anticipated January 11 reports provided bullish news for wheat producers. The USDA raised its estimates of domestic wheat use for feed by 11 percent, reflecting stronger than expected livestock supplies. As the number of grain consuming animals has stayed higher than most analysts had expected, and as corn prices have also remained far above historical norms, livestock producers have turned to wheat for some feed cost relief. Wheat feed use will more than double this year versus last, and will be larger than any other year since 1998/99.

Corn

Like wheat, the corn market was eerily quiet during October and November, with U.S. corn futures trading within the narrowest quarterly price range (i.e., $0.60 per bushel) since Q2-2010. However, during December, the market finally responded to the extreme lack of export demand by selling off about $0.50 per bushel in nearby futures.

As of year-end 2012, U.S. corn exports were down to a near record-low for the current marketing year which began in September. *(See Exhibit 1.)* Corn exports are expected to pick up in early 2013 as foreign supplies dwindle. Record-setting exports from Russia and Argentina, along with near record exports from Ukraine, have all but exhausted foreign exportable supplies. In addition, Brazilian ports will transition to exporting soybeans in January, effectively ending corn exports

The worst drought in 50 years has greatly reduced the depth of the Mississippi River below St Louis. Absent substantive rain or snowfall, certain stretches of the river could be impassible to barge traffic by late January.

for the season. China, however, will continue to act as a limiting constraint to 2012/13 U.S. exports. For the second consecutive year China has achieved record harvested acreage and record yields for corn. As a result, the USDA projects that China will import 60 percent less corn this crop year.

South America's burgeoning corn crop will also have an increasing impact on the U.S. corn market in early 2013. Argentina ranks fifth in world corn production, and typically ranks second in corn exports, trailing only the United States. Hence, as Argentina continues to struggle planting its crop amidst the record-breaking rainfall, impending harvest delays and potentially stunted output could benefit U.S. exporters in the first half of 2013. The brightening outlook for exports and imminent competition with soybeans for acreage should provide good price support for corn in early 2013.

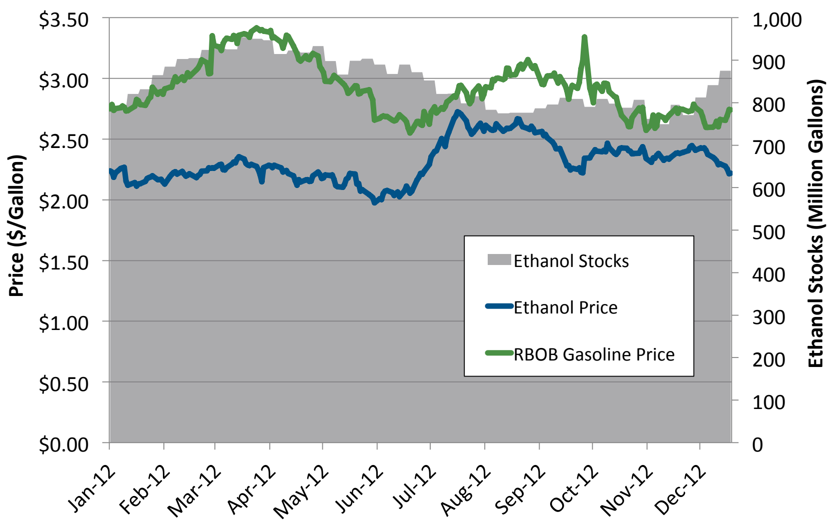
The anticipated acceleration in exports also underscores the critical impact that the drought is having on river transit. The worst drought in 50 years has lowered the depth of the Mississippi River below St. Louis by two-thirds, and is forcing barge operators to reduce their loads by as much as 60 percent. Barge traffic will also be restricted during daytime until the Army Corps of Engineers finishes breaking up the underwater limestone formations along stretches of the riverbed near Thebes, Illinois, that might otherwise snag long lines of barges. Billions of dollars of goods, including grains, typically move through this section of the river during the winter months, and may need to be rerouted if the situation worsens. The outcome would be a logistical nightmare for grain exporters. Some estimates indicate that if the river drops another foot to 18 inches, the river will become impassible. In the absence of substantive rain or snowfall, closure could occur by early February.

Soybeans

At year-end 2012, conditions in the soybean market differed dramatically from those in corn and wheat. Near record level prices have done very little to ration soybean demand in recent months, as Q4-2012 disappearance is on track to match the record levels reached in 2009/10. The USDA revised its estimate of the size of the U.S. soybean crop upward by 11 percent between October and November, and then another 1.5 percent in January, with nearly all of the additional bushels going to use. This year's soybean crush will be much larger than originally feared as processor margins have been superb, with the national average crush margin ranging between 50 to 80 cents per bushel throughout the fourth quarter. Soybean meal exports have also been robust, with export sales in the current marketing year (Oct-Sept) up 40 percent over the same period last year.

The breakneck pace of soybean sales has only served to exacerbate the tight domestic stocks situation. It can be argued, however, that soybean sellers are simply following market signals to sell now rather than later. With some of the steepest futures price inversions in history approaching in 2013, elevators and cooperatives have no incentive to hold inventory. Thus, we anticipate that processors will continue to crush while beans are available and margins are wide, before they begin to reduce utilization, probably in February. Soybean oil (SBO) prices have been pressured by ample global supplies of palm oil, acting as a drag on margins. However, SBO prices are expected to rebound as the crush slows and domestic demand and exports work down stocks.

Exhibit 2: U.S. Fuel Prices and Ethanol Stocks



Sources: Bloomberg, USDOE

For the next several months South American weather and production estimates will be the most critical market factors for soybeans. Despite a rocky start to the planting season in both Brazil and Argentina, the USDA currently projects that the combined soybean output for the two countries will be 27 percent higher than last year, and 10 percent above the record crop of 2010/11.

Unusually wet weather persisted through the fourth quarter of 2012 in Argentina and has diminished yield expectations there, although conditions did improve in early January. In Brazil, however, ideal weather conditions have boosted yield expectations there, more than offsetting the decline in Argentina. Continued favorable weather reports in early 2013 would likely cause orders for U.S. exports to fall off precipitously by February, whereas a deterioration in conditions could extend the U.S. export season, putting further strain on U.S. stocks. In any event, U.S. prices are expected to remain relatively firm into the spring months, supported by record low domestic inventories and spring pricing competition for acres.

Ethanol

The ethanol industry remains mired in difficult market conditions. As a result of the drought and short corn crop, the industry curtailed production during the late summer and early fall. This cutback helped to reduce ethanol stocks, elevate ethanol prices, and bring margins for many producers back to, or at least close to, breakeven. However, the recent decline in oil prices depressed ethanol prices and thus prevented plant operators from benefiting from the break in corn costs. *(See Exhibit 2.)* Ethanol production is also on the rise again, and so are stocks – all while consumption is contracting. To compound its woes, the industry has also suffered a decisive shift in ethanol trade in 2012. Year to date, ethanol exports are down 20 percent compared with the same period in 2011, and imports are up nearly 300 percent because sugar-based ethanol from Brazil qualifies as an advanced biofuel.

The industry continues to operate above optimal capacity, and on average, will struggle to maintain profitability until new markets are developed or some production capacity is removed. In coming months, the industry's stronger players with little to no debt and consistent markets are likely to break even or generate slightly positive margins, whereas operators in less ideal financial situations are likely to operate in the red.

Animal Protein and Dairy

The animal protein complex continues to adjust to the new normal of high feed prices. For the most part, the beef, pork, and poultry industries are all curbing production and attempting to achieve better feed efficiencies. Two big questions loom for 2013. First, insofar as processors attempt to pass along higher production costs to their customers, will American consumers be willing (or able) to pay higher meat prices? Second, how will export demand for each type of protein adapt to higher U.S. prices? Pork and poultry exports are already being substituted for U.S. beef exports – another facet of the new normal for the animal protein complex. For dairy, margins have improved with higher milk prices, but the situation is still tenuous, especially in the West.

As the cattle herd continues to shrink, fed cattle prices remain elevated, and feedlot operators struggle to keep their feedyards filled to capacity.

Beef

As 2012 ended, beef producers and processors were hunkering down in preparation for another lean year. U.S. beef production shrank last year and will do so again in 2013.

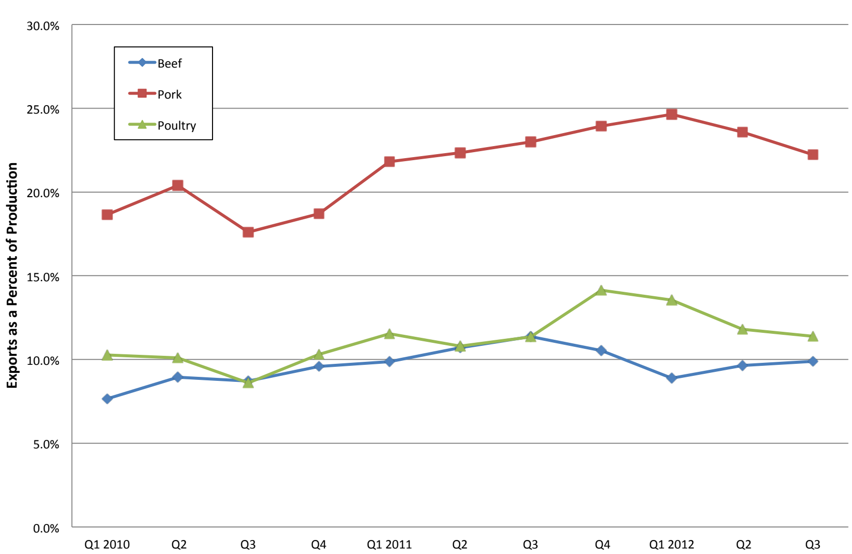
Feedlot placements fell in Q4-2012, leading to a 12.6 percent decrease year-over-year (YoY) in the slaughter rate. To supplement domestic supply, cattle imports grew 8.5 percent YoY during the first ten months of 2012 and should continue to increase into 2013. The U.S. beef herd is expected to be down 1.6 percent YoY at year-end, and total cattle slaughter is expected to fall 5 percent in 2013. Lighter carcass weights are also expected through Q1-2013, due in part to poor wheat pasture conditions, which could lead to lighter feeder and calf weights and put further pressure on cattle feeders who already are struggling with negative margins. Beef processors' margins are currently below breakeven levels. Looking ahead to 2013, these margins are likely to be further compressed due to tight cattle supplies and weak consumer spending (which will inhibit processors from being able to pass the high feed costs onto consumers).

Limited beef supplies continue to push prices upwards, which are expected to impact U.S. export volumes through 2013. Although exports of U.S. beef remained healthy through Q4, it is unclear whether this strength will be sustained in 2013 in the face of further increases in wholesale prices. *(See Exhibit 3.)* Many analysts are concerned that price-sensitive countries, such as Mexico and the Asian markets, will curb their demand in response to higher U.S. beef prices. U.S. exports to Mexico and South Korea have already posted sharp declines, falling 41 percent and 26 percent in October from year ago levels. U.S. beef prices have caused Mexican buyers, in particular, to shift beef consumption to pork and poultry.

One bright spot for U.S. beef exports is Canada. The Canadian beef herd has shrunk 27 percent since 2005, leading to high import demand for U.S. beef. U.S. exports to Canada during January-October were up 25.2 percent from 2011. Cattle exports to Canada are expected to remain bullish through early 2013, given their less price sensitive population and small domestic herd.

Japan could be another bright spot for U.S. beef exports. Japan and the U.S. are expected to reach a trade agreement in early 2013 to allow imports of U.S. beef

Exhibit 3: U.S. Meat Exports as a Percentage of Production



Sources: USDA and LMIC.

from animals up to 30 months of age, from the current 20 months. Although there is great hope for increased exports to Japan through this agreement, Japan is currently in a full recession – an economic setting not conducive to fostering growth in per-capita beef consumption.

Pork

U.S. pork producers have begun to adjust to the elevated feed prices. As of October 2012, year-to-date hog slaughter totaled 92.8 million, up 3 percent from a year ago. Similarly, sow slaughter edged upward through the end of 2012 with 2.5 million sows slaughtered during the first 10 months of 2012, up 19,000 from the same period in 2011. Slaughter is expected to slow slightly for the remainder of 2012 and into Q1-2013, reflecting a seasonal decline in production.

Despite an increase in pork supplies, pork cutout values remained strong through Q4-2012, fueled by lower carcass weights and healthy holiday demand – in particular for hams. A rise in cutout values is not all that unusual, especially given increases in holiday demand. What is unusual is that this pick-up in values has occurred in the face of high supplies – reflecting high domestic and external demand for pork products. However, healthy demand has not pushed producer margins out of the red as high feed prices continue to impair profitability. In contrast, processors' margins were reportedly above breakeven levels in the closing months of 2012, though they fell short of the record high margins posted in 2011. Margins for early 2013 are expected to edge above the year-end 2012 levels, positioning hog processors to outperform their counterparts in the beef industry.

U.S. pork exports are booming, thanks to high beef prices and healthy international demand. Once again, it looks like 2012 will set another record with pork exports up 7.1 percent YoY for the first 10 months of 2012. Export demand consumes a significant amount of U.S. pork production: through October, exports comprised 23.4 percent of total U.S. pork production. Although exports to China/Hong Kong have decreased significantly (62 percent decline in October alone), exports to other markets have more than made up the difference. Exports to Mexico are reflecting shifts in consumption from beef to pork with exports increasing significantly for pork through Q4 and are expected to remain healthy through early 2013.

"The poultry industry is still comfortably weathering the storm of high feed prices.

Russia, however, remains a wild card for U.S. pork exports in 2013. Russia recently announced plans to require testing and bar entry of pork containing traces of the feed additive ractopamine. Russia has been increasing its imports of U.S. pork in recent months, and its imports accounted for 1.3 percent of year-to-date U.S. pork production. Secretary Vilsak announced that the USDA would not implement testing for ractopamine, setting the stage for Russia to ban imports, if it chooses, of all U.S. pork products. For now, it is a waiting game to see if Russia will follow through on their testing requirements.

Poultry

The poultry industry is still comfortably weathering the storm of high feed prices. In November and December, chick placements were down 0.9 percent from a year ago, reflecting a slight drawback in production. Chick placements are expected to continue below 2012 levels well into 2013 due to continued pressure from feed prices. The timing and speed of production changes in 2013 will depend on the South American soybean crop as well as domestic grain production. Broiler cold storage stocks in Q4-2012 have been running well below 2011 levels, providing slight upward support for prices. Prices for whole birds in November 2012 were 24 percent higher than a year ago, and prices for breasts and wings were also above 2011 prices. With these prices, the poultry industry is finally starting to see beneficial results from the 2011 flock reduction.

The industry has benefited not only from higher poultry prices, but also from improved feed conversion. Big bird broiler feed conversion improved 2.9 percent, reflecting genetic improvements, advances in housing and bird densities in chicken houses. Through improved feed conversion, producers managed to offset roughly one sixth of their higher feed costs, resulting in $47 million in net gains for October alone. Although the poultry industry continues to operate at or below breakeven margins, improvements in feed efficiency have pushed producers closer to achieving positive margins. As long as feed grain prices remain stable in the first half of 2013, processor margins should remain at breakeven levels, with some processors managing to return a slight profit. If crop prices were to ratchet lower next year, poultry processors are well positioned to return to positive margins into mid-2013.

Exports remain strong for the U.S. poultry industry, due once again to higher beef prices and healthy foreign demand. As of October, total year-to-date exports were up 4 percent YoY, with significant increases in Mexican demand for U.S. poultry. Exports to Mexico increased by roughly 22 percent during the first ten months of 2012. Exports to both Russia and China are expected to remain strong into 2013. Bolstered by increases in beef prices, domestic and international poultry demand is expected to remain strong through early 2013.

Turkey

Unlike the poultry industry, the turkey industry has failed to adjust to higher feed prices. The industry increased poult placements during Q2-2012, pulled back slightly in Q3, but then increased placements again in the closing months of the year, in preparation for next summer's deli meat season. With an increase in cold storage holdings into 2013, and a 4 percent production increase through the end of 2012, turkey prices are expected to dip even further downward, on top of seasonal price decreases through early 2013. In response to these looming price decreases, poult placements are expected to fall 3 percent through 2013, leading to an overall production decline of 3.7 percent.

Exports, however, are a shining beacon for the turkey industry. With depressed prices, U.S. turkey exports are expected to reach record levels at the close of 2012. Once again, Mexico is leading the charge by increasing its U.S. imports by 15 percent during the first nine months of 2012. Mexico's import demand is expected to account for 50 percent of U.S. turkey exports in 2012. Demand is not expected to decrease in 2013 as Mexican customers continue to demand healthier and more affordable animal proteins.

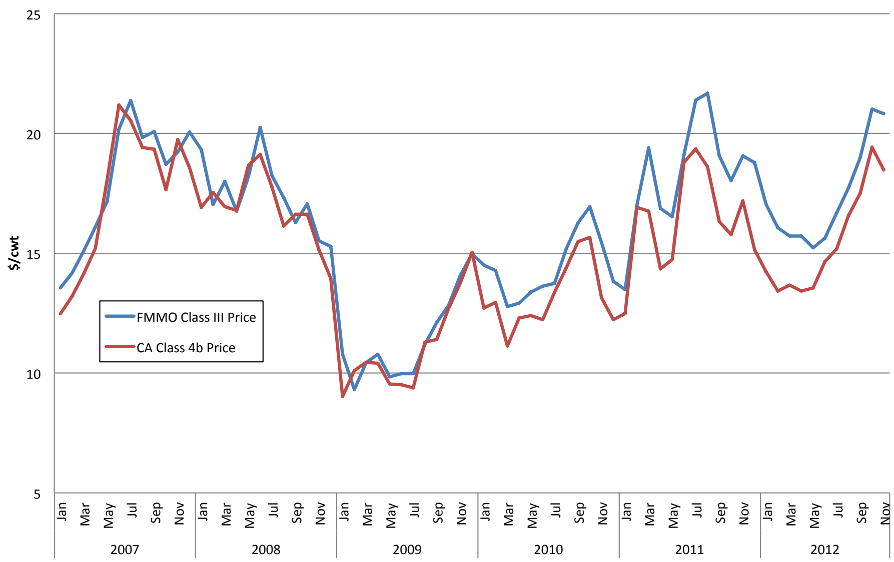
Dairy

"It was the best of times; it was the worst of times." While the U.S. dairy industry hasn't quite reached the extremes portrayed in *A Tale of Two Cities*, a dichotomy has certainly taken hold – primarily driven by whether dairy farmers produce or purchase their feedstuffs along with regional processing capacity. Corn and soybean meal prices have moderated a bit from their late-summer peaks, but feed costs (especially hay) still remain stubbornly high and show few signs of abating anytime soon. A shortage of processing capacity has forced California dairies to endure further strain as local milk prices have lagged those of other regions by a dollar or more per hundredweight. As a result, milk production continues to contract in the West and South Central regions while it expands in the Upper Midwest, the Northeast, and the Corn Belt. Overall, U.S. cow numbers declined from April through October before increasing slightly in November, when milk production increased 1.0 percent after falling 0.7 percent over the prior three months.

In an attempt to alleviate the difficult producer margin pressures, California dairy cooperatives are seeking to change Class 4b pricing. They contend that the current system fails to provide full value for the dry whey component when compared to Federal Milk Marketing Order Class III pricing. *(See Exhibit 4.)* Additionally, three major California dairy cooperatives have commissioned a study to explore the potential for a California Federal Milk Marketing Order. In the absence of any change, producer margins are expected to remain challenging for this state and all purchasers of feed well into 2013.

The U.S. dairy industry is maintaining its market share within the global marketplace. Like the U.S. dairy industry, those in Europe, Australia and Argentina are also curtailing their output in response to high feed costs. Meanwhile, New Zealand, pasture-dependent and drier than usual, may see production drop off faster than expected if rains fail to pick up in the near-term. On the demand side, key importers including China, Russia, Mexico, Japan and

Exhibit 4: Alternative Milk Prices
FMMO Class III vs. CA Class 4b



Sources: USDA and California Department of Food and Agriculture.

Indonesia continue to be active in the marketplace. They are purchasing products for immediate consumption as opposed to building inventories for later consumption. In October, U.S. exports were just slightly below year ago levels and amounted to 13.0 percent of U.S. milk solids production, bringing the year-to-date equivalent to 13.5 percent of production. For the year, U.S. dairy exports are on pace to top $5.0 billion, compared to the 2011 total of $4.8 billion.

Class III milk prices have now receded to about $18.00/cwt after having rallied to over $20/cwt in October. With the exception of whey and non-fat dry milk (NDM), product prices have headed lower in recent weeks, as well. Cheese and butter prices are off sharply as holiday orders have been filled, and higher cheese supplies are pushing stocks into aging programs. Domestic cheese and butter prices are now more closely aligned with international markets than they were 2-4 months ago. U.S. whey and NDM prices have remained strong yet competitive in the global market.

In view of the tight global supply and robust demand, milk prices should remain strong through early 2013, keeping producers' margins near breakeven, or even slightly positive, for those who produce a significant portion of their own feed. The all milk price is expected to average $18.50-$18.60/cwt in 2012 and $19.15-$19.95/cwt in 2013. The USDA is projecting that U.S. milk production will amount to 199.7 billion pounds in 2012 and about the same in 2013. It's also projecting that U.S. dairy product prices will average 3-10 percent higher in 2013, suggesting that processors' margins will either hold steady or edge slightly higher during 2013 provided that consumer demand is resilient.

At year-end 2012, processors were greatly relieved, with Congress' temporary extension of key provisions of the Farm Bill of 2008. Included among these provisions were the extensions of the Dairy Product Price Support Program until December 31, 2013, and of the Milk Income Loss Contract (MILC) Program until September 30, 2013. For at least the next nine months, U.S. dairy policy will remain essentially unchanged from what it was under the Farm Bill of 2008.

Other Commodities

Domestic cotton, sugar, and rice growers will be hard-pressed to maintain their current acreages in the face of this year's production shortfalls in the nation's corn and soybean crops. Rice and sugar will likely be somewhat sheltered from acreage shifts due to their favorable net returns, geographic limitations on where they can be grown, and U.S. policy. Cotton acreage, however, looks vulnerable.

Cotton

The U.S. cotton situation improved in the closing months of 2012 and early 2013. The USDA revised its estimate of the 2012/13 cotton crop downward by a combined 3 percent in December and January as harvested acreage was reduced by 1 million acres, or 10 percent. This acreage loss resulted mostly from crop abandonment in Texas. In addition, export sales strengthened in November and December. The combination of higher demand and lower production led the USDA to reduce its estimate of the 2012/13 ending stocks by 17 percent from what they had been last November. In turn, prices have responded, rising 10 percent since mid-November and leveling off at the mid-70 cents per pound level.

However, while the domestic situation has improved, the world outlook has deteriorated. Higher estimated production in China and Australia has added about 2 million bales to the ending stocks in the global balance sheet – a 3 percent bump from December to January.

Going forward, prices will continue to face considerable resistance above the mid-70s as ample supplies of synthetic fibers provide strong competition in the low-to-mid 70 cent range. In addition, while the supply/demand balance appears to have improved somewhat, USDA is still projecting 2012/13 ending stocks to increase 43 percent compared with 2011/12. And unless the economy improves enough in 2013 to bolster consumer demand significantly for cotton products, huge domestic and world stocks will continue to weigh heavily on the market. Such negative sentiment is likely to have a dramatic impact on planted acreage in 2013. Most analysts expect U.S. cotton acres to fall by 15 to 20 percent.

Rice

The rice market has moved into a narrow trading range in recent months. Rice futures in Q4-2012 traded between $14.50-$15.50/cwt, supported by solid export sales. Exports have been at their strongest level of the year, consistently running above the five-year average. Much of the improvement has resulted from increased long grain exports to Latin America, both for rough and milled varieties. Strong foreign demand is likely to continue through early 2013 as U.S. rice will be called upon to supplement relatively tight South American supplies until the new crop comes on line there. Further price support will come from the projected 27 percent decline in U.S. ending stocks. And U.S. spring acreage competition will limit downside price risk leading up to April.

Global production will likely rise for the third consecutive year in 2012/13 to a set a new record. However, world consumption is also expected to set a new record this year, and is projected to exceed production for the first time since 2004/05. This is in part a reflection of the spike in corn and wheat prices in the second half of 2012.

Sugar

In contrast to rice, sugar prices appear to be headed lower as world sugar stocks are expected to increase in the coming season. World stocks in 2011/12 are estimated at 36.208 million metric tons, raw value (MTRV), for an increase of 6.140 million MTRV from 2010/11. Stocks for the 2012/13 season are projected to increase to 38.298 million MTRV, pushing the world stocks-to-use ratio to 23.4 percent and marking the third consecutive season of a growing stocks-to-use ratio. This year, sugar production is expected to outpace year ago levels in China, Brazil, the U.S., South Africa, Mexico, Australia and Pakistan. In contrast, only a select few major sugar producers are expecting decreased production, including India, the EU, and Russia, with the shortfalls all due to temporary weather-related events.

The domestic sugarcane and sugar beet crops typically supply about 65 percent of U.S. demand; the remaining 35 percent is filled by carryover, imports from tariff rate quota (TRQ) countries (a WTO obligation), and imports from Mexico. This year's U.S. sugar beet harvest was largely completed by early November, with 91 percent of the major reporting states having finished their harvests. Sugar production from beets is expected to reach 5,200 short tons, raw value (STRV) in 2012/13, up nearly 6 percent YoY. Sugarcane production is expected to increase 3.7 percent YoY in 2012/13, largely due to increased yields in Louisiana. Total U.S. sugar production is expected to reach 8.920 million STRV in 2012/13, leaving a comfortable stocks-to-use ratio of 17.4 percent.

Worldwide and U.S. raw sugar prices have been falling since the beginning of calendar 2012. The world raw sugar price was 19.31 cents per pound in November 2012, 20 percent below what it was in January 2012. Similarly, the U.S. raw sugar price was 22.52 cents per pound in November 2012, 35 percent below what it was in January. And since August, the spread between the world and U.S. raw sugar prices has been shrinking, narrowing from 8.31 cents to 3.21 cents per pound in November. Ample domestic and world sugar supplies are likely to depress prices further going forward.

Fruits, Nuts, and Vegetables

The fruits, nuts and vegetable (FNV) sector enjoyed a strong performance in 2012 and is looking forward to another solid year in 2013. The Washington apple crop boasted record production in 2012, making up for severe crop losses due to earlier frosts in Michigan and New York. Apple prices, spurred by strong domestic and international demand, remained strong and averaged 39 percent higher YoY in November 2012. Vigorous international demand for U.S. apples was reflected in year to date export increases totaling 23 percent. With strong domestic and international demand expected to continue, apple prices are expected to remain bullish through early 2013.

Almond and pistachio growers also posted strong prices and yields for their 2012 harvests. Tree nut markets have experienced strong growth during 2012, thanks to strong domestic and international branding efforts from the industry. Both domestic and international demand for almonds is expected to continue to grow at a healthy pace through 2013.

Fall harvest in California's Imperial Valley – the nation's main produce-growing region for late fall and winter – was ahead of schedule in early November due to unseasonably warm fall weather. Some growers were worried that early harvests would flood the market, depressing prices; but healthy demand for broccoli, carrots and leafy greens through the holiday months kept prices stable through year-end 2012. Plantings in the Imperial Valley were down this year due to last year's depressed winter vegetable markets. If demand remains stable through 2012, acreage for 2013 crops is expected to remain constant or increase slightly.

The citrus harvest has been strong and on schedule during Q4-2012. Florida growers reported excellent crop quality, and juice demand has remained strong during the fall harvest. USDA's estimate of citrus production in 2012/13 remains unchanged from the previous year at 11.75 million tons. Demand for holiday fruit packages is up this year, and is expected to remain strong through 2013, as long as disposable income continues to rise. Some Florida growers reported increased fruit dropping before ripening, due to trees being stressed from high temperatures earlier in the season and citrus greening. California citrus growers also are reporting on-time harvests with solid crop quality. Next year's citrus crop is expected to be strong as long as temperatures remain stable in Florida, California, and Texas.

Hurricane Sandy caused minimal damage to the 2012 FNV crops, since most East Coast crops had already been harvested. There were reports, however, of infrastructure damage to distribution centers and greenhouses. Some growers are worried about damage to orchard crops due to high winds and salt water contamination, which could lead to lower yields next season. The effects of Sandy will not be felt until 2013, if at all, for East Coast orchard crops.

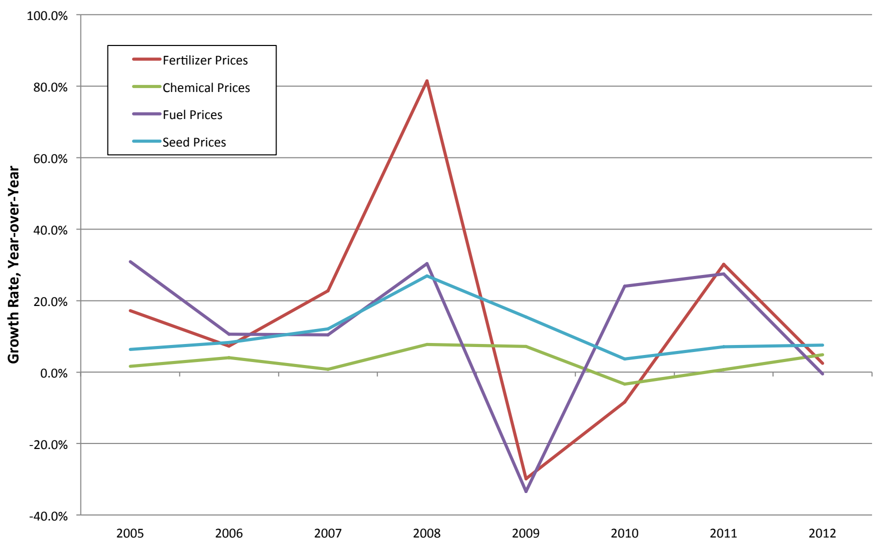
Labor continued to be a hot topic during this year's FNV harvests. In a survey conducted by the California Farm Bureau, 71 percent of FNV growers surveyed reported employee shortages during key harvest periods. The FNV industry is hopeful that immigration reform will be a serious topic of discussion during the next year.

Farm Supply

Net farm income is anticipated to reach $114 billion in 2012. Though not a record, this income level is still high by historical standards. One of the largest contributors to farm income this year is federal and private insurance payments, following the severe drought of 2012. Farm production expenses are expected to increase 7.8 percent above 2011 levels, surpassing the previous record (inflation adjusted) set in 1979. *(See Exhibit 5.)* Manufactured inputs, along with feed, livestock and seed expenditures will post the biggest increases.

Given the near-record 2012 farm income, farmers will probably choose to purchase the fertilizer and crop protectants needed to push yields as high as efficiently

Exhibit 5: Agricultural Input Prices, Year-over-Year Growth



Note: prices paid for agricultural inputs by U.S. Farmers.
Sources: USDA and NASS.

possible in the coming season. However, their willingness to book inputs may also depend partly on the timeliness of insurance payments from drought-impaired crops. In addition, continued drought may also influence acreage allocation decisions as farmers may wait for better precipitation before planting.

Fertilizers

At this point, the near-record farm income in 2012 continues to support fertilizer applications despite the uncertainty of springtime precipitation in many areas. Fall ammonia application has been strong, and their near record income may spur some growers to pre-book fertilizer for their springtime needs. Crop returns continue to favor corn over soybeans, and corn acreage requires more fertilizer than soybeans. A large South American soybean crop and fewer corn acres in South America may push corn prices higher, further encouraging U.S. producers to plant corn.

Although fertilizer prices have been trending steady to slightly downward from springtime highs, the 2012 drought has created some logistical problems. Low water levels along a portion of the Mississippi River are restricting river traffic and boosting freight rates. A fully loaded fertilizer barge typically requires a 12' draft. However, some stretches of the Mississippi River are now so low that they will now only support lighter loaded barges with no more than a 9' draft. Some relief should come from the Army Corps of Engineers' efforts to break up limestone formations that are impeding barge traffic.

Some analysts estimate that river barges lose around 100 tons of load capacity for every 6 inches of reduced draft. This may incent some retailers to book fertilizer inventory earlier than normal to ensure adequate supplies while the shipping channel remains open. If alternate forms of transportation are required, shippers will shift to truck or rail, where either 60 trucks or 15 rail cars are required to replace one barge, according to the Arkansas-Oklahoma Port Operators Association. Truck or rail transport would surely be costlier than barge transport; and if the drought and low river levels persist into the springtime, the logistics problems will be exacerbated by harvest pressures.

Ammonia market conditions have remained strong during the fall application season, due to the slightly lower beginning stocks. Prices have recently remained fairly flat and may continue this pattern into the spring as corn pre-planting applications wind down. Spring season pre-booking may pick up before the new year begins as farmers analyze their tax situations.

The urea market continues to face weather driven logistical issues. During the 2012 spring season, demand picked up ahead of schedule due to dry conditions as farmers returned to their fields earlier than anticipated. As the fall season winds down, buyers are unsure of barge availability due to reduced river levels between Cairo and St. Louis. The dicey river situation may push some restocking activity ahead of schedule for fear that river levels may deplete further. Nonetheless, product prices will likely reflect any reduction in barge-carrying capacity. Similar to what was observed in the spring of 2012, UAN is likely to gain support from urea as we progress into the spring season. While UAN does move by barge, several interior production facilities should reduce the impact of river transportation issues. UAN and urea prices are expected to run flat in the short term with prices strengthening as seasonal demand picks up or potential logistical issues are realized.

Phosphate prices remain relatively flat due to ample supply. Foreign and domestic buyers have moved to the sidelines awaiting potential price reductions. Phosphate producers are contemplating curtailing production to bring supply into line with demand and alleviate the buildup of inventory. Transportation issues will likely impact the timing of movement of supplies. Many analysts do not expect severe price fluctuations going into the 2012/13 spring season, but logistical issues may support prices.

A potash inventory overhang is still weighing on prices. Reductions in Indian fertilizer price subsidies have depressed demand as they await cheaper supplies rather than government support to reduce potash costs for farmers. Potash production is expected to decline to reduce supplies and manage inventory buildup. In the near term, potash prices are likelier to decline than to increase.

Other Crop Inputs

At year-end, seed prices are expected to have climbed 7.8 percent in 2012, increasing for the fourth consecutive year. Continued robust corn and soybean planted acreage, along with improved genetics, should keep seed expenditures on an upward trajectory during the next season as well. Some growers are concerned that drought-stricken crops in 2012 may lead to reduced seed availability. However, representatives of major seed companies indicate there will be an adequate seed supply in the coming year because many of the seed crops are produced under irrigation or in South America.

High commodity prices incent farmers to purchase and apply appropriate amounts of insecticides and herbicides to reach optimum yield targets. Pesticide prices are expected to rise 4.8 percent YoY. However, prices paid for pesticides have been far less volatile than those of many other farm inputs. Increased planted acreage and pest infestation levels in a given growing season will drive these expenditures higher.

Some growers are pre-booking fertilizer for their springtime needs, fearful that low river levels will impede near-term deliveries and drive prices sharply higher.

Fuel and oil expenses are expected to total $16.2 billion for all of 2012, up 3.7 percent YoY. Diesel is the main fuel used for field equipment. Crude oil accounts for about 59 percent of the cost of diesel, refining for 13 percent, distribution and marketing for 16 percent, and taxes for the remainder. The Energy Information Administration anticipates on-road diesel fuel will average $3.97 in 2012 and $3.84 in 2013. However, political unrest in the Middle-East will likely play a role in fuel prices making the crude oil, and thus, fuel market outlook very challenging as we move forward.

Rural Infrastructure

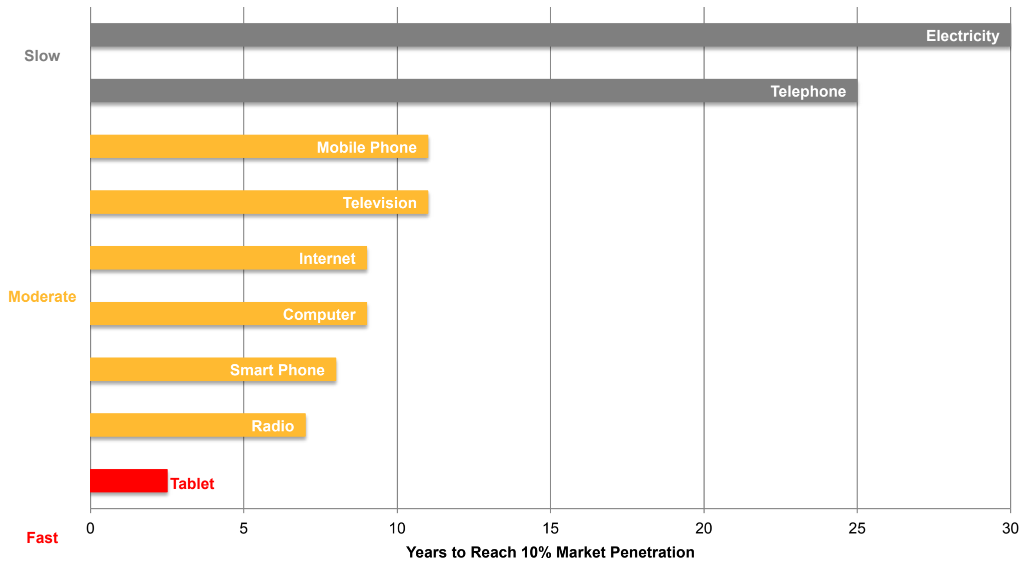
Infrastructure industries – including communications, electric power generation, transmission, and distribution, oil and natural gas production, and water utilities – are highly diverse. Yet, in varying degrees, they are all tied to U.S. economic conditions. Regulatory and legislative issues continue to be major concerns for all of them.

Communications

New, affordable, user-friendly technology, and the consequent surge in data usage continue to be the dominant driving forces within the communications

Exhibit 6: U.S. Technology Adoption Rates

(Time in years from device's initial availability to 10% penetration)



Source: PhoneArena.com.

industry. The rate of global smartphone adoption has surpassed that of any other consumer technology in history, with 78 percent of U.S. adults now owning smartphones as of July 2012. *(See Exhibit 6.)* Computer-tablet adoption is following a similar trajectory, with tablet shipments in Q3-2012 having climbed 50 percent YoY.

Tablets are revolutionizing computing and eventually will replace the personal computer. Industry insiders predict that the next data wave will come from machine to machine (M2M) technologies, i.e., devices that can send and receive information through a network. Today's M2M devices communicate through the Internet, most commonly via wireless connections. Yankee Group estimates that there will be 313 million M2M connections around the globe by 2016, which will contribute $8.3 billion in connectivity revenue to communications providers.

Smart devices and M2M technologies offer extraordinary growth opportunities. Going forward, all businesses will become more efficient, more data-driven, and increasingly dependent upon a robust and ubiquitous communications network. Fiber transport companies and data centers will continue to post high growth rates as the volume of data to be transported and stored soars to towering heights. The M2M boom should help these two sectors remain flush with expansion opportunities and fuel further merger and acquisition (M&A) activity. Wireless and wireline communications providers connect these devices to the Internet and should thus also benefit from the steep growth trajectories.

The key to cashing in on these new growth opportunities is a ubiquitous fiber-rich Internet Protocol (IP) network that can accommodate the ever-rising demand. However, rural local exchange carriers' (RLEC) network investments have ground to a near halt due to regulatory uncertainty surrounding the Federal Communications Commission's (FCC) USF-ICC Transformation Order (the Order). RLECs are reluctant to make network upgrades, inasmuch as the Order does not specify what federal support they may receive in the future. Consequently, RLECs are uncertain that they will be able to sustain a high-speed network that meets customer demands and public interest obligations, and fends off competition. In a recent member survey, the Iowa Telecommunications Association found that 83 percent of respondents had delayed or canceled fiber projects as a result of the Order.

Rural industry advocates are concerned that the Order will cause some rural communications providers to fail, creating a "digital-divide" between rural and urban communities, and ultimately jeopardizing a truly ubiquitous, robust, IP-based network. While these concerns may seem exaggerated, there will surely be some fallout from the reforms outlined in the Order. A number of rural carriers have succeeded in building enough non-regulated revenues to avoid dependence upon federal support. However, providing service to the country's most remote and sparsely populated regions will always require some type of subsidized support beyond what the providers can recover from end-users. Should the FCC fail to take sufficient actions to fund these locations, a handful of rural communities could face a shutdown of their communications providers.

Because wireless providers route as much of their traffic onto the wireline network as possible, any reforms that adversely impact RLECs will adversely impact rural wireless carriers as well. The Order does include several specific provisions for wireless support. Several small wireless providers were awarded one-time support for network construction in the latest FCC auction. However, this group is concerned that they may not be able to sustain the newly constructed networks without ongoing support, which will be awarded during a second auction, the details of which are currently being considered in a FCC rulemaking proceeding for Phase II of the Mobility Fund. As spectrum is always a concern for this group, the opportunity to work with public safety agencies that are rolling out FirstNet (a nationwide, interoperable public safety communications wireless network for first responders), and gain access to that spectrum for commercial use on a secondary basis may prove to be valuable for some rural wireless and wireline companies. However, the build-out process for FirstNet is expected to move slowly.

The small cable business is becoming more challenging as the cost of programming, especially sports content, continues to skyrocket. M&A activity in this segment has waned over the past couple of years, as it is difficult to make a business case for investing in a small cable company. Rural providers find that despite the poor returns, a video offering is almost mandatory as customers look to one company to provide all of their communications and entertainment services, especially as consumers increasingly demand the “TV-anywhere” experience (e.g., video on your TV, computer, smartphone and tablet). While the partnership between Comcast and Verizon is controversial, some analysts believe that it could turn out to be a successful business model for smaller, rural players who adopt a similar strategic business alliance across traditional operator boundaries.

> *“Tablets are revolutionizing computing and eventually will replace the personal computer.*

While the projected demand trends point to ample long-term opportunities for the communications industry, they also pose challenges for the rural side of the industry. To be successful, rural communications companies of the future will have to draw the majority of their revenue from non-regulated services, possess a robust, IP-based network, have a nimble business plan, and boast a strong management team that is able to ideate and implement creative solutions. However, many rural communications companies will be found wanting.

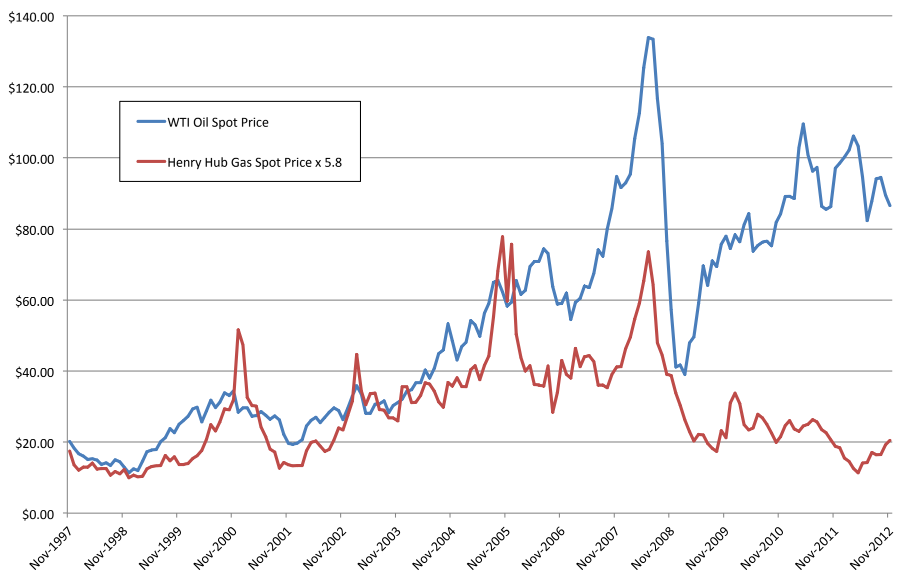
Natural Gas Markets

The Henry Hub domestic spot natural gas price closed at $3.43/MMBtu of December 31, 2012. Though low by historical standards, natural gas prices have been trending upward since mid-April 2012, when natural gas prices bottomed out at $1.82/MMBtu.

Futures prices for U.S. benchmark natural gas remain below $4.00/MMBtu through 2013, reflecting expectations of continued oversupply in the coming year. This viewpoint is supported by the volume of working gas in storage, which has been at historically high levels throughout 2012 and remained at 3,724 billion cubic feet (BCF) on December 14, 2012 – or about 31 percent above the 5-year average for working gas in storage at this time of the year.

For the year-to-date (YTD), natural gas consumption amounted to 18.78 trillion cubic feet (TCF), up over 4 percent from last year. At the same time, natural gas production totaled 717.93 TCF, up more than 5.5 percent from last year, which has contributed to the oversupply. In addition, natural gas imports YTD amounted to 1.21 TCF, down nearly 19 percent from 2011, further illustrating the domestic oversupply.

Exhibit 7: Oil and Gas Prices on a Btu-Equivalent Basis



Sources: U.S. Energy Information Administration and CoBank.

The U.S. domestic supply of oil and gas has undergone a sea change in recent years. The drilling boom in many areas of the U.S. has been fueled by the advent of improved horizontal drilling and "fracking" technology. This technology has enabled the economic production of oil and natural gas from previously unproductive shale zones located in the Eagle Ford Shale in West Texas, the Bakken Shale in North Dakota, the Marcellus Shale in Pennsylvania, and the Barnett Shale in North Texas, among others. This drilling boom is expected to continue into 2013. For example, Wood Mackenzie expects capital expenditures for natural gas and oil infrastructure in just the Eagle Ford region to total $28 billion in 2013, as compared to less than $500 million just a few years ago.

At the same time, the effectiveness of horizontal drilling and completion technology has improved markedly. Technical advances associated with horizontal drilling and hydraulic fracturing have resulted in a drilling success rate of nearly 100 percent in shale oil and gas wells. Drilling into these same shale formations using previous drilling and completion techniques was uneconomic as recently as the mid-2000s. In summary, not only has the number of newly drilled wells increased substantially across the nation in recent years, so has the effectiveness of each newly drilled well.

It would be a mistake, however, to conclude that the current glut of natural gas is likely to persist for the foreseeable future. Oil and gas producers already have sharply curtailed natural gas drilling in response to present market conditions. As of December 14, 2012, the natural gas rig count stood at 416, nearly 50 percent below the 818 natural gas rigs in service in a year ago. Because shale wells exhibit a very rapid decline in performance, even a small drop in rig count is likely to cause reductions in overall gas supply. In view of the sharp fall in natural gas drilling during the past year, the near-term gas glut may not last through the winter 2013-14 season – a viewpoint that underpins futures prices for 2013.

Oil Markets

As of December 31, 2012, the spot price for West Texas intermediate crude oil was $91.83 per barrel, 17 percent below the 2012 peak price of $110 per barrel in February. Current crude oil futures prices remain stable at $85 to $90 per barrel through 2013. *(See Exhibit 7.)*

Spurred by these still strong oil prices, U.S. oil production has been increasing. The same drilling and completion techniques used for natural gas have been applied to oil well drilling, and domestic oil production has grown more than 25 percent since 2008. Due in part to increased domestic production, crude oil inventory remains well above its five-year range at 372 million barrels, about 10.6 percent greater than what it was a year ago.

This inventory buildup is largely the result of increased output. U.S. domestic crude oil production now totals about 6.82 million barrels, or 16 percent above last year's production level of 5.86 million barrels. As of September 2012 (the most recent month available), U.S. crude oil production reached its highest level since 1998.

The U.S. domestic supplies of oil and gas have undergone a sea change in recent years, thanks to the advent of improved horizontal drilling and "fracking" technology.

Consequently, U.S. crude oil imports have fallen sharply. The U.S. now imports about 45 percent of its oil supply, down from over 60 percent in the mid-2000s.

Geopolitical events in the Middle East and increases in the U.S. monetary supply have served to maintain support for elevated oil prices worldwide, despite the increase in domestic oil supply. Moreover, restrictions on the use of fracking technology in some areas of the U.S., restricted access to Federal lands, delayed approval of the Keystone Pipeline from Canada, and offshore drilling restrictions in the wake of the April 2010 BP oil spill in the Gulf of Mexico, have all hindered further increases in the potential North American oil supply.

Despite these impediments, the number of oil drilling rigs climbed to 1,327 as of December 28, 2012, 11.2 percent above the rig count of a year ago, and more than three times the number of currently active natural gas drilling rigs in the United States. Because natural gas production is often associated with oil production in shale formations and in conventional oil reservoirs, the increase in the oil drilling rig count has also contributed to the current glut of natural gas.

At the beginning of December 2012, total motor gasoline inventories were in the upper half of the five-year average historical range, while propane and propylene inventories were also well above the upper limit of the average range. As is typical in the U.S., oil refineries are currently operating in excess of 90 percent of their operable capacity.

Although annual average gasoline prices for 2012 were $3.57 per gallon as of mid-December and will set an all-time annual average record, gasoline prices have been declining in recent weeks. The national average retail regular gasoline price was $3.25 per gallon on December 17, 2012, which is $0.10 less than the previous week and about $0.025 above a year ago. Gasoline futures indicate that prices are expected to rise about 5 percent from the year-end level in early 2013, but then decline below the year-end level during the second half of 2013.

Current New York Harbor No. 2 heating oil prices are comparable to last year, at about $3.00 per gallon. In contrast, Mont Belvieu propane prices have fallen to $0.84 per gallon, down $0.60 per gallon from a year ago.

Electricity Industry

In recent years, natural gas-fired power generation has continued to expand, while coal-fired power generation has continued to contract. In 2004, coal-fired generation comprised 49.8 percent of all U.S. power generation, as compared to 17.9 percent for natural gas. Today, coal makes up only 37.5 percent of the U.S. power generation mix, while natural gas now comprises 30.4 percent of the power generated in the U.S.

Three main drivers are spurring this substitution of natural gas for coal for U.S. electricity generation: the need for reliable natural gas-fired peaking power to back up renewable generation; the relatively low price of natural gas; and the lower emissions of green-house gases by natural gas-fired plants. However, with natural gas prices in January 2013 likely to be about 30 percent higher than they were a year ago, the U.S. Energy Information Administration (EIA) is projecting that natural gas' share of the electricity generation market will ease to 27.3 percent in 2013 from 30.4 percent in 2012. Meanwhile, renewable energy captured 5.4 percent of the U.S. power generation market in 2012, and its share is expected to edge upward in 2013.

In general, U.S. electricity consumption is dependent upon the pace of overall economic growth, as well as summer and winter weather conditions. Indeed, nearly two-thirds of households in the Southeast use electricity as their primary heating source, while households in many parts of the country also use electricity to serve their summer cooling needs. Heating degree days in the Southeastern U.S. were 21 percent below the 30-year average during last year's mild winter, which resulted in the lowest residential electricity consumption in that region since the mid-2000s. Overall, U.S. power consumption declined about 1.1 percent in 2012 from a year ago. The EIA is projecting that total electricity consumption will grow about 0.8 percent in 2013, based on assumptions of continued slow economic growth, near normal winter weather, and increased winter power consumption.

The U.S. residential retail price for electricity has increased 2.4 percent a year, on average during the past five years, although it grew at a slower rate in 2011 and 2012. The EIA projects that the residential retail electricity price will increase 1.6 percent in 2013, to an average of $0.12 per kilowatt-hour.

Water Industry

The better-run rural water systems have continued to make substantial improvements in their overall financial conditions. The low interest rate environment has benefited all of them whether they are accessing government funding, the tax-exempt market, or commercial bank financing. (The USDA's Rural Development Program rolled over approximately $80 million of guaranteed loan allocation from FY 2012 to FY 2013, which will expand the amount available from the previous two years.) Due to a relatively warm, dry year, many systems have succeeded in increasing their water sales and improving their financial profiles. At the same time, with new home construction in the U.S. still running well below its historical averages (aside from the oil patches in the Dakotas and Texas), most systems are using their capital expenditures budgets for maintenance rather than growth. Moreover, many of the healthier systems with substantial cash balances are using those balances to self-finance capex. The larger rural water systems continue to receive inquiries from smaller systems and towns looking for professional management or outright takeovers to improve their operations, obtain more reliable water supplies and services, or reduce their operating costs.

Analysts at American Water Intelligence are advising private and public entities in the U.S. water and wastewater treatment industries to prepare for several new regulations that are likely to necessitate costly changes in their operations. In December 2012, the Environmental Protection Agency (EPA) finalized revisions to the Total Coliform Rule, requiring all U.S. drinking water systems to monitor coliform bacteria counts as an indicator of potential fecal contamination. The EPA is reportedly also preparing draft rules specifying drinking water standards for carcinogenic VOCs [volatile, organic compounds], including trichloroethylene and tetrachloroethylene. The proposed new rules are due to be published in October 2013 and could eventually require costly treatment upgrades at many water treatment plants across the U.S., although the EPA's final VOC rules will not take effect until April 2015, at the earliest. The EPA is also preparing to publish its proposed rules regulating perchlorate in drinking water, which is typically associated with fuel and explosives and thought to be present in about 4 percent of all public water systems.

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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