Farm Credit East

NORTHEAST AGRICULTURE

2014 INSIGHTS AND PERSPECTIVES

ECONOMIC ANALYSIS AND PAPERS ON AGRICULTURE, COMMERCIAL FISHING AND THE FOREST PRODUCTS INDUSTRY

Farm Credit East
2014 NORTHEAST PERSPECTIVES

Dear Farm Credit East Member:

Farming, forestry, and fishing businesses have rapidly become knowledge-based businesses. I am continually amazed at the ingenuity and wide scope with which our customers apply information in their businesses to improve productivity, enhance product quality, market more effectively, and enhance sustainability.

Farm Credit East is also a knowledge-based business. We have to be – just to understand and keep pace with what each of you does in your business. Plus we have to continually learn in order to improve the quality and efficiency of our lending and services.

Several years ago, we challenged ourselves to create a *Knowledge Exchange* initiative with which we would do more to share useful business information and training with our customers. Our vision was that not only would we create additional value around our business relationship, but that we would in turn accelerate the pace at which we learn from our customers. We expanded our successful business benchmarking program. We introduced webinars on key business topics that enable you to join live broadcasts delivered over the Internet right into your office or home computer. We offer a monthly KE Partner newsletter via email.

I'm pleased to introduce our first *Northeast Perspectives* report. It is what some might call a coffee-table book – interesting topics from a wide range of experts – some from familiar names on our Farm Credit East team and some from outside. We've added some interesting charts as well as some great photos that celebrate this beautiful region in which we live and work. As you view the Contents on the next page, I hope you will find a couple of topics that are interesting and thought-provoking for you.

All of us at Farm Credit East are incredibly proud to be your financial partner in growing and staying on the cutting edge of farming, forestry, and fishing. Thanks for your continuing business and thanks for helping us continually learn about the great things you do in your businesses.

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OPTIMISTIC ABOUT *NORTHEAST AGRICULTURE*

SCOTT HERRING
President and Chief Operating Officer

JIM PUTNAM
Executive Vice President

2014 Outlook

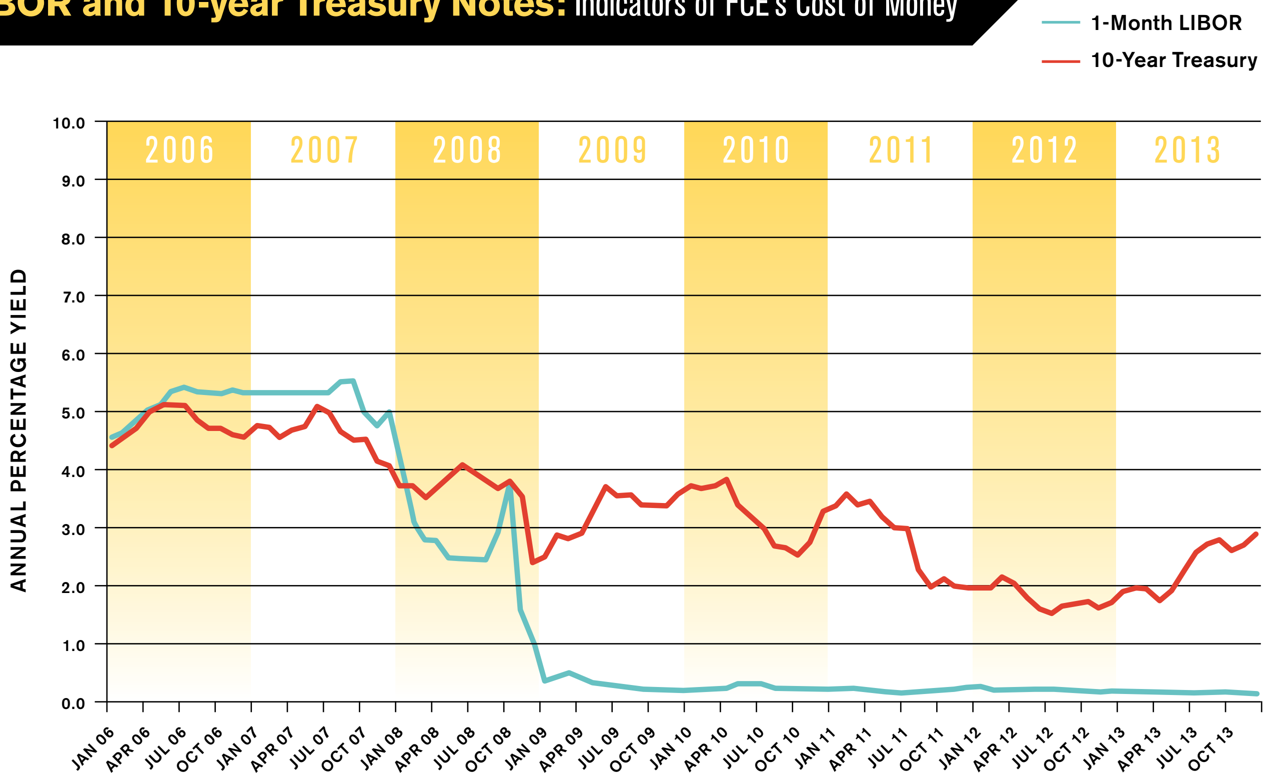
We are cautiously optimistic about business conditions for most of our key customer industries in 2014, as discussed in depth in the article titled, Business Outlook By Industry. The national economy continues to slowly mend, but usually at a pace of two steps forward and one back. Growth in jobs and family income continues to gain slowly, and this greatly impacts spending for discretionary products such as plant material, wine, and specialty food products. Housing continues to improve but is nowhere near pre-recession levels nor is it expected to get there in the foreseeable future.

The national farm economy is in the midst of a significant sea change in 2014 – from a sustained six-year period of tight corn and related crop markets back to surplus in which large carryover stocks keep market prices weak. The growth in demand for corn to supply the ethanol industry is over – for now this will be a mature market. Once again, U.S. corn producers will need to look overseas for significant new growth in demand for corn. For 2014, this is good news for dairy producers and other net buyers of grain. It is obviously bad news for cash growers of corn, soybeans, and hay. It is important to recognize that a 2014 crop shortfall, similar to that of 2012, could quickly return the grain complex to a more balanced situation.

The best news for 2014 is that much of the cost side of farming should be relatively restrained, including fuel, agronomy supplies, feed, and interest rates. Labor costs and availability are a continuing challenge, with many of the Northeast states raising minimum wage rates this year and guest worker availability still badly needing reform at the Federal level.

For the sixth year, interest rates were at rock bottom in 2013. While bond markets had a mid-year spurt, the small rally was quickly stifled by commentary from the Chairman of the Federal Reserve Board. At year-end, the Fed announced that it would begin to unwind its QE III bond-buying program. Most commentators believe that the Fed will be able to gradually unwind QE III over the course of 2014, setting the stage for short-term rates to begin a slow rise late this year and during 2015. While we have often told you that we will not engage in trying to "market time" as to the best point to switch from variable to fixed rates, we do remind all of our borrowers, especially those that may have substantial leverage, that Farm Credit East has a variety of solid fixed rate pricing options – please ask your local representative.

LIBOR and 10-year Treasury Notes: Indicators of FCE's Cost of Money



Longer-Term Outlook

We all see a heightened interest in food and farming, and the role of American agriculture in feeding a growing world population. The number of news articles, web posts, and new studies is unprecedented. New and often unfamiliar interest groups, farm organizations, and advocates have emerged in the discussion. For example, the legendary Bill Gates is a respected thought leader and major underwriter of initiatives to improve agriculture and nutrition in the Third World. There has been a lot of talk about feeding nine billion people by 2050, but the real driver for U.S. farm exports will be how fast income grows in the developing world, thereby enabling an improved diet including more animal protein.

This heightened interest in food and agriculture is both intriguing and sometimes disquieting. Some of these new groups regard traditional agriculture with some level of misunderstanding if not distrust. Hopefully there can be growing understanding and a better consensus as to the critical importance of science, technology, and management to American agriculture and ultimately to our standard of living.

Cycles are a given in agriculture. The return to surplus conditions in corn should be no surprise. Regardless of where we are in any particular industry cycle, the long-term outlook for food and forestry continues to be positive.

American agriculture's competitive advantage, today and in the future, is compelling:

- **Natural resources** – centered in the Prairie and Great Plains states but extending to the coasts.
- **Farming technology, husbandry practices, and overall farm management** continue to be highly innovative and efficient.
- **Access to capital** to finance this year's production, to gain control of additional resources, and to invest in the next great technology is dependable and efficient throughout all farming regions. Ever since the birth of the Farm Credit System in 1916 and 1933, the American farmer has had access to fairly priced credit "in good times and bad" through their local Farm Credit association. Even for those who choose to deal with other lenders, Farm Credit is the industry standard of competition and the constant alternative for bankable farmers ensuring that dependable access to credit had not been an issue since the 1930s.
- **Infrastructure** – while there is a major need to upgrade the river locks, port facilities, railroads, and highways that provide critical input supply and marketing services to farmers, America still has the best infrastructure in the world, including the ability to competitively export farm commodities.
- **Domestic markets** – the American consumer demands a lot of the American farmer in terms of high quality at low prices, exacting safety standards, and much more. At the

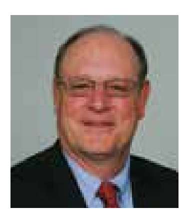
height of the 2007-2009 Recession, we were painfully reminded that when the American consumer tightens their pocketbook, this quickly translates back to reduced demand and tighter margins for much of what is produced on the farms, forests, and open seas here in the Northeast. The 317.5 million American consumers continue to be the very best, most affluent market in the world – and we in the Northeast are very close to many of them.

- **Environmental stewardship and sustainability** – agriculture has come a long way in managing production effectively to minimize impact on the environment. While this process is a journey that will never be completed with more to be accomplished, the combination of science, technology, and American farmer know-how has accomplished much in the past century, and this has accelerated in recent decades.
- **Flexibility** – if there is a lesson from 2005-2013, it is in how quickly American farmers were able to expand production to meet the supply requirements of a five-billion bushel corn-consuming ethanol industry.
- **Farmer expertise** – the state of crop and livestock husbandry, and overall farm business management in America is the highest it has ever been in human history. The American farmer is at the highest form of their art of husbandry and management, and getting better every year.

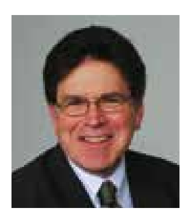
Commitment to Our Customers

Farm Credit East has a continuing opportunity to be your trusted partner with all of our loan and services capabilities:

- **Farm technology and management will continue to change and intensify** – farmers will need a lender who understands agriculture and is committed to long-term relationships.
- **Margins will continue to be squeezed**, making cost of production a critical element of business sustainability. Farmers will need the accounting services, benchmarking, consulting, and credit to stay on the profitable side of cost of production.
- **Cycles and risk have always been part of farming, but they have changed** as American agriculture and forestry have become more globally integrated in recent decades. Farmers will continue to need services that help them manage risk, including crop and revenue insurance, consulting, and good accounting.
- **A continuing need to finance the transfer of farm assets** from this generation to the next. Farmers will need both the capital and the consulting expertise to accomplish this successfully.
- **Financing new entrants into agriculture** – we are seeing a resurgence of interest by entrepreneurs of non-farm backgrounds wanting to farm. For those with the skills, work ethic, and financial discipline necessary to succeed, Farm Credit East provides the opportunity to obtain conventional financing and services as well as FarmStart for those just getting started.
- **Need for financing change and innovation in agriculture, forestry, and fishing** – nobody can predict exactly how and when you will need to change in order to remain competitive and successful. Precision management, infomatics, robotics, new market niches, new foreign markets, climate change, and many other factors will undoubtedly require change and innovation. Farm Credit East will be there to assist and finance our customers in staying on the leading edge. That's what we have done for nearly 100 years, and that's our commitment to your future.



Scott Herring



Jim Putnam

SENIOR CREDIT TEAM – HITTING TO ALL FIELDS

GARY BRADLEY
Regional Manager Northern Region

JOHN CALTABIANO
Regional Manager Eastern Region

BRIAN MONCKTON
Regional Manager Western Region

FRED MORTON
Regional Manager Maine Region

MIKE REYNOLDS
Regional Manager Southern Region

Cost Management. For many producers, cost structures may still be at their all-time high, despite what we may read about low inflation rates. For many livestock and poultry producers, lower feed prices take time to show up at the purchaser's farm gate. Given weaker markets in a number of products, this is a critical year to bring cost structure back into balance. The speed with which you implement cost right-sizing is a critical competitive advantage. If you are still relying on your annual financial records to understand costs, it is time to implement a robust accounting system that can accurately report costs month to month.

Balance Sheet Management. It is a good year to think about positioning your balance sheet for profitability and flexibility before the next downturn. Some producers have depleted working capital as their industries hunkered down through adversity and as costs rose to record highs. Other businesses in a growth spurt similarly find themselves on the short side of adequate working capital to assure timely payment, ability to take early payment discounts, and flexibility in dealing with deferred maintenance. Especially for those industries directly impacted by the 2007-2009 financial crisis, there is often a great deal of deferred capital expenditures. While this is clearly a prudent strategy during the worst of the downturn, with improving markets, this may be the year to begin to catch up on those capital items that are critical to productivity and timeliness of critical operations over the longer term.

Interest Rate Pricing: Variable versus Fixed. For the sixth consecutive year, interest rates remained historically low in 2013. No question about it, low variable rates have greatly helped Farm Credit East borrowers in navigating through some tough business conditions. Don't get lulled into believing that interest rates will always stay this low. Do a simple test – what would it cost you if your interest rate increased to 8 percent? If the answer is "no problem, we can readily absorb that," then staying the course probably makes sense. If the answer is more like "that would be a tough hit," then this is a great time to take a closer look at fixing the rate on some of your long-term debt. The good news is that, right now, Farm Credit East has fixed rate options that look attractive in terms of the history of the past 40 years. While we, like most observers, have been wrong about the timing of when interest rates will come off the floor, it seems more likely that this will happen sometime in the next year or two. Please ask your local Farm Credit East representative to help you understand fixed rate options.

Wealth Preservation as Business Strategy. The roller coaster ride of the past 10 years ago has caused many successful business operators to adjust their longer-term business view. Yes, they survived the toughest conditions that the market and the economy could throw their way, and they are in good shape to go forward. However, a growing number of farmer thought leaders are viewing growth/risk balance in a different light. Up through 2008, most successful farm businesses took their next step through horizontal growth – they bought the farm next door, built a new freestall barn and added 500 cows, or built a substantial addition on the farm market and added a full service deli. Today, we are seeing more businesses interested in other growth opportunities:

- Vertical growth – perhaps in value-added or further processing, or bringing heifer-raising back home.
- Internal efficiency – we are seeing greater than normal attention to understanding which enterprises and/or products may not be adequately contributing to the total enterprise, dealing with cost categories that are outliers, giving up rented land that is too expensive to operate, and other smarter/not harder managerial initiatives.
- Collaboration and partnering – we are seeing an uptick in businesses that identify opportunities to do something together with another like-minded business to create synergies or perhaps just share/dilute fixed costs of a particular capital investment.

One of our coffee shop participants summed it up as: ***Measure, Monitor, and Manage.*** Another, referring specifically to retail-oriented businesses, said that they needed to have "the mindset of a high-touch retailer coupled with the hard-nosed efficiency of a manufacturer."

Laser Focus on Management. We observe many businesses in which the operators are successful in achieving a comfortable family living, reinvesting in the future of the business, and attracting the next generation back to the family business. We see many others where the business is a struggle, even in the up years, and ultimately retirement and a sale of assets becomes the best case. Clearly quality of management is a big differentiator in farming business success, even as we recognize that quality of resources, access to decent markets, and regulatory impact are also key drivers. We encourage producers to take time to learn during their off-season, to participate in trade associations, and to take a challenging short course for professional improvement. Information overload in a complex, global business arena makes it critical to engage outside professionals to assist you – whether in agronomy, pomology, animal nutrition, accounting, business management, insurance, or legal. Yes, these services come at a significant cost, but used correctly, they leverage and diversify the native skill sets of family operators.

Optimism! Each of our panel participants, in the course of our conversation, used terms including "exciting," "bullish," "great opportunities" and "accelerating rate of change." They and the 21 branch office teams across Farm Credit East's seven states are excited about working with individual producers to make the most of these opportunities.

The Farm Credit East regional managers: Gary Bradley, Brian Monckton, Fred Morton, John Caltabiano, Mike Reynolds

TAX & FINANCIAL PLANNING

Senior Tax and Entity Team Coffee Shop Discussion

Start Your Tax Planning Early. The Section 179 deduction has reverted to $25,000 (plus an adjustment for inflation) as of 2014, down from $500,000 last year. Plus, bonus depreciation is gone. This takes two of the easiest late-year tax management tools off the shelf – for now. While there is much speculation about whether Congress will set a higher level sometime later this year, let's not count on it until we see the President signing the bill. Anyway, with the growing complexity of most farm businesses and the magnitude of potential tax liability, it makes good sense to tax plan throughout the year. Farm Credit East constantly follows changes in tax provisions so that we can properly advise you, and we will watch Section 179 closely and keep you updated.

Understand Leasing Options. With sharply lower Section 179 depreciation treatment, leasing will become a much greater tax management opportunity in 2014. Leasing comes in many flavors depending on what you want to accomplish, and it makes sense to meet with your Farm Credit East team to explore options and how they might fit your needs. Please do that sooner rather than waiting until crunch time at year-end. It is critical that when you do execute a lease, that it properly dovetails with your tax management, cash flow, and operating needs. When it comes to leasing, some providers will let the tail wag the dog and you may be disappointed.

Update Your Estate Plan. We get it: this is the one planning issue that pretty much everybody wishes to avoid. Plus, it's tough to even know how to start the discussion let alone the planning process because you have never done it before. It is always important in family businesses, however, and critical to those for which the next generation is positioned to take over someday. At the Federal level, estates under $5.34 million are not subject to tax, and that provides many farm families with a pretty healthy "safe harbor" if they actively undertake an estate plan that takes advantage. Also, weak real estate markets in recent years, especially closer to the cities, make this an opportune time to get your plan up to date. Most of the Northeastern states have their own estate tax provisions and those also need to be dealt with. (In early 2014, New York Governor Cuomo announced an initiative to reduce estate tax impact, and Farm Credit East will closely monitor progress during the year.)

Estate Planning Must Include Medicaid Planning. If you do not already have Long-Term Health Care (LTC) coverage in place, then most farm families have a major potential liability against their business assets should one or more of the senior generation ever need to go into assisted living or nursing home care for an extended time. Without LTC insurance or any other planning, you will be required to pay for these services for up to 60 months/five years before Medicaid might take over. Again, this is an issue that is difficult for families to discuss, but it is critical that planning take place now in order to protect the farming assets that your next generation will someday need for their success.

Planning for Affordable Health Care Act Implementation. This massive new initiative is a work in progress as it is rolled out and various mandates become operational. As an expert told attendees at our recent customer seminars, "it's equivalent to the government asking every business to administer a complicated pension plan with all of its complicated rules and reporting requirements on top of everything else." If you employ less than 50 employees, it is tempting to believe that you can ignore this. Just figuring out whether you are at the 50-employee level is not an easy exercise. And, don't be lulled into thinking because you own multiple business entities that this will shield you – it only means that you will need to deal with the concepts of control groups and rules of aggregation to figure out your status. Some higher income taxpayers will become subject to a new tax known as the Net Investment Income Tax (NIIT) which is being implemented to help pay for the new health care initiatives. Some employers, who are under the 50-employee trigger, may find it useful to rethink their existing health insurance strategy – sometimes their employees and the employer can both be better off by enabling them to buy on the exchanges and restructuring existing health insurance payments as direct wage payments. When it comes to Affordable Health Care Act, it is complicated with more rules forthcoming – stay tuned.

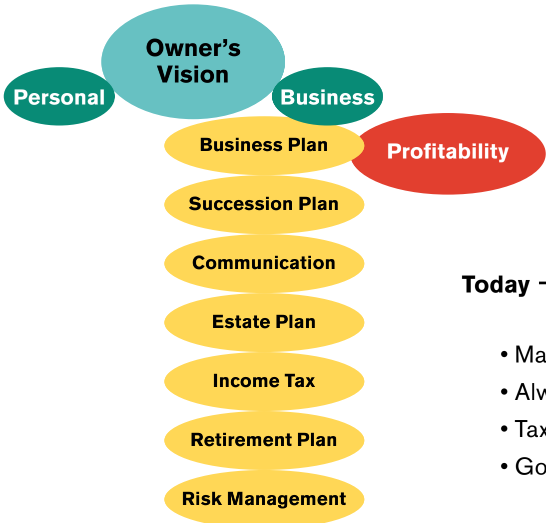
Make your Accounting Records Work for You. With greater volatility on both the marketing and cost side of your business, cost of production, operating margins and profitability is, more than ever, on a wild ride. If you have a minimalist approach to record-keeping – just enough to do some tax planning in November and then file your tax return next year – you are losing out on an incredibly valuable tool for managing your business. We don't expect you to turn into a green eye-shade accountant! Whether a family member or designated employee takes charge of up-to-date accounting, or you outsource it to Farm Credit East, real time financial information, properly formatted, is a key to staying sharp.

Don't Overlook Grants and Tax Credits. REAP Grants, solar energy credits, and certain other incentives may be available for projects that help you be more sustainable. It is critical that you explore these options before you break ground and/or place the order. We have grant-writing assistance and your local branch tax specialist can help you understand the tax incentives that might be available for the project you are contemplating.

Maintenance of Key Business Documents – Trusts, Business Entities' Leases and Wills. How long have they been in place and when was the last time you reviewed and updated them? If your answer is "more than three years ago" or "I don't recall," make 2014 the year to review and bring them up to date. Many of these arrangements call for ongoing maintenance which if left undone, may lead to confusion and uncertainty later on. Also, if your business is growing and/or changing rapidly, what was right five years ago might not be right today. Your Farm Credit East tax advisors and consultants often work as a team with your family business attorney, insurance agent, and other professionals to ensure that your key legal arrangements are matched to the current goals and needs of the family business owners.

Start with the End in Mind

How Farm Credit East Can Help You Achieve your Goals



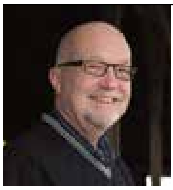
Today ⟶ **5 Years**

- Many dynamic pieces
- Always evolving
- Tax laws changing
- Gov't regulation

Source: Dan Galusha, *Senior Consultant, Farm Credit East*

Senior Tax and Entity Team Participating in this Coffee Shop Discussion:

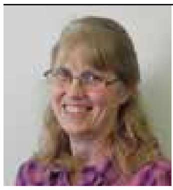
WAYNE BOUCHARD
Senior Consultant/ Financial Services Leader



DAN GALUSHA
Senior Consultant

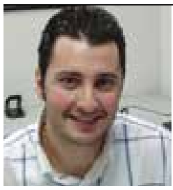
GREG BOUCHARD
Senior Consultant & Farm Tax Trainer

MARK KELLOGG
Senior Farm Business Advisor



CAROL ZINTEL
Business Consultant

PAUL VANDENBURGH
Senior Farm Business Advisor



DARIO AREZZO
Farm Accounting Representative

JON JAFFE
Business Consultant

STEADY FARM REAL ESTATE MARKETS… *again in 2014*

SENIOR REAL ESTATE APPRAISAL TEAM

Farm Properties in the Suburban Shadow. In regions of the Northeast near to major population centers, farm real estate values were stable in 2013 and are generally expected to remain so during 2014. There is very little interest from nonfarm buyers for farms right now, so there is less bidding pressure on farmers than pre-2007 when nonfarm demand drove the farmland market. Farmers themselves are largely cautious, viewing land for sale much more strategically as to what it might do for their operation. For example, agritainment operators would be very interested as to whether the land is situated on a main road and whether the town will be receptive to activity that draws crowds on certain weekends.

We have seen a trend in the Hudson Valley, New Jersey, Western Massachusetts, and other areas in which young, organic, and CSA farmers are in the market for starter farms. These operators are often creative in starting out on preserved ground rented by land trusts, municipalities, or perhaps retired farmers. Once started, they are looking to purchase a modest piece of property on which they can get a very good buy, often a deed-restricted piece of property, one that they can sell development rights in the near future, or one that has suffered from lack of maintenance. This appears to be a very good opportunity for retired farmers to transfer farming resources to the growing local foods producer segment within Northeast agriculture. In one unique situation in the Hudson Valley, a large commercial vegetable operation was sold to an angel investor who will make smaller parcels available to starting farmers interested in pursuing the local foods market.

Farm Properties Away from the Suburban Shadow. In Upstate New York, good cropland is still in demand from one or more successful farmers in the area, but the intensity of bidding against fellow farmers had not been as intense as it was in 2011-2013. Whether it is “the farm next door” or fills in with other owned land, farm demand is still positive. There have been several instances last year where two or more farms joined forces to buy another farm as a block and then split off the resulting purchase in an agreed-to manner.

Good potato ground in Aroostook County has seen significant growth in value in recent years due to competition among growers for consolidation of production, displacement of rotation cropland, and favorable potato and grain markets. This year is likely to experience another boost in land prices in higher competition areas.

In areas away from the suburban shadow, the market for less desirable farms and wooded land is somewhat slow. Selling a farm may take a protracted period and the final net price may be lower than expected. There are a limited number of interested buyers, farm or nonfarm, active in this market. Carrying costs in some areas may push sellers to cut a deal in order to move on. The interest from out-of-area nonfarm buyers has not yet returned to the levels seen in years up to 2007 for retirement homes, summer homes, and other uses.

Dairy. In addition to the cropland dynamics discussed above, a number of producers are actively seeking good heifer facilities with the plan of bringing outsourced heifer-raising back within their direct control. Growth-minded dairy farmers are very aware of the need to control sufficient ground near to their dairy complex(s). For them, "sufficient" is defined by the land required to deal with manure disposal per their nutrient management plan.

Orchard. Very little productive orchard has changed hands in recent years. The 2012 crop was greatly reduced, but many operators still had a good year. The 2013 crop was very large, and it remains to be seen how profitable it will be. Growth-minded orchard producers are more likely to expand within their existing land base by planting new high-density acreage with desirable varieties.

Timber. Overall, the number of transactions is slightly lower than the previous year, and sales activity remains slow on marginally stocked parcels. Few sales have been noted for well-stocked parcels due to lack of inventory; however, there is strong interest and pricing appears to be stable to slightly increasing. In Maine, there are several pulp mills whose business future is uncertain, and this has the potential to impact the value of timber tracts should a prolonged downturn occur. The industry will be keeping an eye on developments in this segment of the forest product spectrum. Overall, interest in purchasing timber resources in the Northern Forest is expected to increase in 2014, although there probably will not be much for sale.

Vineyards. Our Long Island appraiser noted that there are a handful of vineyards and wineries for sale, with little interest from buyers so far. These are capital intensive agricultural operations, and the market is limited to few who can afford the capital investment required to enter or expand in the industry. Vineyards in other areas, especially the major juice and wine areas on Lake Erie and in the Finger Lakes, are stable.

Black Dirt. A significant acreage in the Oswego muck area will be auctioned in the near future, and it will be interesting to observe the settle price. Other muck areas are stable, although it was noted here as well, that growers are very discriminating as to what they do purchase. For example, salad green producers in the Orange County black dirt area seek out the ground that is least susceptible to river flooding because once greens have been flooded, even if briefly, they are totally unsalable.

Interest Rate Sensitivity. Our group discussed how interest rates balance against land values. One of our senior appraisers expressed it best by asking "In this lackluster market, can you imagine how a 3 to 5 percent interest rate increase would further dampen real estate markets?" His question sparked a collective nod from the entire group: while land prices may be mostly stable, a major increase in interest rates could work to erode values at current farm profitability levels. So keep an eye on interest rates as they begin to move upward, because this could act as a further wet blanket on some real estate values, especially on the poorer quality resources away from where major farming expansion occurs.

Could a Bust in Corn Belt Land Prices Impact the Northeast? The group unanimously agreed that the widely forecast softening of cropland values to our west is not likely to spill over into the Northeast market. First, while we have significant price appreciation for higher quality ground in the recent past, in terms of absolute or percentage increase, it was much less than in the heated Corn Belt market. Second, the advance of values in the Northeast was largely driven by dairy farming profitability, not by high corn prices.

Senior Regional Appraiser Team Participating in this Coffee Shop Discussion:

RAY WAGESTER, ARA
Risk Management Officer

DOUG PLOETZ, ARA
Regional Appraiser

JIM WATERHOUSE, ARA
Senior State Certified General Appraiser

DAVE GANUN, ARA
Senior State Certified General Appraiser

DARYN DEVEAU
Senior State Certified General Appraiser

REBECCA STONE
Senior State Certified General Appraiser

JENNY MONTALBANO
Senior State Certified General Appraiser

JAN BITTER
Branch Manager

AN OVERVIEW OF NATIONAL AGRICULTURE

DAVID SPARKS
CoBank Regional Agribusiness Regional President – Eastern Region

DAN KOWALSKI
Lead Economist for CoBank Knowledge Exchange

LEONARD SAHLING
Director of Knowledge Exchange

CoBank, ACB is Farm Credit East's wholesale lender and the largest Farm Credit System institution.

They have a great national perspective, lending to farm cooperatives and rural utilities in all 50 states, as well as to Farm Credit East and other ACAs serving more than 22 states. They also have a strong global perspective through their international lending, primarily the financing of U.S. farm exports. We were pleased to hold a coffee shop discussion with our CoBank friends to gain their perspective from a larger vantage point.

Corn. The bin buster 2013 crop coupled with the ethanol industry reaching maturity has obviously led to a sharp downward break in corn prices. The CoBank team expects that corn prices will moderate this year through 2015, although the size of the 2014 crop will play a role as always. The CoBank folks observed that corn fundamentals and pricing have been somewhat stronger in the past month or so than most had anticipated after harvest, and this may bode well for the industry. They observed that there is a very wide range in Cost of Production (COP) with factors such as owned versus rented ground, rent cost per acre/length of commitment, and irrigation cost being big factor. That wide range understood, they observed that at $4.50/bushel, most Midwest farmers can earn a living and a decent return on corn for grain.

The corn industry is anxiously awaiting a final ruling from the U.S. EPA, likely to occur in the second quarter, as to the amount of ethanol required to be blended with gasoline this year under the Renewable Fuels Standard. In its preliminary announcement last November, the EPA reduced the requirement from 16.55 billion gallons last year to 15.2 billion gallons this year. It is widely expected that EPA will stay with its November pronouncement.

All of this has significant implications for the U.S. corn industry and for costs to livestock, dairy, and poultry grain buyers. First, after a sustained period of very profitable prices, there will be strong cost control pressure on corn producers in 2014 and beyond. Starting this year, corn growers will be shopping hard for better deals on everything from agronomic supplies to cash rents for ground. While many rentals were negotiated for two to three years, some were negotiated for as long as five years. As these come due, producers will be diligently negotiating for much lower rates in line with corn in the $4/bushel range. Second, the corn industry will need to refocus its efforts on developing export markets. To a significant extent, the growth of the domestic ethanol industry had allowed the U.S. to take its eye off the export ball and in recent years other countries such as Brazil, Argentina, and the Ukraine have gained share. The U.S. still retains significant export advantage in terms of export logistics and reliability, and political stability.

Soybeans. While prices are down from their highs, the overall fundamentals for soybeans still remain stronger than for corn. Brazil has started its harvest, and the USDA recently raised its estimate of the Brazilian crop to 90 million metric tons, in line with most Brazilian estimates. While we are hearing about drought in that part of South America, much of the crop was already ready for harvest by the time it took hold. The current soybean-to-corn price ratio has been steadily climbing over the past six months, but is still below where it was a year ago which is somewhat neutral as to plantings of soybeans relative to corn in the U.S. this spring. Nonetheless, there will be a strong swing to beans this year due to crop rotation, lower input costs and stronger price expectations for beans than corn. Eighty million planted acres of soybeans and great yields would very likely put soybeans into a strong surplus position similar to corn.

China: Change in Policy. In 2008, the Chinese government adopted a policy of building up their stockpiles of soybeans and cotton for food/fiber security reasons. In effect, this resulted in China supporting grower prices in this country as they purchased into their stockpiles. In 2014, China is abandoning this initiative, moving more to a market-based approach. This is one more negative factor for U.S. soybean producers in 2014 and beyond.

Beef Industry: Herd Rebuilding Starts. High feed prices and drought conditions during 2011-2012 in major beef producing regions led to a massive liquidation of herd numbers and record high beef prices as cattle numbers reached low points not seen since 1951. The CoBank view is that the industry is now past the bottom of the cycle with the heifer retention phase now underway. This means at least two more years of high beef prices as beef producers deal with the biological timing of retaining, rearing and gestating heifers in order to rebuild herds.

Corn Belt Land Prices. We've all read the news about new record cropland prices in the Midwest, and the speculation as to whether this was a bubble. We had some fun with this topic as two of our participants had moderately different positions which in of themselves help us understand the complex arithmetic underlying farmland prices.

Modest decline.

- Overall, leverage on Corn Belt farms is still very low by historical standards. They have the capacity on their balance sheet to handle the current situation, both in terms of being able to refinance where necessary and to absorb modest declines in value without moving into high risk position.
- Rental rates have absorbed a lot of the heat in the farmland market. Farms that rely heavily on rented land and locked into long-term deals will be the most vulnerable, although this does not necessarily mean that their landlord is vulnerable. Farms who rely mostly on owned land and who kept their debt repayment commitments in balance are well positioned to ride this out.
- There is still significant nonfarm investor interest in Midwest real estate based on long-term global market fundamentals for grain production and confidence in America's strong position as a highly capable grain exporter. Much of this investor capital is waiting on the sidelines, awaiting attractive buying opportunities.

Significant correction.

- While overall leverage still remains low, some individual producers have overcommitted based on where corn and soybean prices have settled out. Meeting their payment commitments may be a challenge, and if they need to sell ground to de-lever, they may take a loss on that.
- As producers respond to lower prices with even greater attention to achieving higher yields, this is going to put even more pressure on corn production and stocks.
- Keep an eye on interest rates. If interest rates were to begin a sustained rise to more historical rates, this would be an additional drag on land prices.
- The world has added 130 million acres of cropland in the past eight years, and this land will compete for off-shore markets in corn, beans, wheat and other basic farm commodities.
- Monsanto has developed a 70-day corn hybrid which can produce respectable grain yields. As this gets commercially introduced, it basically moves the Corn Belt northward in a rather dramatic way. (Southward on the opposite side of the globe.)
- See this excellent analysis. http://www.kc.frb.org/publicat/mse/MSE_0113.2.pdf

It is important to note that these are nuanced differences of viewpoint. Nobody is anticipating a 1980s collapse of land prices or the most recent sales prices plateauing. We sum this up as likelihood of a "soft landing" for Corn Belt land prices over the next several years as they adjust to the new fundamentals.

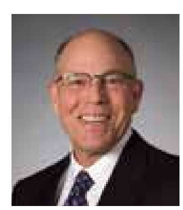
Interest Rates. As CoBank is in the money market every business day obtaining funding at best value for Farm Credit East and all of its other cooperative and ACA customers, we greatly value their perspective. We also respect that they, like we at Farm Credit East, do not engage in forecasting rates. That said, they shared the following perspective.

	2/11/2014	12/31/2014	12/31/2015
10-Year Treasury	2.7%	3.0%	3.5%
30-Year Treasury	3.7%	4.0%	4.5%

Final Note. Our thanks to the CoBank team for sharing their perspective for this article and for a strong working partnership with Farm Credit East since 1995.


David Sparks


Dan Kowalski


Leonard Sahling

BUSINESS OUTLOOK BY INDUSTRY

ROSS BARTLETT
Risk Management Officer

CHRIS LAUGHTON
Director of Knowledge Exchange

The National Economy

The national economy continued its slow recovery in 2013, and 2014 looks like it will deliver more of the same. Analysts estimate 2013 U.S. GDP growth at 1.9 percent . The Federal Reserve projects U.S. GDP growth at around 3.0 percent for 2014. Inflation was subdued last year, declining from 3.2 percent in 2012, to an estimated 1.5 percent in 2013, and the Fed projects inflation to continue at that low rate in 2014.

Large company profits are generally robust, and the S&P 500 index increased about 25 percent over the course of 2013, although gains slowed toward the end of the year. There is discussion of a stock market bubble, and some predict a correction in the market as the Fed tapers its bond buying.

While investors and large companies may be doing very well, some economists and politicians contend that these gains have not been evenly distributed throughout the economy. This raises many societal, economic, and political issues. The lack of growth in inflation-adjusted income for the middle class has been a contributing factor toward sluggish growth in consumer spending, which remains the largest part of our domestic economy.

The Consumer Confidence Index was higher in 2013 than in 2012, with an average value of 73.3 compared to 66.7. Look for continued modest growth in consumer spending in 2014.

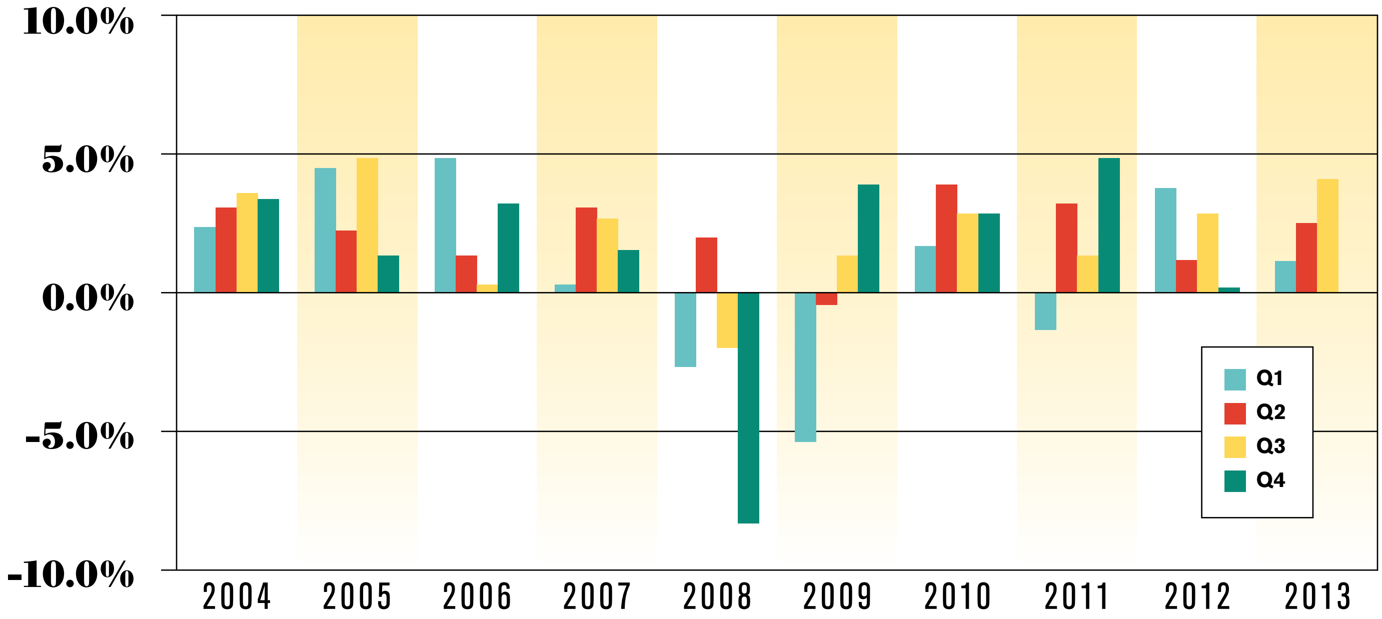
At the lower end of the wage scale, there has been political pressure to raise the minimum wage, and several states in the Northeast have responded. This, coupled with costs associated with the Affordable Care Act (the employer mandate takes effect in 2015), has the potential to significantly increase the cost of labor.

The job market remains a major source of concern. While the headline unemployment rate declined substantially in 2013, falling from 7.8 percent to 6.7 percent , broader measures that include discouraged workers, those marginally attached to the labor force, remained stubbornly high, finishing the year at 13.1 percent. The number of people who have dropped out of the labor force is staggering, as is the number of long-term unemployed. Structural changes in the U.S. economy, including increased efficiency and mechanization, and the growing impact of international trade means that many of the jobs lost in the Great Recession simply are not coming back. The Federal Reserve's Federal Open Market Committee (FOMC) projects unemployment will range from 6.3 to 6.6 percent over the course of the year.

Partisan differences in Washington continued in 2013, leading to little being accomplished. However, one significant development was the recent passage of the two-year federal budget bill, which should avoid the threat of government shut-downs for that period. Financial markets have reacted positively. The U.S. budget deficit has been steadily decreasing since 2009, but it remains high, and our debt-to-GDP level is approaching 100 percent. How significant a problem that is depends on which economists you listen to, but it is the highest percentage since World War II.

The Federal Reserve maintained its policy of low interest rates, keeping the federal funds rate near zero, and continuing its bond buying program known as quantitative easing. These actions translated into a prime rate of 3.25 percent, unchanged since 2008. Thirty-year fixed residential mortgage rates averaged around 4.5 percent – about 50 basis points above their 2012 average. The Fed has recently reduced its monthly bond purchases from $85 billion to $65 billion. While the bond buying continues for now, it is an important inflection point for U.S. monetary policy and the beginning of a downward trend in the Fed's investment activities.

GROSS DOMESTIC PRODUCT Percent Change from Preceding Quarter (Annualized)



Source: BEA National Economic Accounts

It is noteworthy that the Fed did not announce a schedule for tapering, stating that additional reductions are dependent on economic conditions. Most members of the FOMC expect the federal funds rate to remain near zero through 2014. Short-term rates are expected to begin climbing in 2015, with projections ranging from 0.25 to 3.25 percent increases. Long-term rates will likely increase sooner as a result of QE3 tapering.

The housing market showed improvement in 2013. After several years of declining prices, the S&P Case-Schiller home price index turned upward beginning in mid-2012, a trend that accelerated in 2013. The composite 20-city index for October 2013 was up 14 percent over one year earlier, though it remains significantly below its 2006 peak. Housing starts averaged 928,000 units for 2013, up 19 percent from one year earlier, although still far from the January 2006 peak rate of 2.3 million. Mortgage foreclosures continue to drag on the housing market, but it appears the worst is behind us. Remaining foreclosures are working their way through the system and as a result of loan adjustments and rising home values; fewer homeowners find themselves owing more on their house than it is worth. Most analysts predict continued, steady improvement in the housing market in 2014.

Energy costs were relatively stable in 2013. Oil prices remained high, increasing only 3.6 percent over the course of 2013. The U.S. Energy Information Administration projects that crude oil price will be flat to slightly declining in 2014, barring significant disruption in the Middle East. Natural gas prices increased last year and are projected to increase another 4 percent in 2014. Even with recent increases, however, natural gas prices remain far below past highs and continue to compare favorably with oil.

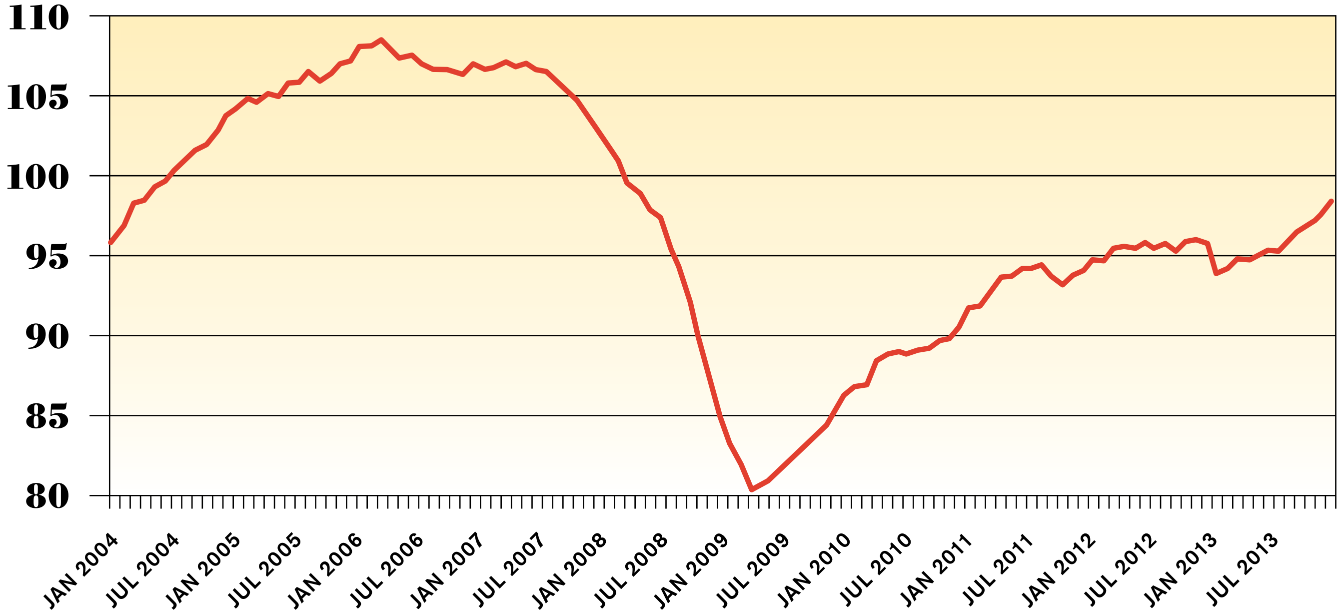
The U.S. dollar gained some strength against foreign currencies in 2013, averaging an index value of 76.0 compared to 73.5 in 2012 ; however, the dollar remains fairly weak by historical standards. A weaker dollar increases the price of imported goods, but provides a boost to American exports, including agricultural products. Inevitable increases in interest rates and improving economic conditions over the next few years will likely cause the dollar to strengthen further.

Growth continued to decelerate in emerging market economies in 2013 hitting its lowest level in a decade at 4.5 percent. While still good, particularly by developed nation standards, the slowing growth rate in emerging markets is indicative of the pivot taking place toward advanced economies as the drivers of global growth in the near term.

Despite the downside risks enumerated above, emerging markets, particularly in Asia, are looking forward to another year of solid growth. This bodes well for American exports, particularly in the agricultural sector. Asia is the fastest growing market for American agricultural exports, and second only to the North American Free Trade region in total volume for most commodities.

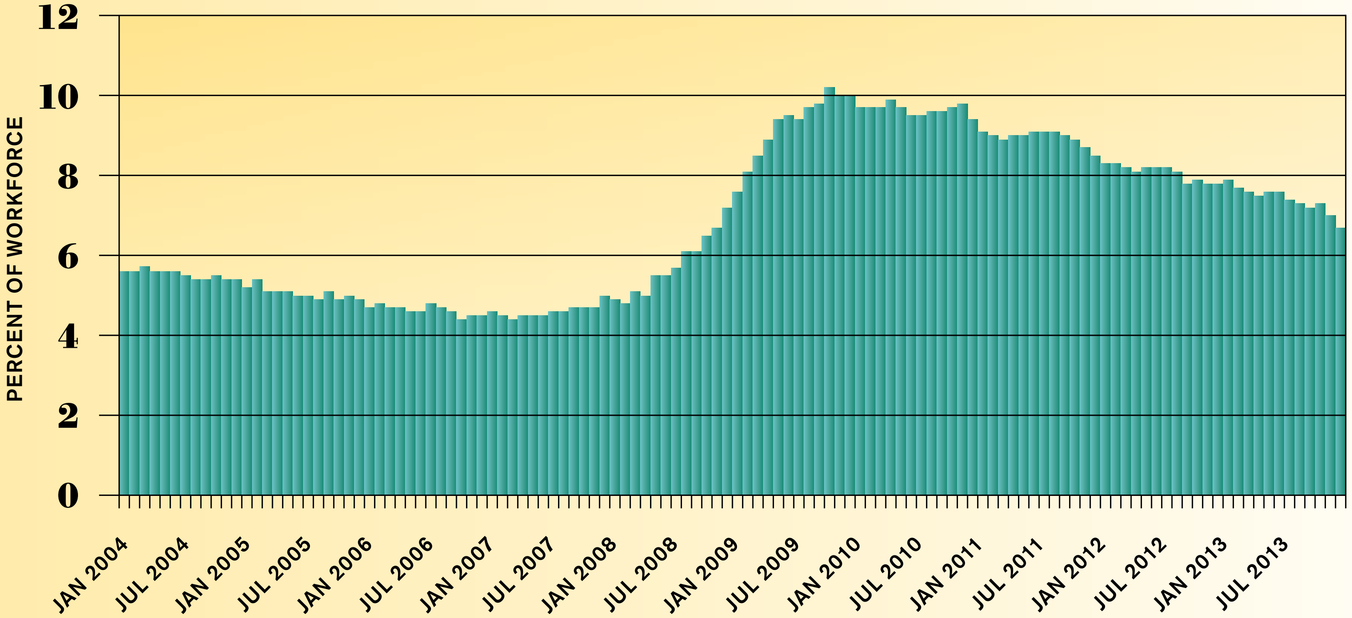
Overall, the 2014 economic outlook is a "glass half-full." Look for slow and steady growth in the economy including such key areas as housing, consumer spending, and employment.

U.S. LEADING ECONOMIC INDEX



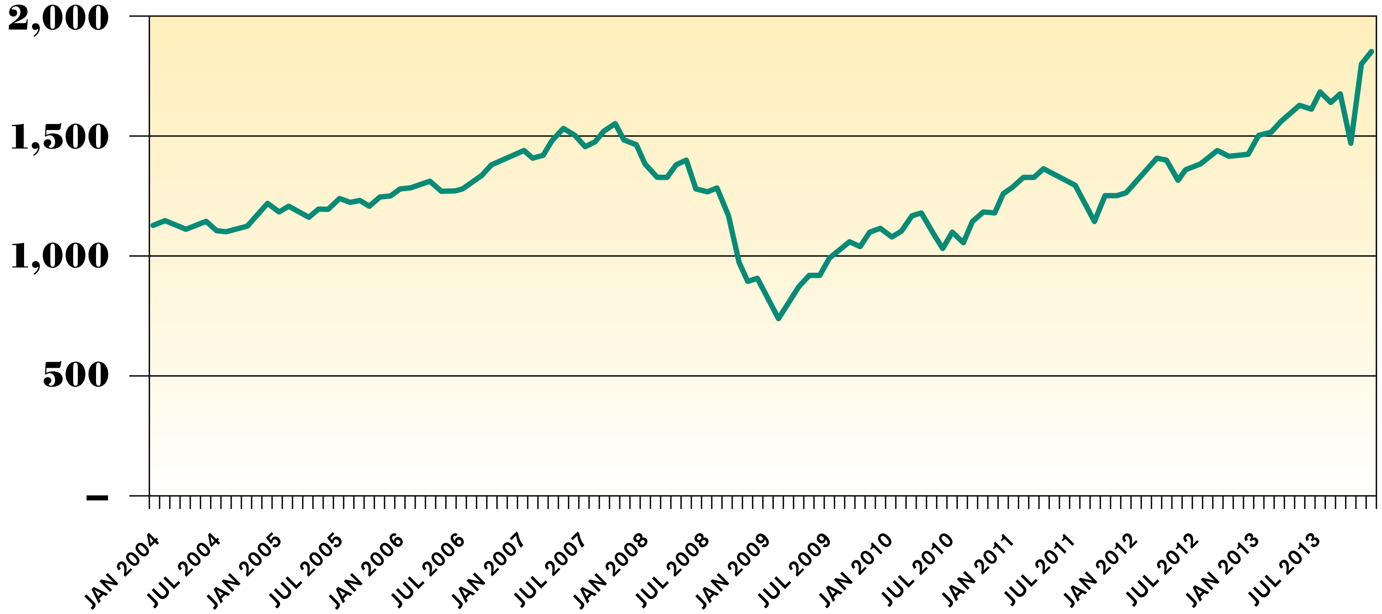
Source: The Conference Board

U.S. UNEMPLOYMENT RATE: Driver of Consumer Income and Spending



Source: Bureau of Labor Statistics

STANDARD & POOR'S COMPOSITE INDEX OF 500 STOCKS



Source: Standard & Poors

The Farm Economy

Dairy

Average milk prices in the Northeast increased more than $1.60/cwt. over 2012 levels. Expenses remained high, primarily due to feed costs. There continued to be a wide range of operating results with many farms achieving respectable profits, and others operating at or below breakeven. However, overall 2013 was a good year for Northeast dairy, with the average farm projected to earn $527 per cow . As 2014 also looks to be a good year, analysts are expecting to see expansion during the next year.

- Dairy analysts are projecting increased average prices for 2014, although they differ in magnitude. Primarily due to expected strong prices at the beginning of the year, producer pay prices are anticipated to increase anywhere from $0.34 to $1.38/cwt. in 2014 .
- The Class III average for the year was $17.99/cwt. and the Class IV average was $19.05.
- Nationally, milk supply continued to increase, totaling 184.4 billion pounds for the first 11 months of 2013, compared to 183.5 billion pounds for the first 11 months of 2012. Total U.S. milk production averaged 0.5 percent greater than 2012, a smaller increase than recent years. New York milk production was up 2.3 percent through November 2013. The latest NASS figures estimate the number of cows in New York unchanged at 610,000.
- Exports continued to increase, leading to another consecutive record trade surplus in dairy. In the first three quarters of 2013, total export value was $4.6 billion, up 24 percent over the same period in 2012. The U.S. exported about 16 percent of its milk production last year , compared to 14 percent in 2012. Export markets are expected to remain strong going into 2014, but this optimism is tempered by concern over increased production from New Zealand and the European Union in 2014.
- Purchased feed, a dairy farm's most significant expense, increased dramatically in 2012 and remained high for most of 2013 before beginning to decline late in the year. Corn prices have decreased significantly, but soy has remained strong. Mixed feed has thus far had little change at the farm gate. Further declines are anticipated in 2014.
- Labor remains a real issue for much of agriculture, including the dairy sector. The availability, cost, and legal status of the agricultural workforce are all significant concerns.
- New processing capacity continues to be built in New York, particularly in the yogurt sector. During 2010-2012, New York added 10 dairy manufacturing plants, for a total of 118 plants, second only to Wisconsin.
- The state of New York changed their medium CAFO threshold from 200 to 300, in an effort to facilitate dairy expansion. Several environmental groups have since filed suit to reverse this change. CAFO compliance remains an issue for producers looking to expand.

Timber

- Softwood / Plywood
  - » 2013 was a relatively prosperous year for softwood lumber and panel producers. The Framing Lumber Composite Price hit an eight year high in 2013, with the average up 19.3 percent for the year, after increasing 18 percent in 2012. Prices were buoyed by strong gains in housing construction. Annual U.S. softwood consumption continues to increase.
  - » Most traders and analysts are expecting prices to remain strong in 2014; however, there are downside risks. Any unexpected economic adversity, particularly in the housing sector would lead to a slump in prices. Also, the elimination of tariffs on shipments of lumber from Canada contributes to an overall cautious outlook for the market.
  - » While lumber producers generally enjoyed positive log-lumber margins in 2013, log costs remain a concern for many. Any decrease in lumber prices without a corresponding drop in log costs could push some manufacturers out of business.

- Hardwood
  - » Increasing demand, largely as a result of the improved housing market, allowed most hardwood sawmills to increase production in 2013. Pricing was largely stable throughout the year, and much improved over past levels.
  - » Lumber consumption at flooring plants and cabinet manufacturers continues to increase. In 2013, the remodeling market index hit its highest level since 2004. Barring unexpected developments, these trends are forecast to continue into 2014.
  - » Invasive pests, such as the Emerald Ash Borer and the Asian Longhorned Beetle, are a concern for certain wood species and for forest health, but none are likely to deal a severe economic blow to most timber growers.
  - » Markets for wood pellets continue to grow, both domestically and internationally. Cheap natural gas will constrain domestic demand for wood pellets in the near term. Exports, primarily to Europe and Asia are an important driver for the industry, hitting a new record in the first quarter of 2013 and showing no signs of slowing down.

- Pulp and Paper
  - » International competition, the changing paradigm of paper consumption, and escalating costs of production have presented challenges for paper manufacturers and led to the shutdown of some mills and temporary or permanent capacity reductions at others.
  - » Reports indicate a deficit of raw material production in comparison to market place demand. Maine pulp and paper mills have experienced aggressive raw material competition, caused in part by demand for wood as fuel.
  - » Margins for paper manufacturers were squeezed in 2013 by a trend of declining market prices and increasing prices for pulp, particularly softwood pulp. In response to rising costs, paper producers increased prices for some paper types in mid-October, with some analysts predicting another increase in the first half of 2014.

- Logging
  - » High production, multi-system producers appear to have the necessary critical mass to buy timberland and remain adequately profitable; however, profit margins remain very tight for many small service contractors, with likely deficit results for 2013. Tighter logging and trucking capacity continues to be a concern voiced by landowners; however, it appears that large landowners were able to move adequate volumes of stumpage in 2013 to meet their revenue forecasts.

Cash Field Crops

- This category includes corn for grain, soybeans, hay, and some small grains.
- In New Jersey, it was a decent year for cash field crops. For corn, highs of 195 bushels/acre were seen in the Northwestern part of the state, with a low of 110 in the central part.
- Rental expenses per acre vary widely, but in general, have increased. They range from zero in some highly suburban areas, where a landlord may even pay to have a field hayed for farmland assessment purposes, to as high as $300/acre. With rents this high, at average yields, some farmers could lose money with today's lower commodity prices.
- Corn prices have plummeted from earlier highs. Many farmers were able to contract 2013 corn at the end of 2012 at decent prices (over $6.00/bu), not so for 2014 corn. New contracts are for the mid $4.00 range. Grain farmers will need to plan for the correction in markets compared to the last few years, but they should still be (at least modestly) profitable.
- The midpoint of the USDA forecast farm price range for corn is $4.40/bu. For soybeans it is $12.50.
- Soybeans are still contracting for good prices, but a significant shift in planted acreage along with decent yields will cause bean prices to fall.
- Input costs, namely fertilizer costs, have decreased, which will help on the cost side.

Livestock

- Beef Cattle
  - » The U.S. maintained its status as a net exporter of beef and veal. Exports rose 5 percent during 2013 for a net trade surplus of 250 million pounds (USDA ERS outlook). The USDA projects a decline in cattle slaughter for 2014, leading to a reduction in total beef production of about 1.5 billion pounds.
  - » Cow prices have climbed slightly, up $3/cwt. from 2012 levels, and are projected to increase somewhat

further (about 3 percent) in 2014. Demand for ground beef products and the fact that cow inventories are the lowest in decades will likely continue to support cow and bull prices through the next couple of years. Reduced fed-cattle inventories should be supportive of fed cattle prices over the next few years.

- New York is recognized as having the best racing and breeding incentive program in the United States. The primary price driver is the improved general economy and the New York state bred program incentives. Record prices were paid in 2013 for New York bred horses; a trend expected to continue. Farm real estate investment is expected to remain stable since sufficient capacity already exists.
- Equine markets in New England and New Jersey are supported principally by local recreational demand across a variety of equine disciplines.
    - » Boarding facilities report mixed results with some struggling to break even and others reporting good financial results. Low cost operations and those with more desirable facilities have generally seen better margins.
    - » The real estate market for equine properties seems to be stabilizing with price declines tapering off.

Fruit

- This is a diverse category consisting of fresh market and processing apples, New Jersey and Maine blueberries, Concord and Niagara grapes for jelly and juice in western New York, farm wineries throughout the region, and peaches in New Jersey and southern New England. Cranberries are addressed in their own section. There is substantial wholesaling into national fresh produce channels in the major volume producing areas as well as substantial on-farm retailing in areas close to retail populations.
- Apples
    - » 2013 was a near-record harvest. Orchards had more fruit to sell than 2012, but prices have been lower. It is too early to tell how orchard producers fared for 2013 crops.
- Juice Grapes
    - » Growers had a bumper crop in 2013.
    - » Producer prices vary. Some cooperatives continue to pay above market rates, as much as $300/ton.
    - » Cash markets are paying $250-270/ton on the 2013 crop depending on the Brix count.
- Wine
    - » Nationally, both supply and demand are up.
    - » Prices have begun to return to pre-2008 levels, except for top end varietals.
    - » For farm wineries in the region, retail sales have been slightly stronger.
    - » Wine grapes in most regions had a very productive harvest. Storage space is an issue for many producers.
    - » Wine grape prices decreased slightly, but total revenue was up for many growers due to ample yields.

Greenhouse

- For the Northeast greenhouse industry, 2013 was a solid year with earnings estimated to improve 2-4 percent for most wholesale growers.
- There continues to be consolidation within the industry nationwide, largely driven by financial performance issues. There have been multiple Top 100 producers nationally forced to liquidate, downsize, or consolidate in 2013. These operations have typically been large growers serving chain stores who were unable to achieve the production efficiencies and sell through to meet required financial results. While this has resulted in significant losses for some large growers, some regional growers have benefited from this shuffling.
- Capital expenditure activity increased in 2013 versus 2012 with the focus being on improved efficiencies (labor, energy, etc.). Growers that can are converting to natural gas. Growers who have not invested in facilities and efficiency will find it increasingly harder to compete with more modern competitors.
- Big box stores continue to dominate the retail market. Growers who sell to them often must enter into vendor-managed inventory (VMI) arrangements. Big box suppliers must be able to be very efficient and manage tight margins in order to survive. Sell through rates in the 70 percent plus range, along with minimization of shrink are key drivers of success. Box stores are increasingly demanding more services from vendors, including merchandisers, raising the cost to producers.
- Vegetable plants continue to become a larger component of sales versus traditional flower bedding plants. Growers are looking for new products to raise and sell: orchids, additional vegetable crops, herbs, and anything unique that other suppliers may not have.
- Looking forward, 2014 is expected to look a lot like 2013; continued modest improvement, yet some operations will continue to struggle, and weather will dictate the overall success of the year.

Nursery

- Gross revenue is trending upward, increasing by as much as 20 percent in some markets. Most observers believe this was primarily due to favorable weather during the spring and summer sales periods, although pent-up demand and excess inventory clearing out may have contributed.
- Net profits are trending up but remain below historic levels due to margin squeeze caused by price erosion over past five years.
- Due to dramatic industry-wide decreases in production capacity over the past several years, some sizes and varieties of stock are starting to become in short supply allowing growers of those items to increase pricing. Short inventory supplies and industry optimism is causing more crop plantings for next year.
- Two to three inch caliper tree stock of some species is in short supply. The industry continues to shift away from field production and into faster-turning container growing, even for larger-sized material.

- Small wholesale and retail nurseries without a well-defined niche market continue to struggle and have not seen the rebound in sales and profits that most of the larger growers experienced in 2013.
- Primary sales outlets are big box chains and re-wholesalers serving the landscape market. Independent garden centers continue to be important, but many of them are struggling in the current economic environment. Plant quality at the box stores continues to improve, narrowing the quality gap between them and the independents.
- There continues to be consolidation within the industry, both regionally and nationally.

Aquatic / Fishing

- According to data from the Maine Department of Marine Resources, 127 million pounds of lobster were landed in Maine during 2012 (2013 data is not yet available), which is a record high. These landings were valued at $341 million. The catch increased from 2011 levels by more than 22 million pounds, and the total value increased by approximately $6 million. However, the average price-per-pound for 2012 was the lowest on record since 1994 at $2.69. Anecdotal reports indicate that lobstermen continued to receive very low prices during 2013.
- Mackerel: There are no indications that there will be resurgence in mackerel landings in 2014. Landings in 2013 were 9.2 million pounds (12 percent of quota) versus 11.7 million pounds (16 percent of quota) in 2012. Market demand exists if the catch is landed, but buyers have shifted to alternatives.
- Herring: Steady fishing, subject to the usual seasonality of the fishery, is likely to hold in 2014. Landings in 2013 were 98,000 metric tons (92 percent of the total quota), up from 93,000 metric tons (103 percent of total quota) in 2012. The market continues to be a combination of bait, processing, and export. Pricing was stable in 2013.
- Scallops: Prices continued to be strong throughout 2013, averaging $12.18/lb. at the New Bedford Auction. This is a $1.48 increase over 2012. Price is expected to be stable or even increasing for 2014 as the National Marine Fisheries Service (NMFS) has cut open area days-at-sea (DAS) by 10 days.
- Groundfish: Although the stocks of many of the 19 protected species of groundfish are rebuilt, the industry remains highly regulated and restricted. The fleet in the Northeast is aging and with the stringent regulations and unclear future, reinvestment is difficult. The positive for the industry is that the average price per pound increased to $2.32/lb., up from $2.27 in 2012 and $2.11 in 2011 (New Bedford auction prices). The effect that these regulations are having on domestic supply remains to be seen, and there are concerns that this may cause an increase in imports, which could lead to a decline in prices in the future.

Vegetables

- In New Jersey, reports are that processed vegetable growers (mainly peppers and tomatoes) were off by as much as 40 percent, due to poor weather during their key production season. There was a fair amount of damage to fresh market grower's crops as well, however, for most fresh market growers, high prices offset volume losses.
- Summer drought affected most growers in New England. Crops were off by 5-20 percent depending on location and access to irrigation.
- Farmer's markets in urban areas continue to expand and do well. Some successful farmer's markets have closed to new vendors due to excess interest, while others struggle to maintain an adequate base of farmers. As this market matures, location and timing is proving to be the key to success.
- Community Sponsored Agriculture (CSA) farms continue to gain popularity in southern New England. These are an attractive niche for small operations. There are some reports that this market is also beginning to mature.
- Restaurants, supermarkets, and consumers increasingly seek out locally grown produce. "Buy local" has become a significant trend, especially in metro areas. There is growing interest in food hubs as a means of efficiently aggregating and delivering into this channel.
- Growers in western New York are expecting a slight increase in pea acreage; no change in corn acreage; an increase in bean acreage; an increase in lima bean acreage; and little change in squash acreage. Contract prices for beans, corn, and peas are expected to be down slightly due to the drop in grain prices but not to the same degree of magnitude.

Potatoes

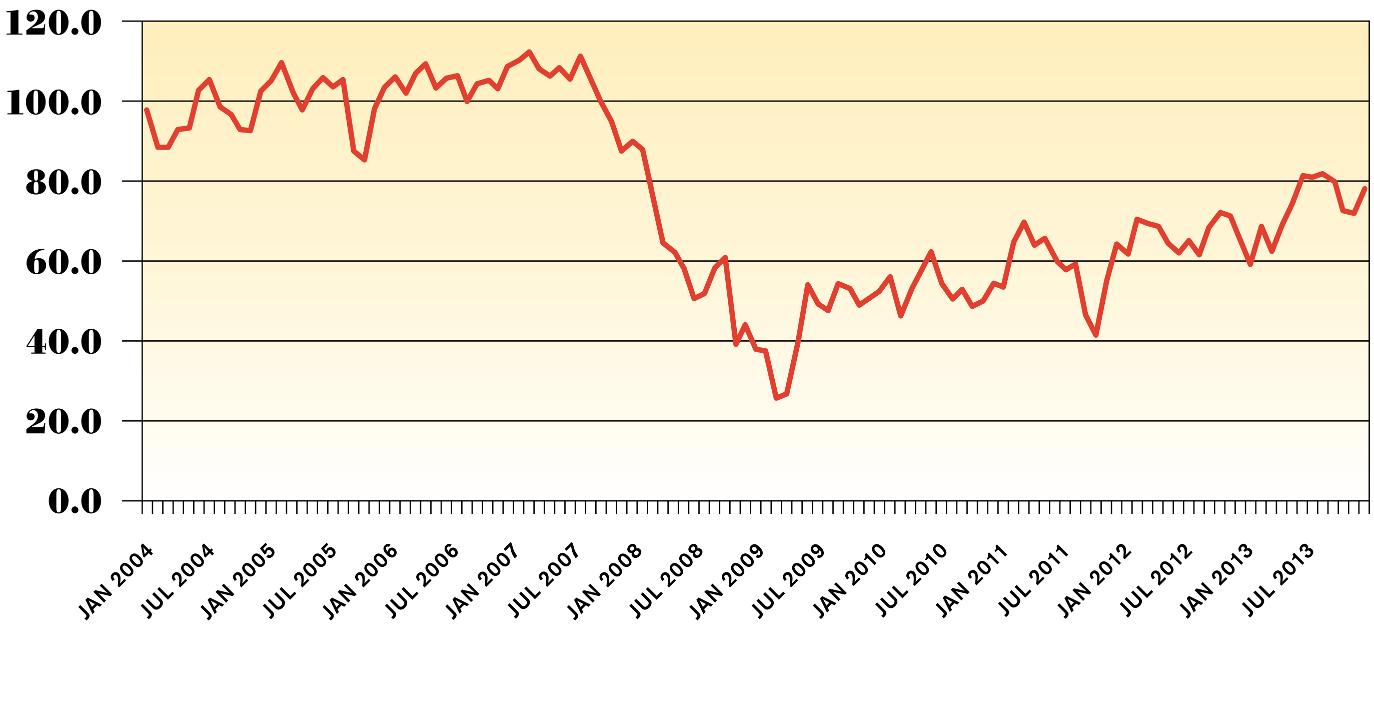
- The majority of Northeast potato production is in northern Maine with lesser acreages in other parts of the Northeast.
- Despite poor growing conditions in the primary potato producing areas, Maine growers harvested 15.64 million cwt. of potatoes in 2013. Growers harvested 53,000 acres with an average yield of 295 cwt. per acre, which compares favorably to the 10-year average of 285 cwt. per acre.
- The majority of Maine potatoes are produced under contracts with frozen french fry and potato chip processors. Excess national frozen inventory caused contract volumes to shrink between 5 and 10 percent in 2013, but pricing was generally stable.
- Global demand for potato products is relatively flat, with the U.S. continuing to hold a nearly 42 percent market share. The major french fry exporters shipped 4.53 billion pounds of frozen potato products during the 2012-2013 marketing season with a modest 5.2 percent increase over the previous year.
- Decreased production nationally in 2013 helped push up prices for fresh market potatoes in all the major growing regions in the U.S.

- Seed potato growers have enjoyed strong demand and favorable pricing for the last few years. Forward contracted sales for the 2013 crop have been at or above 2012 levels.
- New York fall 2013 potato production is estimated at 5.36 million cwt., up 14 percent from 2012. Acreage harvested was up 18 percent from 2012 at 19,500, but yield per acre declined from 285 to 275 cwt. per acre.

Cranberries

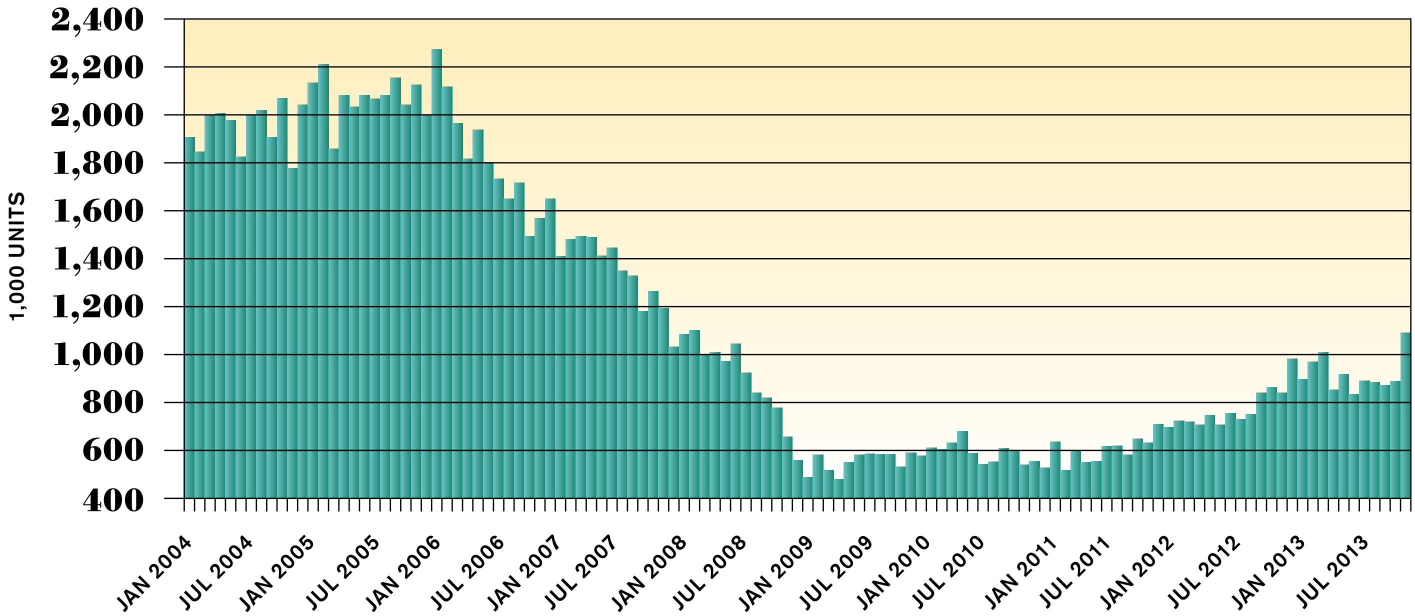
- The 2013 crop was another large one. Total industry production is estimated at 11.2 million barrels, equal to that of 2012. Berry rot continued to be an issue in Massachusetts.
- There remains a large spread between prices paid by independent fruit handlers and cooperatives.
  - » **Independents**
  - » 2012 crop prices closed at $24/bbl. for two independent handlers and $15 for the third.
  - » 2013 crop prices are expected to be low, between $7 and $15/bbl. Depending on the handler, final prices will not be determined until late spring or early summer.
  - » One handler has begun canceling contracts as they come up for renewal. Others continue to sign new Massachusetts growers.
  - » **Cooperatives**
  - » 2012 crop pricing varied substantially by "pool" with some pricing as high as $58/bbl., while others closed between $16-$21, in line with independent buyers.
  - » 2013 pricing is not yet available.
- The difference in prices continues to have an effect on the value of bogs, with very few being transferred in recent years.
- Both independent handlers and cooperatives are seeing the effects of the large crops harvested over the past four years. The cooperative's pricing has softened somewhat and is expected to decrease further, but not by a large amount.

U.S. CONSUMER CONFIDENCE



Source: The Conference Board

NEW PRIVATE HOUSING STARTS



Source: Bureau of the Census, U.S. Department of Commerce

Ross Bartlett

Chris Laughton

TEXTING WHILE YOU'RE DRIVING

ANDREW M. NOVAKOVIC, Ph.D.
Cornell University
Ithaca, NY

Most of us would say that being able to chew gum while walking is a good thing, and not terribly ambitious at that. How about texting and driving? Most of us would agree that is a dangerous idea, but maybe we don't think the risk is great.

The challenges facing today's farmers are many, complex, and rapidly evolving. Do farmers need to multitask? Absolutely! To what extent are you simply walking and chewing versus driving and texting? Do we need to enlarge or change the list of things we are paying attention to or reevaluate how important one thing is versus another?

Hazards and Control Points for Agriculture in the 21st Century

Hazard analysis and critical control point (HACCP) is a production management tool. Hazard analysis identifies what can go wrong and just how bad it could be. Critical control points are those key points where things can go wrong and where active monitoring and action can ensure that they do not go wrong or minimize the damage. Do you have an HACCP plan for your farm? Each farm has its own specific set of hazards; nevertheless, there are some big picture items that are of large and growing importance for all farm businesses.

Climate change

Chaotic and extreme weather patterns mean that the "normal" part of the bell curve is widening and flattening; extreme events on either tail of the curve are more likely. Are you prepared for that? Do you have a plan to help you deal with the probability that the unusual weather events of the last five years may well be a new normal?

Labor

What happens after the U.S. fixes immigration policy? An immigration reform that gives workers proper documentation will also likely open the door to more employment opportunities. Whether it is in the form of higher wages or easier work rules, or more likely both, the implication is that the cost of farm labor will go up. Higher labor costs lead to production systems that substitute capital for labor. Consider the dairy example: Have you thought about at what point does it makes sense for you to switch to robotic milkers?

Financial Management

Too many farmers treat financial challenges as a liquidity problem. They borrow when they are cash short and look for tax advantaged expenditures when they are cash long. This may "work," but it is a bit like treating the symptom without addressing the cause. It may also be a strategy that works less well or is more risky when the probability of a hazard increases.

Changing Markets

Globalization of agriculture has created both opportunities and challenges. Whatever the recent experience might have been for any particular commodity sector, the simple fact is that globalization means that we are all impacted by worldwide economic events. How much milk is produced in Australia, economic growth in China that affects its household purchasing power, and U.S. fiscal policy that affects exchange rates for the U.S. dollar are the kinds of events that can determine whether it is going to be a good year for dairy farmers, apple growers, or what have you. Are there critical control points you can identify to help you manage in an uncertain world market?

So What Can I Do?

Many farmers adopt the strategy I call "Minding your Ps and Qs." The notion is that if you pay attention to the production and quality aspects of your own farm, you will be in the best position to weather whatever storms come your way. The rest will take care of itself.

This has been a pretty good formula in the past, but we are challenged more and more to think about 1) whether I need to expand the list of things I'm focused on; and 2) whether there are short-term challenges that I can't handle with this strategy alone. For example, there have been a lot of very good, low cost dairy farmers in California and other parts of the West who were simply overwhelmed by the rapid and large increase in feed prices. Similarly, there have been a lot of growers who were very cost competitive in a U.S. context but found that their advantages were challenged with increasing globalization.

I don't want to push this metaphor too hard, but if minding your Ps and Qs is like texting, we all need to understand that we aren't driving in western Nebraska on a bright summer's day. Mind your Ps and Qs and think hard about the road you are on, where you are headed, and how much of your business management focus is on driving with your eyes down the road and what you will do when that deer jumps out of the ditch or that wet spot ahead turns out to be black ice.

Dr. Andrew Novakovic is the E.V. Baker Professor of Agricultural Economics at Cornell University. His primary focus is applied research in the field of dairy market economics and educational programs for dairy sector leaders, analysts, and policy-makers. Dr. Novakovic has written over 400 publications and often speaks at industry conferences.

FARMLAND MARKET FUNDAMENTALS

BRENT A. GLOY, Ph.D.
Purdue University
Lafayette, Indiana

Dr. Brent Gloy is a professor in the Department of Agricultural Economics at Purdue University. He teaches and conducts research and Extension programs in the areas of agricultural finance and agribusiness management. He founded and currently serves as the director of the Center for Commercial Agriculture. Prior to arriving at Purdue, Dr. Gloy was an associate professor in the Department of Applied Economics and Management at Cornell University. In addition to his activities in West Lafayette, he remains involved in the family farm business located in Southwestern Nebraska.

Farmland values throughout the United States have increased dramatically over the last 10 years. Across the Corn Belt, they have risen at an average annual rate of 11.6 percent resulting in a 200 percent increase. States such as Iowa (317 percent total increase or 15.4 percent annual rate) have seen even more dramatic increases, making the last 10 years one of the most favorable periods for farmland value increases in modern history. The increases in the Northeast have been smaller than those in the Corn Belt. USDA data indicates that farm real estate values have grown by 51 percent, or at an average annual rate of 4.2 percent, since 2003, which is relatively strong by historical standards. After adjusting for inflation, the real gains over the last 10 years in the Northeast slightly exceed those observed in the period of 1971-1981.

Farmland is one of the most significant investments that most farm families will make. It accounts for a substantial portion of the assets of many farm operations, and its rise has greatly increased the paper wealth of many farm families. Such increases have also raised the stakes for investments that farmers must make to acquire farmland to support their operations. It is important for farmers to think carefully about how they make decisions regarding farmland purchases.

Farmland's value is derived from its ability to generate future income for its owners. Those purchasing farmland are buying potential future earnings. When investors believe that future income potential has increased, farmland values should rise. This future income can come from the expected profitability of operating a farm or even from income that might be generated by converting farmland to another use such as development. So in order to understand farmland valuation, you must think about future farm incomes and profitability.

Interest rates are the other major driving factor for farmland. Interest rates represent the opportunity costs of owning farmland. Other things equal, higher interest rates tend to put downward pressure on farmland prices as investors demand a higher rate of return, and lower interest rates tend to support and lift asset prices. This is similar to the reason that bond prices rise (fall) when interest rates fall (rise).

When taking a longer-term look at earnings and interest rate, it is easy to see why farmland values have increased so substantially in the Corn Belt. At the sector level, agricultural incomes are at all-time highs and interest rates are among the lowest seen in many people's lifetimes. These factors have led to dramatic increases in farmland values. However, when buying farmland, one doesn't receive past returns but instead the promise of future returns. One must carefully consider the future earnings potential of farmland going forward. Here, there are some reasons to be cautious.

World cropland acreage has begun to increase, and farmers in the United States are rapidly working to increase supplies. This means that commodity demand must stay strong to keep future incomes high. With demand growth associated with biofuels slowing and exports becoming very competitive, there are reasons to be concerned. In addition, there is substantial uncertainty over the level of future interest rates. Together these factors are creating headwinds for the farmland market.

So what are agricultural producers to do when considering farmland purchases? First, keep an intense focus on the potential earnings that you expect the farmland to generate. Consider what assumptions about farm profitability would be required to make the land worth the selling amount. No one can predict the future perfectly, but sometimes the assumptions required to justify a purchase are so optimistic that it might be best to wait. On the other hand, sometimes people's views become so pessimistic that good purchase opportunities exist. Problems with asset valuation frequently arise when purchasers make little attempt to reconcile purchase prices with the earnings that can be generated by the asset.

Second, take emotion out of the decision and focus on the facts as you see them. At times, bidding for farmland can become an emotional decision, and people tend to lose focus on the reason and logic for the purchase. Estimate the economic value of the purchase and calculate the premium that you are willing to pay to purchase the land. Use these numbers to help you think about the upside of the purchase versus the downside. Try to find situations that have more upside than downside, things that could go well versus things that could go poorly. Try to quantify some of these factors. This should lead to better decision making or will at least force you to think through your decision carefully.

The most common critique that I receive about my focus on earnings fundamentals is from people who argue that farmland is worth what someone else will pay for it. In other words, why worry about fundamentals when there are actual recent sales to establish a value. I believe that when the expected inherent value of the product (e.g., earnings in the case of farmland) is of little consideration to buyers, one must be cautious basing values solely on the last sale. At these times buyers/sellers are simply making transactions based upon speculative logic about what the next person will think about prices and emotion rather than the actual potential earnings amount of the asset. At some point earnings will come back into focus.

At this point, it appears that the farmland market in the Northeast may be less impacted by a farm income slowdown than the Central United States. The economic conditions in the overall agriculture sector have been phenomenally good for the last five years. I expect that they will remain acceptable going forward, but that the tremendous profitability of the last few years will be less common in the next five years and this will likely start to cool prices and emotions in the red-hot Midwest farmland market.

A Perspective on the U.S. ECONOMY

MICHAEL D. GOODMAN, Ph.D.
University of Massachusetts at Dartmouth

Dr. Michael Goodman is associate professor and chair of the Department of Public Policy at the University of Massachusetts Dartmouth where he directs the Master of Public Policy program. Dr. Goodman has authored or co-authored over two dozen professional publications on a wide range of public policy issues including regional economic development and housing policy as well as demographic and other applied social science research topics. Dr. Goodman is a three time past president of the New England Economic Partnership.

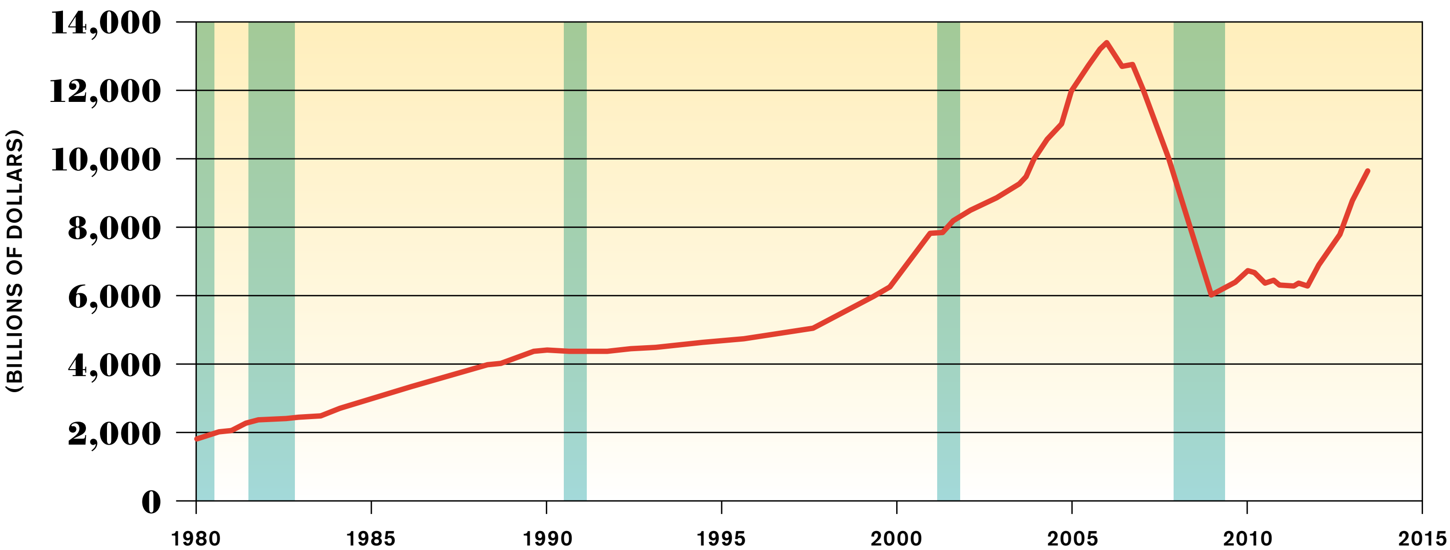
In 2013, after over seven long hard years of winter in national and regional residential housing markets, we began to see the first signs of spring. Following the longest period of decline in market values since the 1930s, housing prices, sales, and related development activities finally began to visibly recover this past year.

This is welcome news for those homeowners and housing sensitive sectors of the economy that have struggled mightily both before and since the so-called Great Recession. While much of the pain associated with this extended downturn in housing markets has been felt most directly by homeowners and construction and building trade sectors, the dramatic declines in housing related economic activity experienced in recent years has also been a major drag on our economic growth and by extension the pace of our economic recovery.

As Figure 1 clearly shows, the extraordinary rise in housing values that began in the late 1990s and peaked in early 2006 added trillions of dollars to household balance sheets. Since for many households home equity represents the largest component of household wealth, the dramatic bursting of this bubble, compounded by the very large job losses associated with the onset of the global financial crisis in

FIGURE 1

HOUSEHOLDS; OWNER'S EQUITY IN REAL ESTATE

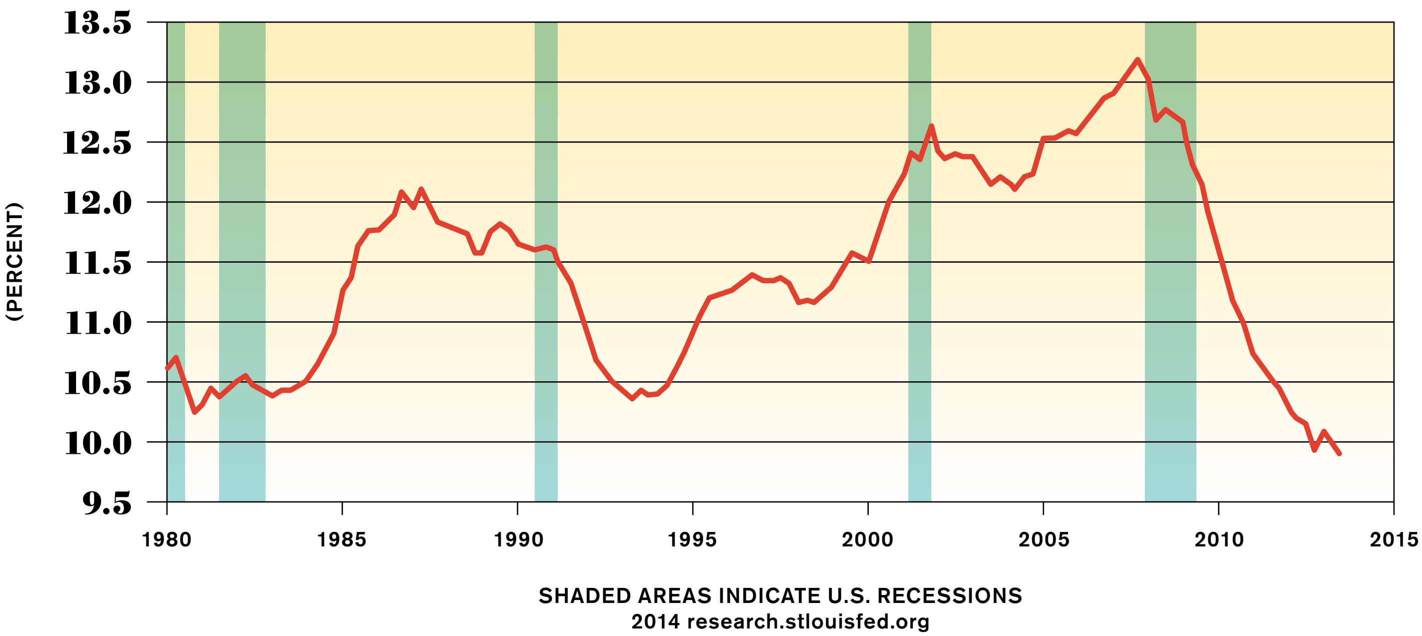


SHADED AREAS INDICATE U.S. RECESSIONS
2014 research.stlouisfed.org

Source: Board of Governors of the Federal Reserve System

FIGURE 2

HOUSEHOLD DEBT SERVICE PAYMENTS AS A PERCENT OF DISPOSABLE INCOME



Source: Board of Governors of the Federal Reserve System

late 2008, was a dramatic shock to the American consumer with profound and predictable impacts on their attitudes towards consumption and debt.

Effectively, by early 2009, U.S. households were forced to come to terms with the fact that they had overestimated their net worth by about $7 trillion. This reality check, combined with serious and legitimate concerns about their income and job security, was a recipe for an extended period of consumer retrenchment.

As can be seen in Figure 2, over the past seven years American families have slowly but surely repaired their balance sheets by restricting their consumption and steadily reducing their financial obligations. Given that household consumption represents nearly 70 percent of national economic activity, the associated declines in consumer demand for products, services, and loans during this period has significantly slowed the pace of our recovery both nationally and regionally.

Looking ahead, it appears that the long winter of discontent in national and regional housing markets has ended. While persistent and troublingly high levels of long-term unemployment continue to take its toll on millions of American households, the economic and demographic fundamentals strongly suggest that the housing market will continue its recovery in 2014. Low interest rates, rising rents, years of limited housing production, and gradually improving labor market conditions all bode well for the outlook for residential housing in 2014 and beyond.

Ironically perhaps, the pace of the housing recovery in 2014 will depend in important ways on the willingness of homeowners to place their homes on the market. To date, it appears that prospective sellers are waiting for prices to rise further before making their homes available for sale. This is consistent with inventory levels and with anecdotal reports of significant price competition for a limited number of available properties in selected markets. As the market continues to recover, the pace of price appreciation may moderate as prices reach levels that are more appealing to prospective sellers.

The benefits of an improving housing market will most directly affect real estate sensitive sectors of the economy including the much beleaguered construction industry. But, rising home values and improving household balance sheets are slowly but surely moving the American consumer back into a position where they are ready and able to spend, invest, and borrow at levels that will be required if the U.S. economy is to break out of what some have termed a period of "secular stagnation."

For the U.S. economy to achieve "escape velocity" in 2014, more than simply the continued recovery of housing markets will be required. But there can be no doubt that the steady recovery of home equity and improving household balance sheets puts some wind in the sails of the national recovery, which is unequivocally good news for the American household and those business enterprises that rely on consumer spending.

CAN THE FARM AFFORD A SUCCESSOR?

Avoid a Common Mistake in Management Thinking

GUIDO VAN DER HOEVEN
North Carolina State University

Introduction
Farm businesses are generally closely held by families and can be multi-generational regarding labor and management. Only a few family businesses continue into and beyond the third generation. However, driving through our rural countryside one can often see "century farm" markers indicating that the farm is owned and may be operated by the third or fourth generation. A question, therefore, is how can farm business owners ensure continuation of the family farm business and is this good business?

Farm business owners and managers, regardless of their geographic location, can take steps to develop a strategic plan for developing and training potential successors by creating a career path for the successor. One key of this important transition/succession process and integral skill of successful management is to understand how a simple ratio, operating expense/receipt ratio, can be used in reverse to avoid a common mistake frequently made by farm businesses when the successor comes home. Fundamentally, the mistake is to assume the farm business need only generate the additional income to meet the compensation of the successor, all other things held equal.

Financial Efficiency Analysis: Avoiding the Mistake
Following the 1980s, The Farm Financial Standards Council (www.ffsc.org) developed a series of financial ratios to help improve the understanding and management skills of farmers regarding business finances and economic performance. One of these ratios is the operating expense/receipt ratio also known as the Operation Expense Ratio. This ratio is used to measure the financial efficiency of a farm business, though not limited in use to farms. This ratio tells the farmer how much cash is being spent to generate each dollar of farm revenue. The ratio is simple to calculate, yet provides powerful insight to the farm operator about the farm business.

	METHODOLOGY	SOURCE DOCUMENT
1	**Total Farm Expenses**	**Income Statement***
2	**Minus: Interest Expense**	**Income Statement**
3	**Minus: Depreciation Expense**	**Income Statement**
4	**Equals:**	**Total Cash Operating Expenses**
5	**Gross Farm Revenues**	**Income Statement**
6	**Operating Expense / Receipt Ratio**	**Divide Line 4 by Line 5**

**Most farms in the United States operate using the cash basis method of accounting. For accurate year-to-year comparisons use of accrual adjusted financial statements provide more consistent forms of measurement and analysis rather than the use of a cash basis statement such as IRS Schedule F, Profit or Loss from Farming.*

Farm managers quickly see that the lower the ratio the better (more efficient) the farm operation is performing. David Kohl, professor emeritus from Virginia Tech, suggests use of a traffic light analogy as a practical application: green light less than 65 percent, yellow light 65-80 percent, red light greater than 80 percent. For example, if a farm were planning a major change or expense and the calculated operating expense/receipt ratio was 73 percent, this result indicates caution and further analysis is in order.

Example: Using the Operating Expense / Receipt Ratio in Reverse

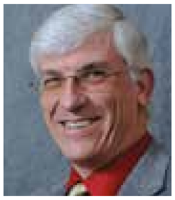
"Local Century Farm" calculates its operating expense/receipt ratio to be 78 percent; the farm is spending $78 to generate $100 of revenue. The operating farmer, Tom, is beginning to consider transition of the farm's management to a successor over a period of time. Tom's daughter, Lisa, has expressed interest in coming home to accept this challenge. Lisa's compensation is agreed to be $40,000 annually, inclusive of all benefits. Tom will make an error to assume that farm revenues need only increase by $40,000 to accommodate Lisa. By using the operating expense/receipt ratio in reverse, Tom can quickly calculate the estimated gross farm revenue increase needed, all other things equal, to afford Lisa as an incoming successor. Tom calculates the gross farm revenue increase needs to be $181,820 ($40,000 / 0.22). The 0.22 comes from subtracting 78 percent from 100 or 1.00-0.78 = 0.22. Now Tom can evaluate if the capacity to grow the farm to generate the additional gross revenue is realistic for Local Century Farm. This example is simplified; however, it illustrates that the focus should be on gross farm revenue not on net farm income. Otherwise, cash flow shortfalls are highly probable and financial stress may follow.

Making it work

If Lisa is replacing labor on the farm, the required gross farm revenue may not be as large. Tom can review the five or six largest expense items evaluating if any reductions can be made. Tom may also revisit his marketing strategies to increase prices received for farm products thereby increasing gross farm revenue. Lisa may develop a new enterprise to increase revenue.

Summary

Using the operating expense/receipt ratio in reverse when considering the financial and cash flow demands of bringing a successor into the farm business can prevent a common mistake. Using this ratio in reverse focuses attention on gross farm revenue; exactly where it should be and thus helps ensure affordable transition to the next generation of the family farm.



Mr. Guido van der Hoeven is an Extension specialist/senior lecturer, in the Department of Agricultural and Resource Economics at North Carolina State University in Raleigh, North Carolina. His Extension responsibilities include: income taxation of individuals and business entities, farm business management and the profitable continuation of "family firms" to succeeding generations.

BEGINNING FARMERS: *An Essential Part of Northeast Agriculture*

INTEREST IN BEGINNING FARMERS IN THE U.S. IS SOARING.

KATHRYN RUHF
Land For Good
Keene, New Hampshire

Due in part to concern over our aging farmer population, this attention also is a consequence of the "food movement" which is attracting new farmers as well as their advocates. Beginning farmers – those who have operated a farm (or ranch) for 10 years or less – are an increasingly diverse population with diverse needs. Nationally, about one-fifth of farms are operated by beginning farmers; in New England and New York, the proportion is slightly higher. This population deserves our attention and support.

Most beginning farmers are White and male, but they are more likely to be non-White and female than the general farm population. In our region, Black, immigrant, Hispanic, women, and veteran beginning farmers are among those starting and building all kinds of farm enterprises in rural, suburban, and urban settings. Most beginning farmers are young, but nearly one-third are 55 years or older. For various reasons, new farmers tend to operate smaller farms than established farmers – a couple of acres or less in some instances. That said, it is important to appreciate that beginning farmers are not all small-scale, alternative, local, or direct-marketers.

To better understand this diversity, it is useful to break apart the beginning farmer definition. Much effort is going into assisting prospective farmers – those not yet actually farming. While not included in the USDA definition, their needs must be addressed to maximize their chances for successful entry. Start-up farmers in their first three years of operation have very different needs from those who are "re-strategizing" in their next three to four years. Farmers, who have been operating for 7-10 years, have unique needs as they enter a more mature stage of the business cycle. Beginning farmers come with a wide range of expertise, experiences, and resources. One-size-fits-all programs and policies are not sufficient.

The good news is that the recent upsurge in interest in farming by young (and not so young) farmers is being responded to with more and better programs targeted to their needs. USDA's current policy is "to foster marketing, development, credit, and outreach programs to improve the competitiveness of beginning farmers and ranchers [to ensure] that new generations … can gain access to the resources they need."[1] Training and support programs specifically *targeted* (as opposed to relevant) to beginning farmers are increasingly sophisticated, thanks in part to the support and networking enabled by the USDA's Beginning Farmer and Rancher Development Program.

However, daunting challenges remain. Beginning farmers' needs can be categorized in terms of access to four critical resource areas: education, training and technical assistance; markets; capital and credit; and land. According to ERS, "beginning farmers and ranchers face two primary obstacles: high startup costs and a lack of available land for purchase or rent."[2] Access to capital and land also were identified as the top challenges in recent surveys of beginning farmers by the National Young Farmers Coalition[3] and the American Farm Bureau Federation[4].

Most beginning farmers desire to own their farms; however, less than 10 percent of U.S. farmland is owned by farmers under the age of 45.[5] Traditional intra-family paths to farm ownership are far less common, as the majority of beginning farmers acquire land through purchase from a nonrelative.[6] Beginning farmers are more likely to carry debt on their land, and farmers starting with land debt are less likely to succeed in the long run.[7] Programs such as Farm Credit East's FarmStart program that provide beginning farmers with access to capital, coupled with business training and support, can help farm entrants make sound decisions about land and other capital needs. Especially with respect to farmland and capital, stakeholders "outside" agriculture such as private and public non-farming landowners, conservation organizations, philanthropies and private investors are increasingly active. They need to be engaged in fruitful ways.

Beginning farmer programs must emphasize readiness – that is, making sure the farmer is adequately trained, informed, and supported to begin and grow a farm business. And programs must keep pace with contemporary conditions that new farmers face such as land and housing affordability and new regulations. Business plans must meet basic requirements, while accommodating newer approaches such as online marketing and group farming. Agricultural service providers should promote both rigor and innovation, and be open to all the ways in which new farmers are connecting with their communities.

For the next generation of farmers to succeed – whether or not they come from farm backgrounds – they need the support of a vibrant and welcoming farm community. This means that established farmers have critical roles to play in employing and mentoring entrants, providing leadership and advocacy, and passing along viable farms as they securely exit from farming. It is also crucial that new and established farmers are not pitted against each other in terms of competition for program resources or preferential treatment (real or perceived). Farmer program staff, policy makers, and service providers need to be sensitive to these dynamics by conveying that we need all farmers in order to ensure the future of our agriculture.

Kathy Ruhf is the executive director of Land For Good (LFG), a New England nonprofit that specializes in farmland access, tenure and transfer. She has taught, consulted, and written about farmland, beginning farmer, farm succession, and food policy for 25 years. Prior to joining LFG in 2004, she served as co-director of the New England Small Farm Institute for 17 years.

[1]Ahearn, M. and D. Newton. 2007. *Beginning Farmers and Ranchers*. USDA ERS Economic Information Bulletin Number 53. p. 1. Retrieved from http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib53.aspx#.Uq3SfPRDu5U

[2]Ahearn and Newton. p iii.

[3]Shute, L. L. 2011. *Building a future with farmers: Challenges faced by young, American farmers and a national strategy to help them succeed*. Tivoli, New York: National Young Farmers Coalition. Retrieved from http:// http://www.youngfarmers.org/

[4]American Farm Bureau Federation. 2013. *Adequate land ranks as top concern of young farmers*. The Voice of Agriculture. Retrieved from http://www.fb.org/index.php?action=newsroom.news&year=2013&file=nr0307.html

[5]USDA 1999 AELOS Table 98.

[6]Ahearn & Newton. p. 12.

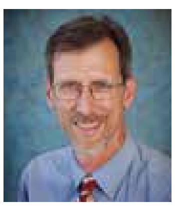
[7]Dodson, C. 1996. *Is More Credit the Best Way to Assist Low-Equity Beginning Farmers?* USDA ERS AIB 724-04.

MILK PRICE CYCLES:

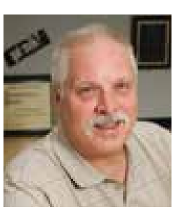
THEIR IMPLICATIONS FOR THE NORTHEAST DURING THE NEXT TWO YEARS

CHARLES F. NICHOLSON, Ph.D.
The Pennsylvania State University

MARK W. STEPHENSON, Ph.D.
University of Wisconsin, Madison



Dr. Charles Nicholson is a clinical associate professor of Supply Chain Management at Penn State's Smeal College of Business. He has extensive expertise in agricultural and food supply chains, food systems, and international development. Dr. Nicholson has authored or co-authored numerous publications on dairy topics.



Dr. Mark Stephenson is the director of Dairy Policy Analysis at the University of Wisconsin-Madison and an expert in dairy markets and policy. Prior to joining the University of Wisconsin, he spent 17 years as a faculty member at Cornell University.

Variation in farm milk prices has significant effects on dairy farm revenues and input costs for dairy processing companies in the Northeast and the rest of the United States[1]. The patterns of variation in farm-level milk prices have been different during the past 20 or so years than previously (Figure 1).

We recently analyzed patterns in the U.S. all-milk price from 1996 to 2012 and found that although seasonality is still a component of milk price variation; the largest source of variation during this time period was a price cycle that lasted 3.2 years. This cycle had a peak-to-trough magnitude of more than $8/cwt. in recent years (Figure 2).

This large price cycle raises three important questions: Why does the cycle exist? Will the cycle continue to exist and be this large in the future? What are the management implications? We address each of these questions in turn below. Although few dairy manufacturers pay the all-milk price analyzed in this publication, the all-milk price and the minimum regulated (classified) prices paid by milk buyers are highly correlated.

Why the cycle?
Cyclical price and production behavior is very common for agricultural and other commodities. The evidence we have to date suggests that a main source of the cycles is the production decisions of U.S. dairy farmers, who can respond more quickly to profitability incentives today by changing milk production than they could a couple of decades ago[2]. This is consistent with two old adages: "money makes milk" and "the best cure for low milk prices is low milk prices." More specifically, a cycle can exist because dairy producers respond to incentives to increase or decrease milk production without considering the decisions of other producers and the overall effect on supply and demand balance. Many supply chains have mechanisms to coordinate overall production that don't exist for dairy or other commodities, especially given that dairy cooperatives typically commit to market all milk produced by members.

Will the cycle continue to exist and be this large in the future?
The presence of a three-year cycle with large price swings, even over a period of 17 years, does not mean that this cycle will continue indefinitely. Our analysis indicates that the difference between the price peak and trough (the amplitude) of the most recent cycle is smaller than that of previous cycles – around $1.50/cwt. rather than $6.00/cwt. We have also used a dynamic simulation model of the

FIGURE 1 QUARTERLY U.S. ALL MILK PRICE

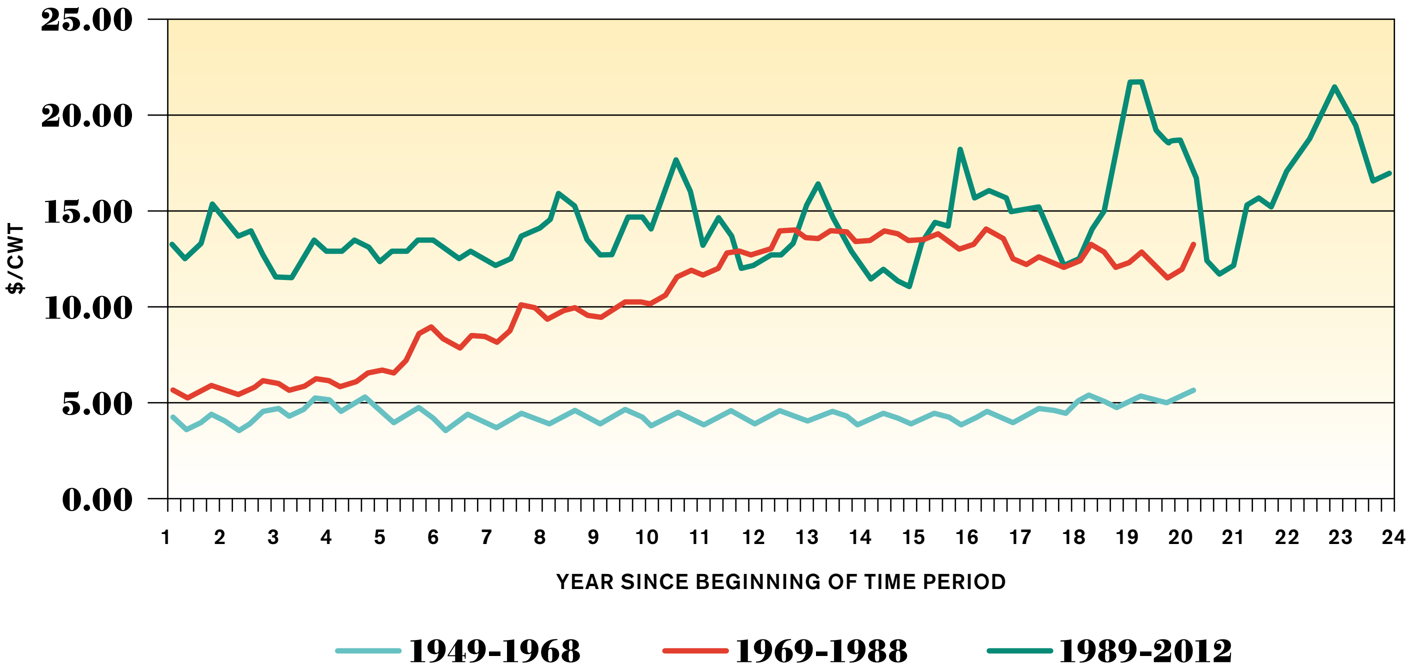
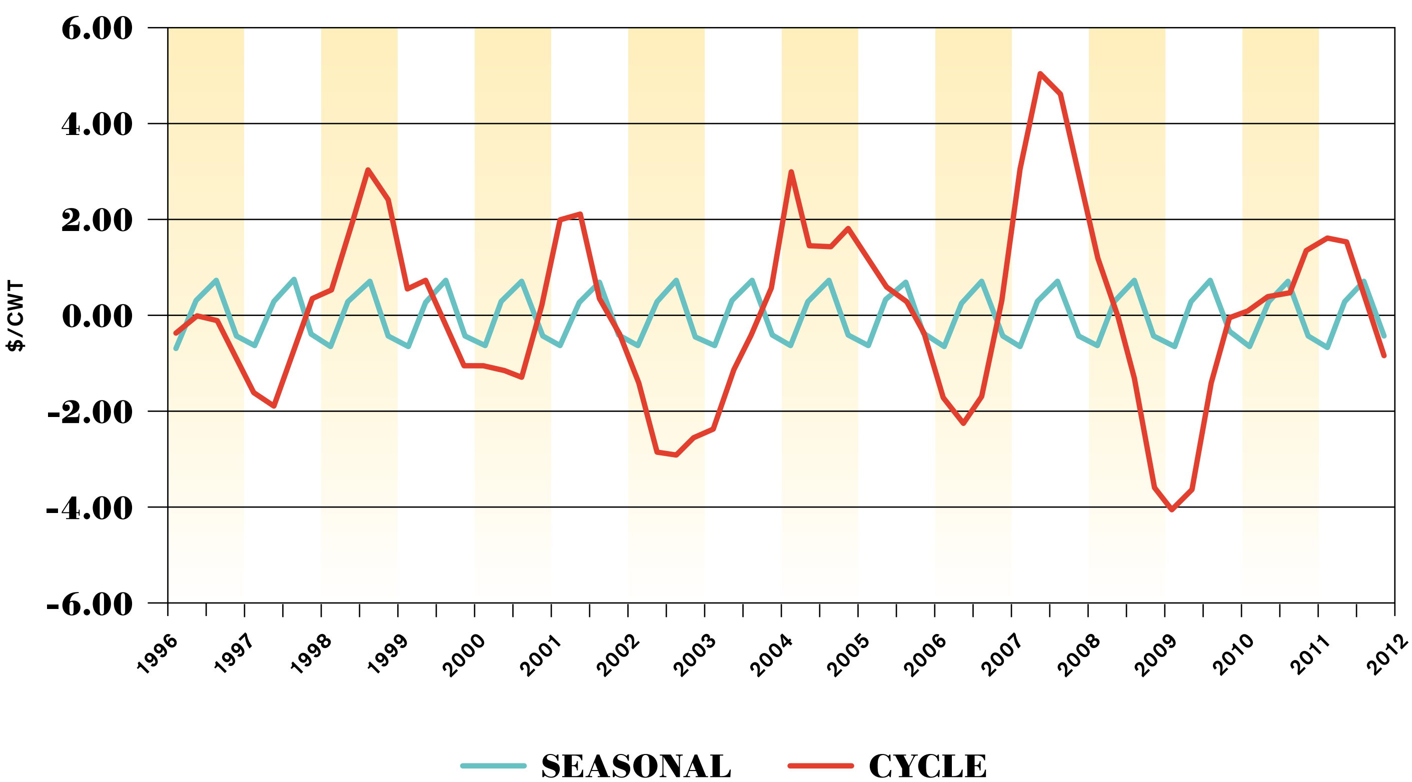


FIGURE 2 CYCLICAL AND SEASONAL COMPONENTS OF THE U.S. ALL-MILK PRICE



U.S. dairy sector to assess future cyclical behavior through 2018, and this analysis indicates continued cycles but of smaller magnitude than in recent years (Figure 3).

Our work suggests that the next two years will see the trough of the current price cycle, but the trough of the cycle will not be as low as in previous cycles.

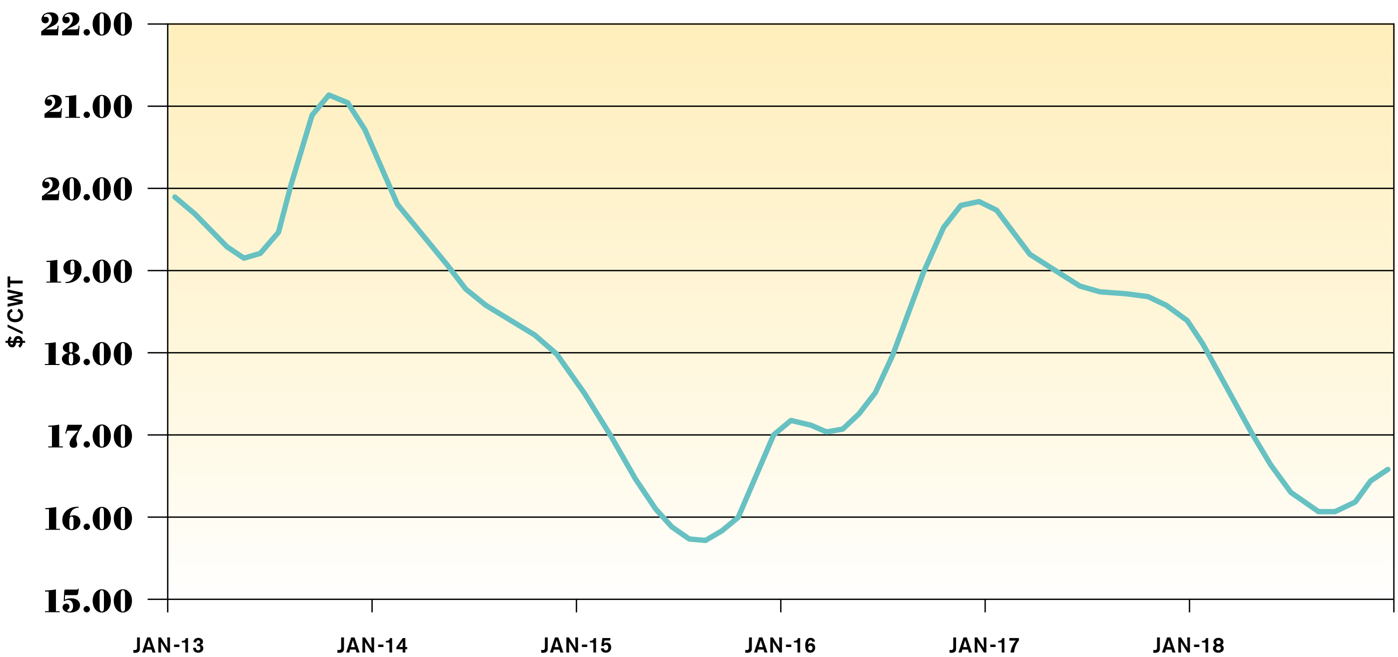
What are the management implications?
If cycles continue in the future, this suggests that the timing of business expansions could be important for the return on investment. Anecdotal evidence also exists for a small number of producers who planned and executed their expansions during the downturn in prices in 2008 and 2009, when the costs of construction, equipment, and animals for expansion were lower given the low (often negative) margins experienced by many dairy farmers during that period. The presence of cycles can also have an influence on the use of risk management tools and has implications for other businesses in the dairy supply chain. Collaborative planning, forecasting, and replenishment (CPFR) links partners in many supply chains (but not yet dairy), committing them to a common set of business objectives, development of joint sales and operational plans, jointly forecasting future sales, and development of replenishment plans for inventory (Chopra and Meindl, 2012). The CPFR has the potential to reduce the cyclical behavior because supply chain partners collaborate closely and share information beneficial to decision making throughout the chain. The dominant dairy cooperative in New Zealand (Fonterra) uses elements of CPFR: it attempts to anticipate market demand and signals producer members about how much milk is required.

Implications for the Northeast dairy sector.
The Northeast dairy industry has a competitive advantage in a business environment with price cycles. The region is often referred to as "traditional" and is differentiated from Western-style dairies by owning a land base at least adequate to the production of forage needs. This strategy yields higher fixed but lower variable costs. Prior to 2008, this looked like a less competitive strategy than purchasing the majority of feed. However, with higher feed costs and milk price cycles, the Western-style dairies will be the first to face closure (due to higher variable costs), and they will be more important in balancing milk supplies during a deep price trough. Dairy farmers who correctly anticipate the trough of price cycles could profitably depopulate the milking barn for a year or so while retaining youngstock to repopulate later. Alternatively, producers will need to look carefully at every cow in the herd and cull the individual animals that are not at least covering their marginal costs. These actions can make many farms more resilient in the face of price cycles. Northeast producers will need to remain vigilant with price cycles, but they are well-positioned for competitive milk production.

[1]Although few dairy manufacturers pay the "All-milk" price analyzed in this publication, the all-milk price and the minimum regulated (classified) prices paid by milk buyers are highly correlated.

[2]Our analysis also controlled for other factors often assumed to be related to price patterns, such as feed prices and U.S. exports of dairy products, and indicated that these are not the principal underlying cause of price cycles.

FIGURE 3 SIMULATED FUTURE CYCLICAL BEHAVIOR OF THE U.S. ALL-MILK PRICE



ARE YOU EFFECIENTLY REPLACING YOUR HERD?

GREG BETHARD, Ph.D.
G&R Dairy Consulting, Inc.
Blacksburg, Virginia

Dr. Greg Bethard and his wife, Rachel, operate G&R Dairy Consulting, Inc., an international dairy consulting firm focusing on nutrition, facilities, management, business planning, and financial and records-analysis services. Dr. Bethard has published articles in the Journal of Dairy Science and written articles for various dairy industry magazines. He has also given presentations to dairy producers and allied industries around the globe.

Introduction

The top three costs of producing milk on most dairies in the United States are feed costs, replacement costs, and labor costs. Normally expressed on a hundredweight (cwt.) basis, these three key areas are greatly impacted by management and herd performance.

Conceptually, replacement cost is the cost of maintaining herd size and structure. Although dairy accountants have various methods to determine replacement costs, all are similar in concept. The formula [(value of cows sold - cost of replacement)/cwt. milk sold] is the basis for determining replacement costs. Often cull rate or herd turnover is used to measure herd health and replacement success. When fully considering the concept and implications of replacement cost, it becomes obvious that cull rate or any measure of herd turnover is a poor proxy for herd health or cost of maintaining herd size. The best measuring stick of successful herd replacement is replacement cost/cwt, and a reasonable goal in most areas of the country is less than $1.50/cwt.

Since it is normally expressed on a hundredweight basis, replacement cost is size and production neutral. It can be compared for herds milking 100 cows or 10,000 cows or for herds milking 50 pounds per day or 100 pounds per day. In the simplest of terms for a 1,000 cow herd, replacement cost is the cost of keeping 1,000 cows in the herd day after day.

Cash Method for Determining Replacement Costs

The cash method for determining replacement costs utilizes the following formula:

$$\frac{\left[\text{COST OF RAISING OR PURCHASING REPLACEMENTS}\right] - \left[\text{CULL COW INCOME}\right]}{\text{Cwts. of Milk Produced}}$$

The first part of the numerator is *Cost of Raising or Purchasing Replacements*, which includes all costs incurred for getting an animal to the day of calving. For home-raised heifers, this includes all costs from birth until day of calving, and includes feed, labor, vaccines, health treatments, equipment costs, etc. To answer the question "should an expense be included in replacement cost?", consider if this cost would go away if the heifers were off site. If the answer is yes, then it should be part of replacement cost. For purchased heifers, it includes all costs involved with purchasing the animal, including hauling and commissions. It also includes the costs incurred from the time of purchase until calving, such as feed, labor, and health costs.

The second part of the numerator is *Cull Cow Income*, which includes the revenue received from selling cull cows and cull heifers and the revenue received from selling heifers for dairy purposes. In a situation where all heifers are purchased, the value of heifer calves sold can be included in the value of cows sold.

Since heifer feed costs are part of replacement costs, they should not be included in feed cost for the dairy. So the cost of having too many heifers would not be expressed in feed costs, but would be expressed in replacement costs.

Comparing Herd Scenarios Using Cash Method

Table 1 illustrates replacement costs for four 1,000 cow herds with varying cull rates, death loss, and production levels. The four herds in Table 1 dispel some of the myths related to replacement costs.

Myths Dispelled from Table 1.

- **Myth #1 – High cull rate means high replacement costs.** This is often, but not always true. Herd D is a high producing herd that has excellent herd health. Death loss is relatively low and the cull cows are valuable. The dairy ships a lot of milk, which dilutes the replacement costs over more hundredweights.
- **Myth #2 – Low production is not a viable business model.** A low production, low input model can be very successful, provided feed, labor, and replacement costs are low. Lower producing herds can achieve low replacement costs by having low death loss, low cull rate, and high quality culls. Herd C is an example of this.
- **Myth #3 – A dairy only sells milk.** Dairies also sell a lot of beef. The quality of cows being sold greatly impacts cull cow income and replacement costs. Selling fat, late lactation cows is very different from selling skinny fresh cows or thin lame cows. The high death loss and low value of culls is killing Herd B.
- **Myth #4 – Lowering cull rates will always lower replacement costs.** Depending on market conditions, simply lowering cull rate may not improve replacement costs. Keeping low producing cows and holding on to cows too long to where their cull value is lessened will typically not improve replacement costs.
- **Myth #5 – Herd health is tied to cull rate.** Low replacement costs result from a healthy herd where management makes good economic decisions on cows, regardless of cull rate. Herd D is a high producing herd with a high cull rate but reasonable replacement costs. Unhealthy herds like Herd B have higher death loss, poorer quality culls, and higher replacement cost despite reasonable cull rates.

How Many Cows Can you Cull?

The most important factor in determining the cost of a higher cull rate is the trade-in value, or the margin between cull cows and cost of bringing in heifers. If it costs $1,700 to bring a heifer into the herd, and cull cows on average sell for $1,000, then the trade-in value is $700. It really doesn't matter what heifers cost or what cull cows are selling for, what really matters is the margin between.

TABLE 1 REPLACEMENT COSTS CALCULATED USING THE CASH METHOD FOR FOUR DIFFERENT HERDS

	Herd A	Herd B	Herd C	Herd D
Herd Size	1,000	1,000	1,000	1,000
Milking Cows	850	850	850	850
Milk lbs/cow/day	70	70	60	85
Cwts/year	217,000	217,000	186,000	263,000
Cull rate	35%	35%	25%	45%
Death loss	5%	10%	5%	5%
$/cull	$500	$275	$500	$500
Culls/yr to sell	300	250	200	400
Replacements, $/head	$1,200	$1,700	$1,100	$1,200
# replacements	350	350	250	450
Replacement cost/cwt	$1.24	$2.42	$0.94	$1.29

Culling can be at any rate, provided the following items are taken into consideration:

- Replacement costs do not become excessive (greater than $2.00/cwt.) in 2013 dairy economy.
- The dairy is not holding on to unprofitable cows.
- Percent of heifers in the herd does not become excessive (greater than 42 percent).
- Pregnancy and fresh hard counts are still met.

TABLE 2 HEIFER HERD NEEDED TO MAINTAIN COW FLOW

	SURVIVAL				
	70%	75%	80%	85%	90%
Cull Rate	Heifers <=24 mo needed, % of milking cows				
30%	77%	75%	73%	73%	72%
32%	83%	80%	78%	77%	76%
34%	88%	85%	83%	82%	81%
36%	93%	90%	88%	87%	86%
38%	98%	95%	93%	92%	91%
40%	103%	100%	97%	97%	96%
42%	108%	105%	102%	102%	100%
44%	114%	110%	107%	106%	105%
46%	119%	115%	112%	111%	110%
48%	124%	120%	117%	116%	115%
50%	129%	125%	122%	121%	120%

How Many Heifers Do You Need?

How many heifers a dairy needs to raise is dependent on two factors: expected cull rate and heifer survivability. Table 2 displays the heifer herd needed for various combinations of cull rate and survival rate. Cull rate is obvious; survival rate is the percentage of heifers born that survives to calving. This would account for all heifer losses including DOAs, wet calf losses, DNBs, free-martins, etc. The values in the table represent the number of heifers needed as a percentage of milking cows (no dry cows), only counting heifers less than 24 months. Having a strong heifer herd is a hedge against future cow flow and provides flexibility for the dairy. With a strong heifer population, a dairy has the following flexibility:

- There is every incentive to keep the dairy full. Being full is a key to making money.
- The dairy can cull marginal or inefficient animals from the milking herd.
- The dairy can sell inefficient heifers. Heifers that have respiratory issues, heifers that are small, or heifers that aren't pregnant by 500 days can be culled.
- The dairy can grow if the opportunity is presented.

Having a small heifer herd is risky but may be feasible in the right situations. Dairies that are willing to purchase heifers when needed can risk a small heifer population. Herds that are unwilling (bio-security, genetics, etc.) or unable (lender limitations) accept considerable risk with a small heifer herd. Another risk of a small heifer herd is that heifer prices could strengthen making purchasing heifers a costly option. Bottom line is that a dairy needs to stay full, and a strong heifer herd is a good hedge to be sure that happens.

A strong heifer herd would be somewhere around 100-105 percent, which would allow a cull rate around 40 percent with a survivability around 80 percent. If a herd has 1,000 cows in the tank, a strong heifer population would be 1,000 to 1,050 heifers less than 24 months of age. A heifer herd greater than 105 percent is excessive and would result in a cull rate greater than 45 percent if the herd is not growing. If the herd is static, and heifer inventory is greater than 100 percent of the milking herd, sexed semen would only be warranted in strategic moments to improve cow flow in months where calvings are low. If the heifer herd is insufficient, sexed semen is a good tool to grow the heifer population.

What Should You Do If You Have Too Many Heifers? Introduction

Some dairy producers are reducing their heifer inventories by using genomics to remove the poorest animals from the population. While this at first glance makes some sense, the economics need to be considered. The current cost of genomic testing is about $40/head. Spending $40 on every animal to identify the poor ones is a questionable investment. It makes a lot of sense to remove obvious poor animals (health issues or conformation issues) that can be identified visually at no cost. It also makes sense to remove animals that will cost too much to get into the herd (too many days on feed from delayed breeding). Genomic testing makes more sense to identify elite animals (among a pool of superior animals) that may be replicated through IVF or other technologies.

If the heifer herd is too large, perhaps a better idea is to avoid creating the calf in the first place. Why get a cow pregnant if she is a marginal cow and the calf is not needed? More scrutiny on creating DNBs appropriately in a herd is a good tool for most dairies.

Issues for the Future: LOCAL & ORGANIC OUTLOOK

BEN CAMPBELL, Ph.D.
University of Connecticut

Since 2012, Dr. Benjamin Campbell has been an assistant professor and Extension economist in the Department of Agricultural and Resource Economics at the University of Connecticut. His research and outreach efforts mostly focus on issues relating to specialty crops with emphasis on horticultural products. Dr. Campbell has over 25 published articles and numerous industry trade articles and publications.

Over the last decade, both organic and local sales have trended upward. According to the Organic Trade Association (2011), organic sales were around $27 billion in 2010. A report by Low and Vogel (2011) of the USDA put local sales in 2010 at around $4.8 billion. By all accounts, the outlook for both organic and local sales during the foreseeable future is for continued growth, especially given there was growth in these sectors during the recession.

An issue that will be a hot topic for the foreseeable future is price premiums for organic and local. As has been shown in an article in the Renewable Agriculture and Food Systems by Lin, Smith and Huang (2009) and can be found by looking at most retail shelves, organic products are priced at premiums over conventionally produced foods. The premiums received for organic products are expected to continue as consumers purchasing organically labeled product continue to see value in the label. However, premiums, if any, that can be applied to locally labeled product are not as clear. A tremendous amount of academic research has shown consumers are willing to pay premiums for a variety of locally labeled products. However, recent research coming out of the University of Connecticut and sponsored by the Connecticut Department of Agriculture and the USDA is showing that premiums for locally labeled product varies by product, and perhaps more importantly, the premiums are not equal across store types (i.e. supermarkets and farmer's markets). But from all the research and anecdotal evidence, it is clear that local labeling does have a positive impact on many consumers' buying decision, thereby, making local labeling an exciting prospect for firms that can take advantage of it.

However, the organic and locally grown sectors do face issues. For organic and local, there seems to be a changing identity associated with why consumers purchase these products. As noted in a recent Canadian Journal of Agricultural Economics (CJAE) article by Campbell, Mhlanga, and Lesschaeve (2013), approximately 20 percent of Canadian consumers indicated local and organic are the same. This result was replicated with United States consumers in a recent study coming out of the University of Connecticut, Michigan State University, Texas A&M University, and University of Florida. As consumers confuse organic and local, there also seems to be a transformation as to the value consumers find in these labels. In the past, organic was seen as the environmentally friendly choice, while local was helping the local community. However, several recent studies (Qi, Campbell and Liu) have found that consumers exhibiting egoistic (i.e. caring about themselves) tendencies are purchasing more organic, while consumers purchasing altruistic (i.e. care about others) and biospheric (i.e. care about the environment) are purchasing more local. All in all, consumers are beginning to confuse local and organic, and local is becoming the helping the community and environmental choice, seemingly at the expense of organic. In the near term, firms should keep a watch on how consumers perceive these terms, as firms with an understanding of how the terms evolve will be better able to educate their consumers or more efficiently market their products.

Confusion over organic and local is not limited to interchanging the terms, but also to production practices associated with each. For instance, as noted in the CJAE article above, a subset of consumers associate no natural pesticide use with organically grown when this is an inaccurate perception. Perhaps, just as interesting is that consumers bundle all local as being better for the environment or that it cannot be genetically modified (GMO). As of now, states do not require either of these statements to be true. The bills recently passed in Connecticut and Maine are the first steps to label GMO foods, however, they do not mandate that local food be GMO free, rather only labeled as GMO. As other states debate

GMO labeling, there is no move to mandate local and GMO free. So, can local be GMO free and/or better for the environment? Yes, a local producer can choose to be GMO free or take steps to be better for the environment. But a local producer can apply massive amounts of fertilizer or store product for extended periods (among other things) thereby making it less environmentally friendly than conventional product. From a firm perspective, firms selling product as local (or organic) should directly engage with their consumers to explain their production practices and create the bonds that build trust. Without trust, a single local producer that is legally selling a GMO product or that is found not to be environmentally friendly can have spillover effects into the local market for all firms.

With respect to local, the term "locally grown" faces several critical issues. A central issue with local is the lack of definition around what constitutes local. The U.S. government recently enacted legislation that defines local as (H.R. 2419) "(I) the locality or region in which the final product is marketed, so that the total distance that the product is transported is less than 400 miles from the origin of the product" or "(II) the state in which the product is produced." However, states throughout the Northeast have varying regulations. For instance, Connecticut and New Hampshire have laws defining when a product may use the term local (as well as similar terms). Connecticut law limits the use of local and like meaning terms to products produced/grown within the state or within 10 miles of the point-of-sale. New Hampshire's law limits use to only those products produced/grown within the state. However, other states such as New Jersey do not have definitions that regulate the specific use of local (and like terms) unless using the state promotional label (i.e. Jersey Fresh or Jersey Grown). Understanding when and how local labeling can and cannot be used is essential as many states have begun to crack down on illegal use of the term locally grown and any term with a similar connotation.

In similar fashion, firms marketing into international markets (e.g. Canada for many Northeastern firms) should be aware that the Canadian Food Inspection Agency recently implemented interim rules that changed the definition of local to a "food produced in the province or territory which it is sold" or "food sold across provincial borders within 50 km of the originating province or territory." The final definition for local in Canada has not been established as of this time. As with the United States, provinces have their own regulations that restrict the use of local labeling claims. As firms sell products across state and international borders, it is essential to understand what can and cannot be marketed as local. Unlike organic, which has regulations governed by the USDA, state statutes and regulations at the state level are constantly changing. Failure to understand how local labeling regulations are evolving in states that the firm exports, has the potential to cause issues for those businesses in the future.

Another issue that is not often discussed is the impact of local labeling campaigns on firms selling into multiple states. A firm producing product in a state may be able to take advantage of a state promotional campaign (e.g. Connecticut Grown, Massachusetts Grown, Jersey Fresh, or Jersey Grown). However, that same firm may face increased competition when marketing in another state where they cannot claim locally grown while their competition can label their products as such. So as laws are proposed and discussed in states, firms should think about how the laws can potentially affect their business now or in the future.

Above all else, firms should understand the role of organic and local labeling. Only a small fraction of consumers are completely devoted to organic and local product (about 5-15 percent depending on the product) with the majority of consumers using these terms as only one of many factors in their decision to purchase. However, firms can use these terms to their advantage if they understand how consumers perceive them. For local, this not only entails how it was produced but where it was produced. Given the variety of regulations surrounding local, firms should be proactive in determining what qualifies as local in their markets. Finally, firms should be involved in the discussion about policies impacting these terms. Without being involved, firms could be faced with regulations that are detrimental to both their short- and long-term goals.

TABLE 1 **List of local labeling promotional campaigns or searchable local databases by state in the Northeast.**

LABEL	WEBSITE
CONNECTICUT	
Connecticut Grown – The Local Flavor!	www.buyctgrown.com
MAINE	
Get Real. Get Maine!	www.getrealmaine.com
Eat Maine Foods	www.eatmainefoods.org
MASSACHUSETTS	
Massachusetts Grown…and Fresher!	www.mass.gov/agr/massgrown
NEW HAMPSHIRE	
Taste of New Hampshire	agriculture.nh.gov/publications
NEW JERSEY	
Jersey Fresh-As Fresh As Fresh Gets (food)	www.jerseyfresh.nj.gov
Jersey Grown (plants)	jerseygrown.nj.gov
NEW YORK	
Taste of NY	www.taste.ny.gov
RHODE ISLAND	
Rhody Grown	www.dem.ri.gov/programs/bnatres/agricult/findfood.htm
VERMONT	
Buy Local/Buy Vermont	agriculture.vermont.gov

REGULATORY

Benjamin Franklin said, "The only things certain in life are death and taxes." But if you are a land owner trying to make a living from the land you can add environmental regulations to that list.

JEFF LAFLEUR
Massachusetts Association of Conservation Districts

Environmental regulations come at farmers from all angles, whether it is dust, water use, odors, or water quality. What if farmers are able to get regulatory relief for implementing sound science and best management practices on their farms. Would a predictable regulatory environment for the foreseeable future be enticing enough for farmers to implement best management practices and be a good business decision?

The Massachusetts cranberry industry negotiated and signed a memorandum of understanding (MOU) with the Massachusetts Department of Environmental Protection several years ago that provided growers with predictability under the state's water management permit if they implemented certain best management practices (BMP). The program was a win-win for growers and the environment. Growers were able to expand their acreage if they implemented BMPs, and the water savings through the implementation of BMPs was returned to the environment. The MOU was a precursor to new programs being developed that will provide farmers with "regulatory certainty" when it comes to water quality regulations.

The first of such regulatory certainty programs was developed in Minnesota in January 2012 when under great fanfare the state's governor, administrator of U.S. EPA and the secretary of agriculture all signed a memorandum of agreement that created a new partnership to provide farmers with water quality certainty for their farms. Producers, who undertake a substantial level of conservation activities to reduce nutrient run-off and erosion, will receive assurance from the state that their farm will meet Minnesota's water quality standards and goals during the life of the agreement.

Regulatory certainty is starting to take hold in many states. Louisiana, New York, Michigan and Texas all have programs. Here in the Northeast, Vermont created a certainty program specific to Lake Champaign that deals with nutrient-loading into the lake from agricul-

CERTAINTY

tural sources. The state of Maryland stands out as the only state to actually enact legislation that creates a regulatory certainty program for farmers in the Chesapeake Bay region. According to the Maryland Department of Agriculture, "The Agricultural Certainty Program will allow farmers who voluntarily implement advanced best management practices (BMPs) to conduct their business without additional regulations for 10 years. The intention of the program is to help speed up bay restoration efforts by encouraging farmers to more quickly implement BMPs while providing them with a predictable regulatory environment."

The foundation of certainty programs is education and the development of a conservation farm plan through the USDA Natural Resource Conservation Service (NRCS) or Soil Conservation District. Conservation farm plans are an assessment of the natural resource concerns on a producers land and list of conservation practices the producer intends to implement. The ability to implement the plan is a critical step that often comes with financial incentives. The NRCS initiated a new program in 2012 called the National Water Quality Initiative (NWQI). The NWQI provided over $35 million annually in financial assistance to help farmers and ranchers implement conservation systems to reduce nitrogen, phosphorous, sediment and pathogen contributions from agricultural land. One hundred and sixty-five small watersheds throughout the nation were identified to improve water quality in the NWQI. It is one of these watersheds where Massachusetts is about to initiate a pilot program for water quality certainty. The Palmer River watershed in southeastern Massachusetts is about 11 miles long and contains 33,193 acres. Located mostly in the town of Rehoboth, it has a very diverse agricultural land use, strong agricultural commission and active county Conservation District. While regulatory agencies are still negotiating the scope of a pilot program, there appears to be real enthusiasm at the local level for this type of technical and financial assistance. The Palmer River is a sub watershed for Narragansett Bay in Rhode Island. There are many active environmental groups who believe agriculture is one of the reasons why shellfish beds in the bay are closed due to contamination. The agricultural community knows that if they can demonstrate that their farms are implementing best management practices, then maybe the spotlight will shift to urban land use patterns that dot the shore of the bay. Nonetheless, this pilot will provide farmers with assurance that they have done what they can to be good stewards.

It remains to be seen if regulatory certainty is a good business decision, but it is a step in the right direction for regulators, farmers, and environmentalists to be working together to find sustainable solutions to water quality problems.

Mr. Jeff LaFleur serves as executive director of the Massachusetts Association of Conservation Districts where he oversees the implementation of technical assistance providers assisting land owners with conservation programs and regulatory certainty. He served as Executive Director Cape Cod Cranberry Growers' Association (CCCGA), the trade association representing the Massachusetts cranberry industry from 1996-2013. He and his wife, Kim, own Mayflower Cranberries, a 112-acre farm in Plympton, Massachusetts.

IS NORTHEAST AGRICULTURE BEING MARGINALIZED IN THE QUEST FOR ECONOMIC DEVELOPMENT?

THOMAS SPROUL, Ph.D.
University of Rhode Island

Economic growth, job creation, and economic development are political buzzwords these days. Every state in the Northeast has an economic development department or authority tasked with generating and executing plans for local economic growth. These plans usually consist of financial incentives given to promising sectors, chosen according to an economic impact analysis. The problem is, the available economic impact data for Northeastern agriculture may dramatically understate its importance in local economies. The illusion of certainty provided by incorrect data about agriculture is a key factor in planners bypassing agriculture as a driver of economic growth.

Economic impact analysis is based on input-output modeling, which mathematically represents the interdependence of economic sectors. Mostly, these analyses are implemented in a software package,[1] which takes federal government economic data and produces multipliers, to evaluate total economic impacts of growth in certain sectors, and/or regional purchase coefficients to show the percentage of each good or service which must be imported. However, the accuracy of these estimates can be affected by differences in agricultural production across regions, and by the accuracy of estimated gross revenues of farms (direct economic impact).

These models evaluate business revenues, incomes, and jobs information, sourced primarily from the U.S. Bureau of Economic Analysis (BEA) and the U.S. Bureau of Labor Statistics (BLS). However, the agriculture data used by BEA and BLS come from the Agricultural Census,[2] conducted every five years since 1920[3] by the National Agricultural Statistics

Service (NASS) of the U.S. Department of Agriculture (USDA). NASS does not release incremental data updates between Ag Census years, so updated agricultural numbers included in the annual releases by BEA or BLS are simply estimated increases. Thus, impact studies using the standard software tools do not actually use updated economic information for agriculture unless there happens to have been a recent Ag Census.[4]

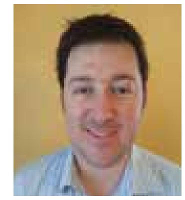
The Ag Census is the primary data source for agriculture, but it does not realistically measure gross revenues, the key item used to estimate economic impacts. Instead, it measures market value of agricultural products sold. This market value measure is often assumed to be the same as gross revenues, but it understates gross revenues in two critical ways:

- **Market value generally means wholesale.** Ag Census figures do not fully capture retail sales direct to consumers, which may include large markups on produce in farmers markets or direct delivery of horticultural products.
- **Market value does not include all value-added activities.** Apples are not counted differently if they are converted to apple pies before they are sold; greenhouse items and sod are not counted differently if the farmer sells installation services; and, wine grapes are not counted according to their ultimate bottled form.

These discrepancies may seem small, but they add up. Researchers at the University of Rhode Island compared actual farm gross revenues against the Ag Census figures and estimated a minimum of $170 million revenues for Rhode Island's 1,219 farms, more than 2.5 times the Ag Census estimate of $65 million.[5] These results are likely not unique to Rhode Island. Farmers in the Northeast are engaged in high-value agriculture, including dairy and livestock, nursery and sod, and fruit and vegetable production. These are the exact types of production where direct to consumer sales and value-added products and services are most concentrated.

In summary, economic impact analyses are used to identify growth sectors for economic development planning. These analyses rely on federal data, so they incorrectly use Ag Census figures as gross revenues, leading to an inaccurate, low assessment of economic impacts from agriculture. So, is Northeast agriculture being marginalized in the quest for economic development? The answer is likely yes.

What can be done? University researchers (at URI and elsewhere) are working on ways to make available better information on the economic value of agriculture in the Northeast. These efforts include processes for converting Ag Census estimates into economic impact values, and statistical methods for updating the estimates more frequently (than every five years) using surveys of a small sample of farmers. All of these efforts will rely on farmers sharing information, so that the best estimates possible can be produced.



Dr. Tom Sproul is assistant professor of Environmental & Natural Resource Economics at the University of Rhode Island. He received his PhD from University of California, Berkeley in 2011. Dr. Sproul's research background is in Environmental Economics and Agricultural Policy. His most recent research examines the Farm Bill, the federal crop insurance program and related agricultural finance and risk management issues.

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[1] IMPLAN, RIMS-II, EMSI and REMI are among the most popular.

[2] Source: Katz, Arnold J. (2006) "An Overview of BEA's Source Data and Estimating Methods for Quarterly GDP." *prepared for the 10th OECD-NBS Workshop on National Accounts, Paris, France, November 6-10, 2006.*

[3] Prior to that, the agricultural census was conducted every ten years, going back to 1840.

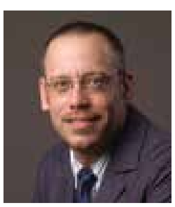
[4] At the time of this writing, the scheduled February 2014 release of the 2012 Agricultural Census has been delayed due to staff furloughs during the 2013 budget crisis.

[5] Source: Sproul, Thomas W. and Brandon Elsner (2013) "The 2012 Economic Impact Study of Rhode Island Plant-Based Industry and Agriculture." *Department of Environmental & Natural Resource Economics, University of Rhode Island, January 16, 2013.*

FOOD MANUFACTURING PERFORMANCE:

A COMPARATIVE ASSESSMENT IN NEW YORK STATE

TODD SCHMIT, Ph.D.
Cornell University
Ithaca, NY



Dr. Todd Schmit conducts research in agribusiness management and domestic agricultural economic development, with a focus on identifying strategies to improve agribusiness performance and consideration of agriculturally based inter-industry linkages to enhance the efficacy of policies targeted to rural agricultural development. Current research centers on the importance of inter-industry linkages and the effects of firm agglomeration and cooperative business ventures to the development and performance of local and regional food systems, with an emphasis on opportunities for small- and medium-scale producers and food and beverage manufacturers. Additional research focuses on farm management responses to environmental nutrient policies and consumer valuation of environmentally sustainable production practices.

With renewed concern at the state and national levels towards creating jobs in manufacturing, it is an opportune time to take a closer look at food manufacturing and its recent performance relative to other manufacturing sectors. Such information is useful in addressing questions policymakers, industry leaders, and economic development professionals face regarding agriculture-based economic development and its potential to support and/or enhance the economic vitality of local and state economies. The subject is also usefully complementary to producer and policymaker interests in expanding local and regional food systems to address growing consumer demands for more locally-sourced products, while also better taking advantage of the diverse agricultural production sectors available. Indeed, improving the viability of local food manufacturing investments and the inter-industry linkages to producer suppliers supports upstream agricultural production interests.

This short prospectus identifies current economic activity in food manufacturing industries and compares recent changes in activity relative to changes in non-food manufacturing industries. Recognizing the heterogeneous nature of food manufacturing in the Northeast, we also evaluate recent changes in economic activity across a set of food manufacturing industries. While our focus is on manufacturing-based economic activity in New York State (NYS) and a comparative assessment to similar activity across the nation, the discussion should be useful more generally in better informing discussion of enhancing food manufacturing activity as an economic development tool.

Table 1 provides a summary of economic activity in food (inclusive of beverage product manufacturing) and other (non-food) manufacturing sectors for NYS and the nation as a whole. We consider four alternative measures of economic activity – employment, output, labor income, and total value added. Employment represents the annual average of full- or part-time monthly jobs in an industry. Output represents the value of industry production in producer prices; i.e., sales plus changes in inventories. Labor income consists of employee compensation and proprietor (self-employment) income. Value added represents the remaining component of total output after cash business expenses have been accounted for; it consists of labor income, other property-type income (i.e., dividends, interest, rent, corporate profits, and capital depreciation), and taxes on production and imports (i.e., all business taxes and fees paid to governments, including sales and excise taxes). This is a particularly useful measure as value added represents contributions to an economy's gross domestic product (GDP). Depending on the metric, food manufacturing in NYS represents around 10-to-15 percent of all manufacturing activity in the state, numbers that are fairly comparable to national-level statistics.

While the total values are of interest, drawing your attention to the relative changes in these values (since 2007), is of primary importance here. Focusing first in NYS, the relative changes in employment, output, labor income, and total value added for food manufacturing in aggregate are consistently above those in the aggregate for other manufacturing sectors. While individual industry comparisons will vary, in general, food manufacturing has shown relatively stronger growth over the last five years (and, notably, a period that included the great recession). Some of this growth is reflective of increases in agricultural commodity prices over the time period analyzed (changes are based on nominal values); however, steady employment levels and moderate growth in labor income are considerably above those than for other manufacturing.

Turning our attention to the national statistics, a similar comparative assessment results – changes in food manufacturing economic activity, regardless of measure, have exceeded the non-food manufacturing sector changes. In examining more historic data (i.e., 1997 to 2007), the growth in food manufacturing in NYS generally languished behind national growth rates over this period. These more current statistics begin to suggest this may be changing.

As mentioned above, the value added increases reflect movements in both quantity produced and relative prices. Separating these price and quantity effects is of interest, and such data are generated by the

TABLE 1

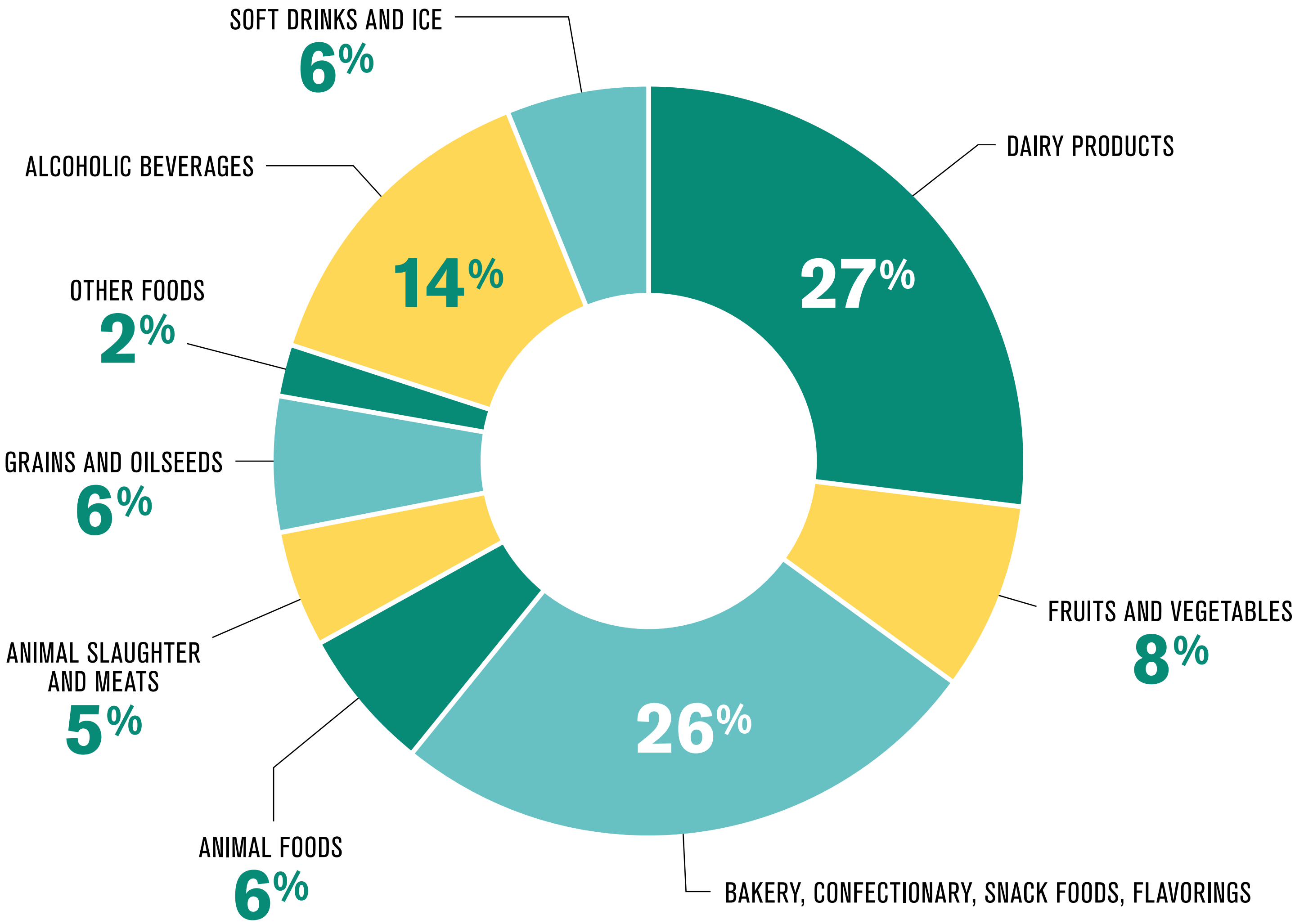
ECONOMIC ACTIVITY IN FOOD AND OTHER MANUFACTURING, 2012, NEW YORK STATE AND UNITED STATES

Area/Sector	Employment (000)	Output ($ Million)	Labor Income ($ Million)	Value Added ($ Million)
NEW YORK STATE				
Food Manufacturing	**59**	**34,330**	**3,527**	**7,256**
Percent Change (2007-2012)	-0.3	30.6	9.1	46.4
Other Manufacturing	**414**	**189,971**	**34,177**	**59,764**
Percent Change (2007-2012)	-16.5	6.9	-15.5	-3.3
UNITED STATES				
Food Manufacturing	**1,661**	**982,545**	**98,201**	**193,082**
Percent Change (2007-2012)	0.2	25.1	10.8	42.8
Other Manufacturing	**10,614**	**6,090,324**	**888,008**	**1,707,740**
Percent Change (2007-2012)	-13.0	22.8	-7.1	18.7

Source: Implan, LLC (2013)

FIGURE 1

DISTRIBUTION OF OUTPUT IN FOOD MANUFACTURING, NEW YORK STATE, 2012



U.S. Department of Commerce, Bureau of Economic Analysis. Comparing real GDP contributions in manufacturing sectors between 2007 and 2011 (2012 data was not available) supports our earlier results. In particular, the percentage changes in real GDP in food manufacturing in NYS and the United States were 13.9 percent and -2.4 percent, respectively. These compare to changes in real GDP for all manufacturing sectors of -14.7 percent and -6.3 percent.

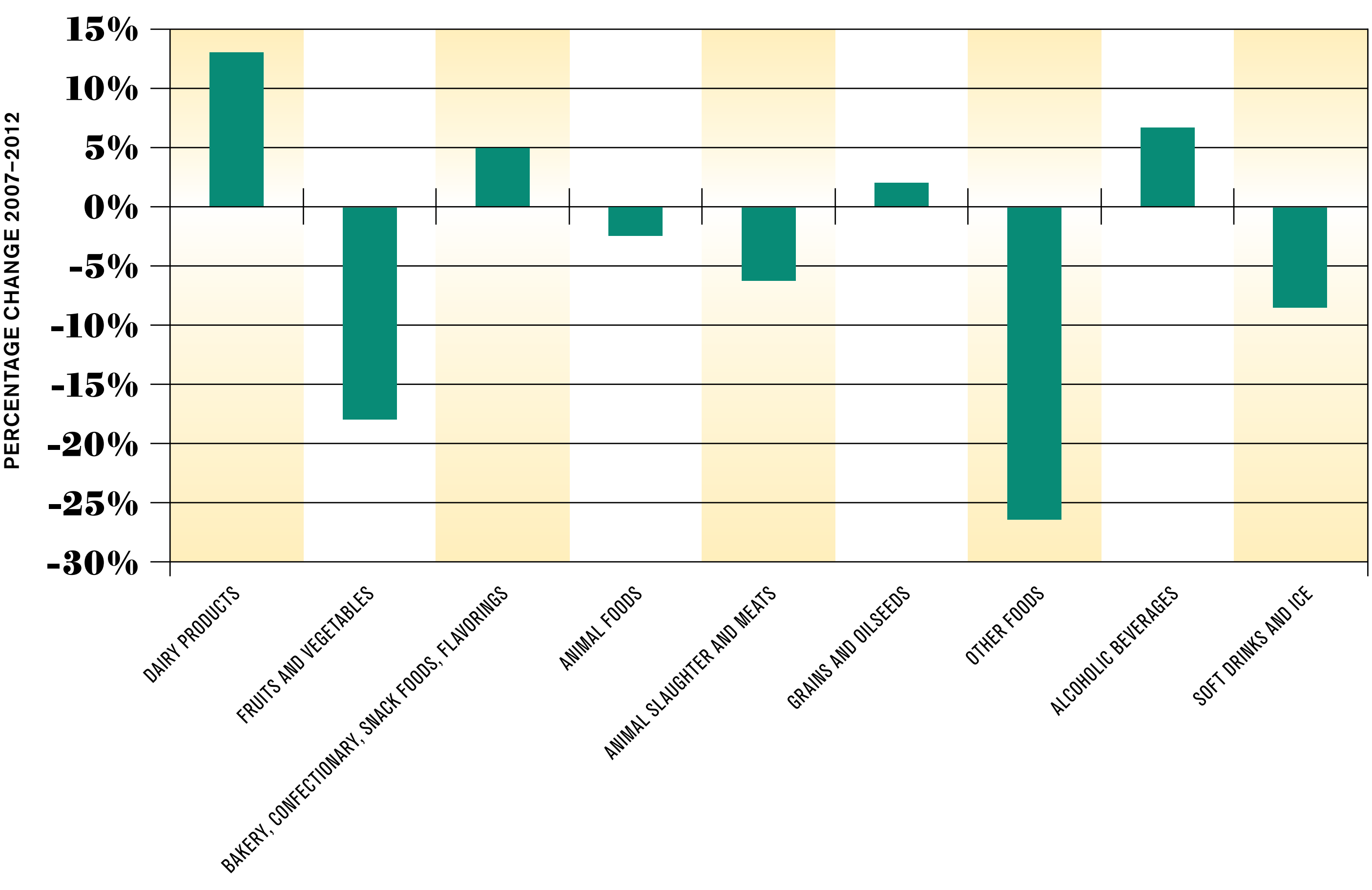
Finally, we turn our attention to the economic activity and changes in performance for individual food manufacturing industries in NYS. Figure 1 illustrates the distribution of food manufacturing industries by value of output in 2012. As expected, some industries are more strongly linked to agricultural production sectors in NYS than others. The point here is to illustrate the heterogeneous nature of food manufacturing in the state due to both varied agricultural production industries and large population centers.

While estimated changes in economic activity for food manufacturing in aggregate are positive, there is considerable heterogeneity in changes by individual industries. To represent changes in industry size over time, Figure 2 displays changes in employment, by industry, from 2007 to 2012. While some moderation in employment can be expected from improved labor productivity and technology adoption, the relatively short period of examination should serve as a useful gauge of overall industry performance. As expected, growth in all dairy product manufacturing was the highest among all industries evaluated at 13 percent (growth in fluid milk, butter, and yogurt manufacturing alone was 27 percent). Alcoholic beverages also demonstrated relatively strong employment growth of 7 percent, followed by bakery, confectionary, snack foods, and flavorings at 5 percent. Other foods (largely specialty products) showed the largest decline in employment at over 25 percent, perhaps being more acutely affected by the great recession during this time period. Fruit and vegetable (-18 percent) and animal slaughter and meat processing (-6 percent) have relatively strong linkages to local production sectors but also showed strong declines in employment. Non-alcoholic beverage manufacturing also showed relatively strong declines in employment of nearly 10 percent. Further attention to these industries in light of current economic conditions is suggested to help improve future industry performance.

Understanding the economic contributions and evolving linkages between agribusiness sectors is essential in defining appropriate firm, industry, and public policy strategies to strengthen opportunities for economic development and improve the competitiveness of agribusiness industries. Recent performance measures in food manufacturing point to a growing competitiveness relative to non-agriculture-based industries that should be helpful in informing economic development debates with agriculture-based opportunities at the table. That said, performance across individual industries is far from homogenous, and increased attention to individual industries should be addressed to improve the overall position of food manufacturing as an important part of enhanced manufacturing activity.

FIGURE 2

CHANGES IN EMPLOYMENT BY FOOD MANUFACTURING INDUSTRY, NEW YORK STATE, 2007–2012



Source: Implan, LLC (2013)

NOTES

ON THE FARM, IN THE OFFICE OR ON THE INTERNET, OUR ENTIRE FARM CREDIT EAST TEAM IS READY TO HELP YOUR BUSINESS BE MORE PROFITABLE

AUBURN, ME
Matt Senter, Manager
615 Minot Avenue
Auburn, ME 04210-4052
800.831.4320 / 207.784.0193

BATAVIA, NY
Ed Urbanik, Manager
4363 Federal Drive
Batavia, NY 14020-4105
800.929.1350 / 585.815.1900

BEDFORD, NH
David Bishop, Manager
2 Constitution Drive
Bedford, NH 03110-6010
800.825.3252 / 603.472.3554

BRIDGETON, NJ
Scott Andersen, Manager
29 Landis Avenue
Bridgeton, NJ 08302-4396
800.219.9179 / 856.451.0933

BURRVILLE, NY
Kathryn Canzonier, Manager
25417 NYS Route 12
Watertown, NY 13601-5730
800.626.3276 / 315.782.6050

CLAVERACK, NY
Blane Allen, Manager
190 State Route 9H
Hudson, NY 12534-3819
800.362.4404 / 518.851.3313

COBLESKILL, NY
Rob Yurkewecz, Manager
2668 State Route 7, Suite 21
Cobleskill, NY 12043-9707
800.327.6588 / 518.296.8188

CORTLAND, NY
Jan Bitter, Manager
One Technology Place, Suite 2
Homer, NY 13077-1526
800.392.3276 / 607.749.7177

COUNTRY LIVING
Dave Pugh, Director
2668 State Route 7, Suite 36
Cobleskill, NY 12043-9707
800.327.6588 / 518.296.8188

DAYVILLE, CT
Lynn Weaver, Manager
785 Hartford Pike
Dayville, CT 06241-1739
800.327.6785 / 860.774.0717

ENFIELD, CT
Keith Stechschulte, Manager
240 South Road
Enfield, CT 06082-4451
800.562.2235 / 860.741.4380

FLEMINGTON, NJ
Steve Makarevich, Manager
9 County Road 618
Lebanon, NJ 08833-3028
800.787.3276 / 908.782.5215

GENEVA, NY
Dale Foley, Manager
1450 Route 14
Phelps, NY 14532-9542
800.929.7102 / 315.781.7100

GREENWICH, NY
Chris Truso, Manager
394 State Route 29
Greenwich, NY 12834-2650
800.234.0269 / 518.692.0269

HORNELL, NY
Dave Van Lieshout, Manager
1155 Airport Road
Hornell, NY 14843-9144
800.929.2025 / 607.324.2020

MAYVILLE, NY
Jim Warner, Manager
28 E. Chautauqua Street
Mayville, NY 14757-0163
800.929.2144 / 716.753.2144

MIDDLEBORO, MA
Cynthia Stiglitz, Manager
67 Bedford Street
Middleboro, MA 02346-0720
800.946.0506 / 508.946.4455

MIDDLETOWN, NY
Blane Allen, Manager
669 East Main Street
Middletown, NY 10940-2640
888.792.3276 / 845.343.1802

POTSDAM, NY
Mike Haycook, Manager
One Pioneer Drive
Potsdam, NY 13676-3273
800.295.8431 / 315.265.8452

PRESQUE ISLE, ME
Pete Hallowell, Manager
26 Rice Street
Presque Isle, ME 04769-2265
800.831.4640 / 207.764.6431

RIVERHEAD, NY
Steve Weir, Manager
1281 Route 58
Riverhead, NY 11901-2097
800.890.3028 / 631.727.2188

SANGERFIELD, NY
Craig Pollock, Manager
995 State Route 12
Sangerfield, NY 13455-0060
800.762.3276 / 315.841.3398

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