

Is the Current Farm Prosperity Sustainable? What to Watch

by Michael Boehlje

Many are asking whether the current prosperity in farming is sustainable. The answer is not obvious, but the following “what to watch” list might provide a useful perspective to answer this question.

1) Global economic growth – Global forces are important drivers of the future of agriculture. The International Monetary Fund continues to lower its quarterly projections for world economic growth. That’s not good news for the U.S. economy because there is the potential contagion effect, and it is not good news for agriculture. Income growth in emerging economics is critical for the entire U.S. economy, because what has pulled us out of this recession into a modest recovery hasn’t been consumers spending, businessmen investing, or government programs in terms of fiscal stimulus, but it has been exports! And exports are even more important for agriculture, because 25 percent of agricultural production is exported—almost double that of the entire U.S. economy. If the global economy slows significantly, there are legitimate concerns about whether this prosperity is sustainable.

It is growth in income that counts in terms of growing demand; not growth in the number of people. What has been so positive for agriculture has been the rapid growth in income in countries like China – 8 to 10 percent per year for almost 30 years, 10 percent per year prior to the recession? Income growth in India has been at 8 percent per year for the last 10 years prior to the recession. These two countries have 2.4 billion people. It’s not the people, it’s the income-- but that growth rate in income is expected to slow down to 5 to 6% by the end of this decade and on to 2025.

2) Risk –David Apgar in a book entitled *Risk Intelligence* argues that the major source of sustainable competitive advantage in the future will be risk management capabilities. The agricultural sector is experiencing increasing risk, and we can’t just focus on the averages or “typicals.” Read Nassim Taleb’s books, *Foiled by Randomnes* or *The Black Swan* – he argues that we need to be aware of the impact of the extremes-- the tails of the distribution count. We need to position ourselves for the unanticipated surprises. Who would have predicted the MF Global failure? What about the European sovereign debt disaster? Or the 2012 drought? Prices are more volatile than ever. And cost volatility is a permanent part of the future of agriculture. Fluctuations in fertilizer, seed, and chemical and energy prices will not abate, and when combined with wider product price volatility, will result in much more variability in margins and cash flows than in the past. And eventually interest rates will go up, putting additional margin pressure on farmers and agribusinesses.

And, an increase in counterparty risk in agriculture is occurring. The financial failure of MF Global is just one example. Grain elevators will face more counterparty risk in the form of farmers who are unable to fulfill their grain sales contracts because of the drought. Livestock feeders that have contracted with growers for forage and feed supplies may face similar problems. When there is increased volatility and more money at stake, non-performance on contracts/commitments and counterparty risk increases. It is

essential to have some form of systematic Enterprise Risk Management program in place. Is your CFO focused on risk, or maybe even better, do you have a CRMO (chief risk management officer) who reports directly to the CEO and Board? We need in this business environment to do much more to analyze and manage risk.

3) Land values –Is a multiple on land values at 30 (land value to cash rent) long-term sustainable? The price to earnings (p/e) in the financial market is typically 15-18. Why should someone spend \$30 for a dollar of earnings from a farmland investment and \$18 in the stock market? What has been the average multiple for the last 25-30 years on farmland? Less than 20. The current multiple in farmland is relatively high compared to the multiple for other financial instruments as well as for farmland historically. Is that multiple permanently supportable? If not, there are obviously two adjustments that would lower it—land values could decline or cash rents could go up.

Will cash rents go up when they are already almost \$300 plus on average and \$400-\$500 an acre on the top end-- how much higher can cash rents go? If commodity prices decline and costs of inputs don't adjust down, margins will be pressured and it will be difficult for cash rents to increase.

Land values are vulnerable to declining incomes. Current commodity prices and farmland returns per acre are abnormally high. There is at least some vulnerability to the downside on commodity prices long term, even though there is currently short term upside to prices.

If the income capitalization concepts are used to value land, equally important is the uncertainty in the cap rate. When valuing assets, the income stream is capitalized by (divided by) a cap rate. The cap rate on farmland today is 3.0 to 3.5% -- Historically it has been 4-6%. The cap rate is impacted by interest rates – low interest rates result in a low cap rate. But it is not just interest rates that one should be concerned about, because interest rates will certainly go up eventually. There are two other important things to think about in terms of the cap rate. The cap rate includes a risk premium. The risk in agriculture is increasing, so even if interest rates didn't increase much in terms of the fundamental cost of money, shouldn't we be adding a higher risk premium compared with the past?

Secondly, work by Melichar from the Federal Reserve on land values many decades ago used what is called the growth stock model for valuing assets. The growth stock model argues that growing income over time can either be reflected in the numerator, or by adjusting the denominator by the rate of growth. In essence an investor is willing to pay more for a stock (or an asset) that has a growing income stream than for one that has a constant income stream. The growth in income from farmland as measured by cash rents has been about 4 percent per year for the last 20 years. That is why we are willing to accept a 4 to 6 percent rate of current return on farmland, because it is growing 4 percent per year.

At what rate will earnings or rents grow over the next 20-30 years? Will rents grow from the current \$250-\$300 per acre for the next 20 years at 4 percent per year? There is a significant risk associated with the growth rate in earnings staying that high, and if it declines, that will increase the cap rate, putting downward pressure on land values. Don't forget that it's not just interest rates that determine the cap rate. The risk premium and the rate of growth in income also impact the cap rate.

4) Increased supplies and supply volatility-- We are currently facing a drought-induced supply shock, but 123 million acres of additional land have been put in production in the world in the last six years, 30

million acres in the last year alone. Just to put 123 million acres in context, we planted 95 million acres of corn in the U.S. this year. And once that land comes into production, it is not likely going back out of production when prices decline. Farming around the world is a high fixed-cost industry, and resources stay in production until prices decline substantially because even with lower prices, producers can still cover their variable costs of production.

Production is increasing in areas of the world that have much more volatility in yields, because those areas don't have the stability in weather patterns we have in the U.S. and in parts of South America. This adds more potential supply volatility to the global food system beyond just the weather that we might have in the United States.

Shouldn't this increased supply volatility increase further not only the focus on risk management, but the risk premium in the agricultural market? Doesn't this further the argument that the cap rate on land investments must capture the risk premium in an increasingly volatile agriculture?

5) Financial stress potential— Everybody believes based on USDA numbers that debt in the farm sector is not a problem. The farming sector has low leverage--a debt to asset ratio of approximately 10%. That implies that the sector has fully adequate capacity to accommodate financial stress. But Kansas farm record data doesn't necessarily support that conclusion. The Kansas numbers suggest that we *do* have the potential for some debt problems if we have a reduction in incomes during the next two or three years and we see rising interest rates.

What are the implications of this possibility? Lenders should stress test every customer in their portfolio that has a leveraged position, I would argue, of 40 percent or greater and find out what happens if they face a 25-30 percent reduction in income combined with higher interest rates.

Actually next year (2013) is not the problem – crop insurance will provide significant protection for those who don't harvest a normal crop. What is a concern is that crop insurance is not a long-term risk mitigation strategy, because the insurance indemnity will decline when market prices decline. The concern is 2014 and 2015 when there is a higher probability of lower prices and higher interest rates. And financial stress will show up more quickly in the livestock sector than it will in the crop sector. The livestock industry, particularly dairy, doesn't have much financial absorptive capacity—dairy producers are coming off some low income years and have not been able to recover their working capital.

6) Land/Asset sales— Most of the discussion of land values focuses on the demand side—income, interest rates, cap rates, etc. What could result in an increase in the amount of land offered to the market? We don't know much about the supply side of the farmland market and under what conditions the offer curve for farmland increases or decreases.

Let's return to the 1980s. A significant driver of the decline in land values was not just the demand side (lower income, higher interest rates) -- the offer curve shifted to the right. A large volume of foreclosed properties had to find a new owner. A similar phenomenon has occurred recently in the housing market; a large volume of properties had to find a new owner.

Some argue that land is owned primarily by farmers and is a business asset that likely won't be put on the market. They argue further that it's bought with no or low leverage, therefore we wouldn't expect many foreclosures. But the Kansas farm record data gives a different perspective on these arguments – it implies

that there is more debt on commercial farms than we might think, and that there is a segment that is sufficiently highly leveraged to be vulnerable to income shocks (just like the 1980s) and might need to sell land or be subject to foreclosure, thus increasing offerings to the market. We need to obtain a better understanding of the supply side of the land market.

And the livestock sector, as we've said, has less financial absorptive capacity than the crop sector. The dairy industry is more highly leveraged and has limited working capital. We have the same problem in the pork industry. So these industries are more vulnerable to asset value decreases than the crop sector.

In the long term (10-20 years), there are serious concerns about U.S. livestock competitiveness. The U.S. livestock industry was built on cheap feed. Will we return to cheap feed? It will be less expensive than it is today, but likely not cheap like it was. Furthermore, we are increasing the regulatory cost of livestock production in the United States compared with the rest of the world? And the U.S. demand for animal proteins is mature at best because of consumer demographics. Older people don't eat as much animal protein as younger people. Mid-age people don't eat as much animal protein (particularly red meats) as they used to, because they are worried about issues associated with health. And kids eat even less than in the past, because they are worried about animal welfare issues. Domestic demand for animal protein is under significant attack.

If I am a global animal protein production company, like Smithfield in pork and JBS in beef, why would I want to invest in more livestock facilities in the United States in this environment? Why wouldn't I go to the Black Sea area in Europe and use barley and wheat as a feed grain (by the way that's an important point, wheat is a feed grain in most of the world—they don't have the corn we have). Why not invest in the Black Sea area or in China? Local production or imports can be used to source feed and one doesn't have to worry about as restrictive regulatory rules as in the U.S. Just to illustrate, we have not expanded the productive capacity in terms of new construction in pork in this country very much lately. It has expanded in the rest of the world.

7) The financial crisis in the European Union-- It isn't over-- it's a classic kick-the-can down the road. The current concern is Spain. Spain is facing high rates on sovereign debt, which continue to bounce up to 7 percent --7 percent on sovereign debt is where analysts argue a financial bailout is needed. The real risk is no longer Greece – its Spain and Italy. The person who controls this is Merkel in Germany. She has to make a decision of whether she's going to try to convince the German public to increase their taxes and bail out Southern Europe.

With that uncertainty in the global market, there is a potential contagion effect. Who is China's biggest customer – the EU? What happens if the EU goes into a deep recession? The only country with positive growth in the EU is Germany – and it's less than single-digit growth. If a deep or long recession occurs in the EU, they will buy fewer imports from China. China's economy is driven by exports – fewer exports means slower growth in China, lower growth in animal protein demand, and thus fewer imports of meat and feed grains from the U.S.

The sluggishness of the recovery of the U.S. economy; the now rising value of the dollar (which is bad news for any export-based industry); the unpredictable future growth of income in China and Asia more broadly are key uncertainties that bear watching.

8) Fiscal and farm policy -- Fiscal policy and the budget dilemma are important to resolving the uncertainty businesses and consumers face, and in sustaining the U.S. recovery from the recession. And these issues are huge – the budget deficit, tax policy, and the debt limit. Continued slow economic growth and high unemployment in the U.S. will make it difficult for demand to grow for meat products in particular, and the livestock industry will continue to be under financial pressure without domestic as well as export demand growth.

Future U.S. farm policy is also very uncertain. We will not have a Farm Bill passed in 2012 -- most likely the current law will be extended and a new farm program will be debated next year. This debate will be very contentious--a reduced budget baseline for agriculture, concern about the budget deficit generally, higher government budget expenditures for crop insurance indemnities resulting from the drought, a debate about reducing supplemental nutrition assistance (SNAP) during a time of continued high unemployment, etc. An expanded revenue assurance program is the most likely outcome, but it may have limitations on the amount of the subsidy or the “indemnities” to target the benefits to smaller scale farming operations. And further debate on budget cuts could have a major impact on the costs and benefits of one of the most attractive tools that crop farmers have had to manage risk-- crop insurance.

9) Is a bust inevitable –The real questions may not be - is this boom sustainable? It is more likely, is a bust inevitable? Prosperity could dissipate relatively slowly. Or we could have a financial collapse like the 1980’s. Which of those has the potential to occur? We have a different business climate than the 1980’s in a number of dimensions:

a) The wealth effect is not as strong as in the 1980s when farmland was arguably purchased in many cases for its capital gain and as an inflation hedge. This wealth effect is not nearly as strong today as it was in the 80s.

b) The leverage effect today isn’t nearly as strong as it was in the 1980s when lenders were aggressive in making loans securitized by appreciated asset values. What have lenders done this time around? They have limited the debt per acre or the loan to value ratio and required land buyers to have more equity at risk. They have NOT increased loan-to-value ratios to book business.

c) Recall that the first phase of the 1980’s collapse was a reduction in demand— demand for exports declined dramatically. The potential demand reduction is not likely to be as dramatic this time—export demand will just not grow as rapidly as it has recently. Asia/China and developing country demand are unlikely to collapse-- it will likely grow less rapidly than it has for the last five or six years. The current increase in the value of the dollar (which puts U.S. export markets at increasing risk) is likely not permanent. The biofuels demand is mandated, and is unlikely to be reduced.

There is a concern that the shock absorber in the market to short supplies might be exports, which might result in permanent demand destruction. If importing countries decide that they cannot rely on the United States as a supplier, they will go elsewhere like the Japanese did in the 1970’s in the soybean markets. And the Black Sea area as well as Brazil and Argentina are increasing their production capacity rapidly.

d) Asset values will not likely be under as much pressure. We expect fewer sales from foreclosures than in the 1980’s. Most of the purchases of higher priced farmland have been by farmers for business purposes,

rather than investors who may not have a buy and hold mentality. But remember, livestock has not had the same kind of stability in its asset values, whether it is cows, sows, or facilities. Those assets do not provide as strong a security position from the lender's perspective.

What could create a bust? First, a demand reduction-- reduced biofuels mandates, livestock numbers or exports. Second, continued bidding up of asset/land values. The more asset values are bid up, the more the risk of having to readjust. Third, more leverage— more debt concentrated in a few highly leveraged borrower customers could create serious problems. Fourth, higher interest rates that result in higher capitalization rates, higher costs and lower margins/incomes.

There are some additional sources of vulnerability for individual farmers. The structure of the balance sheet is a problem for many farmers. A number of farmers have moved assets “below the line” -- that line between current and noncurrent assets. They bought equipment, land or other assets, and they didn't fund noncurrent assets with term debt-- a classic imbalance in the balance sheet. Properly structured debt (funding current assets with current liabilities and non-current assets with non-current liabilities) is critical to financial resiliency. Working capital has been destroyed in a number of businesses, and the first line of defense against financial stress is working capital.

There is also a concern about high “pseudo” debt obligations. Some cash rent arrangements are multiple-year agreements. That isn't much different than borrowing money and having to make a mortgage payment. Those farmers that have paid high cash rents (\$400 plus per acre) with a multiple year commitment are vulnerable to financial stress if crop prices decline.

What about deferred taxes? How many farmers and their lenders have not determined the tax burden that could occur if they liquidate some assets? For any farm filing under Schedule F, the tax basis for raised grain and livestock for example is zero. Assume a farmer with \$500,000 of raised inventory has encountered financial stress, and the lender says to that customer, “You have too much debt. Let's take some of that inventory, sell it off, and pull down some of your debt”. If \$500,000 of raised grain and livestock is sold, one hundred percent of those proceeds are taxed as ordinary income, the farmer has a high tax bill and the lender doesn't have as much money as was anticipated to be available to pay down debt.

And finally, what will happen to interest rates? They *will* go up, the only question is when. We have been in a long-term decline for the last 20 years in the United States and actually globally in interest rates. A study by McKinsey & Company indicates that in the next decade (once the economy recovers), real interest rates will be 200 basis points higher than they have been for the last decade. The only reason we don't currently have higher rates is the recession and slow recovery, and accommodative monetary policy to stimulate that recovery. Once we have a sustained recovery, the capital markets will not be able to fulfill the increasing global demand for capital without higher rates-- the savings rate isn't high enough to meet global demand without having significantly rising interest rates. Higher interest rates would put downward pressure on incomes and land values.

The long term future of agriculture is bright--growing incomes world-wide create additional demand growth and the potential of continued strong incomes. But there will be “bumps in the road” to that long-term future, and it is critical to be positioned to handle those “bumps” to be part of that future.