RECOGNIZING RISK IN GLOBAL AGRICULTURE

FEDERAL RESERVE BANK of KANSAS CITY · JULY 19-20, 2011

A Symposium Sponsored by
The Federal Reserve Bank of Kansas City

Kansas City, Missouri
July 19-20, 2011

Closing Panel

Recognizing Risk in Global Agriculture

Moderator: Alan Barkema
Senior Vice President and Director of Research
Federal Reserve Bank of Kansas City

Panelists: Bruce Babcock
Director, Center for Agricultural and Rural Development
Iowa State University

***Paul Ellinger**,*
Department Head
Agricultural and Consumer Economics Department
University of Illinois

Michael Swanson
Chief Agricultural Economist
Wells Fargo

Mr. Barkema: Over the last two days, our distinguished speakers and panelists have shared their perspectives about global agribusiness and financing. There is much to process and consider, but we've asked our closing panel give us the 10,000 foot view. Starting with Dr. Babcock, what are your takeaways from the symposium?

Mr. Babcock: … interest rate shocks. It would be interesting if agriculture could see if the high interest rates were inevitable or would they remain low and increase asset values over time and get more leveraged. I haven't worked that out, but that is a key question if inflation pressures do come along. That was a big one.

Mr. Barkema: Bruce [Babcock], a quick follow-up on that, though. With the policy we have in place now – unusually low interest rates and high liquidity – has that process begun in your mind?

Mr. Babcock: Very low interest rates clearly have contributed to higher land values. Just look at the capitalization rate. Paul [Ellinger] put up a nice chart about the major impact low interest rates have on land values. So that has helped. Clearly, a looser monetary policy has not kept the dollar strong. The dollar is weak and would be even weaker against the euro, if the euro wasn't under attack because of the problems they have, too. Yes, in some sense, what's happening now could be the first third of a decade-long trend. I am not making that prediction, but that is a risk factor to me.

Another big risk factor, not so recognized but mentioned by Ejnar [Knudsen], is the European Central Bank (ECB) and what happens to the Eurozone. That could have worldwide consequences in terms of world growth, so that should be resolved – I hope – in the next year or two.

My takeaway point is we are running a just-in-time food production system worldwide. Luckily we have diversity of production across the globe. So far, we have avoided major supply disruptions affecting two or three major producers at one time. Maybe we've been lucky. If we had a very large supply disruption, are we in a position to have any kind of buffer stock at all? The only buffer stock I can see in the United States is we are processing four to five billion bushels of corn a year into ethanol. If the world did suffer an unexpectedly large disruption, either in the U.S. Corn Belt or in multiple places around the world, feeding your car or feeding your animals and world livestock might be a decision we come up with. Then the question becomes, do we have a flexible enough biofuels policy to allow that tradeoff to be made? I don't know the answer to that question.

Another important insight before I wrap up here is what Bob McNally talked about in terms of biofuels. He didn't see any major risk of losing the mandate on biofuels for at least a year or two or three, because he didn't think the mandate would have a target on it because he didn't think it would be binding – that is, you are trying to force the consumption of ethanol into the marketplace. It doesn't want it to such a degree that the cost-minus-price gap would result in the *Wall Street Journal* being able to say, "That's a big tax on fuel consumers!"

In two or three years, unless the corn growers are successful in busting through the blend wall, it's going to have a big target on it. Maybe we should think about a more flexible mandate policy, if we want to keep that stabilizing force in the feed grain markets there in case crude oil prices fall. That was a very insightful political comment with regard to the ethanol debate.

Mr. Barkema: Thanks, Bruce. Paul, what are your takeaways?

Mr. Ellinger: I will try to not repeat what Bruce talked about, but I would pick up on some supply shocks, as it relates to what we just observed in Japan and what it did with the automobile industry. Weren't they the investors of just-in-time processing? What happens if we don't respond to something like that?

On a really big limb, one of the big takeaways is, China matters. Everybody knows that. There wasn't a presentation made that we didn't talk about either the trade issues in China, the economy in China, what linkages it has back to us in agricultural demand for products, or what would happen with hiccups in China.

One of the things that came up in a private conversation is an individual from Monsanto was saying at what point in time will China adopt some of the biotechnology in their country in terms of expanding their production as well. It is very evident China matters, but was quantified more during the sessions we had here.

Even though I've heard Bruce a lot, it's always insightful to do this. I think maybe I'll short corn and sell my biodiesel-ethanol plant stock. It did illustrate what the real issues are, especially on the biodiesel side and what could happen. That was very well-illustrated and probably not articulated as well as I've seen in here and it helped us understand that area much better.

Bruce will laugh at this one a little bit, but they also asked us to look at what are the biggest risks out there. I like the concept of the big-tail risk. By definition that is risk. But how do we manage the big-tail risk? If you talk about weathering a crisis, the crisis really was what was in the tails and what happened in the tails.

What can we do? There are option contracts. There are not a lot of things we can do, except maybe CDS[Credit Default Swap] spreads in the agribusiness arena. We can manage some of this on the Greece issue, but we don't have some of the instruments to be able to go out to where the real risks are.

When I look at our presentation and some of the conversations I had with lenders – there will be winners and losers – but, if we can weather farmers' and lenders' financial balance sheets, on average we are doing pretty well. We have different tools in place. We always like to compare with the 1980s, but we weren't doing some of the stress testing back then.

John Moore is here and I knew him from Farm Credit Administration. They were being very aggressive about shocking the Farm Credit System to certain events. That wasn't done in the past.

Community banks were talking about shocking land values. Those tools were not in place. Our underwriting standards have certainly improved. Our data going into making these decisions, even though it's maybe still subject, are better quality and provide some opportunities. More and more cash is being invested in farmland. In general, even though the risk pie is bigger, we have better tools to helping manage that to some degree. That is within the tails. But I am not sure we have what it takes to be out there.

The other side we didn't talk a lot about, probably because of lack of time, is regulation risk and what surrounds that. Why we don't see more development in small business is all the uncertainty we have regarding environmental policy, tax policy, the cost of debt, and water issues. With all this uncertainty, we have more hesitancy to invest. Regulatory risk certainly is one of the factors that may be an impediment and a headwind.

Mr. Barkema: This is a follow-up question ,for both Paul and Bruce. You mentioned a just-in-time food system. We heard about that.

The thought occurs to me, is our just-in-time food system by design or is that by default? Are we simply in a place now where productivity growth in agriculture can no longer keep pace with consumption growth? Or will we see a point again where productivity, either gradually or by a continuous jump, will rebuild stocks some day? Is this by design or by default?

Mr. Babcock: I would say more by design in some cases.

Mr. Ellinger: No one likes old stocks. If you look at manufacturing throughout the world, we are moving more to a just-in-time system, because of investments in IT [information technology] and investments in logistics. An ability to do this is enhanced. It's a matter of increased productivity and an ability to do it. There are consequences of it on the food production system. What if you have a major supply disruption on feed grains? This year, for example, let's say the temperature in the Cornbelt never stays at 100 degrees. We could have a 25 to 30 percent decline in feed grain production at a time when we don't have any stocks to carry over. That would really test our ability to feed all the animals that rely on that, particularly if we see supply disruptions around the world.

It is by design, but we don't know how resilient the consequences are. I heard your colleague Scott Irwin saying, "Oh, that's the consequence that leads to $10 corn."

But $10 corn is the last thing the world needs right now.

Mr. Babcock: He would follow that up with that exact statement. If somebody asked him what would happen if we have a supply shock, we could see $10 corn. He is not necessarily forecasting that. And, his follow-up statement is, "That would be the worst thing for agriculture if we did have something like that, because of the volatility that would cause and people changing investment decisions based on that."

Mr. Barkema: Mike, what are your major takeaways?

Mr. Swanson: I alluded to an old quote from Mark Twain. It was, "History doesn't repeat itself, but it often rhymes." [laughter]

It is interesting, because let's give credit where credit is due: Jason [Henderson], Tom [Hoenig], and everybody who invited us here to have this conference. Why won't we repeat what we had in the 1980s? It is exactly because we are sitting in this room today talking about it and anticipating it.

I don't remember seeing a conference like this in 1978. I wasn't around working a lot of agriculture in 1978, but I don't think they had the same level [of conference]. We've *learned* something. Having this seminar is raising the risk awareness of what is happening. To a large degree, if you are around, nothing that was said during the conference was completely new. It was new for other people, because they hadn't heard it before. In totality, though, there has been nothing new said here. The real achievement is to bring it all together at one place at one time, so people can hear it in a consistent fashion.

I am more optimistic now than before to think there are enough people with their eyes open with the regulatory environment being aware of what is happening. This conference is a great way to prove it is a concrete step toward saying, "We won't make the same mistakes."

Now, we will make more mistakes. They will be a little more original this time. [laughter] The tools are new. We have crop insurance that wasn't there in the 1980s, just-in-time, transportation systems are different, and computerization is different. There will be issues. But I don't think we are going to have a crisis like we did back in the

1980s, because we are already asking questions. Is it a bubble? If you get to that question and you have the regulatory people involved, you are not going to be at the point we did in the 1980s where it is too far gone.

Is that a prediction? Yes. What did I tell you about my predictions? They are not very good, right? But my takeaway is that, when you look at this conference and the issues raised, it is already doing what it is supposed to do. It has already put people on guard for the problems we have.

Can we be caught blindsided by something? Absolutely, but hopefully to a smaller degree and a more manageable degree than we would have if we weren't doing this today.

Mr. Barkema: Good comment. Let me open this to the audience. Does anyone out there care to share your major takeaways with us or probe what our panelists just put on the table?

Jim, it's good to hear from you. [laughter]

Mr. James Andrew, Andrew Farms, Inc.: I feel like I am a jack-in-the-box.

Mr. Barkema: We'll put your chair closer to the microphone next time.

Mr. Andrew: One of the questions of the risks that are my black-swan nightmare is the current situation in the Eurozone. It's hard for me to get my mind around that whole situation. I pick up the *Wall Street Journal* every day and there is another country in bad shape. Do you have ideas on that, is it a potential black swan, and what can I as an agricultural producer do to protect myself from getting into that situation?

Mr. Swanson: It's a great question. If you were my hedge fund and we are having this conversation about what's the risk and how we'd handle it, I'd say, "What happens then?"

Let's say, given your scenario the European Union suddenly has a crisis of faith in their currency, they want to split apart, and debt starts being defaulted upon. What then? The most important question in any economic analysis is, what happens then? The story doesn't end there. The Europeans are still relatively wealthy. They are not going to eat less food. They might buy fewer cars, buy fewer electronics, and take fewer vacations. That is the long-term consequence.

The food would stay there. But, in the three years while people are figuring that out, food will still be purchased and eaten. There will be an absolute panic in the world's financial markets when that happens. If you don't have the wherewithal to be hedged off to start with or have the cash to get through that three- to six-month period before they decide food is still valuable, you will be the one who goes bankrupt. They teach you in banking that cash flow is like oxygen. You need it all the time. If you don't have it for five minutes, you are dead. It doesn't matter how much you get afterward, you are still a rosy corpse.

I can see that scenario, but before you panic, it is like any other of the 100 scenarios that could happen. The question is, what would I do in any one of these? What is my blitz? How would I pick up that blitz? Have more cash on hand and have hedges in places to start with. Yes, it is a real concern, but you have to deal with 100 just like it, so it is not that unique. I am not concerned about it, as long as I have a plan in place to deal with a six-month disruption of the markets.

Mr. Ellinger: I agree. The only addition to that would be in comparison with what happened with Lehman Brothers in that Lehman happened very fast. We didn't have that six months to prepare, and we are going through this with eyes relatively wide open. There have been problems, people have been talking about and dealing with these issues, so we have a bit more of a head start. We don't know what will happen in the markets. We can't predict what is going to happen in the financial markets, but have had a little longer run to lead up to what that crisis would be. So we might have some of these things in better line than if this crisis had happened almost immediately and then we responded.

Mr. Kyle Bauer, KFRM: I am doing this totally from memory, but as I recall someone showed a chart of the EU being a major exporter of red meat about 20 years ago and today their role is fairly insignificant. My preconceived notion on that was their production had dropped. But, on the other hand, maybe their consumption is absorbing that. My concern – again from my preconceived notion – is a lot of Europe has its social license to produce especially animal protein. Do we have any of that risk or is that a significant risk in our society?

Mr. Babcock: I can give some factual evidence. Twenty-five years ago the largest pork producers were the Dutch pork producers in the northeast part of Europe, so they were natural exporters. They couldn't eat it all there. As environmental regulations took over, they didn't have any place to use the manure. The soil was saturated in urine, and then phosphorus and nitrogen were showing up in water supplies.

As they tightened up environmental regulations, that pork production moved and they haven't ramped up to meet the world demand. I am not sure it is a social thing; it is environmental regulations that did in a lot of the production. Europeans are big meat eaters plus they have changed the common agricultural policy to give less supply-distorting price signals. So they are not guaranteeing their meat producers such a big price. That was another reason why they were exporters. They have rationed their production, because of environmental regulations and reform of the common agriculture policy. There is no social stigma to eating meat in Europe.

Mr. Kyle Bauer, KFRM: I just want to make sure you understand. My question was about a social license to produce meat in this country. Will our society continue to allow us to raise meat? We have animal rights groups, environmental groups, and a constant barrage of people who appear to be anti-animal agriculture. Is that a significant reason to be concerned or is it my perception only?

Mr. Babcock: I'm sure someone else can chime in. As Costco and Wal-Mart go, so does the way we produce our meat. What surprised me about the hidden camera we saw in Iowa was the big chains said they were not buying from Iowa Select Farms anymore until they take care of the animal cruelty allegations. The animal welfare standards – we had the California vote on caged chickens – are going to be negotiated between the big retailers and the livestock producers. The institutional producers in California will be the model for animal agriculture in the U.S., at least for domestic consumption. For export, they have their own way of producing. There will be a social license, but it might be a new contract, if you will.

Ejnar Knudsen, Passport Capital: I had a couple things to share with the group and then two questions for the panel. It is interesting to watch how we feel the effects of the Japanese tsunami, where they had only a 3 percent GDP hit. In the mid-century last year, Japan had an earthquake that knocked out a third of their GDP. That is a black swan, but it doesn't happen often, and it probably won't happen again. If it did, are we prepared for something like that?

As I was preparing, I was gathering information. About a month ago, the sun gave off a solar flare that was so large it was equivalent to what happened in 1930 or the mid-1860s, which wiped out all electricity on earth. Fortunately for us, it is a coin toss that happened on the other side of the sun, so it went the other way. We don't think about that, but it would have knocked out all of our telecommunications, all of our grid, and just-in-time transformers would have been toast. What is the impact on society? What would happen to our GDP and oil prices? It was only a month ago that happened and you can look it up. It is really a coin toss that it happened on *that* side of the sun versus *this* side of the sun. I am constantly trying to think of how to deal with that. It's interesting to reflect on it.

I have two questions for the panel. Are there any books we can read that will help us understand the risks and unpredictability of things that happened in the 1970s? It wasn't a stable period when I looked at prices. It was up 300 percent on wheat. It was almost retraced completely. It was up. There were regulatory things enacted, such as price controls.

I look at governments around the world now trying to do price controls, releasing the strategic oil reserves, trying to reduce speculators in the markets, and releasing the strategic pork reserves in China. These are all signs the governments are freaking out and they are trying to do it in nice ways. What else can they do? Maybe some of you know what else they did. Alan, you might know of some of these you can share with us. Hopefully, they won't happen, but it is nice to know what *could* happen. What are some examples? And what books, case studies, professors, or resources can we seek out to learn more about the 1970s?

Mr. Barkema: Gentlemen? Who wants to tackle a look at the 1970s?

Mr. Ellinger: In terms of specific research in the agriculture sector, there are not a lot of good technical analysis like what you are asking for. Even though there are a lot of people here, there will be a lot of books about the housing sector and its financial crisis, because it is so large and so comprehensive. We learned a lot in the agriculture side, but not a lot has been written about it. There has not been a big demand. There are scattered pieces, but not as good as the technical analysis you are interested in, at least not that I am aware of.

Mr. Swanson: It's a good question. I'll compare it with econometrics. If you are not familiar with econometrics, it is applied statistics where you try to model things. It's a big part of economics. The problem with econometrics is twofold. One is you need to go far enough back to have enough data to fill a model. The problem is, the further you go back, the less data apply to the reality you are in today.

There was a famous economist, Wassily Leontief, who said you are on the horns of a dilemma, because either you take current data that are very applicable to the situation you find yourself in and you don't have enough statistical power to validate a model; or as you go further back into history every additional observation becomes less and less relevant to what you are looking at today.

The reason I bring that up as an analogy is because what you are asking is, is there something in 1970s to look at? Sure, you could probably find articles in *The Economist* or whatever. But the question is, is it still relevant or are there some factors that were implied that would be no longer binding in that analysis? So it is a very difficult answer. So the answer is, no, there isn't a good answer and you will have the same horns of a dilemma you have in econometrics that you do in that type of analysis. At least that is my takeaway.

Mr. Babcock: I will give you one lesson I hope we learned, but I don't think we have. I had a discussion last night with some farmers who led me to think we haven't learned very much. What happened in the late 1970s is crop prices were finding a new plateau. Throughout the 1970s, the level of support given to farmers through the Farm Bill policies ratcheted up. It kept ratcheting up and ratcheting up. The excuse for farmers was the breakeven price has gone up, because the costs are going up, therefore more support is needed. As the support followed the prices up, that led to the early 1980s where we had the PIK [Payment-In-Kind] Program and government trying to undo what they had done with the ratcheting up of support.

I hope we learned that lesson, but I don't think we have. We have a farm program now called ACRE [Average Crop Revenue Election]. What it does, as the price goes up, it ratchets up support also. There are limits on how fast it can ratchet down. That is an example where we have adopted a policy that has ratcheted up support. We haven't learned from that.

The other big risk management policy we have is crop insurance. What it does is rebalance the price every year before planting to reflect current market conditions. That, at most, has a one-year effect. If markets fall, the level of support from crop insurance will fall too. It is a superior risk management problem. I am not sure we've learned that lesson about how support from crop insurance follows market prices higher, which is common sense to do, leads to unintended consequences down the road when the markets are trying to adjust but the government isn't allowing it to.

Mr. Barkema: Are there any other questions or comments? I'd like to ask one more question of you.

I recently heard an individual who serves as chief risk officer for a Fortune 100 company. He described his job as thinking through risks that are very unlikely, for example, things that couldn't possibly happen. Then he answered with the question, "But what if they did?"

One of my takeaways from this conference – in fact, the whole conference is built around the idea that downside shocks to agriculture is not so much a question of "if" but rather "when." With the thought that forewarned is forearmed, chances are we won't see the next shock coming. What should we be watching for in agriculture today as the next shock? What do you think is the most likely downside risk to hit this industry next?

Bruce, what do you say?

Mr. Babcock: I am going to return to what Paul [Ellinger] said – China. It's easy and kind of a copout. But there is both upside and downside risk. We think we know China's income and food consumption are going to keep growing and their demand for meat will keep growing. But are they going to try to be self-sufficient in meat or self-sufficient in grain? That is, are they going to import grain or are they going to import meat? They have to do one or the other. If they build up and we start getting the supply chain going into China and gearing up for production, and they have some calamity that strikes their economy – because I don't trust the Chinese government to be able to manage everything, even though they are trying to do so – that has a severe downside potential. If China enters our feed grain market when we have almost no supply, that will shoot up prices. Or are they going to enter long-term contracts to have meat produced in the U.S. by Smithfield, say, then Smithfield becomes a major exporter of meat? I think China has a lot of surprises left for us, both on the up- and the downside.

Mr. Barkema: Paul [Ellinger], what are you looking for?

Mr. Ellinger: You already stole my answer. [laughter] Maybe that is the event that happens, but one of the bigger and more likely risks is going back to what President Hoenig said last night on what inflation and interest rates do in the farm sector, both on the lending side and on the farming side. It goes back to what effect it has on land prices. We don't see a lot of evidence – but very low interest rates. We may become overleveraged.

In Illinois that is not the case. When you can borrow at low cost, are we borrowing at a level that is there? Community banks in Illinois are not set up to do nor have we done a lot of interest rate risk management in the past. Interest rates have been pretty flat. If we had large spikes in interest rates, there would be some potential hiccups in interest rate risk management at smaller institutions as well.

So inflation and interest rates would be an outcome if something happened in China, but those would have a major impact on agriculture in both sectors, on the lending side and on the borrowing side.

Mr. Barkema: Thanks, Paul [Ellinger]. Mike [Swanson]?

Mr. Swanson: They got China, inflation, and interest rates. What's left? [laughter] I will just throw in bad government. We could very well have a shock where we do have some kind of political game of chicken being played and they don't successfully pull off the pass at the end of the day. It is a possibility. Politics are another one of those major risk factors you can't discount any time.

Mr. Barkema: Thank you very much. That was the last word.

Ladies and Gentlemen, please join me in thanking our panelists. [applause]

Mr. Barkema: Well, Ladies and Gentlemen, that brings us to the close of our symposium this year. I deeply appreciate your participation. It is often difficult to get a conversation going among 200 of our closest friends, but I think that happened in this room and we are all better for it. I hope you gained as much from this experience as I did.

We would welcome your feedback on this conference. There is a card in each of your packets that has an electronic link to our website. Also, everyone in the room will receive an email tomorrow morning with the link to the feedback site, so you can tell us what you thought of the conference but also the conference papers will be there for you.

This kind of activity – part of what you said, Mike [Babcock] – we seek not only to accomplish our charges in monetary policy, supervision, and the payments system, but informing the public and education is another important mission of the Fed. We gain so much from your comments as we seek to understand what's happening in this industry and what its prospects are going forward.

That brings us to a close, Ladies and Gentlemen. I wish you safe travel. We are adjourned.