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Days of Futures Past | Episode 1
Scott Irwin, Professor, University of Illinois and Author of *Back to the Futures*

This week, we kick off our new series, Days of Futures Past, where we will be talking with the people who built these markets and those who know them best as we explore the lessons we need to make our commodity markets ready for the future.

Our first guest is professor and author Scott Irwin. Scott is the Laurence J. Norton Chair of Agricultural Marketing at the University of Illinois and the author of *Back to the Futures: Crashing Dirt Bikes, Chasing Cows, and Unraveling the Mystery of the Commodity Futures Markets*.

SmarterMarkets™ host David Greely sits down with Scott to discuss some of the lessons of the past that we can use to build commodity futures markets that survive, flourish, and remain the beating heart of our economy.

Scott Irwin (01s):
Markets are more delicate than most people understand. They can be thrown off kilter easier than I believe is commonly understood. So that's the lesson. You can kill these markets fairly easily if you get them out of balance and out of kilter. They're incredibly important, but they're more delicate animals than people realize.

Announcer (28s):
Welcome to SmarterMarkets. A weekly podcast featuring the icons and entrepreneurs of technology, commodities and finance ranting on the inadequacies of our systems and riffing on ideas for how to solve them. Together, we examine the questions: are we facing a crisis of information or a crisis of trust, and will building Smarter Markets be the antidote?
This episode is brought to you in part by Abaxx Exchange, bringing you better benchmarks, better technology and better tools for risk management.

David Greely (01m 04s):
Welcome to our new series, *Days of Futures Past* on SmarterMarkets. I'm Dave Greely, Chief Economist at Abaxx Technologies. Our guest today is Professor Scott Irwin, the Laurence J. Norton Chair of Agricultural Marketing at the University of Illinois and author of *Back to the Futures: Crashing Dirt Bikes, Chasing Cows, and Unraveling the Mystery of the Commodity Futures Markets*. We'll be discussing some of the lessons of the past that we can use to build commodity futures markets that survive, flourish, and remain the beating heart of our economy. Hello Scott. Welcome to SmarterMarkets.

Scott Irwin (01m 44s):
Really glad to be here.

David Greely (01m 46s):
Well, it's a real pleasure to have you with us today, and it couldn't be better timing as you've just published a terrific book that's part market history, part personal memoir, and captures so many important moments and lessons from the history of the commodity futures markets. In your book, you write that futures markets sit at the very heart of our economy. They function as a critical nerve center for the market economy and are important to everyone. Now, I've often noticed when people are asked why commodity futures markets are so critical, the people that work in those markets will often talk about their economic role in price discovery and the transfer of risk, but I wanted to get your opinion. Can you explain what in your view, is the economic role of commodity futures markets and why they are so critical to all of us?

Scott Irwin (02m 36s):
I think for the average person, the way I describe it is, on one hand their fundamental purpose is to help smooth out and help firms and producers and consumers manage the riskiness of price movements and the idea is to facilitate a more efficient sharing of that risk so that the producers can produce and consumers can consume more of what they want to do. So that's one and one of the ways that they facilitate that is through that efficient risk shifting and the other way is a transparent pricing mechanism where anybody in the

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world can go see what the price of corn or barrel of crude oil is trading for at any moment and there's real value to having that benchmark out there for everybody to see.

David Greely (03m 36s):
And while the futurist markets are at the very heart of our economy, it doesn't mean that we can just take them for granted. The history of the futures markets is filled with markets that no longer exist in futures contracts that never really took off. In your experience, what conditions are necessary to create a successful commodity futures market?

Scott Irwin (03m 56s):
History does teach us some important lessons, David, and one is that you can't create a futures market or a successful commodity futures markets out of nothing and when I say that, I mean they're an outgrowth typically of the first development of an active spot or cash market trading of some commodity and then the participants in the spot market have a need for forward transactions of some kind. So we get into forward cash contracting, and then out of that people, there's a need for a specialized form of forward contracting that we call a commodity futures contract. That's the sequence that as far as I know, has to always take place and at the heart of that, then you have to have a community of what is probably best described as commodity merchants or commercials that are at the heart of that kind of trading and contracting and they form the core of the users of a successful commodity futures market.

David Greely (05m 13s):
And why is that community so important?

Scott Irwin (05m 16s):
Well, but cause they're the backbone of the market. I mean, literally these are the people that are in the spot markets dealing in the physical commodity. So they've got big skin in the game, not little skin in the game and so they're trying to not lose their skin and that's why they're always in the market and they have a need for tools like this to help them manage their price risk as they're engaging in some form of moving commodities around processing commodities or storing commodities, they incur a lot of price risk and so that's why they're the backbone of the market.

David Greely (05m 59s):
You'll have to, forgive me if I slip into some agricultural metaphors here, but you know, as you said, there are conditions that create fertile ground for new commodity futures contracts, but there are also dangers that we have to guard against if we want these markets to grow and develop and thrive and you, you, you talk about some interesting ones in your book, and I want to ask you about two of the more common ways that markets can be damaged or killed, one from within and one from without and I wanted to ask you about one that's a great story in your book that really I think illustrates that first point of how markets can be undermined from within and I'd like to talk with you about the controversy over the lack of convergence between the futures and the physical cash market in the wheat futures market in the 2000s. Now, it can be a little bit of a wonky topic, but it was an enormous controversy with potentially enormous regulatory repercussions. I mean, there were hearings on Capitol Hill about this that you were involved in, I believe, and it really illustrates why the details are so important in understanding these markets and how they can be undermined from within. So I was wondering if you could walk us through the wheat convergence story and some of the dangers that pointed to in these markets.

Scott Irwin (07m 14s):
Well, let me start from a broader perspective where a successful commodity features contract is an incredibly delicate set of negotiated contract terms to balance the commercial interests of those that are naturally on the long or the buy side of the market, and those that are naturally on the short or sell side of the market and that is a constant, nearly constant negotiation process because markets change and economic conditions change and so basically the contract terms occasionally need to be renegotiated and like any commercial contract that is rife with you know, parties seeking commercial advantage because that's what they do, they're in business to make money. So I think it's helpful to have that understanding before we delve into the details of the convergence episodes that we experienced.

David Greely (08m 21s):
And I'd just love to hear what was the specifics in that case of what was the problem and when you're looking at this delicate set of negotiations that produces a viable contract, what happened in the case of the wheat market that undermined that convergence process and how did that grow out of perhaps those negotiations not working out so well over time?

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Scott Irwin (08m 46s):
Well, it is a, a fascinating case study of how the details of the commodity futures contract can occasionally really matter and really matter in a surprising way. So the wheat futures contract is a physical delivery contract where you can basically obtain physical grain eventually through the delivery process and the function of that delivery process is to assure that the futures price at the end of the contracts when it expires gets very, very close to the spot cash price in the delivery location elevators and that is a bedrock principle upon which hedging and price discovery are built. So what happened in the 2000s was at times the price for wheat futures when in the week contracts were expiring, there were anywhere from a dollar and occasionally more than $2 above the cash price in delivery location elevators during the delivery period when these are supposed to be basically the same thing, the same commodity.

Scott Irwin (10m 10s):
And the law of run price says that the same commodity at the same location at the same time, physical units should all sell for the same price and here you have, oh, I get it through the futures market. It's $2 above what it's worth in the cash market and so everybody was saying, oh my gosh, that's a market that's crippled. It's broken and it, so that's why we had all the hearings and everything associated with the controversy and you know, in retrospect we had to understand what caused it, but in real time now I initially, as an economist, I didn't understand it. I looked and knew enough about the historical record to know that nothing of this magnitude had ever occurred as far as I knew in the 150 years of history of the Chicago futures markets that we had nothing, I never liked this ever occurred.

Scott Irwin (11m 04s):
It really did appear like wheat market for some reason just decided to blow up and it wasn't working right. So I don't want to in any way you know, retrospect diminish the severity of what was what happened. That's why it was such a global controversy. So that's what happened and then of course everyone is looking for why it happened and how to fix it and right away the wheat convergence problem got rolled into the global firestorm that was occurring at the same time about the role of the massive passives or the commodity index funds and so most conventional wisdom was that these massive passives were distorting the wheat futures market on the, on the buy side, and we're creating a series of massive bubbles and that's that detached the futures price from the SWAT price and so the difference was just a big bubble.

Scott Irwin (12m 10s):
So the idea is that you need to force the index funds out of the market. That was a very popular proposal. Another one and this gets really back to where we started that came out of the commercial wheat players themselves, was something called forced load out and again, without getting into a lot of wonky details, when if you are, you're along and you stand for delivering the wheat futures contract initially, you don't actually get physical wheat, you get a basically a certificate that represents the physical wheat and that certificate is negotiable and tradable and it turns out that little detail is the key to understanding the entire non convergence episode because what happened is that the, if you are long, you take delivery of 5,000 bushels of wheat in say, Toledo, Ohio or along the Cincinnati, Ohio, different delivery areas, and you pay for this piece of paper that represents wheat.

Scott Irwin (13m 23s):
You know, since that piece of paper has to be backed by the 5,000 bushels, you have to pay storage and the contract terms, you know, these minutiae that, you know, there's many of these kind of details was at a fixed rate. It had been set for about 30 years at $0.05 cents a month. The markets worked fine and nobody was the wiser. It was one of these terms that few people even knew about, cared about or wanted to know about. But with the boom in commodity prices in 07/08, the value of storage skyrocketed and that rate was way too low and the exchange didn't change it and I don't really want to cast as versions on the CME. There were institutional reasons why they couldn't and didn't react quickly to this DC equilibrium. Number one, they didn't fully understand it and number two, they were besieged on all sides about what to do.

Scott Irwin (14m 26s):
So basically what happened was the market said say, gee, storage for weed is worth 10 cents, but if I store by obtaining one of these delivery certificates, I don't have to pay 5 cents. So what happens, the market adjusts and the way the market had to adjust was forcing the delivery location basis to basically bid in that windfall opportunity to store cheaply. That's what happened and the CME figured that out and that's why they created the variable rate storage system to allow that storage rate on the contracts to ratchet up and down as economic conditions change and so that's a brief of a summary as I can make it about what happened and why it happened.

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David Greely (15m 17s):
Well that's terrific because it really does illustrate how the delivery details matter and you know, might be decades, like you said, when it was $0.05 in the rule book and it didn't make a big difference $0.05 was more or less appropriate. But when things change, it can cause real problems and I think that points to the second thing I wanted to talk with you about, which you raised of when these situations happen, the first responses often to look for who's to blame, you know, in this case it was the, the passive index funds. It wasn't to say, oh, is there something in the way we've set up this delivery mechanism that could be going wrong and preventing convergence at this point? So I wanted to ask you, because that's often when we see markets behave in an unexpected way or prices are too high or too low relative to someone's preference, we often see what you call the antis speculation cycle. It's kind of the first thing we'll do is round up the usual suspects kind of plays out in the press and politics and I know this is one that you and I were both personally embroiled in in the 2000s run up in commodity prices, though, you know, we were working in different places at the time. So I was hoping you might be able to share that story of, you know, what is the antis speculation cycle and how did it play out during the commodities run up in prices in the 2000s?

Scott Irwin (16m 39s):
Well, what I call the antis speculation cycle, David, is and it's natural and repetitive and I don't think that it will ever go away because it's connected to real economic pain. So, you know, economists love price adjustments because it's market allocating in the most efficient possible way, presumably available supplies to demand. You know, we'd love to talk about that but that process in the real world entails real economic pain. So for example, if prices go very high, then consumers experience some significant pain and a natural human psychological tendency is to look for the villain and that villain is often seen as the evil speculator who is the one that's driving prices up way past economic fundamental value but what's interesting why it's a full cycle is on the downside, if you have unusually low prices then the group that's experiencing the economic pain is on the producer side and producers will complain about the evil speculator driving prices well below what should be fundamental economic value.

Scott Irwin (17m 59s):
So it just repeats and it has certainly repeated over my entire professional career and you can read about it in lots of commodity books that have history of these kind of controversies. I think why it hit with such a charge in 2007, 2008 is because there was a ripe new target when the broad public went in search of villains. You had these relatively new commodity index funds and investments that were, they were truly massive new presence in the marketplace and it wasn't hard to make the argument that, gosh, they're just so big that they overwhelmed the normal supply and demand functioning of the market. So I think that that really explains why it became such a global firestorm is because in a sense it wasn't just the usual suspects of speculators in general, but it was a new easy to identify type of speculator and in fact a very unusual one that bought massively and just sat there in the markets and you know, it was new, you know, economists had some weren't in full agreement about what the implications of that new type of speculative player in the markets was and so I think that's what was the fuel that made that episode so intense and global in nature. And of course you have $145 crude oil that also makes a big difference.

David Greely (19m 39s):
Yeah. And at the time I was working at Goldman Sachs in the commodities research group and writing on the commodities index and that's, that's how I got embroiled in that story but you kind of got into it more as an analyst and economist of the markets. What made you get involved in that drama at the time?

Scott Irwin (19m 58s):
Well, I probably being honest probably because I'm a little crazy, but more seriously, I have always enjoyed consider myself a serious student of the history of the commodity markets and I've always had deep admiration for some really pretty obscure agricultural economist in the last a hundred years who really played critical roles and I believe literally saving the commodity futures markets from oblivion in periods when they were under much more severe attack than we saw in 07/08 and so I just have deep admiration. I knew two of the three, but the three that I really admired were Holbrook working out of Stanford, Roger Gray, who was a contemporary of workings at Stanford in the old Food Research Institute, and then Tom Hieronymus who worked here at the University of Illinois and whenever in their careers when these large controversies about the commodity features markets would erupt, they would step forward and take the slings and arrows and basically defend the markets.

Scott Irwin (21m 21s):
And not that I've ever considered myself anywhere in the league of those giants of my professions, but I kind of looked around and saw this controversy just erupting in 2007, 2008 and who's gonna step forward now and defend the place of these markets like, you know,

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these, these three agricultural economists did over and over and I kind of said, well don't see anybody else standing up. I guess I'll take all the sling scenarios that are out there and I just, I did make a conscious decision that I was going to try to play that role as best that I could and so I started, I wrote some op-eds and became very active in speaking. I testified for Congress and so I basically became a part of the global debate that was occurring in a very public way that I had never done before in my career. So that's how it happened and you could say in all honesty, that that decision is probably how I ended up writing a book because, you know, in the center of the book is that controversy in 2007/2008 and some of my adventures in as a part of that controversy.

David Greely (22m 44s):
Well, we're really glad you stepped forward at that point in time because from my own experience, I know that it would be like sticking your hand on a hot stove and if I wasn't in it, I wouldn't have tried to get into it, I don't think but it's so important because, you know, we've talked about ways that the markets can be undermined, but despite these threats that have happened over time, the markets, the commodity futures, markets survived. They thrive, they flourish, they remain the beating heart of the economy and that just doesn't happen. People make that happen and you mentioned, you know, Holbrook working Roger Gray, Tom Hieronymus, who you write about in your book, and I found it interesting as, as you know, thinking about this series where we're looking back at history for the, you know, lessons we can carry forward because they also look back to history in a way too, right?

David Greely (23:32):
I think they were looking back to what had happened in the Onion Futures market mm- which is a market that most people aren't familiar with because it doesn't exist anymore, but they took the lessons of that to defriend some of the broader commodity futures markets and I was wondering if you could share that story of, you know, what were the lessons they took away from them? Because I think it was very important, I mean, if I, if I read correctly in your book, was it Roger Gray who said he convinced president Nixon not to shut down the futures markets in the 1970s and a lot of that was based on some of those lessons from the Onion market.

Scott Irwin (24m 06s):
Right well, you have to have a little context in particular for the first a hundred years or so of the history of the commodity futures markets, they were under enormous and constant attack, largely from agricultural producer groups who despised the commodity futures markets and to give you a flavor for that, I grew up in the middle of that attitudes. I say in my book that I grew up on an Iowa farm and, and I, an extended Iowa farm family who was convinced that there were three groups of people in the world, or three someones that were out to screw them over and those three someones were generally speaking the large grain companies, the USDA and the speculators on the floor of the Chicago Mercantile Exchange and the Chicago Board of Trade. So that was and that got to the level of legislation, for example, after the, you know, the depths in the depths of the Great Depression, when we passed the original Commodity Exchange Act in 1936, it banned trading in commodity options.

Scott Irwin (25m 19s):
Commodity options were illegal to trade in the United States from 1936 through 1984. So this was real, but it had never in the United States gotten to the level of actually by legislation outlawing a futures contract. Commodity options were outlawed but in the 1950s, onion producers got really upset about the functioning of the Onion Futures markets, which was ironically enough that was the most successful post-World War II commodity futures market at the old CME. That was the bread and butter of the exchange and it became embroiled in this kind of ongoing target of producer groups and in 1958 lobbied Congress. There were a lot of hearings, but Congress eventually relented and passed a law that banned trading in onions and an onion futures market and that was a searing experience in particular for Holbrook working in Roger Gray and I think in response to that, what they thought terribly unjust destruction of the Onion futures market, they did some of the best work of their careers and some justly, some of the most famous.

Scott Irwin (26m 38s):
And so they really red redoubled their efforts to basically, because once you banned one, then those same groups and other markets are more likely and the next target was the potato futures market. So throughout the 1960s that was a target. So that's what happened with the Onion Futures market and then Roger Gray wrote what is still, I think, the most famous article ever written by an agricultural economist called Onions Revisited. It's a little six page article in the old journal Farm economics, and he showed how onion producers shot themselves in the foot. That seasonal price variation increased substantially after the death of the onion futures markets because you had less efficient sharing of risks in the onion commodity sector and to this day, onion futures are still banned.

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David Greely (27m 34s):
And that brings back to the point you brought early, that one of the economic roles of these markets is to allow that risk to be shifted to those in the, the market and the economy who can bear it better, almost like an offering of insurance in a way, and to smooth out the volatility in prices that we experience in these important commodities and I think, you know, we, we talked about the antis speculator cycle, anti-speculation cycle, but what's often called speculation in those moments is really the role of the speculators is to help with both that risk transfer and the smoothing out of the volatility rather than exacerbating it. How do you see the role of the speculators in the market or the so-called speculators?

Scott Irwin (28m 17s):
Most fundamentally, they're the source of the liquidity that allows those that want to offload price risk to do so at a reasonable cost that's fundamentally their role and the bigger, the better informed, the more expert class of speculators that you have, the more efficiently and more competitively that function will happen to me, that's their fundamental role but to do that, they're obviously taking on some enormous price risk. They're bearing those risks, you know, if you're long and you're wrong and prices go down, you easily blown out of the markets. Or if you're short prices go up the same thing. So they have, you know, then great incentives to collect information to try to assess the price environment you know, supply demand flows of money in and out of the markets to assess price prospects and intriguing enough by those incentives to bring that information and that expertise to bear means that you're getting prices ever and ever closer and closer to the perfect balance of supply and demand and the right price.

David Greely (29m 46s):
The thing I really enjoy about the onion future story is that idea of once you close down the market, it didn't take volatility down, it took the volatility of prices up because you didn't have those people that are willing to, to step in, take the other sides of trades. You don't have the information coming into the market that can help the market adjust. One of the lessons I took from commodities markets is that if you give the market enough time to adjust, you know, a long time to adjust, it only takes a small change in prices to drive the adjustment. If you want the, you know, market to adjust overnight or, you know, in the next month, it's gonna take a big price change and speculators can help bring that information to the market and get it, get it moving in the right direction. So it's like, if you want to encourage a farmer to plant for next season, it probably doesn't take a big increase in forward price to get them to do that. If you want someone to stop eating tomorrow, you probably need a pretty high price increase. So it's important.

Scott Irwin (30m 43s):
The way I like to think about it is that speculators are like your, the most forward troops in a battle. You know, they're the, the troops that go over the trenches first. They're the ones that, you know, make the economic adjustments happen because they're, you know, kind of forcing the questions, so to speak in the markets when there are big changes in information or dislocations and things like that and so their role is important and it's visible so it can easily make them targets.

David Greely (31m 23s):
Well it's important that they're thoughtful people like yourself who understand these markets that are understanding the importance that they bring to the economy and that the roles of those who often are taken as the antagonists in the story of markets are well understood as for the, the positive things they're bringing to the marketplace and I wanted to ask you, you know, as we wrap up carrying on in this tradition of Holbrook working and Roger Gray and others, I believe that writing your book is part of that tradition of trying to preserve the lessons of the past on how we can keep our commodity futures markets thriving and remaining vibrant and innovative. So the last question I wanted to ask you was, what do you think are the lessons that are the most important that we should be remembering for the future?

Scott Irwin (32m 14s):
That markets are more delicate than most people understand that they can be thrown off kilter easier than I believe is commonly understood you know, kind of going back to our first part of our conversation, they're, they're delicate balances of commercial interests that allow them to flourish and function and when you kind of get in there and hack away at the rules in a very crude fashion, you can have, you can profoundly harm those valuable functions of the marketplace and so I'm not, I don't want to come across as saying the markets never have problems, trust me, they have problems, but kind of just going in there and hacking away with severe rules or restrictions, rarely is helpful that, you know, you have to think about it. You have to understand at a really deep level how the markets work and the balancing of these contract terms and get in there.

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Scott Irwin (33m 26s):
And if some fiddling and messing with the dials and switches needs to happen, that can happen. But, you know, it's so easy to basically mess up these markets and I would be remiss to not at least mention, you know, the self-inflicted wound of the London Metal Exchange with the nickel futures contract. Classic example of a part of that market experiencing extreme pain from extraordinarily high prices in the immediate aftermath of the outbreak of the Russia, Ukraine war and that exchange made some, the decisions wouldn't make the front page, but they favored the short side of the market. They committed the cardinal sin of managing these kind of contracts and as far as I can tell, they killed the market. So that's the lesson. You can kill these markets fairly easily if you get them out of balance and out of kilter. They're incredibly important, but they're more delicate animals than people realize.

David Greely (34m 38s):
Thanks again to Professor Scott Irwin, Laurence J. Norton, Chair of Agricultural Marketing at the University of Illinois, and author of *Back to the Futures: Crashing Dirt Bikes, Chasing Cows, and Unraveling the Mystery of the Commodity Futures Markets*. We hope you enjoyed the episode. Join us next week with our guest, John Lothian, Executive Chairman and CEO at John Lothian and Company, Publisher of John Lothian News. We'll be discussing the people and times that created the Modern Futures Exchange in Chicago. We hope you'll join us.

Announcer (35m 09s):
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