NEWS ANALYSIS

How will agribusiness weather a storm?

Unpredictable weather puts profits at agribusinesses at risk every day. If this wasn't enough to motivate them to use weather derivatives in the past decade, can anything? Ian Hart

ASK agribusinesses what the greatest risks to their profits are and weather will undoubtedly rank highly. Strange, then, that a sector so highly versed in commodity and foreign exchange risk management has been slow to adopt derivatives linked to the weather.

Commodity exchanges clearly think they are important. Back in 2001, Liffe launched six weather derivatives based on EU cities, only to delist them in 2003. The world's largest commodity exchange operator, CME Group, now has contracts covering 45 cities, having launched Australian ones earlier this year. The National Commodity & Derivatives Exchange lists Indian weather derivatives, while the Dalian Commodity Exchange plans Chinese ones.

But the truth is, the trading is dominated by the CME's products and few, if any, agribusinesses currently use them – trading is primarily by the energy and insurance sectors.

Over the past dozen years, a weather market has been established. A joint Weather Risk Management Association (WRMA) and PricewaterhouseCoopers survey in June 2008 put the value of trades in 2007/08 at $32bn, 76% up from $19.2bn a year before. The number of transactions – futures and over-the-counter (OTC) derivatives – hit 985,000 contracts for 2007/08, a 35% rise from 730,000 contracts a year earlier.

With liquidity building, energy players are no longer just putting on hedges based on the weather to try to manage their longer term cash flows but are trading weather against their commodity positions. To assess whether agribusiness might follow this trend, it is important to know why the sector has been reticent to date.

Marty Malinow, president of the WRMA, listed three reasons. "For a long time – for the better part of the 1990s – commodity prices were pretty low so the total amount of value at risk was not dramatic," he said. "It was not like it was nine months ago when maize prices soared to $6 or $7 a bushel."

Second, the presence of cheap crop insurance provided by governments (notably in the US) kept the farming end of the business away. "People have said 'if I can get that for a song from the government, why take a chance on a new product?'," said Mr Malinow, who is also chief executive of Galileo Weather Risk Management Advisors, a global weather protection provider.

Finally, unlike energy, working out the best hedging index is not always straightforward. "There is a somewhat complex recipe of temperature, rain and sunshine at various points through the growing season that are key for crop development or yields or brix levels. I don't think the crop models are that nailed down," he said. "If you had a crop model based on weather inputs you believed the logical step would be to go and make a weather product around that crop model."

While it has built the largest exchange-based weather market, Felix Carabello, director of alternative investment products at CME, recognised that there is work to be done to encourage agribusiness. "Many agricultural companies obtain weather hedges through the OTC market," he said. "That said, agricultural companies are not using CME products because we have yet to list precipitation and ag-yield contracts. CME is working on listing this type of weather risk product."

There have been other challenges. Jeff Hamlin, director of business development at WeatherBill, which creates products based on air temperature and/or precipitation, said knowing the cost of risk transfer is crucial. For example, those worried about US winter wheat volumes this year know this is highly correlated with volume and distribution of precipitation over the next few months in the key growing regions. WeatherBill uses an electronic platform that can instantly price different drought scenarios for hundreds of markets in the US, creating a market for even a highly specific weather risk.

The platform has also showed that weather derivatives are not just for those that can stump up large amounts of capital. Previously a firm wanting to hedge $200,000 of risk where the premium would be in the $7,000 to $20,000 range would have found most risk capacity providers reluctant given the cost of the legal paperwork and so on. But WeatherBill's low cost model is suitable no matter how small the deal. "We can charge 'fair-value' even for contracts that hedge risks as small as $100," said Mr Hamlin.

More targeted products

Larry Heitkemper, vice president of weather services at US-based crop meteorologist MDA Federal, said a lack of viable contracts has limited past use. "Agribusiness is holding back due to ineffective structures. For example, seasonal rainfall is not always good surrogate for yield risk or revenue risk. Furthermore, there's not enough data, especially for rainfall. Some, including us, are trying to solve this problem by deriving spatial rainfall from radar or satellites but most of this work is still in the R&D stage."

Some of the greatest success has come outside the private sector. For example, the World Bank went to India, created the necessary infrastructure, kicked off early modelling and trained people to continue the work. Now, between 250,000 to 350,000 policies a year are traded there a year and the market is still growing. "It's a place where the foundation was laid properly and the notion has clearly taken hold," said Mr Malinow.

Perhaps agribusinesses have become stuck in their ways and believe some profit will always be written off. "First and foremost, you've got to care," continued Mr Malinow. "There has to be a fear factor. If there's no motivation to protect against weather, people are just not going to buy your product. We all have a fear factor about something happening to our house – a very low probability thing. The perceived probability is low but the severity and the effect on your life and your loved ones is high so you do something about it. One of the two has to be there: either the perceived risk or the perceived severity of even a remote outcome has to be big enough and scary enough."

Thus input and seed sellers whose returns are dependent on how the weather affects their buyers or livestock companies facing high feed costs could lead agribusiness interest in the area.

"Where commodity prices were nine months ago probably got you as close to putting their feet to the fire as you've ever had a chance to do. We were starting to have conversations (with agribusinesses) where before nobody really seemed to care," said Mr Malinow, although he expressed concern that a perception of deflation has already eroded some of this interest.

Although risk premiums are often built into commodity markets as hurricane, frost or other sensitive points of the season are reached, it is unlikely these would compensate fully if the worst did happen. "The commodity market may price in weather risk, but the weather market may give a better price," said Mr Hamlin. "The commodity market often overcharges for weather risk because weather panic is greater than the actual weather risk itself. So it makes sense for commodity traders to see if they can hedge the weather portion of a commodity risk more efficiently in the weather market than in the commodity market. This is something that energy traders have been doing for the last decade."

It might take another damaging spike in prices rather than the fear of more unpredictable weather to spur those at most risk in agriculture into action. "Increasingly unpredictable weather has been in the zeitgeist for three, five, seven years now depending on who you talk to and where you are. That doesn't seem to be enough of a driver in and of itself," said Mr Malinow. "It's got to hit people in their pockets; at the end of a day it's a financial product. If the motivation is there, figuring out the right index or the sweet spot product gets done; it always does."

Mr Malinow believes more agribusinesses will come to realise the benefits of weather derivatives as more and more factors stack up to threaten the status quo. "What could be a wild card right now is that in the current financing environment where there is just a lot less capital out there, risk management might become more important to the borrower but also the lender," he said. "Those sorts of changes in paradigm could be exactly what kick-starts an industry into looking into all the possible ways it can de-risk itself."