

# Capital and finance: Weather risk

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Weather derivatives have been around for a long time. It seems, to BRAVE Partners, that the time has come for this market to emerge.

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## English weather

The English as a nation are renown for talking about the weather. Should you attend a dinner party in England, be sure to be equipped with some interesting topics for discussion – or prepare your self for the risk of a dull conversation about the weather.

## Weather risk

Apart from the risk of dull dinner party conversation; many industries have significantly more subtle and interesting exposure to weather. The obvious candidates are the energy utilities. A cold spell will significantly increase the demand for gas (and often increase wholesale prices). Retail gas prices are fixed in many countries. The utility can hedge wholesale prices forward on anticipated demand, but exceptional demand causes a loss. Other, less obvious uses are:

- Construction companies to hedge the risk of project delays due to cold weather. In particular concrete cannot be laid in freezing conditions.
- Brewing companies hedging against rainfall destroying high quality barley that it has purchased.
- Agriculture hedging against too little or too much rainfall.

## Real transactions

All of the above are real transactions that have been executed in the markets.

## Two sides

One of the major advantages of weather markets is that it really does have two natural sides. Over the weekend, BRAVE Partner Christopher Cloke-Browne was out sailing with some friends. The evening conversation brought up the now standard question: "Aren't derivative markets a zero sum game?" Oddly most market participants do not know the answer to this question – a part of the reason why bankers do get such bad press.

## Interest rate derivatives

The derivative market is founded on interest rate derivatives. Borrowers want low interest rates, savers want high interest rates. No

The weather derivatives market is small, specialised and niche. A number of transactions have been successfully executed and it does have attractions over other emerging derivatives markets, such as the longevity markets: there are often two clear, identifiable sides to any weather transaction. This is not the case for longevity risk.

one knows what interest rates are going to be in the future. There is therefore a value to both a borrower and a saver to agree today what an interest rate will be for the next 5, 10, 30 or even 50 years. This removes a risk from each party giving them more certainty in their business and therefore the ability to plan and develop more effectively. This de-risking is a win-win and this is the purpose that interest rate derivatives serve.

### Match making

The problem is that it is hard to find a borrower and lender with the opposite sides of the same trade and pair them at exactly the same time. It is possible and it is done in some of the less liquid markets – for example longer dated swaps in Swedish Kroner. In larger, deeper, liquid markets – 80% of the trades

are driven by speculators who are betting on rising or falling rates. This speculator activity means that the actual end users can find a price and a trading partner for almost any transaction at any time. This liquidity has a value. The speculative activity is a zero sum game, but it creates the liquidity. The liquidity allows ease of use for the win-win end use of the market.

Without a natural “other side” the market really does become the playpen of the speculators and run the risk of becoming zero sum.

### Other derivative markets

As banks seek to add new product lines, many risks are being brought into the derivatives markets.

### Longevity markets

Longevity is the latest. Whilst this market is interesting, active and growing – BRAVE Partners believes that it has a short shelf life. There is something of the other side for longevity in the life insurers who sell classic life insurance (protection business). This offset is a little tenuous as the populations that generate the mortality risk (usually middle aged) and the longevity risk (retired) are different. It is unclear how changes in mortality rates in the two populations do move together. For many years Swiss Re ran the view that there was no offset, but this has changed in the last five years or so.

However, in general there is no natural “other side” to longevity – and certainly not to the scale of longevity risk in UK pension schemes and life insurers. Without a natural “other side” the market really does become the playpen of the speculators and runs the risk of becoming zero sum.

### Let the sun shine

Many weather markets do appear to have a natural other side. Frost is bad for construction, but good for ski resorts. Rain is bad for the brewer’s stored barley, but good for a farmer (at the right time).

These risks are currently managed in many industries through a variety of ad hoc methods and measures. There will be some logic to the system, but no real measurement or efficiency in it. In the construction industry, weather related delays are shared between the project sponsor, the contractor and the sub contractors. However, the exact quantum of risk taken by each is not measured, monitored or explicit – a recipe for law suits.

## BRAVE Partners services

BRAVE Partners is working on a number of projects related to weather derivatives. The firm can advise companies on the types of transactions that are possible within the markets and the impact that these could have on their risk profile.

If nothing else, it should improve dinner party conversation about weather.

## Interaction

If you enjoyed this commentary and would like to receive a weekly update by E-Mail, then please contact BRAVE Partners on [commentary@bravepartners.com](mailto:commentary@bravepartners.com)

If you would like to comment on the content of this piece, then please send an E-Mail to [discussions@bravepartners.com](mailto:discussions@bravepartners.com)

- Weather trading is returning.
- BRAVE Partners is a strong proponent of weather risk trading. The firm believes that weather risk has the right properties to create a vibrant and useful derivatives market.
- BRAVE Partners is advising on projects where businesses are seeking to enter the weather risk market.
- The firm can advise industry on the potential of the weather market to mitigate their own risk.

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