



Basis Risk in Insurance

A Universal Challenge

Basis Risk in Insurance: A Universal Challenge

By Laurent Sabatié

As all of us in the parametric insurance sector work to push forward the fortunes of our new, innovative, and highly advantageous form of risk transfer, the major concern we hear repeatedly from risk managers is 'basis risk'. The widespread perception that parametric insurance is particularly prone to basis risk is a myth we need to dispel.

Inherent by design?

We are delighted to see PwC Zurich writing about parametric insurance, and to have the excellent news source *Artemis.bm* cover their publication. However, we don't want to let PwC's booklet, *Basis risk in parametric insurance: challenges and mitigation strategies*, go by without comment. PwC declares that basis risk "is inherent in parametric insurance due to the nature of its design". We don't think so. It is "inherent" only in badly designed parametric insurance.

We believe PwC's paper should have been called, simply, *Basis Risk in Insurance*. Specifying basis risk in parametric insurance implies that basis risk is a problem unique to parametric structures. It's not. Basis risk is an enormous challenge under conventional insurance, too, and always has been. One hears only very, very rarely of an insurance policy covering completely the entire economic loss suffered by the insured.

PwC identifies nine potential sources of basis risk in parametric cover, before explaining ways to minimise them. In answer, here are nine sources of basis risk in conventional insurance:

1. Deductibles and coinsurances

Almost all conventional insurance policies require the policyholder to share in the loss, either by retaining the first several thousand or more, or by sharing a percentage of the entire loss. Parametric generally has no deductible.

2. Exclusions

Very often policyholders find the peril that caused their loss isn't covered. 'It wasn't designed to cover that' is a huge source of basis risk. Ask thousands of businesses hit by flood damage in the US in recent years, or anyone who had a Covid BI claim.

3. Valuations

Very often, policies cover the cash value of items, rather than replacement cost value. Since many assets depreciate 30% as soon as they are purchased, that causes a massive basis risk when recovering for, say, a brand-new fleet of vehicles destroyed in a warehouse fire.



4. *Underinsurance(1)*

Increasingly a problem as rebuilding and replacement costs skyrocket, a great many property insurance policies pay only the portion of a coverage limit that matches the portion of the actual value insured. The insurer might say they've reduced your claim by the amount of the underinsurance. In other words, if you insure your property for \$10 million, but it's worth \$15 million, then you suffer a total loss, you can expect a payment of only \$6.6 million. That's a huge basis risk.

5. *Underinsurance(2)*

Obviously if your limit is too low, your loss won't be covered entirely, regardless of the policy wording. It's the most basic of basis risks.

6. *The loss is 'intangible'*

Conventional insurance is based on indemnity, which intends to make good any financial loss suffered due to the manifestation of the insured peril. If your loss is, say, reputational damage leading to a loss of attraction, almost any conventional insurance policy is unlikely to respond.

7. *Time is money*

Unlike parametric policies, which are paid in days or weeks, claims under conventional insurance policies take a very long time to settle – sometimes years. You might 'earn' some interest, but in the interim, you have nothing.



8. *Secondary perils*

Damage caused by a peril triggered by an insured peril is very often not covered. For example, if a thug breaks your skylights, then rain floods your building, the glass is probably covered (unless it's below your deductible or the result of 'civil commotion'), but the flood is likely not.

9. *Misrepresentation*

This happens when the description of your business provided at the time the insurance was placed is inaccurate at the time of the claim. It doesn't have to be intentional. Say you repair vehicles, and are insured for that purpose. You may agree to store a customer's vehicle while they travel, and charge a small fee. Suddenly you've misrepresented your business to your insurer, who may legally avoid your claims as a result. Basis risk!

We agree with PwC: basis risk can exist in parametric insurance. But it does so in all insurance which isn't carefully crafted to match the client's risk profile.

This is the message we need to deliver!



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