



Parametric insurance for agriculture in the LatAm region: ESG considerations

Brazil | Chile | Peru

November 2023

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Introduction

Climate phenomena is becoming more frequent. Floods, droughts, frosts, precipitations, amongst others, are more severe, extensive and are appearing in unusual locations.

Many affected companies and farmers are barely able to survive the resultant financial losses from the destruction of agriculture products, their main source of income. Thus, exposing their vulnerability vis-à-vis climate change. This problem impacts all Latin American countries which has been recently amplified by floods and droughts in Chile, La Niña phenomenon in Brazil, the El Niño phenomenon and Cyclone Yaku in Peru.

In Brazil, where it is still spring, Rio de Janeiro experienced its hottest day of the year on 18th November, reaching 41.9C as a result of the El Nino phenomenon. The World Meteorological Organisation has said that due to El Nino, this year is already set to be the warmest on record and 2024 may be even warmer.

Risk transfer instruments, such as insurance, may alleviate climate losses, especially when insurance pay-outs are received promptly.

There are different insurance products available in the market for the agricultural sector that may reduce the financial burden caused by climate change. Parametric insurance is such a product, albeit it is different to traditional coverage.

Here, we will provide an overview of the parametric insurance market in three countries severely hit by climate change: Brazil, Chile, and Peru.

Parametric insurance (also called index-based insurance) is a policy that bases its coverage and activation on the intensity of the covered natural events (such as rainfall volume, wind force, earthquake magnitude). The loss is pre-defined with a technical and specialised parameter. So, if the specific covered event occurs, the policy will be triggered and the policyholder will receive an agreed payment.



According to the World Bank (2015), a striking feature of parametric insurance is the possibility of compensation without the need for an on-site analysis of loss.

This feature is what makes this type of insurance unique and gives parametric insurance an advantage over traditional policies.

Parametric coverage provides the speed required to obtain resources in situations characterised by adverse climatic events which often require immediate emergency action.

In the past, parametric insurance products focused on providing protection gap solutions. Nowadays, it is a competitive alternative for policyholders who, otherwise, would face significant premiums for climatic phenomena risk.

The current global demand for sustainable development requires the alignment of business activities to certain ESG standards which will contribute to positive impacts and corporate growth. As part of the “E”, parametric insurance has proven to be helpful in times of hardship, caused by climate change.

Latin America has had the benefit of parametric products for over 10 years. Governments especially have taken up parametric insurance as part of their national disaster strategies. However, parametric products have mainly been used in the property and construction sectors. This is about to change.

Last year’s extreme flooding and drought events caused significant loss and damage to the agribusiness community. Consequently, insurers have either raised premiums on traditional products or pulled out altogether from the sector, creating a protection gap. As such, we are now seeing parametric products enter the agriculture market, and used to complement traditional products rather than replace them. Risk managers of Latin American companies are creating more robust programmes by using parametric products to complement exclusions, deductibles and coverage gaps.

This report seeks to raise awareness for governments, corporations and farmers about the benefits of parametric insurance products to protect the agriculture sector.



Brazil

The challenges of adapting general ESG principles to our national laws and regulations may appear intimidating. This is because ESG covers a wide area of policy across our rich, diverse culture and its many particularities. However, with challenges comes opportunities, in particular, to tackle the protection gap created by the increasing extreme weather events in Brazil.

More than 25% of Brazil's GDP is based on the agribusiness production chain. This sector is intimately dependent on climatic conditions and therefore extremely vulnerable to adverse natural events. Accordingly, the country presents itself as a promising laboratory for the development of parametric insurance, once the gains that this methodology can achieve are objectively verified.

The embedding of parametric insurance will pave the way for risk management investment to become central to government policy and corporate strategy. In the face of increasingly frequent climatic adversity, the insurance market has become a central pillar for the stability of companies and the national economy. Consequently, the growth of parametric insurance as a competitive tool in the Brazilian insurance market is looking likely.

A recent study released by Allianz Global Corporate & Specialty (AGCS) listed natural catastrophes second (to cyber incidents) amongst the greatest risks for Brazilian companies. Damage and significant losses due to the worsening droughts in the Northeast and the South of Brazil, and extreme rainfall in the South, Southeast and the North, is accumulating evidence that it is inadvisable to postpone the future handling of climate change effects.

Innovation will help mitigate the impacts of climate change and there is great willingness by insurance companies in Brazil to support innovation. However, one of the main challenges faced by parametric insurers here is a lack of regulatory clarity.

This is starting to change: SUSEP, the insurance supervisory body in Brazil, released Standard No. 666 on 29 June 2022. This standard introduces guidelines in the insurance industry to help insurers work on mitigating the effects of catastrophic weather events. Amongst these guidelines is the definition of key sustainability concepts and directives for their operation. These will enable the insurance market to adapt to new ways of dealing with climate change. This new scenario is encouraging the development of some innovative products.

There is significant movement on the part of insurance companies to direct their activities towards parametric insurance. The first Brazilian parametric insurance policy, built by an insurance company (Newe Seguros) in partnership with the National Institute of Meteorology (INMET), protects cocoa producers' revenues by monitoring rainfall levels in the state of Bahia.



The mitigation of climate damage can also be achieved via collaboration between insurance companies and the government.

An example of this is the Rural Insurance Premium Subsidy Program (PSR), implemented in 2004. The program is a public-private partnership managed by the Ministry of Agriculture, Livestock and Supply (MAPA), where the government partially covers the cost of insurance premiums.

In addition to providing greater security for companies, the insurance industry has increased productivity.

As demonstrated, the insurance sector has a lot to contribute to the stability of the market and to society as a whole. In a reciprocal dynamic, corporates increasingly value the importance of insurance when faced with new elements (e.g. natural catastrophes) that pose great risks to their endeavours and assets.



Chile

Who would have thought 20 or 30 years ago that the insurance industry and agriculture sector could be so close today?

Technological developments have facilitated the insurance industry to provide solutions for the agriculture sector. These solutions cover a wide spectrum. They not only relate to machinery or property installations, but also include fruit, crops, cattle, etc.

The agriculture industry is one of the most relevant actors in Chilean economy, adding circa 3 to 4% to the gross domestic product. Therefore, it is an interesting market for insurers to jump into. This is especially since insurance penetration in this market is not yet very developed. As such, the Chilean State has welcomed increased participation from the insurance industry.

Presently, the Chilean Government provides subsidies to small and medium sized farms towards their insurance premiums to allow protection against risks impacting farming activities.

Historically, the legal viability of parametric insurance was in doctrinal discussion only. It does not require damage to provide coverage which is contrary to certain insurance contract regulations which require a link between a claim and an actual economic loss. However, Chile has recently updated its laws and insurance regulations which now recognise and support parametric insurance products. Consequently, parametric products are flourishing.

By way of example, in March 2023, the Chilean State bought a parametric policy to cover the country against earthquakes valued at US\$630m, by trading in catastrophe bonds and reinsurance swaps.

Parametric coverage has also provided social impact by allowing small and medium sized farms to avoid the lengthy loss adjustment process. In this way, compensation (pay-outs) can be provided to policyholders much more promptly. Social impact has also ensured that all climate risks to agribusinesses are protected and covered.

One challenge of parametric insurance within the agriculture industry is a lack of reliable real time and historical data to feed underwriting models. Producers of parametric products have consequently found it difficult to implement sensor technology (which requires reliable data) amongst small and medium sized farms.

An additional challenge that could arise is the expense associated with parametric products, particularly due to the scarcity of dependable data. The Chilean government wishes to broaden its coverage of catastrophe insurance to encompass wildfires, which have been notably growing in both frequency and intensity. However, insiders within the Chilean Finance Ministry suggest that the lack of available data for constructing accurate underwriting models has rendered parametric coverage too costly to be viable. Nonetheless, private purchasers have managed to secure parametric coverage using a "green index," which is activated based on the extent of damage caused by wildfires.

// "There is some pressure on the (insurance) market now, as Chile is one of the main buyers (of parametric insurance) and there has been an excess of forest fires there in the last season. It is very likely that there will be an adjustment of costs in the short and medium term".

Ramon Mesuraca, regional head of property and casualty in Latin America at Willis Towers Watson (WTW)

Market demand may therefore eradicate the cost issue and we will see more innovative parametric covers for the agriculture sector in Chile.

The environment will also benefit from the insurance industry which may include policy conditions of "environmental care", such as avoiding the use of some pesticides and other chemicals.

The fusion of the insurance industry and Chile's agriculture sector is a testament to technological innovation. The agriculture sector presents a promising market for insurers and reinsurers, especially as insurance penetration remains relatively low. Market demand and government involvement may alleviate current challenges like data scarcity and significant cost.

In summary, the convergence of insurance and agriculture in Chile, driven by technological advancements, legal support, and environmental considerations, not only safeguards economic interests. It also paves the way for a resilient and sustainable agricultural future for the country.



Peru

Peru is a country with great biodiversity, with the agricultural sector representing 5.8% of the country's GDP in 2022.

However, most small agricultural producers are not able to recover the losses of agricultural land, depletion of water sources and destruction of crops; Due to climate phenomena such as the recurring El Niño, or extraordinary events such as Cyclone Yaku.

Not being prepared for these extreme climate events translates into a loss of millions of US dollars. This could be mitigated if a culture of agricultural insurance and, especially, parametric insurance, is spread.



In the local insurance market, there are different traditional policies available for the agricultural industry, but these are now insufficient to meet farmers' coverage needs due to climate change.

For example, the Catastrophic Agricultural Insurance product (SAC by its Spanish acronym) is presented as the most efficient solution within traditional insurance, designed to respond to these risks.

This product covers losses per planted area or hectare and, to verify the extent of damages, a random check of a few lots is performed. After such verification, insurance claims are paid, making it unnecessary to prove the total loss of a harvest. However, SAC is not as efficient as parametric insurance because it still requires a thorough claims adjustment process which may prolong the payment process in times of extreme financial hardship. This would affect a large group of small farm(er)s.

Parametric insurance covers risks and losses based on specialised parameters determined from a prior technical evaluation. This is further facilitated by the use of technology. Thus, if a covered loss occurs, the policy is activated and insurance proceeds are paid, without the need to make an assessment of actual damages suffered. While covering the risks of climatic phenomena, parametric insurance enables time savings, faster payment of claims, and lower administrative costs of claims, amongst others.

In Peru, there is no specific regulation on parametric insurance, but neither is there a rule prohibiting it. However, there may be some legal hurdles to overcome given the structure for insurance in the applicable legal framework, in particular, the Peruvian Insurance Contract Law (PICL).

According to the PICL, any risk can be covered provided there is a current or contingent insurable interest. In the case of parametric insurance, such a rule would be fulfilled to the extent that there would be an insurable interest defined under the risk of the event occurring, within certain parameters.

Similarly, the Peruvian insurance legal system has adopted the theory of 'adequate causation' to prove the causal relationship between the insured event and the covered losses. Under this principle, the loss must be the consequence of one of the risks covered by the policy.

A means to determine causation is through a claim's adjustment process. However, as mentioned above, parametric insurance does not need an adjustment process. This does not mean that there is no examination of the causal relationship. This is found in the parameters used and is determined through an assessment performed prior to the loss. Therefore, we consider that the principle of 'adequate causation' is fulfilled by parametric insurance.

The PICL establishes that it is the policyholder's burden to prove the occurrence of the loss and the amount of damage caused. However, there is no express prohibition for the parties to agree the occurrence of the loss be verified in an anticipated manner by means of parameters.

The Peruvian insurance market has a parametric insurance product currently registered in the official registry of the Superintendence of Banking and Insurance of Peru under the name of 'index-based insurance'. This product is not intended for all risks related to climate change, and only covers excess or deficit of rainfall.

Whilst this indicates that this type of insurance is locally accepted, it mainly reveals that parametric insurance is slowly entering the market. However, the pace of entry and development does not match the demand for this product. Farmers need parametric insurance now to enable them to quickly and effectively recover losses caused by climatic risks so that they are able to stay solvent.

The time is ripe for the Peruvian insurance market to evaluate the possibility of broadening its insurance offering for the protection of the agricultural sector, as other countries in the region are doing.

Conclusion

The importance of the agriculture sector to this region is significant, as demonstrated by the sector's GDP percentages for these three countries. The protection of this sector against climate change damage cannot be framed in terms of traditional insurance only. Parametric insurance provides the possibility of a better response to the immediate needs of farmers through efficiency in the payment of insurance claims.

It therefore seems natural for this insurance product to be increasingly used to combat climate change in the agriculture sector. Whilst we do not intend to detract from the need to protect farmlands through proper infrastructure, parametric insurance and other agriculture-oriented insurance products have proven to be more successful in reducing losses than actual containment barriers near agricultural fields.

Parametric insurance can keep farmers solvent and profitable in spite of the destruction brought by climate change.

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