

Scaling Parametric Insurance in Asia

*An in-depth analysis across macro, meso
and micro levels*

27 August 2026

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Acknowledgements

The authors would like to thank the institutions and individuals listed below for their time, insights, and constructive engagement, which materially informed the analysis presented in this report. Their contributions reflect thoughtful consideration of supervisory practice, market developments, and the practical realities of parametric insurance across diverse Asian contexts. Participating supervisory authorities include the Brunei Darussalam Central Bank (BDCB); the Financial Services Authority of Indonesia (Otoritas Jasa Keuangan, OJK); Japan's Financial Services Agency (FSA); the Insurance Commission of the Philippines; the Monetary Authority of Singapore (MAS); the Insurance Regulatory Commission of Sri Lanka (IRCSL); Chinese Taipei's Financial Supervisory Commission; and the Office of Insurance Commission (OIC) of Thailand. The authors also acknowledge the Southeast Asia Disaster Risk Insurance Facility (SEADRIF) Insurance Company for providing insights on sovereign and regional parametric risk-financing mechanisms. The views expressed in this report are those of the authors and do not necessarily reflect the official positions of the contributing institutions.

Suggested Citation:

Global Asia Insurance Partnership. (2026). Scaling Parametric Insurance in Asia: An in-depth analysis across macro, meso and micro levels. <https://www.gaip.global/publications/scaling-parametric-insurance-in-asia/>

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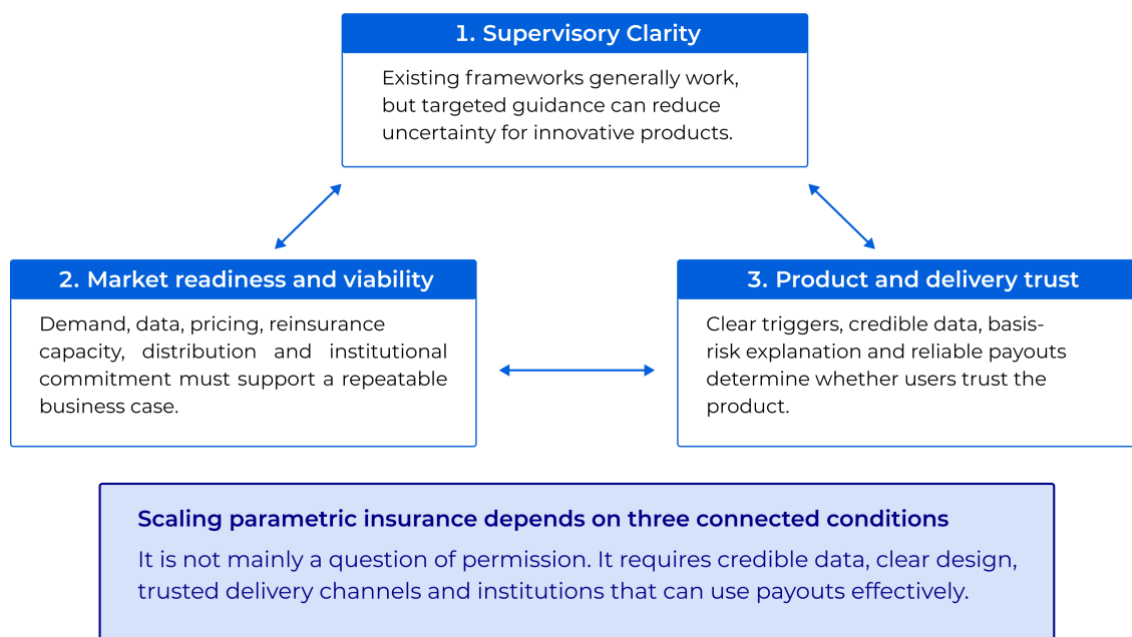
Executive Summary

Parametric insurance is increasingly recognised as an innovative insurance structure capable of supporting a wide range of risk-management objectives. While often associated with disaster and climate-related applications, parametric mechanisms are also being deployed across agriculture, energy, health and longevity, travel, supply chains, and other sectors. Across all these contexts, the core appeal remains consistent: objective trigger indices, rules-based payouts terms, and swift settlement remove the uncertainty and delay associated with traditional indemnity claims.

These products are positioned as flexible instruments that complement traditional indemnity insurance and other financial protection mechanisms. This study assesses how parametric insurance is currently regulated, supervised, and implemented across selected Asian jurisdictions, and examines the supervisory, market, and operational conditions that shape its uptake and scalability. It also considers how these conditions influence the maturity of parametric markets and the extent to which current practices enable or constrain the transition from isolated pilots to sustained, system-wide use.

The study finds that progress depends equally on three interconnected dimensions. First, supervisory frameworks across Asia generally accommodate parametric insurance without fundamental reform, though targeted clarifications would support more confident market development. Second, market structure and private-sector appetite are decisive: distribution capacity, data infrastructure, and institutional commitment determine whether programmes move beyond pilots into repeatable offerings. Third, product design and operational factors, particularly trigger credibility, basis risk management, and payout reliability, shape whether parametric insurance delivers on its core value proposition of rapid, predictable liquidity. The sections that follow address each dimension in turn.

Figure ES1: What determines whether parametric insurance can scale?



The following findings unpack these three conditions in more detail, starting with the supervisory environment, before turning to market viability, delivery capacity and user trust.

Existing supervisory frameworks generally accommodate parametric insurance without requiring fundamental reform, although targeted enhancements could further support scale and clarity. Across the assessed jurisdictions, parametric products are typically treated as a form of non-life insurance and assessed through established licensing, conduct, and prudential regimes. While this approach provides flexibility for innovation, some stakeholders indicate that greater supervisory clarity or explicit reference may support investor confidence and facilitate the transition from pilot initiatives toward scaled market deployment, while maintaining oversight where consumer protection, market integrity, or prudential risks may arise. From a prudential perspective, parametric reinsurance is similarly accommodated within existing solvency and capital frameworks, with supervisors focusing on technical defensibility, enforceability of contracts, and the insurer's ability to demonstrate effective risk transfer.

Product approval processes reflect continuity with established supervisory standards, with a strong emphasis on transparency, fairness, and conduct. Supervisors consistently prioritise plain-language documentation, disclosure of triggers and data sources, and explicit communication of limitations such as basis risk and the possibility of non-payouts. Supervisory scrutiny centres on whether products are understandable, defensible, and aligned with their stated risk-management purpose rather than on the parametric structure itself, although additional supervisory clarity or guidance, particularly regarding the credibility and suitability of indexes, may further support product development, in line with IAIS guidance. Consumer protection is similarly framed through the application of general conduct standards, including transparency, suitability, and disclosure, applied proportionately to product complexity and target markets.

Innovation frameworks and supervisory practices play a targeted and transitional role in supporting parametric insurance. Most jurisdictions operate sandbox or innovation arrangements, but their application varies depending on supervisory assessments of novelty and risk. Sandboxes are more commonly used where products rely on unfamiliar triggers, alternative data sources, or unconventional delivery models, whereas conceptually familiar products are often assessed through standard approval pathways. Supervisors also acknowledge the role of ex-gratia payments during pilot or early implementation phases, particularly in response to basis risk outcomes. However, supervisory tolerance varies, and sustained reliance on discretionary payments is generally viewed as undesirable due to risks to contractual clarity and product discipline.

Data quality, transparency and trigger credibility are foundational to supervisory confidence and market trust. Supervisors consistently emphasise the importance of reliable, verifiable, and independent data sources, transparent trigger methodologies, and the use of historical analysis or back-testing to demonstrate index performance to both supervisors and policyholders, particularly in microinsurance contexts where IAIS guidance highlights the need for clear and credible index design. These considerations are not treated as purely technical issues, but as central to the credibility and scalability of parametric insurance, particularly in the context of non-payout outcomes. At the same time, apparent basis risk failures often reflect gaps in communication rather than deficiencies in the index itself, underscoring the importance of clear explanation of trigger logic and payout conditions.

Commercial viability depends on private sector appetite, distribution capacity, and pricing feasibility. Market participation is shaped not only by technical feasibility, but by the presence of stable counterparties across the value chain, including index providers, distribution partners, and risk-bearing capacity. Data availability and modelling capability influence trigger calibration and pricing, but are rarely the sole binding constraint where alternative approaches can maintain transparency and credibility. Pricing remains a critical constraint, with conservative assumptions in the absence of strong data increasing costs and limiting affordability, reinforcing the need to test pricing viability early in product design. More broadly, the transition from pilot initiatives to scalable programmes depends less on technical feasibility than on the ability to sustain viable business cases, achieve sufficient scale, and establish durable institutional arrangements. Where these conditions are weak, initiatives often remain in pilot stages or fail to mature into sustained market offerings.

Distribution, trust, and digital infrastructure jointly determine whether parametric insurance can achieve sustained uptake. Successful programmes rely on intermediaries that are embedded in end-user relationships and can integrate enrolment, communication, and payout facilitation into existing service channels. Consumer awareness and trust are equally decisive, with misunderstanding of triggers and basis risk remains a primary driver of dissatisfaction, particularly following non-payout events. Digital infrastructure can support scale by reducing operational friction through faster enrolment, automated verification, and rapid payouts, but it does not substitute for clear communication or trusted delivery channels.

At the macro or sovereign level, the dynamics are distinct. Governments face pressures rooted in budget approval processes, public accountability requirements, and public-finance norms that emphasise demonstrable loss. These factors can complicate adoption of index-based instruments regardless of their technical merit. Distribution channels are not the primary constraint at this level; rather, successful sovereign parametric arrangements depend on alignment with procurement rules, fiscal management mandates, and political economy considerations. In several jurisdictions, sovereign risk transfer is achieved through state-backed entities, regional risk pools, or capital-market instruments that operate partly outside conventional insurance supervisory frameworks. These pathways require engagement across finance ministries, disaster risk management agencies, and development partners – a different institutional logic from the issues discussed above which applies more meaningfully to micro and meso-level programmes.

Parametric insurance is best understood as a liquidity instrument and, in some contexts, a mechanism to support greater insurance inclusion: it provides predefined cash when an agreed trigger is met, rather than compensating for measured loss. Its value therefore depends not only on the speed of payment, but on whether that payment is calibrated to the user's actual financial and operational needs. A payout creates meaningful benefit only when it is structured to support specific decisions –for example, releasing emergency budget resources, maintaining service delivery, stabilising cash flow, or meeting immediate recovery expenses. Where parametric products are designed without clear linkage to these underlying decision and financing processes, rapid payment alone does not ensure effectiveness. In such cases, the instrument may function technically as intended but fail to deliver practical impact.

These findings indicate that advancing parametric insurance in Asia depends only partly on supervisory clarification. Coordinated efforts are needed across wide ranging areas: to strengthen market infrastructure, improve the availability, transparency and credibility of data, build trust, and embed parametric solutions within existing risk-management and financing systems. Isolated interventions, be it data or product or distribution or supervisory, are unlikely to lead to sustainable scaling of parametric insurance without alignment across all the layers.

These findings form the foundation for the GAIP Parametric Framework, which translates these insights into a structured diagnostic lens to guide assessment, surface constraints, and inform implementation pathways, while supporting coordination across the layers.

1. Introduction

1.1 Context

Across Asia, households, businesses and governments are facing a widening spectrum of risks with significant financial consequences. Some are familiar, such as typhoons, floods and earthquakes. Others reflect transitions in Asia: rapid urbanisation that concentrates exposure in high-risk areas, demographic shifts, changing levels of inequality, and the emergence of shocks such as pandemics, supply-chain disruptions, cyber incidents or non-damage business interruption. These trends compound long-standing insurance protection gaps and place stress on public finances, financial systems and household resilience.¹

Traditional financial tools, including indemnity-based insurance, social protection mechanisms and disaster relief funding, are under growing pressure. Insurers face challenges in pricing emerging risks in an era of changing climate and economic volatility.² Governments are being asked to absorb increasing contingent liabilities at a time when fiscal space is constrained. Many individuals and small enterprises lack access to affordable and appropriate coverage. Even within expanding middle-class populations, insurance uptake often lags behind rising asset ownership and income, leaving families exposed to events that can erode long-term progress.

Risks are becoming more interconnected. The COVID-19 pandemic showed how unexpected events trigger prolonged business closures locally, nationally and globally. Energy instability affects small manufacturers. Weather extremes disrupt supply chains. Transportation shocks impede commercial activity. These stresses differ in origin but share two characteristics: (i) they generate financial loss, and (ii) the speed of recovery matters. Asia therefore requires financial instruments that can respond to both physical damage and income disruption, business interruption and other forms of loss that accompany modern risk.

THE PROTECTION GAP

Protection gaps across Asia reflect a persistent mismatch between the economic impacts of adverse events and the resources available to absorb them. These gaps are not confined to natural hazards. They arise whenever shocks create losses that are either uninsured, underinsured or funded too slowly to prevent longer-term setbacks. In many jurisdictions, this mismatch has widened as economies develop and the scale of potential losses increases faster than the penetration or relevance of available insurance options.

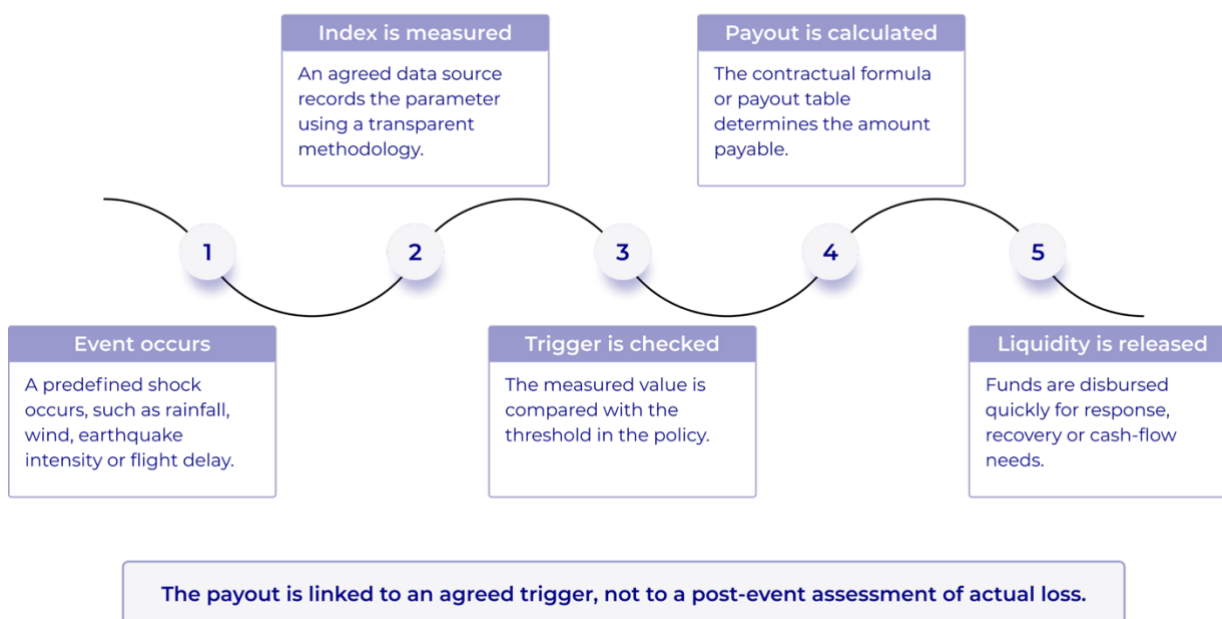
Protection gaps are significant both because losses are large and because the timing of financial support influences recovery outcomes. Delayed resources, from any source, amplify the economic and social consequences of shocks. Tools that provide predictable, rapid support therefore have an important role within broader risk-financing systems, especially where indemnity assessment is complex or where liquidity constraints are most acute.

¹ Thorburn, 2025a

² Khoo, F., & Yong, J., 2023

Parametric insurance³ offers a solution. By linking payouts to predefined, objective measures, parametric insurance can deliver rapid and predictable liquidity. Objective measures available are conceptually diverse and may include hazard intensity, rainfall deviation, temperature thresholds, seismic intensity and location, or even cyber-attack events. International parametric products now include applications for non-damage business interruption⁴, flight cancellation⁵, pandemic triggers and energy outages⁶, illustrating the potential range of uses. This makes it relevant for a broad set of contingent financial exposures where speed, objectivity and transparency are desirable.

Figure 1: How parametric insurance converts an event into rapid liquidity



Despite this potential, parametric insurance remains modest in its application across most Asian markets. Existing offerings cluster around agricultural risks, simple weather indices or donor-supported pilots. Expansion into additional risk classes, which is increasingly common in other markets, has been minimal in Asia. Globally, the parametric insurance market has expanded into substantive and increasingly diversified segments of non-life insurances. Industry assessments estimate the global parametric market at approximately USD 16.2 billion⁷ in 2024, with projections reaching USD 32.7 billion by 2034.⁸ Natural catastrophe-linked products dominate, accounting for roughly 70% of the global market, but applications have also diversified into agriculture, energy and utilities, construction, manufacturing, mining, and aerospace, with more than 60% of newly launched products incorporating automated or sensor-based trigger mechanisms.

³ Parametric insurance and index-based insurance are sometimes distinguished in the literature, with the latter referring broadly to products that use an external index as a proxy for loss. In practice, the terms are often used interchangeably, and the distinctions are not material to the analysis in this report. For clarity and simplicity, the term “parametric insurance” is used throughout to encompass both parametric and index-based structures unless explicitly stated otherwise.

⁴ Singapore Reinsurers’ Association (SRA), 2020

⁵ AXA Partners, 2024

⁶ Garcia Ocampo, D., & Lopez Moreira, C, 2024

⁷ Assumed to be based on Gross Written Premium

⁸ Industry Research, 2025

Insurers are increasingly using parametric approaches to meet evolving protection needs in commercially sustainable ways. Parametric insurance provides opportunities to offer simpler, more transparent products that reduce claims-handling burdens and enhance customer experience, in line with broader market shifts towards digitalisation, risk analytics and sustainability.

1.2 Limited application of parametric insurance in Asia

Parametric insurance in Asia remains concentrated in a narrow set of applications. Information on market size within Asia remains limited. Data for India and Japan suggest meaningful but not yet full-fledged market diffusion. India's parametric market is estimated at USD 1.04 billion in 2025, largely concentrated in agriculture and weather-index programs, while Japan's market is projected at USD 556 million in 2025, where insurance products are offered for earthquake, typhoon and rainfall triggers.⁹ Beyond these two markets, publicly-reported premium volumes, market structures and product mixes are opaque. As a result, the scale, composition, and growth trajectory of parametric insurance across Asia is likely understated in global reports.

Ongoing developments highlight an important but often overlooked feature of parametric insurance: there is an appreciation of value emerging in corporate and institutional segments more so than in retail markets and the public sector. Corporates facing concentrated, high-impact risks tend to have clearer exposures, formal risk-management functions, and greater familiarity with risk in general. As a result, parametric products resemble other financial hedging instruments already used by sophisticated buyers, making the mechanism more intuitive and commercially relevant.

Case Study XI – Parametric Earthquake Solutions Evolving to Close Japan's Corporate Protection Gap

Japan is one of the world's most seismically active countries, yet corporate earthquake insurance penetration has historically remained low. As early as 2017, only around 10% of Japanese companies reportedly held earthquake insurance, and only 30% of the total appraisal value of real estate was insured. Industry analysts attribute this gap to both supply-side and demand-side factors: high premiums relative to fire insurance, insurer reluctance to expand capacity in an unprofitable segment, entrenched cross-shareholding networks limiting competition. This combination created a long-standing mismatch between Japan's seismic exposure and its low levels of corporate protection.

Parametric insurance has shown particular relevance as a complementary mechanism for corporates seeking faster liquidity and broader protection than indemnity policies allow. One of the earliest large-scale examples is Swiss Re Corporate Solutions' QUAKE product, first adopted by a Tokyo-listed manufacturing company in 2017. QUAKE uses reported ground shaking intensity at the policyholder's location – retrieved from USGS ShakeMaps within days of an event – to determine payouts. The structure is designed to mirror customers' actual experience, offering rapid settlement to help them manage deductible layers, uninsured losses, revenue disruption, and emergency response costs. Following the February 2021 Fukushima earthquake (M7.3, Shindo 6-), a client received a partial payout within three days of trigger confirmation, highlighting the value of speed and flexibility for business continuity.

Corporate parametric solutions continued to progress with the 2025 launch of HDI Global's parametric earthquake cover, delivered in partnership with Descartes Underwriting and reinsured by Generali. The product aims explicitly to "drastically reduce the coverage gap" faced by Japanese corporates by providing a transparent, Shindo-based trigger and a pre-arranged

⁹ Industry Research, 2025

payout that covers earthquake-related losses, including property damage and business interruption. The design emphasises simplicity – claims are paid on declaration, without the need for detailed loss assessment – and the product will be distributed widely through brokers and agencies.

These examples illustrate an emerging trend: even in advanced insurance markets, parametric structures are increasingly used to supplement or substitute indemnity earthquake coverage where traditional products are costly, capacity-constrained, or operationally complex for corporates. They demonstrate how parametric insurance can serve as a credible corporate risk-financing option in contexts with persistent protection gaps, offering lessons for other markets where natural hazard exposures are high and commercial uptake of more conventional catastrophe insurance remains limited.

Sources: Swiss Re Corporate Solutions – QUAKE Product Overview:

<https://corporatesolutions.swissre.com/alternative-risk-transfer/parametric-solutions/quake.html>; Swiss Re Corporate Solutions – Customer Case Study (Japan):

<https://corporatesolutions.swissre.com/insights/knowledge/customer-case-study-parametric-quake-japan.html>; Asia Insurance Review (2017): Japan quake insurance penetration analysis

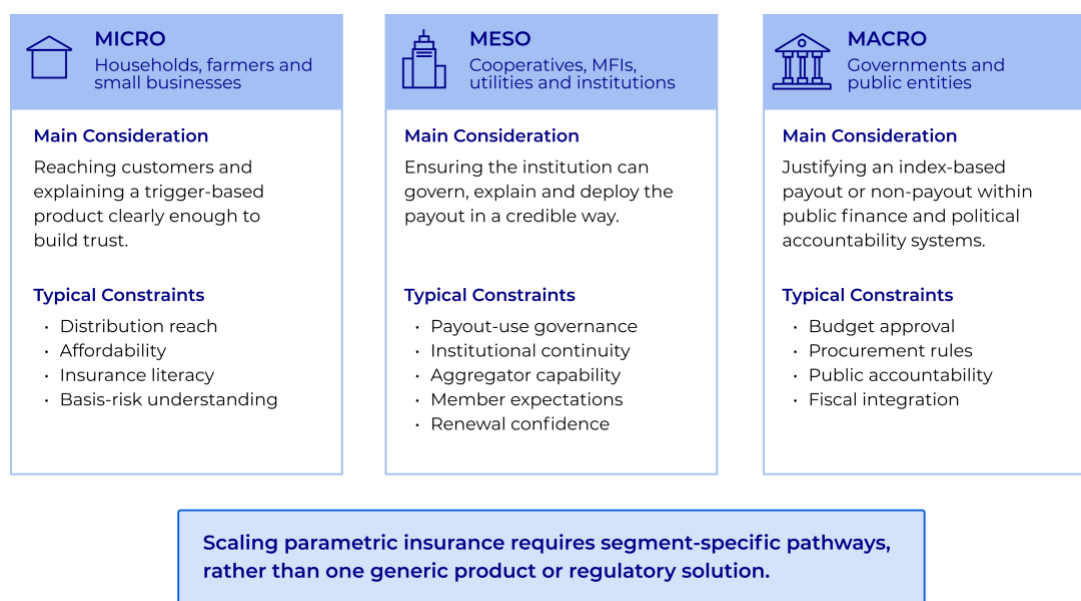
<https://www.asiainsurance.com/Magazine/ReadMagazineArticle/aid/38837/Japan-Quake-insurance-penetration-low-despite-quake-vulnerability>; HDI/Descartes 2025 Product Announcement:

<https://www.insurancenews.com.au/international/hdi-launches-japanese-parametric-quake-cover>

Parametric insurance struggles to scale where demand is fragmented across individual buyers but gains traction when anchored to institutions capable of aggregating risk, coordinating response, and committing to multi-year engagement. Aggregation allows programmes to reach sufficient scale to support viable pricing, reduce transaction and distribution costs, and align payouts with organised response mechanisms. In such settings, parametric instruments function less as standalone insurance products and more as part of a broader financial preparedness framework, helping overcome market fragmentation that otherwise constrains uptake.

Outside the corporate space, parametric insurance in Asia remains concentrated in a narrow set of applications, predominantly agriculture and simple weather indices. Several dynamics feed into a commonly held perception around why, despite demonstrated value in the corporate segment, parametric insurance has yet to translate into broader, multi-segment expansion across Asia.

Figure 2: Barriers to scale differ by market segment



- At the micro level, expansion is constrained primarily by distribution capacity and the ability to reach large numbers of low-income customers through trusted delivery channels. Limited familiarity with insurance concepts, competing day-to-day financial pressures, and the additional complexity of index-based triggers can further affect uptake where products are offered. These behavioural and structural factors make it more challenging to communicate concepts such as basis risk¹⁰ and to sustain participation over time, particularly where insurance literacy and trust in formal financial services remain limited.,
- At the meso level, institutions such as cooperatives, financial institutions, or producer organisations may obtain parametric insurance to protect their own balance sheets or operational capacity. In such arrangements, the policyholder is the institution itself rather than individual members. This distinction, emphasised in IAIS discussions on meso-level insurance, helps clarify expectations: payouts are intended to support institutional response or continuity rather than to indemnify individual losses. Where this role is clearly communicated and governance arrangements are well defined, reputational risks associated with differences between index payouts and individual losses can be managed more effectively.
- At the macro level, governments face still more complex pressures. Budget approvals, procurement processes that favour short-term contractual arrangements, and political accountability can all heighten the perceived risk of adopting index-based instruments. In some jurisdictions, insurance localisation requirements may also complicate the placement of parametric risk transfer with international markets. In addition, parametric pricing transparency, which is conceptually intended to build confidence, can instead prompt scrutiny or hesitation when decision-makers are unfamiliar with its technical foundations.

Regardless of the level considered, the limited breadth and depth of parametric insurance across Asia is not attributable to a single barrier but rather to a combination of structural, institutional and market dynamics. These dynamics vary across jurisdictions, resulting in pockets of activity but little sustained, multi-segment development. In aggregate, they help explain why parametric insurance has expanded only incrementally despite rising demand for rapid and objectively defined protection.

¹⁰ Relates to the difference between the payout determined by the index and the financial impact experienced by the policyholder. This is covered in more detail in Section **Error! Reference source not found.**

1.3 Why parametric insurance matters across different levels of the economy

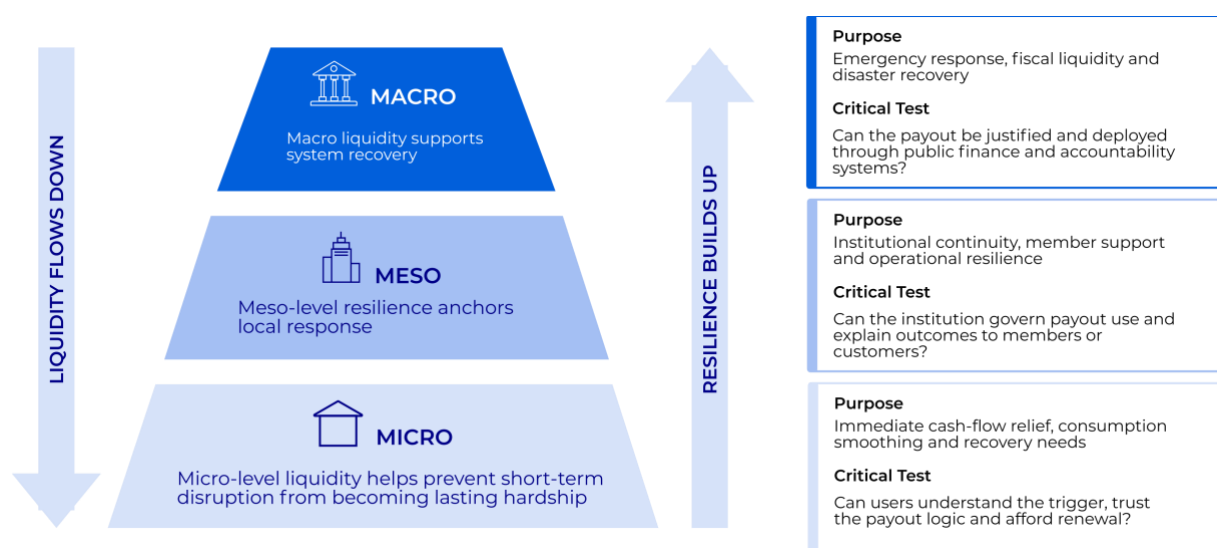
Although the adoption dynamics vary across micro, meso and macro (sovereign) contexts, the financial stresses created by natural hazards follow a similar trajectory: shocks create sudden liquidity needs, disrupt operations and force rapid adjustments at every level of the economy. Governments contend with immediate pressures for response and recovery. Cooperatives, microfinance institutions and producer groups face concentrated strain across their membership or lending portfolios. Individuals, households and small enterprises experience acute cash-flow disruption that jeopardises health, welfare, consumption, savings or business continuity. Pressures arise regardless of insurance-market maturity and are most acute where traditional indemnity mechanisms are unavailable, unaffordable or slow to mobilise.

Parametric insurance helps to alleviate these pressures. It provides rapid, objective financial resources that are not contingent on potentially slower or costly loss assessment. At the sovereign level, payouts can support early response financing. At the meso level, payouts can stabilise institutions that act as financial or operational anchors for their members or facilitate customer-oriented support. At the micro level, payments help households or firms to meet urgent post-event needs and reduce risk from delayed response. Considering these levels together, parametric structures can make a distinct contribution within the wider risk-financing ecosystem. They complement – rather than substitute – indemnity insurance or public assistance.

These levels are also interconnected. Government liquidity influences the pace and scope of community recovery; meso level institutional resilience shapes local economic stability; and household financial security prevents temporary disruption from becoming lasting hardship. Parametric insurance does not address all needs and cannot fully replace existing mechanisms, but when applied to the contexts for which it is best suited, it can strengthen the overall risk-financing architecture. This study therefore analyses opportunities and constraints across the macro, meso and micro levels to understand where parametric solutions can most effectively contribute to broader financial resilience.

The figure below summarises how parametric insurance can contribute at different levels of the economy, while also showing how liquidity and resilience effects are connected across macro, meso and micro contexts.

Figure 3: Macro, meso and micro levels form a connected resilience pyramid



1.4 Purpose of the study

This study examines how parametric insurance is understood, regulated and used across Asian markets, and identifies the key factors required for responsible development. It serves as a foundational evidence-based study to understand the context, landscape and learnings. The assessment draws primarily on structured survey responses from national insurance supervisors, interviews with market practitioners, supplemented by market research, publicly available information and relevant international literature. Together, these sources provide insight into how parametric insurance fits within existing supervisory frameworks, where uncertainties may constrain market development and how product design and delivery interact with broader institutional and market conditions.

The scope is intentionally focused. The study does not evaluate individual products, assert views on pricing, or value-for-money, nor does it propose new supervisory frameworks. Rather, it identifies areas where supervisory clarification, guidance, or market practice may support the responsible development of parametric insurance. Furthermore, it seeks to clarify how parametric insurance can complement existing financial mechanisms, where practical issues may be limiting its uptake and what factors shape its suitability in different contexts.

The geographical coverage reflects a diverse cross-section of Asian markets, enabling the study to capture different supervisory approaches, varying levels of market maturity and a range of experiences with parametric insurance. The intention is not to compare jurisdictions or assess supervisory performance, but to distil common themes and highlight where market conditions or supervisory interpretation support or inhibit development.

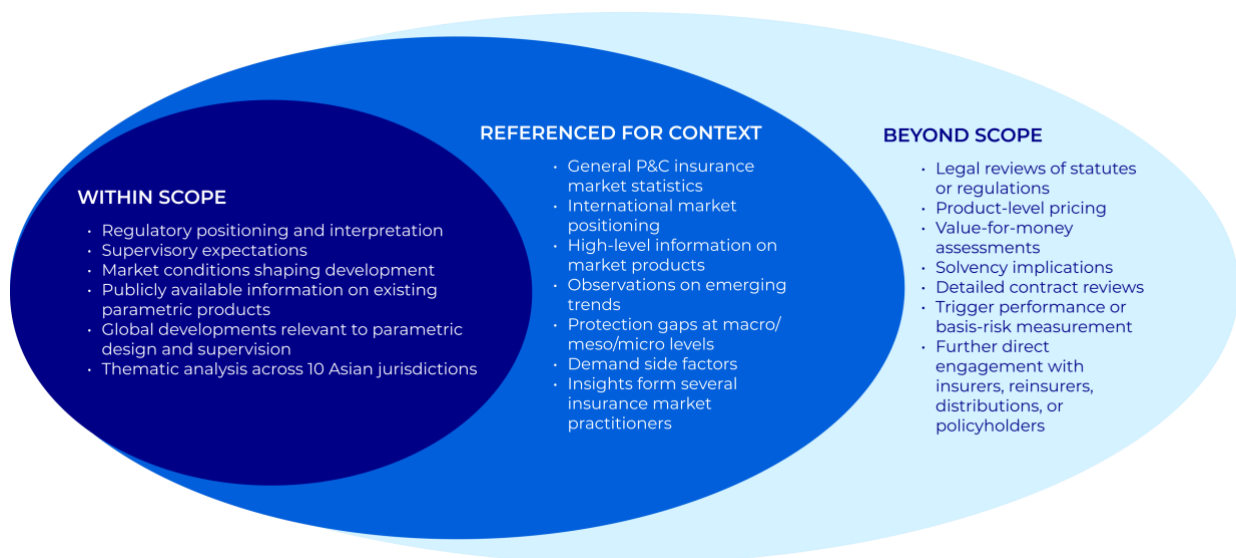
The purpose is not to advocate for parametric insurance in all contexts but to provide a clear, balanced and evidence-based view to support more informed decision-making among policymakers, supervisors, insurers, development partners and other industry stakeholders interested in building more effective and timely financial protection for households, businesses and governments.

2. Assessment framework

2.1 Scope of analysis

This study examines how parametric insurance is currently positioned, supervised and applied across ten Asian markets: Brunei Darussalam, India, Indonesia, Japan, the Philippines, Singapore, Sri Lanka, Chinese - Taipei, Thailand, and Vietnam. The analysis focuses on the supervisory, market, and operational conditions that shape the development of parametric insurance, including supervisory interpretation, supervisory expectations, and broader market and operational factors that influence its development and use. The study also examines how broader market structures and financial system characteristics influence opportunities for parametric insurance. The aim is to understand the enabling environment and practical factors shaping the evolution of parametric solutions.

Figure 4: Scope of the study and assessment boundaries

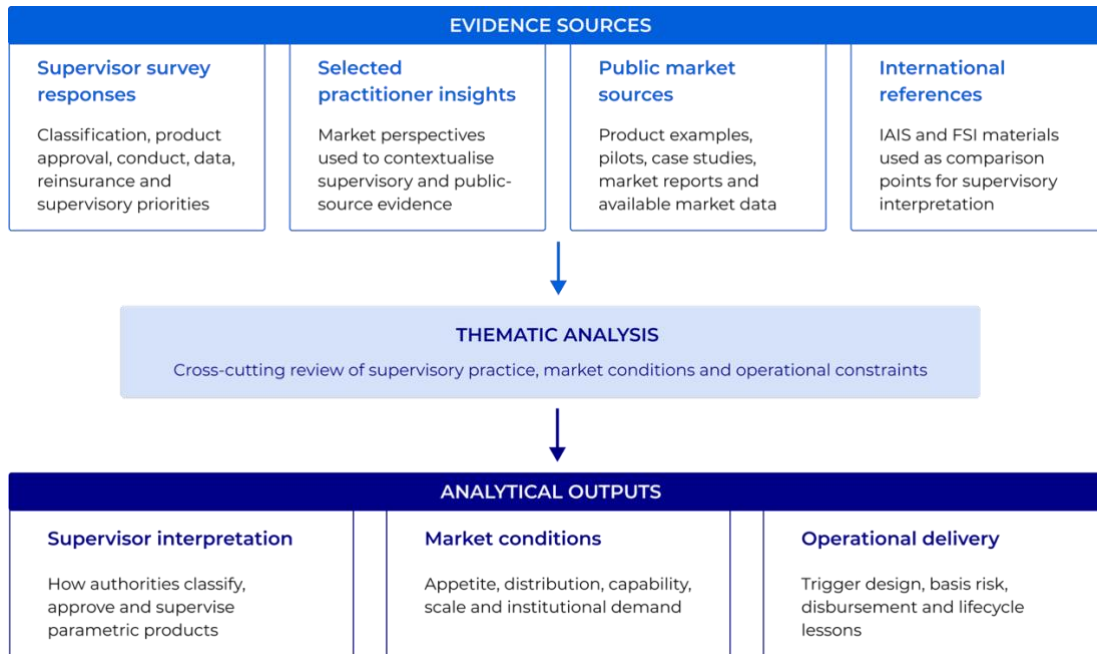


The analysis covers both climate- and non-climate-related applications, recognising that products for emerging risks – including health, supply-chain, business interruption proxies and other event-linked exposures – are not widespread but may increasingly motivate demand for rapid, rules-based financial protection.

2.2 Data sources and analytical approach

The study draws on multiple sources of evidence to examine how parametric insurance is understood, regulated and applied across Asian markets.

Figure 5: Evidence base and analytical approach



**Note: The study identifies common themes across markets. It does not rank jurisdictions or assess supervisory performance.*

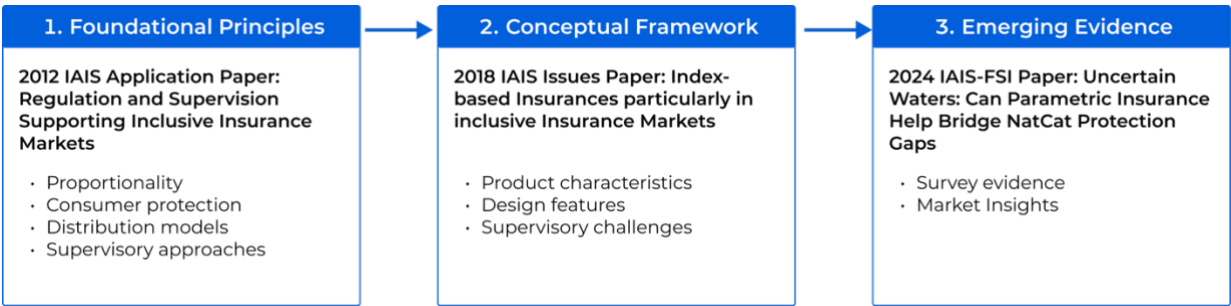
These include structured survey responses provided by national insurance supervisors, as well as publicly available information, market observations and relevant international literature. The supervisory survey provides insight into how parametric insurance is classified, supervised and interpreted within existing regulatory frameworks. The survey covered product classification, insurable interest and proof-of-loss expectations, product approval processes, fairness considerations, data and trigger requirements, reinsurance and capital treatment, and broader supervisory priorities.

To complement and contextualise the supervisory perspectives, the study also incorporates:

- publicly available information on existing parametric products in each market, including pilot schemes, agricultural programmes, catastrophe covers and corporate or meso-level arrangements;
- global developments in parametric insurance, including design considerations, supervisory perspectives and thematic insights from international bodies and industry publications;
- insurance market statistics to situate parametric insurance within the broader insurance landscape, particularly in markets with low penetration, high protection gaps or rapid changes in exposure patterns.
- insights from several insurance market practitioners,

Specific comparisons were made against relevant International Association of Insurance Supervisors (IAIS) papers. This comparison tests whether observed practices, market behaviours, and operational constraints in Asia are broadly consistent with internationally recognised supervisory thinking.

Figure 6: IAIS publications used for comparison



Three IAIS publications were used for this purpose. First, the *Issues Paper on Index-based Insurances particularly in Inclusive Insurance Markets* (2018) served as the principal conceptual and supervisory reference, setting out the defining characteristics of index-based and parametric products, analysing their design features, and examining associated supervisory challenges. Second, the joint IAIS–Financial Stability Institute paper *Uncertain Waters: Can Parametric Insurance Help Bridge NatCat Protection Gaps?* (2024) provided more recent insights based on survey evidence. Third, the Application Paper on *Regulation and Supervision Supporting Inclusive Insurance Markets* (2012) frames broader principles on proportionality, distribution models, consumer protection, and supervisory approaches in markets where institutional capacity, insurance literacy, and trust may be uneven.

Throughout the report, references to IAIS material is used selectively and with a light-touch. The IAIS notes that implementation often needs to reflect local market peculiarities. In this report, where alignment is noted, this reflects convergence rather than explicit adoption of IAIS recommendations.

The analytical approach is thematic. Rather than assessing and comparing jurisdictions, the study identifies patterns in policy, regulation, and supervision, differentiating where interpretations or expectations diverge or converge, and where structural constraints or market dynamics influence the scope for parametric insurance. This allows for a cross-cutting understanding of the environment in which parametric insurance operates.

2.3 Limitations

The findings of this study should be interpreted with appropriate caution, as the evidence base has several important limitations. Survey responses from supervisors varied in depth and specificity. While the overall quality of responses was high, with many authorities providing detailed explanations, clarifications and examples, others offered concise or high-level perspectives. This variability affects the granularity of cross-country comparisons, meaning that certain themes can be analysed more confidently than others.

The study relies primarily on self-reported supervisory views and publicly available market information. Internal information and non-public documents were not accessed. The analysis, therefore, reflects how supervisors describe their frameworks and expectations, rather than an exhaustive verification of all legal texts or practices. In addition, because survey

responses were structured around a defined set of questions, they naturally emphasise the areas where comments were sought. Issues not explicitly probed may appear underrepresented, even though they could be relevant to the way parametric insurance operates in certain markets. This reinforces that the findings reflect the perspectives provided, rather than a complete mapping of all considerations that might matter in practice.

Quantitative data on parametric insurance is limited. Publicly available statistics on premiums, uptake, claims experience or distribution performance are sparse and rarely standardised across jurisdictions. As a result, the study focuses on supervisory and market conditions rather than quantitative measurement of market activity. Likewise, while insurance market data was used to contextualise parametric insurance, the absence of harmonised metrics limits direct comparison across markets.

Several areas are outside the scope of this assessment. The study does not examine consumer outcomes, customer satisfaction, or the quality of payouts. It does not include pricing analysis, nor does it involve reviewing detailed contracts. Independent verification of trigger performance or basis-risk levels was not undertaken. In addition, although the study incorporated insights from several insurance market practitioners, it did not include systematic interviews with insurers, reinsurers, distributors, or policyholders.

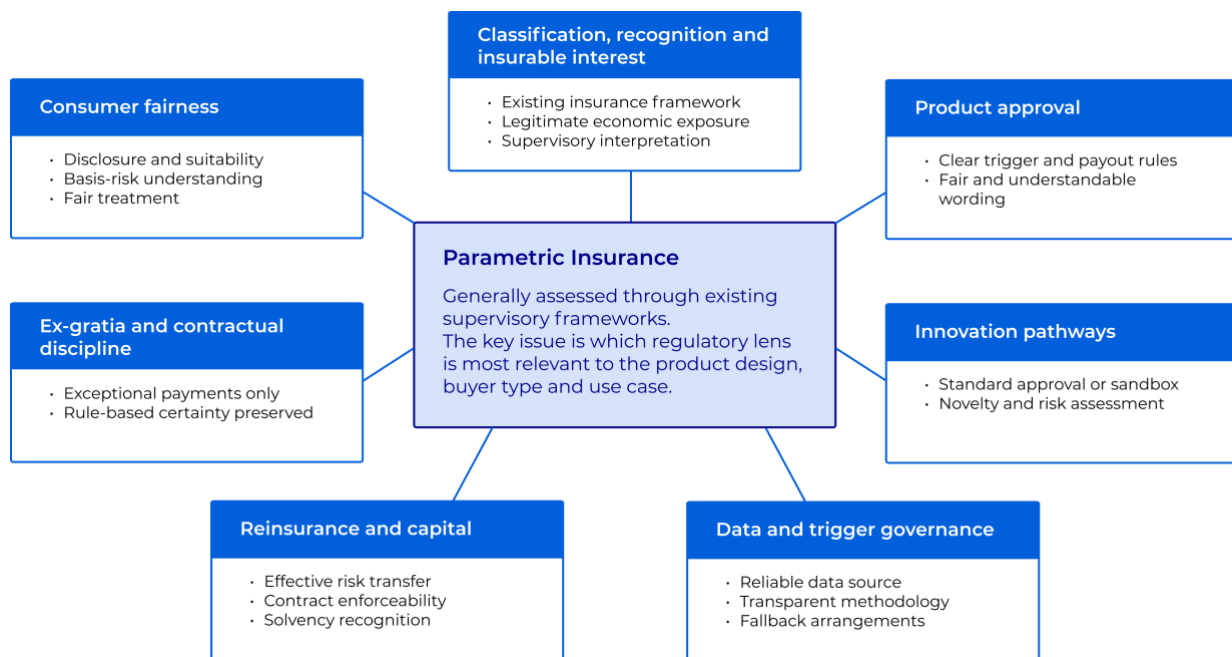
The study does not undertake empirical analysis of demand-side factors such as willingness to pay, behavioural responses to infrequent extreme events, trust in insurers, familiarity with index-based mechanisms, or perceptions of basis risk, although some of these aspects are touched upon in the consolidation of findings. Likewise, the study does not assess cultural attitudes toward insurance or the role of informal coping mechanisms that may substitute for formal coverage. These factors can significantly shape uptake in practice, and their absence from the evidence base means that the findings should not be interpreted as a full exploration of the behavioural and economic drivers of demand. The study qualitatively assesses demand dynamics through supervisory responses, observed market structures, and reports on renewal experiences across macro, meso, and micro segments.

These limitations do not diminish the value of the analysis but clarify its boundaries: the findings are directional and intended to inform policy and supervisory discussions. This context is important for interpreting the insights that follow, where themes are developed qualitatively based on the available evidence.

3. Regulatory considerations

Regulation shapes the foundational conditions for all parametric insurance activity. How regulations and insurance supervisors classify these products, interpret insurable interest, review trigger design and assess consumer fairness determines what insurers can bring to market and, critically, where innovation is feasible. Because parametric insurance operates differently from indemnity-based products, clarity of supervisory expectations becomes a prerequisite for market confidence, product design choices and the scope of applications. This section, therefore, examines the supervisory environment across the study jurisdictions to understand the interpretive frameworks that underpin subsequent market, operational and institutional dynamics.

Figure 7: Regulatory lenses for assessing parametric insurance



Supervisory evidence indicates that there are no binding legal barriers, but there is an absence of explicit supervisory signals that de-risk innovation for market participants. Parametric insurance is broadly permissible under existing non-life frameworks, yet it is largely implicit. For insurers, this means products are technically allowed but institutionally uncertain, particularly outside more familiar agricultural or pilot contexts. The research, therefore, suggests that supervisory reform is not the primary constraint on scaling parametric insurance in Asia; rather, the constraints lie in interpretive ambiguity and the lack of confidence that innovative structures will be treated predictably once exposed to real-world stress events.

In several instances, supervisors articulate permissive or neutral positions that coexist with limited insurer appetite or sustained market inertia, highlighting the distinction between supervisory comfort and commercial requirements for viability through explicit policy or legal documentation.

3.1 Classifications and recognition of parametric insurance

The absence of a statutory definition or standalone legal category for parametric insurance across the assessed jurisdictions is broadly consistent with the IAIS observation that index-based products can generally be accommodated within existing insurance legal frameworks without a separate legal classification. At the same time, IAIS guidance notes that clearer legal framing may support supervisory consistency. Parametric insurance products are therefore typically expected to fall within existing insurance supervisory framework to ensure that core supervisory objectives of fairness, market stability, and policyholder protection are maintained.

Findings from this study indicate that supervisors across Asia have operationalised this principle in practice. Parametric insurance is generally treated as a variant of non-life insurance and assessed through existing licensing, conduct, and prudential frameworks, with proportionality applied depending on whether products operate at micro, meso, or macro levels. This suggests broad alignment with IAIS guidance: legal formality is not pursued for its own sake, but supervisory oversight is maintained where consumer protection, market integrity, or reputational risk may arise. In practice, this approach provides supervisory flexibility while avoiding the risks associated with products that resemble insurance but fall outside formal supervisory control.

Supervisors commonly describe parametric insurance as a form of non-life insurance where policy obligations are triggered by a measurable parameter rather than an assessment of individual loss. In practice, this classification reflects how supervisors accommodate parametric structures within existing insurance frameworks, although the conceptual boundaries between parametric and traditional indemnity-based non-life insurance are not always exact. This mirrors international experience, where parametric insurance is generally permissible via the general provisions of existing insurance laws rather than bespoke statutes. Evidence from jurisdictions such as Bermuda, France, and Hong Kong SAR shows that parametric contracts are typically accommodated as long as they satisfy foundational insurance principles, including insurable interest and a clearly defined obligation to pay when specified conditions are met.¹¹

INSURABLE INTEREST AND PROOF OF LOSS

Supervisors across the study jurisdictions interpret insurable interest as the requirement that a policyholder has a legitimate economic stake in the event being insured. Within this interpretation, they recognise that parametric insurance does not involve demonstrating actual loss at the time of payout. Instead, it operates more like a “valued” policy, where the amount payable is agreed in advance.

Under such structures, insurable interest is established when the contract is issued, and the claim is triggered by the occurrence of a specified event rather than by loss assessment. Because the payout is predetermined, it may be higher or lower than the policyholder’s actual loss, but this variation is incidental to the structure rather than intentional or within the policyholder’s control. From a supervisory perspective, the presence of insurable interest is therefore assessed ex ante, whereby the expected payout from the contract should not exceed the policyholder’s expected economic exposure over the policy period, even though the realised payout following an event may differ from the realised loss. For this reason, supervisory authorities generally regard valued-policy logic – and by extension parametric designs – as consistent with the core principles underpinning insurance, including the requirement of insurable interest.

¹¹ García Ocampo, D., & Lopez Moreira, C., 2024

Japan's Financial Services Agency (FSA) acknowledges that parametric contracts do not indemnify actual loss, and confirms that such contracts can be written as insurance where there is a causal relationship between economic loss and the expected insurance payment. This framing aligns with the majority of other surveyed supervisors who treat parametric contracts as "valued" forms of insurance rather than derivatives, albeit through different terminology:

- Singapore's MAS indicates that parametric products fall within standard insurance definitions as long as the policy covers a fortuitous event and the insurer assumes risk. MAS does not introduce separate classification rules and expects insurers to satisfy the same conduct and risk management requirements that apply to indemnity products.
- The Philippines Insurance Commission notes that parametric products are best classified as non-life insurance, including within microinsurance frameworks. This reflects the country's experience with index-based crop and weather programmes such as those implemented by Philippine Crop Insurance Corporation (PCIC), which operate as insurance contracts with fixed payouts tied to rainfall or temperature thresholds.
- Sri Lanka's supervisor similarly treats parametric structures as non-life insurance, subject to existing product approval norms and disclosure rules.
- Thailand's OIC and Chinese Taipei's FSC confirm that parametric products are developed under the broader insurance supervisory framework and do not require new legal categories. Both emphasise the importance of clear methodology and trigger design rather than formal definitional changes.

TAKAFUL CONSIDERATIONS

In jurisdictions operating dual conventional and Islamic financial systems, the application of parametric insurance raises additional supervisory considerations related to Sharia compliance. In Brunei Darussalam, insurance activities are governed under separate legislative frameworks for conventional insurance and takaful, reflecting the requirement that takaful products adhere to permissible Sharia principles. While parametric insurance is not currently available in the Brunei Darussalam market, the Brunei Darussalam Central Bank (BDCB) has indicated active engagement with the Department of Agriculture and Agrifood of the Ministry of Primary Resources and Tourism on the potential establishment of a national crop insurance programme. In doing so, BDCB has highlighted the need to assess whether a dedicated supervisory or regulatory framework would be required to support parametric solutions, particularly where products are structured as takaful and must align with accepted Sharia concepts.

Although existing insurance and takaful legislation in Brunei Darussalam does not explicitly prohibit parametric insurance, BDCB has noted that index-based triggers may warrant specific Sharia review to ensure consistency with core takaful principles such as mutual risk-sharing and permissible contractual arrangements. This reflects a broader theme in dual-system jurisdictions: while parametric contracts may be accommodated within existing definitions of insurance or takaful, their effective implementation depends on clarity around how index-based payouts align with Sharia requirements.

Indonesia presents a related but distinct pathway. While the country does not have a statutory definition of parametric insurance, the Financial Services Authority (OJK) has progressively enabled Sharia-compliant non-life insurers to engage in non-traditional risk classes, including

credit insurance and suretyship. This signals a supervisory openness to expanding the scope of Sharia insurance products, provided Sharia governance is maintained in product design and administration. Together, these experiences illustrate that, in dual financial systems, the development of parametric insurance is less constrained by legal definitions than by the need for supervisory clarity on Sharia compliance, governance, and product legitimacy – particularly where index-based mechanisms depart from conventional loss-assessment concepts.

Market context sources: AXCO. (2025). Global non-life (P&C) insurance market reports. <https://www.axcoinfo.com/products/insurance-market-reports-non-life/>; AXCO. (2025). Insurance market reports (non-life): Lines of business and market data. <https://www.axcoinfo.com/products/insurance-market-reports-non-life/>.

An important distinction emerging from the survey responses is that the classification of parametric insurance is shaped not only by contract structure, but also by the identity of the policyholder. At the retail and micro level, parametric products are almost universally classified under non-life insurance definitions – often within residual or “other” non-life categories – and are assessed primarily through consumer protection lenses.

At the macro or sovereign level, however, parametric instruments may be governed as much by public finance, disaster risk financing, or fiscal management mandates as by insurance law. In some jurisdictions, sovereign parametric arrangements are implemented through state entities operating under dedicated charters or procured directly by central government bodies under public financial management rules. Experience from regional risk pools and market practitioners suggests that procurement through line ministries can create practical constraints, particularly where annual budget cycles, short-term contracting requirements, or localisation rules are not well aligned with the multi-year nature of insurance and reinsurance arrangements. For this reason, several sovereign programmes are structured through dedicated state entities or regional facilities that can enter longer-term risk-transfer arrangements and maintain continuity of coverage. These arrangements may ultimately transfer risk through reinsurance, regional risk pools, or capital-market instruments that sit partly outside conventional insurance product classification.

This principles-based and context-dependent treatment does not undermine the status of parametric contracts as insurance. Rather, it reflects the reality that sovereign risk transfer is often embedded within broader fiscal and national resilience strategies, where the primary question is not consumer protection, but the legitimacy, accountability, and budgetary treatment of index-based payouts.

The table below summarises this use-case lens: the same parametric mechanism may be assessed through different supervisory, institutional or public-finance considerations depending on whether the policyholder is an individual, an institution or a government.

Table 1: Parametric insurance through different use-case lenses

	Micro	Meso	Macro
Policyholder or user	Individuals, households, farmers, small businesses	Cooperatives, MFIs, utilities, producer organisations and institutions	Governments, public entities and sovereign programmes
Classification lens	Insurance product	Insurance product	Public finance instrument
Primary assessment lens	Consumer protection, disclosure and suitability	Institutional governance and payout use	Fiscal management, disaster risk financing and public accountability
Key supervisory focus	Can the user understand the trigger, payout conditions and possibility of non-payout?	Can the institution govern payout use and explain outcomes to members or customers?	Can the payout or non-payout be justified within public finance and accountability systems?

3.2 Product approval requirements

The emphasis placed by supervisors on clarity, fairness, and transparency in approval processes across the study jurisdictions is broadly consistent with IAIS guidance on product oversight for innovative and inclusive insurance products. IAIS considers product oversight, often achieved through approval and supervision, as fundamental to managing risks throughout the product lifecycle. For parametric insurance, this includes plain language communication, clear communication of triggers and data sources, and explicit communication of limitations such as basis risk and the possibility of non-payouts.

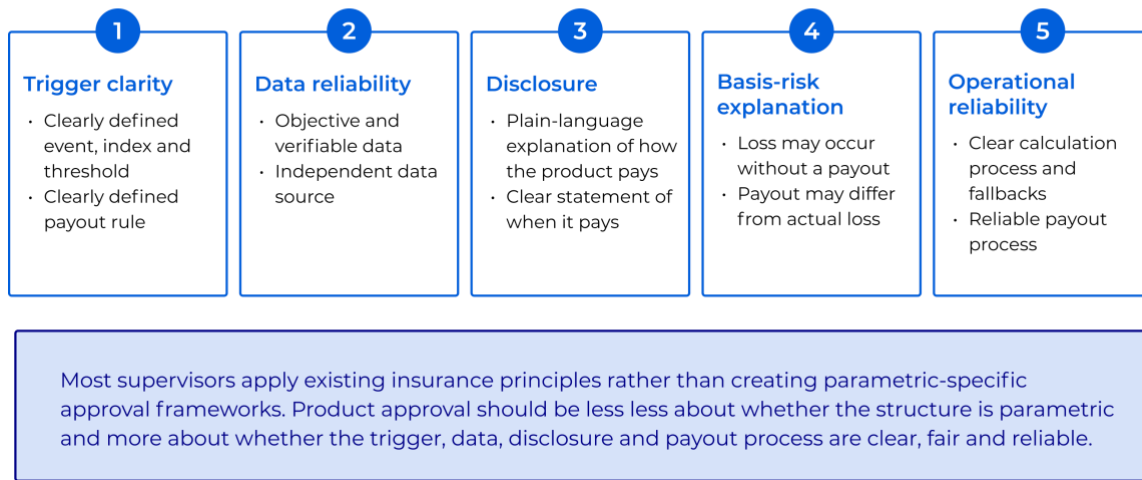
This study indicates that supervisors in Asia have internalised these principles in practice, even where approval processes differ. Supervisory feedback consistently prioritised transparency of index construction, clarity of policy wording, and the ability of insurers and intermediaries to explain how payouts are determined and under what circumstances they may not occur.

This alignment suggests that approval processes for parametric insurance in the study jurisdictions are less about creating parametric-specific rules and more about applying existing conduct, disclosure, and governance standards to novel product structures. In practice, this reinforces a supervisory approach that allows innovation while placing clear responsibility on insurers to ensure that parametric products function as legitimate risk-management tools rather than opaque or speculative instruments.

Figure 9: Supervisory expectations for parametric product approval

APPROVAL FOCUS

A parametric product is more likely to gain approval when key supervisory expectations are met.



Supervisors place strong emphasis on clear and comprehensive policy wording. Supervisors in the Philippines, Sri Lanka, Chinese Taipei, and Singapore have all established requirements that policy terms and conditions be drafted in 'simple' or 'easy to understand' language, ensuring that key features (trigger definitions, payout rules, etc.) are clearly explained to consumers. For microinsurance, simplified wordings are mandatory in some markets, and parametric products directed at micro markets must adhere to these standards. Supervisors also highlighted the need for transparent explanations of the index, data sources, event thresholds and payout calculations.

Fairness and reasonableness tests are a central feature of product approval. The Philippines Insurance Commission requires that parametric benefit amounts be determined by formulae or indices that yield proxy estimates correlated to expected losses, ensuring the fundamental requirement of insurable interest is met. This does not mean that the payout must reflect expected loss, but that the trigger and payout structure should be logically connected. Sri Lanka's supervisor additionally expressed expectations regarding the credibility of data sources, stating that data should ideally be obtained from government or accredited sources to ensure the reliability, transparency, and consistency of the trigger mechanism.

Supervisors expect insurers to clearly explain product mechanics to consumers. While formal mandates for scenario analyses are not universal, jurisdictions like the Philippines, Singapore, and Chinese Taipei emphasise the need for simple, understandable disclosures. This aligns with global guidance, where insurers are encouraged to use tools such as back-testing or historical illustrations to demonstrate payout determinations and highlight potential scenarios in which a trigger may not activate despite a loss (International Association of Insurance Supervisors (IAIS, 2018).

Similarly, supervisors expect insurers to manage operational risks associated with trigger measurement and payout processes through existing frameworks. Singapore's MAS requires insurers to apply its broader *Guidelines on Risk Management Practices for Insurance*

Business Core Activities to parametric products, ensuring claims handling and disclosures meet general standards without creating parametric-specific rules. Chinese Taipei and Thailand similarly emphasise robust documentation: Chinese Taipei requires insurers to submit statistical or documentary data justifying the trigger's relevance, while Thailand mandates that policies explicitly disclose trigger values and specify backup data sources to mitigate data failure risks in line with IAIS concerns regarding the credibility and robust nature of indexes in product design.

Supervisors do not report undertaking detailed technical validation of indices or modelling outputs. Instead, jurisdictions like Thailand, Singapore, and Japan place the responsibility on insurers to ensure sound design, requiring approval through internal product governance processes or verification by the insurer's own technical functions. Sri Lanka adopts the same approach: while it expects trigger data to come from government or accredited sources, it does not conduct independent validation of index calculations or require audit trails for trigger data, relying instead on insurers to perform their own checks and confirm the reliability of the datasets used. Other supervisors in Chinese Taipei and the Philippines similarly focus their reviews regarding transparency of documentation and causal links or reasonable proxy relationships between triggers and adversity, but they do not replicate or independently audit the underlying statistical models, relying on expectations of the insurer's due diligence.

While most approval expectations articulated by supervisors are framed through retail and microinsurance contexts, the approval dynamics differ materially at the macro or sovereign level. Where the policyholder is a government or public institution, parametric insurance is often assessed as a fiscal risk-management instrument rather than a consumer product. In these cases, the binding approval constraints frequently arise from the budgetary authority, procurement rules, and public accountability requirements rather than from the insurance supervisor.

This suggests that sovereign parametric arrangements are more likely to be implemented through bespoke public frameworks, state-backed entities, or regional facilities, rather than the approval pathways that apply to retail products. Insurance supervisors remain concerned with contract certainty and insurer risk management, but successful placement also depends on alignment with public-finance norms, including how premiums are justified ex-ante and how index-based payouts can be defended and deployed following an event. This distinction may explain why macro-level parametric initiatives progress even where retail parametric markets remain limited, and why supervisory focus shifts from consumers to governance, audit, and political accountability.

3.3 Innovation pathways

Supervisory sandboxes are positioned by the IAIS as a key tool to create an enabling environment for insurance innovation. This is particularly important for parametric insurance products and their role in reducing protection gaps. IAIS guidance frames sandboxes as a proactive mechanism through which supervisors can allow controlled experimentation, providing legal and operational flexibility for pilots while ensuring that core supervisory objectives remain intact.

Findings from this study indicate that supervisors across Asia broadly share this view, but apply it in different ways. While most jurisdictions operate sandbox or innovation frameworks, their use for parametric insurance varies depending on the degree of novelty involved. Supervisors are more likely to rely on sandbox arrangements where parametric

products introduce unfamiliar triggers, alternative data sources, or unconventional delivery models. Where index-based products are viewed as conceptually aligned with existing non-life insurance frameworks, supervisors assess them through standard approval processes.

This suggests that variation in sandbox usage reflects supervisory judgement about risk and novelty rather than reluctance to support parametric insurance. In practice, sandboxes function as an important enabling option while not displacing conventional approval pathways where these are already fit for purpose. At the same time, several industry perspectives indicate that the availability of conventional approval pathways does not necessarily translate into more ambitious product innovation in practice. In some cases, firms appear to prefer developing products that fit comfortably within existing regulatory interpretations rather than testing more novel structures through sandbox arrangements.

In Indonesia and Singapore, supervisors indicated that sandbox participation is not required, as parametric structures are treated as valid insurance contracts subject to standard product approval processes. Similarly, Chinese Taipei noted that parametric agricultural insurance is already commercially established, negating the need for sandbox testing. Conversely, the Philippines has established a specific supervisory sandbox framework for piloting agriculture insurance, and Thailand's supervisor noted that parametric products utilising new technologies should be submitted to its sandbox program for suitability testing. These differing approaches suggest that participation in innovation sandboxes may ultimately become a strategic choice for insurers. Where conventional approval pathways are available, insurers may prefer to structure products within established supervisory interpretations rather than pursue sandbox testing, unless the proposed design requires supervisory flexibility or introduces genuinely novel elements.

Two overarching factors help explain this pattern. First, many parametric products developed in Asia to date have relied on established indices (such as national meteorological data or seismological measurements) and relatively simple trigger structures. As a result, supervisors generally do not see parametric products as introducing supervisory uncertainties significant enough to warrant sandbox testing, particularly where the trigger structure and data sources follow established approaches, although innovation may still arise in areas such as distribution or digital delivery models. In the Philippines, for example, the PCIC operates under its own statutory charter, allowing its parametric programmes to evolve within its dedicated institutional mandate rather than through the prior approval or sandbox processes that typically apply to private-sector insurers.

Second, several supervisors observed that insurers themselves rarely seek sandbox entry for parametric initiatives, since existing frameworks are perceived as adequate. Singapore's MAS confirmed that there are 'no parametric pilots' in its sandbox, as products are approved through conventional non-life channels. Similarly, Indonesia's OJK stated that because parametric products operate within the existing insurance framework, they are not placed under its financial technology (fintech) sandbox. Sri Lanka's IRCSL noted that while it would consider sandbox applications, current products are reviewed as conventional insurance under the existing Act.

A further driver is that many parametric programmes at the meso- or macro-level have been implemented through government partnerships, donor-supported programmes or reinsurance structures operating under institutional or public-sector arrangements, whether or not these are specifically catered for within existing insurance law, rather than retail insurance channels. In Sri Lanka and the Philippines, early initiatives were driven by development partners like the World Bank, or by public-sector institutions such as the GSIS rather than retail innovation. These products often fall outside the scope of sandboxes, which tend to focus on consumer-facing innovations.

Case Study X2 – The Philippines’ GSIS Parametric Disaster Insurance for Cities

The Government Service Insurance System (GSIS) piloted parametric typhoon and earthquake coverage for local government units (LGUs) in 2018 and 2019, offering rapid liquidity for disaster response. In 2025, GSIS expanded these offerings to cities, framing parametric insurance as a tool to strengthen institutional resilience rather than support individual losses. By shifting the focus to municipal-level protection, the programme illustrates how parametric structures can streamline disaster financing at the macro and meso levels, improving the speed and efficiency of recovery.

Source: https://www.tradingview.com/news/reuters.com,2025:newsml_L6N3R60K1:0-philippines-government-property-insurer-offers-parametric-covers-to-cities/

Despite limited use to date, supervisors expressed willingness to utilise sandboxes where a product introduces heightened complexity, hybrid trigger structures or new technologies. Thailand’s OIC stated that such cases should be channelled through its sandbox for suitability testing, while the Philippines has formalised sandbox procedures for agricultural pilots. Brunei Darussalam and Sri Lanka also indicated readiness to use their innovation frameworks if insurers present novel or untested concepts.

At the same time, survey responses suggest supervisors often view sandboxes as optional, supplementary tools. Where parametric products rely on transparent data sources and established design logic, supervisors in Indonesia, Japan, Chinese Taipei and Singapore generally assess them through existing approval mechanisms, focusing on clarity, fairness and data reliability rather than requiring sandbox participation.

3.4 Data governance and trigger expectations

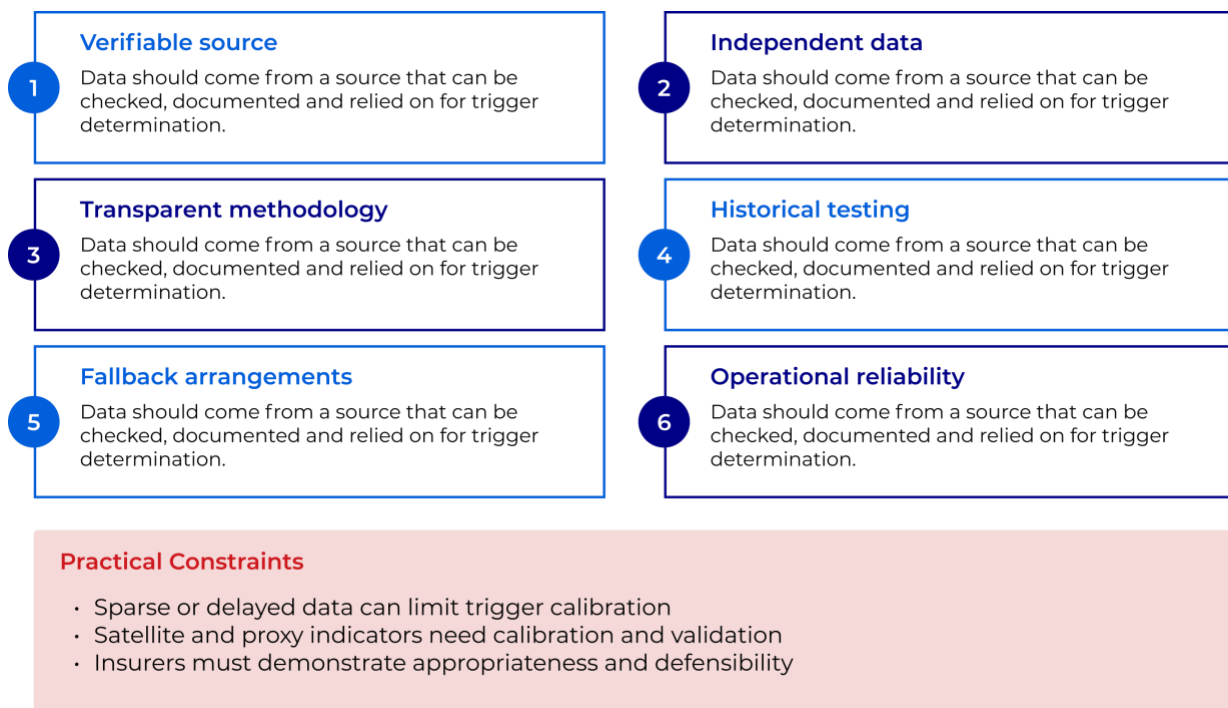
Supervisors across surveyed jurisdictions emphasised that credible parametric insurance rests fundamentally on the quality, objectivity, and transparency of data used to define and measure trigger events, reflecting a central principle articulated by the IAIS. IAIS guidance treats index credibility as foundational to parametric insurance, noting that poorly specified, opaque, or weakly verified indices undermine not only individual products but confidence in the model as it scales beyond pilot phases and insurance more generally.

Findings from this study indicate strong alignment with this position. Supervisors repeatedly highlighted expectations around reliable and verifiable data sources, independence from insured parties, transparent trigger methodologies, and the use of back-testing historical simulations to demonstrate how an index would have performed in past events. Several supervisors also pointed to the importance of predefined fallback arrangements where primary data sources fail.

This suggests that data credibility is not purely a technical consideration, but is a core supervisory and market-confidence issue. In practice, parametric insurance is ultimately viable when indices are objective, reproducible, and timely, allowing products to deliver rapid payouts while remaining credible to policyholders, supervisors, and other stakeholders especially when non-payout outcomes occur.

The figure below summarises the main data-governance expectations that supervisors associate with credible parametric triggers. These expectations do not require supervisors to validate indices themselves, but they place responsibility on insurers to demonstrate that data sources, trigger methods and fallback arrangements are credible and explainable.

Figure 10: Data credibility features for parametric triggers



These expectations provide the basis for the more detailed jurisdictional observations below, where supervisors emphasised reliable sources, independent verification, transparency, historical testing and clear communication of basis risk.

Several supervisors explicitly highlighted the importance of objective and verifiable data sources:

- Sri Lanka's IRCSL stated that parametric triggers should rely on government or accredited sources (such as the Department of Meteorology) to ensure 'reliability, transparency, and consistency'; where third-party data is used, insurers must confirm its accuracy.
- Japan's FSA, framing expectations through a 'causal relationship' requirement: For an index to be approved if the insurer must demonstrate that the parameters are 'objective, transparent, and consistent' and fairly evaluate the degree of damage.
- The Philippines emphasises the independence of the trigger and requires that certified data come from an 'independent reliable entity' (preferably government-recognised) and that indices yield estimates correlated to actual losses.

- Chinese Taipei's FSC and Thailand's OIC similarly highlight transparency: the FSC requires statistical data to prove the relevance of the trigger, while Thailand mandates that policies explicitly disclose trigger values and specify a 'backup data source' to mitigate data failure risks.

In markets such as Singapore, where parametric products fall under broad risk-management and data-governance expectations, insurers must comply with MAS's overarching guidance on model governance, operational risk and data validation. Although these rules are not specific to parametric insurance, they apply fully to index-based structures and require insurers to ensure that data dependencies are well managed and operationally sound.

Supervisors generally did not indicate that they independently validate indices or perform technical audits of datasets. Instead, jurisdictions like Japan and Indonesia place the responsibility on insurers to demonstrate that data sources are appropriate and that trigger calculation processes are operationally reliable. This approach reflects the findings of the FSI-IAIS Insights paper, which notes that most authorities do not take on the responsibility of independently assessing the technical accuracy of triggers and generally do not prescribe detailed expectations for their design, instead placing primary responsibility on insurers to ensure that trigger structures are appropriate and defensible. While some jurisdictions may require detailed models to ensure insurers understand potential payout issues, most rely on broader requirements, leaving technical calibration to the insurer (Garcia Ocampo, D., & Lopez Moreira, C, 2024).

Data-related challenges in several markets influence what is feasible in practice. The IRCSL explicitly identified the limited availability of reliable databases as a significant barrier to scaling parametric products. In jurisdictions where meteorological or hydrological data is uneven, sparse or delayed, supervisors noted that product development would inevitably be constrained, even if supervisory expectations are flexible. In some markets, rainfall or wind-speed indices may be available only at coarse spatial resolution or with limited historical records, making it difficult to calibrate parametric triggers with confidence. In response, some programmes rely on satellite-derived indicators such as the Normalized Difference Vegetation Index (NDVI) as a proxy for rainfall or drought conditions, although these approaches introduce their own interpretability and credibility challenges. These practical limitations reinforce why many existing products rely on relatively simple event measures, or on proxy indicators such as satellite-derived vegetation indices, rather than multi-parameter or impact-based indices.

Satellite proxies and the use of NDVI in parametric insurance

Satellite-derived indicators such as the NDVI are frequently used in parametric agricultural insurance where ground-based rainfall measurements are sparse or unreliable. NDVI measures vegetation "greenness" derived from satellite observations of reflected red and near-infrared light, which provides an indicator of plant health and biomass. Because satellite imagery provides consistent spatial coverage and long historical records, NDVI is sometimes used as a proxy indicator for drought or pasture conditions in index-based insurance programmes.

However, NDVI also presents challenges for parametric insurance design. The relationship between vegetation greenness and economic loss is indirect and may vary across crops, soil types, and farming systems. NDVI may also respond to vegetation growth that does not translate into usable pasture or crop productivity. As a result, NDVI signals can sometimes diverge from actual economic outcomes experienced by farmers or pastoralists. In addition, satellite-derived indicators can be difficult for local stakeholders to interpret, which may affect trust in the trigger mechanism. These factors highlight the importance of careful calibration, validation, and communication when satellite proxies are used in parametric insurance.

Supervisors consistently signalled that effective communication around data sources and trigger mechanics is a core fairness consideration for parametric insurance. Several authorities emphasised that policyholders should understand not only which data source underpins the trigger, but also how basis risk can arise when index outcomes diverge from individual loss experience.

While most supervisors do not mandate formalised basis-risk disclosures, they repeatedly stressed the importance of clarity, transparency, and reasonable trigger logic as part of product review.¹² This reinforces the industry view, articulated by the SRA, that ensuring policyholders understand the potential for basis risk is of 'utmost importance' for consumer trust (SRA, 2020). The Philippines stands out in this regard: the Insurance Commission explicitly expects clear disclosure of trigger mechanics and, where relevant, the specification of fallback indices or data sources to address data failure or ambiguity – an approach that goes further than that observed in many other surveyed jurisdictions.

Data expectations also differ proportionately by market segment. For retail and microinsurance, supervisors emphasise disclosure, transparency, and the ability of policyholders to understand how index triggers operate, including the possibility of basis risk. At the sovereign level, disclosure obligations are typically confined to the contracting public entity, with data availability, transparency and credibility, audit, and verification handled through internal state oversight mechanisms rather than consumer-facing requirements. While supervisors do not independently validate indices at any level, macro-level arrangements rely more heavily on institutional trust in public or internationally recognised data providers and on ex-ante agreement over trigger legitimacy, given the political and fiscal consequences of non-payment.

3.5 Reinsurance and capital treatment

Surveyed supervisors indicated that parametric reinsurance is accommodated within existing solvency and capital frameworks, a position that aligns closely with IAIS guidance on the application of proportionality in prudential principles to index-based products. The IAIS does not identify a need for distinct capital or solvency treatment solely because a contract is parametric in nature. Instead, it emphasises that established solvency regimes should apply on a proportionate basis, reflecting the nature, scale, and complexity of the underlying risks, including the systemic and catastrophic characteristics that often define parametric coverage.

Findings from this study confirm that supervisors have adopted this approach in practice. Parametric reinsurance is generally recognised within existing risk-transfer and solvency frameworks, with supervisors focusing on technical defensibility, enforceability of contracts, and the insurer's ability to demonstrate effective risk transfer. This includes alignment between direct insurance triggers and reinsurance structures to avoid residual exposure that could undermine capital adequacy.

¹² In practice, supervisors emphasise that policyholders should understand both how triggers operate and how differences between index outcomes and individual losses may arise.

The absence of parametric-specific capital rules appears to reflect established prudential principles. In practice, parametric reinsurance is treated as viable where insurers can evidence robust trigger design, alignment across risk-transfer layers, and appropriate capital recognition. This allows innovation to proceed without compromising solvency objectives.

Parametric reinsurance agreements are generally treated as ordinary reinsurance for capital and solvency purposes, provided they meet general risk-mitigation criteria such as legal enforceability and clear payout conditions. Most surveyed jurisdictions indicated that index-based structures do not face distinct capital treatment, though some emerging markets have not yet defined their approach. Where recognised, parametric contracts are assessed under the same principles that apply to all risk-transfer arrangements: legal enforceability, clarity of contractual obligations, and demonstrable transfer of risk to the counterparty. In some cases, parametric structures may also be used to facilitate direct risk transfer to capital markets, such as through catastrophe bonds or other insurance-linked securities, although these arrangements are typically structured through reinsurers or special-purpose vehicles to align with existing regulatory frameworks.

Several supervisors confirmed that parametric reinsurance agreements are treated as ordinary reinsurance for capital and solvency purposes, provided they meet general risk-mitigation criteria:

- Singapore's MAS, for example, applies risk-based capital (RBC) 2 requirements to parametric reinsurance in the same way it applies them to indemnity-based reinsurance. The contract must provide significant insurance risk transfer to qualify for capital relief
- Japan's FSA noted that under its new Economic Value-Based Solvency Regulation (ESR), which was introduced in Japan from the fiscal year ending March 2026, there are no specific provisions for parametric reinsurance; however, principle-based rules allow the effects of risk mitigation to be recognised within a reasonable scope
- The Philippines Insurance Commission confirmed that parametric reinsurance follows ordinary reinsurance rules for solvency purposes, provided the contract effectively transfers risk
- Chinese Taipei similarly indicated that while its solvency regime does not specifically prescribe rules for parametric contracts, insurers may reduce required reserves and capital risk if the reinsurance arrangement effectively transfers the scope of coverage

In practice, effective capital recognition depends on operational clarity. Supervisors in Thailand and the Philippines emphasised that trigger definitions must be unambiguous to avoid uncertainty about payout obligations. Because parametric reinsurance does not require loss assessment, disputes tend to hinge on the precision and reliability of index measurement. This places additional importance on transparent data sources and well-defined calculation processes, which are prerequisites for recognising the risk transfer.

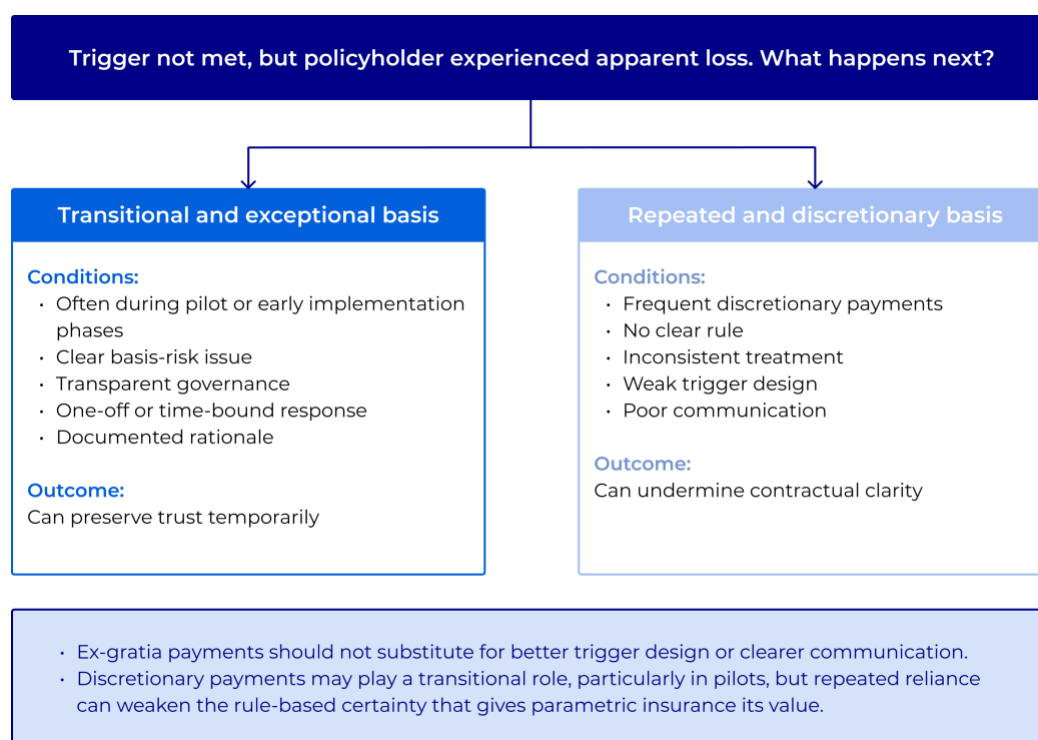
3.6 Ex-gratia payments and rule-based insurance structures

Supervisors generally acknowledged the use of ex-gratia payments in parametric insurance, a practice that the IAIS recognises as a recurring feature, particularly during pilot or early implementation phases. IAIS guidance notes that such payments typically arise in response to adverse basis risk and highlights that supervisors have a legitimate interest in these arrangements because they relate directly to the fair treatment of policyholders and the stability of insurance markets.

Findings from this study indicate that supervisory approaches to ex-gratia payments vary in formality and tolerance. In some jurisdictions, discretionary payments are viewed as pragmatic, time-bound tools to preserve trust. In others, supervisors expressed concern that repeated or poorly governed ex-gratia payments risk blurring contractual boundaries, undermining the legal integrity of parametric insurance.

This evidence broadly aligns with IAIS guidance that discretionary payments should not substitute for credible index design or clear communication over time. While ex-gratia arrangements may play a transitional role, particularly in pilots, sustained reliance on them is seen as undesirable from both supervisory and market-development perspectives.

Figure 11: When ex-gratia payments support or undermine parametric insurance



In most markets, ex-gratia payments are not explicitly prohibited by insurance legislation and are treated primarily as matters of internal insurer policy, subject to supervisory scrutiny. Supervisors view the strength of parametric products as their predictability, transparency, and consistency. Discretionary payments, if used, are therefore expected to be exceptional and carefully governed to avoid eroding these core attributes. Authorities in Indonesia, the Philippines, and Sri Lanka indicated that discretionary payments occur in practice, and that they are not expressly referenced in policy documentation, and are typically monitored through reporting, conduct supervision, or general governance expectations.

Japan reported a more cautious stance. While ex-gratia payments are not expressly prohibited, the FSA highlighted potential legal risks, particularly the possibility that discretionary payments could breach prohibitions on unjust discriminatory treatment under the *Insurance Business Act*. This concern reflects a stricter interpretation of equal treatment principles, which limits the scope for discretionary settlements across both indemnity-based and parametric products. Regulated insurance compensation is expected to remain contractually defined and non-discretionary.

3.7 Consumer fairness and supervisory priorities

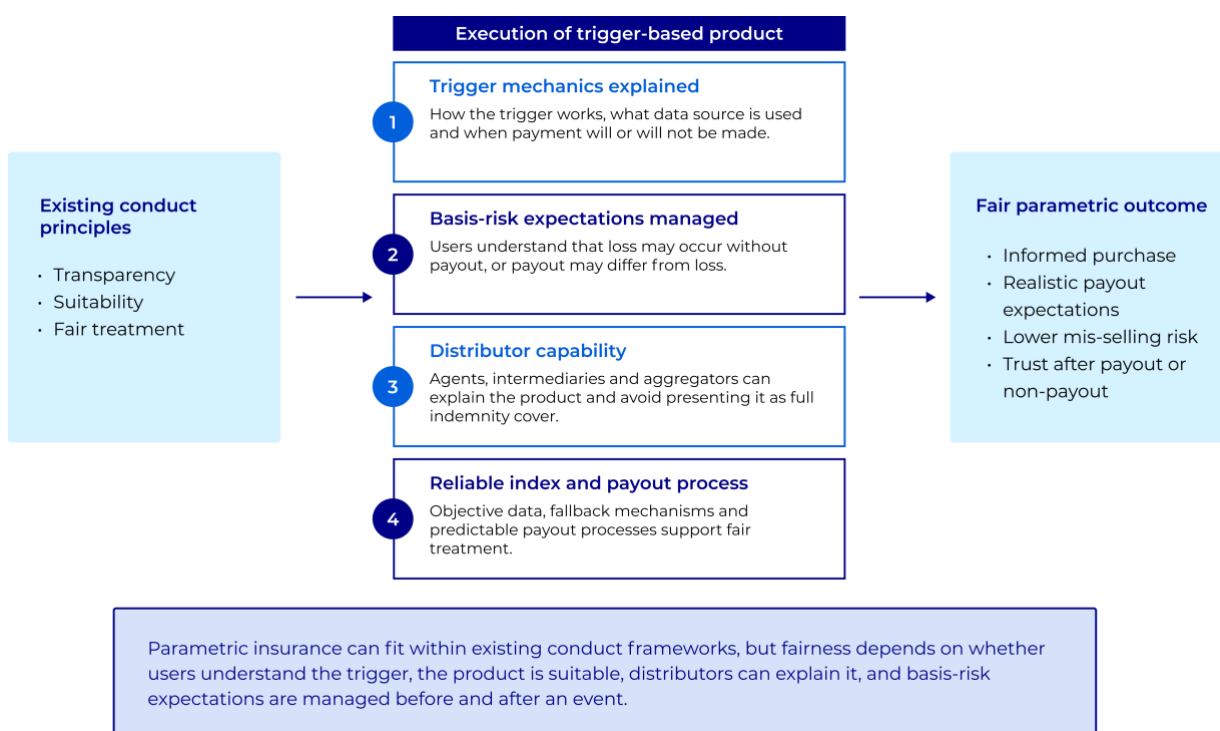
The IAIS emphasises that consumer fairness in parametric insurance is best achieved through the consistent application of broader insurance conduct principles, particularly transparency, suitability, and the management of basis-risk expectations, and may not require bespoke rules specific to index-based products. IAIS guidance further indicates that parametric insurance should be treated as part of the formal insurance supervisory framework, with supervisory expectations applied proportionately according to the nature, scale, and complexity of the product and its intended market.

Evidence from this study indicates strong alignment with this approach. Supervisors across Asia consistently framed fairness concerns around whether policyholders understand how triggers operate, whether products are appropriate for their risk profiles, and whether expectations about non-payout outcomes are clearly managed. Rather than calling for parametric-specific consumer protection regimes, supervisors emphasised the importance of plain-language disclosure, suitability assessments, and clear communication of basis risk, consistent with broader conduct-of-business standards.

This suggests that the key fairness challenge in parametric insurance is not supervisory novelty but execution. Where general consumer-protection principles are applied rigorously, parametric products are viewed as compatible with existing supervisory frameworks. Conversely, weaknesses in communication or suitability, rather than gaps in regulation, are more likely to undermine trust and acceptance. There may still be a role for more specific supervisory guidance on implementation in a parametric context, particularly regarding product explanation and communication of basis risk, while remaining consistent with existing regulatory approaches.

The figure below summarises how existing conduct principles translate into execution priorities for parametric insurance. The emphasis is not on creating a new consumer-protection regime, but on ensuring that trigger explanation, suitability, distributor capability and basis-risk communication are handled clearly in practice.

Figure 12: Consumer fairness execution bridge for parametric insurance



Parametric insurance can fit within existing conduct frameworks, but fairness depends on whether users understand the trigger, the product is suitable, distributors can explain it, and basis-risk expectations are managed before and after an event.

These execution priorities provide the basis for the more detailed supervisory observations below, particularly around trigger transparency, suitability, distributor capability and consumer understanding of basis risk.

Supervisory priorities focus on whether consumers understand the product and whether insurers manage the operational and communication risks associated with basis risk. While most supervisors rely on general consumer protection frameworks, the Philippines has incorporated specific parametric guidelines within its microinsurance regulations. Elsewhere, authorities emphasised areas where heightened attention is required because of the distinct way parametric products function. This suggests that, while existing regulatory frameworks generally remain appropriate, there may be value in developing more specific supervisory guidance on implementation in a parametric context, particularly regarding product explanation, basis-risk communication, and the promotion of good practices in product design and disclosure.

Transparency of trigger mechanics is a universal supervisory expectation. Given that trigger-based payout structures are specific to parametric products and do not arise in indemnity insurance, this may also represent an area where supervisory guidance could support consistent implementation and communication. Supervisors in the Philippines, Sri Lanka, Chinese Taipei, Singapore, and Thailand each stressed the importance of clearly explaining how the trigger works, what data source will be used, and under what circumstances payments will or will not be made. This reflects a recognition that requirements can be unfamiliar to consumers and that misunderstandings are likely if insurers fail to convey how payouts are determined.

Consumer suitability is a recurring theme, particularly for retail and microinsurance products. The Philippines Insurance Commission highlighted suitability requirements within its microinsurance framework, noting that policy wording must be simplified and distributors must be able to adequately explain index-based coverage, Sri Lanka's IRCSL similarly emphasised the importance of disclosing that payouts are index-based and determining claims is based on the trigger regardless of actual damage, These expectations align with international standards that call for insurers to ensure products are appropriate for the target market and that customers receive clear, balanced information (Garcia Ocampo, D., & Lopez Moreira, C, 2024).

Supervisors highlighted the importance of distribution channels that are both capable of explaining parametric products clearly and able to reach intended clients effectively. Authorities in the Philippines and Sri Lanka noted that agents and intermediaries must be equipped to manage expectations, with the Philippines emphasizing the need for consumer understanding of how the product works to prevent mistrust. While not explicit in every supervisory text, supervisors expressed concerns that mis-selling could occur if distributors promote the product as a guarantee of full loss compensation. At the same time, accessible and trusted distribution channels were also viewed as an important factor in enabling product uptake and scale.

Consumer understanding of basis risk sits at the centre of concerns. While supervisors in Singapore, Thailand, and Indonesia do not currently mandate formal basis risk disclosures, Sri Lanka explicitly evaluates basis risk disclosures during product review, and the Philippines emphasizes that policy contracts must clearly define triggers and fallback mechanisms to ensure transparency. This aligns with the SRA's (2020) view that while corporate buyers understand these risks, requirements to ensure retail buyers are aware of basis risk can reasonably be set much higher.

Likewise, supervisors view operational reliability of indexes and triggers as integral to fairness. Supervisors in Chinese Taipei and Sri Lanka again emphasised the importance of reliable trigger data. While framed through operational risk or methodology transparency rather than consumer protection, these expectations reinforce the need for predictable, objective, and trustworthy payout processes.

Consumer fairness concerns are especially pronounced in markets with low insurance literacy, where index-based products may be more challenging to explain, may conflict with expectations formed through experience with indemnity insurance, may meet low insurance literacy, or may be challenged by high levels of mistrust. Supervisors did not express opposition to retail parametric insurance but did indicate that careful communication and product governance are essential, particularly where the target market consists of vulnerable or low-income customers.

4. Market maturity and structural barriers

Market maturity shapes both the feasibility and the strategic relevance of parametric insurance. Although index-based coverage is technically viable across a wide range of contexts, its practical value depends on institutional capacity, data availability, distribution structures, and insurance decision making. These realities explain why parametric solutions are widely discussed yet remain unevenly adopted in Asia.

The table below summarises the market conditions that influence whether parametric insurance is likely to remain a pilot, develop through programmes, or become more repeatable.

Table 13: Market maturity conditions for parametric insurance scale

	Less mature conditions	Middle or developing conditions	High maturity conditions
Data	Limited historical or local observation data	Usable indices exist but coverage is uneven	Established, verifiable and timely data sources
Distribution	Few channels able to explain the product	Aggregators and partners begin to build reach	Multiple channels with trained intermediaries
Capability	Pricing and structuring capacity still forming	Growing technical and actuarial capacity	Established structuring and risk transfer capacity
Buyer Demand	Awareness of parametric cover is low	Interest concentrated in exposed sectors	Recognised use for liquidity and speed of payment
Common Pattern	Pilots and donor or development supported schemes	Sector schemes and expanding meso arrangements	Embedded, corporate and sovereign level solutions

Market maturity affects what kind of parametric insurance can scale, but each market requires alignment between data, distribution, technical capability and buyer demand.

A recurring but often implicit constraint across markets is the trade-off between speed and legitimacy. While rapid, objective rules-based payouts are central to the value proposition of parametric insurance, they can be politically or institutionally fragile when legitimacy is derived from a demonstrable loss assessment. Delayed indemnity payments may be slow but defensible, whereas fast parametric payouts – or non-payouts – can attract disproportionate scrutiny. This tension helps explain why parametric instruments can gain conceptual acceptance yet face resistance at the point of placement or renewal, particularly at sovereign and meso levels where accountability extends beyond the immediate beneficiary.

This tension manifests differently in different markets. In higher-maturity markets, insurers' existing digital claims, remote assessment and underwriting sophistication can reduce operational frictions that parametric products are designed to bypass, narrowing the commercial attractiveness to specific needs such as liquidity for disruption costs, coverage for hard-to-adjust exposures, or service-based benefits. In these markets, parametric value is often clearest where benefits are aligned to immediate service needs rather than estimated loss. In less-mature markets, parametric concepts may be viable in principle but constrained

by the upfront investment required for data, index calibration, product governance and buyer education, particularly where scale is uncertain and distribution pathways are fragmented.

Case Study X3 – Non-Cash Parametric Benefit for Service Recovery

In 2025, MSIG Thailand launched “Easy Lounge,” a parametric add-on for travel insurance that provides airport lounge vouchers when flights are delayed more than 90 minutes. Instead of cash compensation, the product offers an immediate service benefit designed to alleviate inconvenience at the moment it occurs. This demonstrates a different way of conceptualising parametric payouts: aligning the form of benefit with the customer’s immediate needs.

Source: <https://www.msig-thai.com/en/news/msig-thailand-launches-%E2%80%9Cmsig-easy-lounge%E2%80%9D-turn-flight-delays-relaxing-experience>

Supervisory feedback suggests that barriers to adoption are not uniform across market segments. Supervisors recognise that micro-level applications – often prioritised because of their relevance to vulnerable households – face different constraints from meso- and macro-level structures, which are shaped more by institutional, fiscal and governance considerations. This segmentation influences where supervisory attention is concentrated and how quickly parametric solutions progress beyond pilot phases, as the constraints that must be resolved differ across segments. For example, micro-level programmes often face challenges related to distribution and consumer understanding, while meso- and macro-level arrangements are more likely to encounter issues related to institutional procurement or fiscal integration.

Interviews with market participants reinforce that these constraints go beyond technical points. These observations relate primarily to meso- and macro-level transactions, where parametric placement may require longer sales cycles and more senior decision involvement than comparable indemnity covers. Contracts are perceived as financial tools as much as insurance. Buyers frequently need support to define the exposure being protected (including non-physical losses such as revenue disruption), select a trigger that is both credible and explainable to stakeholders, and understand how verification and payout processes will operate in practice once an event occurs. Where these elements are not specified clearly at inception, products are more likely to stall at the point of approval, be challenged after an event, or fail to renew. By contrast, micro-level development tends to face a different set of constraints, more closely related to distribution reach, affordability, and product understanding.

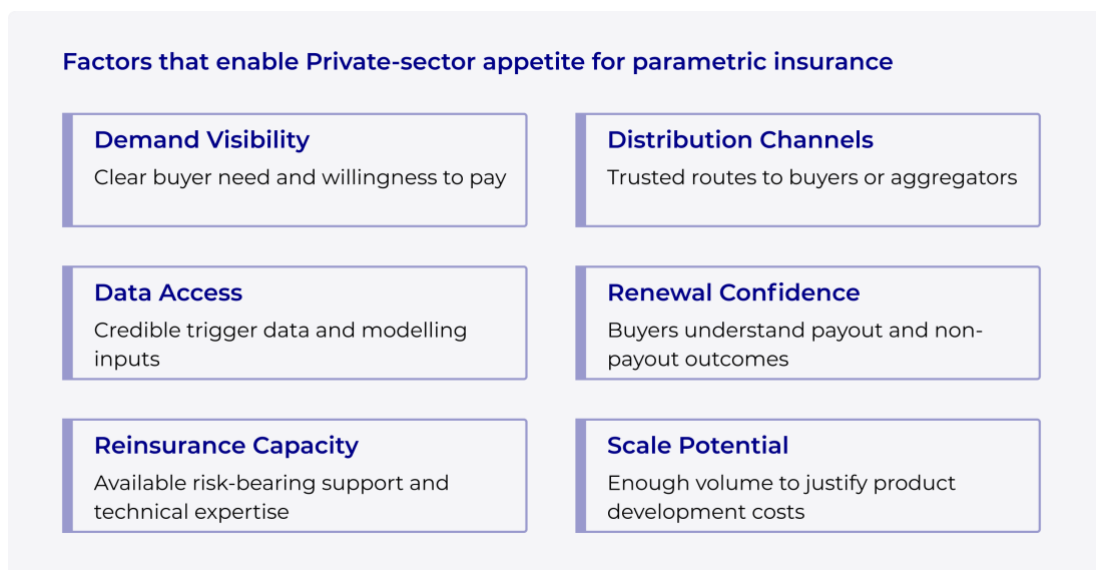
This section therefore focuses on the market conditions that determine whether parametric insurance is investable and repeatable: private-sector appetite, data and modelling infrastructure, distribution and sales pathways, and trust and willingness to pay. It concludes by drawing cross-market themes that frame the design and delivery considerations explored in Section 5.

4.1 Private sector appetite

Private sector appetite remains one of the strongest determinants of whether parametric insurance moves beyond pilots into sustained market offerings. Several respondents and market participants implicitly noted that private-sector appetite is shaped not only by technical feasibility but by the presence of stable, long-term counterparties across the value chain, including index providers, distribution partners and risk-bearing capacity. In practice, firms tend to prioritise opportunities where this supporting infrastructure already exists, as this reduces development costs, operational uncertainty and reputational risk associated with early-stage products. This aligns with IAIS observations that parametric initiatives struggle to mature where commercial viability, scale, or durable institutional arrangements are uncertain, even if products are conceptually sound.

Interviews with market operators suggest that their appetite is constrained by decision risk and renewal uncertainty rather than theoretical interest. They consider that parametric insurance placements typically require buyers to commit to a predefined trigger, payout logic, and acceptance of basis risk. As a result, meso and macro level transactions often progress through technical discussion and pricing but stall at the point of final approval, particularly where senior decision-makers must justify and explain the trigger design and basis-risk trade-offs to stakeholders who may be more familiar with conventional indemnity insurance. Market participants also noted that appetite is closely linked to the perceived likelihood of renewal: insurers and reinsurers are more willing to invest in product development where there is confidence that a programme can persist beyond an initial placement and where non-payout outcomes will not automatically undermine future participation.

Figure 14: Private-sector appetite for parametric insurance.



Where governments or regional facilities act as anchor buyers, insurers report that they are better able to justify upfront investments in data, modelling, and governance, and plan for continuity beyond pilot phases. In practice, sustained market development often requires a clear and credible strategy for scaling beyond pilot programmes, including committed buyers, stable institutional arrangements, and sufficient transaction volume to justify ongoing investment. In the absence of such anchors, even technically sound parametric concepts may remain unattractive.

In more mature markets – such as Singapore, Japan, and Chinese Taipei – insurers generally have the technical resources to design and support parametric structures. They also have better access to international reinsurance markets that are familiar with index-based risk transfer. However, even in these markets, supervisor responses suggest that private sector appetite remains cautious. Insurers are selective about investing in new parametric offerings unless there is clear demand, a well-defined distribution strategy, or a strategic rationale such as corporate risk-management solutions or agricultural partnerships. The market remains characterised by targeted, niche deployments, not broad retail availability.

Case Study X4: India – Parametric Pandemic Business Interruption Insurance

India introduced its first parametric pandemic business interruption cover in 2025, marking a significant extension of index-based insurance into non-damage business interruption (NDBI) risks. The product was jointly structured by Gallagher Insurance Brokers, New India Assurance, and Munich Re's Epidemic Risk Solutions team, and issued to The Phoenix Mills Ltd – a major operator of malls, hotels, and office assets across the country a meso level solution.

The case demonstrates parametric mechanisms applied to non-physical loss triggers, addressing a risk where traditional indemnity models struggle. COVID-19 exposed severe vulnerabilities in India's service and retail sectors, where prolonged closures led to months of lost revenue but did not involve physical damage – rendering conventional property or BI covers insufficient. By tying payouts to predefined epidemic or pandemic declarations rather than physical loss, the product delivers rapid liquidity to support business continuity during public health emergencies.

It also illustrates how specialised international reinsurance capacity and local market adaptation can enable innovation in complex systemic risks. Gallagher worked with Phoenix Mills to map operational realities into trigger design, while Munich Re provided model development and risk capacity. The structure allows for fast payouts, reduces ambiguity about coverage, and supports corporate resilience planning – important in a market where pandemic risk is recognised but historically uninsurable.

From a supervisory and market-development perspective, this example highlights three broader themes:

- *Parametric mechanisms can fill protection gaps where indemnity insurance is not feasible, particularly for systemic risks where loss verification is difficult or delayed.*
- *Corporate demand can be a catalyst for market expansion, especially in sectors with significant revenue exposure to non-damage disruptions.*
- *Product innovation often depends on broker-insurer-reinsurer collaboration, supported by technical expertise in both modelling and parametric structuring.*

India's launch of a pandemic parametric cover aligns with broader national discussions on adopting parametric approaches for climate-related disasters, indicating growing interest in using rule-based financial instruments to accelerate post-event liquidity across multiple risk classes.

Source: Libatique, R. (2025, October 20). India debuts parametric pandemic cover for business interruption. Insurance Business Asia. <https://www.insurancebusinessmag.com/asia/news/sme/india-debuts-parametric-pandemic-cover-for-business-interruption-553573.aspx>

In middle-income markets like Thailand and the Philippines, the private sector has engaged with parametric insurance primarily through partnership-driven programmes, often supported by government agencies or development institutions. For example, parametric agricultural covers in the Philippines have been offered through arrangements linked to PCIC or through cooperative-led distribution mechanisms. Insurers in these markets appear willing to participate where programme design shares operational or financial risks, but do not necessarily see standalone commercial parametric products as a major growth area without public-sector engagement or external incentives.

In less mature insurance markets – including Sri Lanka, Brunei Darussalam, and some segments of Indonesia’s market – private sector appetite is shaped by limited historical experience with index-based structures and competing business priorities. Supervisors in these jurisdictions did not indicate resistance to parametric insurance, but survey responses suggest that insurers have not actively pursued development beyond small pilots or conceptual exploration. Market capacity constraints, limited data availability, and uncertain distribution pathways all contribute to this cautious stance.

Across all markets, insurers prioritise familiar product lines with predictable demand, particularly in competitive environments where differentiation through innovation carries commercial risk. Parametric insurance requires upfront investment in index design, data sourcing, and consumer education. Without confidence that these investments will lead to sustained demand or meaningful scale, insurers may prioritise traditional indemnity products that fit comfortably within existing underwriting and operational systems. This dynamic suggests that early-stage market development may benefit from catalytic roles played by governments, development partners, or industry initiatives, for example, through supporting data infrastructure, facilitating pilot programmes, or encouraging experimentation that reduces the perceived commercial risk of innovation.

Reinsurer appetite for parametric risk transfer is stronger, reflecting global momentum and established modelling capabilities, particularly for natural hazards. Several global reinsurers have supported index-based programmes in Asia. However, reinsurer interest does not automatically translate into local insurer adoption, especially where product design, pricing, or distribution constraints remain.

Market maturity also affects the perceived value of parametric insurance. In settings with low insurance penetration, households and enterprises may not view insurance – of any form – as a natural risk-management tool. At the same time, insurers operating in such markets may still be focused on expanding conventional coverage and distribution into underserved segments or regions, which can limit the organisational capacity and incentives to develop more novel products. Even commercially viable parametric products may struggle to gain traction without broader shifts in financial behaviour, supervisory incentives, or institutional demand.

The evidence suggests that private sector appetite in Asia is situational rather than structural. Insurers are not opposed to parametric insurance, but their willingness to invest depends on practical commercial considerations: the presence of aggregators, clarity of supervisory expectations, availability of reliable data, and visible demand, and competitive pressures that encourage product differentiation and innovation. In markets where these elements remain nascent, parametric insurance is likely to expand through institutional partnerships or targeted pilots rather than organic commercial growth.

By contrast, sovereign and quasi-sovereign demand is often driven less by commercial appetite and more by fiscal exposure, institutional mandates, and the availability of concessional or pooled risk-transfer mechanisms. Governments and public institutions typically evaluate parametric instruments as financial resilience tools rather than as retail insurance products. Their interest is often linked to managing contingent liabilities, securing rapid liquidity following disasters, or stabilising fiscal planning in the face of increasingly volatile climate risks. These motivations can create clearer demand signals than those observed in retail markets. In addition, sovereign buyers are often able to aggregate risk at national or regional levels and engage with development partners, regional risk pools, or

international reinsurance markets, which helps overcome some of the scale and infrastructure constraints faced in private retail markets. This helps explain why macro-level parametric initiatives can advance even where private retail uptake remains modest.

4.2 Data and modelling infrastructure

Available, reliable and accessible data shapes feasible design of parametric insurance that meaningfully limits basis risk. However, rarely is data the sole binding constraint. Market participants noted that sparse, low-resolution, or poorly governed datasets can constrain trigger calibration, increase pricing conservatism, and reduce confidence in payout outcomes. At the same time, experience from reinsurers and brokers indicates that feasibility is often preserved through the use of alternative data sources or transferred modelling capability provided the resulting index remains transparent, defensible, and credible at the point of decision and renewal. This is consistent with IAIS reports, which emphasises data quality and robust modelling as practical preconditions for credible index design, rather than requiring perfect or locally generated datasets especially in pilot phases.

Most existing parametric products rely on meteorological or geophysical data – rainfall, temperature, windspeed, seismic intensity, flood levels – typically captured by government agencies or national scientific institutions. Supervisors in the Philippines, Sri Lanka, Chinese Taipei and Thailand indicated that these are the preferred sources for trigger indices because they are publicly recognised, objective and less likely to be contested. However, many jurisdictions face constraints relating to station density, data continuity, historical record length and real-time reporting capacity. These structural gaps restrict the level of granularity that insurers can achieve and result in products with broad geographic triggers rather than localised indices tied closely to community-level impacts.

In several jurisdictions, data timeliness was a challenge. Parametric insurance depends on swift determination of events, but reporting delays – particularly in rainfall or hydrological data – can slow payouts. Although supervisors do not mandate specific timelines, operational reliability is a supervisory expectation, and insurers must demonstrate that trigger measurements can be obtained and verified without undue delay.

A related constraint is the availability of validated commercial or third-party datasets, such as satellite rainfall estimates, catastrophe models or proprietary hazard indices. Supervisors indicated openness to the use of such datasets but emphasised the need for transparency regarding methodology and accuracy. In markets where public datasets are sparse, satellite-based indices such as NVDI may offer a pathway for innovation, but they also raise concerns about interpretation and consumer acceptance. No supervisor reported the use of satellite triggers as a mainstream feature of current market offerings.

Case Study X5 – Using Satellite Data in Place of Domestic Measurement in Thailand

Sompo Japan previously implemented parametric insurance products for logan and sugarcane farmers in Thailand using satellite-based climate data (GSMaP). While these products are no longer currently available, the case highlights the potential use of alternative data sources in environment where domestic measurement networks are limited, subject to transparent and defensible methodologies.

Source: https://www.sompo-hd.com/-/media/hd/en/files/news/2019/e_20190208_1.pdf?la=ja-JP;
<https://www.sompo-asia.com/home/newsroom/area-body/newsroom/sugar-cane-parametric-insurance.html>

Technical enablers also depend on the internal capabilities of insurers. Markets such as Singapore and Japan have insurers and reinsurers with catastrophe-modelling resources, although their adequacy varies across perils, events and regions and remains uneven overall, as well as, data science teams or international partnerships that can support parametric product development. In contrast, insurers in less mature or smaller markets may lack the actuarial and analytical infrastructure needed to develop, test and refine indices, assess correlation strength or model basis risk. This often reflects limited market scale and access to specialised technical resources rather than a lack of interest in parametric approaches. In survey responses, supervisors did not signal that capability gaps create supervisory barriers, but the commercial implications are significant: without technical capacity, private sector appetite for developing new parametric products is naturally limited.

Another emerging enabler is improved digital infrastructure, including automated data systems that collect and process hazard data, parametric trigger calculation engines and mobile or online rapid payouts. Singapore and Chinese Taipei have made advances in these areas, although their use for parametric insurance remains limited in practice. In lower-income markets, digital systems may offer efficiencies across applications ranging from micro-level products to meso-level schemes and even macro-level sovereign programs, but they require investment and partnership models that insurers have not yet widely pursued.

Across all markets, supervisors consider data challenges as a design issue rather than a supervisory constraint. Supervisors do not prescribe particular indices or data sources, nor do they independently validate underlying datasets. Responsibility rests, as reflects a risk-based approach to supervision, with insurers to select appropriate data, document methodology and ensure robustness of operational processes. Where data gaps exist, supervisors expect insurers to acknowledge, understand, and respond to these limitations and design products that remain fair and transparent despite them.

In summary, data is one of the most important elements where improvements can advance parametric insurance in Asia. Improvements in measurement networks, access to high-resolution datasets, and strengthened modelling capacity can unlock new possibilities, including multi-parameter triggers, urban flood indices and more targeted meso-level structures. With these enablers, parametric insurance can extend well beyond the narrow set of hazards and geographies where reliable indices currently exist.

4.3 Distribution and sales

Distribution channels are central to seeing parametric insurance reach the beneficiaries it is designed to support. In practice, successful programmes rely on intermediaries that sit close to end users and can integrate enrolment, communication, and payout facilitation into existing relationships. International experience and IAIS guidance emphasises that trusted, well-integrated distribution is often more decisive for uptake and sustainability than product design.

The most common distribution channels identified across surveyed jurisdictions are traditional intermediated models, where licensed agents or brokers sell parametric products alongside other non-life offerings. Supervisors in Singapore, Thailand, Chinese Taipei and Sri Lanka emphasised that any entity distributing parametric insurance must meet the same licensing, conduct and suitability requirements expected of distributors of indemnity-based products. Some stakeholders noted that parametric products may also be distributed through alternative channels such as agricultural cooperatives, digital platforms or aggregators, which can raise questions about proportionality in licensing or intermediary

requirements. Supervisors also emphasised the importance of clear disclosure, given that consumer understanding of index triggers and basis risk may be limited. As experience with parametric products grows, regulators may continue to draw on international guidance, including IAIS work on index-based insurance, when reviewing supervisory approaches.

Market participants emphasised that distribution challenges for parametric insurance are as much about decision authority as channel access. At the micro level, parametric products are often offered to customers as standardised offerings with limited scope for modification. By contrast, meso- and macro-level parametric covers are typically structured with the buyer's involvement, requiring agreement on the trigger design, a payout structure and an acceptable level of basis risk. This can extend sales cycles, particularly in the public sector where internal rules for allocating payouts downstream often need to be defined. As a result, distribution in some cases benefits from the involvement of an intermediary or technical partner who can translate the product into decision-relevant terms, including practical examples of when the product pays, when it does not, and how payouts can be used operationally.

In several markets, especially those with active microinsurance or agricultural programmes, aggregator-based models have shown particular relevance. These include cooperatives, producer organisations, microfinance institutions and local government units. These organisations may act as distributors or, facilitate access to group-based¹³ cover for their members or communities, for example through cooperatives or group schemes. In the Philippines, cooperatives and microfinance institutions play a key role in distributing index-based agricultural and disaster covers, leveraging trust-based relationships. Similar aggregator-led approaches have been observed in India and Vietnam, particularly for rainfall related index products for agriculture. While these models help address scale and administrative costs, they also transfer communication responsibilities to the distributor institutions, which may benefit from dedicated support to strengthen their understanding of insurance concepts and product features.

Case Study X6 – Embedded Distribution Through Rural Credit Channels Thailand

Thailand's Bank for Agriculture and Agricultural Cooperatives (BAAC) previously collaborated with multiple insurers to pilot weather index crop insurance for maize farmers in 2008. This initial pilot did not involve Sampo Japan. Separately, Sampo Japan later launched parametric coverage for longan farmers in 2019. In these cases, distribution was closely linked to rural credit channels provided by BAAC, demonstrating the role of embedded distribution through agricultural finance institutions. This experience highlights how leveraging trusted financial intermediaries can help overcome distribution barriers and support scaling of parametric insurance. It is noted that some sources report an increase in policy uptake from 1,158 policies in 2010 to 6,173 in 2011; however, it is unclear which specific programme or product these figures refer to. The example underscores how embedded distribution with lenders can address barriers and improve scale.

*Source: <https://www.slideshare.net/slideshow/baac-weather-index-insurancepptspecial/6847290>;
https://www.sampo-hd.com/-/media/hd/en/files/news/2019/e_20190208_1.pdf?la=ja-JP*

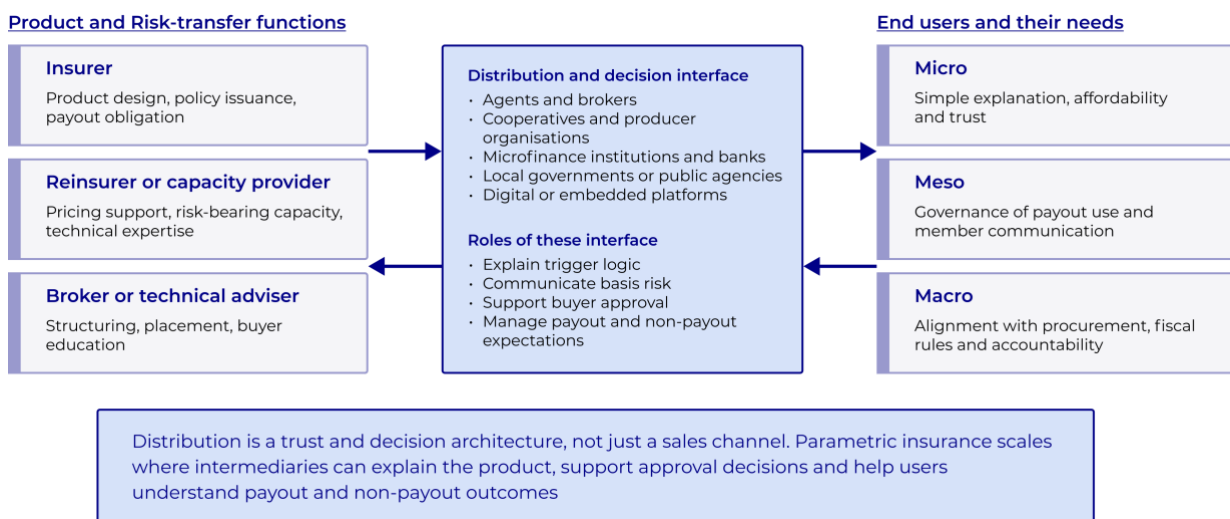
Digital channels for parametric insurance remain at a nascent stage. While some insurers in Singapore and Chinese Taipei are exploring digital distribution for simplified micro parametric offerings, supervisors noted that digital platforms do not reduce the need for clear communication of basis risk and trigger mechanics. The potential for embedded distribution

¹³ For the purposes of this paper, group schemes distributing cover to members are treated as micro-level distribution channels, consistent with IAIS usage.

– where parametric protection is bundled into financial services, supply chains or utility payments – has been discussed in several markets but is not yet widely implemented. Supervisors did not signal barriers to such models but stressed that suitability and disclosure standards would apply regardless of channel.

In meso- and macro-level contexts, distribution typically takes the form of direct institutional purchase outside the retail insurance system. Government agencies, cooperatives, banks or corporations may buy parametric coverage for financial protection or business continuity. This differs from group-based schemes that distribute cover to members or communities, which supervisors indicated are generally treated within existing group insurance frameworks and do not require special approval pathways. Such arrangements are typically considered collective microinsurance distribution rather than meso-level coverage, where an organisation purchases protection for its own balance sheet exposure. Institutional purchase models can scale rapidly but do not necessarily create visibility or familiarity more broadly across the market.

Figure 15: Distribution ecosystem for parametric insurance

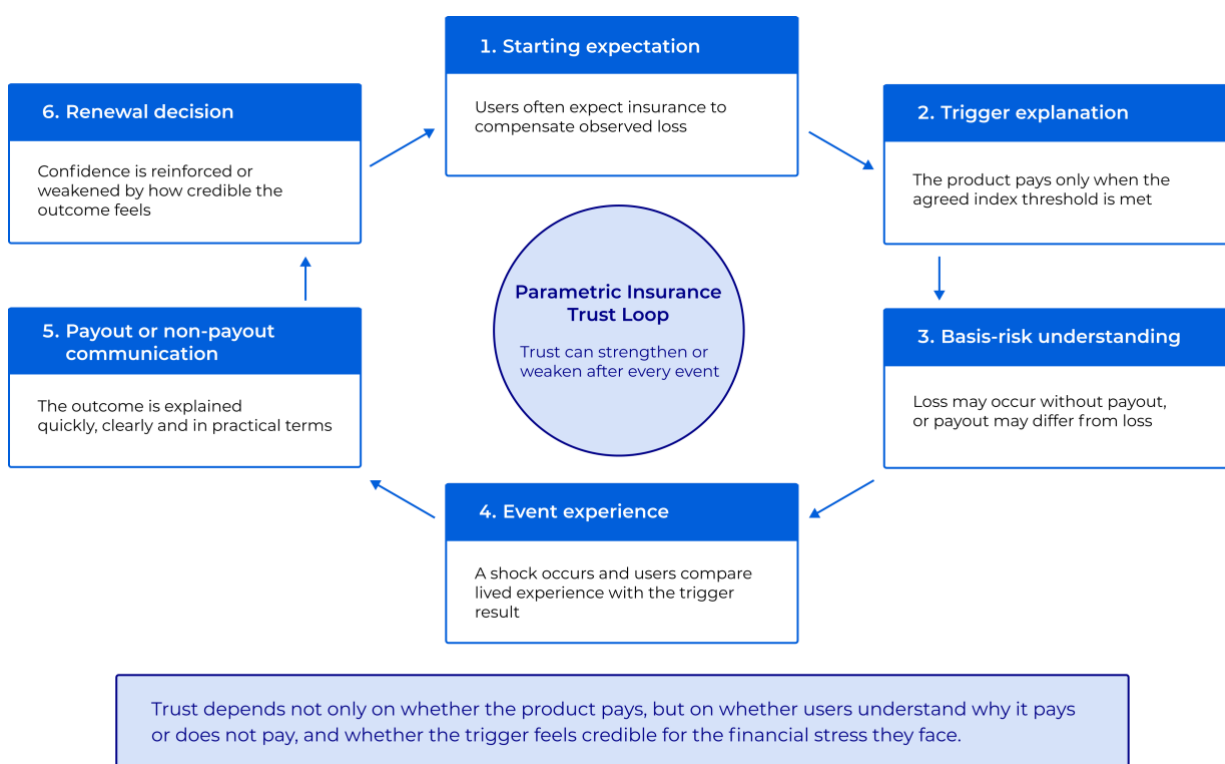


Across markets, intermediary capability is a critical constraint. Even where distribution channels exist, uptake is limited if agents, brokers or institutional partners are unsure how to explain index-based products. Some supervisors emphasised the risk of mis-selling if intermediaries present parametric insurance as a substitute for indemnity coverage without adequately contextualising the nature and limitations of index-based payouts. This creates a constraint on expansion into retail markets and reinforces the need for training, standardised communication tools and clear product governance.

4.4 Consumer awareness, trust, and willingness to pay

Consumer awareness is decisive to shape trust in parametric insurance. Interviews and market experience indicate that dissatisfaction often arises not from basis risk itself but from misunderstanding of the triggers and payout conditions, particularly following non-payout events. In several cases, policyholders expected payments based on their own perception of an adverse event (such as a drought), while the contractual trigger was defined using specific index thresholds such as rainfall measurements. When these thresholds were not reached, the contract performed as designed but expectations differed. Where products are not accompanied by clear explanations and practical illustrations of how payouts work, trust can erode instantly, even if the contract performs as designed. This is reinforced by broader international experience, reflected in IAIS guidance, which sustained uptake depends on effective education and expectation-setting rather than on technical product features alone.

Figure 16: Trust loop for parametric insurance uptake and renewal



Consumers often view insurance through the lens of indemnity expectations¹⁴. Many policyholders assume that insurance should compensate them for specific losses they personally incur. Because parametric insurance operates differently – providing fixed or pre-agreed payments based on a defined trigger – customers may have concerns when claims are not paid when they expected that they would be. Supervisors in the Philippines, Sri Lanka and Chinese Taipei all noted that clear, simple explanations are crucial for avoiding misunderstandings that could undermine trust.

¹⁴ In the sense that payouts match actual losses and not determined by an index.

This challenge is heightened in markets with low financial literacy or where formal insurance plays a limited role. Household budgeting constraints also influence how consumers assess value. Even modest premiums may represent a meaningful financial trade-off, and willingness to pay depends on whether the product is perceived as providing credible, timely protection. Without trust in the trigger mechanism or clarity about how payouts work, consumers may opt for informal coping mechanisms, savings or credit rather than insurance, often at greater cost or reduced benefit.

Market experience in Asia highlights this pattern. In agricultural programmes such as in the Philippines, Vietnam and India¹⁵, uptake has increased where aggregators or cooperatives serve as trusted intermediaries, helping explain products and reinforcing the legitimacy of triggers. Similarly, early pilots in urban disaster covers show that consumers are more comfortable with parametric products when they understand how the index is constructed and how it relates to the events that affect them.

Trust is also shaped by payout experience. Positive examples of rapid payment can strengthen perceived value, even among customers who initially had reservations. Conversely, situations where a trigger does not activate despite visible damages can create scepticism and damage confidence in insurance more broadly. Supervisors in Sri Lanka and the Philippines highlighted this risk indirectly through their emphasis on transparency, fairness, and ensuring the reasonableness of trigger thresholds.

Willingness to pay by the purchaser is connected to their expectations about whether the insurance company will pay when expected. Interviews and market experience suggest that these expectations are shaped both by general trust in insurers' claims practices and by whether the trigger mechanism is perceived to reflect the conditions experienced by the purchaser. While consumers do not typically use the term, they often form a practical view about whether the index corresponds to what they experience during an event. Where the relationship between the trigger and the purchaser's perception of the event is unclear, additional communication and trust-building may be required to support uptake. At the retail level, insurers must therefore demonstrate not only that the trigger is objective and clearly defined, but also that it reasonably aligns with the financial stress consumers face following an event.

Institutional (meso-level) buyers behave differently. Aggregators, local governments and enterprises often evaluate parametric insurance strategically – as a liquidity tool or continuity mechanism – rather than through personal loss expectations. Their willingness to pay is shaped by exposure, financing constraints, and the predictability of payouts. Supervisors noted fewer concerns about misunderstandings at this level, though the need for clear documentation remains.

Consumer awareness and trust represent key conditions for scaling parametric insurance. While supervisory frameworks across Asia are generally accommodating, consumer perceptions can limit uptake even where products are appropriate and technically sound. Building trust requires sustained investment in communication, clarity of design, and demonstration of performance – particularly in markets where households and small businesses are new to insurance or have had inconsistent experiences with traditional indemnity products and micro level products are being introduced. Without this trust, willingness to pay is likely to remain low. This scenario probably reinforces the narrow and

¹⁵ Outside the core supervisory survey but relevant to regional context

incremental development patterns observed across Asia to date so represents a significant opportunity for change.

4.5 Cross-market themes

The constraints and opportunities facing parametric insurance in Asia extend beyond questions of supervisory interpretation. They are primarily shaped by market structure, maturity and behaviour. Across jurisdictions, uptake has been influenced more by insurance literacy, data availability, distribution capacity and the ability to achieve scale than by legal definitions. This is consistent with IAIS reports, which highlight that behavioural barriers, uneven data and modelling capability, and fragmented delivery models often outweigh supervisory considerations in determining whether parametric products move beyond pilots into sustained market use. This suggests that progress in Asia depends less on supervisory reform and more on coordinated efforts to strengthen market infrastructure, build trust and align parametric insurance with current practices in risk management and financing.

Market and distribution constraints are usually more significant than supervisory ones. Even where supervisors are open to parametric innovation and provide clear principles on product approval, insurers face practical hurdles identifying viable distribution partners and pathways and securing sustained demand. Traditional agents and brokers often lack confidence in promoting index-based products, while retail consumers in underserved markets may have limited familiarity with insurance more generally, which can contribute to broader trust and adoption challenges rather than concerns specific to parametric structures. As a result, distribution remains limited and tends to rely on established relationships, institutional channels or programme-based approaches.

A most promising pathway for scale lies in aggregator-based distribution models and in meso-level institutional purchases. Across Asia, cooperatives, microfinance institutions, local governments and other aggregators have played an important role in enabling cost-effective distribution and in building trust with customers. These models reduce acquisition costs, enable simplified enrolment, can deliver more effective and rapid claim payment, and allow insurers to work with partners who understand local needs. Digital tools – from remote enrolment to automated payouts – have the potential to strengthen these models, although their application to parametric insurance is still developing. Where government or institutional partners are involved, programmes can scale more quickly and reach communities for whom traditional distribution channels have been less effective.

Market maturity and data availability jointly shape what is feasible. Even in jurisdictions with flexible supervisory postures, the absence of granular hazard data or modelling capacity limits the range of parametric products that can be developed. Less mature markets tend to lack the technical infrastructure or internal capabilities needed to design or maintain index-based products, while markets with stronger analytical resources still face challenges where public datasets are sparse or inconsistent. These constraints affect several aspects of market development: product design may be limited to simpler indices where data are available; uncertainty around loss correlations can reduce pricing confidence, leading insurers to include larger risk margins that may affect affordability; and the time required to develop, test and validate new indices can slow the introduction of new products.

The role of the public sector across Asia varies and affects market trajectories. In some contexts, government involvement is central – whether through national agricultural schemes, disaster-risk financing strategies or partnerships that support meso-level arrangements. In others, private sector initiatives dominate, with government playing a more

peripheral role focused on oversight. The difference shapes commercial incentives, willingness to invest in product development and the long-term sustainability of programmes. Public-sector engagement often accelerates uptake but may also create expectations that differ from purely commercial models.

Together, these themes highlight that the evolution of parametric insurance in Asia is shaped as much by market realities as by supervisory frameworks. Given market conditions, the design and delivery of parametric products in Asia must operate within these constraints while leveraging the opportunities they create.

Section 5 examines design and delivery factors that determine whether these structurally identified opportunities can be operationalised sustainably.

5. Design and delivery

5.1 Trigger construction and data selection

Trigger credibility depends on practical trade-offs between data quality, timeliness, transparency, and the robustness of the institutional context whereby payouts are verified. IAIS reinforces this view by emphasising that credibility is not defined by technical perfection, but by whether an index is produced in a manner that is timely, independent and transparent enough for its intended use. In IAIS' view, what constitutes "timely," "independent," and "transparent" varies across micro-, meso- and macro-level arrangements, reflecting differences in customer needs. In this context, credibility is also shaped by governance mechanisms around dispute resolution, including whether and how arbitration is provided for contractual arrangements to address index disputes without undermining the rules-based and (potentially) prompt response nature of parametric cover.

Trigger design lies at the heart of parametric insurance. It determines the conditions under which a payout occurs, shapes the potential for basis risk in the product, and influences both supervisory comfort and policyholder confidence. Across the ten study markets, supervisors consistently emphasised the importance of objective, transparent and well-explained trigger mechanisms, even though none prescribe specific indices or calibration methods. The construction of a trigger therefore remains primarily an actuarial and product-design responsibility, operating within supervisory expectations but driven by data availability and the needs of policyholders.

The figure below summarises the design considerations that determine whether a trigger is credible, understandable and operationally useful.

Figure 17: Trigger design trade-offs in parametric insurance

Design trade-offs

1. Measurable and verifiable index	2. Causal link to the risk	3. Calibration of thresholds & payouts	4. Operational robustness	5. Transparency and reasonableness
The index must be based on data that can be measured, verified and explained. Common sources include meteorological, hydrological, satellite or other recognised datasets.	The index should be a reasonable proxy for the exposure being protected. Insurers should explain why the trigger represents the underlying risk or financial stress.	Thresholds and payout scales must balance affordability, responsiveness and simplicity. Historical event distributions, agronomic conditions and uncertainty in the data affect calibration.	Data access, measurement processes and calculation rules must support rapid and reliable payout decisions. Timely data, automation, clear calculation rules and fallback arrangements reduce delay and disputes.	Policyholders and supervisors need to understand how the trigger works and why a payout does or does not occur. Supervisors generally emphasise fairness and transparency over technical sophistication.

Supervisors generally provide flexibility on index selection, but expect objective, transparent and well-reasoned design. A good trigger is not simply the most sophisticated. It must be measurable, causally relevant, well calibrated, timely and understandable for the intended use case.

Consistent with data availability, transparency and credibility expectations outlined in Section 3.4, insurers concerned about climate and agricultural risks typically prioritise national meteorological or hydrological data. The actuarial challenge lies in selecting an index that is measurable, verifiable, and causally linked to the risk. Once an index is selected, calibration requires establishing thresholds and payout scales that balance affordability, responsiveness and simplicity. In agricultural and disaster programmes in Asia, thresholds typically reflect historical event distributions or agronomic conditions. However, calibration is constrained by the length and quality of historical data. In markets with short or inconsistent time series, insurers must work with higher uncertainty, increasing the importance of transparency about how thresholds were chosen and how basis risk and conservative margin loadings may arise.

The clarity of trigger mechanics is also central to supervisory acceptance. Most supervisors emphasised that policyholders need to understand how a trigger is measured, under what circumstances it activates and how payouts correspond to the (potential) insured event. Although supervisors do not tend to require detailed modelling submissions, they expect insurers to explain the rationale for the trigger – including why it represents a reasonable proxy for the exposure.

Case Study X7 – Stage-Specific Parametric Cover for Agricultural Cycles In Vietnam

In 2024, WTW and Bao Minh Insurance Corporation launched a parametric drought solution for coffee farmers, designed to trigger specifically during the crop's flowering stage – a period highly sensitive to rainfall deficits. By aligning coverage with biological and operational risk windows, the product illustrates how parametric design can target the precise timing of vulnerability rather than rely on generic seasonal triggers.

Source: <https://www.wtwco.com/en-ch/news/2025/02/willis-and-global-parametrics-deliver-new-parametric-solution-to-coffee-farmers-in-vietnam>

Trigger design and construction also influences operational robustness. Timely access to data, automated measurement processes and clear rules for index calculation support rapid payouts and reduce the risk of disputes. Several supervisors indirectly highlighted concerns about operational delays – particularly where meteorological agencies publish data with lags. These considerations do not prevent product development but do influence design choices, especially for products intended to deliver rapid payouts.

Finally, trigger calibration shapes potential for basis risk. Parametric insurance inevitably involves trade-offs between precision and simplicity. Multi-parameter or impact-based triggers may correlate more closely with losses but require more complex data and modelling, which may not be feasible in many markets. Single-parameter triggers, while simpler, may carry higher basis risk. Supervisors emphasised fairness and transparency over sophistication, making it important for insurers to select trigger designs that policyholders can understand and that supervisors can assess against reasonableness expectations.

Case Study X8 – Combining Four Perils in a Single Corporate Contract in Sri Lanka

In 2023, WTW structured Asia's first four-peril parametric insurance solution for Taprobane Seafood Group, covering multiple climate-related risks (e.g., temperature stress, rainfall, wind and water conditions). The bundled design simplifies purchasing and enhances perceived value by aligning with the operational needs of a corporate aquaculture producer. The product also enabled the policyholder to secure USD 15 million in project financing from Dutch Entrepreneurial Development Bank FMO, illustrating how well-structured parametric solutions can serve as financial enablers in development and sustainability-linked sectors.

Source: <https://www.wtwco.com/en-ph/news/2023/07/wtw-launches-asias-first-4-peril-parametric-insurance-solution-to-unlock-financing-for-aquaculture>

Ultimately, trigger construction and index calibration are at the intersection of insurer capability, data availability and supervisory expectations. Supervisors across Asia provide considerable flexibility but expect clarity, objectivity and well-reasoned design. Within these boundaries, the effectiveness of parametric insurance depends on the extent to which triggers capture the underlying exposure and deliver predictable and trusted outcomes for policyholders.

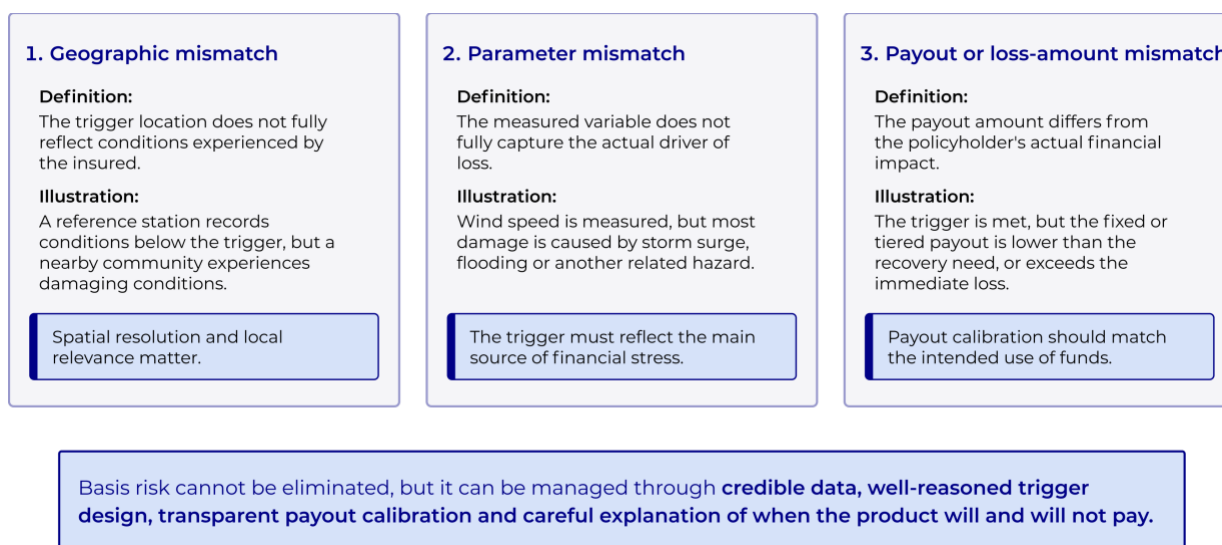
5.2 Managing basis risk

The IAIS recognises that basis risk is an inherent feature of parametric insurance, but emphasises that adverse outcomes are often driven less by technical index failure than by weak governance, product alignment, and expectation management. IAIS guidance highlights that many situations perceived as “basis risk failures” stem from inadequate communication about how and when payouts are triggered, rather than from defects in the underlying index itself.

Findings from this study are broadly consistent with this view. Across the surveyed markets, stakeholders repeatedly noted that dissatisfaction following non-payout events was most acute where the purpose of the product, its limitations, or the implications of index-based triggers had not been clearly communicated or institutionally embedded. This suggests that while technical factors such as data quality and spatial resolution remain important, they may not be the most practical challenge.

Basis risk – the difference between the payout determined by the index and the financial impact experienced by the policyholder – is inherent in all parametric insurance. It is central to product credibility, consumer trust and supervisory comfort. Across the study jurisdictions, supervisors acknowledged basis risk indirectly through their emphasis on fairness, data reliability and clarity of design. None provides prescriptive quantitative standards, but all expect insurers to demonstrate that triggers are well-reasoned proxies for the underlying exposure and that policyholders understand how and why mismatches may occur.

Figure 18: Basis risk mismatch in parametric insurance



Basis risk arises because parametric insurance pays based on a proxy rather than a measurement of actual loss. This can create several forms of mismatch:

- Geographic basis risk occurs when a trigger is measured at a weather station or grid point that does not reflect local conditions for the insured customers. A cyclone may damage one district even if a reference station records winds below the payout threshold.
- Intensity or parameter mismatch arises when the measured hazard variable (rainfall, windspeed, ground acceleration) does not fully capture the dynamics driving real-world economic damage. For example, rainfall intensity may be high but duration short; an earthquake may trigger shaking but landslides, not peak acceleration, may drive loss.
- Loss-amount mismatch occurs when a payout triggers correctly but the payout scale – usually fixed or tiered – does not align with the severity of losses. This can result in under- or over-compensation relative to actual financial stress. Supervisors across Asia accept this as an intrinsic feature of index-based contracts, provided the payout logic is transparent.

In reality, these mismatches are often discussed in terms of “adverse” basis risk, where losses occur without payout, and “perverse” basis risk, where a payout occurs despite limited or no loss.

These forms of basis risk influence both product performance and policyholder experience. High adverse basis risk can weaken trust and undermine the value proposition, especially in retail or microinsurance applications. Conversely, well-designed indices can provide rapid, predictable liquidity especially where indemnity measurement is difficult or slow. The design challenge is therefore to balance simplicity, usability and affordability with a reasonable correlation to expected losses. In many applications, payouts are not intended to match total losses but to provide timely liquidity that complements other forms of financial protection, including indemnity insurance or public support mechanisms that address longer-term recovery needs.

Case Study X9 – Parametric Insurance for Small-Scale Fishers in the Philippines

In 2025, the Government of the Philippines, through the Bureau of Fisheries and Aquatic Resources (BFAR) and the PCIC, partnered with Rare (an international conservation non-profit) and Willis, a WTW business, to launch the country's first parametric insurance solution designed specifically for small-scale fishers. The programme initially covers approximately 14,200 registered fishers across 24 coastal municipalities and is supported by the Ocean Risk and Resilience Action Alliance (ORRAA) with funding from the Government of Canada and the United Kingdom's Blue Planet Fund.

The product provides income protection when adverse weather prevents safe fishing, rather than insuring physical assets. Eligibility for payout is determined through a weather-based index combining wind speed, sea conditions and rainfall, measured over defined periods to assess whether conditions are unsafe for fishing. When thresholds are exceeded, payouts are triggered automatically and delivered directly to participating fishers.

This design responds to a long-standing challenge in fisheries risk protection: losses arise primarily from inability to fish rather than damage to boats or gear, making traditional indemnity verification difficult. By linking payouts to weather conditions that prevent fishing activity, the index focuses on livelihood disruption and lost working days, rather than physical damage. The programme is structured as a government-supported pilot, with BFAR acting as policyholder and financing premiums as part of its broader strategy to strengthen resilience among coastal communities.

The example illustrates how multi-parameter indices can capture livelihood impacts that are not easily measurable through traditional insurance approaches, expanding the scope of parametric insurance beyond crop agriculture and disaster recovery to address climate-related income volatility in coastal economies.

Source: <https://www.wtwco.com/en-sg/news/2025/11/willis-and-rare-partners-to-launch-innovative-insurance-solution-for-fishers-in-the-philippines>; <https://rare.org/opinions-insights/insuring-resilience-protecting-fishers-and-livelihoods-with-parametric-insurance/>

To manage these trade-offs, insurers can work with purchasers or programme partners to develop trigger parameters and propose different practical design strategies to reduce basis risk while maintaining transparency. Examples include:

- Hazard-gradient approaches, where payout is linked to both hazard intensity and distance from event source (such as cyclones or earthquakes). This allows impacts across dispersed geographies to be more accurately reflected.
- Layered or dual-trigger structures, combining a simple, easy-to-communicate threshold (e.g., a “cat-in-a-box” trigger) with a secondary metric that adjusts for severity or exposure. This approach preserves transparency while improving accuracy for extreme events.
- Impact- or population-weighted indices, which adjust hazard measurements by the number of people or assets likely to be affected. This can improve correlation between index behaviour and community-level consequences without creating complexity that undermines supervisory clarity. In a non-technical sense, this can also be more tangible and relatable for the policyholders.

Case Study X10 – Reducing Basis Risk in Sovereign Parametric Insurance Through Impact-Data Triggers in Lao PDR

Sovereign parametric insurance is often most challenging in data-scarce environments, where imperfect hazard models, sparse gauge networks and limited historical records can constrain index design and increase the potential for basis risk, which may erode government confidence in index-based solutions. The experience of the Lao PDR illustrates how these constraints can be addressed through progressive design choices that align more closely with public-sector needs, decision-making processes and available national data systems.

Under SEADRIF's initial 2021–2025 flood parametric policy, payouts were determined by a modelled estimate of the number of people affected, derived from a complex blend of stochastic flood modelling, satellite data, gauge inputs and real-time hazard mapping. While technically innovative, this structure carried the potential for substantial basis risk. Over time, the Government observed persistent mismatches between modelled impact and its own reported disaster figures, partly due to modelling only riverine flooding (excluding pluvial events), inconsistent definitions of “affected persons,” and the perceived “black box” nature of the technical process. These issues undermined confidence in the coverage and its usefulness for budget planning and emergency response.

To support renewal, SEADRIF, in collaboration with Gallagher Re and national agencies, redesigned the product around a radically different trigger: officially reported impact data from the National Disaster Management Office (NDMO). This shift anchored the trigger in the same reporting system used to guide real-time emergency operations, enabling a multi-peril, annual-aggregate design that captures flood, tropical cyclone, earthquake, landslide and ensuing hazards. Basis risk was significantly reduced because payouts now correspond directly to the Government's own assessment of people affected. The use of impact data also avoided the cost and complexity of advanced hazard modelling while increasing transparency for both reinsurers and policymakers.

The renewed 2025–2027 policy provides up to USD 8 million per year, releases payouts progressively as cumulative impact thresholds are reached, and disburses funds within 10 business days following verification. A payout of USD 2 million was made in September 2025 – six days after NDMO finalised reported impact figures – demonstrating operational readiness and alignment with Government expectations. The redesigned structure has been viewed internationally as a pioneering approach for sovereign parametric insurance in environments with limited hazard data but strong disaster-impact reporting systems.

This case highlights a key lesson for parametric insurance in the public sector: where externally modelled hazard indices do not align well with national data systems or government decision processes, nationally-owned impact data systems or government decision processes, nationally owned impact-data systems may provide a more trusted, transparent and operationally meaningful foundation for sovereign coverage.

Source: SEADRIF (2025), An Unconventional Solution to Sovereign Parametric Flood Insurance in Data-Scarce Environments: Lessons from Laos. https://seadrif.org/wp-content/uploads/2025/11/IDF_Case_Study_SEADRIF_Laos_2025.pdf

Several supervisors emphasised the importance of explaining basis risk to policyholders – particularly in mass-market or microinsurance contexts – and ensuring that distribution partners are equipped to communicate the limitations of index-based products.

Ultimately, it is unreasonable to expect that basis risk can be eliminated, but it can be managed. Across Asia, supervisors provide broad flexibility for innovation, placing responsibility on insurers to select indices grounded in reliable data, calibrate payouts transparently and ensure the product remains suitable for the intended customer group. Well-articulated design choices and proactive communication play as important a role in managing basis risk as much as the technical properties of the trigger itself.

5.3 Claims and disbursements

The IAIS characterises parametric insurance as an instrument capable of delivering rapid, rules-based payments without the need for individual loss assessment, rather than as a substitute for loss assessment or full indemnification. In line with this framing, the findings from this study indicate that across sovereign, meso, and micro-level applications, the value of parametric insurance depends not only on the speed of payout but on how effectively that payout aligns with the user's decision-making and response processes.

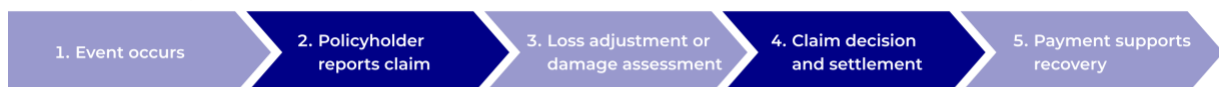
In sovereign settings, this alignment is reflected in linkages to contingency plans or emergency financing frameworks. At meso and micro levels, similar dynamics apply: payouts create value only where they are operationally usable – for example, by enabling intermediaries to maintain services, firms to stabilise cash flow, or households to meet immediate recovery needs. Where parametric insurance operates in isolation from these practical response pathways, the advantage of speed is diluted. There is also a risk that confidence in the instrument is weakened, regardless of the technical performance of the trigger.

Claims and disbursement pathways for parametric insurance across Asia reflect a balance between flexibility and oversight. Supervisors do not mandate specific operational models, but they consistently expect insurers to demonstrate the reliability, transparency and fairness of their processes. Given that the credibility of parametric insurance often hinges on the speed and clarity of post-event payment, this operational dimension is a critical determinant of long-term acceptance and market expansion.

The simplicity of parametric claims processes is also supported by the absence of adjustment or investigation. Once the index crosses the threshold, the payout is fixed. In its simplest form, the claims pathway involves three automated components: (i) confirmation of index values; (ii) calculation of the payout formula; and (iii) disbursement. This eliminates the cost, delay and potential for disputes about damage verification, shortens the time to payment and reduces administrative costs.

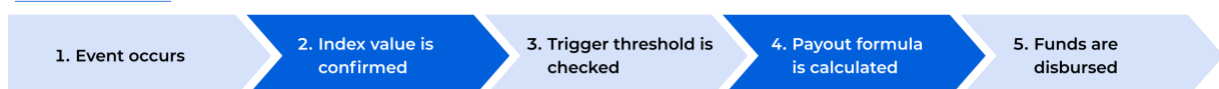
Figure 19: Parametric claims and disbursement timeline

Traditional Indemnity Claims



This process can be slower, but may be easier to justify through observed loss assessment.

Parametric Claims



There is no individual loss adjustment and payment depends on the agreed trigger and formula.

Parametric claims reduce adjustment time, but their value depends on reliable trigger confirmation, clear payout rules, transparent communication and a disbursement pathway linked to practical response needs.

While this innovation creates efficiency, it places greater responsibility on insurers and their distribution channels to ensure that policyholders fully understand how and when payouts occur. Several supervisors noted, directly or indirectly, that misunderstandings about trigger behaviour can lead to perceptions of unfairness – particularly when there is non-payment despite observable damage. Clear communication at the point of sale and again at the point of payout is therefore essential.

Operationally, insurers need to address data-timeliness, calculation protocols and internal governance. Although supervisors do not prescribe specific service levels, delays in receiving official hazard data can affect the speed of disbursement. Some markets mitigate this by incorporating backup sources or predefined verification steps into the product design, provided these remain objective and transparent. Insurers are also expected to have internal processes that ensure calculations are carried out consistently, audit trails are maintained and funds are released promptly using reliable payment channels.

At the meso and macro levels, claims and disbursement processes may involve multiple layers of recipients. For example, payments to cooperatives, microfinance institutions or local governments must be followed by internal allocation decisions, which are often outside the insurer's purview. Supervisors generally accept this structure but emphasise the importance of clarity in the insurance contract regarding who receives the payout and how it is intended to be used. In sovereign or sub-sovereign programmes, disbursement pathways sometimes integrate with broader disaster response mechanisms. While this is not the focus of the present study, the principle remains the same: payouts must be rapid, predictable and aligned with the intended purpose of the cover.

In retail settings, rapid disbursement can help build trust in parametric insurance, especially in markets where consumers have limited prior exposure to insurance products. Digital payment channels – including mobile wallets and electronic transfers – are increasingly used to streamline payouts. Supervisors have not raised objections to these channels but expect insurers to ensure that customers can access funds quickly and that records of disbursement are maintained for supervisory review if required.

5.4 Digital enablement and delivery systems

Digital infrastructure can materially improve the delivery of parametric insurance by enabling faster enrolment, automating trigger verification, and facilitating rapid payouts. However, evidence from this study indicates that technological efficiency does not supersede the challenges of trust, comprehension, or product suitability that shape uptake and renewal.

This finding is consistent with IAIS reports, which recognise that while digital tools improve the mechanics of delivery, they do not substitute for clear communication, expectation management, or alignment with user needs. Across markets, participants noted that highly automated products can struggle if beneficiaries do not understand trigger logic, misinterpret basis risk, or lack confidence in how and when payouts will occur. In practice, digitalisation is most effective when paired with strong distribution partners, plain-language communication, and active efforts to build insurance literacy, rather than being treated as a standalone solution.

Digital systems are becoming increasingly important in the distribution and administration of parametric insurance across Asia. While Asia is characterised by uneven levels of digital maturity, several markets have begun integrating digital tools into sales, policy administration and payout processes. For parametric insurance, digital enablement can significantly reduce operational frictions and improve customer experience.

Figure 20: Digital delivery for parametric insurance

Advantages of digital tools in parametric insurance

Faster enrolment and administration Digital channels can support sales, policy purchase, payment, policy issuance and large-scale enrolment.	Automated trigger verification Index data can be integrated into systems to monitor triggers and initiate payout processes without manual loss adjustment.	Rapid payout processes Digital payment channels, mobile wallets, electronic transfers and batch payouts can reduce delay and administrative cost.
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Conditions required for digital delivery to work

Trusted distribution partners Aggregators, cooperatives, MFIs, banks, agents, public platforms or digital partners help explain and deliver the product.	Clear communication Users still need to understand trigger logic, basis risk and payout or non-payout outcomes.	Reliable data and system integration Hazard data and index information must be timely, usable and capable of being integrated into insurer or platform systems.	Operational governance Cybersecurity, third-party risk management, records of payment and operational resilience remain important.
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Digital enablement can reduce friction and support scale, but it works best when paired with trusted distribution, clear product explanation, reliable data and secure payment systems.

Digital delivery mechanisms observed in the study markets vary widely in sophistication. In emerging retail and microinsurance segments, mobile-first platforms have been used to reach large numbers of consumers at low cost, allowing policy purchase, payment and policy issuance to occur seamlessly. In Singapore and Vietnam, insurers have experimented with digitally distributed products sold online or through mobile platforms, while several agricultural programmes in South and Southeast Asia use web-based purchase portals or digitally-enabled enrolment systems to support large-scale participation. Although these approaches are not exclusive to parametric insurance, the same infrastructure underpins or enables parametric models where they exist.

Case Study X11 – Blockchain-Enabled Parametric Delivery in Vietnam

In 2022, Insurtech Igloo collaborated with PVI Insurance, the Vietnam Meteorological and Hydrological Administration (VNMHA) and SCOR to launch a blockchain-based parametric insurance product for rice farmers in South Vietnam. Distributed through Igloo's AI-powered Ignite platform, the product digitalises policy issuance, trigger monitoring and claims settlement. By reducing transaction costs and improving transparency, the design demonstrates how digital infrastructure can expand access and build trust in low-penetration markets.

Source: <https://iglooinsure.com/press/igloo-launches-weather-index-insurance-for-rice-farmers/>

A defining feature of digital enablement in parametric insurance is the potential for automated claims and payout processes. Because triggers can be measured independently and objectively, insurers can integrate index data into internal systems through parametric APIs, allowing payouts to be initiated without manual intervention. This reduces

administrative costs and can strengthen customer trust by delivering payments quickly and transparently. In meso-level programmes, digital integration with aggregator systems – microfinance institutions, cooperatives, banks or government platforms – can facilitate bulk enrolment and batch payouts, reducing friction for both insurers and intermediaries.

Case Study X12 – Digital Distribution Tailored to Consumer Needs In Japan

Tokio Marine & Nichido Fire Insurance (TMNF) launched the “EQuick” Amazon Gift Card Edition in 2022, an earthquake parametric product designed for highly accessible, digitally enabled distribution. Customers purchase the product through their Amazon account, and payouts are credited directly to their Amazon Gift Card balance, with an option to transfer funds to a bank account. This design acknowledges that during evacuations, policyholders may require immediate liquidity to purchase essential supplies rather than wait for banking channels to reopen. The product therefore demonstrates how digital ecosystems can be leveraged to align benefit delivery with real-world post-disaster needs, enhancing the perceived value and relevance of parametric insurance.

Sources: <https://e-quick-pf.tokiomarine-e.jp/amazon/index.html#/>; https://www.tokiomarine-nichido.co.jp/en/news/pdf/220824_01.pdf

However, digital divides across markets shape what is feasible. In several jurisdictions, insurers have limited integration with mobile money ecosystems, constraining their ability to deliver real-time payouts. Some markets lack consistent digital ID or financial inclusion infrastructure, making it difficult to verify users or process payments efficiently. Even where digital infrastructure exists, insurers may face operational challenges linking internal systems to third-party hazard data streams, especially when data is released with delays or in non-standard formats.

Supervisors are increasingly attentive to these operational considerations. Singapore’s supervisory guidelines, for example, set clear expectations for operational resilience, cybersecurity and third-party risk management – standards that apply to parametric products as much as to any digitally delivered insurance. Other supervisors rely on broader prudential or conduct frameworks but recognise that digital processes can amplify both benefits and risks. None of the surveyed jurisdictions have issued parametric-specific digital rules, but all expect insurers to ensure that digital systems are reliable and that consumer data and payments are handled securely.

Digital enablement also presents opportunities. Automated processes reduce administrative costs, making small-premium products more viable. Digital communication tools can help explain trigger logic and payout conditions, improving transparency and reducing the risk of misunderstanding – an important factor given the lack of familiarity many consumers have with parametric insurance. Digital systems can also support product personalisation, allowing insurers to vary trigger thresholds or payout structures for different customer groups, provided the underlying data and algorithms remain transparent and explainable. Despite these advantages, digital enablement is not a panacea. It requires significant investment, robust governance frameworks and a degree of market infrastructure that is not yet uniform across Asia. Nevertheless, as insurers, aggregators and supervisors gain experience with parametric models, digital delivery systems are likely to play an increasingly central role in scaling these products and ensuring they can be administered efficiently under real-world conditions.

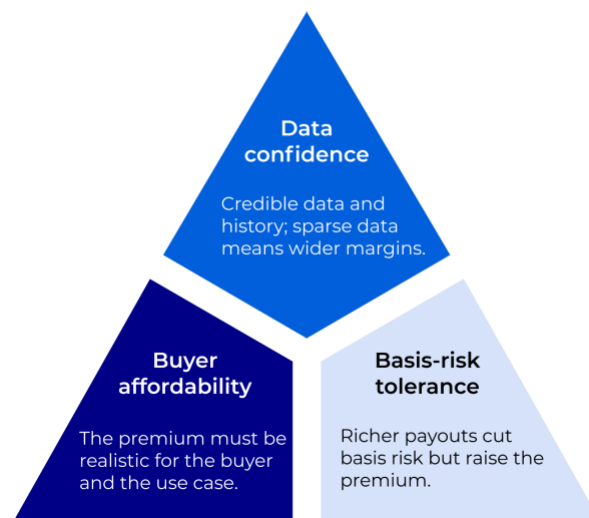
5.5 Pricing, capital, and reinsurance dynamics

Pricing dynamics shape the viability and scalability of parametric insurance. Although parametric products are often perceived as simpler or lower-friction alternatives to indemnity insurance, pricing outcomes reflect a more complex interaction between data quality, basis-risk tolerance, selecting the level of adversity to be covered, and buyer expectations around value and reliability.

IAIS publications broadly align with this observation, noting that while parametric structures can reduce certain administrative costs, they have traditionally been technically demanding to price. Although advances in data, modelling tools, and digital infrastructure may ease some constraints, pricing discipline remains shaped by data credibility, basis-risk tolerance, and capital considerations. Where data is sparse or modelling confidence is limited, insurers and reinsurers apply conservative assumptions, increasing premiums and constraining affordability. Efforts to reduce basis risk by lowering triggers to facilitate more frequent payouts similarly raise expected loss costs, reinforcing trade-offs between precision and price.

Findings from this study indicate that pricing challenges are rarely technical alone. Buyer expectations are equally influential in shaping renewal and scale. Sustainable pricing is therefore more likely where the role of parametric insurance is clearly defined and positioned as a targeted risk-management or liquidity tool, rather than as comprehensive loss coverage.

Figure 21: Pricing feasibility triangle for parametric insurance



Factors that shape pricing and scale

1. Buyer expectations and renewal risk

Contracts may not renew if non-payout outcomes are hard to justify internally, especially in public or quasi-public settings.

2. Capacity and capital treatment

Reinsurance market conditions affect available capacity, while supervisors generally recognise parametric risk transfer under existing solvency and risk-mitigation frameworks when contracts are enforceable and payout logic is clear.

3. Transaction costs and minimum scale

Smaller or one-off buyers may face binding viability constraints unless aggregation, portfolio approaches or supporting programmes reduce transaction and distribution costs.

4. Product positioning

Sustainable pricing is more likely when the product is positioned as targeted liquidity or risk management, not comprehensive loss coverage.

Interviews indicate that market conditions matter. In a softer pricing environment, parametric capacity can be more readily available, and competition can support more flexible structures for single risks, but this does not remove the underlying requirement for technical defensibility. Where data is limited or the trigger is novel, price is often less of a constraint than the credibility of the index, the clarity of calculation and verification steps, and the ability of the buyer to justify the purchase if an event occurs and the contract does not pay. Market participants also noted that transaction costs and minimum deal sizes can still be binding constraints, especially for smaller buyers, which reinforces the importance of aggregation and portfolio approaches where feasible.

Market participants further noted that pricing dynamics for parametric insurance are increasingly shaped by market cycles and decision risk rather than pure risk cost. In softer reinsurance markets, capacity for parametric structures is more readily available and competition can support larger limits or more flexible trigger designs. However, this has not eliminated sensitivity to renewal risk. Interviewees emphasised that even competitively priced contracts can fail to renew if non-payout outcomes are difficult for buyers to justify internally, particularly in public or quasi-public settings. As a result, insurers and reinsurers factor not only expected loss and volatility into pricing decisions, but also the likelihood (or not) that a programme will persist beyond initial placement, with minimum deal sizes and transaction costs remaining binding constraints for smaller or one-off buyers.

Pricing of parametric insurance begins with the calibration of the trigger and payout structure, which in turn depends on the quality and length of hazard datasets. In many markets, limited historical data or inconsistencies in official records introduce uncertainty into frequency and severity estimates. This can lead to wider pricing margins or greater reliance on reinsurance to manage volatility. Supervisors have not prescribed parametric-specific pricing standards, but several emphasised the expectation that pricing methodologies be actuarially sound, transparent and aligned with the insurer's broader risk-management framework. In practice, this means insurers must justify the relationship between triggers, expected event probabilities and payout scales, even if loss-cost modelling is less complex than in indemnity products.

The capital treatment of parametric insurance does not differ fundamentally from indemnity-based contracts. Most supervisors recognise parametric risk transfer under their general solvency and risk-mitigation frameworks, provided the contract is legally enforceable and the index and payout logic are clearly defined. Jurisdictions such as Japan and Singapore link recognition of reinsurance or risk-mitigation credit to their broader solvency frameworks, requiring insurers to verify that the contract effectively transfers risk and that counterparties meet supervisory standards. Other markets express these requirements more informally but follow similar principles in practice. No supervisor in the study indicated that parametric structures create unique capital concerns beyond those associated with other business lines.

The economics of parametric insurance can differ markedly from indemnity insurance, particularly once transaction costs, minimum deal sizes, and governance requirements are taken into account. Global reinsurers remain the primary providers of parametric capacity, drawing on specialist expertise and global risk portfolios. In Asia, reinsurers often provide both capacity and technical support designing indices, calibrating triggers and structuring layered programmes. This is particularly relevant for markets where local insurers have limited experience with parametric products or where domestic capacity is insufficient to absorb catastrophe-related exposure. Supervisors are generally comfortable with these arrangements if reinsurers qualify through generally applying rules in their jurisdiction.

Similarly, while claims adjustment costs and administrative expenses may be lower, pricing must compensate for the potential reputational risks associated with adverse basis risk, uncertainty in hazard data and the need for robust capital or reinsurance support. In some markets, this makes the offering of retail parametric products commercially challenging unless supported by aggregators, digital distribution or government programmes that provide support through mechanisms such as premium subsidies, public–private partnership structures, first-loss facilities or administrative support that reduces distribution costs. Conversely, meso- and macro-level programmes can be priced more efficiently due to economies of scale and lower distribution costs, though these too depend on reliable data and sound calibration.

Finally, the pricing and capital dynamics of parametric insurance intersect with supervisor priorities. Supervisors expect that products remain fair to consumers, sustainable for insurers and consistent with broader risk-management obligations. While they generally provide flexibility for product innovation, they also emphasise the importance of sufficient transparency regarding how premiums are calculated, how payouts are determined and how basis risk may impact the product. These expectations shape how insurers structure parametric offerings and influence the feasibility of introducing new products across different market segments.

5.6 Product lifecycle lessons

Many parametric initiatives remain pilots, while a smaller number progress into repeatable and scalable programmes. Information reviewed from IAIS publications broadly supports this observation, noting that parametric insurance innovation often involves a greater number of pilot or proof-of-concept initiatives than conventional insurance products. These pilots may persist for extended periods while trigger calibration, data reliability and institutional arrangements are tested, with only a subset ultimately progressing into repeatable and scalable programmes. Both IAIS findings and market experience suggest that the transition beyond pilots depends less on technical feasibility than on sustaining a viable business case, sufficient scale, and durable institutional arrangements. Where these conditions are not met, initiatives often stall, are repeatedly re-piloted, or are ultimately discontinued rather than evolving into sustained market offerings.

The experience across Asia suggests that the primary challenge for parametric insurance is not product design but progression through the product development lifecycle to reach maturity. Many parametric initiatives advance successfully through concept development and pilot implementation, yet struggle to develop scale and transition into sustained, repeatable offerings. This pattern may reflect structural features of index-based products as well as practical implementation constraints of individual programmes.

One recurring constraint is the asymmetry between initial enthusiasm and renewal dynamics. At inception, parametric products benefit from novelty, donor support, or heightened risk awareness following a recent shock. Over time, however, renewal decisions are shaped by observed outcomes, including instances where losses occur but triggers are not met. Even where non-payment is technically correct, such outcomes can undermine confidence among buyers and stakeholders, particularly in public or quasi-public settings where accountability extends beyond the immediate policyholder. As a result, products that are actuarially sound may nevertheless face non-renewal if their performance is judged against expectations of indemnity-style responsiveness.

Market participants also highlighted that at the macro or sovereign level, parametric products require a higher level of institutional memory and continuity at the policyholder level than traditional insurance. Because value is realised probabilistically over time rather than through frequent small claims, sustained uptake depends on stable decision-makers, consistent risk framing, and clear agreement on the role of the product within a broader financial risk management strategy. Where personnel turnover, political cycles, or shifting priorities disrupt this continuity, programme-based parametric insurance are more likely to stall between pilot phases and broader implementation. Sovereign parametric transactions, by contrast, are typically structured as discrete placements or periodic renewals rather than programmes intended to scale over time.

Operational considerations further influence lifecycle outcomes. Parametric products often rely on bespoke data arrangements, calculation agents, and governance processes that are justified at scale but costly to maintain for small portfolios. Where transaction volumes remain limited, insurers may rationally deprioritise continued support, particularly in competitive markets where capital and technical resources can be deployed more efficiently elsewhere. As a result, parametric insurance often remains concentrated in niche applications unless anchored by aggregators or institutional buyers capable of sustaining demand.

Interview evidence also suggests that successful lifecycle progression depends on aligning product design with a clearly articulated use case. Parametric insurance performs most effectively when positioned to address a liquidity need or as a budget-smoothing instrument rather than as a substitute for indemnity coverage. Where this distinction is not internalised by buyers or stakeholders, disappointment at non-payout outcomes can erode support, even if the product performs as intended. Conversely, programmes that position parametric insurance as one element within a broader approach to managing risk are more likely to persist, as performance can be assessed against a clearly defined purpose rather than expectations of comprehensive loss compensation. In public-sector contexts, this logic often manifests through complementary investment in risk reduction and the use of multiple financial instruments to absorb losses at different levels of severity and cost, but the underlying principle applies equally to corporate and individual buyers.

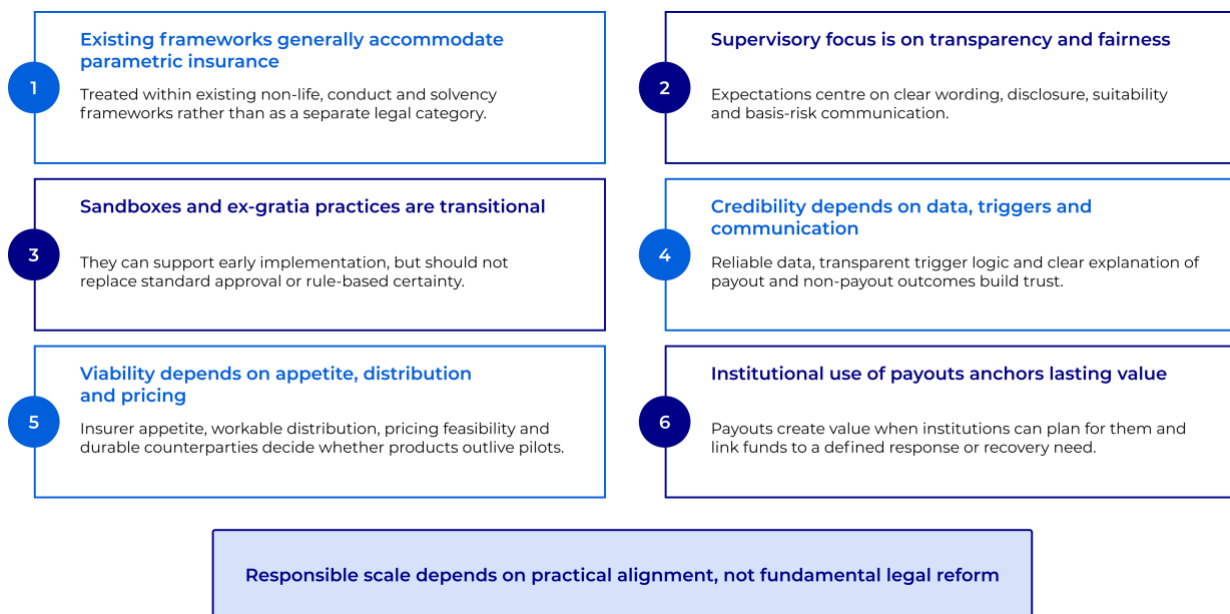
These observations indicate that parametric insurance lifecycles are shaped as much by governance, expectations, and incentives as by technical design. The prevalence of pilots in Asia therefore reflects cautious adaptation rather than market failure. Where conditions for continuity are present – namely, stable sponsorship, clear positioning, sufficient scale, and aligned expectations – parametric products can progress beyond experimentation. Where they are absent, pilot-based deployment is likely to remain the dominant mode of engagement.

6. Findings to action

The key findings from the analysis provide a coherent basis for identifying key factors to scale parametric insurance across the study jurisdictions. Rather than restating detailed jurisdiction-specific observations, the section packages the core supervisory, and market themes that consistently emerged across the study.

Across all thematic areas, supervisors and market participants demonstrate broad alignment with established international principles for parametric insurance. As a result, the binding constraints to scale are not seen as legal or conceptual in nature. Instead, progress depends on how existing frameworks are applied in practice, how products are designed and governed, and how effectively parametric insurance is embedded within real decision-making, distribution, and financing ecosystems.

Figure 22: Findings to action: conditions for responsible scale



1. Parametric insurance is consistently accommodated within existing regulatory and solvency frameworks rather than treated as a distinct legal category.

The absence of a statutory definition or standalone legal category for parametric insurance across the assessed jurisdictions is consistent across Asia. Parametric insurance is generally treated as a variant of non-life insurance and assessed through existing licensing, conduct, and prudential frameworks, with proportionality applied depending on whether products operate at micro, meso, or macro levels. This approach maintains supervisory oversight where consumer protection, market integrity, or reputational risk may arise, while avoiding the creation of unnecessary new legal categories.

Supervisors also indicated that parametric reinsurance is accommodated within existing solvency and capital frameworks, with a focus on technical defensibility, enforceability of contracts, and the demonstration of effective risk transfer. Alignment between direct

insurance triggers and reinsurance structures is expected in order to avoid residual exposure that could undermine capital adequacy. The observed absence of parametric-specific capital rules appears consistent with established prudential principles.

2. Supervisory approaches centre on transparency, fairness, and the application of existing conduct standards.

Supervisors consistently emphasise clarity, fairness, and transparency in approval processes. This includes plain-language documentation, clear disclosure of triggers and data sources, and explicit communication of limitations such as basis risk and the possibility of non-payouts. In practice, approval processes focus more on applying existing conduct, disclosure, and governance standards to novel product structures rather than creating parametric specific rules.

Consumer fairness is addressed through the consistent application of general insurance conduct principles, particularly transparency, suitability, and the management of basis-risk expectations. Supervisors across Asia consistently framed fairness concerns around whether policyholders understand how triggers operate, whether products are appropriate for their risk profiles, and whether expectations about non-payout outcomes are clearly managed. This convergence suggests that the key fairness challenge lies in execution rather than supervisory novelty.

3. Supervisory sandboxes and ex-gratia practices play a transitional role in supporting innovation and early stage implementation.

Supervisory sandboxes are widely viewed as tools for supporting insurance innovation, particularly where new product structures are being tested. Their use varies across jurisdictions depending on the degree of novelty involved. Supervisors are more likely to rely on sandbox arrangements where parametric products introduce unfamiliar triggers, alternative data sources, or unconventional delivery models, while more familiar index-based products are assessed through standard approval processes. This pattern suggests that variation in sandbox usage reflects supervisory judgement about risk and novelty rather than reluctance to support parametric insurance.

Supervisors across generally acknowledged the use of ex-gratia payments in parametric insurance, particularly during pilot or early implementation phases. Approaches vary, with some viewing such payments as pragmatic, time-bound tools to preserve trust while others expressed concern that repeated or poorly governed use may blur contractual boundaries and undermining the legal integrity of parametric insurance. While these practices may play a transitional role, sustained reliance on them is generally viewed as undesirable from both supervisory and market-development perspectives.

4. The credibility of parametric insurance is shaped by data quality, trigger design, and clear communication.

Supervisors emphasise that the credibility of parametric insurance rests to a large extent on the quality, objectivity, and transparency of the data used to define and measure trigger events. Expectations include reliable and verifiable data sources, independence from insured parties, transparent trigger methodologies, and the use of back-testing or historical simulations to demonstrate how an index would have performed in past events. Fallback arrangements are also expected where primary data sources may fail.

At the same time, trigger credibility depends on practical trade-offs between data quality, timeliness, transparency, and the institutional arrangements for verifying events. Situations perceived as “basis risk failures” often stem from than from defects in the underlying index itself. Clear communication of trigger logic, data sources, and payout conditions is therefore critical to maintaining confidence in parametric products. While these factors are necessary to establish credibility, they are not in themselves sufficient to ensure sustained adoption where governance, demand alignment, or delivery arrangements remain weak.

5. Commercial viability depends on private sector appetite, distribution capacity, and pricing feasibility.

Private sector appetite remains one of the strongest determinants of whether parametric insurance moves beyond pilots into sustained market offerings. This depends not only on technical feasibility but also on the availability of stable, long-term counterparties across the value chain, including index providers, distribution partners, and risk-bearing capacity. Successful programmes typically rely on intermediaries that already maintain trusted relationships with end users, making distribution partnerships a critical design consideration.

Pricing outcomes reflect trade-offs between data credibility, basis-risk tolerance, and capital considerations. Where data or modelling confidence is limited, conservative pricing constrains affordability. This highlights the importance of assessing pricing feasibility early and ensuring alignment with what the target market is realistically willing to pay.

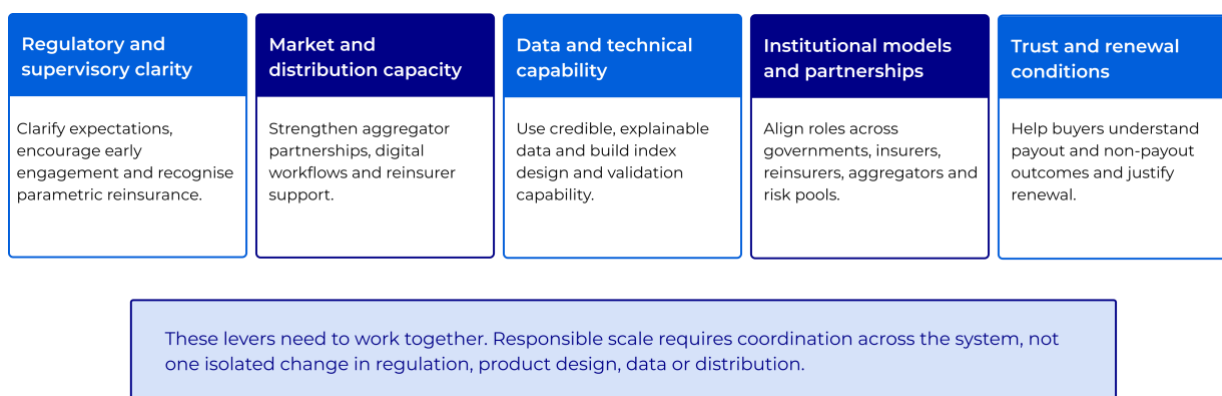
6. Digital infrastructure serves as an important enabler of operational efficiency but does not substitute for trust and effective distribution.

Digital infrastructure can materially reduce operational friction by enabling faster enrolment, automated trigger verification, and rapid payouts. However, technological efficiency alone does not resolve challenges related to trust, comprehension, or product suitability. Digitalization is most effective when paired with strong distribution partners and clear communication with policyholders, indicating that technology should complement rather than substitute for trusted delivery channels.

6.1 Action areas forward

The action areas that follow should be read as mutually reinforcing levers rather than a sequence of standalone interventions. Supervisory clarity, market distribution, data capability, institutional partnerships and trust-building each address a different constraint, but they are most effective when developed together.

Figure 23: Action levers for responsible parametric insurance scale



6.1.1 Regulatory and supervisory levers

The supervisory question around parametric insurance is rarely whether it is legally permitted, but whether supervisory expectations are sufficiently clear, predictable, and defensible to justify committing capital, underwriting capacity, and reputational risk. In this sense, proportionate, principles-based supervision is a critical enabler of parametric insurance – not because it relaxes standards, but because it reduces ambiguity around how novel structures will be assessed in practice. Where supervisory expectations are well articulated and consistently applied, insurers and reinsurers are more willing to invest in index design, data partnerships, and product development. Where expectations remain implicit or unevenly interpreted, parametric initiatives tend to stall at concept or pilot stage, regardless of technical feasibility.

Supervisory frameworks across the study jurisdictions accommodate parametric insurance within existing non-life structures. None of the surveyed jurisdictions require new legislation or the creation of a dedicated parametric category. However, interviews indicate that the binding constraint is not legal permissibility but interpretive uncertainty, particularly around trigger acceptability, data availability, transparency and credibility, consumer fairness, and reinsurance recognition. The opportunity therefore lies less in supervisory reform and more in supervisory clarity, communication, and signalling. This section identifies proportionate supervisory levers that supervisors can deploy within their existing mandates to support responsible expansion of parametric insurance.

Since no legislative change is required to accommodate parametric insurance in the study jurisdictions, the primary opportunity lies in proportionate supervisory levers that clarify expectations and reduce interpretive uncertainty. Supervisors can deploy the following non-binding measures to support responsible market development:

- **Encourage early supervisory engagement:** Rather than interacting only at the point of product approval, insurers and supervisors can benefit from earlier, informal dialogue during product development. This allows supervisors to understand the rationale behind trigger choices and data assumptions and helps build mutual confidence in the eventual filing.
- **Issue guidance:** Although the current level of specific supervisory recognition and definition is broadly satisfactory to allow for proportionate and flexible responses, Supervisors may consider providing some specific guidance to give greater certainty to potential market participants. This can include restating expectations around acceptable data sources, index disclosure and documentation, drawing on emerging practices in jurisdictions such as the Philippines. Clear articulation of specific issues and the conditions for their acceptance or otherwise, for example third-party or satellite data may be acceptable when transparent and well-governed, could help reduce uncertainty for insurers operating in data-scarce environments and encourage greater efforts to see such data generated reliably.
- **Reinforce fairness expectations:** To mitigate basis risk concerns in retail markets, supervisors can reinforce existing consumer protection principles by requiring plain-language explanations of payout logic and clear disclosure of trigger mechanics. This may include scenario-based illustrations as well as disclosed back-testing results showing how the index would have performed over a defined historical period (for example, the past 10 years) to help policyholders understand when the product the product would and would not have paid.
- **Clarify reinsurance recognition:** For domestic insurers reliant on global capacity, supervisors can explicitly affirm that parametric reinsurance is recognised under existing risk-transfer rules, provided the contract contains clear payout conditions and meets general credit-risk standards.
- **Utilise innovation pathways as optional resources:** While standard approval channels are sufficient for most products, supervisors can position sandboxes as optional resources for testing novel triggers or hybrid structures that rely on unfamiliar data sources.
- **Facilitate peer dialogue:** Establishing voluntary forums for supervisors to share approaches on basis risk communication and suitability can help build supervisory confidence without requiring formal harmonization.

These levers illustrate how supervisors can meaningfully support parametric insurance development without legislative change or heavy compliance burdens. Supervisory clarification, proportionately applied, has the potential to reduce uncertainty, strengthen consumer protection and encourage insurers to design products that are both innovative and aligned with supervisory expectations. These actions provide an enabling foundation for the market and distribution levers discussed in the next subsection.

6.1.2 Market and distribution levers

Scale in parametric insurance is driven less by product design than by distribution partnerships. For insurers, reinsurers, and brokers, distribution determines not only reach and cost efficiency, but also who bears decision risk when index outcomes are contested, misunderstood, or politically sensitive. Interviews with market practitioners consistently indicate that durable scale emerges where distribution partners can absorb scrutiny following non-payout events, defend the rationale for the product ex post, and sustain confidence across renewal cycles. Where these conditions are absent, even technically robust products struggle to progress beyond pilot phases.

Parametric insurance places greater demands on distribution partners than indemnity products. Unlike conventional covers, parametric solutions require buyers to accept predefined triggers, payout logic and basis risk ex-ante, shifting accountability to the decision point rather than to post-event loss assessment. As a result, distribution is often constrained less by channel availability than by the ability of intermediaries to support senior decision-makers through longer sales cycles, internal approvals and scrutiny following non-payout outcomes.

Strengthening aggregator-based meso models offers a near-term pathway for scale because these intermediaries combine distribution reach with decision legitimacy and operational control over payout use. Market participants noted that even technically sound products can fail to persist if non-payout outcomes are not defensible for distributors or aggregators. Where intermediaries are exposed to reputational or political risk following a triggering event that does not result in a payout, willingness to renew or re-offer products declines sharply. Distribution models that embed parametric insurance within predefined operational uses of funds are therefore more resilient than those framed as standalone compensation mechanisms.

Trust, affordability, decision accountability and basis-risk experiences continue to shape renewal decisions. Market participants therefore can activate the following levers to enhance these channels:

- **Formalize aggregator partnerships:** Insurers should move beyond transactional relationships to establishing technical training and joint product development efforts with aggregators. This ensures intermediaries are equipped to explain triggers and manage basis risk expectations with clients.

Case Study X13 – Meso-Level Cover for Microfinance Institutions in Indonesia

Swiss Re partnered with Aswata and Mercy Corps to provide a parametric earthquake product designed specifically for microfinance institutions (MFIs). By protecting institutional liquidity – rather than individual borrower losses – the product helps MFIs absorb spikes in loan defaults and meet increased cash demands following major shocks. This example highlights how parametric insurance can stabilise critical intermediaries within financial ecosystems, strengthening meso-level resilience.

Source: <https://www.artemis.bm/news/parametric-earthquake-cover-for-micro-finance-launched-in-indonesia/>

- **Deploy market-facing communication tools:** To bridge the understanding gap, insurers and aggregators can utilize standardised communication templates, visual scenario guides, and pre-season briefings that clarify the distinction between parametric payouts and indemnity compensation .
- **Integrate digital workflows:** Targeted investments in API integration between insurers and aggregators can facilitate bulk enrolment and automated payouts. Reducing operational friction is critical for making low-premium, high-volume products commercially viable.
- **Leverage reinsurer capabilities:** Local insurers can partner with global reinsurers not just for capacity, but for technical support in trigger design and structuring. These partnerships provide continuity across seasons and help stabilize pricing models where local data is limited.
- **Implement "learn-by-doing" pilots:** Pilots should be designed with structured feedback loops to refine trigger parameters and operational processes before attempting scale. Successful scaling requires involving aggregators and reinsurers from the outset rather than introducing them at later stages.

Enacting each of the above is unlikely to resolve all market constraints. Market levers must therefore operate alongside efforts to strengthen product design, improve data access and reinforce supervisory expectations. However, within this broader system, practical steps to enhance distribution capacity and customer communication represent some of the most immediately actionable opportunities for broadening and deepening parametric insurance use in Asia.

6.1.3 Data infrastructure and technical enablers

Data constraints impact feasibility but are rarely the binding constraint on parametric insurance uptake. While imperfect data can complicate trigger calibration and pricing, interviews consistently indicate that parametric products fail to progress beyond concept or pilot stages far more often due to decision risk, renewal uncertainty, and institutional discomfort with index-based outcomes than an absence of technically "ideal" datasets. In practice, the question is not whether data is perfect, but whether it is sufficiently credible, explainable, and defensible to support underwriting decisions or withstand scrutiny when used as the basis for a disputed payout.

Across the study markets, gaps in hazard data, limited access to official datasets and uneven modelling capacity were highlighted as practical challenges in designing credible and comprehensible parametric triggers. However, interviews with market operators and reinsurers suggest that these data constraints are rarely the primary reason parametric products fail to progress beyond concept pilot stages. In practice, programmes are more often constrained by decision risk, renewal uncertainty, distribution capability and institutional acceptance of index-based outcomes. Where parametric insurance has been implemented despite imperfect data, this has typically been achieved through transparent methodologies, defensible proxies and the transfer of technical and modelling capability from other markets, rather than through the prior development of comprehensive domestic data infrastructure.

Case Study X14 – Transferring Technical Expertise Across Regions in the Philippines

Sompo Japan introduced “Typhoon Guard Insurance” in the Philippines in 2014, adapting actuarial and modelling expertise originally developed for Japan’s weather-derivative products. By transferring a probability-based typhoon model to a different hazard environment, the company demonstrated how global technical capability can be repurposed responsibly in new markets. The product shows how international insurers can bring modelling credibility and operational know-how to emerging markets, provided triggers remain transparent and contextually appropriate.

Source: https://www.sompo-japan.co.jp/~media/SJNK/files/english/news/sj/2014/e_20140711_1.pdf;
<https://www.pgasompo.com.ph/home/media/media/area-body/news-and-update/typhoon-guard-insurance-in-the-p.html>

Hence, modest improvements in data access, documentation, and capability-building can materially expand feasibility without requiring new large-scale infrastructure:

- **Provide clarity on acceptable and accredited data sources:** Supervisors can strengthen market confidence by clarifying the types of government, accredited or third-party data sources they consider suitable for parametric trigger design. In jurisdictions such as Sri Lanka, insurers are permitted to use non-domestic data sources provided they can demonstrate accuracy and reliability. Translating this expectation into high-level criteria – such as publicly mandated measurement responsibilities, established quality-control processes, data continuity, or transparent metadata standards – would give insurers clearer direction when assessing whether a dataset is fit for purpose, without requiring supervisors to endorse specific providers.
- **Strengthen the availability and accessibility of hazard and observational datasets:** Data providers, including particularly meteorological, hydrological and geological agencies, can support parametric insurance development by improving access to the datasets used to construct and evaluate parametric triggers. This may include expanding publicly accessible datasets where feasible, improving historical depth and spatial granularity of observations, digitising data collection and reporting systems, and supporting open-data initiatives that enable independent verification and research.
- **Establish a pathway for accreditation of new or proprietary data sources:** Because insurers often operate closest to emerging or alternative data providers – such as satellite-based vendors, private sensor networks or hazard-modelling firms – supervisors may consider outlining a general process through which such sources could be evaluated for acceptability. Even a light-touch pathway (e.g., demonstrating transparent methodology, documented error characteristics and verifiable update processes) would help insurers understand how novel datasets can be incorporated responsibly, particularly in markets where official observation networks are sparse.
- **Address transparency and privacy considerations for proprietary data:** Open-source data is generally preferred due to transparency and ease of verification, but in many markets, it is insufficient on its own. Where proprietary datasets are necessary, clarification on how confidentiality, licensing and intellectual-property restrictions interact with supervisory expectations would reduce uncertainty. This may include confirming that proprietary sources can be used when the underlying methodology is explainable, reproducible by the provider and documented sufficiently for supervisory review.

- **Establish structured access agreements:** Rather than investing in new observation networks, insurers and data providers can focus on predictable, standardised access to existing government datasets – particularly those held by meteorological, hydrological and geological agencies. Structured access agreements, including regularised data release formats and clear update schedules, can materially improve trigger calibration and reduce operational delays.
- **Strengthen data availability, transparency and credibility practices:** Simple enhancements – such as version control, consistent time stamps, metadata standards and documentation of methodological changes – can improve confidence in indices and support more consistent evaluation across seasons. These improvements reduce ambiguity in data provenance and enhancing auditability.
- **Build technical capability for index design and validation:** Technical service providers and industry support organisations can help build insurer capability by prioritising foundational skills for parametric design, including interpreting hazard datasets, constructing transparent indices and applying simple validation frameworks. Access to templates, reference trigger structures and worked examples can accelerate insurer capability and reduce reliance on external technical partners.
- **Facilitate responsible transfer of international technical expertise:** International insurers can accelerate product development by adapting established parametric models and actuarial methodologies developed in other jurisdictions, provided these are transparently recalibrated to reflect local hazard profiles, exposure characteristics, and data conditions. Transferring modelling skills across regions can expand feasibility where domestic modelling capacity is limited. Clear documentation of trigger construction, local validation processes, and methodological assumptions helps ensure that imported technical capability remains contextually appropriate and defensible. This approach enables markets to leverage existing global expertise without requiring each jurisdiction to independently build complex modelling infrastructure from first principles.

Despite these opportunities, data limitations will remain a constraint in some markets. Short historical records, coarse spatial resolution and limited validation capacity cannot be fully resolved through incremental steps. Evidence from global experience demonstrates that parametric insurance does not require perfect data; it requires transparent methodologies, reasonable proxies and consistent application over time. Strengthening data access and technical capability through modest, targeted interventions can therefore unlock a broader set of parametric applications while maintaining fairness and building supervisory, public, and client confidence.

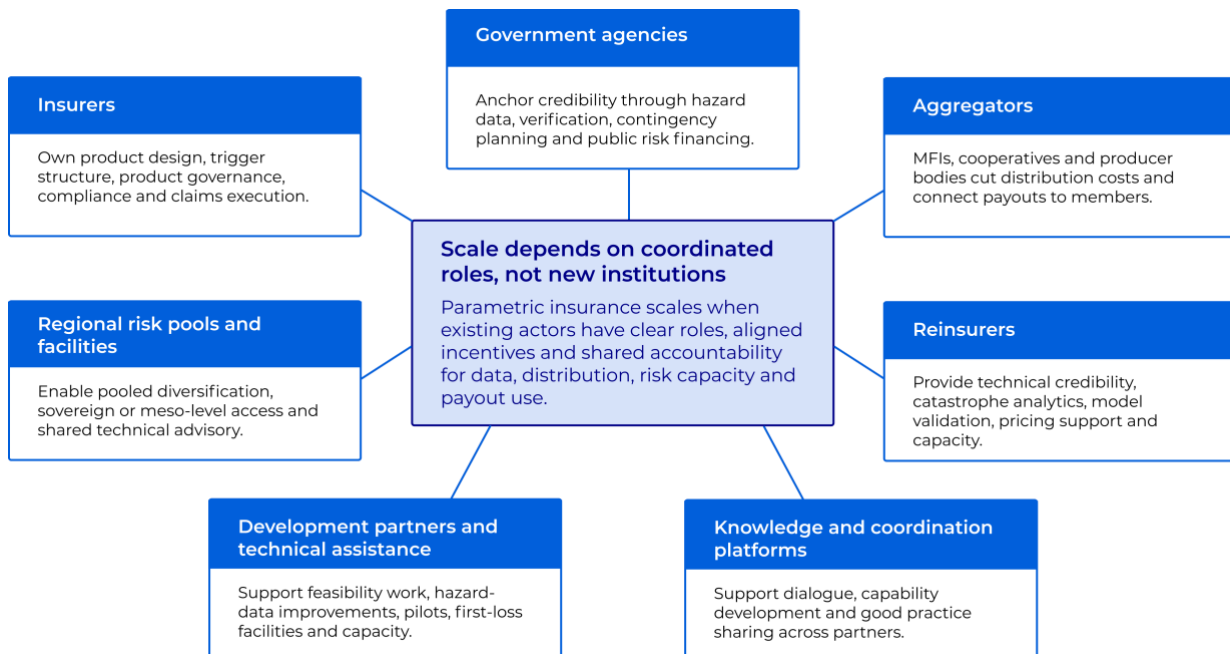
6.1.4 Institutional models and partnerships

Operational viability in parametric insurance depends less on institutional architecture than on how risk, accountability, and reputational exposure are allocated across participating actors. Parametric products require multiple functions to operate in a tightly coordinated manner. Where these functions are fragmented or misaligned, products may be technically sound yet commercially fragile.

Although Asia exhibits diverse insurance ecosystems, a consistent finding from this study is that scaling parametric insurance does not require new institutions or bespoke delivery vehicles. Rather, success depends on aligning the incentives, capabilities, and risk-bearing

roles of existing public agencies, insurers, reinsurers, aggregators, and technical partners around a coherent delivery model. Successful examples – within Asia and globally – tend to reflect strong, durable partnerships rather than new organisational structures. By contrast, initiatives that rely on ad-hoc coordination or implicit assumptions about roles are more likely to stall after adverse events or fail at renewal.

Figure 24: Partnership ecosystem for responsible parametric insurance scale



A sustainable partnership ecosystem will require the following role clarity:

- Government agencies:** Anchor credibility and scale by acting as custodians and disseminators of detailed hazard data, (potentially) partners in trigger verification, and conveners of disaster risk financing arrangements. Their role extends beyond supporting regulation to sovereign risk financing applications such as integrating parametric payouts into contingency planning, budget execution, and emergency-response protocols, supported where appropriate by incentives, subsidies, or open-data initiatives.

Case Study X15 – Subsidy Framework Supporting Product Development in Chinese Taipei

Since 2017, Fubon Insurance has developed a range of parametric products for agricultural and fisheries risks, including typhoon, heavy rain and low-temperature cover. Several products qualify annually for government subsidies through the Ministry of Agriculture's crop insurance approval system. Unlike pilot-based subsidy schemes, Chinese Taipei's annual approval mechanism creates a predictable incentive structure that encourages continual innovation, competitive pricing and product tailoring. This example demonstrates how targeted, recurring subsidies can strengthen the commercial viability of parametric insurance.

Source:

https://www.fubon.com/financialholdings/en/news/news_1200306_487605.htm;
https://www.fubon.com/insurance/b2c/content/farm_insurance/index.html;
https://gazette.nat.gov.tw/egFront/e_detail.do?metaid=159488

- **Aggregators (MFIs, cooperatives, utilities, producer organisations):** Serve as the primary interface between parametric products and end beneficiaries. By leveraging existing trust relationships and operational reach, aggregators reduce distribution costs, manage expectations around index-based payouts, and mitigate reputational risks associated with basis risk.
- **Insurers:** Own product design and accountability. Insurers are ultimately responsible for structuring triggers, ensuring supervisory compliance, maintaining product governance, and coordinating distribution and claims execution within existing frameworks. While distribution partners may influence product design in some markets, insurers should not abrogate their ultimate responsibility for product integrity and regulatory compliance.
- **Reinsurers:** Provide the backbone of technical credibility and risk capacity. Their role includes catastrophe analytics, pricing support, model validation, and long-term capital to absorb volatility, particularly for low-frequency, high-severity risks.
- **Regional risk pools and facilities (e.g. SEADRIF):** Enable cost-efficient access to sovereign and meso-level coverage, pooled risk diversification, and shared technical advisory services. These platforms can act as entry points for parametric insurance, creating foundations that can later be adapted or replicated for sub-sovereign and sector-specific applications.
- **Knowledge and coordination platforms (e.g. GAIP):** Facilitate structured dialogue across supervisors, insurers, data agencies, and development partners. By identifying market gaps, disseminating good practice, and supporting capability development, such platforms strengthen the ecosystem without acting as risk carriers.
- **Development partners and technical assistance providers (e.g. multilateral development banks, bilateral donors, foundations):** Support early-stage market development and ecosystem coordination. These actors often play a catalytic role by financing feasibility studies, supporting hazard-data improvements, funding pilot transactions, and strengthening institutional capacity among regulators, insurers and data agencies. They can also help de-risk early market entry by supporting premium subsidies, first-loss facilities, or technical advisory services that allow parametric products to reach initial scale while domestic markets build experience and confidence.

Retail and micro-level parametric products in Asia are frequently positioned as the primary entry point for market development, particularly in agriculture, livestock and fisheries, where affordability concerns may necessitate explicit premium subsidies. While these segments are undeniably important from a perspective of vulnerability, international experience suggests that beginning at the micro level may constrain scale, sustainability and technical depth. This does not diminish the importance of micro-level protection, but suggests that complementary development of meso- or macro-level programmes may help establish technical infrastructure, data systems, and risk-transfer capacity that can later support more sustainable micro-level offerings.

By contrast, sovereign parametric instruments typically financed through direct budget allocations, regional risk-pool contributions or development-partner support, can position governments as central risk purchasers rather than end beneficiaries. This top-down

approach can justify and facilitate investment in data infrastructure, modelling capability, contingency planning and institutional capacity – foundations that are difficult to establish through fragmented retail programmes.

Programmes such as the African Risk Capacity (ARC) and its Replica mechanism demonstrate how sovereign coverage can serve as an anchor, with humanitarian and sub-sovereign applications layered on top to extend reach to vulnerable populations. A similar trajectory is evident in the Caribbean, where CCRIF SPC (formerly the Caribbean Catastrophe Risk Insurance Facility) began with sovereign catastrophe coverage, scaled regionally, and subsequently enabled meso- and micro-level applications such as the COAST insurance programme for fisheries and targeted covers for utilities.

Case Study X16 – Sovereign and Humanitarian Parametric Coverage Working in Tandem in Mozambique

Mozambique's experience during the 2024/25 season demonstrates how sovereign parametric insurance, combined with humanitarian "Replica" coverage, can provide rapid and pre-arranged liquidity following high-impact climate shocks. In October 2025, the African Risk Capacity (ARC) Group disbursed more than USD 5.4 million to support drought and Tropical Cyclone Chido response efforts. The Government of Mozambique received USD 1.8 million for drought relief, while the World Food Programme (WFP), acting as a Replica partner, received an additional USD 3.5 million across its drought and cyclone policies. These funds enabled immediate food distributions and early recovery actions for affected communities, reinforcing the value of predictable, rules-based financing at sovereign and humanitarian levels.

Mozambique is among the most climate-exposed countries globally, facing frequent cyclones, flooding and recurrent drought. Officials highlighted that ARC coverage functions as a fiscal buffer that helps protect vulnerable households, reduces reliance on emergency budget reallocations and limits the need for external appeals. As ARC noted, the payout exemplifies how pre-arranged disaster finance can "drastically reduce fiscal and social vulnerability," especially where events recur annually and disproportionately affect low-income communities.

The ARC Replica mechanism – where humanitarian organisations purchase policies that mirror the government's coverage – amplifies the reach of sovereign risk pools. Start Network's 2024 Zimbabwe activation illustrates the same model at scale, mobilising assistance for more than 180,000 people using the Water Requirements Satisfaction Index (WRSI) drought trigger. Replica payouts allow humanitarian actors to execute pre-agreed contingency plans, accelerating response and ensuring financing reaches communities before coping behaviours worsen food insecurity or erode long-term resilience.

For Mozambique, WFP emphasised that rapid cyclone and drought payouts allowed it to respond quickly in Nampula and Cabo Delgado, complementing government operations rather than replacing them. Development partners – including AfDB through the ADRiFi programme – highlighted that capacity building in risk modelling, contingency planning and insurance literacy was essential for Mozambique's participation in the ARC risk pool, reinforcing that macro-level uptake depends not only on premium support but also on institutional readiness.

Together, the sovereign and Replica payouts show how parametric mechanisms can strengthen national systems, reduce reliance on ad-hoc humanitarian appeals, and formalise the shift from reactive crisis management to proactive financial preparedness. They also illustrate a broader lesson for Asia: sovereign and meso-level parametric instruments can create significant value when operationalised through strong institutional coordination and technical partnerships.

Sources:

African Risk Capacity (2025), Press Release: ARC makes a combined parametric insurance payout of \$5.4 million to support Mozambique's response to the 2024/25 drought and Tropical Cyclone Chido. <https://www.arc.int/news/arc-makes-combined-parametric-insurance-payout-54-million-support-mozambiques-response-202425>

Start Network (2025), ARC Replica: Transforming Insurance to Finance Loss and Damage (Zimbabwe case study). <https://startnetwork.org/sites/default/files/2025-05/ARC%2520Updated.pdf>

These examples suggest that while micro-level protection may be the ultimate objective, a sovereign-first entry point can accelerate market development by creating shared technical platforms, pricing benchmarks and delivery systems that later support meso- and retail-level parametric solutions. In several cases this occurs not through independent replication of sovereign models, but through mechanisms that leverage the same modelling framework and trigger architecture to extend coverage to other actors, such as humanitarian agencies or aggregators operating at meso or micro levels. In this light, the predominant focus on micro-level pilots in parts of Asia may represent a missed opportunity to leverage the efficiencies and spillover benefits of a coordinated, top-down approach.

Insights from this report highlight that institutional pathways for scaling parametric insurance in Asia are fundamentally partnership-driven, irrespective of whether approaches are anchored in sovereign, meso-level, or microinsurance. Parametric insurance programmes rely on sustained collaboration across multiple actors to achieve viability, scale, and durability, particularly in Asian markets where climate risks are often systemic and target populations are underserved. This interdependence spans the mobilisation of capital and risk capacity, trusted distribution and aggregation mechanisms, and sustaining an enabling policy, supervisory, and data environment.

At the capital and risk-bearing end, international reinsurers, brokers, and specialised risk advisors play a central role in addressing more extreme risk, structuring credit quality solutions, and embedding insurance considerations early in programme design. Evidence from separate GAIP-supported work looking at blended-finance and infrastructure shows that early engagement of the insurance sector as risk advisors can materially improve risk pricing, reduce reliance on concessional capital, and unlock financing that would otherwise remain stalled, as illustrated by parametric solutions developed for infrastructure and climate-exposed assets in Asia.¹⁶

At the meso- and micro-levels, scale and trust depend more on distribution partnerships with institutions that already intermediate finance and services than technical product design. Agricultural and microinsurance programmes in jurisdictions such as Thailand, India, and the Philippines demonstrate that working through state banks, MFIs, cooperatives, NGOs, and digital platforms can dramatically lower acquisition costs, facilitate premium collection, and build credibility among first-time customers. In many cases, compulsory or bundled arrangements linked to credit have been instrumental in achieving mass enrolment, while supervisory recognition of non-traditional distribution channels has enabled innovation without undermining prudential oversight.¹⁷ Although this is not specific to parametric insurance, enabling such channels and reviewing regulatory frameworks to ensure they do not create unnecessary barriers can be particularly important for expanding the reach of index-based products to underserved populations.

Finally, governments, supervisors, and development partners play a critical coordinating role in sustaining these ecosystems. Policy clarity, targeted subsidies during market-building phases, and cooperation with national meteorological agencies and accredited data providers are essential to support credible index design and supervisory confidence. Across Asia, experience suggests that parametric insurance scales most effectively where supervisory guidance, public data systems, and donor-supported technical assistance are aligned with private-sector capabilities, rather than operating in isolation. This also requires development partners to engage constructively with insurance supervisors when designing

¹⁶ *Convergence & GAIP, 2025*

¹⁷ *Stutley, C., 2022*

pilots or technical assistance, just as supervisors are encouraged under IAIS guidance to facilitate responsible innovation through appropriate regulatory channels. These partnership dynamics form the foundation for broader and deeper uptake and provide the basis for the prioritised pathways outlined in the final section.

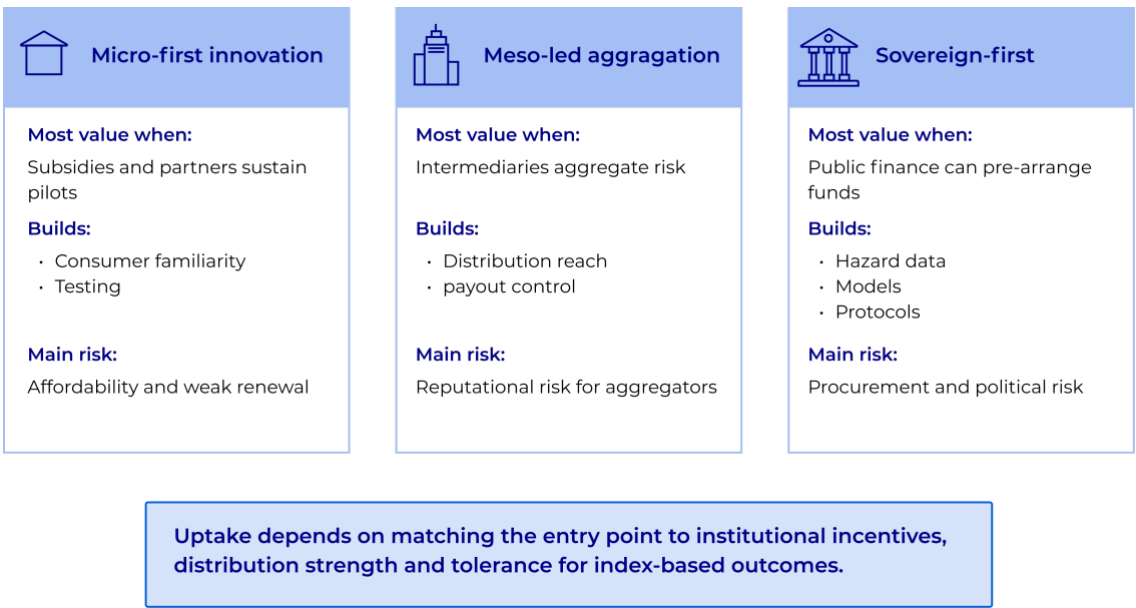
6.2 Pathways for broader and deeper uptake

Parametric insurance scales sustainably when early entry points are chosen that align with institutional incentives, decision accountability, and tolerance for index-based outcomes. Different starting points shape technical feasibility, as well as reputational, political, and renewal risk as programmes mature. Understanding these dynamics is therefore critical for insurers, reinsurers, brokers, and public stakeholders seeking to move beyond pilots toward durable market offerings.

The evidence from this study does not support a single optimal entry point for parametric insurance across Asian markets. Instead, viable pathways are context-specific, including considerations of fiscal governance capacity, credibility of data systems, strength of distribution and aggregation structures, and institutional tolerance for basis-risk outcomes. The pathways outlined below should therefore be understood as alternative market-building strategies, each with distinct risk trade-offs and sequencing implications, rather than as a prescriptive hierarchy or linear progression.

The three pathways below are intended to help distinguish where parametric insurance may most credibly enter a market and what conditions are needed for it to mature. They should not be read as a hierarchy or a fixed progression. In practice, sovereign, meso and micro pathways may reinforce each other where they share common data systems, technical capacity, trusted delivery channels and clear accountability for payout use.

Figure 25: Pathways for broader and deeper uptake of parametric insurance



The choice of pathway affects which risks need to be managed first. Sovereign-first approaches depend on fiscal governance and public accountability, meso-led approaches depend on trusted intermediaries and payout-use governance and micro-first approaches depend on affordability, distribution and sustained learning cycles. Across all three routes, the common requirement is to align the entry point with the institutions that can credibly explain, justify and sustain index-based outcomes over time.

Pathway 1: Sovereign-first, where institutional capacity is adequate

In contexts where public financial management systems can accommodate pre-arranged risk financing instruments – and where non-payout outcomes are institutionally defensible – sovereign parametric insurance can function as an anchoring mechanism. Under these conditions, sovereign participation may help justify investment in data systems, establish pricing benchmarks, and normalise index-based triggers within public decision-making processes. However, this pathway is less viable where fiscal accountability frameworks, procurement rules, or political risk aversion make index-based outcomes difficult to sustain following adverse events.

The feasibility of sovereign parametric insurance is shaped less by technical design than by political economy and institutional placement realities. Smaller and highly exposed jurisdictions often perceive clearer value in sovereign parametric cover, as a single event can materially disrupt public finances, while larger economies may rely on risk diversification or self-insurance instead. In many jurisdictions, resistance does not arise because parametric mechanisms are poorly understood in principle, but because the personal and political consequences of a non-payout are perceived as high, particularly where insurance must be justified through multiple layers of approval. This helps explain why parametric insurance may generate early interest at concept stage but face greater friction at the point of placement. Participation through an established sovereign risk pool can help mitigate these concerns, as pooled facilities typically provide standardised modelling frameworks, established governance arrangements, and collective procurement structures that reduce the institutional burden on individual governments.

Sovereign products are therefore most viable where insurance can be clearly linked to a defined fiscal liability or response obligation, rather than framed as generic budget support. Embedding parametric cover within broader project financing, sectoral programmes, or disaster-response frameworks – rather than as a standalone premium line – can materially improve acceptability. Regional risk pools play a critical intermediary role in this context by absorbing market-entry friction, standardising procurement and pricing approaches, and reducing the burden on individual governments to engage directly with global reinsurance markets.

When structured intentionally, sovereign parametric programmes can also create the foundations for expansion into meso- and retail-level applications. Investments in hazard data, modelling frameworks, trigger validation and payout protocols can be leveraged by development partners, humanitarian agencies and aggregators to deploy complementary products using the same underlying technical architecture. In this sense, sovereign participation should be viewed not as an end in itself, but as a platform that can progressively support broader financial protection across sectors and populations.

Pathway 2: Meso-led aggregation, where trusted intermediaries already exist

Meso-level parametric insurance is most applicable where intermediaries already aggregate risk and maintain legitimacy with their constituencies. Its effectiveness depends less on product design than on the intermediary's capacity to absorb reputational consequences when index outcomes diverge from observed losses. Where this capacity is weak, meso-level arrangements can be politically or commercially fragile despite technical merit.

As a result, durable meso programmes tend to succeed where payout rules are clearly pre-defined, distribution mechanisms are transparent, and the use of funds is institutionally anchored (for example, to debt relief, service restoration, or predefined assistance). This pathway performs best when meso products are explicitly positioned as risk-management tools for institutions – rather than as substitutes for individual indemnification – and when they are aligned with sector policies or public frameworks that legitimise index-based outcomes.

When designed intentionally, meso-level programmes can also act as an intermediary bridge between sovereign risk frameworks and retail protection. Intermediaries such as cooperatives, utilities, microfinance institutions, and producer organisations can translate parametric payouts into operational support for their members while simultaneously building familiarity with index-based mechanisms. Over time, these institutional arrangements can create the operational infrastructure, trust relationships, and data flows needed to support more direct retail offerings, allowing meso-level protection to function as a stepping stone rather than a standalone instrument.

Pathway 3: Micro-first innovation, where subsidies and distribution can sustain learning cycles

Micro-level parametric insurance plays an important role in financial inclusion but remains the most structurally constrained pathway when pursued in isolation. Research indicates that retail uptake is shaped less by trigger sophistication than by insurance literacy, trust in institutions, and competing household priorities. As a result, micro-level initiatives are most viable when they inherit upstream investments in data credibility, subsidy frameworks, and institutional familiarity, rather than being positioned as standalone market-building tools.

Micro-level parametric products therefore perform best when they inherit upstream investments – such as credible data pipelines, validated triggers, subsidy frameworks, and institutional familiarity – rather than attempting to establish these foundations independently. Experience across several markets shows that micro-first initiatives can gain meaningful traction when they are supported by strong distribution partners, appropriate subsidies during early phases, and credible technical backing. Where micro pilots are introduced early, they should be framed explicitly as learning mechanisms with repeatable governance, stable distribution partners, and clear renewal pathways. When structured in this way, micro-level programmes can evolve beyond pilot status and progressively contribute to scalable market segments.

Where micro-level initiatives succeed, their value often lies in demonstrating practical use cases, refining communication strategies around index payouts, and building consumer familiarity with parametric concepts. These learning cycles can inform improvements in trigger design, distribution practices, and disclosure standards that benefit broader market development. In this way, micro-level innovation can contribute meaningfully to ecosystem maturity when it is deliberately linked to wider data, supervisory, and institutional frameworks rather than operating in isolation.

Across all pathways, the priority actions are similar, but the sequencing differs by entry point:

- **Clarify supervisory expectations (Supervisors, with GAIP support):** Provide non-binding guidance on minimum expectations for trigger logic, disclosure, fallback data, and documentation – reducing uncertainty for insurers without creating unnecessary new approval burdens.
- **Establish data credibility and verification appropriate for intended application (data custodians, technical agencies, insurers/reinsurers):** Establish agreed protocols for data access, metadata, trigger determination, and fallback procedures, including roles and responsibilities in the event of data failure.
- **Institutionalise payout use and communication (governments, aggregators, insurers):** Pre-agree how payouts will be used, distributed (where applicable), and communicated up the chain and to affected stakeholders, recognising that perceived fairness is determined as much by communication as by index design.
- **Build repeatable delivery channels (aggregators, insurers, development partners):** Prioritise channels that can scale enrolment, premium collection, and post-event engagement while managing trust risks associated with basis outcomes.
- **Anchor risk capacity early (reinsurers, brokers, risk advisors):** Engage capacity providers and structurers upfront so that products are designed to be placeable, renewably priced, and robust under scrutiny after a triggering event.

This sequencing logic is intended to help Asian markets move beyond fragmented pilots. The goal is not to prescribe one “correct” institutional model, but to align entry points with the enabling conditions that make parametric insurance repeatable, scalable, and defensible over time.

7. Conclusion and next steps

7.1 Synthesis of key findings

Parametric insurance is not a universal solution, but it offers a valuable and underutilised tool for strengthening financial resilience across Asia for governments, institutions and households. The study demonstrates that while supervisory frameworks in Asia are generally permissive, uptake and diversification remain constrained by gaps in data access, technical capability, distribution capacity and product understanding. These constraints differ meaningfully across markets, highlighting the need for differentiated strategies rather than region-wide prescriptions, although the success factors are more universally consistent.

The report highlights that progress is possible within existing systems. Supervisors do not need new legal categories to support parametric products; insurers do not need sophisticated modelling platforms to begin designing them; and distributors do not require major institutional reforms to communicate their value. Instead, incremental steps – clearer supervisory articulation, strengthened aggregator partnerships, improved data documentation and sustained capability-building – can create a more enabling environment for responsible growth. Many of the most meaningful levers involve clarifying expectations, improving coordination and embedding learning cycles into product development rather than deploying new infrastructure or wholesale reform.

The study also reinforces that parametric insurance is not solely a technical construct. It is a relationship product that depends on trust – in data, in triggers, in payout processes and in institutions delivering and supervising them. Clear communication, transparent methodologies and timely payouts matter as much as the precision of the index. Where these elements align, parametric insurance can complement existing risk-management approaches and help individuals, businesses and governments manage uncertainty more effectively.

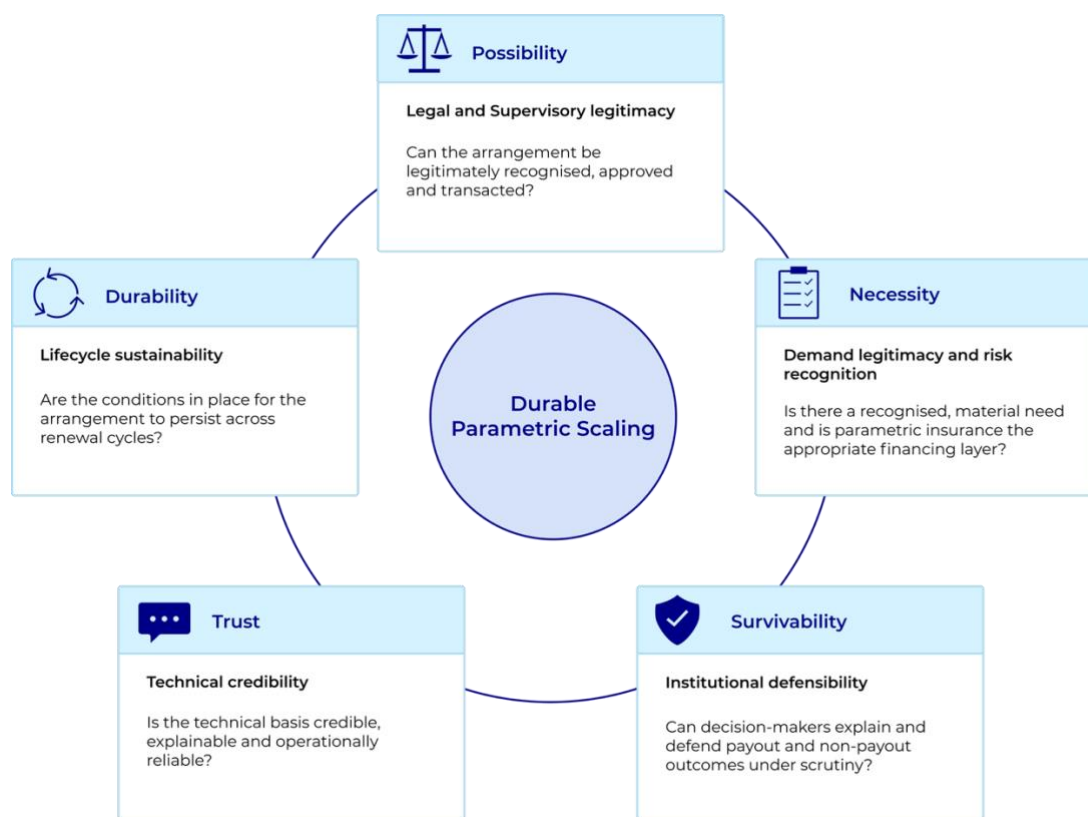
Looking forward, the potential for broader and deeper use of parametric insurance rests on strengthening and deepening what already exists: supervisory confidence, insurer capability, reliable data channels, aggregator networks and long-term partnerships. As markets continue to evolve, there is room for innovation – whether in hybrid index structures, sectoral applications beyond natural hazards or digital delivery models – but innovation must proceed with clarity, fairness and suitability at its core.

This report provides a foundation for that evolution. By organising insights across supervisory, market, technical and institutional dimensions, and by framing practical pathways tailored to different levels of market maturity, it offers a structured way for supervisors, insurers and development partners to navigate next steps. The intention is not to promote parametric insurance for all risks or in all markets, but to clarify its role and potential within Asia's broader risk-financing landscape.

The accompanying GAIP Parametric Framework builds on this foundation by providing a structured diagnostic lens to support assessment, identify binding constraints, and guide the application of these pathways in practice. This report has shown that durable scaling is unlikely to result from any single intervention. Regulatory accommodation, data credibility, distribution capacity, institutional ownership and renewal continuity, all possible within

existing systems, need to be sufficiently aligned for parametric insurance to move beyond pilots. These conditions are formalised in the GAIP Parametric Framework.

Figure 26: GAIP Parametric Framework



The intention is not to promote parametric insurance for all risks or in all markets, but to clarify its roles and potential within Asia's broader risk-financing landscape. With proportionate action and sustained collaboration, parametric insurance can play a greater role in narrowing protection gaps, improving the responsiveness of financial systems and supporting resilience across Asia.

7.2 Future opportunities

The purpose of this subsection is to highlight specific areas where additional research would materially strengthen the evidence base for parametric insurance in Asia, without implying commitments or prescribing actions. These are knowledge gaps rather than policy directives, reflecting the limits of the current evidence base and the rapid evolution of both risks and financial tools, representing areas where further evidence could support better decision-making within existing institutional frameworks.

A central message is that empirical understanding of how parametric insurance performs in Asian markets – particularly at the micro and meso levels – remains limited. While interest in these instruments is increasing, systematic documentation of product outcomes, consumer experience and distribution performance is sparse. More robust research in these areas would support clearer market strategies and more informed supervisory discussions.

A second message is that improved hazard, exposure and socio-economic data will unlock opportunities for product innovation beyond weather or agricultural applications. Several

jurisdictions face constraints in flood, heat and multi-peril data, making it difficult to design credible, scalable and fair parametric structures. Research on data sourcing, validation methods and the minimum standards required for different perils would help insurers and supervisors form more realistic expectations.

A third message is that greater insight into consumer behaviour – such as comprehension of trigger logic, willingness to pay, tolerance for basis risk and behavioural responses to payout timing – would significantly advance product design and communication strategies. These behavioural dimensions are widely acknowledged but rarely quantified in emerging markets.

A fourth area relates to distribution models. The study indicates strong potential in aggregator-led pathways, yet little is known about which aggregator types (cooperatives, MFIs, supply-chain intermediaries, rural banks, digital platforms) perform best under which conditions. Comparative evaluations would inform more targeted and efficient scaling strategies.

Finally, institutional learning is increasingly being documented, with initiatives such as recent Insurance Development Forum case study collections contributing valuable insights. This remains an ongoing effort, and continued expansion of documentation on public-private partnerships, product development cycles, reinsurance arrangements and long-term performance will be important to help markets avoid repeating common pitfalls observed in pilots that have not sustained themselves beyond early phases

7.3 Call to action

Asia's diverse markets present both challenges and opportunities. What is most needed is clarity – on expectations, on data, on communication standards and on how parametric insurance complements rather than replaces indemnity products, public disaster response or broader risk-management efforts.

The opportunity lies not in structural overhaul but in practical, collaborative progress. Supervisors, insurers, aggregators, data providers and development partners all have roles to play, and modest, well-coordinated steps can meaningfully improve financial resilience for households, businesses and governments. As risks evolve – whether climate-related, economic, health-related or arising from new systemic stressors – Asia will increasingly benefit from a broader menu of financial tools that provide timely liquidity and predictable support.

The report's purpose has been to clarify, synthesise and provide pathways. The findings demonstrate that parametric insurance can contribute to narrowing protection gaps where products are well-designed, transparently communicated and delivered through trusted channels. Achieving this requires:

- peer learning and voluntary supervisory guidance that strengthen confidence without adding supervisory burden;
- market partnerships and aggregator-based pilots that build practical experience;
- improvements in data access, documentation and trigger transparency; and
- investment in technical capability within insurers and distribution partners.

The call to action is therefore a call for alignment around proportionate, incremental steps – each grounded in evidence and tailored to national contexts. GAIP and its partners can play a catalytic role by convening dialogue, sharing insights, strengthening capability and helping stakeholders navigate the practical realities of design and delivery.

In this context, the GAIP Parametric Framework provides a diagnostic lens to support stakeholders in translating these steps into implementation, enabling more structured assessment and coordination across different market contexts.

Through these efforts, parametric insurance can make a targeted and meaningful contribution to the wider goal: broader and deeper financial resilience across Asia, delivered through credible, transparent and trusted mechanisms.

References

AXA Partners. (2025). AXA and HK Express Launch New Flight Delay Parametric Protection. <https://www.axapartners.com/en/page/axa-hk-express-flight-delay-parametric-protection>

AXCO. (2025a). Global non-life (P&C) insurance market reports. <https://www.axcoinfo.com/products/insurance-market-reports-non-life/>

AXCO. (2025b). Insurance market reports (non-life): Lines of business and market data. <https://www.axcoinfo.com/products/insurance-market-reports-non-life/>

Convergence Blended Finance & Global Asia Insurance Partnership. (2025). Playbook on the insurance sector's roles in blended finance at the climate–health nexus. Convergence Research Brief.

Garcia Ocampo, D., & Lopez Moreira, C. (2024). Uncertain waters: Can parametric insurance help bridge NatCat protection gaps? Financial Stability Institute Insights No. 62. Bank for International Settlements & International Association of Insurance Supervisors. <https://www.iais.org/uploads/2024/12/FSI-IAIS-Insights-on-parametric-insurance.pdf> <https://www.bis.org>

Industry Research. (2025). Parametric Insurance Market Size, Share, Growth, and Industry Analysis, By Type (Natural Catastrophes Insurance, Specialty Insurance, Others), By Application (Agriculture, Aerospace & Defence, Mining, Construction, Energy & Utilities, Manufacturing, Others), Regional Insights and Forecast to 2034. <https://www.industryresearch.biz/market-reports/parametric-insurance-market-106046>

International Association of Insurance Supervisors. (2012). Application paper on regulation and supervision supporting inclusive insurance markets. https://www.iais.org/uploads/2022/01/Application_Paper_on_Regulation_and_Supervision_supporting_Inclusive_Insurance_Markets.pdf

International Association of Insurance Supervisors. (2018). Issues paper on index-based insurances particularly in inclusive insurance markets. <https://www.iais.org/uploads/2022/01/180618-Issues-Paper-on-Index-based-Insurances-particularly-in-Inclusive-Insurance-Markets.pdf>

Khoo, F., & Yong, J. (2023). Too hot to insure Avoiding the insurability tipping point. Global Asia Insurance Partnership & Financial Stability Institute. <https://www.gaip.global/publications/too-hot-to-insure/>

Singapore Reinsurers' Association. (2020). *Parametric Risk Transfer – A solution to narrow Asia's protection gap.* <https://sg-reinsurers.org.sg/sra-launches-parametric-risk-solutions-white-paper>

Stutley, C. (2022). ASEAN guideline on agricultural insurance implementation. Jakarta: Association of Southeast Asian Nations. <https://asean.org/wp-content/uploads/2022/11/9.-ASEAN-Guideline-Agricultural-Insurance-Implementation-Adopted.pdf>

Thorburn, C. (2025a). Turning intentions into resilient outcomes Practical steps to developing integrated and holistic protection gap strategies. Global Asia Insurance Partnership. <https://www.gaip.global/publications/turning-intentions-into-resilient-outcomes/>

Thorburn, C. (2025b). Catalysing resilience and well-being: An integrated and holistic approach to protection gaps. Global Asia Insurance Partnership. <https://www.gaip.global/publications/the-solutions-landscape/>

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