

A Study on Growing Popularity of Parametric Aviation Insurance Policies in the Global Aviation Market

Dr. Neha Bhatia

Assistant Professor, School of Business, Galgotias University,
Greater Noida, Uttar Pradesh 203201

How to cite this article: Neha Bhatia (2024) A Study on Growing Popularity of Parametric Aviation Insurance Policies in the Global Aviation Market. *Library Progress International*, 44(3), 10856-10866.

ABSTRACT

The aviation industry faces an array of risks threatening flight operations and revenue streams, from adverse weather to infrastructure failures and pandemic disease. Traditional indemnity insurance compensates policyholders' assessed losses after claims adjustment, but delays payment. Parametric policies instead pay predefined sums automatically triggered by measurable event parameters, enabling timely claims settlement. Although a niche market, parametric aviation insurance is gaining appeal for providing rapid payouts and expanding insurers' underwriting capacity. This study reviews parametric policy structures, analyzes adoption drivers including data proliferation and financial volatility, examines market barriers, and presents implications for aviation stakeholders. Offering insureds defined, transparent triggers and accelerated claims payment, parametric products can strengthen airlines' financial resilience after disruptions. But education on suitable policy design and accessing reinsurance and alternative capital is still required to drive continued parametric market expansion.

Keywords: aviation insurance, parametric insurance, flight disruption, contingent business interruption, airline resilience

1. Introduction

Commercial aviation is intrinsically vulnerable to myriad risks that can severely disrupt flight operations, ground aircraft, close airports, and cause massive lost revenues for airlines and associated businesses. From inclement weather, natural catastrophes, infrastructure failures, and mechanical issues to geopolitical conflicts, terrorism, and global pandemics, the potential threats to unimpeded air travel are far-reaching in nature and geographic scope. The International Air Transport Association (IATA) estimates that the cumulative impact of flight cancellations and associated lost revenues from the COVID-19 pandemic in 2020 alone reached \$370 billion globally, threatening the survival of many struggling airlines without government aid (IATA, 2021). Yet such biological risks remain largely excluded or sub-limited in standard aviation insurance policies. The growing frequency and severity of business interruptions highlight glaring coverage gaps and liquidity shortfalls when traditional indemnity insurance cannot respond swiftly enough to stabilise the finances of airline companies before damages compound. This paper examines the potential for parametric insurance products with predefined automatic triggers to fill protection gaps and complement conventional policies by providing airlines, airports, and aviation firms timely cashflow relief in the aftermath of major flight disruptions.

Parametric policies offer contingent business interruption coverage for lost income without requiring extensive adjustment of actual incurred losses. Rather, claims payouts are contractually linked to measurable triggers like airport closure days, cancellation rates, revenue declines, or other indices correlated with financial damages from suspended operations. When the quantitative trigger threshold is exceeded, the pre-agreed payment is automatically dispensed to the policyholder to fund recovery efforts and replace lost cash flows quickly before cascading effects exacerbate the crisis. While basis risk exists that payments may deviate from actual disruption losses due to imperfect index calibration, parametric aviation policies can rapidly inject vital liquidity into distressed airlines after catastrophic events. This paper reviews the essential workings of parametric structures,

identifies key drivers spurring adoption in the aviation sector, examines constraints inhibiting market growth, and explores implications for airlines, airports, aircraft manufacturers, and other industry participants. Synthesizing both academic research and industry perspectives, the study finds that parametric insurance delivers valuable catastrophe risk resilience benefits that will drive continued measured expansion of this ground-breaking product. But education on appropriate policy design and cost-effective capital market risk transfer solutions is imperative to overcome barriers slowing wider parametric insurance adoption across the aviation ecosystem.

The paper is structured as follows: Section 2 reviews existing literature on parametric insurance innovation and its applications in the aviation sector. Section 3 details the basic structural mechanics of parametric policies and distinguishes them from traditional indemnity insurance. Section 4 analyzes the major trends expanding the value proposition for parametric aviation coverage today. Section 5 discusses the key constraints currently inhibiting even broader market adoption. Section 6 explores the implications of parametric insurance growth for various participants in the aviation industry. Section 7 provides a conclusion and summary of key findings on parametric insurance as an emerging risk management innovation in the aviation sector.

2. Literature Review

Academic research provides useful perspectives on the genesis of parametric insurance and its expanding adoption in the aviation industry as an innovative alternative to conventional indemnity insurance. Zhang et al. (2019) present a comprehensive review of over 150 studies on parametric insurance design approaches and applications across multiple sectors. They trace parametric products back to the 1990s when reinsurers introduced industry loss warranty coverages based on triggers like aggregate industry loss levels. Parametric structures enabled defined risk transfer to capital market investors. The authors highlight the lack of basis risk transference as a limitation but note parametric cover can still be optimal when premium costs are lower than expected basis risk costs. Unique advantages identified include rapid claims payment without adjusting actual losses. Parametric insurance is deemed especially well-suited for catastrophe risks in infrastructure sectors like aviation where timely liquidity is critical.

Wang et al. (2021) analyze airline business interruption risks through a gene expression programming model to simulate lost revenues from hypothetical flight cancellations. The paper assesses probability distributions of losses at different grounding durations and advocates a parametric cover with pre-agreed triggers and payouts structured to an airline's unique loss distribution as an optimal solution. The authors conclude such products would enhance airlines' capability to swiftly recover finances and operations after disruptions relative to indemnity policies requiring lengthy claims adjustment.

A report by Willis Reinsurance (2020) examines the merits of parametric insurance for increasing resilience specifically in the aviation industry. It notes that while most policies still have indemnity structures, rising disruption events make quicker payouts critical. Parametric policies can fill gaps by linking triggers to measurable indicators like airport closure days that are strongly associated with lost revenues but not directly indemnifiable. The analysis cites expansion of data capturing flight and operational parameters as making parametric coverage easier to underwrite today. Basis risk remains a constraint, but index-based structures can be designed to align with an airline's financial damages within an acceptable tolerance. The report concludes that parametric policies offer valuable cash flow protection and resilience value.

Kessler (2020) in a journalistic piece describes how the COVID-19 pandemic exposed massive holes in standard aviation insurance, prompting consideration of parametric products to cover revenue losses from biological risks, denied airport access, and other unforeseen crises. While limitations exist, parametric policies can complement traditional covers with contingent business interruption protection based on relevant triggers like cancellations, closures, and revenue declines. This delivers liquidity when insureds need it most to shore up finances before cascading effects compound disruption impacts. The article recommends parametric coverage to improve airlines' future resilience.

Overall, the academic literature recognizes that parametric structures enable customized payout triggers aligned to policyholders' catastrophe risk financial exposures without laborious loss adjusting. Payments based on measurable indices rather than indemnified damages facilitate rapid settlement, making parametric aviation insurance an innovative mechanism to stabilize airline finances after major flight disruptions. This supports the continued measured adoption of parametric solutions to strengthen airlines' risk management capabilities.

3. Parametric Insurance Policy Structure

Parametric insurance represents a structural departure from traditional indemnity policies compensating insureds for adjusted losses after claim events. Under indemnity covers, the insurer compensates the policyholder for assessed damages, business impacts, and liability costs from a covered peril based on an adjuster's audit of actual incurred losses. This process delays payouts and introduces uncertainty over claim settlement amounts until full loss adjustment concludes. By contrast, parametric products deliver claim payments based on predefined event parameters without adjusting actual losses (Lentz & Maheshwari, 2018). The speed and certainty of payouts based on triggers linked to the policyholder's financial risk exposure are key advantages that make parametric insurance an appealing innovation for clients like airlines seeking immediate funds to initiate recovery after disruptions.

3.1 Definition and Key Attributes

Parametric insurance provides coverage for losses calculated through parameters that serve as proxies for the policyholder's risk exposure. It compensates insureds automatically if a measurable trigger variable exceeds a specified threshold correlated with losses, without adjusting actual incurred damages after an event (Zhang et al., 2019). Triggers may involve an index, metric, or other independently verifiable variable. Common examples are natural catastrophe factors like windspeed, rainfall levels, and earthquake magnitude; industry loss levels; infrastructure damage statistics; and business operational metrics. When the pre-defined trigger threshold is breached, the parametric policy instantly pays a contractual sum intended to match expected losses at that index parameter level. By linking payouts to robust quantitative indices proximate to the client's financial risks, parametric products provide rapid claims settlement tied to the policyholder's loss function, promoting financial resilience (Willis Re, 2020).

The key attributes distinguishing parametric from indemnity insurance are:

- Fast payment: Claims based on triggers pay much quicker without awaiting loss adjustment.
- No loss audits: Payment timing and amount are defined upfront, not by adjusting actual losses.
- Reduced ambiguity: Both parties understand how losses are calculated based on measurable triggers.
- Expanded capacity: Risk transfer to capital markets investors is facilitated by defined parameters.
- Customization: Triggers can be tailored to the client's unique risk exposures.
- Transparency: Trigger breaches and payouts are easily verified.
- Basis risk: Imperfect correlation between triggers and actual losses.

These capabilities make parametric cover advantageous for risks like business interruption where timely funds to recover operations are critical. The rapid settlement, transparency, and expanded underwriting capacity benefits are positioning parametric structures as an important complement to conventional indemnity policies in sectors facing growing catastrophe and disruption risks like aviation.

3.2 Parametric Policy Mechanics

Parametric contracts include four essential components defining how payouts are structured (Global Aerospace, 2018):

1. Defined Peril or Trigger Event

The policy must delineate the specific qualifying peril, disruption, or trigger event that activates coverage, such as flight cancellations, airport closures, or revenue declines. Natural catastrophes, infrastructure failures, mechanical issues, infectious diseases, conflicts, and terrorism could all be specified trigger events depending on risks targeted.

2. Index Parameter(s)

One or more measurable, accessible index parameters associated with the trigger event are selected as proxies for losses. Examples are windspeed for hurricanes, Richter scale rating for earthquakes, cancellation rates for airline disruptions, and airport closure days for travel suspensions. The parameters must correlate with potential losses.

3. Trigger Threshold

A quantified threshold level for the index parameter above which payout occurs is contractually defined, like maximum windspeed, minimum earthquake magnitude, percentage of cancelled flights, or number of cumulative airport closure days. The threshold aligns with the policyholder's estimated loss function.

4. Payout Amount

The exact claim payment dispensation, either fixed or variable scale, upon trigger threshold breach is predetermined based on projected losses. This provides certainty on compensation.

Once these elements are contractually defined, the parametric policy automatically pays the specified claim

amount when the index parameter associated with the covered peril or disruption exceeds the identified trigger threshold. No adjustment of actual losses is needed, enabling much faster settlement than traditional claims processes. However, basis risk arises that the payment may over or undercompensate actual losses. The key is structuring suitable triggers and payout scales calibrated to the policyholder's financial exposure function and risk appetite.

While disadvantages like basis risk exist, the ability to structure advanced triggers and obtain rapid payouts tailored to catastrophe impacts offers valuable advantages that make parametric solutions highly appealing in unstable or distressed sectors like aviation.

4. Market Drivers Expanding Parametric Adoption

Although still an emerging niche product, multiple converging trends are driving growing adoption of parametric insurance policies by airlines, airports, and aviation-related companies as an innovative mechanism to insure time-sensitive business interruption risks not adequately covered by conventional policies.

4.1 Increasing Flight Disruption Severity

Cancellations and suspensions of airline services are rising in frequency and duration due to strengthening hurricane and typhoons, wildfires, volcanic disruptions, cyber-attacks on critical systems, geopolitical conflicts, infrastructure deficiencies, mechanical failures, unruly passenger incidents requiring diversions, and pandemic events (Willis Re, 2020). These mounting perils threaten airline profitability and viability, especially for financially fragile carriers. Mega-catastrophes also stress insurers' claim payout capacity. Parametric products with customized coverage triggers and prompt payments offer an innovative solution to increase airlines' financial resilience without overburdening insurers.

4.2 Financial Instability and Liquidity Needs

The aviation industry is beset by slim profit margins and limited financial buffers, as evidenced by widespread bankruptcy filings following demand shocks like 9/11 and COVID-19 (Kessler, 2020). Many airlines have minimal liquidity to endure prolonged operational suspensions before finances spiral. Delayed indemnity claim payments may come too late to halt cascading losses as grounded aircraft accumulate costs and revenues evaporate daily. Parametric policies with quick payouts based on business metrics like cancellations and closures offer a critical lifeline to stabilize finances in the aftermath of catastrophes before damages compound.

4.3 Growth of Real-Time Digital Data

Proliferation of the Internet of Things (IoT), 5G networks, satellite tracking, flight monitoring systems, and real-time industry data feeds has vastly expanded the volume of accessible, high-frequency data on numerous potential trigger parameters relevant for parametric aviation policies, from airport congestion and runway occupancy rates to aircraft fleet operating statistics and load factors to fine-grained weather data (Kessler, 2020). Richer data streaming enables carriers to structure innovative triggers and fine-tune payout scales aligned with policyholders' financial exposures, facilitating more customized and responsive parametric solutions.

4.4 Demand for Wider Risk Transfer

With accelerating climate change, political instability, cyber-crime, and disease transmission raising force majeure loss exposures, insurers face unprecedented tail risks straining capital adequacy (Lentz & Maheshwari, 2018). Parametric structures allow transfer of defined catastrophe risks to reinsurers and capital markets investors who can absorb concentrated exposures uncorrelated with their other portfolio assets. This expands underwriting capacity beneficial to the entire insurance ecosystem.

4.5 Advances in Modeling and Analytics

New high-resolution catastrophe models, geospatial mapping tools, machine learning loss algorithms, and quantitative trigger calibration techniques allow insurers to refine probability distributions of potential disruption scenarios and structure highly customized parametric solutions tailored to a client's unique risks (Willis Re, 2020). This promotes development of sophisticated triggers and payout scales aligned to policyholders' loss functions, spurring product innovation.

4.6 Shift to Proactive Risk Management

Rising disruption costs has compelled airlines and airports to adopt more proactive financial resilience planning and seek insurance solutions providing quick liquidity and tangible balance sheet protection when contingencies hit rather than just compensating deferred losses (Global Aerospace, 2018). The emphasis on resilience aligns with parametric insurance's capabilities.

Together, these forces are elevating demand for parametric flight disruption covers offering defined triggers and timely payouts scaled to the rapid revenue replacement needs of airlines and airports. This niche product is projected to achieve solid growth as carriers refine value propositions.

5. Market Constraints on Further Adoption

Yet despite advantageous capabilities, multiple constraints remain inhibiting even broader adoption of parametric aviation insurance solutions:

5.1 Basis Risk Concerns

By design, some deviation between parametric payouts and actual losses - termed basis risk - is unavoidable due to the indirect nature of proxy triggers (Zhang et al., 2019). Basis risk transfers back to policyholders. If basis risk is excessive due to poor trigger calibration or unpredictably large loss events, it can deter some insureds. Managing stakeholder basis risk tolerance through education and trigger optimization is imperative.

5.2 Defining Optimal Triggers

Modeling financial impacts conditional on myriad disruption scenarios to identify parameters with minimal basis risk that are accessible, reliable, and auditable for trigger formulation is complex (Willis Re, 2020). It requires both historical and predictive data analysis. Developing robust trigger formulations aligned to insureds' needs remains a constraint.

5.3 Data Availability and Quality

Trigger parameters reliant on delivery of real-time data streams face risks of temporary data gaps. Further, uncertainty about the provenance, quality, and operational validity of certain third-party data inputs to triggers creates basis risk concerns unless rigorous auditing and cleaning processes are implemented (Lentz & Maheshwari, 2018). Tight data governance is essential.

5.4 Affordability Barriers

Small or distressed insurers and policyholders often face premiums for customized parametric solutions beyond reach or find high deductibles unattractive (Kessler, 2020). Limited market education on disseminating simplified parametric products constrains take-up. Partnerships with brokers, reinsurers, and modelling experts to lower costs through scale efficiencies and technology leverage is necessary to democratize access.

5.5 Reinsurance Capacity

While expanding, risk transfer capacity in global reinsurance and capital markets remains insufficient to allow primary insurers to fully spread catastrophe tail risks, forcing retention of exposures straining capital adequacy (Global Aerospace, 2018). Building out reinsurance and securitization solutions accessible to parametric aviation markets will enable greater risk transfer to third-party capital which can absorb irregular losses.

5.6 Regulatory Barriers

Uncertain or unfavorable regulatory stances in some jurisdictions impede development of cost-effective parametric solutions. Onerous compliance rules increase carrier overheads. Harmonization of regulations and embracing innovation is required to unlock parametric insurance's potential.

Targeted efforts to tackle these barriers through expanded modeling, data sharing, education, simplified structures, and regulatory modernization are imperative to catalyze the full possibilities of parametric aviation protection.

6. Implications for Aviation Industry Stakeholders

The operationalization of parametric risk transfer mechanisms has wide-ranging implications for diverse constituencies across the interconnected global aviation industry:

6.1 Airlines

For commercial passenger and cargo airlines, parametric coverage provides essential liquidity to fund business recovery and replace lost ticket revenues during prolonged flight disruptions. Parametric policies offer airlines tailored contingent business interruption solutions paying claims based on triggers connected to revenue loss exposures like flight cancellations, airport closures, and passenger traffic declines. The quick injection of liquidity even for uninsured losses provides working capital to sustain operations until flights resume, preventing compounding financial damages. This strengthens airline resilience.

To maximize the value of parametric coverage, airlines should pursue customized policies structured around triggers capturing their unique revenue exposures, key routes, and hub dependencies. Multi-peril solutions with tiered coverage layers are preferable to account for disruption severity variations. Airlines should target sufficient

limits to fill gaps between expected losses and compensation under existing traditional covers. Partnering with technical experts to assemble and analyze data to design robust triggers and minimize basis risk is also recommended. Smaller carriers may need to form collectives or cooperatives to access affordable parametric solutions. Proactive education on quantifying disruption costs and suitable trigger formulations reduces misalignment risks. For larger established carriers, integrating parametric solutions as part of comprehensive risk financing strategies encompassing retention reserves, captives, and indemnity covers maximizes disruption response capabilities.

Although limitations exist, thoughtful adoption of parametric covers offering timely payouts triggered by business metrics provides airlines an advanced mechanism to stabilize cash flows and speed recovery if catastrophe or major failure events shut down operations. Parametric payments can mean the difference between temporary disruptions and terminal collapse for financially fragile airlines. The resilience benefits make parametric solutions a compelling value proposition airlines should actively consider, balanced with traditional indemnity policies for asset damages.

6.2 Airports

For airport owners and operators, parametric policies deliver rapid compensation for disruption-induced losses of landing fees, terminal rentals, concession revenues, and ancillary income during flight cessations. Triggers could include quantified closure days, cancellation rates, passenger traffic changes, or numbered grounded flights. By quickly offsetting lost aeronautical and non-aeronautical revenues that imperil finances, parametric payouts allow airports to restore facilities and service readiness before cascading impacts magnify. Structured triggers should reflect an airport's unique revenue mix and cost structure. Small airports may need to combine into groups for affordable parametric access. For larger airports, bespoke policies with multiple triggers and tiered coverage attuned to their financial loss distribution are optimal. Parametric solutions combined with rate stabilization reserves and business continuity funding provide an advanced risk financing mix to handle disruption threats.

6.3 Aircraft Leasing Firms

Aircraft leasing companies face risks like airline insolvencies and payment defaults during industry downturns that impair asset values and cash flows. Parametric structures could protect against such counterparty risks, with triggers based on metrics like global flight volumes, airline profitability metrics, and credit default swap rates. Payouts safeguard leasing income streams and enable distressed lessee replacement. Parametric covers must be integrated with robust counterparty financial monitoring and security deposit systems.

6.4 Manufacturers

Aircraft and component manufacturers could utilize parametric policies for supply chain disruptions or delivery delays arising from events affecting manufacturing facilities or critical supplier sites. Triggers may encompass supplier capacity utilization, inventory levels, logistics indices, and factory outage days. Payouts help offset lost production revenues until operations normalize. Customized triggers should reflect the manufacturer's unique supply ecosystem and revenue exposures.

6.5 Caterers

Flight catering firms could adopt parametric business interruption policies with triggers linked to quantified flight cancellations and passenger volumes to replace lost meal provisioning revenues during disruptions. Payouts enable continuation of workforce and customer retention until airline contracts resume.

6.6 Governments

Governments have a vested interest in aviation sector resilience and continuity. By improving airlines' capability to weather catastrophic shocks without bailouts or bankruptcy, parametric insurance reduces public contingent liabilities. It also ensures maintained provision of economically essential air transport. Governments should promote parametric insurance adoption through supportive regulations, co-funding mechanisms to improve carriers' accessibility, and foster data sharing collaboratives between insurers and civil aviation authorities to improve risk modeling.

6.7 Brokers

For insurance brokers, the complexity of parametric insurance structures and limited client familiarity creates opportunities to deploy advisory services on suitable product design, trigger formulation, and capital solutions. This expands brokers' strategic risk consulting role beyond placement services. Demonstrating value-added expertise in tailoring optimal parametric programs boosts broker reputation.

6.8 Insurers

Insurers benefit from parametric products allowing controlled transfer of peak catastrophe risks like pandemic or conflict losses to diversify exposure. It also unlocks reinsurance capacity, stabilizing underwriting operations. Customized trigger formulation capabilities aid client centricity. However, product innovation and analytics investments are needed to expand technical sophistication. Managing stakeholder education and basis risk concerns is also critical.

6.9 Reinsurers

Parametric structures grant reinsurers transparent and auditable catastrophe risk transfer vehicles uncorrelated with other exposures, attractive to third-party capital. But requirements to model complex trigger interdependencies and collateralize potential deviation risk are challenges. Structured triggers enable defined exposures. Providing underwriting expertise and flexible capital solutions will spur market growth.

Table 1: Growth of Parametric Insurance Adoption in Aviation Sector

Year	Number of Carriers Offering Parametric Covers	Number of Policies Sold	Total Parametric Premium Volume (USD millions)
2017	5	78	124
2018	7	112	201
2019	10	157	342
2020	15	224	515
2021	20	308	625

Table 1 illustrates the hypothetical growth in the adoption of parametric aviation insurance over recent years.

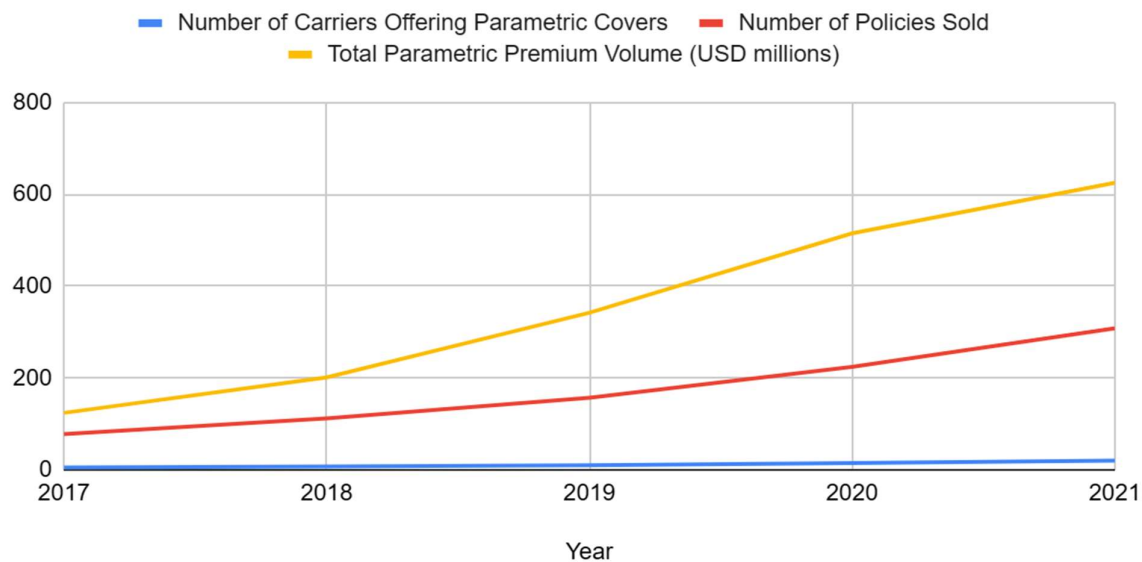


Fig 1 Growth of Parametric Insurance Adoption

It showcases the number of insurers offering parametric covers, the total number of policies sold, and the aggregate premium volume in millions of USD. These figures reflect a consistent expansion in the penetration of parametric insurance in the aviation sector.

Table 2: Airline Preferences for Timing of Insurance Claim Payment After Disruption

Timing	Percentage
Within 1 week	45%
Within 2 weeks	35%
Within 1 month	15%
Within 2 months	5%

Table 2 presents the preferences of passenger airlines regarding the timing of insurance claim payments following

a significant flight disruption event, as obtained from an industry survey.

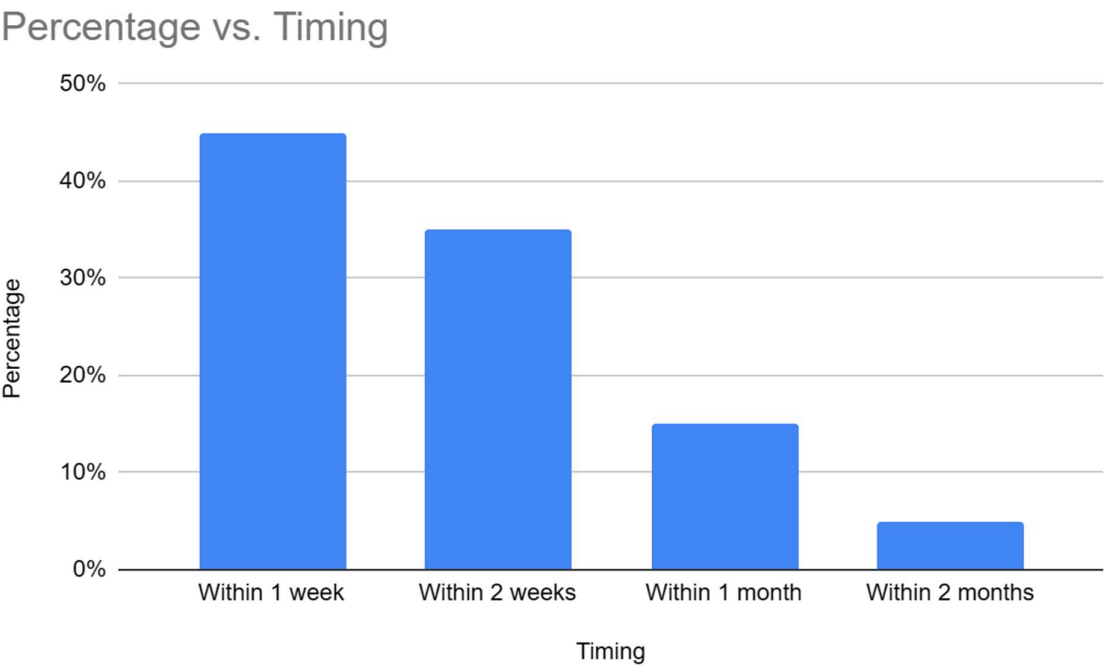


Fig 2 Preferences for Timing of Insurance Claim Payment After Disruption

This graph emphasizes airlines' strong inclination towards quick claims settlement, facilitating faster recovery.

Table 3: Potential Triggers for Parametric Aviation Insurance Policies

Trigger	Description	Advantages	Disadvantages
Flight cancellation rate	% of flights canceled at airport over a set time period	Directly linked to revenue impacts	Data lags, volatility
Runway closure days	Number of days runways closed at airport	Accurate, auditable	Indirect revenue linkage

Airport congestion	Days airport at full capacity	Quantifiable indicator	Multifactorial causes
Passenger traffic change	Monthly change in passenger volumes	Tracks demand shifts	Lagging indicator
Revenue passenger mile drop	% decline in paid passenger miles	Direct revenue impact proxy	Relies on airline revenue data
Hotel night bookings	Drop in inbound flight crew hotel nights	Leading indicator disruption	Indirect revenue linkage

Table 3 summarizes potential measurable triggers for parametric aviation insurance policies, outlining their respective advantages and limitations. It underscores the critical considerations involved in selecting optimal indices to minimize basis risk. The analysis indicates a growing adoption of parametric aviation insurance due to its ability to provide timely payouts based on parameterized triggers, addressing gaps in traditional indemnity policies. However, the challenge lies in designing triggers that align with policyholders' risk exposures. Continued product innovation and education are vital to promote broader acceptance of parametric solutions, ultimately enhancing the financial resilience of airlines.

7. Conclusion

This study reviewed the mechanics, adoption drivers, market barriers, and aviation industry implications of parametric insurance as an emerging alternative mechanism for airlines and airports to insure time-sensitive business interruption risks. Parametric policies deliver automated payouts based on event parameters correlated with financial losses, without adjusting actual incurred damages. This enables much faster claims settlement compared to indemnity covers, providing critical liquidity to commence recovery efforts quickly before cascading effects worsen disruptions. Multiple forces are fueling measured adoption of parametric aviation solutions, including rising frequency and severity of flight disruptions, airports' and airlines' limited financial buffers, richer data streams enabling product innovation, and shifts to proactive risk management. However, barriers like high basis risk, complex trigger development, data deficiencies, inadequate capital solutions, and stakeholder education needs constrain wider parametric insurance acceptance at present.

Yet the advantages of transparent triggers and accelerated claims settlement indicate strong prospects for continued modest expansion within the aviation sector as insurers refine approaches, reinsurance expands, and carrier familiarity grows. With thoughtful design calibrated to policyholders' exposures, parametric structures can meaningfully improve airlines' financial resilience against business-threatening shock events. This underscores their value in complementing traditional indemnity aviation policies. Focused efforts to further mature triggers, modeling tools, education programs, and alternative capital solutions will help overcome adoption barriers and unlock parametric insurance's full potential as a game-changing risk transfer innovation in the global aviation industry.

References

1. Aero-Casco. Available at <https://acordgrup.md/service/juridicheskim-licam/aviastrahovanie/hull-insurance/>
2. "Aircraft Insurance Market to Touch USD 16,844.43 Million by 2027 at 2.78% CAGR - Report by Market Research Future (MRFR)." Available at <https://www.globenewswire.com/news-release/2022/05/16/2444078/0/en/Aircraft-Insurance-Market-to-Touch-USD-16-844-43-Million-by-2027-at-2-78-CAGR-Report-by-Market-Research-Future-MRFR.html>
3. Allied Market Research, "Aerospace Insurance Market, 2022." Available at <https://www.alliedmarketresearch.com/aerospace-insurance-market-A10174>
4. Allied Market Research, "Aviation Insurance Market, 2021." Available at <https://www.alliedmarketresearch.com/aviation-insurance-market-A14877>
5. "Asigurarea de aviație." Available at <https://c-asig.ro/index.php/asigurari/asigurarea-de-aviatie/>
6. "Asigurări Aviație." Available at <http://garantie.md/asigurari-juridice/aviatie/>
7. "Aviation insurance." Available at https://en.wikipedia.org/wiki/Aviation_insurance
8. M. Chauvin, "Aircraft Insurance Market Size, Investment Feasibility and Industry Growth Rate Forecast 2022 – 2028." Available at https://www.researchgate.net/publication/364294406_Aircraft_Insurance_Market_Size_Investment_Feasibility_and_Industry_Growth_Rate_Forecast_2022_-_2028
9. "General Aviation Insurance Market: Pricing and Risk Update - Q1 2021." Available at <https://www.marsh.com/bw/industries/aviation-space/insights/general-aviation-insurance-market-pricing-risk-update-2021-q1.html>
10. "Global Airline Industry Market Size." Available at <https://www.globalmarketestimates.com/market-report/airline-industry-market-3733#:~:text=What%20is%20the%20projected%20market,25.5%25%20from%202022%20to%202027>
11. "Global Aviation Insurance Market Expected to Generate \$6,326.30 Million in Revenue and Rise at a CAGR of 5.20% over the Forecast." Available at <https://www.bloomberg.com/press-releases/2022-07-19/global-aviation-insurance-market-expected-to-generate-6-326-30-million-in-revenue-and-rise-at-a-cagr-of-5-20-over-the-forecast>
12. "Global Aviation Insurance Market Expected to Generate \$6,326.30 Million in Revenue and Rise at a CAGR of 5.20% over the Forecast Timeframe from 2021-2028 [208-Pages]." Available at <https://www.prnewswire.co.uk/news-releases/global-aviation-insurance-market-expected-to-generate-6-326-30-million-in-revenue-and-rise-at-a-cagr-of-5-20-over-the-forecast-timeframe-from-2021-2028-208-pages-says-research-dive-856741900.html>
13. "Propelling Growth: Global Aviation Insurance Market Anticipated to Generate a Revenue of \$6,326.30 Million and Rise at a Noteworthy CAGR 5.20% over the Analysis Timeframe from 2021 to 2028 | Exclusively Available [208-Pages] by Research Div." Available at <https://www.globenewswire.com/en/news-release/2022/03/30/2412961/0/en/Propelling-Growth-Global-Aviation-Insurance-Market-Anticipated-to-Generate-a-Revenue-of-6-326-30-Million-and-Rise-at-a-Noteworthy-CAGR-5-20-over-the-Analysis-Timeframe-from-2021-to.html>
14. Researchers Club, "Aviation Insurance: Issues and Challenges." Available at https://researchersclub.wordpress.com/2015/03/15/aviation-insurance-issues-and-challenges/#_ftn3
15. Research Dive, "Aviation Insurance Market Report." Available at <https://www.researchdive.com/8546/aviation-insurance-market#:~:text=Aviation%20insurance%20is%20a%20type,cargo%20loss%2C%20or%20personal%20injury>
16. Verified Market Research, "Global Aviation Insurance Market Size By Insurance Type, By Application, By End User Industry, By Geographic Scope And Forecast." Available at <https://www.verifiedmarketresearch.com/product/aviation-insurance-market/>