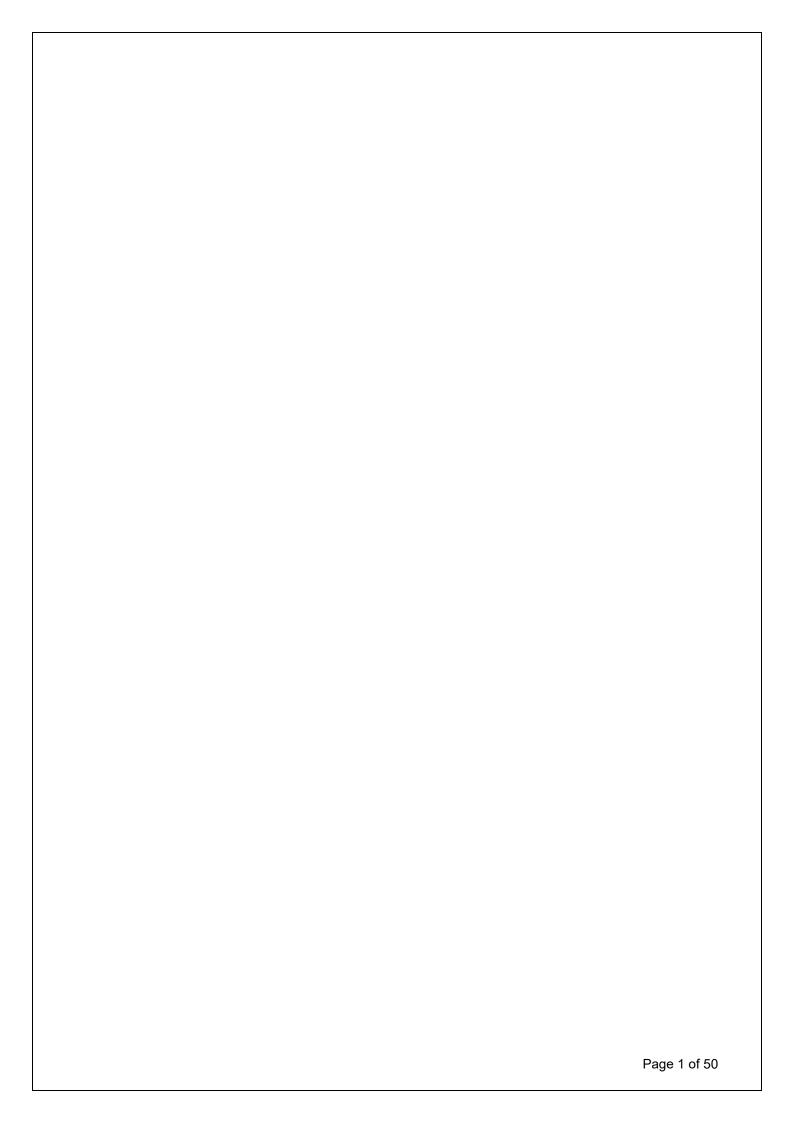


Insurance Linked Securities (ILS)

An alternate source for ever growing need of capacity for the Catastrophe protection



SUBMISSION OF REPORT

Working Group to study on Alternate Risk Transfer (ART) arrangements

16th June, 2025

Shri K. Rajaraman, Chairperson International Financial Services Centre Authority GIFT SEZ, GIFT City Gandhinagar, Gujarat - 382 355

Dear Sir,

We, the Working Group constituted in February, 2024 by the International Financial Services

Centres Authority, are pleased to submit this Report in accordance with its mandate.

Amid a growing trend of catastrophic events driven by climate change and urbanization, the global issuance of Insurance-Linked Securities (ILS) has increased significantly in recent years. However, the risk exposure of these instruments remains largely concentrated in the United States and Europe, with only a few exceptions, such as cases in Japan, New Zealand, and select World Bank-backed projects.

India, on the other hand, is highly prone to floods, cyclones, droughts, and earthquakes—making it relevant for risk transfer through cat bonds. Today, India's insurance market is expanding rapidly, with increasing regulatory focus on climate resilience and financial innovation.

In such a ripe time, IFSCA can play cricial role in making India a hub for cat bonds, especially as climate risk intensifies and the global ILS market seeks geographic diversification.

However, this will require strategic regulatory reforms, investment in risk modeling, and Page 2 of 50

strong collaboration between the government, private sector, and international partners. In our report, we have touched on these aspects to understand how IFSCA can enable ILS/Cat Bonds.

We thank you for providing us with this opportunity to put our thoughts together on such a significant matter and sincerely believe that you will find it useful.

Sincerely,

Sd/-(Mr. G Srinivasan) Chairperson Ex-CMD New India Assurance Co. Ltd.

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LIST OF ABBREVIATIONS

ART Alternate Risk Transfer BMA Bermuda Monetary Authority CAR Catastrophe-at-Risk CAT Catastrophic CEO Chief Executive Officer CIT Corporate Income Tax ESG Environmental, Social and Governance GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar WAT Value Added Tax WG Working Group WHT With Holding Tax YE Year Ended	AA	Appointed Actuary
CAR Catastrophe-at-Risk CAT Catastrophic CEO Chief Executive Officer CIT Corporate Income Tax ESG Environmental, Social and Governance GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPV Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	ART	Alternate Risk Transfer
CAT Catastrophic CEO Chief Executive Officer CIT Corporate Income Tax ESG Environmental, Social and Governance GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	BMA	Bermuda Monetary Authority
CEO Chief Executive Officer CIT Corporate Income Tax ESG Environmental, Social and Governance GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	CAR	Catastrophe-at-Risk
CIT Corporate Income Tax ESG Environmental, Social and Governance GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	CAT	Catastrophic
ESG Environmental, Social and Governance GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	CEO	Chief Executive Officer
GDP Gross Domestic Product GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	CIT	Corporate Income Tax
GIFT City Gujarat International Finance Tec-City HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	ESG	Environmental, Social and Governance
HK Hong Kong HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	GDP	Gross Domestic Product
HK\$ Hong Kong Dollar HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	GIFT City	Gujarat International Finance Tec-City
HKIA Hong Kong Insurance Authority IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	HK	Hong Kong
IBRD International Bank for Reconstruction and Development IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	HK\$	Hong Kong Dollar
IFSC International Financial Services Centre IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	HKIA	Hong Kong Insurance Authority
IFSCA International Financial Services Centres Authority ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	IBRD	International Bank for Reconstruction and Development
ILS Insurance Linked Securities ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	IFSC	International Financial Services Centre
ILW Industry Loss Warranty IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	IFSCA	International Financial Services Centres Authority
IRDAI Insurance Regulatory and Development Authority of India MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	ILS	Insurance Linked Securities
MAS Monetary Authority of Singapore NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	ILW	Industry Loss Warranty
NATCAT Natural Catastrophes PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	IRDAI	Insurance Regulatory and Development Authority of India
PCC Protected Cell Company PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	MAS	Monetary Authority of Singapore
PCS Property Claim Services RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	NATCAT	Natural Catastrophes
RBI Reserve Bank of India SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	PCC	Protected Cell Company
SACs Segregated Accounts Companies SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	PCS	Property Claim Services
SEBI Securities Exchange Board of India SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	RBI	Reserve Bank of India
SEZ Special Economic Zone SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	SACs	Segregated Accounts Companies
SG\$ Singapore Dollar SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	SEBI	Securities Exchange Board of India
SPI Special Purpose Insurer SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	SEZ	Special Economic Zone
SPV Special Purpose Vehicle TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	SG\$	Singapore Dollar
TAT Turn-around Time USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	SPI	Special Purpose Insurer
USD US Dollar VAT Value Added Tax WG Working Group WHT With Holding Tax	SPV	Special Purpose Vehicle
VAT Value Added Tax WG Working Group WHT With Holding Tax	TAT	Turn-around Time
WG Working Group WHT With Holding Tax	USD	US Dollar
WHT With Holding Tax	VAT	Value Added Tax
	WG	Working Group
YE Year Ended	WHT	With Holding Tax
	YE	Year Ended

ACKNOWLEDGMENTS

Alternate Risk Transfer (ART) contracts involve funding risk transfer often within the structures of the traditional reinsurance market. Financial reinsurance is available in various forms (finite, surplus relief, funded, etc.) and consists of various approaches to reinsurance involving a very high level of prospective or retrospective premiums relative to the quantity of risk assumed. Such contracts involving "risk finance" as opposed to "risk transfer" are also considered ART. Since it was desirable that IFSCA issues operational guidelines on the matter, this working group (WG) was constituted to study the matter so that operational guidelines in future are at par with global standards.

The WG thanks Mr. K Rajaraman, Chairperson of the IFSCA, for providing it an opportunity to work on such a fascinating subject and for passionately driving the WG to finish its task and extending necessary support.

The WG also acknowledges the continuous support and guidance from IFSCA and its officers, without which this task could not have been completed.

The members of the WG had expertise in catastrophe bonds, insurance-linked securities, reinsurance sidecars, industry loss warranties and weather derivative contracts. I sincerely appreciate and recognize the contributions of every WG Member, whose vast knowledge, expertise, and curiosity were essential in carrying out this unique endeavour. I am truly grateful for their unwavering support, thoughtful guidance, and commitment throughout the project. Their valuable feedback and encouragement played a vital role in bringing this work to completion.

(G Srinivasan) Chairperson

EXECUTIVE SUMMARY

Insurance Linked Securities (ILS) are risk management tools that allow insurers/reinsurers to raise capital by transferring natural catastrophe and other risks to the capital markets through securitization, and are often described as another form of reinsurance. Unlike conventional reinsurance coverage whereby an insurer transfers a portion of its risk to another reinsurer by way of reinsurance, ILS enables (re)insurer to transfer insurance risk to the capital markets. This can improve the supply of capital to the insurance industry, make the (re)insurance coverage more affordable and thereby enhances the insurance industry's sustainable development.

Given a rising trend of catastrophic events caused by climate change and urbanization, global issuance of ILS has grown substantially in recent years but the risk exposure of such ILS is currently mainly confined to the United States and Europe with an exception of few cases of Japan, New Zealand, and some World Bank driven projects.

The core feature of ILS business is that it is fully funded which means the assets held at all times are no less than the prospective liabilities under the reinsurance/risk transfer contract(s) by which it acquires insurance risk.

Although ILS business also involves contracts of transfer of insurance risk from few to many, the purpose and nature of ILS business is essentially the transfer of risks to the capital markets, making it very different from the conventional insurance/reinsurance business. Thus, it needs special regulatory framework

which are customised to fit the functioning of these securities.

It is recomr	nended that IF	SCA may con	sider adding a	new class of ins	surance business,
namely spe	cial purpose in	surer ("SPI"),	under its purv	iew and come o	ut with regulatory
framework of	on acquiring of	insurance risk	from another (re)insurer under	a reinsurance/risk
transfer con	tract and then i	ssuing ILS to i	nvestors to coll	ateralize the risk	acquired.

1. Introduction

Insurance is a financial arrangement where an individual or entity pays a premium to an insurer in exchange for protection against certain types of financial loss or risk. Insurance works on the principle of risk pooling, where many individuals or entities contribute to a common fund. The insurer uses this fund to cover the losses of those who experience insured events. Similarly, reinsurance means insurance of insurance i.e. one insurance company (the "ceding insurer") transferring a portion of its risk to another insurance company (the "reinsurer") in exchange for a premium. In a similar manner, when a reinsurer transfers some of the risks it has assumed from the original insurer to another reinsurer, it is called retrocession. These forms of insurance i.e. direct, reinsurance and retrocession are termed as conventional or traditional forms of insurance as they operate based on well-established principles and structures. Today, conventional insurance is the most common and widely understood form of insurance, providing essential protection and financial security against a variety of risks.

Though traditional reinsurance has been maintaining a stable supply of capacity to the market for a very long time now, it may prove to be limited in the light of modern-day challenges that face the insurance industry. Unconventional reinsurance, often referred to as alternative reinsurance, addresses specific needs and challenges in the reinsurance market that traditional methods may not fully meet.

For example, traditional reinsurance is neither equitably distributed nor is sufficient for the modern-day exposures like Natural Catastrophes (NATCAT), climate change, Cyber-attacks and Pandemics (like COVID-19). This gap in availability of capital is being addressed through alternative risk transfer (ART) solutions. For many insurers and reinsurers,

alternative capital is of paramount importance, offering answers to specific coverage needs. Moreover, in the current market conditions, marked by a decline in traditional capacity in 2022 and some recovery on the back of hardened price outlook in 2023, and strong demand for Catastrophe capacity and specialised covers like cyber, ART solutions remain of high interest for the insurers and reinsurers.

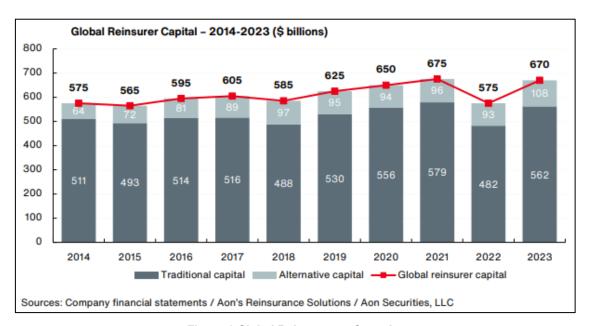


Figure 1 Global Reinsurance Capacity

Alternatives to the traditional reinsurance capacities were first seriously contemplated in the early 1990s. Hurricanes Andrew and Iniki (both in 1992), followed by the Northridge Earthquake (in 1994), led to higher reinsurance prices and questions about the ability of traditional reinsurance to continue providing sufficient capacity for the losses after catastrophes. The earliest prominent alternative arrangements go back to the mid- to late-1990s, but only in recent years has their growth reached significant levels; though after growing rapidly until 2016, it has remained steady for last few years hovering around \$90-100 billion mark.

Alternative capital gets its name from either the source of the capital or the way it is used to create reinsurance. Based on the source, alternative capital comes from financial markets: hedge funds, mutual funds, sovereign wealth funds, pensions and institutional investors. Based on utilisation, alternative capital can be deployed through seven kinds of financial instruments as noted in the chart below -

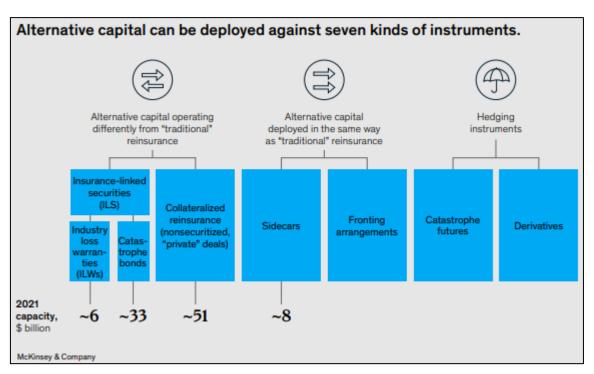


Figure 2: Alternate Capital Sources

While there are multiple ART solutions available, considering the scope of the working group, the report will focus on Insurance Linked Securities (ILS), specifically on Catastrophe bonds (CAT bonds).

2. Insurance linked securities: a key ART solution

ILS are essentially financial instruments which are sold to investors and whose value is

affected by an insured loss event. The term ILS encompasses the ILS asset class, which

consists of CAT bonds, collateralized reinsurance instruments and other forms of risk-linked

securitization.

ILS are investment assets generally thought to have little to no correlation with the wider

financial markets as their value is linked to insurance-related, non-financial risks such as

natural disasters, other insurable specialty risks and life and health insurance risks including

mortality or longevity.

As securities, some ILS (mainly CAT bonds) can be and are traded among investors and on

the secondary market.

They allow insurance and reinsurance carriers to transfer risk to the capital markets and

raise capital or capacity. They also allow insurers to release the value in their policies by

packaging them up and issuing them as asset-backed notes.

Investors for these securities are typically large institutional investors such as pension funds,

sovereign wealth funds, multi-asset investment firms and funds, endowments, as well as

some family office investors¹.

ILS helps the (re)insurer in prudent risk management by allowing²:

¹ Source: www.artemis.bm

- Access to different capacity providers in capital markets, especially for peak scenarios with scarce capacity
- Fully collateralized cover avoids counterparty default risk
- Multi-year coverage at fixed price (most reinsurance is renewable annually)
- It is also a Capital management tool
- Parametric and market loss-based transactions offer quicker access to liquidity
 post event than indemnity contracts
- Diversification of reinsurance structures

ILS as an asset class has added advantage of providing portfolio diversification due to its lack of correlation with macroeconomic conditions.

Property Claim Services (PCS), the unit of Verisk that is a provider of industry loss estimates and loss data globally, has designated the recent CrowdStrike linked global IT outage as a PCS Cyber Catastrophe Loss Event, meaning industry insured losses are expected to reach above US \$250 million³.

³ https://www.artemis.bm/news/pcs-designates-crowdstrike-as-a-cyber-catastrophe-loss-event/

2.1 Industry Loss Warranties (ILWs)

ILW is a form of reinsurance or derivative contract through which a company or organisation (often an insurer) can gain coverage based on the total insured loss experienced by the industry rather than their own losses from a specified event. The contracts have a specified limit which denotes the amount of compensation the buyer receives if the industry loss warranty is triggered.

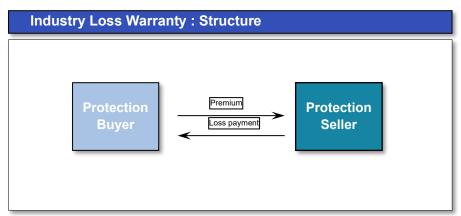


Figure 3 Industry Loss Warranty

The insurer pays a premium to the company who writes this cover for them (often a reinsurer or hedge fund) and in return could receive the limit amount if losses exceed the pre-defined industry-loss trigger amount⁴.

An example would be if an insurer has significant Catastrophe exposure in USA, it could buy an ILW exposed to all natural perils with payout of say \$100 million in the USA (or a region in USA) which would be triggered if the total industry insured loss rose above say \$10 billion.

⁴ Source: www.artemis.bm

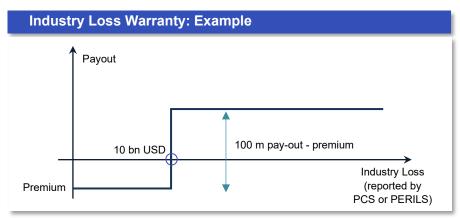


Figure 4 Industry Loss Warranty (Example)

Typically, ILWs are one-time payment and do not provide any reinstatement. There are different types of ILWs available.

- Live Cat ILW contracts are traded while an event is occurring, often while a storm approaches landfall.
- Dead Cat ILWs can be bought and traded on an event which has already happened but where the final loss amount is not yet known.
- Back-up Covers can be arranged after an event has occurred to provide protection against follow-on events which certain catastrophes can cause (such as flooding or fire following an event).

2.2 CAT Bonds

CAT bonds are an example of insurance securitization, creating risk-linked securities which transfer a specific set of risks (typically catastrophe and natural disaster risks) from an issuer or sponsor (ceding company) to capital market investors.

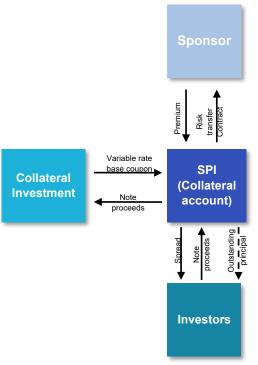


Figure 5 Catastrophe Bond Structure

In a CAT bond, a sponsor (the party with the risk to be transferred) arranges for a Special Purpose Insurer (SPI) to be created as an intermediary between the sponsor and the capital markets. That SPI acts as a reinsurer from the perspective of the sponsor, and as a bond issuer from the perspective of the capital markets.

The SPI collects the premium from the sponsor and issues bonds to the capital markets. The SPI uses proceeds from the bond sales to fully collateralize the

potential liability of the reinsurance agreement. Proceeds are held in a collateral account of which the sponsor is a beneficiary, and invested in highly rated securities (i.e. money market funds). Investment yield from the instruments in the collateral account plus the premium is transferred to investors in the form of a coupon. If no triggering event occurs the SPI liquidates the instruments in the collateral account to repay the principle on the issued bonds. If a triggering event occurs the SPI instead uses those funds to pay the sponsor's insurance claim.

In this way, the investors take on the risks of a catastrophe loss or named peril event occurring in return for attractive rates of investment return. Should a qualifying catastrophe Page 17 of 50

or named peril event occur, the investors will lose some or all of the principal they invested and the issuer (usually an insurance or reinsurance company, but sometimes a corporate or sovereign entity) will receive that money to cover their losses.

A CAT bond can be structured to provide per-occurrence cover or to provide aggregate cover, exposure to multiple events over the course of each annual risk-period.

Some CAT bond transactions work on a multiple loss approach and so are only triggered (or portions of the deals are) by second and subsequent events. CAT bonds can also be designed to provide insurance, reinsurance or retrocessional protection to the ultimate beneficiary of the coverage.

2.2.1 CAT Bonds vs other formats of capacity

Table 1: Cat Bond Vs Other Formats

Type of	Strengths	Weakness
Capacity		
Traditional	Available for nearly all risks	Counterparty risk
(Re)insurance	 Solvency and rating is effective 	 Capacity constraints
	Sustainable capacity (renewals)	 Annual risk period only
	Reinstatement available	
Parametric	Fast Liquidity	■ Basis Risk
Cover	Quick claims settlement	 Only for perils where a trigger can be
		reasonably defined
CAT Bond	Multi-year cover supporting	 Only for perils where a model is
(Indemnity	independence of reinsurance	available
Based)	cycle	 Available for NatCat risks and some
	Fully collateralised	man made risks
	Additional source of capacity	 Return period between 15 to 200
		years (i.e. EL of 0.5-7%)
		 Usually no reinstatement

2.2.2 The development of CAT Bond market globally

Over the past 20 years, the CAT bond market has grown from being a small part of the cat capacity utilised by the insurance industry, to a vital tool for managing insured catastrophe losses. While Hurricane Andrew in 1992 spurred the creation of the CAT bond market in 1997, three main events have shaped its growth since its inception: Hurricane Katrina in 2005, the financial crisis of 2008, and the post-crisis low-interest-rate period.

The first big shift in the CAT bond market followed Hurricane Katrina—the costliest natural disaster in U.S. history. From 1997 through 2005, CAT bond issuance was steady but low - by a small number of insurers and reinsurer, averaging \$1.2 billion annually. But CAT bonds gained popularity as a means of diversifying risk after the \$62 billion in insured losses from Katrina which depleted reinsurance capital and caused reinsurance prices to jump. The spike in reinsurance prices attracted significant amounts of capital to the CAT bond market. This influx of capital allowed CAT bond issuers to post consecutive years of record issuance.

CAT Bond capital issued and count of deals

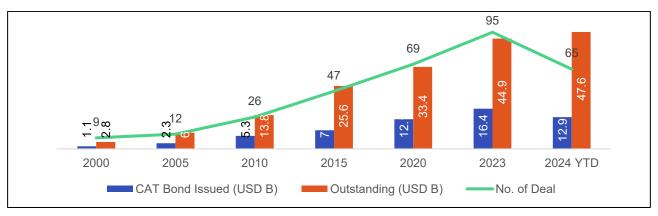


Figure 6 CAT Bond Growth (Source: Artemis deal directory)

CAT Bonds by Risk or Peril

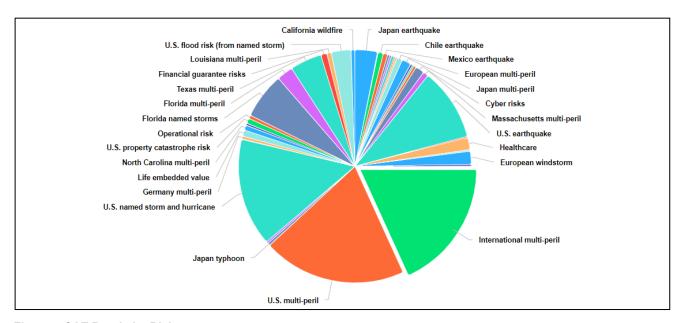


Figure 7 CAT Bonds by Risk Source: Artemis Deal directory

While majority of CAT Bonds have been issued for the large NAT CAT scenarios, however, recently it is been used for other exposure like Life insurance and also for emerging risk like Cyber. US insurers continue to be largest sponsors for CAT bonds, but it is now getting popular in other regions as well. Recently World bank issued \$150 m Cat Bond for Jamaica (Govt of Jamaica is the sponsor) for supporting their National Natural Disaster Risk Financing Policy.

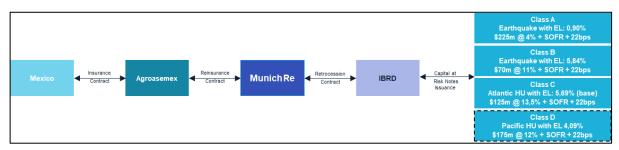
Some other examples of successful CAT Bonds being issued recently include:

1. CAT Bond issued for Government of Mexico for Parametric and Hurricane protection (\$595m), 2024

The government of Mexico sought extensive parametric earthquake and hurricane protection by issuing 4 Classes of Notes maturing in April 2028:

- 1. Class A: USD 225,000,000 (Series CAR 132) for peak EQ risk
- 2. Class B: USD 70,000,000 (Series CAR 133) for lower-layer EQ risk
- 3. Class C: USD 125,000,000 (Series CAR 134) for Atlantic hurricanes
- 4. Class D: USD 175,000,000 (Series CAR 135) for Pacific hurricanes

Structural features of Mexico CAT Bond 2024



The previous IBRD / FONDEN 2020 CAT bond of \$485 million in size, is renewed and the coverage has been expanded to \$595 million. Munich Re acted as reinsurer bridging the relation between Agroasemex (Mexican state-owned agricultural insurer) and the World Bank (IBRD). Structuring agents (Munich Re, Guy Carpenter, Aon), together with the modelling agency AIR, advised Mexico on a refined trigger structure and reporting mechanism which enables quicker pay-out.

This insurance arrangement supported by the World Bank CAT bonds compliment Mexico's other disaster risk financing instruments and are a fundamental part of the federal strategy for Financial Protection of Disaster Risks.

2. Philippines CAT Bond, 2019

The Philippines is one of the most disaster-prone countries in the world, with high exposure to tropical cyclones, earthquakes, and other natural hazards. Typhoon Yolanda (also known as Typhoon Haiyan) resulted in the loss of 6,300 lives and an estimated US\$12.9 billion in damages (equivalent to about 4.7% of the country's GDP) in 2013⁵. After "Super" Typhoon Haiyan, in 2014 the Republic of the Philippines envisaged a CAT Bond Issuance under World bank's (IBRD) Catastrophe-at-Risk (CAR) note program in 2015 to cover Nat Cat Emergency Losses after huge tropical cyclones or earthquakes.

Philippine CAT Bond Structure



Philippines CAT Bond Summary

Issuer	IBRD (CAR Program under Global Debt Issuance Facility)
Volume – Tranches	75 million - IBRD CAR 123 Class A notes \$150 million - IBRD CAR 124 Class B notes
Perils	Class A - Philippine EQ Class B - Philippine TC
Term	Nov 2019 - Nov 2022 (3 years)
Trigger Type	Parametric (Modelled Loss per Occurrence)
Reporting Agency	EQ - USGS / TC - JMA (Wind) + NASA (Rain)
Metrics	Expected Loss: EQ = 3% / TC = 3% Risk Margin (Spread): EQ = 5,5% / TC = 5,65%

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⁵ Source: World Bank (IBRD. IDA)

Trigger Features

	0%	If Earthquake Modeled Loss < PHP 11.10 billion		
Earthquake	35%	If PHP 11.10 billion ≤ Earthquake Modeled Loss < PHP 28.92 billion		
Payout Rate	70%	If PHP 28.92 billion ≤ Earthquake Modeled Loss < PHP 115.78 billion		
	100%	If PHP 115.78 billion ≤ Earthquake Modeled Loss		
	0%	If Tropical Cyclone Modeled Loss < PHP 40.64 billion		
Tropical Cyclone	35%	If PHP 40.64 billion ≤ Tropical Cyclone Modeled Loss < PHP 81.06 billion		
Payout Rate	70%	If PHP 81.06 billion ≤ Tropical Cyclone Modeled Loss < PHP 152.71 billion		
	100%	If PHP 152.71 billion ≤ Tropical Cyclone Modeled Loss		

2.3 India: Growing catastrophe exposure and capacity requirements

India is well set to be the growth engine for the world. The country's economy has been growing at a remarkable rate and is expected to maintain growth at ~7%. The focus of government on building infrastructure, developing India as a manufacturing hub and resultant prosperity and growing purchasing power will lead to higher demand for insurance products. Additionally, the push for 'Insurance for All by 2047' will increase the overall net of insurance cover and thereby increasing the need for capital and reinsurance capacities. The traditional insurance and reinsurance capital will definitely grow and should meet most demands — however an availability of an alternate capacity for local market could be beneficial for designing solutions towards traditional market but also to meet penetration gap and support central/state government objectives towards risk disaster financing and mitigation.

India and IFSCA in particular, could also provide opportunities for being a hub to issue alternate risk transfer instruments to support global needs and attract investors within IFSCA and Indian market to subscribe to global perils bonds/instruments.

Type of ART Transactions

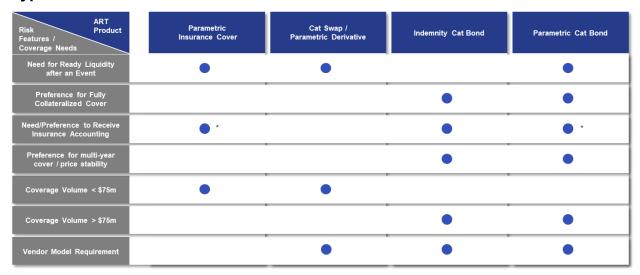


Figure 8 Type of ART Transaction

Source: Munich Re

From the above review of various options of ART solutions on various parameters, it is understood that each of the option has its strengths. India will gain by allowing these solutions to be offered in the market. Allowing issuance of CAT Bonds will also provide opportunity to cater to needs of the region and developing India as a hub for complex financial products providing alternative to Singapore or Hong Kong as a platform to issue CAT Bonds.

It is critical to support the development of the CAT Bond market with robust regulations, that allows for ease of business yet safeguards the interest of all stakeholders.

ILS issues are currently concentrated in US, Europe, and Japan while majority CAT Bonds are being floated from jurisdictions like Bermuda. Under US legislation, Rule 144A of US Securities Act allows privately placed securities to be publicly traded by institutional investors. This rule is often used to place ILS even if these are issued elsewhere.

Singapore introduced a grant scheme in 2018 i.e. almost a decade after notifying ILS laws since response to the legislations was lukewarm. However, since grants cannot be allowed to perpetuate, it is observed that Singapore is gradually phasing it out. This is having negative impact on the progress made so far as the captives are flying out and going back to jurisdictions like Bermuda. Hence, proving the point that the gains made in Singapore were largely driven by grants scheme and as the scheme is fizzling out, the captives are starting to disappear. The story of Hong Kong is also expected to be very similar to this. However, Hong Kong's ILS laws and grants scheme are relatively younger, and it may be too early to comment on the same.

A review of the some of the regulatory features from the Singapore and Hong Kong markets is presented below:

Table 2 ILS Regulations for Singapore and Hong Kong

	Singapore	Hong Kong
Regulatory	Monetary Authority of Singapore	Hong Kong Insurance Authority
Authority	(MAS)	(HKIA)
Regulatory	 MAS successfully established 	■ HKIA established a Pilot ILS
Risk /	an ILS Grant Scheme in 2018	grant scheme in 2021 until
Operational	and attracted many new	2023
Risk	sponsors/issuances	■ The grant scheme will now be
	■ The grant scheme will be	extended until YE 2025
	extended until YE 2025	■ Requirements comparable to
	■ Not likely to be Solvency II	Singapore (e.g. min. 20%
	compliant	local service providers, min
		HK\$ 250m issuance size etc.)
Taxes	■ For Australian clients: in most	■ 16.5% CIT on premiums for
	cases 3% Australian	risks ceded to Hong Kong.
	withholding tax (WHT) on	■ Tax exemption on interest
	Premiums for risks ceded to	income earned by the SPV
	Singapore plus 17% Corporate	from deposits with local
	Income Tax (CIT) that could be	financial institutions and on
	reduced to 10%, upon	local dividend income.
	application to and approval by	General tax exemption for
	the regulator and on which a tax	interest and dividends not
	credit in the amount of the	sourced in Hong Kong if
	Australian WHT might be	certain tests are met.
	granted. From 2024 global	■ WHT on premiums will
	minimum tax will apply.	generally be allowed as tax
	 Interest income earned by the 	credit. WHT on foreign
	SPV will generally be taxable.	interest or dividends will not
	Dividends received can be tax	be allowed due to tax
	free depending on certain	exemption in Hong Kong.
	conditions.	 No WHT on interest payments
		to foreign cat bond investors.

	■ 20% WHT application on	Currently, Hong Kong does
	interest payments to investors	not have a Value Added Tax
	possible (depending on the	(VAT) or Gross Sales Tax
	residency of the investor)	(GST) regime.
	■ No VAT	
Regulatory	 Approval process is considered 	■ Approval process is
Approval	to be competitive once docs are	considered simple
Process	"near to final"	Minimum ILS size ~USD 32m
	■ The initial principal amount	for ILS Grant Scheme
	issued has to be at least SG\$	
	50 million (or its equivalent in	
	another currency)	
Costs:	MAS ILS Grant Scheme funds:	HK ILS Grant Scheme funds:
Legal,	■ 50% of qualifying costs,	■ The lesser of HK\$ 12m or
Admin,	capped at SG\$ 1m	100% of upfront costs, if term
Audit	■ The grant is now scoped to only	is at least 3y
(& Listing)	cover Asia Pacific risks (this	■ the lesser of HK\$ 6m or 50%
	includes Australia and NZ)	of upfront costs, if term is 1-3
	■ 40% of costs have to be local	years
	(Singapore based)	■ 20% of upfront costs to be
	Listing on the SX if the Issuer	attributable to local service
	chooses to list bond in	providers
	Singapore for min 3years	
Some	Zenkyoren (Apr 24): USD 150m	■ Govt of Jamaica (May 24):
transactions	■ MS Insurance (Apr 24): USD	Storms: USD 150m
	100m	■ World Bank (IBRD) (Mar 23):
	■ Tokio Marine (Apr 24): USD	EQ in Chile: USD 350m
	100m	■ Peak Re (June 22): Typhoons
	■ New Zealand EQ Commission	in Japan: USD 150m
	(June 23): USD 225m	

Despite the above initiatives, even today, Bermuda, is still the overwhelming jurisdiction of choice.

Some of the reasons for emergence of Bermuda as hub of CAT Bonds / ILS market are discussed in the subsequent paragraphs of this report.

- a) Regulatory Environment: Bermuda offers a favourable regulatory framework for ILS and CAT Bonds. The Bermuda Monetary Authority (BMA) has established a robust and flexible regulatory regime that is conducive to the development of these financial instruments. This regulatory support has helped attract a significant number of insurers and reinsurers to the island.
- b) Tax Advantages: Bermuda provides attractive tax incentives for ILS issuers. The island's tax regime includes no value-added tax, no capital gains tax, and no corporate income tax on profits, which helps reduce the cost of issuing CAT Bonds and other ILS products.
- c) Reinsurance Expertise: Bermuda has a long history as a reinsurance hub, and its expertise in reinsurance has naturally extended to the CAT Bonds and ILS markets. The island has developed a deep pool of knowledge and experience in managing and pricing catastrophe risk.
- d) Innovative Market: The Bermuda market is known for its innovation in insurance and reinsurance solutions. It was one of the first to develop and adopt CAT Bonds and ILS structures, which has helped establish its reputation as a leader in these areas.
- e) Global Connectivity: Bermuda is well-connected to global financial markets, making it easier for investors and issuers to conduct transactions and manage their portfolios.

The island's strategic location between the U.S. and Europe also facilitates international business.

- f) Strong Infrastructure: Bermuda boasts a sophisticated financial infrastructure, including a skilled workforce and advanced technology platforms, which supports the complex processes involved in issuing and managing CAT Bonds and ILS.
- g) Market Demand: The increasing demand for alternative risk transfer solutions has driven growth in the ILS market. Bermuda's established presence in this sector has positioned it well to meet this demand, further reinforcing its status as a key hub.

India will need to compete with set ups like Singapore and Hong Kong to become an alternate ILS centre in Asia. The International Financial Services Centres Authority (IFSCA) will need to support development of the ILS infrastructure in India like Cat modelling agencies, SPV managers, ILS Legal specialists among others. The regulatory guidelines for ILS have to enable not only cost-efficient operation, but also faster decision making. The sponsors will need shortest lead time to market to address the protection needs of the organisation in shortest span of time.

IFSCA can set up guidelines for the ILS and support initial issuance by way of cost subsidy/ grant on the lines of Singapore and Hong Kong. These incentives are important for creating a conducive ecosystem for ILS in the initial years. Further, as a part of our recommendation, this Working Group is proposing guiding principles (refer Section 5 below) that can be adopted by the IFSCA while coming out with regulatory framework on the matter of ILS / CAT Bonds.

3. Summary

ILS are risk management tools that allow (re)insurers to raise capital by offloading insured risks to the capital markets through securitization and are often described as another form of reinsurance. Unlike conventional reinsurance coverage whereby an insurer transfers a portion of its risk to another reinsurer by way of reinsurance, an ILS enables a (re)insurer to transfer insurance risk to the capital markets. This improves the capacity of the insurance industry, makes the insurance coverage more affordable and thereby enhances the insurance industry's sustainable development. For institutional investors, ILS provide an alternative investment which is not correlated to economic conditions (but to insurance risk), thereby offering institutional investors an option to diversify their portfolios.

The operation of ILS typically involves the setting up of a dedicated special purpose vehicle ("SPI") by a(re)insurer (referred to as a "cedant"), followed by a transfer of its insurance risk to the SPI through a reinsurance/risk transfer contract. The SPI then issues financial instruments to investors to raise capital to finance the full amount of the risk assumed by it under the reinsurance/risk transfer contract. The investors receive a return in terms of coupons comprising investment yield and the spread for risk premium. At maturity, the investors would redeem the proceeds of the ILS minus any claims payments made by the SPI to the cedant triggered under the reinsurance/risk transfer contract. A common form of ILS is CAT Bonds.

Given a rising trend of catastrophic events caused by climate change and urbanization, global issuance of ILS has grown substantially in recent years, but the risk exposure of such ILS is currently mainly confined to the United States and Europe with the exception of few cases of Japan, New Zealand, and some World Bank driven projects. In 2023, the global

issuance of ILS was approximately US\$16 billion, with Bermuda being the leading jurisdiction particularly in respect of CAT Bonds. There is potential for more ILS transactions in Asia which have hitherto been relatively infrequent.

There are many factors that play a crucial role in determining the emergence of any jurisdiction as a hub of such bonds. For example, set-up turn-around time (TAT), ease and predictability of results, access to experienced service providers in the jurisdiction, clear rules and commitment to the rule of law etc.

The Indian economy, which is today the fifth-largest globally by nominal GDP, is projected to become the third-largest by 2027. India, especially GIFT IFSC, with the right mix of regulatory framework and enabling ecosystem can be an attractive hub for ILS to capture the potential business opportunities which are expected to arise in Asia in the coming years.

4. Guiding principles for creating ILS Issuance Guidelines under International Financial Services Centres Authority (IFSCA)

Considerations that IFSCA can keep in mind while coming out with its own regulatory framework on the matter –

- a) Jurisdictions like Bermuda enjoy higher credit rating (due to support of nations like the US) and since Cat Bond investors value credit rating highly, it may be explored how ratings can be improved for Bonds listed in the IFSC;
- b) It is also important to grant access to Indian (re)insurance industry for ILS/Cat Bonds to thrive. At present due to regulatory framework, Indian insurance industry is not privy to invest in ILS / CAT Bonds in global jurisdictions. In case the GIFT-IFSC enables ILS / CAT Bonds and Indian insurers are not permitted to invest in these instruments, then such restrictions may prove to be obstructionist.
- c) India itself presents a huge opportunity due to the huge protection gap which is bound to widen in the light of tall goals like Insurance for All @ 2047. It may be better to start small and then scale based on the success at the domestic front. Indian cedants may be encouraged to buy these bonds as a part of their risk management and it shall help diversify their portfolio from the current approach of relying only on traditional/conventional modes of reinsurance.
- d) Investors today are also very mindful of Environmental, Social and Governance (ESG) related disclosures of these issues and hence, a parallel focus be laid on the same to boost confidence in these bonds.

- e) Due to the lack of awareness about these complex instruments and the 'unconventional label' associated with these securities, these are not easily taken up by industry players. Efforts may be made to increase familiarity with ILS / CAT Bonds to ease acceptance. Transparency and liquidity of these securities may be worked on in this regard.
- f) Most issues of CAT Bonds have been centred around weather extremities observed in European and Western nations. This is largely due to the availability of better weather data and experience in structuring such products. For budding jurisdiction like IFSC, emerging areas like longevity and mortality coverage, cybersecurity, agriresilience etc. may be developed as niche areas.
- g) Since margins are very thin in the domain of CAT Bonds, efforts should be made to keep the things simple. Complexities in cost or compliance will not motivate investors and players to participate in these initiatives.
- h) ILS/CAT Bonds require significant development in support infrastructure like law firms, accounting firms, modelling firms, insurance managers to handle handle SPVs/PCCs/SACs, underwriters, reinsurance experts, trading platforms, issuance facilitators, asset managers, investment banks, rating agencies, specialized firms such as brokers, consultants, and managers who focus on ILS and CAT Bonds and provide expertise in structuring, placing, and managing these instruments etc. These aspects should also be explored simultaneously.

To match the competitive peer space in the field of ILS and CAT Bonds, the IFSCA should keep in mind the following general guiding principles while formulating guidelines on the matter of ILS –

4.1 Objective

Each applicant must clearly state the objective behind the launch of any CAT Bond. For example, is it being floated with the objective of providing coverage on per occurrence basis i.e. covering for exposure to a single loss event or an aggregate cover basis i.e. covering exposure to multiple loss events. Further, cat bonds can be designed to provide insurance, reinsurance, or retrocessional protection to the ultimate beneficiary of the coverage – this too needs to be clearly understood and stated.

4.2 Trigger for CAT Bonds

Catastrophe bonds utilise triggers with defined parameters which have to be met to start accumulating losses. Only when these specific conditions are met do investors begin to lose their investment. Triggers can be structured in many ways from a sliding scale of actual losses experienced by the issuer (indemnity) to a trigger which is activated when industry wide losses from an event hit a certain point (industry loss trigger) to an index of weather or disaster conditions which means actual catastrophe conditions above a certain severity trigger a loss (parametric index trigger)⁶.

4.3 Full Collateralization

The core feature of ILS business is that it is fully funded, which means the assets held at all times are no less than the prospective liabilities under the reinsurance/risk transfer

⁶ Source: www.artemis.bm

contract(s) by which it acquires insurance risk. In other words, the entire insurance risk acquired by the SPV must be fully collateralized by funds raised through the issuance of ILS, the return on which is linked to the underlying insurance risk.

4.4 Special & Separate Regulations

ILS business involves contracts of transfer of insurance risk which falls under the Insurance regulations. However, the purpose and nature of ILS business is essentially the transfer of risks to the capital markets, making it very different from the conventional insurance/reinsurance business, so it needs special & separate set of regulations.

IFSCA may add a new class of insurance business, namely special purpose insurer ("SPI"), under the regulatory purview for the purpose of acquiring insurance risk from another (re)insurer under a reinsurance/risk transfer contract and then issuing ILS to investors to collateralize the risk acquired. SPI may be a new type of authorized insurer under the IFSCA.

4.5 Requirements for Setting up Special Purpose Insurer (SPI)

- (a) IFSCA may take into account the credentials of the SPI applicant, its capital, management, governance, objectives, sponsor institution, triggers proposed and basis of the same.
- (b) the company will be fully-funded, meaning that the full liabilities of the cosmpany to the cedant must be fully backed by assets including funds raised through debt or other financing arrangements;
- (c) the company appoints an administrator as a controller to manage the SPI, including administration of its assets and any outsourced operations and notifying the IFSCA of any non-compliance. The administrator is required to meet the fit and proper requirement;

- (d) the company appoints at least two directors to ensure accountability and responsibility who should also be subject to the fit and proper requirement;
- (e) the company intends to carry on SPI only but not any other class of insurance business;
- (f) the company complies with the relevant financial, solvency, investor's sophistication and other requirements prescribed by IFSCA, SEBI and RBI.
- (g) the company pays specified fees to the IFSCA for recovering the cost of IFSCA in regulating the SPI
- (h) the application contains detailed business plan which describes the fundamental elements of the company and its proposed cat-bond transaction, and will include information on:
 - i. transaction structure (to evidence fully funded nature of the insurance business being written);
 - ii. cedant(s)/sponsor and proposed investors (to evidence sophistication of the parties);
 - iii. key service providers and directors (to evidence suitable management expertise);
 - iv. any additional relevant information

4.6 Requirements on the sale of ILS

Given the nature of the underlying risk of investing in ILS and the potential for loss of investment upon the occurrence of a predefined trigger event, ILS are not considered to be financial products suitable for ordinary retail investors. Thus, the sale of ILS to qualified institutional investors (e.g. dedicated ILS funds and hedge funds) by private placement.

- (a) prescribe the types of investors to which ILS may be sold or offered to be sold (hereafter called "qualified investors");
- (b) prohibit the sale of, or the making of an offer to sell, ILS to any person other than a qualified investor;
- (c) prohibit the sale of, or the making of any offer to sell, ILS to a qualified investor at an amount lower than a prescribed amount; and
- (d) prescribe offences for contravention of the regulatory framework.

4.7 Key requirements for ILS issuance

- ILS to be issued in GIFT City.
- ILS should have a Min Size of USD 50m.

4.8 Disclosure and other reporting requirements

To ensure that the SPI is working in the desired manner, IFSCA needs to define to what extent and what kind of periodic disclosure or reporting shall be required from the SPI. These will include specifically designed forms for preparation and presentation of financial statements clearly indicating frequency of submissions, audit requirements, authorised signatories to such submissions like Chief Executive Officer (CEO) or Financial Officer (CFO) or Appointed Actuary (AA) etc. Model templates for transactional and disclosure documents to evidence the key characteristics of the proposed transaction like Offering Circular and Indenture, Reinsurance Agreement, and the Reinsurance/Collateral Trust Agreement etc. may also be considered.

4.9 Tax Applicability

Attractive tax incentives, especially in case of Withholding Tax on Premiums for Risk Ceded, Corporate Income Tax, Interest income Earned by SPI and Dividend received by SPI may also play a crucial role in determining the cost competitiveness of Bonds floated from IFSC jurisdiction. These may also be carefully examined in light of the prevalent tax exemptions and benefits applicable to SEZ units and IFSC units.

Annexure I

Office Memorandum regarding the Constitution of Expert Committee and Terms of Reference

Office Memorandum

08-Feb-2024

Constitution of Working Group to study on Alternate Risk Transfer (ART) Arrangements

- 1. The IFSCA's Re-insurance Regulations recognize alternate risk transfer (ART) arrangements.
- 2. It is desirable that IFSCA issues operational guidelines on the matter. To make these operational guidelines at par with global standards, it is proposed to constitute a Working Group (WG) to study the matter.
- 3. The main area of study includes catastrophe bonds, insurance-linked securities and reinsurance sidecars, industry loss warranties and weather derivative contracts.
- 4. The said working group may consist of following members -

Name	Designation	Organisation	Chairperson/
			Member
Mr G. Srinivasan	Ex-CMD New	-	Chairperson
	India Assurance		
	Co. Ltd.		
Ms T L Alamelu	Principal Advisor	IFSCA	Member
	to the IFSCA		
Mr Praveen Trivedi	Executive	IFSCA	Member
	Director, HoD,		
	Dept of Insurance		
Mr Hitesh Kotak	Chief Executive	Munich Re, India	Member
	Officer for India,		
	Middle East and		
	Africa		
Mr Kelvin Lam	Vice President	Aon Securities,	Member
		Tokyo, Japan	
Mr. Daniel Ineichen	Head of ILS Fund	Schroder	Member
	Management	Investment	
	Schroder	Management	
	Secquaero,	(Switzerland) AG	
	Mr G. Srinivasan Ms T L Alamelu Mr Praveen Trivedi Mr Hitesh Kotak Mr Kelvin Lam	Mr G. Srinivasan Ex-CMD New India Assurance Co. Ltd. Ms T L Alamelu Principal Advisor to the IFSCA Mr Praveen Trivedi Executive Director, HoD, Dept of Insurance Mr Hitesh Kotak Chief Executive Officer for India, Middle East and Africa Mr Kelvin Lam Vice President Mr. Daniel Ineichen Head of ILS Fund Management Schroder	Mr G. Srinivasan Ex-CMD New India Assurance Co. Ltd. Ms T L Alamelu Principal Advisor to the IFSCA IFSCA Mr Praveen Trivedi Executive Director, HoD, Dept of Insurance Mr Hitesh Kotak Chief Executive Officer for India, Middle East and Africa Mr Kelvin Lam Vice President Aon Securities, Tokyo, Japan Mr. Daniel Ineichen Head of ILS Fund Management Investment Schroder Management Management Management

7	Mr. Matthew B.	Partner	Willkie Farr &	Member
	Stern		Gallagher LLP,	
			New York, USA	
8	Mr Narendra	Partner	KPMG, India	Member
	Ganpule			
9	Mr. Shardul	General Manager	IRDAI	Member
	Admane			
10	Mr Bhaskar	General Manager	IFSCA	Member,
	Khadakbhavi			Secretary

- 5. The Terms of Reference (ToR) for the working group may be as follows -
 - a. comparative study of ART arrangements stated in point no. 2 above and their related regulatory frameworks in other jurisdictions including but not limited to UK, USA, EU, Bermuda, Japan, Singapore, Australia etc.
 - The Working Group to submit its recommendation on draft of regulatory framework for operationalization of ART in consideration of following indicative aspects –
 - i. advise IFSCA in structuring ART along with study of the regulatory framework / process in other jurisdictions
 - ii. review of current practices prevalent in global jurisdictions,
 - iii. examine the offer of ART solutions within India and International jurisdictions,
 - iv. stipulations on risk transfer test(s) for such ARTs,
 - v. recommend draft of operational guidelines for ART transfer along with definition of terms to be used in the regulatory framework,
 - vi. designing reporting formats necessitating the minimum information and supporting documents to be submitted by the IIOs/ entities which will issue such ART contracts,
 - vii. provisions of IAIS Supervisory Standards on ART,
 - viii. accounting treatment to be given for such ART contracts,
 - ix. impact of ART contracts on actuarial aspects such as solvency calculation, actuarial evaluation etc.,
 - x. standard system(s) to be adopted for supervision of the ART proposals (for internal use),
 - xi. any other related and relevant aspect(s).

- c. The WG while making its recommendations, may note that the IFSCA is in the process of issuing regulatory framework on RBSF and RBC
- d. The WG may also examine and make recommendations on any other related and relevant matters, though not specifically mentioned in the above terms of references.
- 6. Meetings of the WG
 - a. The WG may meet at such times and places as it considers expedient,
 - The Chairperson of WG may decide the agenda for the meetings and preside over the meetings of the committee,
 - c. In the absence of the WG Chairperson, the WG members may elect one among themselves as the WG Chairperson,
 - d. The WG may invite or co-opt any other individual / expert on need basis,
- Secretarial Assistance The Department of Insurance, IFSCA may provide secretarial assistance
 to the WG members. The nodal point of contact for this purpose may be Mr Nitin Gupta, Assistant
 Manager (email g.nitin@ifsca.gov.in, Desk Phone +91 79 6180 9839)
- 8. The WG shall meet as often as required and submit its recommendations within six (6) months from date of first meeting of the WG.

CAT bond issued for Government of Mexico⁷

- **Issuer**: International Bank for Reconstruction and Development (IBRD)
- Cedent / sponsor: Government of Mexico / AGROASEMEX S.A.
- Risk modelling / calculation agents etc : AIR Worldwide
- Risks / perils covered : Mexico earthquake and Atlantic coast named storm
- **Size**: \$420m
- Trigger type: Parametric
- Ratings: NR
- Date of issue: Apr 2024

The Government of Mexico has partnered with the World Bank and the IBRD to issue this new catastrophe bond, which will be issued by the International Bank for Reconstruction and Development (IBRD) under its Capital-At-Risk notes program.

\$360 million of notes were being offered, spread across three tranches with two covering earthquake risks and one Atlantic named storm risks, all on a parametric trigger basis. Global reinsurer Munich Re is sitting in the middle to front the reinsurance market, so will enter into a retrocessional agreement with the IBRD issuer and then pass on the reinsurance to AGROASAMEX, which is the Mexican governments insurer, that in turn passed on the coverage directly to the Mexican governments Secretary of Treasury and Public Credit.

Mexico will benefit from parametric coverage against earthquakes and Atlantic hurricanes, providing an efficient and capital markets backed source of disaster insurance directly to the

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⁷ Source: www.artemis.bm

government, to help them in paying relief, reconstruction and recovery costs when major catastrophes occur.

However, no protection for Pacific named storms and hurricanes is being sought, likely due to the fact that after 2023's hurricane Otis the Pacific named storm tranche of Mexico's previous cat bond still faces a payout.

The parametric triggers are with a stepped payout trigger of 25%, 50%, 75% and 100% of principal for the earthquake risk cover, 25%, 50% and 100% for Atlantic named storm, and boxes indicating the size of payout dependent on the magnitude of an earthquake or the depth of central pressure of a hurricane.

It is location and intensity of the catastrophe event that will determine the payout, which allows the Mexican government to calibrate the parametric triggers for the coverage so that they respond based on risk and exposure.

The Atlantic named storm cover parametric trigger features a linear payout factor from 25% upwards, depending on the parameters of location and minimum central pressure.

Mexico government has secured the upsized target of \$420 million in parametric disaster insurance from its latest World Bank catastrophe bond deal :

- The Class A tranche of earthquake notes, CAR 132, were finalised at \$225 million in size, priced at 4%.
- The Class B tranche of riskier earthquake notes, CAR 133, were finalised at \$70 million in size, priced at 11%.

The Class C tranche of Atlantic named storm notes, CAR 134, were finalised at \$125
 million in size, priced at 13.5%.

The majority, or 65% of the investors were ILS funds, with asset managers or hedge funds accounting for 21%, insurers and reinsurers 7%, and pension funds also accounting for 7%. In terms of geographic investor distribution, Europe and North America accounted for 44% each, Bermuda 10%, and then Asia / Australia 2%.

Together with a \$175 million Pacific named storm tranche of notes, <u>IBRD CAR Mexico 2024</u> (<u>Pacific</u>), Mexico's overall catastrophe bond coverage has risen 23% to \$595 million over the maturing deal, which will now run across the next four years.

Annexure III

Philippines CAT Bond, 2019⁸

• Issuer: World Bank IBRD CAR 123-124

• **Cedent / sponsor**: Republic of the Philippines

• Risk modelling / calculation agents etc : AIR Worldwide

• Risks / perils covered : Philippine earthquakes & tropical cyclones

• **Size**: \$225m

Trigger type : Modelled loss

• Ratings : NR

Date of issue: Nov 2019

A catastrophe bond for the Philippines was issued by World Bank on behalf of the country, through the International Bank for Reconstruction and Development (IBRD), a \$225 million cat bond to secure both earthquake and tropical cyclone insurance coverage on a modelled loss basis.

The issuance took place under the World Bank's IBRD Capital-At-Risk Notes program, with two classes of notes set to be issued and sold to investors to collateralize underlying swap agreements that provide the risk transfer and insurance protection to the Republic of the Philippines.

Two classes of notes were issued and sold to investors to collateralize underlying swap agreements that provide the risk transfer and reinsurance protection to the Republic of the Philippines, with one class of notes devoted to coverage for each of the two perils.

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⁸ Source: www.artemis.bm

The World Bank's IBRD was the issuer, while the Treasury of the Republic of the Philippines was the beneficiary of an underlying catastrophe swap agreement between it and the Bank that facilitates the protection.

The swap agreements are fully collateralised through the sale of the two tranches of notes, providing the capacity to back the disaster risk transfer protection for the Philippines government.

The catastrophe bond will provide the Philippines government with a three year source of disaster risk transfer capacity that would pay out should an earthquake or tropical cyclone event breach the modelled loss triggers parameters during the term.

Depending on the calculated modelled loss amount following any earthquake or tropical cyclone event, the outstanding principal of either tranche may be reduced by 0%, 35%, 70%, or 100%. Hence the severity of a catastrophe will denote how large a payout comes due.

The first tranche features currently \$75 million of IBRD CAR 123 Class A notes that will be exposed to Philippine earthquake risks. This earthquake risk tranche will have an attachment probability of 5.3% and an expected loss of 3%, while the notes are to be offered to ILS investors with a risk margin (spread) of between 5% and 5.75%.

The second tranche features currently \$150 million of IBRD CAR 124 Class B notes that will be exposed to Philippine tropical cyclone risks.

This tranche has an attachment probability of 5.3% and an expected loss of 3%, with the notes offered to investors with a risk margin of between 5.2% and 6%.

Both tranches will cover the entirety of the Philippines and represent the first 144a catastrophe bonds to have exposure to the country.

The Philippines government will make a recovery under the terms of its World Bank issued catastrophe bond as super typhoon Rai (locally known as Odette) has breached the parametric trigger for wind.

This tranche of notes faced at least a 35% payout of principal, or US \$52.5 million of the \$150 million tropical cyclone exposed Class B notes, after the calculation agent AIR ran its models and the event parameters breached the trigger, activating the lowest level of payout.

The remaining \$97.5m of notes from the Philippines cat bond were not exposed to any further losses and so the issuance matured.

Snippet of Scheme from Singapore & Hong Kong

Insurance Linked Securities Grant Scheme issued by MAS, Singapore

Schemes and Initiatives | Published Date: 31 May 2019

Insurance-linked Securities Grant Scheme

Insurance-Linked Securities (ILS) are an alternative risk financing solution that allows risk carriers to transfer their peak portfolio risks to capital market investors.

In addition to our current offerings as a reinsurance and specialty insurance centre in Asia, Singapore aims to be the leading ILS hub in the region. A vibrant ILS market will help to provide additional insurance capacity through financing from the capital markets that can be catered towards all forms of risks (e.g., natural catastrophes, longevity, mortality, operational risks, cyber-risks etc.).

To grow the ILS market and ecosystem in Singapore, MAS has adopted a three-pronged approach. This includes:

- · Improving data quality and standardisation in the region to develop industry-loss based indices upon which ILS can be structured.
- Establishing and enhancing our regulatory, tax and legal infrastructure to support various ILS instruments.
- Developing Singapore's ILS ecosystem by incentivising ILS issuers to anchor their operations here through our grant scheme.

Grant Details

The Insurance Linked Securities Grant Scheme funds:

- 50% (capped at S\$1 million) of upfront catastrophe bond issuance costs.
- 70% (capped at \$\$500,000) of upfront sidecar and collateralised reinsurance issuance costs.

Insurance (Amendment) Ordinance (IO) 2020, Hong Kong

Insurance Authority of Hong Kong issued ILS regulations in 2020, through Insurance (Amendment) Ordinance (IO) 2020. The IO came into operation on 29 March 2021. It introduced the regime for authorization of special purpose insurers ("SPIs") to carry on special purpose business (SPB) in or from Hong Kong and enable the formation of SPIs issuing insurance-linked securities ("ILS") in Hong Kong.

Insurance Linked Securities Grant Scheme issued by Hong Kong



3 May 2021

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Our Ref: INS/TEC/6/93

By email only

To: Chief Executives of All Authorized Insurers

Dear Sirs,

Pilot Insurance-linked Securities Grant Scheme

The Financial Secretary announced in the 2021-22 Budget that the Government would launch a two-year Pilot Insurance-Linked Securities Grant Scheme ("the Grant Scheme") to attract insurance enterprises and organisations to issue insurance-linked securities ("ILS") in Hong Kong. As noted in the Budget, details of the ILSGS would be announced by the Insurance Authority ("IA") in due course.

We are writing to inform you about the eligibility criteria of the Grant Scheme, as set out below:

Issues	Details
Eligible applicants	Onshore and offshore issuers and sponsors, including supranational and multinational organisations, will be eligible.
Eligible issuances	Eligible issuances must satisfy the following criteria: being issued in Hong Kong; having an issuance size of at least HK\$ 250 million (or the equivalent in foreign currency); and at least 20% of upfront issuance costs being attributable to the revenue of Hong Kong-based service providers. Priority will be given to: first time issuers and sponsors; and issuances lodged with and cleared by the Central Moneymarkets Unit ("CMU") operated by the Hong Kong Monetary Authority, where feasible.
Sum of grants	The grant covers the upfront costs of an eligible ILS issuance. The sum of grant for each issuance will be up to the following limits:

	the lesser of HK\$ 12 million or 100% of total upfront costs incurred if maturity of the ILS concerned is three or more years; or the lesser of HK\$ 6 million or 50% of total upfront costs incurred if maturity of the ILS concerned is one year to less than three years.		
Eligible issuance costs	Eligible issuance costs include the following upfront costs¹: • fees to arrangers, brokers or structurers; • fees to legal advisors; • fees to risk modellers; • fees to trustees, custodians and administrators; • fees to additors and accountants; • fees to rating agencies; • CMU lodging and clearing fees; • authorization and annual fees levied by the IA; and • any other ancillary expenses reasonably incurred in issuing the ILS.		
Application process	Sponsors or arrangers may request an Application Form from the IA via ils:@ia.org.hk . They are required to submit the completed form and provide relevant supporting documents within six months after the date of issuance of the ILS. Applicants are encouraged to consult the IA at the early stage of the ILS issuance process about the application for the Grant Scheme.		

End of Report