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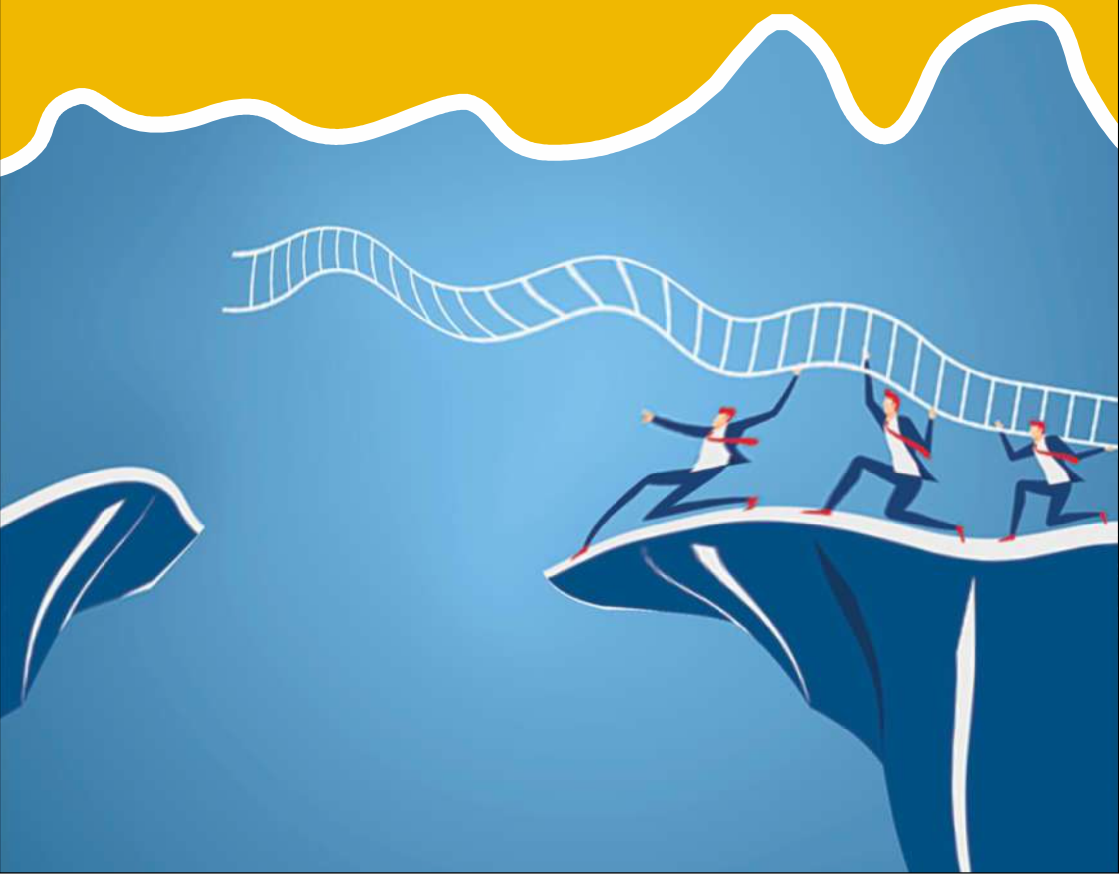
INSURANCE PROTECTION GAP IN INDIA

CHALLENGES AND OPPORTUNITIES



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FOREWORD

The insurance Industry has been growing steadily with a CAGR of 17% during the last two decades, and it has contributed a premium of $131 billion during 2021-22 despite rising uncertainties (climate change & pandemics). The industry is projected to become the 6th largest market globally by 2032. Increasing carbon emissions and global warming contributed to an increasing number of Nat Cat events and the intensity of the events. Insurance awareness has improved over the pandemic, but insurance penetration is still relatively lower in terms of adequate coverage and the variety of products available to meet the increasing risk exposures. The protection gap ranges from 63% to 95% across different lines of business. Hence, we must address this issue on utmost priority and formulate appropriate strategies to close the protection gap.

The future of the Insurance market looks very promising, and rapidly evolving digital technologies would strongly drive demand for more customized, innovative solutions and products, which would provide new opportunities for all the key stakeholders in the insurance ecosystem. In order to capitalize upon the immensely growing potential, a well-coordinated and integrated digital ecosystem needs to be strengthened and regulated well to ensure that simplified insurance products are customized to needy people with easy accessibility at an affordable price. More importantly, all the stakeholders - regulators, government, insurers, reinsurers, intermediaries, organizations, and customers, should come forward to build a resilient society to achieve the goal of a fully insured India in the years to come.

Realizing the importance of the topic, National Insurance Academy has undertaken a research project on the topic of Insurance Protection Gap with the support of Marsh India Insurance Brokers Pvt. Ltd

(Subsidiary of Marsh McLennan). As part of this project, we are happy to publish this book under the title " Insurance Protection Gap in India: Opportunities and Challenges."

I profusely thank all the authors who have contributed their chapters. I congratulate the editors of this book, Dr. Steward Doss, Ms. Jayashree Sridhar, Mr. Barun Kumar Khan, and Dr. Shalini Tiwari, for finalizing the topics and meticulous editing of the chapters. I am sure that the book's contents would immensely benefit all the stakeholders in the insurance industry.

G. Srinivasan
Director,
National Insurance Academy, Pune.

10th October 2022

1

Role of Regulation in Closing the Insurance Protection Gap

Mrs. T L Alamelu

The protection gap falls into two categories – the Risk Protection Gap, which is the difference between the economic loss and the insured loss, while the Insurance Protection Gap occurs when the Insurance purchased is much less than what is the optimum cover required to be economically beneficial. While the latter is a more restrictive, relatively smaller gap, referring to the insufficiency in insurance protection sold and bought, the former is a huge gap where the ability of the insurance mechanism to provide the requisite protection can be a matter of concern.

The Risk Protection Gap is very wide and hits the economy of the nation when a significant loss occurs. The ideal example would be a catastrophic event like an earthquake or flood. The weather-related loss events in India from 1980 to 2019 numbered 1036, amounting to losses of USD 158 billion and the insured losses were USD 9.1 billion only, which indicates a massive 94% plus Risk Protection Gap, the brunt of which is borne by the Indian Economy at the macro level the effects of which cascades down to the entire population. Here we are looking at the complete lack of insurance or protection in any form.

In the case of Insurance Protection Gap, an entity or person does have insurance but is woefully short of covering the financial loss because of the inadequacy of the sum insured, perils are not covered, or even application of certain provisions of the policy at the time of loss due to interpretation issues between insurer / insured etc. The typical examples are insuring the property for the loan amount (which is a fraction of the actual cost) given by the Bank instead of the actual cost resulting in a lower payout at the time of claim. This is starkly revealed, say, during a flood claim where the policyholder gets only a negligible amount. Many delete flood, Riot strike covers to save premium and worse off when there is a calamity. The wording in the Insurance contract and its interpretation can contribute to significant losses to the Policyholder, due to his lack of understanding. The classic case of application of occurrence limit (single or multiple) was a matter of heated debate between the insured and insurers/reinsurers when the twin towers collapsed due to the act of terrorism on 11th September 2001. The difference in monetary terms between what was claimed and what the Insurers stated was USD 3.5bn! The role of the Regulator assumes great significance as it is his primary responsibility to frame regulations which minimizes such situations, and the policyholder gets a fair, transparent deal which would mean a lesser Risk Protection Gap.

The regulator in India is also charged with the duty of developing the insurance sector. Therefore, in India, where Insurance awareness is low, where protection of Life, health and property risks are given scant attention, ensuring some form of Insurance Protection from the current negligible protection comes as the primary obligation of the Regulator. This is the first small step, and this in itself will address to a large extent the macro issue of economic resilience and financial stability of the economy at the time of an event leading to the financial crisis like the pandemic, catastrophic losses due to flood, earthquake, Terrorism etc. The next requirement of the Regulator is that heal so has to ensure that the interests of the Policyholder are “completely” protected so that he does not suffer from a financial loss even after availing insurance. Mere purchase of an insurance policy does not result in optimum financial protection.

So, what does the Regulator do to address both types of Protection Gap?

The first part of the discussion paper talks about the measures that can be taken by the Insurance Regulator to narrow the Risk Protection Gap and the second part discusses the Insurance Protection Gap.

There are four main risks which are increasing the vulnerability of the People and the Government. These have the potential not only to erode the wealth of the nation but also to push back its development significantly.

Climate Change: The first is **Climate Change** which challenges the humanity and presents a unique opportunity to the Insurance industry to create a positive impact by effectively dealing with weather-based catastrophes. Floods, storms, earthquakes and droughts have always been handled by Insurers. Insurers have numerous sophisticated tools like Cat Modelling, which are designed to quantify the financial impact of the potential natural catastrophes like earthquakes, storms and floods. Recent years have seen an increase in the number of extreme weather events, temperatures and the first rise in CO_2 emissions for four years.

There are at least four to five episodes of flooding in some parts of India in the past few years. The economic losses due to floods in multiple states were USD 10 bn in the year 2019, while in 2020, it was USD 7.5 bn, and of this, the Insured losses were only USD 0.2 bn in 2019 and USD 0.8 bn in 2020* (Source: EM-DAT; SBI Research) which is a pointer to a huge protection gap. The inadequate infrastructure in almost all the cities and towns makes the flooding even more acute, with most of the homes in low-lying areas prone to getting inundated. The lives of the underprivileged living in close clusters and the coastal areas during such times give rise to numerous challenges like loss/ damage of home and its contents, contracting water-borne diseases, loss of earning etc. Such losses affect all strata of the society leading to huge economic losses. The insurance coverage is availed by a handful of people, even among the affluent.

The Parametric solution linked to technology which identifies the residences covered has an in-built benchmark to trigger the claims and seamless transfer of claim money to the beneficiaries has to be actively considered by the Insurers, Reinsurers and Government. The backing of the Regulator, who will vet the solution to ensure fairness of coverage, pricing and benefits with all stakeholders in view, would probably make it easier for the government to be involved, as this solution would require Government support at least in its nascency. It will also mean closing the Gap, addressing a significant financial and social risk, preserving economic balance and making it resilient.

Challenges of rapid digitisation: The second huge challenge before us is the flip side of rapid digitalisation, widespread use of electronic systems for payments by all sections of the society, be it the small vegetable vendor for a few rupees or E-transfer of huge funds. Digitalisation has given society the convenience, and ease of doing every activity – studying, attending office, buying and selling almost any commodity. However, the "Dark Net" is upon us ... every sort of criminal activity which we had to contend with in the physical world, be it robbery, fraud, kidnap and ransom, is now done virtually! There are a few crimes like identity theft, selling of personal data, etc., which are unheard of in the physical world but are slowly swamping the cyber world. The consequences of a cyber-crime have also grown exponentially, and with the coming of digital/crypto currency, the losses would be monumental, running to billions of dollars

This is the least researched protection gap, and estimating the cost of cyber incidents is a challenge. The Insurance Regulators are in the process of collecting data onthe types of cyber liability policies and their limits issued by insurers, examining the current wordings which unwittingly could have covered cyber risks, and measure a financial loss due to a happening of a cyber-crime. This Probable Maximum Loss scenario is, at present, one of the toughest challenges facing the Regulator and the industry as the unknown factors are numerous, along with the fact most entities are under reporting or not reporting all the cyber incidents.

The Insurance Industry sees this as an opportunity as it means a potential premium income of about four to five billion USD. The Insurance Supervisor has a unique role to play here. While he has to encourage the industry to provide insurance solutions to this emerging unknown risk to close a potential Risk Gap, he has also to be mindful of the wordings of the contract where exposure is being limited through cyber exclusion clauses, policy limits, and prudent underwriting as this line of business could impact insurers' liabilities also in a big way. The industry cannot afford another asbestosis situation in the current scenario. The interconnectedness and the cascading effects of a cyber liability could cut across the physical geographical barriers and may have an enormous financial impact on the global economy. The Insurance Regulators need to coordinate globally to find the optimum solution to this risk.

Pension Risk Protection Gap: The loss of a household's breadwinner is not only emotionally devastating but could leave a huge financial gap which the family will find hard to overcome. A study by Swiss Re estimates the Asia – Pacific protection gap at USD 83 Trillion in 2019 and that it climbs by 4% every year. The families in India are most vulnerable to this risk and unable to financially cope with the loss of the breadwinners. The Report has pegged the total mortality protection gap for India to USD 16.5 Trillion with a protection gap of 83%, which is one of the highest in Asia. Life Insurers get an opportunity to earn a potential premium of USD 78.2 Billion in closing this gap. The report by Swiss Re further recommends that Life Insurers provide "comprehensive rather than pure life products; bundle life cover with other small premium riders such as accident, medical reimbursement and long-term care, simplify product design for better consumer understanding, sell /distribute simple bundled products through digital channels, and use agents for more complex and expensive policies with savings elements". Therefore, the Pension Risk Protection Gap is a major challenge as some estimates put the global pension savings gap at more than USD 100 trillion, about 1.5 times the world's GDP.

Health care: The protection gap in **Health care** is the fourth and remains a matter of concern despite the Government taking numerous steps to protect the vulnerable population by having schemes like Ayushman Bharat and some of the states like Tamil Nadu, Kerala, Andhra Pradesh, Maharashtra, Rajasthan, etc. having comprehensive schemes. The protection gap in the Health line of business has numerous complexities that make the bridging of this Gap extremely challenging. Some of these are discussed below.

Medical insurance has multiple stakeholders who need to work in tandem to be able to narrow the gap. There are insurers, third-party administrators, the insurance distribution network who market the policies to hospitals both Private and Government, Doctors, diagnostic centres, Pharmacies and in India, the availability of alternate forms of medical treatment like Ayurveda, Unani, Siddha, and Homeopathy. In the health ecosystem while Insurers, Third Party administrators and insurance intermediaries are regulated; while all the health service providers are not under any formal Regulation in India. This has led to a situation of the Regulator trying to ensure fair pricing for the health insurance products, which cannot be increased indiscriminately, while the service providers have no such restraint. This leads to a situation where a health policy is bought on the assumption that any situation will be fully covered, but in reality, the policy holder still has to bear some part of the expenditure. Besides, the health insurance policy usually carry deductibles / Co-Pay which is to be borne by the policyholder. This spends by the policy holder is the “out-of-pocket expenditure”, which indicates the protection gap in Health Insurance. In India, Out-of-pocket expenses account for about 62.6% of total health expenditure - one of the highest in the world. This Out-of-pocket expense in relation to the income of an individual in a country like India can lead to disastrous proportions not only for the individual but bring about a severe strain on the economy. The recent Covid Pandemic not only pushed the economy to the brink but also saw millions who had risen above the poverty line to status quo ante. The Increasing medical inflation which is not regulated could mean a potential widening of the protection gap impacting the financial well-being of the country!

Reducing the four Risk Protection Gaps, viz. Climate, Cyber, Pensions and Health need active participation by both the Regulator and the

Government to implement appropriate measures to protect the wealth created and prevent its erosion but preserve the economic well-being of millions of people.

The Risk Protection Gap can be minimised by the Regulator to an extent through specific Regulations, supervising their compliance and the active participation of Insurance Industry. This paper brings out some examples of how the Regulator has tried to achieve this in various lines of business and some possible solutions to address this Gap.

The Motor Vehicle Third Party Insurance is mandatory in India, but only around 79% of four-wheelers are covered for third-party insurance. Of these, only 65% are covered for damage to the vehicles. In case of two-wheelers the coverage is abysmal as only about 35% are taking third party insurance of which only 39% only cover own damage. It is to be noted that two wheelers account for most deaths – about 44%. The amended Motor Vehicle Act imposes fines and penalties for not insuring the mandatory Third-Party insurance. The onus of this compliance falls on the State Transport Commissions who have been very liberal when it comes to compliance of Insurance. The Supreme Court has stepped in by making it compulsory to take a 5 year Third-party Insurance for new two & three wheelers and Third-party cover for new cars sold from 1st September 2018. The Regulator in 2019 started a campaign of sending SMSs on behalf of state transport department to uninsured vehicles to nudge them to take insurance. It was run as a pilot for Telangana, which was fairly successful. The scheme was then opened to other states but response has been lukewarm. Again, a partnership between State transport department, Insurers, the insurance distribution channels with the Regulator being the coordinating agency could see this social legislation being converted to complete compliance by vehicle owners. This will result in closing the protection gap of a very different kind with the protection of third parties who are victims of accidents resulting in their death or injuries. The Third-party Insurance will ensure monetary compensation and give the families economic protection specially if the victim is the sole breadwinner. Considering the fact that every year three to five percent of GDP is invested in road accidents coupled with the fact that most of the victims are from the younger age group it is imperative that hundred percent compliance with the mandatory third party should be achieved in the next couple of years.

The switch over from "Insured Estimated Value"(IEV) to "Insured Declared Value" (IDV) in motor insurance is another small step in closing what was a gap in Motor vehicles own damage insurance. The Insured Estimated Value was the basis of ensuring a motor vehicle prior to 2002 which was not very well defined even in the Motor Tariff. The IEV represented the Sum Insured of the Vehicle and logically the value payable during a total loss of the vehicle such as unrepairable damage of vehicle or when stolen; but the amount offered for settlement by Insurers was invariably much lesser. The interpretation and application of IEV was a cause of numerous grievances and much amongst policyholders.

The Regulator revised the Motor Tariff in 2002 where the Insured Estimated Value was replaced with the Insured Declared Value. The IDV represents the SUM INSURED of the vehicle and was fixed on the basis of the manufacturer's listed selling price of the brand and model as the vehicle proposed for insurance at the commencement of insurance /renewal and adjusted for depreciation. The insurer has to pay this amount without any conditions in case of total loss of the vehicle unless of course he is able to establish there was a fraud while fixing the IDV by the policyholder. This concept is a very small step taken by the Regulator to close the protection gap as it played out in motor own damage insurance.

The waiver of underinsurance either partially or completely by the Regulator while designing Standard Products in property insurance has helped to reduce the insurance risk protection gap for the retail policyholders, the MSME sector and small industries.

A significant step taken by the Regulator in the recent years has been to develop standard products to cover households, small business (Bharat Griha Raksha, Bharat Laghu Udyam Suraksha, Bharat Sookhsma Udyam

Suraksha), Arogya Sanjeevani (covers health insurance), Saral Bima Yojana covers Life Insurance while Saral pension is an annuity product all of which are in simple language, free from technical terms and jargons.

Besides standardizing the wordings, the Regulator has simplified definitions of certain commonly used terms specially in health insurance like the "Pre-Existing Disease", and introduced the "moratorium" period which protects policyholders who have been insuring for a long time. The moratorium clause prohibits insurers from denying any claim if policyholder is having a continuous health insurance policy for eight years or more except if he can prove fraud perpetrated by the insured.

The Regulator has expanded distribution channels beyond the traditional channels like Agents, Development Officers / marketing officers of the Insurers to include in Corporate Agents, Banks, Brokers, Micro Insurance Agents, Common Service Centers (CSCs) & Digital channels, which enabled customers to have more access to insurance.

The Regulator has been nudging the Insurance Industry to increase the insurance penetration and take steps to close the protection Gap. However, there is a yawning gap which needs to be closed which will require concerted efforts from Insurers and Insurance Intermediaries. The general public is still skeptic about Insurers and the fine print in insurance policies. The industry needs to build the "Trust" factor by making policies very simple and claim payments quick. The use of Technology to carry out these functions will quicken the process and ensure saturation of Insurance sooner than later.

The Insurance Protection Gap is only a small part of the Risk Protection Gap. The Economy and the Nation will require the safety net of the optimum risk protection. This will happen through close coordination of Government, Insurance Companies, Regulators and certain organizations like Meteorological department, National Disaster Management Authority. The basic Infrastructure like transportation, communication, sewage, water and electric systems needs to be continually maintained which could effectively handle the routine monsoon rains or cyclones etc. The rich data of past losses, the extent of claims paid, issues of coverage need continual review by the Regulator to urge Insurers frame insurance policies respond to the current situation.

The Insurance Industry is at that interesting stage where more new players are joining the existing ones, Fintech and Insurtech have yet to optimally explore the potential of the market, the Government has been continually emphasizing the use of Insurance as a tool of Risk Management and the Regulator is driving the industry to provide adequate insurance to every Indian. A well rounded and positive approach by all the players will be required to close the protection gap.

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2

Effective Management of Disaster Risks in Bridging the Insurance Protection Gap

Mr. Tapan Singhel

International Federation of Red Cross and Red Crescent Societies (IFRC) defines a disaster as; **"Disasters are serious disruptions to the functioning of a community that exceeds its capacity to cope using its resources. Disasters can be caused by natural, man-made, and technological hazards, as well as various factors that influence the exposure and vulnerability of a community."**

With growing technological advancement, population increase, and the ever-looming threat of climate change, the frequency of disasters will only increase. Events that were few and far between have become a regular occurrence. Combined with the rapid pace of infrastructure growth, the damage caused by these disasters is often catastrophic. This article discusses the various risk mitigation measures for managing disaster risks in India. In India, most people do not opt to insure their hard-earned assets because of low awareness, less penetration, or sheer apathy. Some people opt for Insurance to protect their assets against disaster risks, while others have the financial capability to absorb such a loss and rebuild. But a significant section of society cannot afford Insurance, and here is where disasters hit the hardest.

The forthcoming sections cover the following aspects of disaster risk management,

I. Exposure and Impact of Natural disasters In India
II. Current Programs or measures taken by the Government through Insurance and other intervention
III. Measures that can be taken for effective disaster Risk using the collaboration model
IV. Pandemic pools – handling a once in 100 years of disaster

I. Exposure and Impact of Natural disasters In India:

India has seen an increase and is growing increasingly susceptible to a large number of disasters. India is amongst the most disaster-prone countries in the world, with close to 60% of the landmass exposed to moderate to high-intensity earthquakes, more than 10% of its land exposed to flood and river erosion, about 7.5 thousand km long coastline exposed to the cyclone, storm surges, and tsunamis, and about 70% of its cultivable land exposed to drought and mountains at risk of landslide and avalanches.

Disasters can have an impact that is not just financial but can affect generations of people and their standard of living, hygiene, and many other factors. From a purely economic standpoint, there is an indirect impact as well, such as business interruption, loss of employment and output, decreased tax revenues, impaired institutional capacities, and a rise in poverty levels.

Let's have a look at some weather patterns over the years,

- Monsoon rainfall has declined by 6% in the last 50 years
- Annual Rainfall has decreased significantly in 7 states – Uttar Pradesh, Bihar, West Bengal, Himachal Pradesh, Arunachal Pradesh, Meghalaya, and Nagaland
- In the past three years, the number of rain gauges with extremely heavy Rainfall has increased from 261 in 2017 to 554 in 2019
- The average temperature has risen by 0.7 degrees C between 1901 to 2018
- The frequency of cyclones has increased (3 in 2017 to 8 in 2019) and has impacted the lives in both the eastern (Bay of Bengal) and western coast (Arabian Sea)
- Between 1970 to 2019, weather, climate, and water hazards accounted for 50% of all disasters, 45% of all reported deaths, and 74% of all reported economic losses (Source: WMO)
- According to the World Economic Forum, 7348 disaster events

have claimed the lives of 1.23 million people in the last 20 years (2000 – 2019). China reported 577 disasters, the highest followed by the US – 467 disasters,and India was at 3rd position with 321 disasters.

- Due to global warming and climate change, the frequency of floods and cyclones has increased in the last couple of years. In the previous three years, there have been two events of hurricanes and floods, cyclones Gulab, Tauktae, Yaas, and Amphane, and floods almost in major states in the country. Before that, India experienced a major flood in 2014 – 2015, and before that, in 2005 – 2006.
- When we compare the number of events that occurred before 2010 and post-2010 in India, we see a sharp increase in the frequency of events and the extent of the impact it has had on the human population.

There are various factors that have led to such a scenario; some of the major ones being:

- Deforestation
- Soil Erosion
- Rapid Urbanisation
- Pollution
- Global warming

To indicate the increased frequency of Natural Calamities in India, let's look at the List of some of the Flood events as an example since 2000. While we can see the Mumbai Floods as one of the major flood events in the first decade of this millennium, from 2013 onwards, we see an increase in the frequency and impact of flood events in India.

- Heavy rains across Maharashtra, including large areas of Mumbai, which received 944 mm alone on July 26, 2005, killed atleast 1,094 people. The day is still remembered as when Mumbai came to a standstill, as the city faced the worst ever rain. Mumbai

International Airport remained closed for 30 hours, and Mumbai-Pune Expressway was closed for 24 hours, with public property loss estimated at ₹550 crores (US$69 million).

- June 2013 North Indian floods: Heavy rain due to a cloud burst caused severe floods and landslides in the North Indian states, mainly Uttarakhand and the nearby states. More than 5,700 people were presumed dead.
- June 2015 Gujarat flood : Heavy rain in June 2015 resulted in a widespread flood in the Saurashtra region of Gujarat, resulting in more than 70 deaths. Gir Forest National Park's wildlife and the adjoining areas were affected.
- July 2015 Gujarat flood : Heavy rain in July 2015 resulted in a widespread surge in north Gujarat, resulting in more than 70 deaths.
- 2015 South Indian floods : Heavy rain in Nov-Dec 2015 resulted in flooding of the Adyar and Cooum rivers in Chennai, Tamil Nadu, resulting in financial loss and human lives.
- 2016 Assam floods Heavy rains in July–August resulted in floods affecting 1.8 million people and flooding the Kaziranga National Park, killing around 200 wild animals.
- 2017 Gujarat flood : Following heavy rain in July 2017, Gujarat was affected by a severe flood resulting in more than 200 deaths.
- August 2018 Kerala Flood : Following high rain in late August 2018 and heavy Monsoon rainfall from August 8, 2018, severe flooding affected Kerala resulting in over 445 deaths.
- August 2019 Indian floods, including 2019 Kerala floods: Following high rain in late July and early August 2019, a series of floods affected over nine states in India. The states of Kerala, Madhya Pradesh, Karnataka, Maharashtra, and Gujarat were the most severely affected.
- 2020 Hyderabad floods, flash flood in Hyderabad in October 2020 that caused 98 fatalities
- The 2021 Uttarakhand flood, an avalanche from Ronti peak, caused a flood in Uttarakhand in February 2021.
- 2021 Maharashtra floods, widespread flooding in Mahad and

Chiplun on July 22, 2021,was caused by exceptionally heavy Rainfall.
- 2022 Assam floods, heavy flooding in Assam State occurred in May 2022.

These are just some examples. There are many more events, like cyclones, earthquakes, tsunamis, etc. Such events and many like these have created havoc in the lives of people who have very few resources to turn to for help and rehabilitation, and they rely entirely on the Government for bailing them out. The impact on people due to such an increased number of events includes -

- Physical injuries/fatalities
- Damages to infrastructure
- Food and water shortage
- Large-scale spread of diseases
- Loss of natural habitat
- Loss of revenue sources / economic impact
- Impact on Emotional well-being

Post such major events, people tend to face a lot of trouble in recovering their lost livelihood, and in such a situation, having appropriate Insurance solutions go a long way in restoring their confidence and empowering them to rise on their feet again at a much faster pace and yet the protection gap is very apparent in all the catastrophic events that have impacted India. Below is a small summary of this. The table shows, Economic vs. Insured losses for some of the critical events in the past.

Table 1. Economic & Insured losses of Major NatCat Events

S. No	Year	Types of Disaster	Region	Economic losses	Insured Losses
1	2005	Flood	Maharashtra/Mumbai	INR 15,000 Cr.	INR 2,200 Cr.
2	2006	Flood	Gujarat/ Surat	INR 5,000 Cr.	INR 500 Cr.
3	2014	Cyclone HudHud	AP/ Odisha/ Chhattisgarh/ Madhya Pradesh/Uttar Pradesh	INR 50,000 Cr.	INR 2,000 Cr.
4	2014	Flood	Uttarakhand INR 3,000 Cr.	INR 1,200 Cr.	
5	2014	Flood	Jammu & Kashmir	INR 40,000 Cr.	INR 2,500 Cr.
6	2015	Flood	Tamil Nadu/Chennai	INR 20,000 Cr.	INR 3,000 Cr.
7	2016	Cyclone	Tamil Nadu/ Aandhra Pradesh/ Pudduchery/Vardah	INR 7,000 Cr.	INR 700 Cr.
8	2018	Flood	Kerala	INR 25,000 Cr.	INR 2,000 Cr.
9	2019	India Flood	NA	INR 70,000 Cr.	INR 2,000 Cr.
10	2019	Cyclone-Fani	Odisha / West Bengal Andhra Pradesh	INR 10,000 Cr.	INR 650 Cr.
11	2020	Cyclone-Amphan	West Bengal / Odisha / Bangladesh	INR 60,000 Cr.	INR 1,500 Cr.
12	2021	Cyclone-Tauktae	West Coast / Kerala / Lakshwadeep / Maharashtra / Goa / Karnataka	INR 15,000 Cr.	INR 1,500 Cr.
13	2021	Cyclone-Yaas	West Bengal / Odisha	INR 20,000 Cr.	INR 700 Cr.

(Source: Munich Re, NatCat Service)

There is an upward trend in the number of natural catastrophes hitting India and, subsequently, the economic and human losses. The protection gap is glaring, and governments, civil society, and the private sector must collaborate to find innovative ways to address this gap in the most efficient, effective, and sustainable manner.

Disasters throughout history have significantly impacted the numbers, health status, and lifestyle of people. It induces deaths, severe injuries, requiring extensive treatments, increased risk of infectious diseases, damage to the health facilities, damage to the water systems, food shortage, and population movements. In an event like cyclone and flood, there is an accumulation of water that leads to water-borne diseases and mosquito-borne diseases. Public health consequences of natural disasters are complex. Disasters directly impact the people's health, resulting in physical trauma, acute infection, and emotional trauma. In addition, disasters may increase the morbidity and mortality associated with chronic and infectious diseases through the impact on the health care system.

II. Current Programs or measures are taken by the Government through Insurance and other intervention

The Government of India has launched several social protection schemes leveraging insurance solutions like PMFBY and RWBCIS to cover crop loss due to natural calamities and weather uncertainties. Similarly, schemes like Pradhan Mantri Suraksha Bima Yojana (PMSBY) and PM Jeevan Jyoti BimaYojna (PMJJY) are also significant steps to provide personal accident and life cover at a very affordable premium. The Government offers all citizens a basic health risk cover through the Aarogya Scheme. In addition to this, various states have implemented health schemes as well.

A similar model can offer protection for the low-income group in case of natural disasters for loss of livelihood and assets. For such a scheme, the claims payment to the insured must happen swiftly enough to help the beneficiary in real time of need. The traditional model of survey and assessment of losses to make claims payment may not be best suited for such vast geographies and populations. The country needs quick and transparent mechanisms that address the critical requirements of the impacted people efficiently and expeditiously.

The Indian Government has also improved upon the capacity for more accurate weather prediction. While this helps in mitigating loss of life and livestock by relocating them to safer places, based on such predictions, it is, however, nearly impossible to move permanent assets from the area. The Government has allocated the budget to NDMA (National Disaster Management Authority)/ NDRF (National Disaster Response Force) at the central level and to SDMA (State Disaster Management Authorities)/ SDRF (State Disaster Response Fund) at the State level to mitigate the losses and rehabilitation post natural calamity event. Most supports are post-facto.

The Government has been working and supporting the rescue and rehabilitation program for the vulnerable segment; however, it is a big drain on the state exchequer. The large events like Kerala Flood, Chennai Flood, or Cyclone Fani clearly show that one cannot depend on raising funds ex-post; ex-ante solution allows the Government to access funds and act swiftly in the region impacted needed to save precious lives and livelihoods.The Government has started looking at alternate models like parametric insurance solutions, which they have experimented with in the state of Nagaland. We will see this in more detail further.

III. Measures that can be taken for effective disaster Risk using the collaboration model

Let us break this into,

- what can be done at a government policy level, especially for protecting economically vulnerable members of society and,
- what citizens who can afford Insurance must do to protect their hard-earned assets and their lives.

a) Possible Government policy level measures through collaborative models:

We can look for Parametric Insurance (Index-Based Solution) to bridge the protection gap. Insurance companies can complement the Government in providing sustainable products for the same. The government can also utilise part of the disaster management fund for suitable protection like Parametric Insurance (Index Based Solutions). An index-based policy will compensate for the damage caused by the natural catastrophe, where the triggers of the Natural Catastrophe event be predefined. Once the claim is triggered, it can be directly transferred to the beneficiary's Jan Dhan Account linked to the home/property insurance policy if the Government so desires. The Government can also look to finance this Parametric Insurance through a cess while collecting property tax.

Natural catastrophe events heavily impact the Low-income groups. They have a small asset base, but the disruption in their livelihood multiplies the threat to these households. Their dependence on government support for both protection and rehabilitation is very high. It is necessary to develop a strong protection net for this segment, helping mitigate its economic challenges. The Government has implemented various social security schemes like Ayushman Bharat, PMFBY, PMJJBY, etc., meeting the insurance needs of people and improving public access to good healthcare. Many such welfare programsare designed through a partnership with the Insurance and Reinsurance providers. The Government can use a similar structure to protect the low-income group against natural disasters. Let's look at Parametric Insurance a little more closely.

A parametric insurance product can be defined as an insurance contract where the ultimate payment or contract settlement is determined by weather or geological observation or index, such as average Temperature or Rainfall over a given period or the intensity of an earthquake or windstorm. Parametric insurance payouts are not based on individual loss adjustments but are determined according to the measurement of event intensities highly correlated to the 'to be expected losses.'To structure a Parametric product, we would need access to data related to various Nat Cat perils like Rainfall, Cyclone, Earthquake & Flood. NDMA can help with event data, NRSC (National Remote Sensing Centre) can share data on flooding, IMD can share data on Rainfall, cyclones, etc. Insurers can develop appropriate disaster risk models using the historical data of various perils to design customised disaster insurance covers.The post-claims support from central agencies is also necessary to match data and verify triggers to avoid disputes/ confusion at the time of operation of peril/ claim.

In case of a natural catastrophe, the low-income group needs immediate support to tide over the loss of livelihood. They need help for protection and rehabilitation, and we cannot design a scheme that takes a long time and requires a significant on-ground presence to deliver claims. For victims of natural disasters, the speed at which payment is made can have a considerable impact.

We need a quick and transparent model that addresses the critical requirements of the people impacted in a transparent and trustful manner. It is essential to forge a public-private partnership (PPP) to build a strong and sustainable disaster management program. These programmes cannot be entirely dependent on the Government's initiatives only. The insurance and reinsurance industry globally has been one of the most vital partners of the Government. The collaboration between the Government and the (Re)insurance industry has delivered disaster mitigation and disaster financing solutions, allowing for a faster recovery and rehabilitation process.

Apart from the parametric solutions, we should seriously contemplate the idea of making Insurance compulsory for people who can afford it. One prominent example is Turkey, which mandates all homeowners to have DASK insurance, also known as "compulsory earthquake insurance."Such initiatives ensure that people have some basic cover during their time of need, which helps them bounce back with relative ease after an unfortunate event.

Disaster Risk financing:

Historically, disaster recovery financing in emerging economies such as India has been primarily reactive, mainly consisting of diverting funds from domestic budgets and financing from international aid. Such an "ex-post" approach is inefficient, insufficient, and not ideally targeted. Moreover, the "ex-post"system never incentivises measures required for proactive risk reduction, such as better urban planning, a high standard of construction, etc. Rather than spending a substantial chunk of funds on "aid" or diverting funds, there is a strong case for allocating funds towards premiums for catastrophe events, which can act as part of the premium contribution towards public insurance schemes like a parametric scheme. Structure and nitty-gritty can be worked out on a state level to ensure local dynamics of weather and disaster-prone areas are prioritised accordingly.

Recently reinsurers and insurers have joined hands working as a joint group along with NIDM (National Institute of disaster management) to prepare a possible solution for disaster risk financing as well. The working group also proposed the pilot for a few states to start and streamline the program for a pan-India requirement. This will require greater flexibility in the existing Disaster Relief Financing Framework. The group suggested that enabling provisions can be made to allow states to implement risk transfer in accordance with their respective exposures. The group recommended flexibility to states to utilise up to 5% of the annual SDRF (State Disaster Relief Fund) allocations for purchasing insurance protection for public assets and emergency funding. In fact, a 5% allocation for insurance purchase has already been proposed earlier in the joint NDMA (National Disaster Management Authority) -IRDAI report prepared for the National Platform on Disaster Risk reduction in 2013. The Government may consider operationalising this proposal.

The protection gap is glaring, and governments, civil society, and the private sector must collaborate to find innovative ways to address this gap in the most efficient, effective, and sustainable manner. Chapter 8 of the 15th Finance commission report talks about "Disaster risk management". In this chapter, the Commission talked about Alternative sources of Funding and included Insurance as one of the mechanisms, along with Reconstruction Bonds, Contingent Credit Facility, Crowd Finding, and CSR. In fact, there has been a push for change in the recent MHA (ministry of home affairs) guidelines issued to SDMF to include "insurance" as one of the tools for Disaster risk financing along with the other tools mentioned in the guideline. The Jan 2022 MHA issued SDMF Guidelines and said that State Govt could mobilise funds through Reconstruction bonds, CSR, Contingent credit, etc. However, Insurance was not mentioned. This causes states to rule out opting for Insurance as one of the tools. The Finance Commission report mentions the following:

Insurance and Risk Pooling: "there is a strong case for introducing insurance and risk pooling in niche areas, where essential conditions for market-based risk management instruments exist." It is further added, "The use of insurance instruments is most efficient for natural perils, which occur infrequently but have high potential impact. The cost of response and recovery for frequently occurring natural hazards (occurring once every five to ten years, depending on the peril) is best absorbed by public funds such as the SDRF and NDRF. However, severe natural hazards occurring every ten to hundred years are best suited to be covered by an insurance policy or catastrophe bond."

Global Examples of Disaster Risk Financing

1. Southeast Asian Disaster Risk Insurance Facility (SEADRIF):

The first financial solution developed by SEADRIF is a regional catastrophe risk pool, especially for flood risks developed by and for Cambodia, Lao PDR, and Myanmar. In December 2018, Cambodia, Indonesia, Lao PDR, Myanmar, Singapore, and Japan agreed to establish SEADRIF as a trust to own a general insurance company in Singapore. The product uses river gauge station data, modelled gauge station data, and remote sensing data to determine the food print of the event. The parametric trigger is assessed using the aggregate value of people affected over a 21-day window.

SEADRIF is also planning to provide financial solutions to middle-income ASEAN countries, such as Indonesia, which are now developing or enhancing insurance arrangements for public assets.

2. Caribbean Catastrophe Risk Insurance Facility (CCRIF):

CCRIF SPC is a segregated portfolio company owned, operated, and registered in the Caribbean. It is the world's first regional fund utilising parametric Insurance, giving member governments the unique opportunity to purchase earthquake, hurricane, and excess rainfall catastrophe coverage with the lowest-possible pricing. It limits the financial impact of catastrophic events on the Caribbean and Central American governments by quickly providing short-term liquidity when a parametric insurance policy is triggered. The Facility functions as a mutual insurance company controlled by the region's Governments and key donor partners, with countries agreeing to pool their emergency reserve funds. The pool retains some of the risks transferred by the participating countries by allocating its own reserves and transferring some of the risks to more cost-effective reinsurance markets. Insured countries pay an annual premium commensurate with the type of coverage they choose and their specific risk exposure, and the parametric insurance products are priced for each country based on their individual profile. The Facility also has two micro insurance products: the Livelihood Protection Policy for low-income individuals such as small farmers and daily laborers; and a loan portfolio cover designed for lending institutions such as credit unions and insurance companies. Since its establishment in 2007, more than 244 million USD (as of Aug 2020) payout has been triggered to the benefit of CCRIF member countries. Large reinsurers like Munich Re have been supporting this program since its inception.

3. African Risk Capacity (ARC):

The African Risk Capacity is an African continental risk pool that offers weather insurance to participating Governments through its financial affiliate, the African Risk Capacity Insurance Company Limited. It is a specialised agency of the African Union and is supported by the Swiss Agency for Development and Cooperation Agency, the Department for International Development of the United Kingdom of Great Britain and Northern Ireland, the United States Agency for International Development, the Rockefeller Foundation, the World Food Programme, the International Fund for Agricultural Development and the German Federal Ministry for Economic Cooperation and Development. The pool considers the drought risk profile of the group rather than that of each country. This joint weather-indexed risk pooling mechanism applies lessons from national drought insurance mechanisms in Ethiopia and Malawi and regional disaster risk pooling mechanisms from the Caribbean. The index-based Insurance offers maximum coverage of $30 million per country per season for drought events with a frequency of one in five years or less. It triggered following the 2014 Sahel drought: payout made to Mauritania, Niger, and Senegal enabled these countries to respond to the drought and reach more than 1.2 million beneficiaries early in the crisis. So far, eight nations have taken out Insurance, and four – Senegal, Mauritania, Niger, and Malawi – have received payout totalling $34 million. The encouraging results so far have led to proposals for this Insurance to be extended.

b) Every Individual must have insurance protection, especially if they can afford it:

It is sad to see people invest their hard-earned money to acquire valuable assets like vehicles, homes, and electronics, but they often leave them uncovered. In India, even when having third-party Insurance is mandatory, close to 75% of two-wheelers are uninsured; according to the Insurance Information Bureau of India's annual report, close to 57% of the vehicles on the road are uninsured as of March 2019.

Similarly, people invest their life savings to build their homes, but when it comes to protecting their prized assets, people become highly reluctant. Hardly 3%-5% of houses are insured in India; this sorry picture needs to change. Everyone should have home insurance, even if they live in a rented property, as home insurance helps one cover the contents inside their home. If a person owns a home, they should take a cover for the structure as well as the content of the house. The USA and many European countries have a robust home insurance market, which plays a pivotal role in effectively managing disasters. To bring more Indians under home insurance, IRDA issued guidelines in January 2021 for insurers to offer a standard house insurance policy, 'Bharat Griha Raksha.' The idea is to provide an affordable product with simplified wording to increase the acceptability and penetration of home insurance. In the wake of ever-increasing NAT CAT events in the country, Indians should proactively embrace and accept home insurance as an essential tool to safeguard one of their most important assets. One must always keep in mind that the insurance cost is significantly low compared to the loss that may arise later.

Lastly, but most importantly, anyone who can afford it should buy comprehensive health insurance and a PA cover. We often tend to miss out on the 'human' element in a catastrophe; calamities like floods and inundation bring endemics, pandemics, and prolonged illness, which can be combated with good health insurance. It is essential to understand that health insurance plays an instrumental role in increasing the life expectancy of citizens of a country since it enables them to avail quality medical treatment with immense ease. Additionally, I strongly suggest that every employer buy Insurance for their employees. It is the moral responsibility of employers to take care of their employees. This will help further expand the horizons of Insurance in India and enable employers to strengthen the financial security of their much-valued employees.

Insurance is a great tool to strengthen the country's economic fabric and helps build a more resilient nation that can absorb financial losses and bounce back with ease. I am of the opinion that citizens who can afford

Insurance should also view it as a social cause since, in principle, Insurance is about many sharing the loss of a few. Even when you are fortunate enough not to face any eventuality, you can see Insurance as your contribution to the greater good of society. This approach of contributing for the good of others will go a long way in increasing insurance acceptance.

The Government could also chip in by encouraging home and health insurance with requisite relief on the GST front. This can be reduced to the bare minimum of 5%. Additionally, there can be tax relief on home insurance premiums as well as it is available for health insurance premiums today. This will encourage people to come under the protective umbrella of Insurance and thus mitigate disasters more effectively and, of course, take the load off the Government when it comes to disaster relief across the board.

IV. Pandemic pools: handling a once in 100 years disaster:

When one thinks of disaster, one usually thinks of a natural catastrophe caused due to vagaries of nature. Seldom does one think about outbreaks or epidemics? The world has witnessed several disease outbreaks and epidemics in the past years, such as the Spanish Flu, H1N1, SARS, Ebola, etc., among which some have taken the form of pandemics. This has affected both human life and economies across the globe. The COVID-19 pandemic was a disaster of epic proportions. It impacted everybody in one way or the other with lockdowns, several causalities, and of course, the economy came to a standstill for a bit and substantially slowed down. Many lost their jobs, and businesses shut down as well. The regulator set up a working group to explore the possibility of a pandemic pool post a lot of push from my side and other industry leaders. I would here cover some important data pointing to the need of a pool and a summarised possible solution for India as recommended by the committee.

IMPACT OF COVID-19 IN INDIA

- All business houses suffered substantial financial setbacks, which will take years to recover.
- The Medium, Small, and Micro Enterprises that could not handle the financial burden were forced to make tough decisions like furloughing staff or closing their business altogether. As per CMIE Reports, the Unemployment rate saw a steep rise from 8.75% in March to 23.52% in April 2020. The spike in the unemployment rate was unprecedented in April and May. With businesses shuttered, causing a massive wave of reverse migration, the country's overall unemployment rate rose as high as 27.11% for the week that ended May 7, 2020.
- The daily wage earners, often migrants, lost their livelihood due to lockdown, which led to limited access to basic facilities like food, accommodation, and health.
- The economy faced a substantial financial loss, and various international agencies revised our growth rates. Though Government introduced provisions for extended moratoriums on loans, it wasn't enough. The Government also announced a significant financial stimulus equivalent to 10% of India's GDP, amounting to Rs. 20 lakh Crore. However, this one-time stimulus was ad-hoc and took a huge toll on the Government's coffers. The possibility of the occurrence of such future pandemics can no longer be ruled out. Roling out one-time ex gratia packages is not a viable long-term solution to such events.
- Though business groups suffered huge losses due to business interruption, they could not get insurance claims as most of their policies excluded pandemic cover.
- One-time stimulus by the Government equivalent to such a huge proportion of GDP is not economically viable each time a pandemic occurs.

Thus arises the need for a systematically designed, well-structured pandemic pool.

Need for a Pandemic Pool

There are estimates that current business interruption premiums in some markets would need to be collected for over 100 years to cover two months of COVID-19-related business interruption costs. The lockdown measures, by which national or local authorities have restricted the movement of (parts of the) population, have augmented the risk of business interruption. On the demand side, the inability to insure has significantly wider economic and social consequences, such as businesses and individuals being unable to obtain loans and mortgages. For example, small businesses may find it harder to get cover ("availability) or only at an extreme price ("affordability"). Moreover, business interruption insurance for small businesses is not common in the Indian market. Thus, in the circumstances such as the current COVID-19 crisis, there are at least in the future likely to be market failures in respect of the provision of private Insurance for both supply and demand, necessitating the need for a far larger public-private partnership approach. The pandemic risk exhibits accumulation potential across several lines of insurance business, for example, life and health, travel, liability, credit, etc.

Moreover, the asset side of an insurer's balance sheet is also affected by the adverse market conditions caused by the economic impact of the response to a pandemic. According to the Insurance industry, these factors constrain the supply of Insurance. Therefore, it is evident that cover for pandemic risk cannot be provided solely by private commercial insurance and reinsurance systems. There must be a pool in conjunction with the Government to tide over the possibility of such future events. The industry and the Government have to join forces for the betterment of society once again.

Proposed Solution for India

Pandemic risk is a systemic risk that is too large to be taken on by the public and private insurance sector or governments alone. Hence, it is appropriate to explore the option of risk sharing by the public and private insurers with the Government of India in the form of an Indian Pandemic Risk Pool. The mechanism of sharing this risk would provide a low-cost product. Countries across the globe are in the process of forming similar pools. Further, the accessibility of such products needs to be improved. Often covers that are made optionally available are not taken by the intended beneficiaries. However, the cover can be available as an independent product or as an add-on to current products. The terrorism pool is an excellent example of such a collaboration.

Summary:

Insurance coverage is necessary today because of the threat of looming climate changes and the increased frequency of NAT CAT events. Insurance plays an instrumental role in bolstering the economic liberty of any country, and India is no exception. A robust insurance market is the cornerstone of a nation's progress, prosperity, and resilience. The Indian insurance industry will not rest until insurance penetration reaches the country's last mile. We, as an industry, are more than willing to contribute to making India one of the world's biggest economies.

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3

Challenges & Suggestions - A Way Forward in Bridging the Life Insurance Protection Gap

Mr. Anand Pejawar

As per Swiss Re Report(2022), worldwide number of older persons aged 60 years or over, is expected to more than double by 2050 and to more than triple by 2100, rising from 962 million globally in 2017 to 2.1 billion in 2050 and 3.1 billion in 2100. In Latin America and Asia, the number of people aged 65 or over will nearly double. Naturally, populations will shrink over time, and insurance becomes more expensive. Beyond this, the mortality protection gap is estimated at USD 114 trillion globally. In emerging markets, insurance and savings still meet less than 10% of the population's protection needs.

As a backdrop, it is alarming to see the gap in protection even in developed countries. For example, 5 in 6 US homeowners do not have flood insurance, in Mexico, 69% of vehicles are without motor insurance, in France, 50% of agricultural crop production are not insured, and in Europe, since 1970, only 4% of earthquake losses of over USD 130 billion were insured, in China the Out-of-pocket expenditure for healthcare hits USD 193 billion which is about three times of insurance coverage and in Southeast Asia about 97% of typhoon losses in the Philippines are not insured.

Talking about India, the life insurance business in India has been in play since 1818. However, from the penetration point of view, we are quite lagging. As of FY20, approximately only 18% of the population would have opted for a pure term plan. Current protection penetration (basis sum assured) is at approximately 12%, and the protection gap is estimated to grow at 4% per annum.

As per Goldman Sachs Report March 2019, only 1 out of 40 people (2.5%) who can afford it buy a policy every year. According to a report by Benori

Knowledge, the Indian life insurance industry grew at a compounded annual growth rate (CAGR) of 11%, in terms of total premium and 17%, in terms of new business premium, during the five-year period of 2017-22. The study also found that India's life insurance penetration rate rose to 3.2% in December 2021 from 2.8% in December 2019, almost on par with the global average of 3.3%. At 3.2 % penetration, India ranks 10th in the global life insurance market and ahead of China (at 2.4%) and the UK (at 3%).

While the industry has recorded consistent growth, the penetration levels are still very low. To understand that despite the growth, why is the penetration considered low, let us understand how Insurance penetration is arrived at - *Penetration is calculated as the ratio of insurance premium to the GDP in a given year.* Considering that the Indian economy has undergone a large structural shift in the last decade. As per State Bank of India (SBI) research report, India is currently the 5th largest economy in the world and moving forward; the country is expected to cross Germany in 2027 and Japan by 2029 at the current rate of growth. Taking these numbers into account, insurance penetration is relatively very low.

Barriers that have led to low insurance penetration

To boost insurance penetration, the most important factor is to understand the challenges or barriers for Indians not opting to buy insurance. The reasons behind this are multifold like:

- India, as a country, is averse to talking about death and illness. Hence, planning for such eventualities is not normally part of their financial planning / priorities
- Larger part of the population finds insurance a difficult subject to fathom
- They rely on one-on-one interactions with intermediaries to simplify the concept to them
- Some also feel that placing their money in insurance is not beneficial if they do not raise claims – more so in Pure Risk or Term

policies. Many consider investment in Pure Risk plans as dead investments.

- A large part of the population believes in alternate forms of investment like in gold, Real Estate, Mutual Funds, etc.
- A huge part of India also does not have ready access to insurance-related information on products
- People often have a mistaken impression that ***'it won't happen to me.'***
- Insurance products are still not accessible to many; while this is changing, given the increased focus on wide presence by insurers through online and offline mediums, but there is still some ground to cover

Impact of pandemic and change driven by external factors

Protection, safety, security have become more significant than ever before. Their importance has been underlined in the recent past, propelled by the pandemic. People take multiple measures to ensure their and their family's / loved one's well-being, but unfortunate circumstances often come unannounced. The uncertainty of life was brought to the fore by the recent pandemic and nudged people to consider scenarios beyond their control. It highlighted the benefits of being financially prepared and encouraged people to consider insurance as an option to take care of and mitigate the risk. Challenges cannot be foreseen, but with better financial foresight and planning, people can be better prepared to financially face and mitigate these challenges.

The difference between the *economic value* and the *Insurance value* is now becoming more and more evident and is also understood by the general population. On the non-life / General insurance side of the segment, natural calamities like the Chennai floods, J & K floods, the three major cyclones last year, which majorly impacted the eastern & western coasts of India, have shown us the large gap that exists between the economic value and the insured value which also puts the consumer and public at a huge financial risk.

In the past few years, India has witnessed many disruptions in many ways, which has resulted in a massive impact on customer expectations and behaviour. The outbreak of the pandemic leads to a shift from a physical to a digital environment, across the globe. Work environments, models, infrastructures, processes, people's consumption patterns underwent a drastic shift overnight. The biggest impact is also seen in terms of customer behaviour. The biggest change that was boosted by the pandemic was the technological disruption, and that brought about a stark difference in customer behaviour and expectations.

- Customers, irrespective of geography, now expect access to more information that fits into a screen on their palms
- They expect access to quality service from across domains at the click of a button
- Customers are aware of their "needs" and information about what they "want."
- Service expectations are largely inspired by e-commerce companies, including speed and service
- They expect more transparency and engagement across touchpoints
- A sense of more savings and insecurity w.r.t regular income has propelled
- Customers are also relooking at the overall insurance coverage to be increased for a 'may' day

The insurance sector has undergone considerable evolution over the past decades. It has witnessed extensive changes in terms of the operating environment, product development, distribution network, customer behaviour and expectations and technology. The overall outlook has shifted from a traditional approach to a bespoke need based one. This is driven by a range of dynamic external influences ranging from technology, socioeconomic factors, government policies, and more. These macro trends are poised to continue, changing the insurance industry along with it.

Today the market is a lot more competitive than it was ten years ago; we are operating in a viable environment with technology becoming a big driver of growth. This evolution has been enabled by a few drivers.

Product design & development: Today, insurers are focusing on customised, personalised insurance solutions that meet the requirements of better-informed customers.

Distribution network: Apart from equipping the traditional partners with knowledge, technology and analytics, insurers are looking at newer innovative channels. They are investing heavily in Insurtech to increase reach and improve cost efficiency.

The entire value chain of insurance buying and selling has undergone a drastic change. Insurers today are more focused on "listening to what the customers want" and meet their "needs" accordingly, rather than just introducing or pushing standard products.

Technology: All the above stated drivers are supported by technology. The technology disruption has made most processes a lot easier; it helps in gaining a better understanding of the customer. In a nutshell, it has changed the complete environment of how businesses operated in the past.

Yet another trend distinctly evident is that while growth in demand for insurance has been observed from newer consumers and emerging markets. Consumption patterns are becoming more evolved and diverse. The need for "insurance solutions" has gained prominence amongst all age groups and gender. There has been increased focus on geography as well.

There are two distinct customer segments that are derived from this geographical spread; and they are, rural and urban, or typically as we call it, the divide between - Bharat & India. The significant differences

between rural and urban markets are defined by the kind of products, ticket size, accessibility, reach and distribution intermediary.
The urban customer that, comprised of a significant share of the current penetrated market size, now understands their risks and is aware that they need to scale up their insurance coverage, opt for more comprehensive plans and ensure adequate coverage to cover his and his family's financial & economic risks. The customer knows of the options available to him in the market and where to source his information from. The urban customer also has access to various platforms / touchpoints to buy insurance solutions. Depending on the customers' location, the number of insurers present is also providing him with greater choices to pick from.

A lot of people from rural and semi-urban areas are also now coming under the insurance umbrella for the first time. The rural populace usually opts for simpler and small ticket products compared to the urban markets.

Insurance penetration has been driven significantly over the last few years by the regulator and insurers.

The regulatory environment has been conducive to closing the protection gap in the country. There have been attractive opportunities, robust policy support and increased investments in the sector. Some of them are:

Standardisation of insurance - This has been beneficial for people to understand and initiate their insurance journey. Standard products play a pivotal role in driving trust and confidence amongst first-time buyers who lack the understanding of how significant insurance is as a safety blanket against unforeseen circumstances that can cause a financial setback. With the regulator, insurers and distributors working in unison to popularise standardised products, the visibility of these products has increased, thus enhancing the penetration of Life insurance in India. However, for consumers, it is important to bear in mind that while standardised products are a simple way to start covering your and your family's risks, but they must understand other products also. Any customer's insurance requirements change throughout their life cycle, hence products besides the standard products are crucial at various stages of life.

Promoting to launch new products - The insurance regulatory has permitted the 'use and file' procedure for most of life insurance products, thereby allowing insurers to launch new products without prior approval of the regulator.

Regulatory Sandbox - IRDAI has created a 'Regulatory Sandbox' to use creative ideas to increase the pace of innovation. This will give an impetus to start-ups that are coming up with an innovative solutions.

These, amongst many other initiatives, will help in furthering the goal of insurance penetration and reaching out to more and more people.

Insurers are also doing their bit to drive insurance. To further elucidate the various ways to drive insurance awareness are:

Simplify Insurance - Both information on insurance and insurance solutions need to be simplified, keeping the urban and rural populace in mind

Invest in awareness drives - Awareness drives through comprehensible channels/formats for the diverse demography of the country are essential. We must talk to them through digital engagement channels, information portals, “nukkadnataks”, or simple conversations, but we must talk to them in the language they understand

Train and increase the reach of Intermediaries - Since there is a high dependency and trust on intermediaries for information & service on insurance, they must be trained to bridge this gap. A strong network of intermediaries in semi-urban and rural areas will also go a long way in spreading awareness and penetration.

Use of technology to increase reach - While it is easier to reach the urban customer through various channels of communication, technology much be leveraged and simplified to reach the rural customer as well.

The other keyways of driving awareness are:

Simpler, innovative, and customised products - the new-age customer is evolved and informed, thus insurers must meet their needs with innovative products that are easy to understand that suit every person's risk requirement

Standardisation - they are easy to understand products with all basic covers included, this helps people avoid the complexities and purchase them. Once they are insured, they can add on or port as necessary during various stages of their life cycle.

Accessibility - In this digital age, customers have access to most things at the click of a button, and they expect the same out of their financial products as well. They will pay heed to something that is easily accessible over something that is difficult to acquire

There are some key innovations that came up in last year and a half that will provide the necessary boost to Insurance penetration in the country.

The key change was **the 'Digital-first' business model being adopted by the traditional insurance industry.** Remote working, digitised processes, omni-channel & round the clock customer service, a smart workforce, usage of AI/ machine learning are some changes we witnessed.

To highlight the key innovations that will also encourage insurance penetration are:

Digital verticals, which will focus on digital products and digital distribution in not just urban but semi-rural and rural segments too. This is essential in current times to address the physical distancing but will also reduce the distribution cost by the brick-and-mortar model. It will provide easy access to a larger and more diverse population.

Innovations in underwriting and products like a need-based product with teleconsultation facility, tele-underwriting for pre-policy health check-ups and so on.

Insurance buying at an early age is a positive trend that has evolved. 'Gen Z' are considered the next set of policyholders by insurance companies, a generation who takes life one step at a time and practices living in the moment. Their life goals are different than their parents as they seek quick results and better returns. The generation is changing the way industries function across sectors. Unlike the previous generations, Gen Z is more aware of their expenditure and, moreover, their savings. Financial planning is an aspect that the majority of the Gen Z practice, and insurance is a significant part of it.

Today insurers are diversifying and providing additional value to customers in terms of better products and services. Increased number of ***Riders*** enhanced and easier processes to ensure that customers understand the product and do not drop out anywhere through the value chain.

Emerging trends in the insurance industry

To service new consumers' specific insurance needs, the industry must ensure ease of access and understanding the product. ***There is an urgent need to include insurance as a part of every consumer's financial***

portfolio. This will simplify the customer's journey and experience. With digital disruption paving the way for all financial products, given the complexity involved with insurance as a subject, customers' trust can be won through a face-to-face partner / advisor conversation. Hence insurers need to place their distribution network and partners accordingly. The current regulatory environment is also conducive towards greater emphasis on both urban and rural consumer outreach and ease of business with complete transparency and trust. This is encouraging insurance companies also rigorously spreading insurance awareness in rural areas, and that is impacting the buying patterns.

This growing demand and the adoption of insurance have paved the way for insurers to innovate their existing products, customise products, and have a renewed focus on distribution. With the prevalence of the internet and smartphones, there is a huge potential in the insurance sector for digital advancement and the use of user-friendly technologies to provide a seamless experience for these customers. This is an opportunity for the insurance industry to secure as many people across India as possible. Insurers will also continue to strengthen their underwriting practices and use newer models.

To summarise, it can be said that more awareness and accessibility means more penetration leading to a more secure India. It is estimated that the industry will grow at a CAGR of 9% until 2027, and hopefully, the protection gap will narrow down considerably in near future.

Let's take on a mission of insuring every Indian.

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4

Concerns & Challenges in Health Insurance Protection Gap and Way Forward

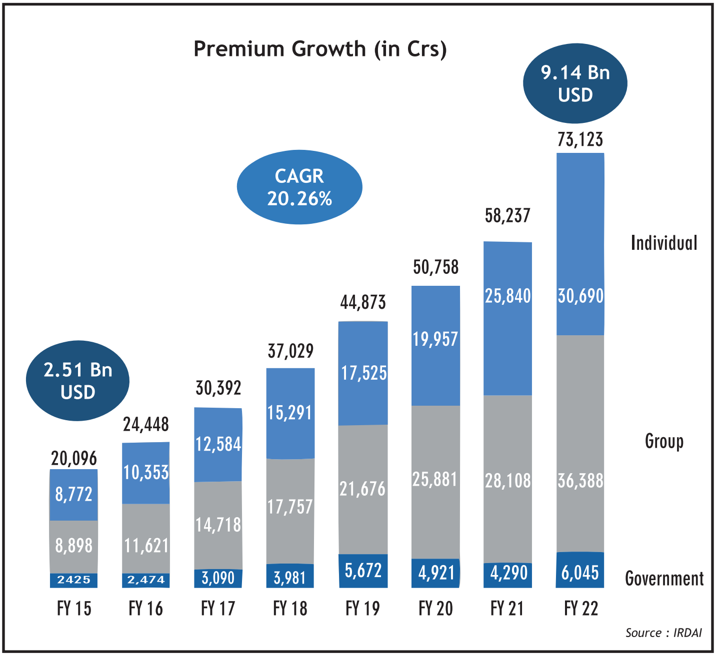
Dr. S. Prakash

1. Health Insurance in India

1.1 Introduction:

Despite being the fastest growing sector in the Non-Life Insurance Industry, Indian Health Insurance is still at its embryonic stage. The Health Insurance premium has grown at a CAGR of 20.26 % over the last seven years. Considering the increasing growth of this sector, the health Insurance premiums may attain the range of USD 40 Bn (CAGR 20.26%) to 74.56 Bn (CAGR 30%) by the year FY 2030, as given in the figure below.

Figure 1 - Premium Growth

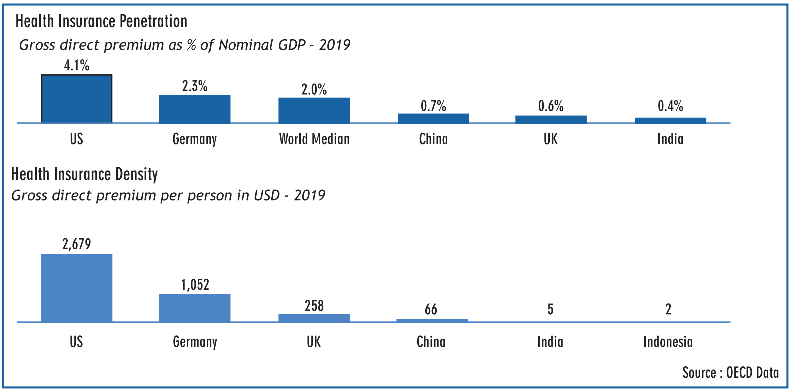


Although the market is witnessing robust growth, the retail market penetration is only a meagre 3.5 % of the population. The reasons for such a low penetration are a point of serious concern.

1.2 Health Insurance India Compared to Other Countries:

Although our projection is seemingly impressive, the performance displayed by many countries is vastly incomparable and inaccessible in the immediate vicinity.

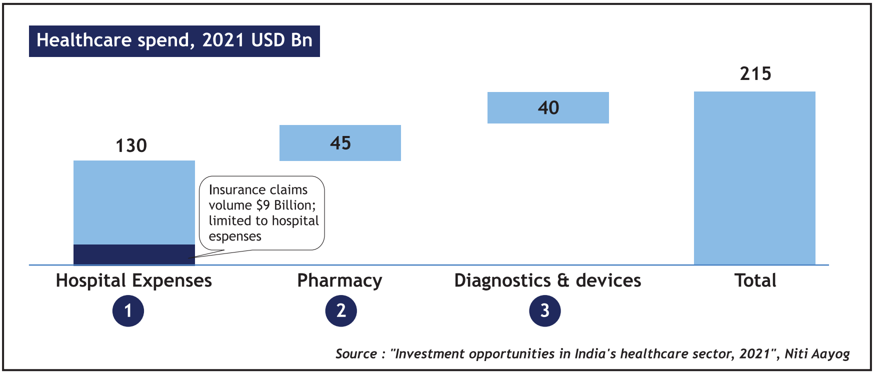
Figure 2 - Health Insurance Penetration



1.3 Need for Increasing the Health Insurance Penetration:

Indian Health care expenditure during the year 2021 was hovering around 130 USD Bn out of which Health Insurance Claims covered only 7 % (USD 9 Bn out of USD 130 Bn) of the total Hospital Expenses evidencing the immediate need for increasing the Health Insurance Penetration. The existing Indian Health care setup, in the absence of well-knit Government health care facilities, compels people to approach private healthcare service providers, resulting in heavy out-of-pocket expenditure for their hospitalisation requirements. This will severely influence the Individual Indian Households' economy, which could be more appropriately addressed by choosing suitable Health Insurance covers. But availing of Health Insurance Cover is not easy for the common insuring public and has many barriers and gaps.

Figure 3 - Healthcare Spend



2. Challenges in Health Insurance Protection Gap:

2.1 Illiteracy:

Around 22.30 % of the Indian population is still illiterate as of 2021.The illiteracy issue is not limited to rural areas but is also prevalent in urban sections. Serious efforts are needed to improve awareness of Health Insurance's benefits as a financial protection tool.

2.2 Affordability:

India is estimated to harbour nearly 364 million people constituting 28 % of the Indian population below the poverty line (BPL). This section of the social struggles even to meet the necessities such as food, shelter, clothing, and sanitation. Spending money on health insurance is certainly a luxury and not a priority for this section of the population.

2.3 Misconceptions:

Some of the most common misconceptions about health insurance that act as impediments

- Healthy people don't need it
- Confidence in the capacity to bear medical expenses instead of paying the premium
- Looking at Investment in health insurance in terms of monetary report
- Money is being wasted on Insurance when there is no claim
- Health Insurance Promises attractively during pre-sale but not hand-holding in Crisis
- Lack of understanding of the concept of Insurance, i.e., "Pooling resources from fortunate many and supporting unfortunate few."

2.4 Mis-selling and Complex Policy terms:

Health Insurance Policies are not easily understandable in significant instances for an ordinary person. While selling Health Insurance, the benefits are often exaggerated, and the details of the riders, sub-limits, exclusions and other conditions are not fully disclosed to the potential buyer. This leads to disappointment in the event of a claim and distrust in Health Insurance.

2.5 Inadequate Hospital Infrastructure in Rural Areas:

About two-thirds of the Indian population lives in villages, but the healthcare facilities in these areas have yet to catch up to the level of progress in urban areas. In the absence of a proper Medical facility in the vicinity, purchasing a Health Insurance Policy would not be valuable for those without access to quality healthcare services.

2.6 Shortage of healthcare professionals:

Health care workers play an essential role in spreading awareness about proper health care and possibly the importance of health insurance. If adequate health care professionals are available to assure medical facilities, they can also contribute to educating patients and Health Insurance needs.

As per the Economic Survey 2019-20, India had a Doctor to patient ratio of 1:1456. Whereas, as per World Health Organization, 1:1000 is the ideal ratio. The rippling effect of the low number of healthcare professionals was evident during the COVID-19 pandemic. The lack of adequate healthcare professionals acts as an impediment to spreading awareness of Health Insurance.

2.7 Hospital Costs / Lack of Standardization:

Accurate cost measurement in health care is challenging, primarily because of the complexity of healthcare delivery. Treatment involves different resources such as personnel, equipment, space, and supplies, each with additional capabilities and costs. The patient's path through the system depends on their medical condition.

The lack of standardisation stems to some extent from the artisanal nature of medical practice-physicians in the same organisational unit performing the same medical process often use different procedures, drugs, devices, tests, and equipment. In operational terms, health care today can be termed as a highly customised job shop largely not under the control of a Patient or an Insurer.

2.8 Distribution Costs:

Health insurance's high sales/distribution cost substantially increases the product's price. The existing distribution strategies and the retail nature of the product must be changed to reduce the cost of customer acquisition.

2.9 Operational Costs:

The total health insurance costs are further increased from actuarially determined prices due to high operational/administrative costs. Insurers will have to improve their operational efficiency to drive down premiums.

2.10 Medical inflation:

`While higher prices have impacted new customers, existing customers have seen a double-whammy of age-related increases as well as price hikes

2.11 Fraud & Leakage:

There have been increasing incidences of defrauding the Insurers by unethical means and deriving unjustifiable benefits through exaggerated or inflated claims or medical bills. They are devising innovative methods and tactics, including impersonation, favouritism, nepotism, etc., forming part of the fraud and causing a significant dent in the performance of the Insurer, consequently influencing the product pricing too.

3. The way forward - Narrowing the Health Insurance Protection Gap:

3.1 Health Insurance Growth Potential:

3.1.1 India's Demography:

India's population continues to grow steadily as the years progress. Most notably, our population is growing faster than China's and is expected to surpass China as the World's most populous country around 2024.

India's population remains young, with over one-fourth aged under 15 years and less than an eighth over 60. As per National Family Health Survey-5 (2019-21), the under 15 years population stands at 27%, while the over 60 years remains at 12%.A large segment of our population (52%) is below 30 years.

The life expectancy of the Indian population is also on the Increasing Trend. According to the United Nations, life expectancy has increased from 57.66 Years in 1990 to 70.19 years in 2022.

India stands out as a poor and unequal country, with the top 1% of the population holding more than one-fifth of the total national income in 2021 and the bottom half just 13%, according to a report titled 'World Inequality Report 2022'. The report pointed out that the average national income of the Indian adult population is ₹2,04,200. While the bottom 50% earns ₹53,610, the top 10% earns more than 20 times (₹1,166,520).

All the above facts establish how much scope there is to progress in Health Insurance.

3.1.2 India's missing middle:

NITI Aayog reports that at least 30% of the population, or 40 crore individuals are devoid of any health protection through Insurance. This cohort has come to be known as the 'Missing Middle', referring to the non-poor segments of the population who remain prone to catastrophic, and even impoverishing health expenditure, despite having the financial capacity to pay for contributory health insurance. The missing middle is spread across all expenditure quintiles in urban and rural areas.

The 'missing middle' constitutes the self-employed in rural areas and a broad array of occupations in urban areas. This group remains vulnerable to health shocks which can lead to catastrophic health spending. This missing middle section of the population is the potential area where Health Insurance penetration is needed.

3.2 Increasing Awareness:

3.2.1 Awareness Post COVID 19:

The COVID-19 pandemic has made us all realise the importance of health and health insurance plans. It has made us come to terms with how crucial it is to remain financially shielded in Crisis, especially medical emergencies, which always come without a warning sign and can result in financial strain and emotional grief.

3.2.2 Government playing a dominant role in increasing awareness:

Government has a crucial role in increasing consumer awareness and building consumer confidence in health insurance through information, education, and communication campaigns, especially in hospitals. The Government's promotion of health insurance will establish greater acceptance and faith in the product. It can use several channels to build consumer awareness of health insurance and specific products, including hospitals, health facilities, and volunteers.The Government could mandate health insurance coverage just like a provident fund or pension for private employees, which will go a long way to address the gap.

3.2.3 Nailing the Myth about Health Insurance:

The misconceptions about health insurance are unfounded because

- It is quite challenging to predict an emergency
- The magnitude of financial impact cannot be accurately ascertained
- Health Insurance is an investment and certainly Guards the needy during uncertainties
- Health Insurance continuously extends protection to the extent that it is seriously considered

The prevalent misconceptions can be removed through extensive health insurance awareness programs sponsored by the Government and Health Insurance companies as part of their CSR activity.

3.3 Improving Affordability:

3.3.1 Increasing Consumer Buying Power:

In a decade, India may boast half a billion more middle-income consumers than it does today; by 2030, 55% of India's Population could belong to what we call the 'consuming class. The top of India's income pyramid is expanding. The proportion of consumers in the two highest income tiers of the consuming class (spending $30-70 and more than $70 a day) could double to 20% by 2030.

3.3.2 Reducing Distribution Costs & Operational Costs

Concerning distribution costs, a greater focus on digital channels for health insurance sales will bring down commission costs. Active use of analytics, standardised formats for easier data flows, and other digital tools to drive efficiency and economies of scale through higher volumes can reduce operational costs.

The affordability of health insurance will be driven by higher volumes and greater use of digital technologies.

3.3.3 Health Care Financing:

There is a dire need for Healthcare Financing to plug the unaffordability gap. Healthcare lending is still at a low acceptance, and there is no concrete market size given people could utilise personal loans for medical needs.

Some of the innovative solutions include crowd funding apart from healthcare lending. There is a massive healthcare financing opportunity globally and in India as the healthcare sector itself sees accelerated growth.

Expanding the Cashless network of insurers will also go a long way in mitigating the financial burden of healthcare and make health insurance more attractive to potential buyers.

3.4 Widening access to Health Insurance:

3.4.1 Simplified and Comprehensive Policy terms and conditions:

There is a growing opportunity for the industry to develop new and innovative product offerings that fulfil the customer's unmet needs. Many of the customer segments still do not have specialised health policies for them. The need for customer-friendly, cost-effective health insurance is at an all-time high now.

Understanding the needs of MSMEs and designing relevant insurance products will address the problem head-on and extend insurance reach to a greater section of the missing middle. Three key areas need to be addressed with the newly designed products for this segment:

- High premium, which limits its affordability for the missing middle segment
- Long waiting period for certain diseases/treatments
- Age restrictions with those aged over 65 not allowed to enrol

NITI Aayog report also points out most insurance products are not designed to cover everyone. Private voluntary health insurance is specifically aimed at and designed for high-income groups, and the Government subsidised schemes are for the poor and underprivileged.

3.4.2 Enhancing coverage for beneficiaries under Mass / Group Health Insurance

The Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and State Government extension schemes provide comprehensive hospitalisation cover to the bottom 50% of the population, i.e., around 70 crore individuals. About 20% of the people, i.e., 25 crore individuals, are covered through Social Health Insurance and private voluntary health insurance.

Although the Government Sponsored Health Mass Health Insurance Schemes cover a substantial portion of the population, the extent of cover in terms of the Sum Insured may not fully satisfy the family's requirement.

3.4.3 Expanding Group Health Insurance Cover:

There are more than 100 million private organisations in India, and MSMEs constitute the largest chunk. Promoting group health insurance among organisations will go a long way toward having the larger population covered under social health security. There are mandatory schemes like ESIC that help in providing organization-sponsored baseline health coverage. But not everyone is eligible to be protected, and there are also challenges in hospital network coverage and quality of healthcare under the scheme. This is where private and public insurance companies come in to underwrite the risk.

3.4.4 Exclusive Insurance Scheme for Senior Citizens / Women & Children:

With the increasing Longevity of the Population, the no. of Senior Citizens is gradually increasing, demanding need for appropriate Health Insurance cover to take care of their exclusive needs. Though few insurance schemes are insignificantly prevalent in the Insurance market, there is a necessity to make them dominant.

Similarly, though the risk profile and Insurance needs of Women & Children are pretty different and demanding, the market has not ventured into devising more specific schemes for them. An immediate necessity to evolve such schemes is definitely to be explored.

3.4.5 New Avenues of Distribution:

The insurers should focus more on selling insurance products through digital channels such as web sales, Tele Sales, Financial Apps, Mobile Banking Apps, etc., which is the need of the hour. Buying Insurance through digital channels eases the buying process and gives customers many options to select the right insurance product per their choice and requirement. Promoting Digital distribution channels will reduce the distribution cost, resulting in a reduction in Health Insurance Premiums.

3.4.6 Standardization of Treatment Cost by bringing in Regulation:

There is a dire need for Government support to prevent hospitals from overcharging patients covered by health insurance. Hospitals do not come under regulatory purview, but their practice of inflating costs even for standard procedures should be averted through Intervention by the Government.

A hospital regulator will ensure transparency in procedures and billing, ethical competition, and portability of medical histories across hospitals and towns.

3.4.7 Quality Hospital Infrastructure

Public hospitals are the prime location where health insurance awareness can be magnified. However, the lack of basic facilities and the quality of services they receive lead people to rely more on private hospitals despite higher costs. Public hospitals also depend on government funds to operate, but these funds prove insufficient. On the other hand, medical technology is changing rapidly but is fueled by high costs. Thus, public hospitals lag and cannot offer the latest medical treatment available in private hospitals. Total private infrastructure accounts for nearly 62% of all of India's health infrastructure. Most public and private hospitals' capacity is also the same in the states.

3.4.8 Arresting Frauds & Leakages:

Although India has various policies and institutions to deal with insurance fraud, many cases of fraud and loss against businesses continue to happen. Individuals and insurance companies should strengthen the prevention of false claims because they need to ensure that the claims paid by insurance companies are valid. India is very much in need of an insurance fraud law to control all types of insurance fraud at home and abroad.

Insurers are also adopting advanced technologies for fraud identification and mitigation. Some of them include but are not limited to the following:

- Discover policyholder behavioural patterns with Advanced Analytics
- Voice-BasedTriggers
- Speed up claims processing with Chatbots
- Assess the cost of loss with Computer Vision
- Notify claims immediately with IoT (Internet of Things)
- Prevent double dipping fraud with Blockchain
- Facilitate greater collaboration between health insurers through a common fraud database.

3.4.9 Role of Insuretech:

Insurers and TPAs have ample scope to implement technology in their processes. Bringing in the right set of technologies like Artificial Intelligence / Machine Learning tools to manage claims can go a long way to make claim processing more efficient. Presently, considerable manual effort is involved in verifying claims and bills for servicing claims, resulting in loss of time and increased operational costs. Furthermore, tools like Whatsapp and digital cards are used for quick claim servicing. There are also Integrated 360-degree healthcare platforms to provide comprehensive healthcare not limited to health insurance.

The Ayushman Bharat Health Account (ABHA) Health ID that the Indian Government has introduced can be a catalyst to bring significant changes to health insurance underwriting.

The proposed Health Claims Exchange (HCX) for cashless Insurance will improve patients' claim-related experience, faster claims processing, better visibility and tracking of claims, newer innovative insurance products, reduced claims processing cost, and better quality data for the industry and regulators. This will also make the communication between stakeholders seamless and bring standardisation to the whole process.

Thus, it will bring a paradigm shift in how claims are settled and deliver customer service in the industry.

3.4.10 Reviewing GST Slabs on Health Care & Insurance

Health insurance schemes currently attract 18 % GST, and there has been a consistent demand from the insurance sector to reduce the rate. Health insurance premiums have increased over the past two years due to the coronavirus pandemic when people rushed to buy insurance schemes to secure themselves financially.

Reducing GST slabs for Health Insurance will reduce the premiums paid on insurance policies. Also, a high GST rate does not support increasing insurance penetration in rural areas where most potential insurance buyers live. The introduction of GST on components of healthcare services will also push up premiums, which will be detrimental to the objective of increasing penetration.

3.4.11 Increasing the Income Tax Exemption limits for Health Insurance (Section 80D)

The current tax exemptions given under Section 80D do not incentivise taxpayers adequately to purchase health insurance with sufficient coverage. The Government should enhance the tax exemption limit significantly (may be doubled) suitably provide a more comprehensive exemption for Health Insurance Premiums as the health care costs had gone up enormously higher after the pandemic. This would encourage more people to buy health insurance and also enable them to buy the right amount of Sum assured.

4. Conclusion:

With India's population growing to become the most populous country in the World, it undoubtedly has the maximum potential for Health Insurance Penetration. Though various stakeholders are exerting themselves in propagating the message of Health Insurance, the efforts are disproportionate to the magnitude of the population and the ultimate objective.

Intensive campaigns through media, Government organisations, and Health Care professionals to improve awareness would help spread the message of Health Insurance need amongst the public, consequently increasing the penetration. While aiming at this objective, it is also imperative for the Insurers to provide simple and comprehensive products with seamless services supported by technology. Similarly, Health care providers should aim at providing quality healthcare at a reasonable cost and ensure the availability of swift and seasoned services more proximate to the needy.

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5

Challenges & Suggestions in Bridging the Crop Insurance Protection Gap and A Way Forward

Mr. Malay Poddar & Dr. C S Murthy

Preface

Agriculture value chain in India needs to be strengthened with data, information and knowledge for informed decision-making to meet the current challenges of income security, food security and climate resiliency. **Smart agriculture through digital innovations** using data-centric geospatial technologies leads to data and technology enabled farming, governance and policy-making.

Abundantly available satellite data, an increasing network of weather observatories, mobile-based field data collection systems, expanding field instrumentation network, easily accessible advanced techniques of data analysis etc., signify favourable environments for establishing digital agricultural ecosystems. Scope exists for developing such innovations in every segment of the agriculture value chain. **Development of crop surveillance and agriculture intelligence systems** is one such innovation the country needs the most at this moment. Such a system, which is still not functional in its holistic form for many years, would hugely strengthen agro - advisories, crop risk management, disaster relief and crop insurance.

Availability of a geo-referenced and mapped database of land holdings, the granularity of resources data, sharing of datasets etc., are some of the critical aspects for upscaling the innovations over larger areas. These limitations are possibly overcome by adopting institutional mechanisms and collaborative approaches for developing innovations.

Introduction

Agriculture and its allied sectors engage more than 50% of the population in India, contributing only 17% to 18% of the national GDP. The total geographical area of the country is 328.7 million hectares, of which 141 million hectares is the net sown area and 200 million hectares is the gross cropped area, with a cropping intensity of 142%. Productivity of many crops is significantly less compared to other countries. Poor growth rate, widening yield gaps, increasing exposure to crop risks, and non-remunerative prices characterise the Agriculture sector in the country.

Challenges in the agriculture sector are three-fold – **farmers' income security, nation's food security and climate resiliency.** Due to climate change or climate variability, increasing abnormal weather events are causing crop losses very frequently in one part or other part of the country. On the other hand, increasing cultivation costs, followed by uncertain prices and inadequate storage infrastructure, are affecting the income of farmers. There is a need for minimising the cultivation risks by developing a strong advisory system. Farmers also require a strong price advisory system, which is still not fully functional in the country.

Even the resource use efficiency is very low in farming, and systematic efforts for resources-based crop planning need to be attempted. Water use efficiency is low for both surface and groundwater-dependent crops. Uncertain surface water supplies, depleting groundwater levels and increasing land degradation are posing serious threats to the sustenance and economic prosperity of agriculture in the country.

Innovations with technologies are very crucial at this point of time to revive the agriculture sector and to meet the current challenges. Unlocking the potential of the agriculture value chain is possible only through knowledge-based decision-making by farmers, administrators, industry, and policymakers. **Technologies play an important role to generate data, analyse data and create knowledge in the farming value chain.**

As far as crop insurance is concerned, for an agrarian economy like India, crop insurance has been practised over the last four decades as an indispensable risk management tool with varying use of technology, efficiency, and resultant experience. Owing to India's high degree of climate risk exposure, providing quick relief to farmers in times of crisis is critical.

To anticipate a crisis, emerging technology tools such as remote sensing and data analytics will help in providing quick relief to farmers in an objective manner. The existing yield index products rely on manual crop cutting experiments which are prone to sampling and non-sampling human bias, affecting the accuracy of the estimate. Remote sensing and data analytics can help in bettering the quality of yield estimation for crops across different agro-climatic zones and thus enhancing the efficacy of yield index-based crop insurance products.

Remote sensing and data-centric technologies in the Indian agro-sector

Large data streams on crops are currently available from data-centric technologies such as satellites, weather stations and mobile applications. These datasets help investigate the associations, establish relationships and perform predictions on crop health and risk occurrence. Digital crop area maps using satellite data during the season are vital inputs for crop management advisories and production estimations. It is possible to generate such maps with reasonably good accuracy. The combination of mobile-based crop surveillance, satellite indices and weather-based indices enables comprehensive crop health information products.

Data and its derivatives have immense potential to reshape the agriculture landscape of the country through a resources-centred approach and real-time solutions. Even though the Agriculture sector requires the backing of information and knowledge, digital technology adoption in the sector is still in an evolving phase and lags many other sectors in the digitisation process.

In satellite remote sensing techniques, the most commonly used indices are Normalised Difference Vegetation Index (NDVI), Land Surface Wetness Index (LSWI), Synthetic Aperture Radar (SAR), Backscatter and Fraction of Photosynthetic Active Radiation (FAPAR). Remote sensing technology offers efficient, timely and cost-effective methods for mapping, monitoring and managing agricultural resources. Modern remote sensing technology is characterised by freely available analysis-ready satellite data sets with higher frequency and spatial resolution, followed by easily accessible drone surveys. Satellite-derived bio-physical parameters are also available in the public domain, strengthening crop assessment activity.

Adoption of these technologies reduces information gaps and asymmetries and enhances the efficiency and sustainability of the entire agriculture value chain. Policy-making will be immensely benefited by the data and knowledge generated by digital innovations. **Data-driven policies and services are more efficient and impactful.**

Data availability

Data types are numerous in agriculture – qualitative, quantitative, cross-section, time series, physical, biological, socio-economic, primary, and secondary, dynamic, and static. It is multi-source and multi-scale data generated from manual collection, instrumentation, satellites, mobiles etc. and is related to weather, soils, crops, and social and economic factors. Data collection mechanism is not a well organ. Therefore for, inconsistency in the data availability between the states is very much evident. Many states are data deprived and rely on poor-quality data. As a result, a large amount of agriculture data is lying unorganised and underutilised due to various reasons, including quality concerns. Informed decision-making for crop management, good governance and sound policy making is not possible with bad data. National policy for agriculture data collection, maintenance and analysis may be formulated, and compliance by States needs to be ensured. For the successful implementation of various programmes like Pradhan Mantri

Fasal Bima Yojana (PMFBY), Pradhan Mantri Krishi Sinchai Yojana (PMKSY), Doubling of Farmers Income, a huge amount of real-time and high-quality data is the basic requirement.

In recent times it is observed that a large number of Organisations are getting associated with data collection in agriculture serving multiple purposes, leading to a big pool of multi-source data. Millions of geotagged data are currently available with different Organisations in the country.

National Framework of Technology Adoption

Technology application framework must distinguish between the requirements of farmer-centric and planning-centric applications, with a clear-cut linkage between the two. Policy-making inputs should be derived from a bottom-up approach.

The generic framework of digital innovations in a geospatial environment has the following elements:

- Data collection and organisation
- Data processing and quality assurance
- Data integration, analytics, and solutions
- Dissemination/ Outreach
- Development of business models and
- Institutional participation.

The real challenge is the development of a structured database from the big pool of data from multiple institutions. It is the prerequisite for all further steps. State Departments of Agriculture, Revenue, Land Records and Disaster Management need to transform the manual processes of data collection into digital processes. Some states are ahead in this direction, while many other states are lagging. Data management includes processing the raw data, standardisation, quality assurance, data exchange and making the data ready for use in real-time. Analytics is key to the success of big data applications. Spatial analytics, data mining, data engineering, evidence-based tools etc. could only churn out useful information products from the large pool of data.

The limitations associated with data frameworks, such as authenticity, adequacy, consistency, and ethics, are to be duly recognised. Data sharing arrangements are very important because misuse of data leads to financial implications and effects the stakeholders. Data quality and data usage also determine the soundness of the research methodologies. Thus, digital innovations could also be a potential threat if scientific procedures are not adopted in data collection.

Some recent use-cases on extensive use of satellite data in crop insurance

Satellite data, along with the weather and smart-phone based datasets, are increasingly used to generate objective assessments on crop losses due to weather extremes. Abnormal weather conditions like unseasonal rains, particularly around the harvesting operations, are causing severe losses to an otherwise good crop season has become a frequent phenomena. As per PMFBY provisions, a large number of claim-intimations are lodged by the farmers for immediate compensation. Since it is difficult to assess the extent of affected crop area through a manual process due to administrative and logistic reasons, the need for using satellite data was felt. Under such circumstances, intensive analysis is being carried out using multi-temporal data, covering the entire crop season by using optical and microwave data. Ground truth (GT) data collected through a customised Mobile App is also used extensively to validate the satellite data. Weather data analysis is simultaneously carried-out to map the excess rainfall events. Cropping pattern is understood by analysing secondary data. Crop area is generated using multi-temporal satellite data and a non-agriculture area mask. The accuracy of such maps was found to be around 90%. Harvesting patterns of the crop is based on crop phenology changes derived from temporal NDVI, LSWI and back scatter signatures supported by GT points. Thus, for each crop insurance unit, the crop area exposed to unseasonal rains at harvest time is assessed using a holistic approach in many states. The exposed crop area to weather extremes thus generated is a direct input for assessing the crop loss.

On the other hand, for season-end yield loss assessment purposes, criteria are formulated, and yield reduction factors can be computed based on CCE yield, GT assessment, market arrivals, rainfall data etc. By applying differential yield reduction factors to the satellite-derived crop area groups, the total insurance claim amount for each insurance unit of different districts has been arrived at and settled in a good number of cases. Thus there are many use cases wherein crop area affected by unseasonal rains was successfully integrated with claims estimation procedure under crop insurance.

One of the large-scale adoptions of RS Technology is a Transformative 100% Tech-based Insurance solution (BSB-Tech) introduced in 2020 in West Bengal state.

Technology-Based Bangla Shasya Bima (BSB)

Agriculture Insurance Company of India Ltd and the National Remote Sensing Centre of ISRO jointly developed and implemented an innovative index-based insurance scheme linking payouts to the measured crop performance instead of manual crop yield estimates. The scheme, the first of its kind in the country, was successfully implemented in the 2020 crop season in West Bengal and is continuing for the third year in a trot. It is a transformative crop insurance solution because the conventional 'Area-yield approach' was replaced by the 'Area- crop performance/crop health approach', a 100% technology-driven solution. A composite index called Crop Health Factor (CHF) represents crop performance by incorporating multiple physical and biophysical parameters related to crop health. It is a quantitative measure of crop health and its overall performance measure, which goes during the entire season. CHF deviation from the past year's average decides the crop loss and insurance pay-out in the current season. End-of-the-crop season risks like hailstorms, floods, and cyclones have also been accounted for in the crop performance.

Advantages of such technology-based crop insurance solutions

Advantages of such parametric and data-driven crop insurance solutions are manyfold viz. elimination of moral hazard, a substantial reduction in the cost of insurance, transparency and objectivity in the whole process, faster payment of claims etc. To ensure transparency in the methodology and processes, a Dashboard showing all relevant granular data with respect to the progress of enrolment of farmers, farmers' demography, acreage covered, other insurance parameters like sum insured, premium rates at each crop/ insurance unit are shared with the State and district administration. As soon as the CHF is ready, the same is also shared on the dashboard. In case of any localised calamity, the ground truthing is intensified with a geo-referenced crop surveillance report using a well-tested mobile App, and specific protocols are devised to account for such losses.

To give confidence to the State about the financial part of this unique insurance proposition, BSB started with substantial upfront discounts in the premium rates. On top of this, the cumulative surplus generated out of the operation of a certain number of seasons are ploughed back into the system to fund higher farmers' enrollment in subsequent seasons.

Remote sensing data of moderate resolutions around 10m is available free once in 5-10 days, thereby reducing the cost of surveillance over large areas. Similarly, mobile technology has tremendously improved the field data collection system by producing real-time crop status and crop management data. Agriculture intelligence serves three prime requirements – crop sowing advisory, crop health management decisions and crop yield estimations. Crop sowing information is crucial for crop management advisory for the rest of the seasons. In recent years, due to the vagaries of monsoon, the crop sowing window is quite often disturbed, leading to delayed or reduced sowings. Early season drought conditions are reported frequently in various states. Crops are subjected to various risks such as pests, diseases and natural calamities. Near real-time tracking of crop conditionsand alert generation in the event of crop risks are key inputs for crop management. Crop yield estimations based on data analytics.

Universalisation of crop insurance

Another unique feature of the West Bengal scheme is making insurance accessible for the farmers, leading to near universalisation of crop insurance in the state, with more than 80% of the farmers insured season after season. Moreover, 96% of the farmers in the state belong to the small/ marginal category. Attempts to universalise insurance, even on a voluntary participation basis, helps eliminate adverse selectionand ensure good spread across geographies and crops, which is crucial for catastrophic covers like crop insurance and also reduces farmers' grievances.

Reinsurance support

Transformative crop insurance solutions by exploiting the earth data offer promising new business models of risk transfer in the agriculture sector through reinsurance. Reducing the dependence on manual, cumbersome, and subjective yield estimates is the most recognised requirement in the crop yield index insurance market, and a technology-driven crop performance index can help us achieve this. Further, assessing crop performance with multiple parameters covering the entire cropped area rather than going for sampled plots is more practical, objective, and transparent than assessing crop yield with manual and limited measurements. Modern remote sensing technology and data analysis tools offer numerous opportunities for crop monitoring and bring a paradigm shift in reshaping the crop insurance system benefitting all the stakeholders. Besides enhancing crop insurance effectiveness, efficiency, and sustainability, these technologies also permit the development of more targeted insurance products.

As in the case of the BSB scheme, after reviewing the product structure in the first season, the leading reinsurers of the globe started supporting the programme, and it is continuing with sound participation during the last five seasons. Apart from benefits like information symmetry and objectivity in the historic and current claim datasets, reserving for such products is easier. Moreover, due to universalisation, the spread of the risk is reasonable despite it having emanated from a single state.

MahaAgriTech

The MahaAgritech project of the Department of Agriculture, Government of Maharashtra, initiated in 2019 with Maharashtra State Remote Sensing Centre and National Remote Sensing Centre (NRSC), utilises satellite data for generating crop surveillance information in near real-time mode throughout the crop seasons. The project aims to ensure the best possible utilisation of digital technologies such as satellites, drones, mobiles and field instrumentation in the agriculture decision-making process. The project tracks the crop sowing situation and harvest patterns at fortnight intervals besides mapping major field crops, orchards and plantations. It monitors crop health, gives indicative yields assessment, assesses the impact of disasters and facilitates the state government in better decision making and planning. This project stands as an example for the extensive use of satellite technology in agriculture.

Global perspectives - some examples: European Space Agency

The Copernicus Programme of the European Space Agency started a new era of remote sensing by providing an unprecedented amount of free data from its Sentinel series of satellites. Data of multiple spectral channels representing optical and microwave regions, moderate spectral resolutions of 10-20 metres, covering large areas once in 5-12 days, are made available in the public domain in the least possible turnaround time. The problem of cloud cover in the monsoon season is overcome with microwave data. Synergistic use of multiple datasets has enabled close monitoring of crops and capturing of multiple crop risks. Continuity of Sentinel data is guaranteed up to 2030.

Sentinels have modernised Europe's agricultural data collection and assessment systems, reducing field inspections and enhancing the efficiency of payments to farmers who suffered crop losses. The agricultural monitoring system in Poland is based on the machine learning techniques applied to Sentinel data for the identification and monitoring of crops. COVID-19 Earth Observation Dashboard was developed by the National Aeronautics and Space Administration (NASA), European Space Agency (ESA) and Japanese Aerospace Exploration Agency (JAXA) to monitor the impacts of COVID-19 on the agricultural situation worldwide. The wealth of data from multiple satellites are being used to track crop planting and harvest patterns and crop health progression (https://www.esa.int/Applications).

Conclusion

There is scope for developing new business models with these technologies to boost the agriculture economy of the country by bridging the Crop Insurance Protection Gap, just like what has successfully been demonstrated with the implementation of the West Bengal BSB Product over the last three consecutive years covering nine seasons that the product has been able to (i) reduces the insurance cost substantially as compared to normal PMFBY product (ii) it helps eradication of moral hazard due to extensive use of technology that brings in transparency and thus reducing cost, (iii) it reduces turnaround time for indemnity payouts significantly and last but the most important advantage would be (iv) it helps substantial coverage at the same cost that ushers in probable universalisation of crop insurance at least for small and marginal farmers straightway addressing the protection gap.

Already there is a concrete policy intervention that has happened in the recently concluded recommendations of a Working Group constituted by the Ministry of Agriculture and Farmers Welfare (MOAFW) wherein the West Bengal's CHF (Crop Health Factor) Model is being mainstreamed and being offered as an option for the PMFBY implementing States. This is one of the most important and positive steps that has been taken by the MOAFW, which, if implemented in the right earnest, will certainly reduce the crop insurance protection gap.

Data-centric digital innovations in Agriculture would certainly bring major change by benefiting farmers, administrators, planners, policymakers and the scientific community. There are enormous opportunities for the utilisation of satellite remote sensing and GIS technologies to develop new information products and decision tools that directly benefit the agriculture value chain.

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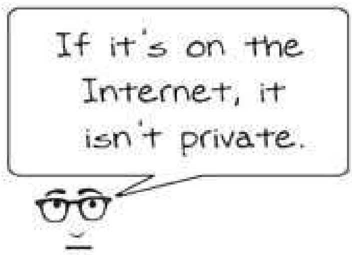
6

Mitigation of Cyber Risk Exposures in Bridging the Insurance Protection Gap - A Way Forward

Mr. P. Umesh



What is Cyber Insurance Protection Gap?

The subject of the Insurance protection gap has rightly become a matter of serious discussion for the insurance industry in recent times. The insurance protection gap means "the difference between the amount of insurance that is economically beneficial and the amount of coverage actually purchased" [1].Put it differently, it is "what is required and what is obtained" in terms of coverage and limits. This could be due to either absence of insurance protection or inadequate insurance in terms of limit or coverage. If there is no insurance protection or inadequate insurance protection, it has many serious consequences for economies; like an enormous financial strain on communities and organisations, wealth erosion, slowdown of economic recovery and weakening economic resilience.

Cyber insurance protection gap is caused by uninsurance or under insurance against cyber risks. While the issue of the insurance protection gap is a matter of concern in respect of all lines of insurance, it is very distinct and more challenging in cyber insurance because of the following reasons:

- Cyber risks are dynamic and continuously evolving risks that can make it difficult for insurance to keep pace with the advances in technology
- An Increasing number of security and data breaches affecting large corporations with sensitive public data.[2]
- Lack of actionable loss or claims data in adequate quantities. Cyber risks can affect various policies / policyholders at the same time. A cyber security incident can trigger losses across many lines of insurance:
  - Property insurance: Property damage and business interruption resulting from computer systems failures or viruses
  - Crime insurance: Siphoning money through phishing
  - Product liability/recall insurance: Product liabilities and product recalls resulting from security vulnerabilities
  - E&O insurance: Breaches of contract or negligence claims under E&O insurance
  - D&O insurance: Managerial failure in cyber security areas

Exposures of the target groups differ widely in different jurisdictions.

As per Dr Kai-Uwe Schanz of The Geneva Association:

“The least researched protection gap is cyber risk. Some studies put the annual global economic cost of cyber incidents at around $400bn, almost 0.5% of global GDP and almost twice the average annual amount of natural disaster losses.

Lloyd's recently attempted to quantify the cyber risk protection gap, based on modelled economic loss scenarios of up to $53bn (i.e., equivalent to losses from a major hurricane) and protection gaps of about 90%.”[3]

Causes for Protection Gap

- **Lack of Awareness:** Despite the frequent occurrence of cyber-attacks generating extensive media coverage and the fact that quite a few of them caused losses, awareness about cyber insurance is low, particularly in retail and SME sectors. India ranks low in the cyber literacy index, which measures the population's cybersecurity knowledge as well as the ways that a country can enhance that knowledge through education and training.

- **Perception that Cyber Insurance is Expensive:** As in the case of many other lines of insurance, cyber insurance is perceived as an expensive and avoidable or postponable item since the returns are seen only in the unfortunate event of a claim.

- **Burdensome Buying Process:** Many insureds view the buying process to be long and time-consuming. Cyber insurers seek a lot of information on the risk profile of the insured, including its cyber security practices. Questions relate to many areas like organisational compliance, IT system/network / data security, and access management guidelines. Should the review of the insurance proposal form necessitate further enquiries, they may call for more details or request personal interaction involving, if necessary, outside agencies. While insurer views this as compulsory for proper underwriting, insureds look at it as cumbersome, if not intimidating.

- **Coverage Issues:** Buying any policy is not enough. Whether it is adequate in terms of coverage and limit also matters. While the issue of inadequate limit is easily understood and appreciated, if much thought does not go into coverage aspects, it can many a time cause serious problems, as can be seen from the following:

  As per a study conducted by BlackBerry and Corvus amongst 450 IT and cybersecurity decision makers at businesses across the U.S.

and Canada, about 37 per cent of respondents with cyber insurance don't have coverage for ransomware payment demands, and 43 per cent are not covered for ancillary costs, including court fees or employee downtime.

Coverage issues arise because of a lack of awareness / financial constraints on the part of insureds to purchase or disinclination on the part of insurers to offer.

- **Supply Side Challenges:** Insurance protection gaps are not caused by demand-side issues alone. Equally important are insurance market vulnerabilities and unfavourable loss ratios that impact insurance availability. When insurers/reinsurers look at cyber insurance as a business opportunity, there is nothing wrong about it. But can cyber be equated with other simple products from the point of view of product offering? The answer is in the negative.

Cyber insurance needs to be a complete solution and not just an insurance policy. Take off period for cyber is certainly longer as the market needs to understand and internalise the benefits. Against this premise, when we find that net retentions are low and there is heavy dependence on reinsurance capacity, the outcome is that reinsurers may wield greater influence and seek higher premiums or restrict coverage with a cascading effect. The situation gets worse if reinsurers withdraw their capacity leading to a widening protection gap in the short run and a trust deficit for the industry in the long run. It helps if the insurer and reinsurer relationships are strong and durable, and the reinsurer adds value to loss mitigation education and related processes for the direct insurer.

Remediation

- **Spreading Awareness:** It is imperative to spread awareness amongst insurance buyers about the availability of cyber insurance and the salient features. All entities in the insurance supply chain, and not just insurers, have a role in this endeavour. It is advisable to talk about case studies and claims settled in India as a part of the education process. The industry can launch awareness campaigns targeted at various sections. Initiatives to spread awareness of cyber risks by various government agencies, including sectoral regulators in India, is praiseworthy. Communication in regional languages also plays an important role.

- **Process Simplification:** It is a fact that cyber insurance cannot be commoditised, and insurers need to underwrite cyber insurance with care and caution. But not all risks are so complex that they call for a deep dive. If as much information as is relevant and necessary is sought at the first instance, with helpful handholding, and when the risk is presented better by the insured and underwritten properly by the insurer, it reduces the purchase process pains. While it is likely that proposal form filling may itself prove to be an educational experience, it will be a good idea to consider a standard proposal form for personal and MSMEs(Micro, Small and Medium Enterprises). A lot of handholding is required for first-time buyers. This is where intermediaries, more particularly brokers, play an important role to demystify the product and handhold the insured through the entire process.

- **Perception on Pricing:** Many insureds think that cyber insurance is expensive and not affordable. This needs to be dispelled by convincing actions and appropriate messaging. Insurers need to make the price engaging and offer explicit incentives for better risk management practices and loss control measures. Once insureds realise that they are obtaining risk management solutions and not just buying a policy, handling objections relating to price becomes easier. Insurers must educate customers about value-added services offered along with cyber insurance policy as a part of the complete solution and communicate this with conviction.

- **Complete Solution:** To make cyber insurance acceptable and popular, and for risk minimisation, it is vital for insurers to offer various services covering risk analysis, identification and mitigation of risks during the entire policy life cycle. These services may include assessment of cyber security, identification of security vulnerabilities, alerts on compromised credentials, IP & Domain threat blocking services, simulating phishing tests, recognition of false positives, threat vector analysis, cyber security technical audit and cyber security training etc. It is understandable that there are costs attached to build in these services. But it needs to be done in a cost-effective manner so that the idea does not become counterproductive. A graded approach is a good idea.

- **Holistic Approach:** Cyber risk should not be seen only as a technology issue. It is much more. It is for the insurer to present and the insured to understand that cyber risk management, including cyber insurance, ought to be a part of an organization's strategic enterprise risk management culture. Then and only then, the discussion would go beyond Information Technology jargon and touch upon the adverse consequences and likely losses leading to a better understanding of the adequacy of insurance- the central theme of the insurance protection gap. Whilst on this subject, it is critical to pay equal attention to people vulnerabilities besides process and product vulnerabilities.

As per the 2022 Global Cyber Risk and Insurance Survey conducted by Munich Re, many respondents felt that that the main challenges in improving cyber threat defence in their company include low-security awareness among employees, lack of skilled personnel, poor integration/interoperability of security solutions, and a lack of collaboration between individual departments. It is not just systems betterment, maintenance and upgradation that guarantee resilience. It should be fully supported by organisational culture with commitment and employee support.

- **Multi-stakeholder Collaboration:** It is crucial to encourage and tap the entire cyber ecosystem extensively, right from concept seeding to sale fruition and policy life cycle, including claims. At the concept stage, a lot of education is essential, which may require the support of government agencies. Involvement of third-party agencies is necessary preceding and during the cyber risk underwriting and also during the entire policy life cycle for various services like risk scanning and vulnerability alerts. Coopetition, as opposed to competition, is the need of the hour for cyber insurance – be it information sharing on cyber incidents and claims, or threat perception, etc. Insurers can work together in the areas of risk modelling and risk mitigation.

- **Insurance Product Innovation:** Insurance solutions need to keep pace with new and emerging avatars of cyber risks. As regards individuals and MSMEs, the introduction of simple products with process convenience would be ideal. Policy wording must be easy to understand and the claims process transparent and predictable. This enhances the acceptability of cyber insurance. Since many MSMEs are low on knowledge about cyber exposures as also low on financial resources, a broad template with the minimum required coverage based on a common reference framework can be an option.

- **Cyber Event Response Mechanism:** For the insureds, it is critical to initiate immediate action after any cyber incident for loss minimisation and course correction for further loss prevention. The response should be swift and comprehensive. This entails the establishment of a response mechanism consisting of a well-formulated structure with clearly defined protocols to facilitate an immediate and complex commensurate response without the regular layered bureaucratic approach that organisations may normally follow. Insurers need to incentivise insureds in this matter appropriately.

- **Prescriptive Insurance:** Insurers insist that cyber insurance buyers must comply with certain minimum standard requirements. In the Indian context, the minimum standard requirements generally include a sturdy IT infrastructure consisting of secure firewalls, strong passwords, regular training, robust encryption, proper leak detection tools, PCI/DSS certification in case of storage of card information, two-factor authentication, regular scanning for vulnerabilities, frequency for maintaining a data backup and malware protection application etc. Cyber insurance is becoming more prescriptive in that it requires insureds to comply with key cyber security benchmarks in order to qualify for and continuance of coverage. Recently, in the USA, "Travelers and policyholder International Control Services (ICS) jointly filed a stipulation to have a federal court rescind an active cyber insurance policy that the insurer claimed was void due to the insured's misrepresentation of multi-factor authentication use" [4]

  Amongst other things, insurers need to elucidate the importance of security and resiliency measures to their customers that influence outcomes such as pricing, coverages, limits, terms and conditions. It behoves them to set cyber security requirements in a transparent manner. This itself can prove to be both preventive and curative.

  Mitigation of risk exposures prevents and minimises losses of the insured and makes it possible for the insured to obtain appropriate and adequate cyber insurance solutions, thus helping reduce the cyber insurance protection gap.

- **Role of Intermediaries:** Since intermediaries, particularly insurance brokers, are close to the customers, they are likely to have a better understanding of the risk exposures. Some intermediaries have developed preliminary risk assessment tools. Some others are using third-party agencies to assist customers to carry on vulnerability studies. Intermediaries have a major role in suggesting adequate quantum and appropriate cover, two vital components of the reduction of the protection gap. Generally, the known method of limit selection depends upon peer group comparison and modelling. Peer group comparison alone may not be the ideal way. It needs to be combined with other studies like modelling, estimation of the economic losses from one event, confidential nature of the data stored and operations carried, jurisdictions, a number of employees, likelihood of Business Interruption claims etc. Intermediaries need to develop and continuously update internal expertise in this area. They may also plan to conduct periodical training programs in collaboration with insurers.

Cyber Insurance Protection Gap – Risk Modelling

Risk management, including risk modelling, is dependent, besides other factors, upon the target groups of the customers.

- **Individual Cyber Insurance:** There is always an element of risk involved in all online activities. Exposures here mostly relate to concerns about the management of personal finances like hacking of debit/credit cards, phishing, theft of funds, identity theft, marketplace transactions and banking transactions, cyberstalking, and social media exposures etc.Cyber risks here occur at individual policyholders level – independent of the others.

  In the Indian context, some relief is available to the victims of cybercrimes, like the one offered by RBI to banking customers as provided in the direction on *"Customer Protection – Limiting Liability of Customers in Unauthorised Electronic Banking Transactions"*. However, this protection is not carte blanche. Cyber education and regular alerts are some of the answers for risk mitigation.

  Whilst on the issue of the personal cyber insurance protection gap, in January 2022, there were over 940 million active debit cards in India. This number was much higher than the number of credit cards, which amounted to around 70 million that same month. Contrast this with the number of individual policies taking into group policies issued in India which are still in 5 digits.

On popularising individual cyber, group propositions are likely to work better. This assists in getting volumes and spreading of risk. Web aggregators, Bancassurance, and affinity programmes are seen as effective media to popularise this insurance. It is also believed that having a bundled cyber policy with other policies like House Holders package policy may work well. The standalone individual cyber policy does not seem to be gaining much traction globally. It is gaining ground when sold as a bundled policy. It is also essential to impart education in the local language. For a better and broaderer spread of cyber culture, all the stakeholders need to reach out to small cities.

- **Corporate Cyber Insurance:** As organisations grow, they get increasingly exposed to a multitude of cyber-attacks like unauthorised access, unauthorised use or transmission of a computer virus which alters copies, misappropriates, corrupts, destroys, disrupts, deletes, or damages the organization's computer system causing losses to the victim organisation and/or may result in failure of security or Denial of Service. These may result in breaches of data, corruption of data, crippling of critical systems leading to business interruption losses and regulatory actions and various adverse consequences. Systemic risks also begin to be a matter of major concern here. Risk modelling gets a lot more challenging because of the dynamic nature of cyber risk and the problems associated with Risk accumulation.

"Systemic risk generally refers to the possibility that distortions in a system may spread across many entities and be augmented due to local or global feedback effects. It is often associated with a cascading propagation of losses such that multiple entities in a system are seriously affected within a specific period of time. In the context of cyber risks, the following definition was given by the World Economic Forum (see WEF (2016)."

"Systemic cyber risk is the risk that a cyber event [...] at an individual component of a critical infrastructure ecosystem will cause significant delay, denial, breakdown, disruption or loss, such that services are impacted not only in the originating component, but consequences also cascade into related ecosystem components [..]" [5]

Focus here would be more on cyber security practices and on the frequency and severity of likely losses.

Role of Insurtech

Because of the paucity of historical data, the extremely dynamic nature of cyber risks, coupled with difficulties in assessing accumulation and loss estimation, pricing cyber risks properly is still a formidable challenge. But as the industry collects and analyses more useful data, it can help at least directionally to minimise cyber threats and resultant losses. It is in this context that one needs to realise the role of Insurtech firms for their ability to significantly contribute to risk detailing, risk exposure reduction, probable maximum loss estimation, and price indication, finally leading to reducing the insurance protection gap.

The use of Artificial Intelligence (AI), Big Data and Data Analytics can identify contributing factors of various types of claims and identify the best means of risk mitigation. Insurtech firms help insurers and their customers to assess their cyber exposures more accurately. They can offer help in risk evaluation, understanding risk triggers and risk accumulation. They can also simulate policy structures to understand how policies perform under different cyberattack scenarios. Insurtech innovations include "Algorithmically derived security ratings and benchmarks from

BitSight and SecurityScorecard; probabilistic cyber models from Risk Management Solutions and AIR Worldwide; modelling and benchmarking tools from CyberCube; technical and behaviour-based loss estimation models on Guidewire's Cyence Risk Analytics platform; and Corax, a cyber risk modelling and prediction platform that leverages proprietary data on the cyber resilience of several million companies to provide insurers with benchmarking, predictions and probabilistic expected loss estimates." [6]

There is a vast space available for Indian Insurtech firms in this area.

Regulatory Actions

When regulatory bodies mandate certain cyber security measures and bring clarity to various concepts and reporting requirements about cyber events, it also helps in mitigating risk exposures. In the Indian context, apart from CERT-In of the Government of India, many regulatory bodies like RBI, IRDAI and SEBI issue directions regarding cyber security aspects.

It is useful to know the role of CERT-In here:

> CERT-In (the Indian Computer Emergency Response Team) is a government-operated information technology (IT) security organisation: the national nodal agency for responding to computer security incidents as and when they occur. The purpose of CERT-In is to respond to computer security incidents, report on vulnerabilities and promote effective IT security practices throughout the country. It also plays a proactive role. The proactive functions include issuing security guidelines and advisories, vulnerability analysis and response, risk analysis, a national repository of cyber intrusions, profiling attackers and conducting training etc. The roles and functions of CERT-In can be read on https://www.cert-in.org.in/.

On 28th April 2022, the Government of India issued directions on compulsory reporting of cyber incidents as given below:

> "Any service provider, intermediary, data centre, body corporate and Government organisation shall mandatorily report cyber incidents as mentioned in Annexure I to CERT-In within 6 hours of noticing such incidents or being brought to notice about such incidents.
> All service providers, intermediaries, data centres, body corporate and Government organisations shall mandatorily enable logs of all their ICT systems and maintain them securely for a rolling period of 180 days, and the same shall be maintained within the Indian jurisdiction. These should be provided to CERT-In along with reporting of any incident or when ordered/directed by CERT-In."

Details collected in compliance with this mandate would be useful in building the data for quick course corrections and future alerts. For the insurance carriers, they can expect claims to be lodged without much loss of time, which would be helpful for proper forensics and also for prompt settlement of claims. This reporting mandate, while it has met some resistance, places organisations on alert on the need for reporting and may facilitate quick remedial measures.

Considering the all-pervasive nature of cyber risks, continuous and close coordination amongst insurers, insureds, and professional bodies like FICCI, NASSCOM, and other entities associated with cyber security is the need of the hour for both risk prevention and mitigation. With cyber risk being geography, jurisdiction and sector agnostic and global in nature, it is advisable to track the global developments continuously and be in close liaison with all related agencies at the organisation, industry, country and global level.

Need for Alternative Risk Transfer (ART) Solutions

Should the capacity of the traditional insurance market shrink because of continuous huge losses causing the possible withdrawal of market capacity, it becomes unavoidable to seek protection from ART instruments like catastrophe bonds and insurance pools etc. Given the current conditions and claims experience, there does not seem to be to an immediate need to explore ART options in India. It appears that, as of now, the industry has not suffered many claims in excess of USD 3 million per claim. But the need will be felt when systemic risks operate and result in catastrophic losses. Recent developments such as Lloyd's of London's decision to exclude state-backed attacks from cyber insurance policies makes a case to initiate exploration of ART solutions in cyber insurance, at least in some areas, to ensure that there is no protection vacuum.

Mandatory Insurance

Mandatory insurance is an unpopular opinion. The idea itself is anathema to many and is difficult to enforce. But it certainly is not a bad idea to look at what the Republic of Korea has done.

Under the PERSONAL INFORMATION PROTECTION ACT of the Republic of Korea., Article 39-9 (Indemnity for Losses) (1) Information and communications service providers, etc. shall take necessary measures such as purchasing insurance or deduction plans or accumulating reserves to fulfil its liabilities for compensation pursuant to Articles 39 and 39-2.
(2) Necessary matters, including the scope of personal information controllers subject to the obligation pursuant to paragraph (1) and relevant standards, shall be prescribed by Presidential Decree.

The issue of mandatory insurance may become a serious subject matter of discussion in India after the passage of Personal Data Protection legislation and its effective implementation.

Conclusion

The mission to minimise the insurance protection gap starts with the commitment of insurance providers to bridge the gap of understanding and mutual trust with their customers. Professional and effective response of insurers in the event of a claim in terms of process, speed, and quantum of claim would act as a significant confidence-building measure.

"A common thread in the protection gap discussion is that insurance consumers need to be better informed about their insurance, and if they are better informed, they will buy more insurance and better insurance"[7].

Narrowing the protection gap is not only for the benefit of the insurance industry. It reduces the economic burden on society freeing up resources which has many alternative uses. Bridging the trust gap and reducing information asymmetry with a long-term view of things appropriately accompanied by required actions go a long way to make this mission successful.

Disclaimer: The information contained and ideas expressed in this article represent only a general overview of the subjects covered. It is not intended to be taken as advice regarding any individual situation and should not be relied upon as such. Insurance buyers should consult their insurance and legal advisors regarding specific coverage and/or legal issues.

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7

Role of Intermediaries in Bridging the Insurance Protection Gap

Mr. Sanjay Kedia

1. Introduction

Over the last two decades, the Indian insurance industry has witnessed steady growth at a CAGR of 17%, led by substantial investment in capital, improvement in capabilities, and efficiency and distribution system. The non-life insurance industry's premium collection rose 11% on a year-on-year basis to INR 2.20 trillion in 2021-22, compared to INR 1.98 trillion a year ago, according to IRDAI data. Various market study estimates the Indian general insurance market to grow by 15-17% over the next 3-5 years.

The statistics show that the Indian insurance industry, over a period of time, has garnered impressive growth. Similarly, the insurance broking industry or intermediaries also evolved during this period.

According to IRDAI Annual Report for 2020-21, brokers' share in the premium collected by the non-life insurance industry in India stood at 30.1%. According to the EY report, the Indian non-life Industry is expected to be INR4,00,000 crores by 2025 and broker share is expected to touch 40%, i.e., INR 1,60,000 crores by 2025.

Though the share of the broking industry in the total premium collected by the non-life insurance industry has shown steady growth, it is still low compared to global standards. In the countries like the United Kingdom, Australia, and Brazil, the brokers share in commercial lines of business overs around 75%-85%, while in Singapore, brokers control about 50% of the large industrial and commercial business (Source: IBAI EY Report: Distribution Reforms to increase Insurance Penetration in India, 2020).

Historically it has been observed that markets with higher broker shares also lead to higher insurance penetration. In the countries like the United Kingdom, Australia, Brazil and Singapore, where broker share is significantly higher compared to India, also have higher insurance penetration ranging between 1.6% to 2.2% (compared to 0.9% in India).

2. Role of brokers in managing risk and increasing penetration

The perceived role of the brokers is slowly changing from being majorly considered as price discoverers to providing holistic risk advisory and insurance solutions. With the rise of the digital economy, the risks faced by policyholders are changing. The creation of innovative solutions which keep pace with emerging risks is the need of the hour. Competitive pricing is no longer the only criterion for policyholders due to a growing emphasis on the quality of service offerings and add-ons. This clearly emphasises the need for brokers to expand their role as Trusted Risk Advisors.

The current services being offered by many brokers restrict them to being mere price discoverers. This has prevented the relationship of insurers and brokers from maturing from a transactional relationship to a partnership.

Across major markets in the world, the nature of services provided by brokers revolves around the following:

- Understand client's business and risk management philosophy
- Provide risk management and insurance consulting
- Highlight market knowledge and insights to customers, including insurance covers and terms
- Provide underwriting information in a structured manner
- Help customers in deciding among quotes and policies
- Help customers during servicing and claims stage
- Assist customers and insurers through various value-added services

In India, brokers have the opportunity to be trusted advisors and start truly representing the customer and its emerging needs.

Similarly, insurance brokers serve as the critical link between insurance companies looking to place insurance policies and consumers seeking to procure insurance coverage. Insurance broker offer advice, information and other services in connection with the solicitation, negotiation, and sale of insurance.

Brokers create value for the insurers by

- Saving resources for insurers as brokers use their own infrastructure to offer their services.
- Supporting product distribution and client reach.
- Supporting insurer innovation.
- Create market capacity/insurance pool.

Globally, the broking channel is the dominant channel, and brokers have been adapting to changes in customer and market needs to maintain their relevance. This includes maintaining the highest standards of professionalism, evolving their operating model, expanding service offerings, creating a niche and new markets, focusing on technology and operational efficiency, and exploring new avenues of growth.

All these aspects contribute to the growth of the insurance market and reduce the protection gap. The value creation by the insurance intermediaries may be summed up as:

- Facilitating an efficient insurance market
- Facilitating risk management and economic stability.
- Increasing awareness on various risks and insurance solutions.
- Reduction in protection gap.
- Solutions for difficult-to-insure clients.

3. Developing insurance intermediary market for higher penetration

The creation of value for the policyholder lies at the core of the insurance business. The changing insurance landscape demands for innovation from brokers and insurers on various aspects like policy wordings, claims management, technology platforms etc. which can benefit the policyholders in terms of contract certainty, increased efficiency, and transparency in the claims management process. Given the scope and the value that intermediaries can create, the regulators should look at strengthening the broking channel, and this would only lead to a higher growth trajectory and increased insurance penetration in India.

a. Expanding the role of insurance distribution

i. Premium Financing:

Over the last two years, the insurance premiums, particularly for property lines of business, have gone up considerably. Additionally, organisations have a significant outlay for managing employee benefits programs and other risk issues through insurance. Hence, spending on insurance for mid-size to large organisations can be significant and may impact cash flow if not managed properly. Considering this, Premium Financing can be highly beneficial for the policyholders.

- It can help both retail and commercial segments to deal with liquidity crises and better manage cash flows.
- Will benefit borrowers because this will allow them to retain their assets to invest in a productive business that generates higher returns.
- Gives lenders a secure long-term loan.
- For insurers, this arrangement guarantees timely renewal and assured premium payments.

Globally most countries like the US, Australia, France, and Singapore allows premium financing. So in line with the global best practices, the regulator should consider allowing premium financing in India. Encouraging premium financing businesses to grow will help policyholders and also insurers to get more business. It would not be a dilution of Section 64 VB rather, it would help comply with the same.

ii. Installment payment facility for all lines of insurance

In India, some of the retail term product allows for premium payments in instalments, but this option should be extended to corporate clients for all lines of business, including property lines where the market has seen a considerable rise in premiums over the last 2-3 years.

This can be an important step in expanding insurance penetration, particularly for sectors like MSMEs, as this would ensure easier payment options on premiums. The increased flexibility in payment options will directly impact the "ease of doing business" quotient for all policyholders and enable them to take insurance covers that would protect their businesses against sundry risks.

iii. Allowing distributors to issue policies and disburse claims

Though the Insurance Brokers' Regulations, 2018, permit the segregation of money by reinsurance brokers, allowing them to pay the premium on behalf of the client, there is no such provision for direct broking of insurance contracts. Globally, insurance brokers in most parts of the world handle premiums under direct broking. The regulator should look into allowing insurance brokers to issue policies, collect premiums on behalf of the client as well as settle claims for clients. However, the fiduciary money (client money/insurance premium) account has to be under very strict regulations to ensure the safety of client money.

The benefits of this approach are:

- It reduces the counterparty credit risk within the insurance markets in case of a particular insurance company goes bankrupt.

- It can help in speedy claim settlement and reduce costs of insurers, as brokers would be taking care of these activities.
- Increase in operational efficiencies for the insurer.
- Reduction of overheads in the issuance of policies.
- Ensures timely cover to the insured.

iv. Improve claims experience of clients to remove the Trust Deficit - Brokers must be allowed to offer claims consultancy services

Customers buy insurance products to cover their risks and get adequate claims at times of need. Hence, seamless, fair and timely settlement of a claim is the true test of the insurance contract for a policyholder. However, it is found that policyholders' experience when it comes to getting fair claims from the insurer is often tedious, which has created a trust deficit among the insurers and customers.

Issues such as complex documentation for filing a claim, lack of transparency from the insurer, lack of communication, and indefinite delays often lead to a bad claims experience for policyholders. For certain complex and high-value claims, a policyholder may feel the need to bring in specialist advisors to help them with the claims settlement process. For such cases, policyholders need complete freedom to engage specialists of their choice to support them through the claims settlement process without any restrictions.

Globally it has been observed that insurance intermediaries are allowed to offer claims consultancy service to policyholders, with some basic conditions related to fair price and conflicts of interest. In the US, there are restrictions in certain states where an insurance adjuster license is required to engage in such activities. Whereas in France, the legal consulting must be performed by lawyers if the client is not a brokerage client.

In India, too, the regulator should look at removing the restrictions on claims consultancy. Policyholders should have the freedom to engage qualified experts of their choice to advise them on the resolution of claims, irrespective of the claim amount.

Allowing intermediaries to offer claims consultancy can be helpful in the following ways:

- Bringing greater ease in document submission.
- Improve transparency and prompt communication throughout the claims settlement process. A regular communication from the insurer and surveyor, including the prompt sharing of interim and final survey reports with the insured, would significantly improve their overall claims experience.

v. Intermediaries should be allowed to bring a range of allied services at par with Global markets: Customers need solutions and not products

Individuals have different financial needs. If the insurance market participants are allowed to sell holistic financial solutions along with insurance products, it will be far more beneficial to policyholders and future customers. Currently, in India, all other financial intermediaries are allowed to sell insurance products, but insurers are only allowed to sell insurance products. So allowing the market participant to sell various services for benefit of customers and also making distribution more viable to increase insurance penetration, which is in line with the global best practices. For instance, in countries like Australia, UK and France, insurance brokers are allowed to sell non-insurance products.

Currently, in India, roadside assistance could be bundled with motor insurance to support customers after an accident. Similarly, like in other markets, this can be replicated for other lines of business like:

- Health insurance providers should be allowed to offer a full range of Health risk management services to help policyholders and insurers reduce claims by bringing diagnostic, wellness and other services. Their remuneration is allowed from the clients, health vendors or insurers.

- Home Insurance: Bundling home insurance with ancillary services such as plumbing, electrical, or carpentry would be a big help for homeowners, especially in the event of a loss.
- Cyber Insurance: Offering a subscription to an anti-virus application with cyber insurance would help retail customers who are increasingly using digital mediums for managing their work as well as their household needs.

b. Strengthening insurance intermediary market for higher penetration

For insurance brokers to meaningfully contribute towards increasing insurance penetration, he broking channel needs to be strengthened and allowed to service the needs of its customer. Within commercial lines, brokers should be allowed to provide services, which on an overall basis, form part of the insurance ecosystem. Their remuneration and scope of activities should be widened as per the international best practices. This may include:

i. Perpetual licenses for insurance intermediaries.
ii. Distinction between the person doing the sale of insurance and the person who is introducing the customer.
iii. Risk-based compliance.
iv. Utilizing Point of Sales Persons (PoSPs) to improve outreach.
v. Optimization of digital technologies to amplify distribution.

I. Perpetual licenses for insurance intermediaries

In order to simplify the process of renewal of licenses, insurance brokers should be granted a "permanent license" as against the current practice, which requires intermediaries to renew their licenses every three years. This is not unique in India. The market regulator, the Securities and Exchange Board of India (SEBI) since 2011, has started issuing long-term licenses to brokers. The limited validity of certification of registration leads to administrative constraints for insurance brokers and uncertainty for policyholders since existing policies cannot be serviced without a valid registration. Overall this will improve the ease of doing quotient for the businesses.

ii. Distinction between the person doing the sale of insurance and the person who is introducing the customer

Referral business is important for any sector, particularly for financial products. Canvassers or persons/entities who can refer prospective customers to insurance brokers can go a long way to drive growth and penetration. However, these persons must be incentivised to do so. Currently, the regulations do not allow insurance brokers to pay a referral fee to canvassers or person who is introducing the customer. This limits access to customers, especially those in the SME/MSME sector, where the cost of procuring the business is higher compared to other sectors.

Allowing the intermediaries to incentiviseor a referral fee to these individuals will have the following positive impact:

- Considerably increase their reach. They would solely be involved in introducing clients to an insurance broker for a referral fee which is not in any way linked to the premium paid by the customer and may be subject to adequate caps as specified by the regulator.
- Help in making insurance more accessible to customers while ensuring that they have access to a licensed entity regulated by the IRDAI.
- Prevent the mis-selling of insurance by entities who are not authorised to solicit and advise insurance customers on their insurance needs.

iii. Risk-based compliance

The IRDAI in the past has indicated that it will move to risk-based supervision, which will help the authority to optimise its time and resources to focus on high-risk and/or substantive matters relating to the functioning of licensed brokers.

This could be implemented through the creation of an appropriate governance framework within each registered intermediaries. Once a proper governance framework and due diligence mechanism are in place, it would ensure that regulator gets the necessary information accurately and timely, thereby developing confidence about substantive compliance of legal responsibilities. Risk-based compliance is common in developed markets, and some of the reasons regulators globally have adopted this approach include:

- The need to bring supervisory practices in line with developments in financial institutions' operations and risk management practices
- The need to deliver 'integrated' financial regulation
- A need to improve internal managerial control, to prioritise resources and shift regulation onto a more proactive footing
- Enables enforcement of prudential rules for the long-term development of the market. Financial Services regulators, including the Canadian Office of the Superintendent of Financial Institutions, UK Financial Services Authority, the Australian Prudential Regulatory Authority and the Reserve Bank of India, have adopted risk-based compliance in the supervision and regulation of licensed entities.

iv. Utilizing Point of Sales Person (PoSP) to improve outreach

Given the level of insurance penetration in India, it is imperative to establish last-mile connectivity. To bridge this gap, the regulator has adopted the Point of Sales Person or PoSP model, where both the insurer and the intermediaries can appoint PoSPs. However, the products and services offered by PoSPs havelimited scope, such as:

- Medical evaluationsare not allowed under PoSP policies. So, the life insurance companies cannot offer a Pure Term plan under POSP, which is the most sought-after product by Retail clients.
- PoSP cannot offer any health plan above INR 5 lakhs sum assured. Looking at post-pandemic conditions and medical inflation, most of the clients are looking for higher medical insurance risk cover.
- PoSP cannot offer any critical Illness plan above INR 3 lakhs sum assured. This, again, is very low considering present medical treatment costs.

Due to the above restrictions, a PoSP often cannot offer plans as per the need of the customers. So the entire effort of PoSP goes waste, and the client is also deprived of insurance solutions of his choice. So going forward, the regulator should remove all such restrictions which are limiting the scope of the PoSPs.

v. Optimization of digital technologies to amplify distribution

The COVID-19 pandemic has accentuated the ongoing digital disruption in India, and for the insurance intermediaries, a focus on servicing niche products and embedding new-age digital technologies have emerged as a key growth drivers for the Indian broking market. According to a recent study from KPMG, 80% of insurance CEOs said that the pandemic accelerated the creation of a seamless digital customer experience intheir organisations.

The customer transition and adoption ofdigital usage havebeen faster than the insurance industry's capability to deliver digital solutions.

Many perceive digital/online as a threat to the intermediaries. However, it provides a massive opportunity for us. Customers prefer going direct for simple retail products. Core areas of insurance broking like property, marine, projects and liability are advisory-led, and the pandemic shock has shown the need and the importance of the critical role of an Insurance broker. Very often, the cost of broking as intermediation was high due to personal interaction necessary for some sectors. However, the digital medium affords a tremendous opportunity for brokers to tap into these areas in a much bigger way.

Rapid advancements in technology and digitisation have led to increased investments by brokers in business intelligence and the use of big data and analytics to improve operational efficiency. Advisor enablement through sales apps, use of AI and chatbots are being used to improve customer experiences and partnerships.

In terms of client segments, for retail consumer, affinity business digital strategies adopted to accelerate growth is probably the only way to scale and deliver value. For the SME segment, there will be a number of brokers who will emerge and build more on delivery using digital capabilities.

There has been a rapid surge in insuretechs, with digital transformation initiatives becoming a central focus across the insurance sector. The Indian insurance sector is primed to ride on the wave of innovation, and technological advancement will improve the reach and conversion, with Data analytics driving new customer acquisition. Going forward, innovations in underwriting, the introduction of tech-enabled distribution frameworks and post-sales services will be the key to drive growth and penetration.

Conclusion

The positive macro-economic and regulatory environment, coupled with a promising growth rate of the non-life insurance industry, are the key factors for the intermediaries to thrive in the long run. The broking channel has the potential to enhance insurance penetration and further contribute to the growth of the Indian insurance industry. However, there is still scope for some additional reforms for the intermediaries to achieve the next level of growth. To achieve this, there is a need for the industry to come together and capitalise on existing strengths and emerging opportunities.

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8

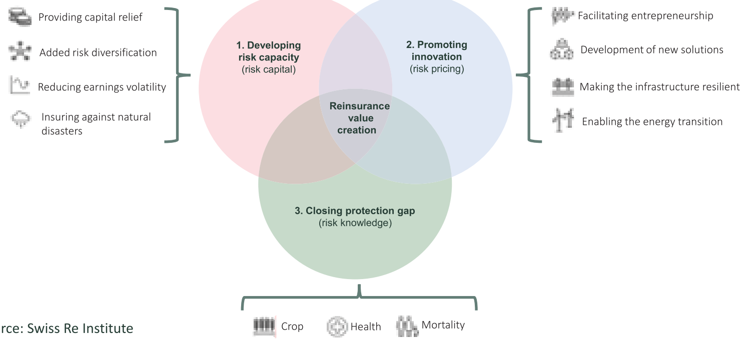
The Role of Reinsurance in Bridging The Insurance Protection Gap

Mr. Hadi Riachi

The role of reinsurance

Reinsurance is insurance for insurance companies to help them deal with complex and unpredictable risks and close the protection gap for vulnerable individuals and businesses. Reinsurers also enable governments and society to absorb large losses. For example, reinsurers acted as shock absorbers during the COVID-19 pandemic and helped economies and individuals return to normal. Reinsurers also play an essential role during natural disasters, where they pay losses related to floods or earthquakes affecting parts of the country. Reinsurers are slated to gain even more relevance as exposure to natural catastrophes is increasing, with people and assets concentrating in regions prone to disasters. This would further aggregate as the frequency and severity of high-magnitude disasters are expected to increase due to climate change. The impact of these developments will also have profound consequences for sectors such as construction and agriculture. In addition to natural catastrophes, reinsurers will contribute as risk knowledge partners for newer areas such as cyber risks as more businesses and individuals go digital with the proliferation of internet connectivity. The value creation by reinsurers can be better visualised by taking examples in three broad areas (see Figure 1).

Figure 1 : Reinsurer's value creation for resilience



Source: Swiss Re Institute

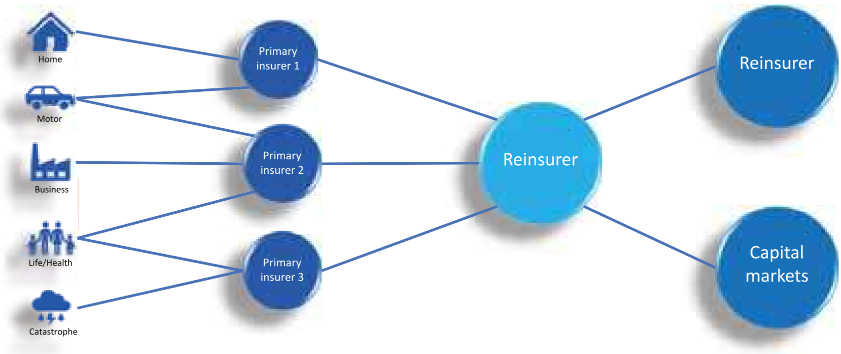
1. Developing risk capacity: Reinsurers stabilise insurance company results by absorbing losses and enabling growth and innovation by bringing global risk knowledge. Only by sharing some of their risk with reinsurers can primary insurers offer cover against the key risks we face today and keep prices at reasonable levels. Reinsurers provide coverage against all kinds of risks all over the world, ranging from earthquake risks in India to hurricane risks in the Gulf of Mexico; from the effects of drought for Brazilian farmers to mortality risks for a European life insurer; and from an auto insurance portfolio in the US to aviation liabilities in Asia. Risks are transferred from individuals and companies through primary insurers to the reinsurer. Reinsurance allows those parties to reduce their risk exposure and own capital requirements. Freeing up capital allows insurers to write more business, thus enabling economic growth and helping to create stability.

a. **Providing capital relief:** When insurers write new business, they take on additional risks. Their ability to write business is limited by i) the cost of acquiring that business and ii) the extent of their capital. When an insurer reaches its limit in terms of capital, it can raise more capital or seek capital relief. Alternatively, it can stop writing new business or scale back existing business. Reinsurance offers insurers the opportunity to transfer portions of their risk, thus freeing up capital and allowing them to write more business.

b. **Enabling resilience through risk diversification:** Risk diversification is a strong economic argument favouring a primary insurer buying reinsurance (see Figure 2). Both the insurer and the reinsurer hold capital to deal with larger-than-expected losses. A reinsurer, however, needs to hold comparatively less to cover a risk than does an insurance company. Reinsurers generally carry a broad array of risks across lines of business on their books. They abide by the rule of not putting all their eggs in one basket. A reinsurer might, for instance, reinsure earthquakes in Japan and floods in Chennai. These two events are uncorrelated, and it is highly improbable that they would happen simultaneously.

Reinsuring both these risks contributes to the diversification of a reinsurer's portfolio. Because a reinsurer is generally more broadly diversified than an insurer, the reinsurer does not need to hold as much capital to cover the same risk as an insurer: The difference between the insurers and the reinsurer's capital needs for the same risk represents the economic gain that reinsurance produces.

Figure 2: How reinsurers help diversify risks



Insured risks: Individuals and corporates are looking to insure against specific risks

Insurance: Each party transfers a portion of the risk to an insurer by paying a premium

Reinsurance: The primary insurer passes on portfolios of similar risks or large single risks to reinsurers

Retrocession: Reinsurers diversify their portfolio of risks by passing it on through further reinsurance and securitization

Source: Swiss Re Institute

c. **Reducing earnings volatility :** Large variations in claims and absorbing higher risk exposures can impact cedant (insurers) earnings and destroy shareholder value. Ensuring adequate reinsurance protection against such portfolios or large risks would enable the insurers to safeguard their profits against peak exposures by ceding some of their losses to reinsurers. Were it not for reinsurance, massive disasters such as Hurricane Katrina or the attacks of September 11, 2001, might have led not only to earnings disruption but to a wave of insolvencies amongst insurers. Foreign (re)insurers, for instance, made more than 60%

of payments related to the destruction of the World Trade Center in 2001.

d. **Insuring against natural disasters :** India is vulnerable to weather risk, and the nation's adaptive capacity for climate change is low. If all stakeholders take no mitigating action, the loss to India's GDP could be as high as 35% by 2050. Reinsurance is key to helping governments do adequate capital (fiscal) management by providing disaster insurance solutions and helping societies and governments build back assets after disasters. Realising the importance of climate risk, reinsurers have developed their core competencies and expertise in compacting catastrophic natural risks by developing appropriate risk solutions like climate risk insurance, parametric insurance, etc. They also encourage policyholders to adapt to climate change and have a great potential to facilitate the successful conversion to a low-carbon economy.

2. Promoting innovation :

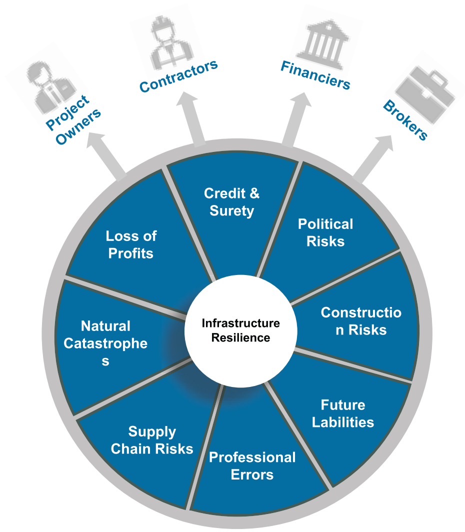
Fast-paced economic and technological change creates challenges and opportunities for businesses, which are becoming highly complex and competitive daily. In this environment, reinsurers can support clients with risk knowledge and build solid partnerships and technological innovations to meet the increasing need for insurance protection. Reinsurers play a crucial role in helping clients along the entire value chain, from better product design to effective risk modelling to claims optimisation. Reinsurers fostering the right partnerships with clients and companies from outside the insurance industry are able to design customised and technology-based innovative solutions addressing the localised market risks and ensure necessary risk support and better policy services to end consumers.

a. **Facilitating entrepreneurship:** Reinsurers help insurers put a price tag on some risks and encourage firms to innovate and take new risks. For instance, new technologies incorporated in state-of-the-art aircraft need significant investments to become a reality. Many of these projects would never happen if the manufacturers were required to hold all the capital necessary to absorb every potential loss. The reinsurers can help their clients or insurers relieve that risk burden, thus freeing up capital to help another manufacturer elsewhere. In this sense, insurance and reinsurance are essential parts of the risk-taking process and foster technological advancements and economic development of the society at large.

b. **Supporting the development of new solutions:** From remote sensing-enabled rapid damage assessment to geospatial technologies for building early warning systems and from the introduction of cattle identification technologies to the broader adoption of digital health technologies; the reinsurers can help leverage technology to optimise the insurance value chain and increase the breadth and depth of coverage. Reinsurers have also been highly helpful in improving the livelihood of the poor and economically weaker section of the population by bringing them under the social insurance net through micro insurance, customised risk solutions, and improved accessibility. Reinsurers have contributed to the recent growth of micro insurance by assisting micro finance institutions and primary insurers in designing and developing appropriate products and helping setup relevant risk-sharing frameworks. In fact, rendering adequate reinsurance protection and technical support insurers for the scaling up micro insurance solutions.

c. **Making the public sector infrastructure more resilient:** Governments not only shoulder the immediate burden of paying for emergency and relief efforts after natural disasters, but they are also responsible in the long term for the subsequent costs of major infrastructure projects aimed at rebuilding damaged roads and other public facilities. Traditionally, the public sector has adopted a post-event approach to disaster funding. This includes raising taxes, reallocating funds from other budget items, accessing domestic and international credit, and borrowing from multilateral finance institutions. Increasingly, however, governments are taking a more proactive approach to disaster risk financing and are securing potentially required funding before natural catastrophes even occur. Such pre-event financing mechanisms include insurance cover (see Figure 3) and specific capital marketsolutions, such as bonds that pay out in the event of a pre-defined trigger, such as an earthquake of a particular intensity. Reinsurers lead in designing and developing new risk transfer solutions for governments.

Figure 3 : Reinsurance solutions for resilient infrastructure



Source: Swiss Re Institute

d. **Enabling the energy transition:** India is the world's third-largest electricity consumer and the world's fourth-largest renewable energy producer, with 40% (156.3 gigawatts out of 390.8 gigawatts) of total installed energy capacity coming from renewable sources. The country has committed to building an additional 400 gigawatts of renewable energy to combat climate change, ensuring that half of its energy mix comes from renewable sources by 2030. Traditionally, reinsurers have supported green technologies like windmills or solar panels by providing technical support and adequate protection. (see table 1). As they operate at a global level and have wider exposure, reinsurers are able to develop innovative risk solutions to mitigate any new or emerging technological risks. Such innovative solutions would provide ample confidence to the direct insurers and encourage them to write such new risks.

Table 1 : Potential reinsurer contributions to close the energy transition protection gap

Themes	Examples of proposed pol icy actions	How reinsurers help
Transitioning to solar and wind from fossil fuels	• Domestic manufacturing of solar cells • Improve grid connectivity • Conversion of wasteland to wind farms • Harness India's offshore wind potential	• Consolidate risk cover for portfolios of solar and wind farms • Develop expertise in new clean technology
Expanding energy storage infrastructure	• Incentivize production of lithium-ion batteries and hydrogen electrolysers • Expand capacity by building storage infrastructure • Integrate storage in national energy policies • Setting the stage for clean hydrogen storage and distribution infrastructure	• Provide input into standards • Share loss insights from overseas claims • Long-term warranties for defects and performance degradation • Cover for marine transit, CAR, public liability

3. Closing the protection gap:

Reinsurance protection enhances insurers' capacity to underwrite more risks and address the protection gap under multiple lines of business. However, motivations for purchasing reinsurance and the amount of reinsurance required vary according to an insurer's level of capitalisation and exposure to different kinds of risk. Insurers with greater portfolio volatility or lines of business will have a higher dependency upon reinsurance support. Similarly, the insurers who have a smaller volume of business or write a specialised line of business may have capital constraints, do also require reinsurance support. In general, life insurance is a reasonably stable business with significant savings. When life insurers seek reinsurance, they do so for high sums assured policies covering mortality and morbidity risks (disability, accidents & health). Retaining such high-value risks may require higher capital. Similarly, the General Insurers who have a more comprehensive range of products or lines would also highly depend upon reinsurance protection, mainly for such portfolios which have greater risk volatility or natural catastrophic exposures.

a. **Closing the crop protection gap:** Farmers are highly exposed to the consequences of a failure in their harvest due to drought or other natural catastrophes. Continuous crop failures eventually would significantly impact food security in the near future. Reinsurers can help develop or support innovative solutions that provide them with financial protection against adverse weather conditions threatening agricultural production and affecting their livelihood. The availability of adequate reinsurance support would improve the sustainability of crop insurance schemes in emerging countries, which can promote economic and social development. The reinsurers have introduced innovative index-based parametric insurance solutions in crop insurance. Such index-based products have relevant weather parameters such as rainfall, temperature, humidity, crop yields, or satellite-based vegetation indices linked to crop yields. The claims payouts are made based on the deviations of weather parameters rather than yield variations measured based on crop-cutting experiments (CCE). As a result, the claims payouts are made faster, and the operational or administrative cost is lower.

Case study: Making farmers more resilient

More than six million farmers in West Bengal have access to technology-based coverage for their crops after the state launched its first fully subsidised remote sensing-driven crop insurance scheme. Since the product is subsidized, it drives high penetration among the farming community and throughout the state. It is estimated that around 85% of the 7.2 million farmers within West Bengal are insured through the scheme, and efforts are on to have comprehensive universal coverage. Their insured crops are rice paddy, including potatoes, mustard, wheat, lentils, and sesame. The Bangla Shasya Bima scheme is unique as it uses the Crop Health Factor (CHF) as the underlying parameter: CHF uses remote sensing technology to measure and combine various indicators, such as vegetation and rain, to assess the health of the crop. While most states in India continue to rely on manual data gathering in area yield index models, which have been running since the 1970s, the Crop Health Factor-based insurance signals a paradigm shift in the efficiency of crop insurance models. Under this scheme, the National Remote Sensing Centre (NRSC) within India's Department of Space will compute the Crop Health Factor parameters. The scheme was co-developed by the state government of West Bengal, the NSRC, and the Agriculture Insurance Company of India (AICI). Swiss Re helped review the product design and is also the lead reinsurer. As part of the product development journey, Swiss Re and AICI have paved the way for replicating similar successes to close the protection gap in the Indian crop insurance sector. Such strategic collaborations support our ambition to develop affordable, technology-based innovative products in agriculture and other associated industries.

b. **Closing the health protection gap:** Emerging markets accounted for 60% of the global health protection gap of USD 737 billion, per a Swiss Re Institute study [1]. Emerging Asia-Pacific alone represented 40% of the global protection gap, where households are more vulnerable to health emergencies when out-of-pocket expenditure on healthcare is high. In the future, the reliance on

[1] Health protection gap is defined as the sum of stressful self-financing costs in case of a health emergency.USD [737] billion is the premium equivalent of the protection gap i.e. (Re)insurers need to collect this much additional premium every year to close the gap.

public budgets and household savings to fund healthcare will become increasingly complex, given rising concern over fiscal sustainability, higher treatment costs, greater incidence of chronic diseases, and increasing consumer expectations. Reinsurers are critical stakeholders in the healthcare ecosystem as they can support and help the private health insurance sector address the health protection gap.

c. **Closing the mortality protection gap:** Swiss Re Institute estimated the global mortality protection gap [2] at USD 433 billion. Emerging economies are most exposed,e.g., the total gap in volume terms is largest in China with USD 79.5billion. The COVID-19 pandemic highlighted the crucial need to bridge the mortality protection gap, further widening as increased economic uncertainty and wealth erosion pressure social systems. Life insurers bridge the mortality protection gap by covering mortality risk under a life insurance policy. Reinsurers bridge the gap further by reinsuring the mortality risk component from books of life insurers. In addition to capacity, reinsurers can help bridge the protection gap by bringing global risk knowledge to different markets and supporting local life insurers better understand customer needs and adapt the products accordingly.

Conclusion:

As we discussed earlier, the insurance protection gap in emerging economies like India has been increasing due to climate change, pandemics, and natural catastrophic exposures. The rising protection gap would significantly impact the economic development of these countries as they have limited financial resources. Appropriate risk mitigation and transfer mechanisms would benefit these countries in terms of better managing and funding disasters' impact.

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[2] A measure of the lack of financial resources households need to maintain living standards should the main breadwinner(s) of a family die.

Reinsurers play a vital role in providing adequate risk capacity and technical know-how to the direct insurers in these countries to mitigate such major natural catastrophes effectively. To properly fulfil their economic and societal function in this regard, reinsurers and insurers must be able to charge the right price for the risks they take. Reinsurance solutions help reduce societal vulnerabilities, and the reinsurance industry can be a powerful ally. However, it cannot drive results alone. An ecosystem approach involving strong policy support from the public sector, investment support from the private sector, and research support from academia, non-profit and multilateral organisations are required to close India's protection gap.

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9

Role of ART & Risk Pools in Bridging the Insurance Protection Gap

Mr. Deepak Godbole

Role of insurance in economic growth and development

Economic growth is expressed through the gross domestic product growth rate, national income, and income per capita. Economic development is a multidimensional process, an indicator of relations of macroeconomic aggregates such as national product, national income, consumption, employment, and investment. Increasing the living standard and realising the productive potential are essential goals for economic development.

Insurance is an enabler for people and businesses to take risks. Through the support of insurance, individuals' minds and assets get productively and assuredly invested in economic activities. Higher economic development usually leads to larger risk-taking and greater financial inclusion. The existence of the insurance ecosystem enables economic continuity and absorbs higher capital expenditures to foster faster economic growth. There exists a causal relationship between economic growth and insurance.

Although banking, insurance, and securities markets constitute a financial system, insurance performs somewhat different economic functions. Insurance helps to improve the overall efficiency of the economy. Insurance is sharing the misfortunes of the few with the fortunes of the many. It operates on the fundamental principle of pooling, aggregating and mutualising risks by appropriately pricing them based on their statistical occurrence for a large number of individuals or assets at risk. Insurance works as a mechanism for risk transfer; and as a means of mobilising saving and developing the capital markets, thus, stimulating economic growth and stability through making long-term investments.

Frequency - Severity matrix/ Assessment

The very basis of insurance is risk assumption. Hence it is the business of insurance to give risk protection by accepting and pooling risks in a measured and controlled way. At the core of insurance and reinsurance is the economics of uncertainty [1]. Insurance companies should be able to price insurable risks for which they have to collect information to enable them to estimate the probabilities of the losses and their severity for their sustainability. The risk matrix provides information about frequency, how often claims arise, and severity; the claim size is the key for insurance decisions. Frequency - Severity matrix assists in determining the expected number of claims that an insurer will be paying during a given period and how much the average claim will cost. Frequency - Severity method uses historical data to estimate the average number of claims and the average cost of each claim. The risk matrix helps in categorising risks as high, moderate, or low, which, in turn, helps decide the allocation of time, resources, and money for managing the risk.

Insurability

In discussing the issue of insurability, the specific risk is defined as insurable if the agent exposed to the risk can find a risk carrier who grants the requested cover[2]. The characteristic of being acceptable for insurance or acceptability to the insurer of an applicant or a risk for insurance at a given rate is called insurability. It involves evaluating the price markup, the premium in excess of the expected loss, at which a risk carrier/ insurance company is willing to provide insurance support/ cover. Incidentally, one risk may be insurable for one risk carrier and uninsurable for another. Also, the risk owner could decide to live with the risk unattended if both frequency and severity are low. So, actually, a fully insured society is neither necessary nor feasible. Certain risks do not meet the insurability criteria and are considered uninsurable from a commercial viability point of view. Governments often act as insurers or

[1] Karl Borch-Economics of Insurance
[2] Large Risks and Limits of Insurability- Baruch Berliner, Geneva Papers, The Geneva Association

reinsurers of last resort for specific risks that defy the most fundamental insurability criteria.

Limits of Insurability

The insurance industry faces events that test the limits of insurability. The WTC terrorist attack in 2001, the Thai Floods of 2011, the Covid 19 global pandemic 2020, and cyber-attacks are some prominent examples. The frequency and severity of claimable events must be quantifiable within reasonable confidence limits. This is a particular challenge given the paucity of data and actuarial know-how, which forces insurers to add high uncertainty loadings, undermining the product's value proposition. The premium rate must be economically viable, covering the insurer's expected cost of acquiring and administering the business as well as claims costs. In addition, the price must allow for an appropriate return on the capital allocated to the risk. Ignoring these constraints would ultimately undermine the solvency of insurers and reinsurers and jeopardise the ability to honour obligations. Nevertheless, insurability is not entirely a supply side issue but also relates to affordability for the buyers.

Risks could become uninsurable for many reasons. Some risks could have catastrophic loss potential, some risks could be new, and without any historical experience, some may be difficult to quantify when losses occur. When some risks end up in the zone of uninsurable risks or reach the limit of insurability, the need arises for extending the frontiers of insurance and developing other practical arrangements for transfers of risk where insurance cannot do the job. This could be done through designing insurances coverages based on less restrictive criteria of insurability, more aggressive risk management, greater recourse to risk sharing/ pooling through coinsurance and reinsurance, and exploration of other arrangements for transfers of risk such as financial engineering and towards the end, the Government playing a role in assuming risks that could threaten economic stability. Risk exposures, driven by new technologies, urbanisation, climate change, value accumulation, and concentration, tend to outgrow the capacity of insurance companies, leaving individuals, households, firms, and businesses underinsured.

Protection Gap

The variety of the risks facing individuals, businesses and communities is getting broader and more complex daily. The insurance industry must respond to the challenges of the fast-changing risk landscape. The crucial test of any insurance program cannot be limited to good intentions but also the coverage it achieves and the scope of coverage/ protection it furnishes. For any successful insurance offering, the outcome must serve two purposes: financial viability for the provider and positive social impact. However, a sizeable number of human beings and property remain either uninsured or underinsured.

The issues posed by lack of insurance (no insurance) and underinsurance (inadequate insurance), both in terms of their causes and effects, are issues that are significant and important. Millions of people are potentially uninsured or underinsured against the death of a loved one (mortality protection gap), for the health care costs when the need arises (health protection gap), for losses due to natural catastrophes (Nat cat protection gap), fast unfolding technology (cyber risk protection gap), urbanisation creating risks due to concentrating populations and economic value, ever-increasing flood risks due to failure of town planning, extreme behavioural changes, etc. These distinct insurance protection gaps have separate foundations, and, therefore, each would require a different remedy.

The ideal approach to close the protection gap is to provide a standard, technically/ actuarially priced insurance coverage and make the same mandatory. Theoretically possible, but not easy to implement. There are socio-economic-cultural problems that surround this issue. The social and economic cost of being uninsured and underinsured could be considerable. Primary causes of protection gap at sellers' end are limits to insurability, unbearable transaction costs, and adverse selection/ moral hazard and, at buyers' end are awareness, affordability, the complexity of products, lacking trust in suppliers, behavioural bias, and complacency due to the role of State to offer compensation on catastrophic losses [3].

The insurance protection gap is the difference between the amount of insurance that is economically needed and beneficial as against the amount of coverage available. The protection gap describes uninsured losses related to some incident or disaster. The protection gap keeps widening because of the challenges of providing insurance to lower-income population segments by identifying and connecting with them, providing relevant products, and carrying out the administrative work of collecting premiums and paying claims. Due to the small ticket size, this often becomes cost ineffective for insurance companies. Effective use of technology is set to make a positive contribution and make a difference in achieving the goal of inclusive insurance. Contrary to general belief, protection gaps are not limited to developing and emerging countries but are also common in advanced economies [4].

A measure of the reach of insurance/ estimation of the protection gap

In order to examine the development, sufficiency, or inadequacy of insurance, it is customary to look at the level of insurance penetration and density, the standard insurance indicators used to enable the insurance potential assessment. Insurance penetration is measured as the percentage of insurance premium to GDP, and insurance density is calculated as the ratio of premium to population (per capita premium).

Insurance penetration and density serve as a broad indicator of an insurance market's development and provide a good numerical basis for international comparison across regions and countries. Insurance Penetration, however, does not present detailed information about how many people actually have insurance coverage, the inclusiveness of insurance, or how much of the total assets are insured, nor does it signify the quality of coverage and whether there is sufficiency or coverage or the

[3] Global insurance protection gap Report- The Geneva Association

[4] Jad Ariss, Managing Director, Underinsurance in Mature Economies and Kai-Uwe Schanz, Senior Advisor and Director Socio-Economic Resilience -The Geneva Association

underinsurance. Some other indicators are- Increase in technical reserves and provisions (or assets) of the insurance sector with the increase in gross fixed capital formation (indicating the growing importance of the insurance sector as a financial intermediary), Linking the size of the insurance market to the level of financial development (indicating growing demand for insurance).

Bridging the protection gap

There is a need to look towards achieving inclusive insurance through improved accessibility, simplified process, and appropriate & affordable insurance products for the unserved and underserved. Inclusive insurance would help people, including those at the base of the economic pyramid, manage the stress of illness, difficulties of living long, income loss due to the death of a wage earner, crop failures, and losses due to natural disasters. Insurers could, through micro-insurance, to an extent, reach traditionally underserved populations such as women, rural dwellers, and small and medium-sized enterprise owners. Microinsurance should cover funeral expenses, health protection, savings, and pension requirements for the lower-income population.

Protection gaps differ in size, nature, and dynamics; solutions to bridge the gap depend on the general maturity of the insurance market/ industry. The natural catastrophe protection gap is on the rise year by year. The global pension gap is enormous and ever-growing. The same is the case with the healthcare protection gap, which is challenging to quantify primarily because of differences in the quality and availability of healthcare services. The latest is the cyber risk protection gap. Estimating the cost of cyber incidents is challenging. The protection gap can be bridged differently, and there is no simple or one-size-fits-all solution.

Risk Transfer

Insurance companies manage their risk through reinsurance. A benefit of the risk transfer mechanism is that insurance companies have access to a network of other insurers through reinsurance. When an insurance company buys reinsurance, the reinsurance premium paid is, in effect, payment for the use of the capital of the reinsurance supplier. The availability of reinsurance capacity in the global market enables insurers to underwrite large risks and allows access to the capital base to all those in the global reinsurance network. The international reinsurance market also has to access additional capital from the global reinsurers and capital markets to absorb substantial potential losses. But when it comes to protecting massive risk exposures, many times, reinsurers cannot also be able to meet the immense market needs, leaving large unfunded liabilities in the consumer arena. Furthermore, reinsurers face the same challenges as insurers, leading to a further decrease in available reinsurance capacity.

Alternative Risk Transfer

Alternative Risk Transfer is a customised risk financing mechanism comprising innovative, tailored insurance, reinsurance, and other non-traditional risk management solutions as an alternative to, or enhancement of, conventional commercial insurance. It is a way to increase the flow of the insurance capacity by introducing innovative and creative solutions and opening up new opportunities in the reinsurance market. New products, where traditional risk transfer tool is not available, are increasingly being developed as a solution for closing the protection gap. Structured solutions are found through advanced predictive modelling using quality data and analytics, which is central to alternate solutions.

ART transfers the risk from the insurance market to the capital market by producing innovative products which combine insurance and capital markets. Alternative risk transfer products are contracts, structures or solutions provided by insurance or reinsurance companies that enable firms either to finance or transfer the risks to which they are exposed in a non-traditional way (i.e. other than insurance policy). The concept of alternative risk transfer defies a precise definition. One reason is that the range of risk products that can reasonably be defined as alternative risk transfer has expanded over time as product innovation continues [5].

The alternative risk transfer market is broken down into risk transfer via alternative products and risk transfer via alternative carriers. Alternative risk financing techniques are developed to complement those already in use to improve risk transfer efficiency. It is aimed at expanding the spectrum of insurable risks. The goal is to generate additional capacity via the capital markets. In the beginning, companies introduced alternative risk transfer mechanisms to insure their own risks by means of captives and risk retention groups, amongst others. More recently, the term has acquired a broader meaning. Alternative risk transfer refers to the products and solutions representing the convergence or integration of capital markets and traditional insurance. The development of alternative risk transfer for corporate buyers has traced the path of- Self-insurance, Captive insurance company, Rent a captive insurance company, Finite or financial insurance, and Multi-year/ multi-line covers[6].

The alternative risk transfer market is the combined risk management marketplace for innovative insurance and capital market solutions. Securitisation of existing products, channels or solutions enables seamless transfer of risk exposures between the insurance and capital markets to achieve stated risk management goals. In its broadest sense, alternative risk transfer can be viewed as an all-encompassing sector that involves multiple asset classes and risks, conduits, products, terms, industries, and legal vehicles [7].

New methods have been developed to address risks stemming from credit or insurance activity by unloading traditional balance sheet activities into financial market securities sold to investors. Risk transfer mechanisms thus comprise of financial instruments used to transfer risks to another

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5 Alternative Risk Transfer- Christopher Culp

6 The Art of Alternative Risk Transfer methods of insurance Athenia Bongani Sibindi and ART is for Alternative Risk Transfer- Dr. Alan Punter

7 Alternative Risk Transfer: Integrated Risk Management through Insurance, Reinsurance and the Capital Markets- Erik Banks

party, either in the form of borrowers defaulting on their debt (credit-linked securities) or the risk of a catastrophe occurring (insurance-linked securities). They primarily include Securitization and credit derivatives.

There are aggregate basket solutions/ virtual captives and customised/ tailored solutions designed to provide stop loss protection in excess of an aggregated attachment for retentions. Once combined losses within the retentions exceed the basket aggregate attachment, alternative risk transfer pays the difference. The alternative risk transfer also includes risk securitisation through catastrophe bonds, weather derivative contracts, insurance-linked securities and reinsurance sidecars, captive insurance companies, life insurance linked Securitization, longevity risk transfer, etc.

Capital market-based mediums include Securitization, which is a procedure for combining risks into debt/equity securities that can be exchanged on financial markets, Insurance-Linked Bonds that entirely or partially lose their principal/interest if a predicted event occurs (raising money to cover risks), Finite Risk Reinsurance where the ultimate liability of the reinsurer is capped and on which anticipated investment income is expressly acknowledged as an underwriting component, Weather Derivatives where policies are made available for the occurrence of certain extreme weather events and Loss Equity Push/ Catastrophe Equity Put Options that allows a company to sell equity at a fixed price in case of an event of a disaster, Catastrophe Bonds which are risk-based securities that pay high-interest rates and provide an alternative or add on to reinsurance. The increasingly diverse set of offerings has broadened the range of solutions available to risk managers for covering traditionally uninsurable risks.

The concept of parametric insurance would need a special mention in spreading insurance, as while traditional insurance indemnifies the policyholder for the losses incurred from an insured event, parametric insurance, by contrast, pays a fixed amount upon the occurrence of a triggering event. The number of weather-related loss events is growing each year. Only about 30% of losses from natural catastrophes have been covered by insurance in the past ten years. In middle or low-income countries, the uninsured proportion of economic losses often exceeds 90%[8]. In the absence of well-developed crop/ agriculture or disaster risk insurance, parametric insurance provides a meaningful alternative to the vulnerable population. Many of the solutions for climate and other natural disaster risks offered by the insurers are parametric, as opposed to indemnity offered through traditional insurance. Parametric insurance products offered by risk pools provide rapid (though limited) liquidity in the immediate aftermath of infrequent and severe disasters. The parameters could be set as wind speed, the strength of a hurricane, amount of rainfall, the magnitude of an earthquake or similar triggers for a specified geographic area. The parametric insurance contracts are based on objective and transparent indices, and payments can be made as soon as the index reaches a pre-decided threshold. Protection against large, unpredictable and devastating risks previously unavailable with traditional insurance could be made possible through parametric covers. Technological progress, availability of relevant historical data, satellite imagery, and weather data has given impetus to index-based or parametric insurance.

In conclusion

An effective and well-developed financial system helps to increase productivity and, subsequently, economic growth. The deepening of insurance markets makes a positive contribution to economic growth. Yet, not all risks are insured or insurable, and insurance always presents gaps in coverage; not all risks are insured or insurable. The risk protection gap is 'the difference between total or economic loss and insured loss. The insurance protection gap is the difference between the amount of insurance that is economically beneficial and the amount of insurance in place or' the difference between the amount of insurance that is in place and the amount of insurance that should be in place[9].

[8] The International Monetary Fund (IMF)
[9] What is a Protection Gap?- Jay M. Feinman, Rutgers Law School/ The Geneva Association

It is not always the lack of products or capacity offered by traditional insurance that is behind the protection gap. Where affordability becomes an obstacle, Governments could offer premium subsidies. Where lack of trust is the issue, regulators could come forward to provide policyholder protection, and efforts could be made to improve financial literacy and consumer education. To correct behaviour bias and enhancea wareness, the insurance industry and regulators could make concerted efforts and introduce new risk solutions like region-accepted systems and Sharia Law compliant takaful insurance, etc., to overcome cultural / social or religious factors. Compulsory insurance, community-based covers, micro-insurance, and creating specific purpose pools (solid commitment, political and regulatory momentum, and coordination among participants) could bridge the protection gap. And, of course, when the risk pooling capacity of the insurance market hits the limits, the non-traditional ways and combining insurance and financial/ capital markets with innovative thinking would keep working toward closing the protection gap. An example would be a high-risk pool created to offer coverage to the population with pre-existing conditions that make them uninsurable in the medically underwritten health insurance market[10].

A complex and interconnected world keeps altering the global risk landscape and keeps unfolding new and emerging exposures. Increasing risk exposures, driven by economic and societal development, urbanisation, value accumulation, concentration, and climate change, tend to outgrow insurance premiums, leaving individuals, households, and firms underinsured. Limited availability of disaster insurance, pension, and health coverage makes the affected rely on savings, credit, other sources of funds, or governmental aid. Due to the limitations of traditional insurance, the protection gap keeps widening[11]. Data availability, technological advantages, and alternative risk transfer mechanism encompassing various tools of transferring or financing risks other than conventional insurance or reinsurance would play a significant role in addressing the protection gap issue. The introduction of structured

[10] High-Risk Pools For Uninsurable Individuals- Karen Pollitz, Feb 22, 2017

[11] Thomas Holzheu and Ginger Turner - article in the Geneva Papers

solutions through alternative risk transfer/ financing mechanisms is a paradigm shift from indemnity to value enhancement. ART products like catastrophe bonds and a Catastrophe Equity Put (CatEPut) have successfully mobilised large capital from the security market to finance new risks[12]. The risks that lacked risk appetite and adequate cover for want of capital thus get covered, increasing the financial resilience. Insurance technology, an open mindset, new business models, and investors will be able to innovate to seize the opportunity.The inclusive insurance interventions by bringing convergence of insurance and the financial market would require prudent management and regulatory acceptance.

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10

Role of Reinsurance in Increasing Insurance Penetration

Mr. Shankar Garigiparthy

1) Introduction

Insurance markets play an essential role in the development of an economy by mitigating economic risks through an appropriate risk transfer mechanism, establishing the financial volatility, y providing the required financial support through indemnifying the damages and losses incurred by individuals, companies, and governments due to unfortunate (insured) events.

Insurance companies would typically pool a portfolio of risks by class of business, geographical region, exposure limit, etc., to reduce their accumulated exposure by purchasing reinsurance protection. Such diversification would help insurers reduce the overall capital needed to mitigate their portfolio of risks.

Insurance companies must also purchase adequate reinsurance to protect their risky portfolios. When an insurance company buys insurance for itself, it is called reinsurance.

Basically, reinsurance is insurance for insurance companies.

Reinsurance allows for the following benefits:

- Diversification of risk and thereby reducing the concentration of risk within a single entity
- Reducing volatility in underwriting results
- Potentially reducing the capital requirement for the insurer
- Allows for increased capacity for the insurance company to be able to assume more risk
- Allows insurance companies to introduce new products or new lines of business
- Provide underwriting and claims support to insurance companies.

The need for reinsurance varies widely between companies, depending on the type of risks underwritten, the amount of capital, the risk appetite of the insurance company, and the capacity of the insurance company to absorb/retain certain types of risks. In some cases, the reinsurance purchase may also be driven by the company's ownership structure.

2) Role of Reinsurance

Reinsurers assess the world's most significant and complex risks globally. Reinsurance is pivotal in supporting an insurance company's solvency and capital efficiency.

Aside from catastrophic events, reinsurance companies play a critical role in supporting primary companies in many ways, including transferring complex risks, reducing capital requirements and volatility, enhancing underwriting expertise, smoothing earnings fluctuations, enabling growth with more capacity, and improving solvency.

Reinsurance companies may further pool some of these risks for further diversification, providing an additional layer of risk absorption capacity at a lower cost than can be achieved by insurance companies individually. The global nature of international reinsurance markets also allows some of the losses from an event to be absorbed by international markets, thereby diversifying the burden away from the domestic financial system.

Insurance companies typically purchase reinsurance to cover a portfolio of risks, but in some cases, they may choose to protect high-value individual risks. Depending on the type of reinsurance purchased, insurance companies share a portion of their premiums and recover claims when losses occur.

In some reinsurance arrangements, the insurer may limit the amount of loss it is willing to bear, with the reinsurer taking on the excess loss. Alternatively, the reinsurer may choose to restrict their retained losses, in which case, the excess loss would fall back upon the insurance company.

Irrespective of the type of reinsurance arrangement, the ultimate goal remains the same: *Reinsurance contracts help provide capital relief, smoothen the volatility in an insurance company's earnings and protect its balance sheet.*

By spreading risks worldwide, reinsurance companies avoid overexposure and act as establising forces in local insurance markets. Thus, they ensure that more insurance is available at lower prices than would otherwise be possible. Reinsurers can also cover large one-off risks, such as major construction or civil engineering projects, aviation risks, satellites, or large sports/entertainment events, thus enabling innovation and growth.

The level of insurance penetration in most emerging economies is extremely low. Given that many of these economies are also adversely impacted by natural catastrophes, the insurance companies need the support of reinsurance companies for a product, pricing, and claims support. Another critical factor is that in most of these countries, the insurance companies are mostly small and may not, therefore, have the capital required to support the losses that may come through.

As a catalyst for economic growth

A strong and efficient insurance sector encourages commerce and trade significantly. It enables entrepreneurs to take risks and thus fuels innovation. Without insurance products that cover liability risks, many goods and services would simply not be available. Investors often require that assets such as power stations, factories, shops, or laboratories be insured before they commit money to a project. Without reinsurance, primary insurance companies would often be unable to insure many of these risks.

By investing their premiums on a long-term basis in equities, bonds, and other asset classes, reinsurers provide capital to the economy and thus give companies the means necessary to grow and prosper.

Thus, reinsurance helps unlock insurance's full potential as a catalyst for economic growth.

Diversification

Reinsurers typically diversify their risks by writing them across different regions and portfolios as the accumulation of risks would affect their capital adversely and potentially cause insolvency in case of a major catastrophic event. It provides efficient and effective protection for the insurers as well and ensures the safety of policyholders' funds which is the primary objective of regulators and lawmakers. Insurers and reinsurers aim to achieve it by writing a mix of business exposed to different regions or portfolios, not totally connected, risk factors. As a result, a loss event within one product line or a local market can be absorbed by the return on other policies not affected by that event.

Improve capital allocation

Part of the value that insurers and reinsurers add is to put a price tag on risks. By placing a price tag on risks, they help to improve capital allocation, create essential incentives for appropriate risk behaviour and promote risk prevention. This encourages companies to take a long-term perspective on their businesses and consider all the risks they will likely face in their launch projects. Mitigating those risks through insurance enables firms to take other risks. For instance, new technologies incorporated in state-of-the-art aircraft need significant investments to become a reality.

Many of these projects would never happen if the manufacturers were required to hold all the capital necessary to absorb every potential loss. However, an insurance company can help take on some risks. In turn, a reinsurance company can relieve the insurer of that risk burden, thus freeing up capital to help another manufacturer elsewhere. In this sense, insurance and reinsurance are an essential part of the risk-taking process, which oils the wheels of technological progress and the development of our society.

Invest in research for future readiness

Reinsurers invest significant resources in extensive research. They try to understand existing risks better and anticipate emerging developments in the risk landscape. Climate change is a case in point. Decades before this phenomenon hit the headlines and entered the global political arena, the world's leading reinsurers were already incorporating research findings on climate change into their business decision-making.

Contribute to the growth of the capital markets

Reinsurance goes far beyond simply compensating insurance companies in the case of losses. It is also a key pillar of any modern economy's financial system and promotes growth by financing the real economy. By enabling insurers to take on risk and grow, reinsurers, directly and indirectly, contribute to this capital market role. Therefore, investment rules for (re)insurance companies are not made overly conservative, as this would mean lower returns for policyholders and less capital for the real economy.

The smaller the insurance company and its portfolio of business, and the riskier the composition of that business, the greater its need for reinsurance will be, and the more dependent its solvency will be upon its reinsurance arrangements.

Other complementary capabilities

The increasing severity and frequency of major disasters, including natural catastrophes and manmade events, has highlighted the role that reinsurers play as shock absorbers for the global economy. By helping to mitigate the potential losses that could result from risks such as major new construction projects or breakthrough new technologies, reinsurers also fulfil an essential function as enablers of innovation.

Insurers with significant exposure to highly volatile lines of business or with exposure to natural catastrophe risks tend to rely heavily on reinsurance.

The same applies to small, local, or regional insurers or specialised insurers who have only limited scope to diversify their book of business or who lack the capital to grow it.

Insurers looking to enter new geographical markets or expand into new products might seek reinsurance to benefit from reinsurers' underwriting experience and product expertise. This motivation to buy reinsurance is prevalentin both life as well as non-life insurance, given the lack of publicly available market data and the complexity of certain products requiring specialised actuarial and underwriting skills.

Alternatively, those exiting certain businesses or markets might transfer their entire books of business and the underlying liabilities associated with these contracts to reinsurance companies. On that basis, reinsurers have established a reputation as trusted advisors to the insurance industry, lending their support in pricing, product development, and geographic expansion, for example.

From the perspective of ceding companies, the reinsurers' intellectual capital is an essential complement to the financial strength they provide. Ultimately, these complementary capabilities and services indirectly benefit individual policyholders through more efficient claims processes, innovative products, and stable, affordable coverage.

Display of solidarity

From the very beginning, reinsurance has been a global industry, harnessing the benefits of a diversified portfolio of risks spread across the world to offer cover for major catastrophes at reasonable prices.

The reinsurance industry has proven its solidity as a partner by consistently paying out following the major insured disasters of modern history; examples that spring to mind are the San Francisco earthquake in 1906, Hurricane Andrew in 1992, and the terrorist attack on the World Trade Centre on September 11, 2001, as well as the hurricanes Katrina, Rita, and Wilma in 2005. Also, throughout the financial crisis of

2008/2009, reinsurers continued to operate as usual, meeting their obligations to clients and providing sufficient capacity. The key to this solid standing is the broad geographical base of the risks that a reinsurer takes.

Role of brokers

Before placing risk with a reinsurer, it is the responsibility of the insurance company to evaluate the financial standing and reputation of its reinsurer.

Reinsurance intermediaries (often referred to as Brokers) are an important part of reinsurance structures and techniques and provide significant support to the client, insurer, and reinsurer by not only sourcing the appropriate reinsurance business but also helping the insurer in structuring the reinsurance placement, to afford the best possible protection to their clients.

The insurance company would liaise with its broker and obtain information on the reinsurer, such as (but not limited to):

- Financial strength rating of the reinsurer
- Reinsurer's market reputation and history, including any recent changes in its ultimate owners; the qualifications and reputation of its management
- Financial standing of the reinsurer, including balance sheet, profit & loss account, solvency ratio, etc
- Reinsurer's expertise in underwriting the class of business or geography
- Country where the reinsurer is located, in order to understand the Regulatory soundness, as well as political and economic stability of the jurisdiction
- Accounting standards in the reinsurer's jurisdiction, because any deficiency in accounting practice means that financial information regarding the reinsurer in such jurisdiction may not be comparable to other reinsurers used by the insurance company.

3) Alternate Risk Transfer ('ART') Mechanisms

The ART market's development was in response to capacity shortages in the traditional reinsurance market. ART Mechanisms provide for an element of diversification to standard reinsurance covers.

They also provide additional sources of capital (i.e., financial markets) at reduced costs and, in some cases, diminish credit risk as financial security backs them.

The popularity of alternative reinsurance has been gaining momentum over the past few years, and most ART is structured similarly to traditional reinsurance.

The ART market provides a means for investors such as hedge funds, private equity funds, and pension funds to gain exposure to reinsurance risks that provide relatively highyields and are usually uncorrelated to credit cycles as an alternative to investing directly in reinsurance companies

Alternative reinsurance coverage is generally provided by a special-purpose entity ('SPE') capitalised by capital market investors that assume the insurance risk from the cedant. The SPE may be funded by equity (in the case of collateralised reinsurers and sidecars) or debt (in the case of catastrophe bonds issued by the special purpose entity). Alternative reinsurance coverage may also be provided through tailored financial instruments such as industry loss warranties (ILWs).

Even though alternative reinsurance is mainly designed for non-life insurers, it is also interesting for life insurers that make recourse to it.

According to Guy Carpenter, alternative capital accounts for 18% of the entire capital available in reinsurance. The main markets recourse to those coverage methods are the United States, Europe, and Japan.

Catastrophe Bonds (Cat Bonds)

Catastrophe bonds are issued as a debt instrument to fund an SPE assuming insurance risk.

The proceeds from the bond sale are placed in an SPE to back the assumed risk and generate a market and risk-return (a premium paid by the issuer for the coverage provided). These are generally used for protection against high severity (catastrophe) losses.

The occurrence of a catastrophe event (or events) that exceed the pre-defined trigger (which may be an indemnity trigger based on the cedant's losses or a non-indemnity trigger based on a loss index, modelled loss estimates, or the parameters of the event) leads to a payout of some or all of the proceeds from the bond (invested in the SPE) to the issuer (cedant).

In terms of popularity, Cat Bonds are one of the most common alternative risk transfer mechanisms.

Collateralised reinsurance

In the case of collateralised reinsurance, reinsurance is provided by anSPE funded by third-party investors through the issuance of equity (usually preferred shares)

Collateralised reinsurance is often considered an alternative to catastrophe bonds and also one of the most common alternative risk transfer mechanisms.

The funds invested by investors fully back the reinsurance issued by the SPE.

Side Cars

The sidecar is a temporary reinsurance vehicle or entity that shares premiums and claims with an insurer on a proportional/non-proportional basis and therefore supports increased underwriting capacity.

A limited-purpose special-purpose entity is established as a joint venture involving at least one licensed (re)insurer who is seeking to access outside capital for a set of risks. The funds invested by investors fully back the reinsurance issued by the SPE. The insurers or reinsurers currently use sidecars in a limited way. Sidecars often only service one cedant (although some assume risks from multiple cedants).

Industry Loss Warranty (ILW)

ILWs reduce volatility in underwriting and protects against severe losses. ILW is offered to cedant as a reinsurance contract or option. ILW payouts are triggered when an event exceeds a specific level of losses as determined by third-party loss index providers and usually only when the cedant has also suffered a loss as a result of the event.Industry Loss Warranties are less commonly used today.

4) Enabling Reinsurance Regulations Framework

Reinsurance companies are regulated and supervised similarly to primary insurers, aiming to ensure that they can meet their obligations to their policyholders (insurance companies, also known as cedants). In addition, the importance of reinsurance markets in supporting earnings stability and solvency of primary insurers has led regulators in many countries to also apply regulatory measures to the transfer of risk by cedants to ensure that the transfer of domestic risks to reinsurance markets does not lead to significant risks of reinsurance default for cedants (and ultimately their policyholders).

It is common among developing economies to seek to reduce the outflow of reinsurance premiums overseas by either:

a) requiring domestic companies to cede a part of the business they accept to one or more local reinsurance companies (obligatory cessions) and/or
b) stipulating that reinsurance may be ceded abroad only if the risks cannot be placed with local companies.

There are strong arguments against both forms of regulation. Requiring obligatory cession for certain businesses may not be necessary and increases the cost of insurance.

Removal of obligatory cessions will help domestic companies perform better. Their survival and growth would depend on their ability to write domestic and foreign business and the strength of their security, service, and competence.

Full access to international capital and cross-border reinsurance has tangible benefits for any local insurance industry, consumers, and the broader economy.

Barriers to trade in reinsurance undermine the efficiency of reinsurance markets. They lead to higher reinsurance costs and less capacity in the long term.

There are significant differences between primary insurance and reinsurance. In the case of insurance, most insurance policies are sold to retail policyholders, such as individuals or households, and the Regulator's main objective is, therefore, to protect these policyholders. In most countries, if an insurance company has direct dealings with retail customers, it needs a local insurance license, and virtually all aspects of that insurer's operations are subject to regulatory oversight: product documentation, premium rates (tariff), capital adequacy, underwriting expertise, reinsurance support, claims practice, and reserving methodology.

But one might ask whether this also needs to be the case for reinsurance companies. Most reinsurers do not have direct contact with retail clients. Reinsurance clients are sophisticated counterparties such as insurers, brokers, or other reinsurers. However, a reinsurance company's default could indirectly impact retail customers as it could bring a primary insurance company to the brink of insolvency. It is, therefore, in the interests of the primary insurer to cede their risks to a reinsurer that enjoys strong financial security.

Restrictions on accessing international markets

The economic value of insurance and reinsurance lies in the spreading and diversification of risk rather than the generation of premiums within national borders. The concentration of risk within a single jurisdiction or region can also have negative consequences from a macroeconomic perspective in the event of major manmade or natural catastrophes.

Regulatory regimes should enable efficient and prudent access to global reinsurance capacity while incentivising cedants to manage and justify their reinsurance strategy in a sensible risk-based manner. There should be a greater focus and reliance on the principles of "cedant responsibility."

Since diversification is a fundamental part of how reinsurers create value and provide for efficient and effective cedant protection, any regulatory barriers to accessing international markets would impact the reinsurer's ability to absorb risk economically viable way. Examples of such Regulatory restrictions include regulations that prevent foreign reinsurers from setting up in a country or prohibiting local insurers from wholly or partially reinsuring abroad.

Instead, a better approach would be for the Regulatory authority to enter into a memorandum of understanding with the regulators from other countries, with a view to creating a more cohesive and cooperative regulatory approach, which would benefit both jurisdictions and the reinsurance companies in these jurisdictions. Regulators can obtain a better understanding of the regulatory framework in the home jurisdiction and take appropriate steps to allow reinsurers from these countries to be placed on a list of approved reinsurers and operate on an equal footing with locally established reinsurers.

Insurance and reinsurance regulation still primarily operates at the national level, whereas an increasing number of reinsurance companies write business globally and maintain an active presence in many different markets. However, most developing countries have their own domestic market-driven regulations which are not synchronised with the other markets. Recent financial crisis had indicated that such a fragmented approach did not improve the situation. It is evident that large cross-border institutions, whether banks, insurers, or financial conglomerates, should be supervised as a single entity, for example, by a lead supervisor based in the group's home country who works in close coordination with local counterparts. Such an approach would also effectively support the harmonisation and mutual recognition of standards across jurisdictions. The International Association of Insurance Supervisors, in conjunction with Central Banks, have identified certain groups as Systemically Important, wherein the failure of an entity within the group could adversely impact the economic stability not only in the home jurisdiction but also in other markets where the group may have operations.

The constraints on reinsurance should be minimum, irrespective of whether it is placed with domestic or foreign reinsurers. Under conditions of domestic capacity shortages and where small insurance companies are exposed to large random fluctuations in claims experience, a significant proportion of reinsurance premiums inevitably leave the country. Still, the principal consideration should be the security offered by the reinsurer rather than its domicile. Local insurance regulators and ceding companies should improve their access to information that enables them to assess the security of their reinsurers - local or foreign - including purchasing rating agency reports. Regulators should typically collect data from ceding companies on the full impact of reinsurance cessions, including taking account of all relevant inward and outward transactions on claims, commission (including profit commission), and brokerage paid.

The international reinsurance companies and brokers must provide more significant investment in training to Regulators, insurance professionals, and lawmakers in the region. Insurance regulators should regularly share their views with their overseas counterparts about any potential solvency or liquidity problems of the companies or the reinsurers associated with their local market. The International Association of Insurance Supervisors also sets standards for the supervision of insurance and reinsurance companies. However, there is still a lot that needs to be done to bring the standards of claims reserving, accounting, and auditing closer to standards existing in OECD countries by introducing accounting regulations and more training for local professionals.

Investments and Capital Management

For international diversification to work, reinsurers also need the ability to invest their premium income internationally to pay local claims and to move their capital from one jurisdiction to another. Restrictions on the free flow of capital would again adversely impact a reinsurer's ability to add value to the insurer and the real economy.

Deposit or collateral requirements that compel reinsurers to maintain specific funds within the country to cover their liabilities to ceding companies may serve as an example of such restrictions. Such policies fragment the reinsurers' capital base, requiring reinsurance companies to maintain larger capital funds than otherwise needed. The servicing of that capital adds to the cost of reinsurance, which is reflected in reinsurance pricing.

5. Conclusion

Reinsurance plays a significant role in the development of an insurance marketplace, particularly in emerging economies. Reinsurers can help not only by providing capacity but also help with product pricing and claims settlement and also bring their expertise gained from underwriting business across a variety of portfolios and jurisdictions.

Considering the vast amount of untapped markets and the increasing risk exposures, it is essential to have an active and vibrant reinsurance market with adequate risk capacity available in the domestic market. Hence, it is important for lawmakers and regulators to create an ecosystem that will support such a marketplace.

Implementing a penalising regulatory framework would not benefit the creation of a vibrant marketplace. Instead, it would be far more effective to design a framework of incentives to attract (re)insurers to come and set up in the country and incentivise them to do more business not only within the country but also to develop the country as a hub for (re)insurance business.

Reinsurers will always look to make efficient use of capital and, therefore, will look to book business in the most appropriate entity and jurisdiction. Forcing reinsurers to book their business only within the local entity would only deter the reinsurer or other reinsurers from setting up in the country.

Where domestic insurers are forced to cede more of their risks to local reinsurers, the consequences include:

- greater concentration of risk in those particular jurisdictions and companies
- increased impact of major loss events on the regional or local economies
- reduced reinsurance capacity available to domestic insurers
- higher prices and less certainty for insureds
- ultimately reduced competitiveness of local insurers

It is important for the Regulatory arm to also have a development arm that is staffed with the appropriate resources and who are able to promote the industry and identify opportunities – both in terms of new business and also opportunities to create a more efficient and effective marketplace.

Restrictions on cross-border reinsurance can, counter-intuitively, undermine rather than strengthen both local insurers and reinsurers.

Jurisdictions such as Singapore, Dubai, and Abu Dhabi have been successful due to their ability to create not only an ecosystem for an effective (re)insurance marketplace but also are able to identify appropriate opportunities to help them stay ahead of the competition.

To conclude, beneath the surface of complexity lies a fascinating

business characterised by a truly holistic perspective on the risk landscape of today and tomorrow.

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