Virtual Roundtable

Enhancing the Region's Resilience through PPPs in Pandemic Risk Transfer

20 April 2022

ROUNDTABLE REPORT

Note: This Report reflects the views of participants as presented during the Roundtable and not necessarily the positions of the organizers.

The frequency and severity of epidemic outbreaks are increasing. The economic consequences of COVID-19 have been dramatic. These two simple facts combined demonstrate the necessity for better mechanisms to increase economic resilience and preparedness. While pandemic risk cannot be absorbed with traditional insurance techniques alone, this Roundtable was convened to elaborate on how to create a resilient financial ecosystem resistant to future disease outbreaks and on how to minimize their economic impact through greater involvement of financial markets in pandemic risk financing. Concrete and already implemented risk transfer products were presented. And the design of a public-private partnership (PPP) framework for pandemic risk transfer, the Epidemic Risk Markets Platform, was analyzed as suitable for scaling up the level of protection to meet economies' requirements. This forms the basis for the APEC Business Advisory Council (ABAC) initiative to develop concrete implementation recommendations for the APEC Leaders and Finance Ministers.

Magnitude of Risk Exposure and Challenges for Business Interruption Insurance against Pandemic Risk

As discussed previously by ABAC (see the Roundtable Report on Strengthening Resilience in the Asia-Pacific Region of 14th April 2021), the COVID-19 pandemic outbreak introduced a new dimension in disaster risk financing and insurance, in that it has demonstrated that the impact of major pandemics on societies and economies can be as huge as natural disasters, but they present different challenges that require a different approach. It has also demonstrated a broad lack of insurance coverage for the financial losses that businesses face, and the challenges to establishing private insurance coverage for these losses. The first challenge is the large magnitude of economic losses compared to even the largest natural catastrophes in the past. [*See Figure 1.*] The second is the significant correlation across economies. [*See Figure 2.*] And the third challenge is the increasing trend in risk exposure.

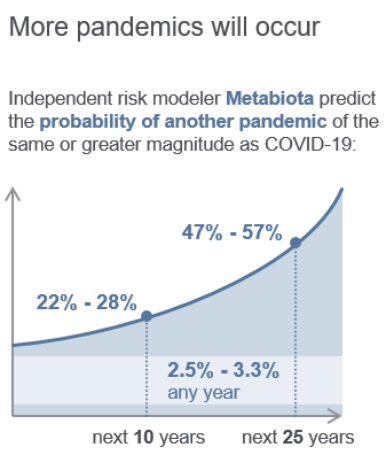
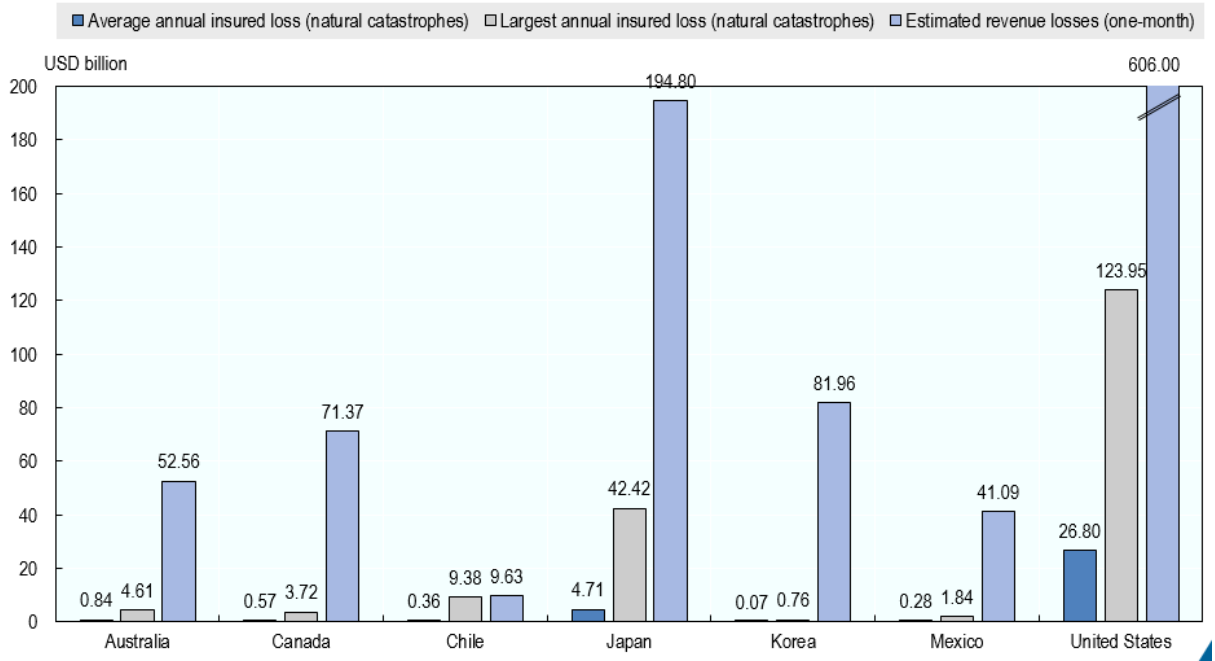


Figure 3

Like in the case of disasters, the frequency and severity of epidemics has risen in recent years, especially over the last few decades. On average, there are 200 epidemic outbreaks and five newly emerging zoonotic infectious diseases reported annually. Risk modelling company Metabiota predicts the probability of another pandemic of the same or greater magnitude as COVID-19 to be 22%-28% within the next ten years or 2.5%-3.3% within any year (Source: Cheney, devex, 31 July 2021), as also illustrated in *Figure 3*. The estimated financial impact of previous pandemics ranges from single-digit US$ billion to more than US$10 trillion for COVID-19 and rising.

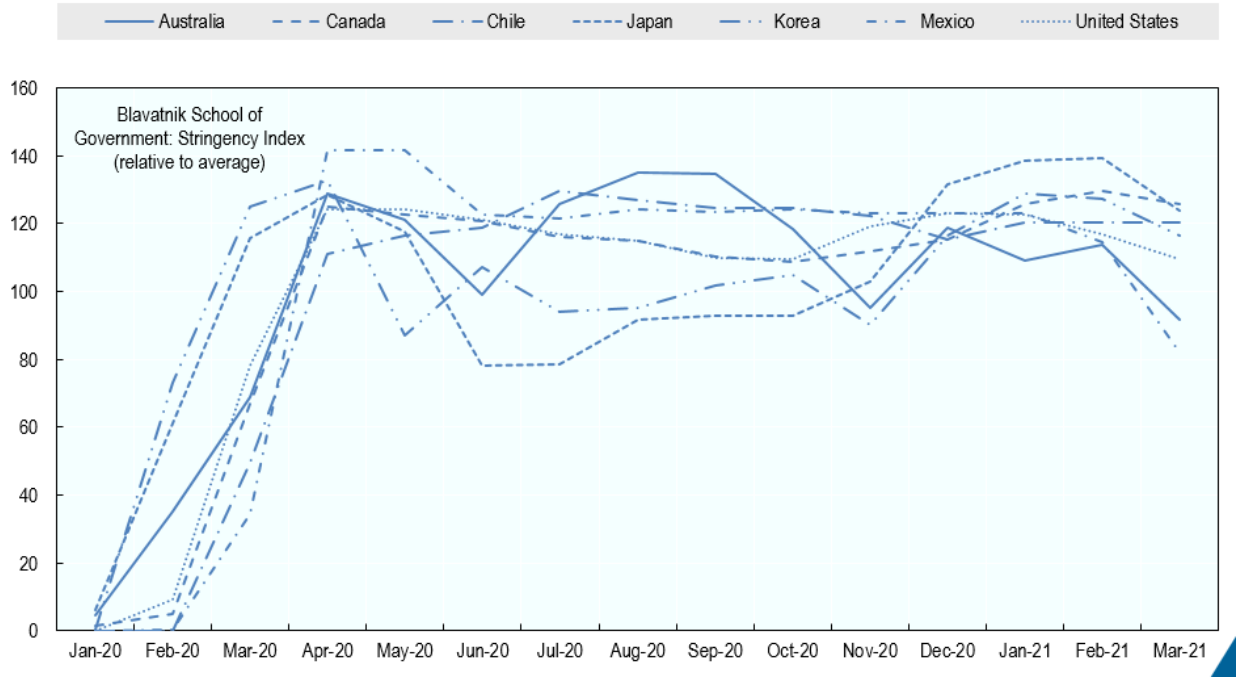
Thus, better risk management solutions are required in the future. With traditional insurance techniques pandemic risk cannot be absorbed, mainly due to accumulation risk: limited capacity is available in comparison to the massive need for indemnification. While this constitutes a major challenge for market development on the supply side, the expected frequency of events turns affordability into a demand side hurdle.

Figure 1: Magnitude of Losses from Natural Catastrophes and COVID-19



Source: OECD calculations based on Statistics Canada (Business revenue from April 2020 compared with April 2019, by business characteristics (Table 33-10-0253-01)) and data provided by Swiss Re sigma and PCS

Figure 2: Correlation of COVID-19 Pandemic Impact across Economies



Source: OECD calculations based on Blavatnik School of Government Coronavirus Government Response Tracker (Stringency Index).

*The Stringency Index is a composite measure of nine response metrics: school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls.

A Public-Private Partnership Solution: the Epidemic Risk Markets Platform

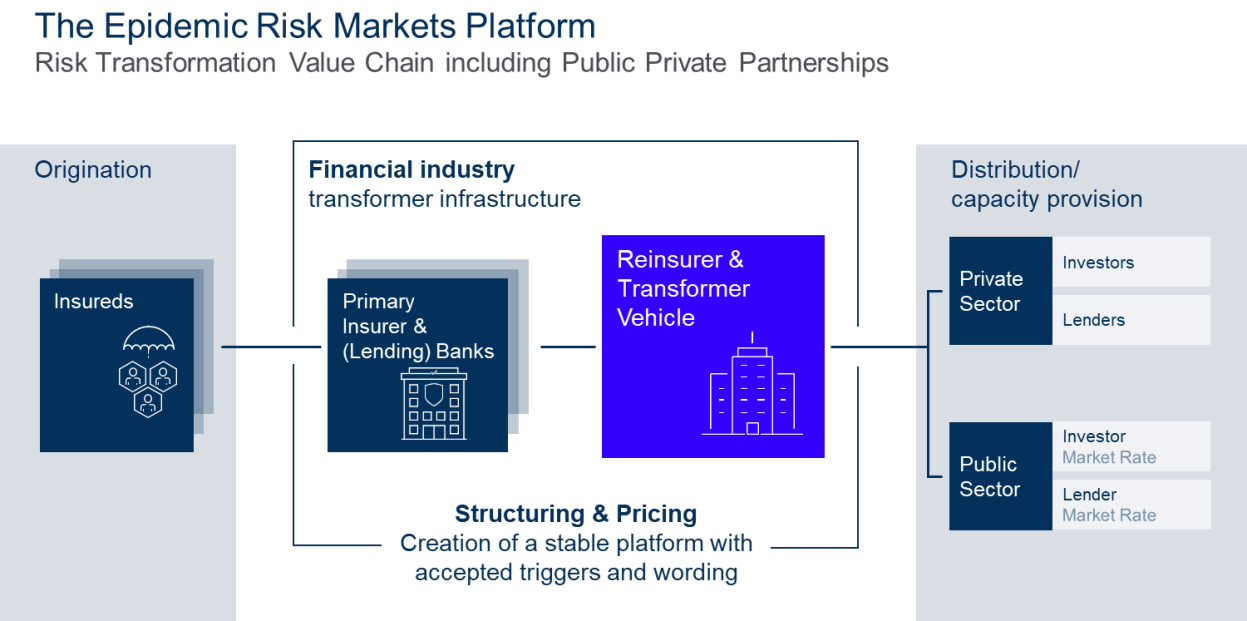
For ABAC FEWG Chair Hiroshi Nakaso of ABAC Japan, COVID-19 has caused the second largest global recession in recent history, major disruptions in the financial markets and supply chains, and contributed significantly to the ongoing energy and food crises. “As the world begins to resume cross-border business activity, it is important that we are not caught unprepared by the next outbreak”, Nakaso added. “Thus, we need to closer look at public-private partnership to help meet the challenge of providing adequate insurance against future pandemic risks.”

While discussions about pandemic risk pools have taken place in many geographies, the concepts discussed did not find satisfactory solutions to overcome the underlying fundamental economic hurdles of accumulation risk and affordability. The Roundtable was focused on an alternative approach, involving different providers of capacity at market rate and combining different financial instruments to address affordability. This Epidemic Risk Markets Platform [*See Figure 4.*] can be implemented step by step on a modular basis, thus having a low threshold to begin implementation via pilots and progressively crowd in additional capacity (from both the private and public sector) over time to build the full value chain and to achieve the desired scale.

Addressing the hurdle of *accumulation risk* can only be solved by combining the respective limited capacity of more providers beyond the insurance industry. This is in line with the results of previous

work of ABAC on expanding risk transfer options through Insurance-Linked Securities (ILS) which concluded that there is significant potential for the ILS market to expand to Asian economies, which can benefit from the market's large capacity (i.e., the trillions of dollars held by bond investors), investor demand for diversifying risk, price transparency and longer maturities compared to conventional reinsurance. To reduce transaction cost, as the platform scales up, and to achieve a broader access to institutional investors, the legal transaction structures within the Epidemic Risk Markets Platform will not be limited to a bond format but may range from ISDA derivatives to more permanent capital vehicles such as Protected Cell Companies (PCCs) or fund structures. In either case, the risk transfer value chain requires the elements of risk aggregation and warehousing as well risk transformation from insurance format into an investable asset class. Risk warehousing is necessary to de-couple origination and distribution in order to reduce (time) dependencies, create a continuous flow of business, and hence to reduce transaction costs. Risk transformation is necessary to fulfill regulatory requirements and to make the risk accessible for capital markets.

Figure 4: The Epidemic Risk Markets Platform



Opening up the investor base to also include "public sector investors", the private sector value chain transitions to a PPP solution with the public sector participating at market rate. The latter is not only beneficial for attracting further private sector capital over time, but also acknowledges the fact that pre-committing sufficient ex-ante capacity to bear all potential economic losses from a pandemic event is now too large an ask for the public sector as well. Hence, the focus is on growing a specialty market (segment) over time to create a meaningful and impactful size. Note that this approach has certain implications, e.g., that the purchase of the epidemic risk cover must not be compulsory, even if only certain industry sectors are targeted, as there simply may not be sufficient capacity available for the whole sector on Day 1. Neither should the offering be compulsory, as a functioning market development requires that individual accumulation risk limits are respected.

Addressing the hurdle of *affordability* is achieved by combining different financial instruments within the same value chain. Following the same payout criteria (or payout trigger), liquidity for the protected corporate will not only be disbursed via a layer of insurance, but also scaled via pre-agreed contingent lending. Under the name Catastrophe Deferred Drawdown Option (Cat DDO), the latter is an established instrument for catastrophe risk financing, recently implemented in transactions in the region by the Asian Development Bank. In a situation where the high expected loss makes a full insurance cover unaffordable for the policyholder, but to manage the catastrophic event requires a higher inflow of liquidity, the combination and blending of these two instruments forms an attractive package. The option premium for the contingent credit (interest payments will only be due after the drawdown) naturally is smaller than the premium for the insurance layer, making the combined hybrid risk transfer solution substantially more affordable for the protected corporates, while addressing well their mitigation requirements and generally benefiting from the advantages of ex-ante risk finance solutions.

For practical reasons, there are many benefits to combining both instruments under the same platform, creating an open architecture platform of market standards, utilizable by all key participants. The expertise required for pricing, underwriting and differentiating risks is not evenly distributed. And while different legal requirements and licenses are necessary for different instruments, the platform provides a basis for institutionalized collaboration, as products are effectively cross sold. The same arguments as before hold for the participation of the public sector as a lender. Discussions indicate that participating as contingent lender may also be a natural fit for the public sector. Similar to the current ex-post debt-financed response to COVID-19, the government would disburse funds only after the catastrophic events. This is an improvement compared to a purely ex-post funding approach, as with an ex-ante funding approach the government is compensated, thus also involving market adequate incentives for risk management.

It shall be noted that the technology is not limited to certain sectors, however, both investors and lenders may of course limit their capacity offering to certain sectors. The public sector might follow political criteria and considerations of overall economic resilience, whereas the private sector may naturally address sectors with highest demand and take into account portfolio mix.

Experiences, Lessons Learnt, and the Role of the Public Sector

Generally, it is noted that large scale events of increasing severity are likely to become more frequent and yet uninsured losses are increasing. There appears to be broader consensus that the status quo of resilience against pandemic (and other) events needs to be improved. Public-private collaboration will be critical in a changing world, also to accelerate the (re)building of (lost) social and political capital. For the government to effectively remain the only insurer is sub-optimal for risk management, bad for taxpayers and underutilizes private capital.

Pure private sector driven market development faces both supply and demand side challenges, whereby insurance product purchase behavior so far indicates a preference by the insured corporate for the purchase of smaller first loss limits, which confirms the assumptions on affordability. Further, a time dependency for market development on the transitioning of the ongoing COVID-19 pandemic into the endemic phase is observed. It is noted that both sides of the risk transfer value chain, the insurance product offering and the investment product, need to develop as new market segments in sync, if scaling should be achieved. In such a situation with higher than usual hurdles for desired market development, public sector support can facilitate the latter by reducing the supply side challenges, and by facilitating pilot transactions which create market standards and attract further transactions.

Given the sheer magnitude of economic losses of the COVID-19 pandemic, however, even with a successful market development, the private sector alone will only be able to finance a minority share of the economic losses of the next pandemic event of similar magnitude. Nevertheless, there would be tangible benefits compared to the status quo, such as the ability to allocate sufficient amounts of private capacity for smaller scale epidemic events and thus reducing the taxpayer burden to a certain degree.

Equally important, the value-for-money of participating in the Epidemic Risk Markets Platform as investor or lender, is strictly positive (or larger than 1, depending on definition) for the public sector. Any amount contributed (which can be chosen as a small amount compared to the sums disbursed by governments for the COVID-19 response) is invested at market rate. In other words, the market views this investment as a strictly positive investment over time (not only stretching the loss over time), as ensured by both public and private sector being in the same risk position. With pandemic risk being better compensated for than credit risk (as detailed later in this report), this also holds in scenarios with payouts taking place.

While financially as a minimum being cost neutral and thus neither requiring direct nor indirect subsidies, supporting the Epidemic Risk Markets Platform generates additional secondary benefits of an ex-ante risk financing solution: existing infrastructure of the finance industry can be used, pre-agreed structures can be planned to ensure immediate response, and supporting the development of a specialty insurance market for epidemic risk sends a clear government signal to the markets to increase preparedness. Such a signal is advisable, if a repetition of current response and reaction patterns should be avoided. Thus, even though a majority share of economic losses of the next pandemic might still be borne ex-post by the public sector, an improvement of the status quo could be achieved by endorsing and supporting a local or regional implementation of the Epidemic Risk Markets Platform.

Selected Industry Perspectives on the Value Chain of the Epidemic Risk Markets Platform

Leading to one of the largest insured loss events in history, even though pandemic events were a standard exclusion for many lines of business, the insurance industry has faced the challenge to firmly implement rigorous underwriting to acknowledge the economic reality that pandemic risk cannot be borne by the insurance industry alone and hence needs to be excluded from standard or commodity property insurance products. Due to its potential for accumulated losses across the board, there is a limitation in underwriting capacity in comparison to massive needs of indemnity. Adding to this, uncertainties from political discretion makes the risk further challenging for primary insurers to handle. To counter the challenges, it becomes critical for primary insurers to design insurance coverage in accordance with political, legal and regulatory practices of the local jurisdiction, on top of securing long-lasting and stable reinsurance capacity, to maintain its credibility in the market. This is different for many lines of business where pandemic risk is explicitly included by nature of the underlying insurance product, such as life insurance or health insurance – which alone will further make pandemic risk a peak accumulation risk scenario for the insurance industry. Hence, the clear limits of insurability of pandemic risk in a traditional way were reiterated by representatives from the insurance industry.

This is in line with the approach to develop epidemic and pandemic risk transfer solutions as a stand-alone specialty market segment.

During the Roundtable, a standard product design for epidemic and pandemic risk insurance products has been described, which has already been sold in the markets and which combines an indemnity-based payout with a transparent and objective event definition for the covered epidemic or pandemic event.

The insurance product serves to protect buyers from a range of negative business impacts caused by catastrophic infectious disease outbreaks (epidemics and pandemics).

The basic structure of the insurance product is illustrated in *Figure 5* and requires two separate triggers or event definitions to be met before a swift claim payout is made.

Trigger one:

The Epidemic/Pandemic Trigger has three key elements to ensure covered catastrophic disease outbreaks are correctly identified and associated with the appropriate year of insurance, without causing protection gaps for insureds in renewal situations.

a) **DON**: Disease Outbreak News (issued by WHO) – outbreak start date and location
b) **PHEIC**: Public Health Emergency of International Concern (issued by WHO) – global alert in line with the International Health Regulations and used only for major disease outbreaks
c) **Civil Authority Restriction** issued by Local Government Authority – demonstrate local impact

Trigger two:

The Economic Trigger defines the negative business impact that is to be indemnified.

Figure 5: Key elements of pandemic risk transfer solutions

While the underwriting of epidemic and pandemic risk requires a certain expertise, it was clearly stated that sufficient reliability of the pricing of the risk can be achieved, based on available historic outbreak data of smaller and larger events and based on various available risk models. Pricing approaches and risk models have been developed independently by (re)insurance companies, risk modelling companies, and some specialized investors.

Focusing on the other end of the value chain, reasons were discussed which make it attractive for capital market investors to participate in pandemic risk exposure. Typically, the main reasons for investor risk appetite are:

- An increase in portfolio diversification:
  Even without a deeper analysis of the capital market reactions (and recovery rates for different asset classes) following the COVID-19 pandemic and previous epidemics, one key argument is straightforward: A global pandemic will have effects on capital markets. However, a financial crisis (such as in 2008) will not start a pandemic. Hence, there is a positive increase in portfolio diversification, even though it may not be as high as for, e.g., earthquake risk.

- The relative value comparison with other asset classes:
  As evidenced by already implemented transactions, investing in epidemic/pandemic risk delivers better returns than, e.g., investing in credit risk with similar expected loss. (This is to be expected, given that pandemic risk is a less liquid asset class.)
- Clear Environmental, Social and Governance (ESG) benefits of the risk profiles.
- For institutional investors with an exposure in longevity risk (such as pension funds), there are offsetting benefits to their liabilities.

Different Requirements in Different Economies

COVID-19 caused a significant shock to the world economy – the consequences have been far-reaching and are still unfolding. As illustrated by *Figure 6*, the APEC region generally shares a higher risk exposure towards epidemic risk than some other continents. However, what is clearly evident is that the effects of COVID-19 have **not** been uniform across the globe and that economies will face different economic and social challenges, compare also *Figure 7*. This fact, coupled with wide-ranging government responses across the APEC region, has led to different motivating factors behind the purchase of insurance and risk transfer solutions in preparation for the next major disease outbreak.

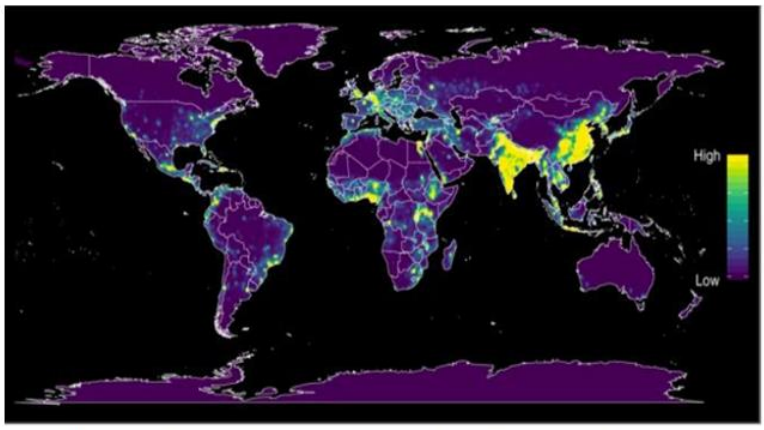
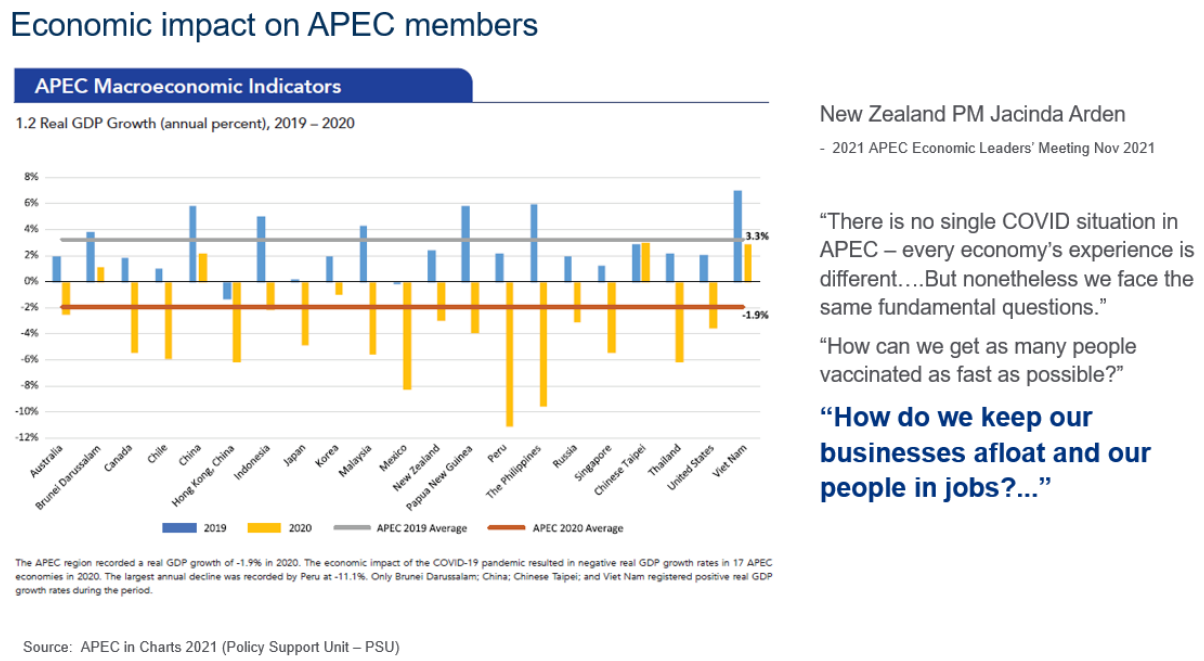


Figure 6.
Source: Global Disease Hotspots 2.0, EcoHealth Alliance, https://www.ecohealthalliance.org/2017/10/global-disease-hotspots-2-0

Figure 7: The impact of COVID-19 on APEC member economies



Source: APEC in Charts 2021 (Policy Support Unit – PSU)

To highlight the effectiveness and flexibility inherent in the Epidemic Risk Markets Platform to cater to the different needs of corporates and regions, pilot transactions and implementations have been selected from both developed as well as middle income and developing economies, with a particular focus during the Roundtable on Australia and Thailand.

In developed economies, where significant government stimulus was deployed to keep economies afloat and where social safety nets were activated to protect the masses, in addition to the basic corporate need for survival, there are several other motivating factors compelling the purchase of insurance.

Examples include:

- Complying with ESG standards;
- Maintaining good corporate governance and risk management practices;
- Protect local employment;
- Fiduciary responsibility obligations to shareholders; and
- Accessing liquidity in a stressed environment to take advantage of trading weaknesses in their peers.

In contrast, for corporates in developing economies, where the economic impact was much sharper, it is clearly evident that while the above factors may also play a role in motivating corporates to seek protection, the primary need for insurance is that of corporate survival; especially given the same social safety nets are not equally well established.

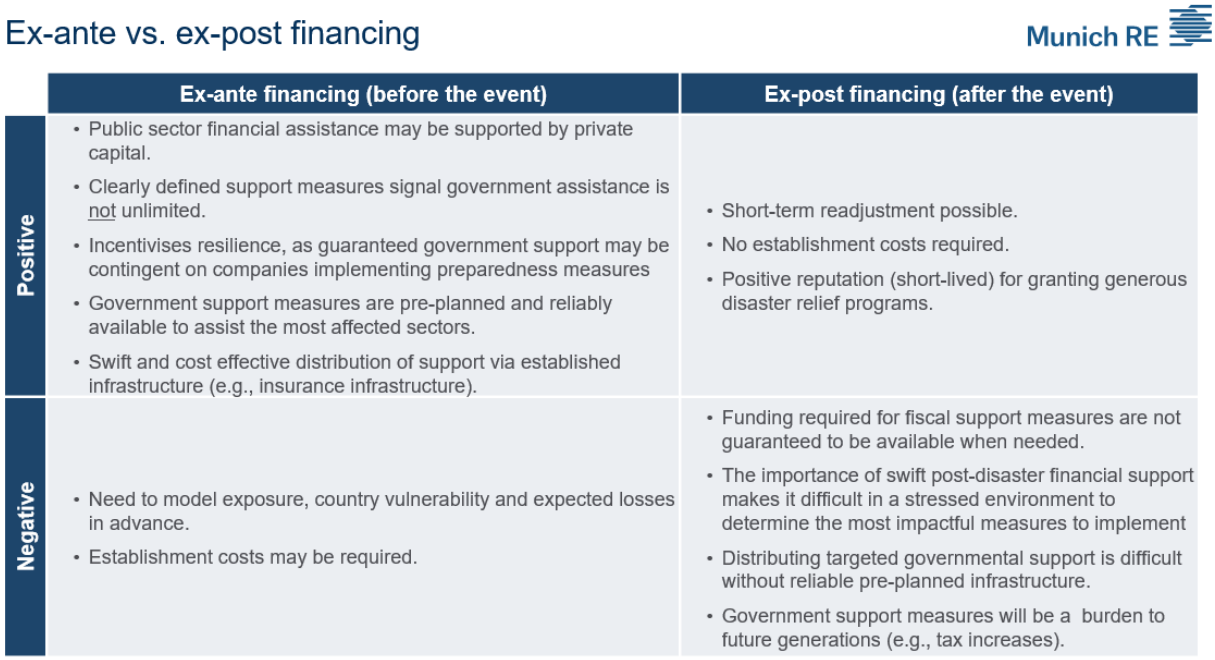
Consequently, risk transfer products crafted for developing nations will need to prioritize topics such as the following:

- Protection and external risk transfer;
- Simplicity of coverage terms and conditions;

- A quick payout mechanism as corporates will need access to cashflow;
- Affordability
    - Blending insurance and contingent lending solutions to effectively reduce the insurance cost; and/or
    - Whilst not necessary, government subsidies may also be incorporated if desired

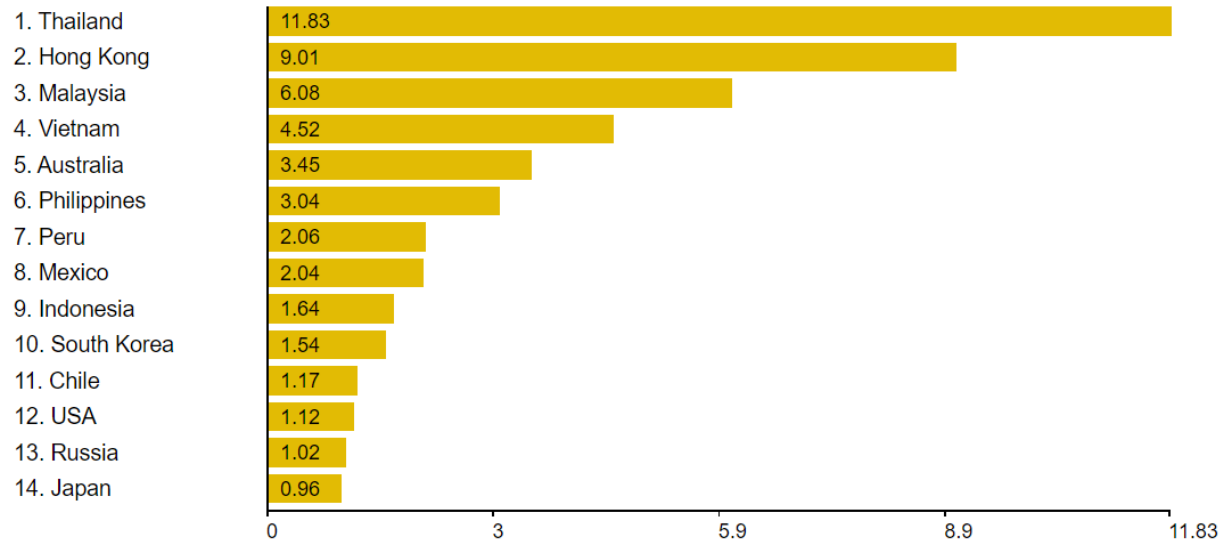
Regardless of whether a developed or developing economic motivation, the benefits of ex-ante financing are significant, as further illustrated in *Figure 8*.

Figure 8: Comparison of ex-post and ex-ante risk management strategies



Given the relevance of the tourism sector for Thailand, as illustrated in *Figure 9*, it should be noted that a special focus is given to developing a sector specific pilot solution for the Thai tourism sector, with a variety of relevant stakeholders already engaged. The drop in tourist arrivals in Thailand in the years 2020 and 2021 reached devastating -83% and -99%, respectively (Source: https://www.unwto.org/tourism-data/international-tourism-and-covid-19). This makes efforts to improve the economic resilience against future epidemic and pandemic outbreaks almost appear mandatory, also in line with the 2030 agenda for sustainable development.

Figure 9: International tourism revenue in 2019 as percentage of GDP



Source: The World Tourism Organization – a United Nations agency (UNWTO)

Conclusion

The current COVID-19 pandemic caused an unprecedented shock to the world economy which led to large-scale government support measures and thus proved the non-resilience of the current financial ecosystem, with devastating effects on the human global population. As research indicates, pandemic disease outbreaks will increase in frequency and impact in the future. Options were discussed how to possibly create a prudent and resilient financial ecosystem resistant to future disease outbreaks and minimalizing the individual financial and economic impact. Fundamental hurdles of insurability prevent the supply of sufficient capacity to address the magnitude of potential economic losses. A risk transformation market platform, the Epidemic Risk Markets Platform, is described which enables a wider participation of capacity providers, including the public sector, to scale up a specialty market segment. The challenge of affordability for insureds can be addressed without requiring premium subsidies by combining the two financial instruments of insurance and contingent lending, thus maintaining risk-adequate incentives which are relevant for preparedness. Pilot implementations are under way, taking into consideration the special requirements of developed economies vs. middle income and developing economies.

Following are key messages from the Roundtable:

- Supporting the development of a specialty insurance market for epidemic risk sends a clear government signal to the markets to increase preparedness. Such a signal is advisable, if a repetition of current response and reaction patterns should be avoided.
- The Epidemic Risk Markets Platform provides an attractive value proposition for the public sector: (1) no subsidies required, (2) affordability for policyholders can be addressed via contingent lending, (3) existing infrastructure of the insurance and banking industry can be used.
- Feasibility has already been proven by executed private sector transactions.
- A local implementation of a PPP solution would (1) strengthen economic resilience, and (2) strengthen the role of the marketplace.

Next steps and recommendations for developing a PPP framework for pandemic risk transfer:

- Pioneer a PPP framework that enables economic and societal resilience against future epidemics and pandemics. APEC economies can support scaling up by:
    - Providing insurance capacity at market rate
    - Providing contingent lending at market rate
    - Incentivizing other stakeholders to participate in risk transfer transactions
    - Tailoring access to government capacity to specific sectors
- Endorse the proposal for a PPP framework for pandemic risk transfer in the form of an Epidemic Risk Markets Platform.
- Implement the (full) value chain of the Epidemic Risk Markets Platform via pilot transactions with member economies or specific sectors, with provision for scaling up the solution through public sector support to the desired level.
- Incorporate a PPP framework for pandemic risk transfer in the work program of the APEC Disaster Risk Financing and Insurance (DRFI) Solutions Working Group.

Annex: Roundtable Agenda

(Times displayed are Philippine Standard Time)

0900-0915	**OPENING SESSION**
	Welcome Remarks **Ms. Joanne de Asis**, *Co-Chair, ABAC Finance and Economics Working Group; and Chairperson, Globe Capital Partners LLC* **Opening Remarks** **Mr. Hiroshi Nakaso**, *Chair, ABAC Finance and Economics Working Group; and Chairman, Daiwa Institute of Research*
0915-0945	**SESSION 1** **Overview**
0915-0935	**Overview Presentation on the Public-Private Partnership Approach: The Epidemic Risk Markets Platform** **Dr. Gunther Kraut**, *Global Head of Epidemic Risk Solutions, Munich Re*
0935-0945	**Discussion**
0945-1015	**SESSION 2** **Fireside Chat: Experiences, General Challenges and the Role of the Public Sector** Context and situation: • Sharing of experiences and perspectives • General challenges for insurance and risk transfer Increasing resilience and preparedness • Options for the public sector • Value for money considerations
	Public sector representative: **Mr. Conor Donaldson**, *CEO, Global-Asia Insurance Partnership (GAIP)* Broker representative: **Dr. Simon Young**, *Senior Director, Climate and Resilience Hub, Willis Towers Watson* **Ms. Nita Madhav**, *CEO, Metabiota* **Discussion**
1015-1100	**SESSION 3** **Panel Discussion: Industry Perspective on the Value Chain of the Epidemic Risk Markets Platform** The value chain • Product design • Constraints of the insurance industry • Design and structure of value chain • Perspectives of different private sector stakeholders What is required to scale? • Requirements for risk transfer instruments • Attractiveness of investments

	Moderator and reinsurance representative: **Dr. Gunther Kraut**, *Global Head of Epidemic Risk Solutions, Munich Re* Primary insurance representative: **Mr. Masaaki Nagamura**, *Fellow International Initiatives, Tokio Marine Holdings Inc.* Institutional investor representative: **Mr. David Soloff**, *CEO and Founder, OTT Risk* **Discussion**
1100-1130	**SESSION 4** **Pilot Project Session: Different Requirements in Different Economies** Choice and framing of pilots • Severity of impact on sectors • Developed economies vs middle income and developing economies Introduction of pilots • Pilot 1: Industry group from developed economy • Pilot 2: Thai tourism sector
	Moderator: **Mr. Alexander Liu**, *Head of Origination & Underwriting, Asia Pacific, Epidemic Risk Solutions, Munich Re* Industry Representative, Pilot 1: **Mr. John Philipsz**, *CEO, Lockton Advisory* Industry representative, Pilot 2: **Mr. Lucien Heijstee**, *Chief Representative, Munich Re Thailand* **Discussion**
1130-1150	**SESSION 5** **Next Steps**
1130-1140	**Dr. Gunther Kraut**, *Global Head of Epidemic Risk Solutions, Munich Re*
1140-1145	**Dr. Julius Caesar Parreñas**, *Coordinator, Asia-Pacific Infrastructure Partnership; Coordinator, Asia-Pacific Financial Forum; and Senior Advisor, Daiwa Institute of Research*
1145-1150	**Discussion**
1150-1200	**CLOSING SESSION** **Closing Remarks** **Mr. Kobsak Duangdee**, *Chair, APFF; Co-Chair, ABAC Finance and Economics Working Group; and Secretary General, Thai Bankers' Association*

***Moderator**: Dr. Gunther Kraut, Global Head of Epidemic Risk Solutions, Munich Re*