PANDEMIC RISK PROGRAMS

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CURRENT TRENDS AND COVID-19'S EFFECT ON COMMERCIAL INSURANCE MARKETS

Property & Business Interruption

Approx.

11K

claims reported
by Marsh Globally

Event Cancellation

More than

20%

reduction in market capacity over the last
two years accelerated by the pandemic.

Casualty / Workers' Compensation

Nearly

20

states shifting the burden of proof from employees to employers for COVID-19
WC claims in health care, essential, frontline, and other occupations.

Directors and Officers Liability

Avg. increase of

59%

increase in pricing for public
companies in the second quarter.

Employment Practices Liability

More than

20%

reduction in market capacity over the last
two years accelerated by the pandemic.

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Source: Marsh data 2019

BUSINESS IMPACT AND THE NEED FOR A PUBLIC PRIVATE PARTNERSHIP

- ✓ COVID-19 is having devastating social and financial consequences across the United States, highlighting significant vulnerabilities in the health and financial security of our country.

- ✓ Businesses of all sizes and in all sectors are impacted by the current crisis; the frequency of disease outbreaks is on the rise; and there is no large scale current private insurance solution.

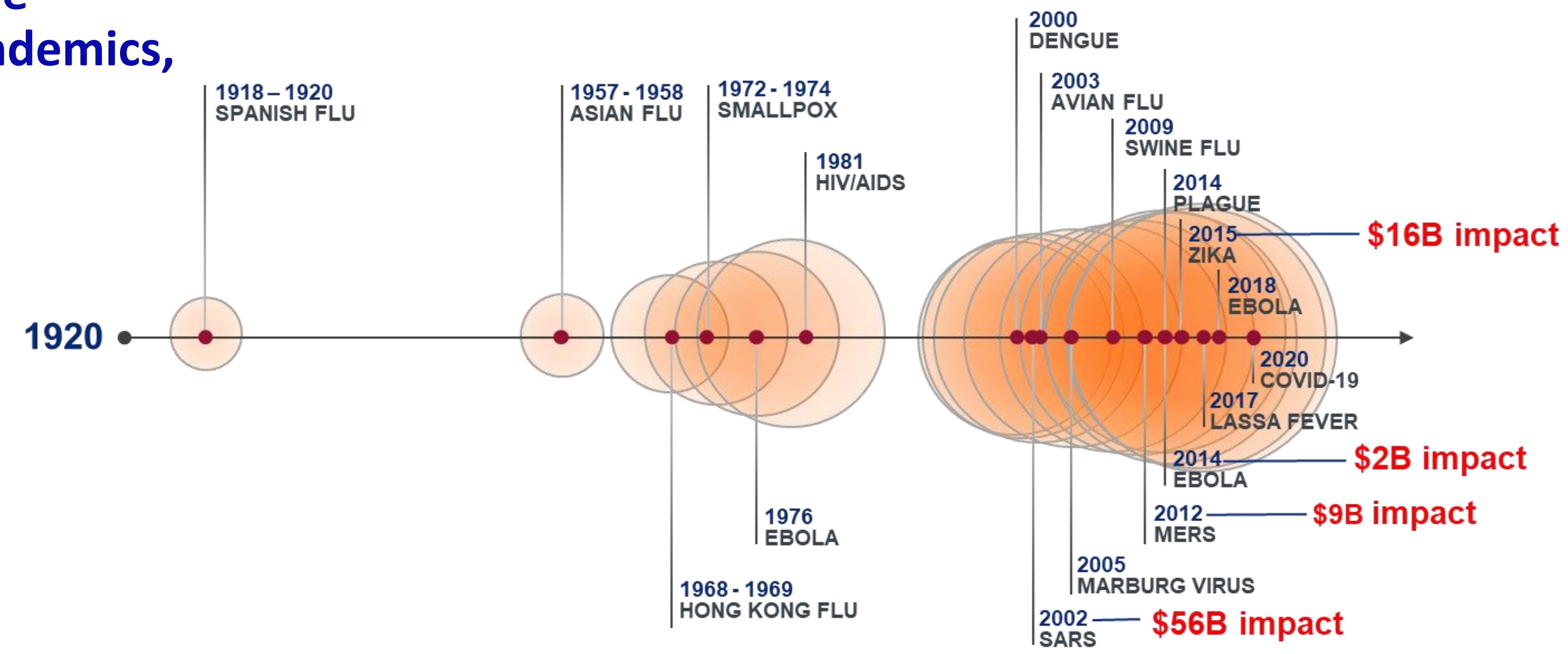
- ✓ Development of a public-private partnership with the right incentives for all parties is the only option to mitigate future economic impact of pandemics and accelerate economic recovery from COVID-19.

GLOBAL EPIDEMIC THREATS: DEADLY, COSTLY, INCREASINGLY FREQUENT

In just the last two decades, more than 400 human disease outbreaks have been recorded, including at least seven events that cost $1 billion or more, according to Metabiota.

Several intensifying trends have increased the likelihood of pandemics, including:

- **Global travel & connectivity**
- **Urbanization**
- **Land use changes**
- **Incursion into the natural environment**



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POLICYHOLDER FEEDBACK

Marsh and MMA clients have expressed widespread support for a public-private partnership model that creates a viable and affordable insurance market for pandemic risk

General themes and feedback from client discussions:

- **Affordability:** Clients are highly price sensitive beyond 4-5% ROL
- **Claims:** Rapid payment during crisis
- **Coverage:** Business continuance
- **Accessibility:** Solution must meet needs of businesses of all sizes
- **Bending the Risk Curve:** PPP should develop advanced risk management guidelines to incentivize proactive risk mitigation

SNAPSHOT OF CURRENT PANDEMIC PROGRAMS BEING SOCIALIZED

Several proposals have been introduced by carriers, policyholders, and trade groups

1. Program Comparison – Overview

	PRIA	Business Continuity Coalition (BCC)	Chubb		Zurich	Business Continuity Protection Program (BCPP)
			Cash flow	PAN RE		
Solution Type	Insurance Integrated into business interruption	Insurance Integrated into business interruption	Insurance Standalone coverage	Insurance Integrated into business interruption	Insurance Standalone Coverage	Expense reimbursement program **(non- insurance)** Standalone solution
Buyer Segment	All businesses	All businesses	SME <500 employees w/ valid tax ID	Mid-Large Market >500 employees w/ valid tax ID	All businesses	All businesses
Protection Provided	Business interruption (BI) coverage for losses resulting from a pandemic or outbreak of communicative disease Incorporated into business interruption insurance (BI) - Includes event cancellation insurance and/or other non- property contingent BI	(1) Business Expense Insurance Program – an insurance product (BIP) (2) Other covered lines including event cancellation Between 50-80% of operating expenses depending on the size of the entity. Operating expenses include: Payroll, Rent, Utilities, Taxes.	Up to 3 month payroll and other expense for revenue lost due to a pandemic-related government-ordered business shutdown. May include additional payment for operating costs in certain classes of business		80% of payroll, benefits, and other expenses for up to 3 months for revenue lost due to a pandemic-related, government-ordered business shut down. Capped at $20M per month for entities with 500 or more employees	80% of payroll, benefits, and other expenses for up to 3 months for revenue lost due to a pandemic-related, government-ordered business shutdown
Program Limits	$750Bn annually Total combined private and public insurer payments	No cap	$750Bn annually Total combined private and public insurer payments	$400Bn annually Total combined private and public insurer payments No coverage above cap	No cap	No cap
Trigger	Public health emergency that is declared an emergency under the Public Health Service Act and a certification by HHS and; Aggregate insurer losses of $250 million before backstop triggered	(1) States can request a federal public health emergency declaration because of viral infection (2) Presidential emergency declaration triggers payments	U.S. Centers for Disease Control and Prevention medical criteria; Declaration of Emergency by U.S. Department of Health and Human Services or President and; Federal, state, or local lockdown in force		Multiple / tiered, including federal emergency disaster declaration, Federal disaster declaration by state, and business shut down declared (state level)	Presidential viral emergency declaration; State mandated closure and; Closure applies to the type of business (using identified NAICS codes)

PANDEMIC RISK INSURANCE PROGRAM – WHY NOW?

A pandemic risk insurance program will serve vital national interests:

1. ***Accelerate Recovery by Reducing Uncertainty***
   - Moving forward, lenders and equity markets will seek assurance that companies have protection against prospective pandemic risk.
   - The pace of recovery will depend on the nature and degree of confidence in the marketplace.

2. ***Financial Protection Against Future Pandemics***
   - A pandemic risk insurance facility will absorb some of the initial financial shock of a pandemic
   - Insurance coverage enables businesses to retain employees and meet financial obligations through the peak of uncertainty.

3. ***Bend the Risk Curve***
   - Insurance creates the right economic incentives to drive change in society.
   - It is critical that we act now to harness risk management to build a more resilient US economy.

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NEXT STEPS

- ✓ Resolve any points of differentiation
- ✓ Align all stakeholders and policyholders on the fundamental principles of the solution
- ✓ Stress test final model

APPENDIX

OPTIONS FOR REINSURANCE AND RISK POOLING

Examples of insurance/reinsurance mechanisms used for risk management (non-exhaustive

PRIVATE ← → PUBLIC

Semi-private pooling reinsurance schemes

- A joint entity would be set-up by e.g. insurers where risk can be pooled and knowledge shared
- Could be voluntary or legally mandated/ compulsory (e.g. including any pricing restrictions)
- Financing primarily provided by the private sector and limited (if any) government financing initially and typically no committed reserve[1]

Public-private partnership (PPP) reinsurance schemes

- A structured risk sharing model between policyholders, insurers and the federal government
- Government explicitly provides backing to the private sector to cap exposure and drive affordability
- Participation could be voluntary or legally mandated/compulsory

Public funds for non-insurable risks

- A pure government set-up, without any direct private involvement (apart from aligning coverage)
- A fund would be set up with a reserve, built up over time, that can be used to pay out claims in the case of a pandemic event
- Claims towards the fund should be aimed at covering risk events that cannot be covered by existing insurance offerings

Relevant option space for managing pandemic risk

Given their global nature, pandemics are unlikely to offer (re)insurers any diversification.
We expect some form of public support will be required to enable a (re)insurance market.

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1. The government could always choose to provide funding to the entity in extreme circumstances, but without any fixed or defined commitment

KEY CONSIDERATIONS FOR A PANDEMIC RISK POOLING MECHANISM

Dimension		Key considerations (not exhaustive)
1	**Risk mitigation & resilience**	• Will the scheme's design embed measures to encourage resilience in the community, e.g. by incentivising preventative measures on the part of insureds, by investing pool reserves in resilience initiatives, or by linking the scheme to ongoing government commitments to building resilience in the system? • How can analytics be leveraged to model the risk and effectiveness of mitigation measures?
2	**Funding model**	• Will the vehicle facilitate increased private market participation over time? • What is the appropriate level of industry financial commitment (retention / co-participation)? • Is the vehicle pre-funded or funded post event? How would funding be expected to build over time? • How do we ensure liquidity for insurers to deliver claims payments? • What is the likely financial ask of each participating insurer and of the government? • Who governs the management of the scheme, the reserves and investment of the reserves?
3	**Scope of cover**	• Will the cover be compulsory / optional? • Will the cover be embedded into existing products / an optional add-on / a standalone product? • Will the product vary by customer segment, and if so, how? How will the level of cover be determined for individual insureds (e.g. based on cost of working, foregone profit) and how will these be ascertained?
4	**Distribution & operating model**	• What is the role for insurers and agents / brokers in the model? • Will the insurance relationship be to clients' current insurers or direct to the pandemic entity? • What infrastructure is required to operate the scheme on an ongoing basis? How will this be set up? • How will technology be leveraged to best meet the objectives of the scheme?
5	**Claims process**	• How will claims payments be triggered and what are the relevant trigger thresholds / definitions? • How can the product be structured to avoid not paying out due to technicalities? • How will payment values be determined and what will the schedule look like? • If the cover is embedded in existing policies, how will it interact with the rest of the policy in a loss event?

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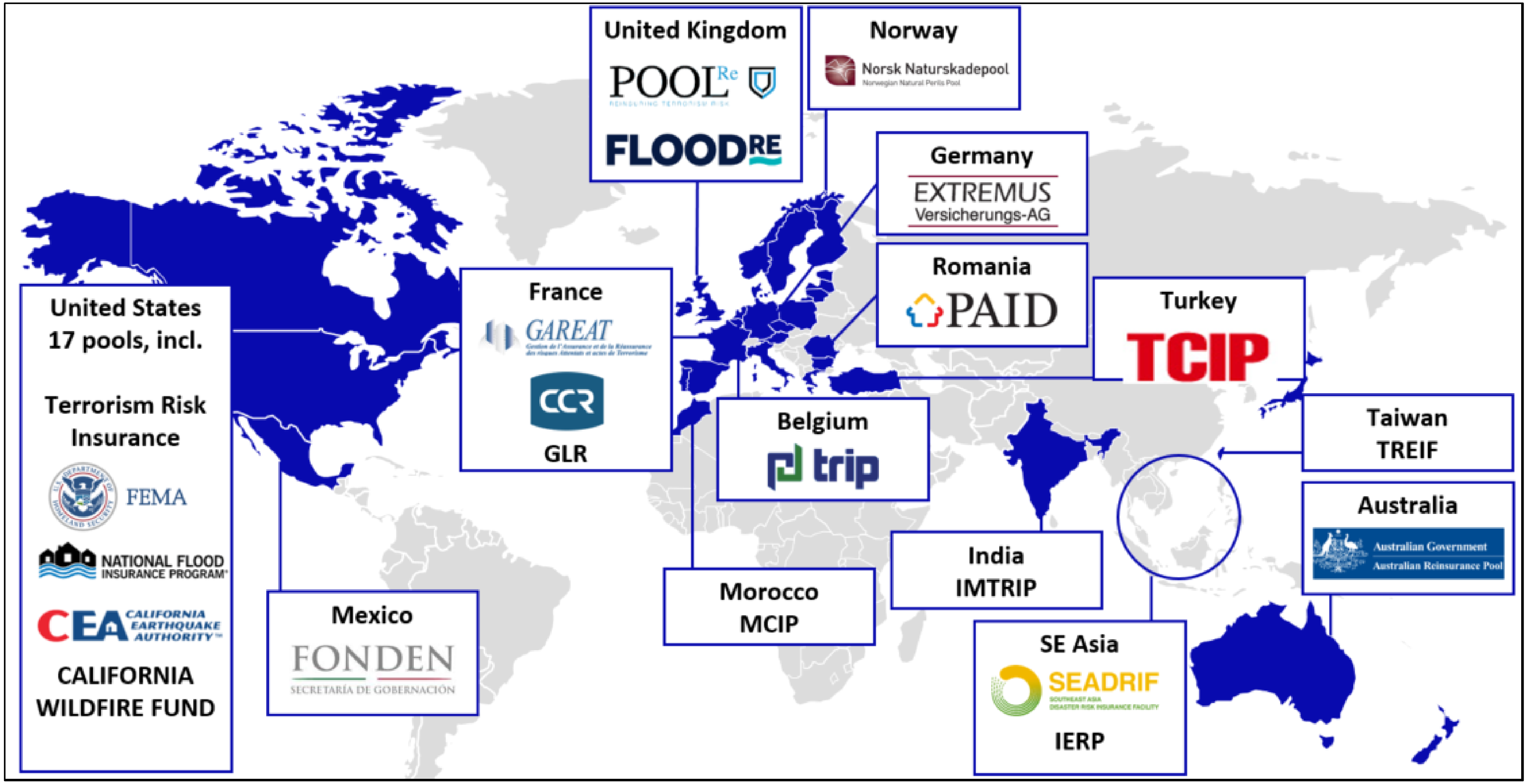
INTERNATIONAL RISK POOLING SCHEMES

Selected examples: MMC involvement in pool schemes



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LESSONS LEARNED FROM EXISTING RISK POOLING STRUCTURES

Key Learning	Selected Examples
Significant loss events or changes in how risks are modeled can lead to market-wide capacity withdrawal.	• **TRIP** was established in 2002 following a widespread withdrawal of commercial terrorism cover by reinsurers following the September 11, 2001, terrorist attacks. • **Flood Re** was developed to provide affordable flood risk cover to the approximately 3% of UK homeowners living in high flood risk areas. Industrywide improvements in flood risk modeling had made coverage unaffordable for this cohort.
Extreme risks typically require some form of government backstop.	• Government treasuries are the insurer of last resort on multiple loss sharing schemes. For example, **TRIP, NFIP, Pool Re**, **CCR Cat Nat**, and **GAREAT** have unlimited guarantees, while **ARPC**, **Extremus**, **TRIP**, and **NHT** have limited guarantees
Public-private partnerships provide credibility and can be structured to gradually shift risk to the private sector.	• The US government's backing of **TRIP** enabled insurers to access affordable reinsurance for terrorism coverage. Over time, federal reinsurance participation in the program has fallen from 90% in 2002 to 80% in 2020, while insurer deductibles have risen from 7% of premium in 2002 to 20% in 2020. Insurer retentions have also increased, from $5 million in 2002 to $200 million in 2020. • The UK government's backing of **Pool Re** similarly enabled insurers to access affordable terrorism reinsurance. Over time, the Pool Re fund grew and private reinsurer confidence was restored, to the point that £2.4 billion of reinsurance cover is now purchased. As a result, a loss fund of approximately £10 billion (including member retentions) sits between the consumer and the government needing to step in.
Schemes can be used to incentivize the adoption of preventive measures.	• Eligibility for the US flood risk scheme, **NFIP**, requires communities to adopt and enforce strict floodplain ordinances and offers premium discounts for outstanding performance. • While there is no direct requirement for risk mitigation by **Pool Re** stakeholders, premium discounts of up to 7.5% are available for insureds that proactively undertake such initiatives. • The **US crop insurance industry** supports continued agronomic research to determine how farmers can best incorporate cover crops and other best risk management practices in their operations and the impact those practices may have on insured crops. • The US **SAFETY Act of 2002** was created to spur the adoption of improved security measures by offering to limit liability of companies providing anti-terrorism products and services for qualified vendors. Similar policies, coupled with a robust public-private insurance market, could incentivize private sector adoption of prophylactic measures to drive down exposures. • **Flood Re** is intended as a temporary solution to be phased out by 2039. As such, the government has committed to major investments in preventive measures, while Flood Re has prompted insurers to work to enhance their understanding, mapping, modeling of flood risk and their collection of data for improved underwriting.

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