

RESEARCH BRIEF
Public-Private Solutions to Pandemic Risk
Opportunities, Challenges and Trade-offs



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The shutdown measures adopted by many governments to contain COVID-19 plunged the global economy into the deepest recession since the Second World War. This dislocation has exposed massive protection gaps in the area of business continuity risk. Less than 1% of the estimated USD 4.5 trillion global pandemic-induced GDP loss for 2020 is likely to be covered, reflecting pre-COVID-19 coverage exclusions and restrictions as well as the niche character of business interruption (BI) insurance which accounts for less than 2% of the world’s property & casualty (P&C) insurance market.¹

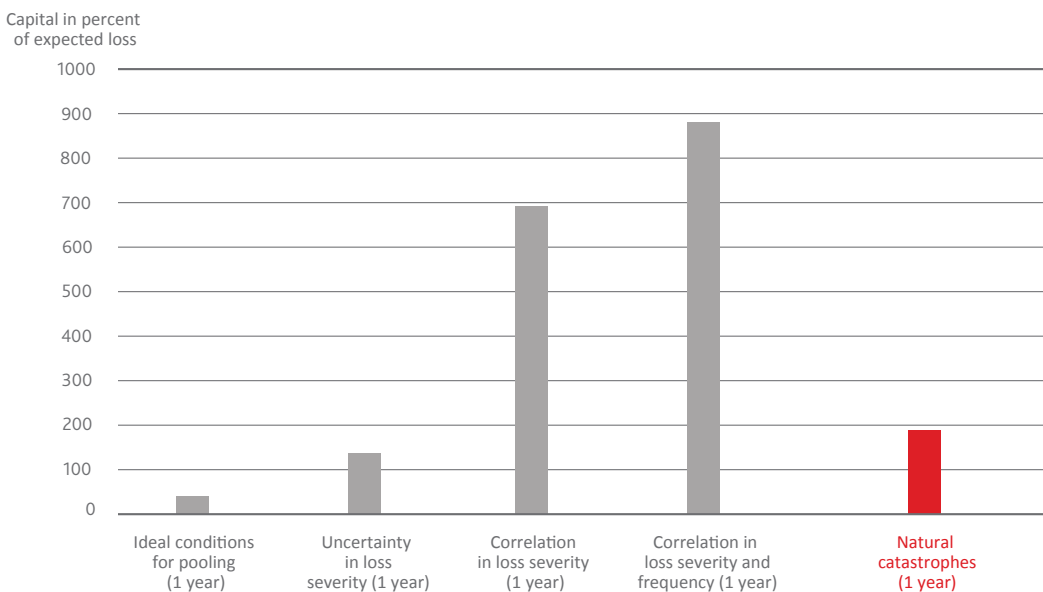
Commercial insurers have always sought to push the boundaries of insurability by developing innovative and viable approaches to new and emerging risks of major severity such as natural disasters or changes to liability regimes; for example, through Alternative Risk Transfer (ART) solutions.

These efforts notwithstanding, pandemic business continuity risk was, in general, never possible nor intended to be covered

Pandemic business continuity risk was, in general, never possible nor intended to be covered by the private-sector insurance market.

by the private sector. To some extent, this reflects demand side reasons such as an endemic underestimation of the frequency and severity of pandemics. However, the shortage of supply primarily results from the high level of embedded risk and, therefore, prohibitively high amounts of capital needed to underpin credible insurance commitments, attributable to the unique correlation in the frequency and severity of pandemic business interruption losses. Coverage for pandemic business continuity risks with meaningful limits, therefore, will remain unavailable from the private insurance market as a result of prohibitively high capital requirements.

Figure 1: Capital requirements (in percent of expected losses) under various assumptions



Source: The Geneva Association, using the numerical examples of Hartwig et al. 2020

1 The Geneva Association 2020. Author: Kai-Uwe Schanz.

Governments need to get involved as 'insurers of last resort'. There is a broad spectrum of approaches they can adopt in order to facilitate and support the sharing of pandemic risk through partnerships with insurers or stand-alone. The public sector should evaluate insurers' potential, non-risk bearing contributions to pandemic preparedness and resilience building (e.g. risk assessment, risk mitigation and claims management) and bring to bear its unique ability to organise economically viable risk transfer over time through taxation and borrowing.

Against this backdrop, one can distinguish between four 'archetypical' forms of public-sector involvement in pandemic risk schemes:

1. Mandatory or voluntary direct insurance offered by the government and administered by private insurers

Government insurers would not only collect premiums but also be able to borrow funds in case payouts exceed accumulated premiums. The government insurer could market policies directly to insureds (which would necessitate the establishment of a proprietary distribution channel or via existing government entities (e.g. emergency management agencies) or, alternatively, through third parties such as banks, insurers and intermediaries. For claims settlement and payment, the same fundamental options are available.²

2. Government reinsurance backstopping mandatory or voluntary private-sector coverages

Governments can provide reinsurance to insurers that, prior to a pandemic event, sell pandemic coverage to businesses. The reinsurance coverage would kick in for losses above a certain threshold and up to a designated limit. As for the direct insurance option, a major pandemic would probably require governments to borrow to raise funds as well as to tax in order to service the debt.

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3. Mandatory social insurance

The distinguishing feature of social insurance is mandatory participation. In addition, it involves a higher level of solidarity and more uniform non-risk adequate pricing. In the context of pandemic risk, participants would be required to make pre-event payments, for example through a special tax or levy. Benefits from such a scheme would be capped at a relatively modest level of potential losses, in line with the typical objective of social insurance to provide modest coverage for broad segments of the population.

4. Post-event financial relief with no pre-event dimension whatsoever

Under this approach the government offers an ad hoc safety net to those impacted by a pandemic. There is no pre-event financing nor pre-event commitment on how funds would be allocated. Those funds are borrowed, transferring the cost burden onto current and future taxpayers. COVID-19 was handled by most governments using this post-event approach to protection.³

There is a valuable role for the insurance industry to play – as absorbers of limited risk, professional distributors and claims managers and/or experts in risk assessment, mitigation and prevention – in pandemic risk schemes.

We can judge these exemplary types of involvement against their relative strengths and weaknesses in achieving seven specific public policy goals: 1) maximum coverage, 2) limited public exposure, 3) funds matching needs, 4) incentives for risk mitigation, 5) cost-efficient risk transfer, 6) operational efficiency and 7) macroeconomic benefits. Distributing cash post-event is probably the least effective approach, foregoing any benefits from pre-event risk mitigation and preparedness measures.

This generic institutional perspective can be supplemented with a more granular risk-oriented angle, focusing on how pandemic risk is actually being dealt with. Public-private partnerships (PPPs) around the world emphasise primarily either removing catastrophic risk from the (commercial) market, or redistributing it across all policyholders. In the scenario of risk removal, insurance companies may accept premiums from insureds, ensuring that policies can still be issued and serviced. However, they do not retain any risk. Examples include the National Flood

² Hartwig et al. 2020; Paudel 2012.

³ Alpert 2020.

Table 1: A comparative assessment of four exemplary types of government involvement in pandemic risk funding⁴

Policy goal / type of government involvement	Direct insurance	Reinsurance	Social insurance	Post-event protection
Coverage	Low to medium (unless compulsory)	Low (depending on insurer involvement in offering and pricing)	High (but relatively modest level of compensation)	Medium to high (subject to effective distribution channels)
Public exposure	Medium to high (public sector would absorb all losses not covered by premiums)	Medium to high (public sector would absorb all losses in excess of insurers' deductible)	Medium (public sector would absorb all losses not covered by taxes or contributions)	High (public sector would absorb all losses)
Matching of funds with needs	Medium (if centrally designed, with limited coverage options)	High (for voluntary private insurance, protected by public reinsurance)	Low (especially for businesses who suffered large losses)	Low (due to ad hoc features, designed under time pressure)
Risk mitigation incentives	Medium (underwriting considerations likely to be influenced by political objectives)	High (based on underwriting mechanism)	Low (due to undifferentiated prices and benefits)	Low (if businesses expect 'bail-out')
Cost-efficiency of risk transfer	Medium to high (depending on pool size)	Medium (depending on pool size)	High (given large pool size)	Low (risk is removed from the market)
Operational efficiency	Low (cost of distribution)	Medium (cost of dealing with private insurers)	High (leveraging existing structures)	Medium (but uncertain)
Macroeconomic benefits	Medium (due to uncertain take-up rates)	Medium (due to uncertain take-up rates)	High (due to broad reach)	Medium (due to ad hoc character)
Role of private insurers	Issue and market policies Make claims payments Support pricing (if applicable)	Assume limited lower-layer risk Set risk-based rates Set incentives for risk mitigation	None	Supplementary role in distributing funds and matching them with needs

Source: The Geneva Association, compiled and assessed from quoted sources

- High level of policy objective achievement
- Medium level of policy objective achievement
- Low level of policy objective achievement

⁴ The assessment criteria do not carry the same weights. Arguable macroeconomic benefits and risk mitigation incentives are more relevant overall than cost and operating efficiency, for example.

Insurance Program and the California Earthquake Authority in the U.S. Redistributing risk, on the other hand, refers to taking the risk of loss by a relatively small group of highly-exposed policyholders and sharing it across the wider pool of variably-exposed policyholders through a levy.

A key consideration for all conceivable options for government involvement is whether the cover should be mandatory or voluntary. This will determine the size of the risk pool and, therefore, the scope for fair risk redistribution. The government would provide the underpinning support to those who have taken out pandemic insurance, and yet it would also have to prop up ‘free riders’ with no insurance. For pandemic systemic risks, where the cover would need to involve a full government guarantee, the mandatory participation of businesses might be most appropriate. Except for the post-disaster relief option, each of the types indicates a valuable role for the insurance industry to play, as absorbers of limited risk, professional distributors and claims managers and/or experts in risk assessment, mitigation and prevention.

References

- Alpert, G. 2020. Here’s What Countries are Doing to Provide Stimulus and Relief. Updated 16 January 2021. <https://www.investopedia.com/government-stimulus-efforts-to-fight-the-covid-19-crisis-4799723#germany>
- Hartwig, R., Niehaus, G. and J. Qiu. 2020. Insurance for Economic Losses Caused by Pandemics. *The Geneva Risk and Insurance Review* 45: 134–170.
- Paudel, Y. 2012. A Comparative Study of Public—Private Catastrophe Insurance Systems: Lessons from current practices. *The Geneva Papers on Risk and Insurance—Issues and Practice* 37: 257–285.
- The Geneva Association. 2020. *An Investigation into the Insurability of Pandemic Risk*. Author: Kai-Uwe Schanz. October.

