



# INTERNATIONAL CO- OPERATION AND ECONOMIC RESILIENCE

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WTO



# Context



- The impacts of the **COVID-19**  on people's health and daily life, stock markets, and businesses illustrate the increasingly dynamic, interconnected and complex nature of the challenges facing governments around the world
- Integrating new economic approaches (including systemic thinking, resilience, neuro-economics, econophysics, non-linear dynamics, non-equilibrium social science, integrative economics) will be essential to address these issues in an era of rapid and disruptive change



Opinion

# How We Broke the World

Greed and globalization set us up for disaster.





# How we Broke the World

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- Over the past 20 years, we've been steadily removing man-made and natural buffers, redundancies, regulations and norms that provide resilience and protection when big systems — be they ecological, geopolitical or financial — get stressed. We've been recklessly removing these buffers out of an obsession with short-term efficiency and growth, or without thinking at all.
- <https://www.nytimes.com/2020/05/30/opinion/sunday/coronavirus-globalization.html>



# The world economy

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- The world economy is a system where heterogeneous, global production networks (50 million firms with billions of physical links) interact with household networks (2 billion households, 3.3 billion workers and trillions of links to consumed products), a web of contracts (trillions), and ownership patterns where a few firms and individuals own almost everything (Doyne Farmer, 2019).



# The world economy

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- The economic system is inherently intricate and interlinked through financial markets, global supply chains, social networks and a shared ecological foundation.
- Complex interactions at the individual level give rise to emergent properties at the macro level.



## Subject to shocks

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- Such a system is subject to crises and cascading failures, which can emerge from a variety of sources including financial crises, natural disasters, geo-political tension, cyber-attacks and pandemics.
- These risks are amplified by several overarching trends: the intensification of inequality, the hyper-complexity of finance, the rise of digitalisation, concentration of critical capacities and monopolisation and environmental emergencies such as climate change and biodiversity loss.
- These are not only raising the frequency and intensity of certain shocks, but enabling their impacts to cascade from system to system.



# Systemic Challenges

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- In 2007–2008, problems in a national home loans market escalated into a financial crisis that almost destroyed the global banking system.
- Since 1940 intensive agriculture has been associated with more than 25% of all infectious diseases that emerged in humans and more than half of all infectious diseases that spilled over from animals to humans (Rohr et al. [2019](#)).
- “the spread of epidemics and the disintegration of the financial system – each is essentially a different branch of the same network family tree” (Haldane [2009](#)).
- concerted policies for the climate, ecosystems, energy, and water nexus
- Stranded assets, carbon bubbles
- employment strategies have to incorporate the interactions between technological innovation and economic progress.



# Systemic Resilience

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## Resilience at OECD: Current State and Future Directions

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**Abstract**—Resilience is an emerging approach that emphasizes the capacity of an organization to expeditiously recover from and adapt to adverse events. Theoretically, such an approach could help many organizations and systems address the inherent uncertainty and complexity within their operations and better overcome disruptions or shocks, which would otherwise threaten to degrade or destroy the organization's core operations. In practice, however, a lack of consistency in how resilience is applied and measured can limit its effectiveness to assist organizations in this task. The Organisation for Economic Co-operation and Development (OECD) is particularly interested in applying principles of resilience to emerging threats to economic and social prosperity amongst its member states, yet also applies resilience in various application areas via comparable yet different definitions. A greater harmonization of resilience across OECD's Directorates and affiliate groups is intended to improve the organization's capacity to identify and address emerging systemic threats and produce suggestions for good governance to meet these threats as they arise in the coming years.

**Key words:** Resilience, OECD, Governance

Environment Systems and Decisions  
<https://doi.org/10.1007/s10669-020-09776-x>

SHORT COMMUNICATION



## Bouncing forward: a resilience approach to dealing with COVID-19 and future systemic shocks

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### Abstract

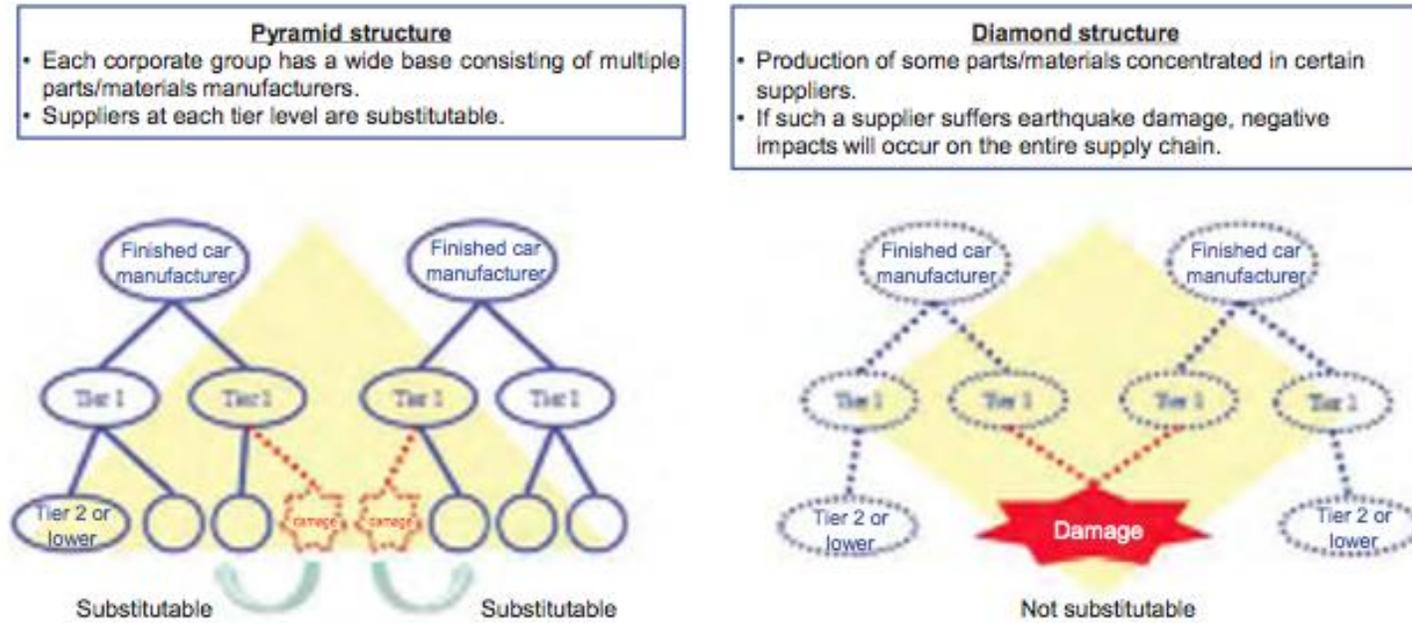
Policy questions are often framed in popular discussion as situations where pulling the right levers will get the economy and society back on track after shocks and crises. This approach ignores how systems interact and how their systemic properties shape socioeconomic outcomes, leading to an over-emphasis on a limited set of characteristics, notably efficiency. We argue that this emphasis on efficiency in the operation, management and outcomes of various economic and social systems is not a conscious collective choice, but rather the response of the whole system to the incentives that individual components face. This has brought much of the world to rely upon complex, nested, and interconnected systems to deliver goods and services around the globe. While this approach has many benefits, the Covid-19 crisis shows how it has also reduced the resilience of key systems to shocks, and allowed failures to cascade from one system to others. This paper reviews the impact of COVID-19 on socioeconomic systems, discusses the notion of resilience, and provides specific recommendations on both integrating resilience analytics for recovery from the current crisis as well as on building resilient infrastructure to address future systemic challenges.

**Keywords** Covid-19 · Coronavirus · OECD · Resilience · Economic impact · Risk



# Resilient International Systems

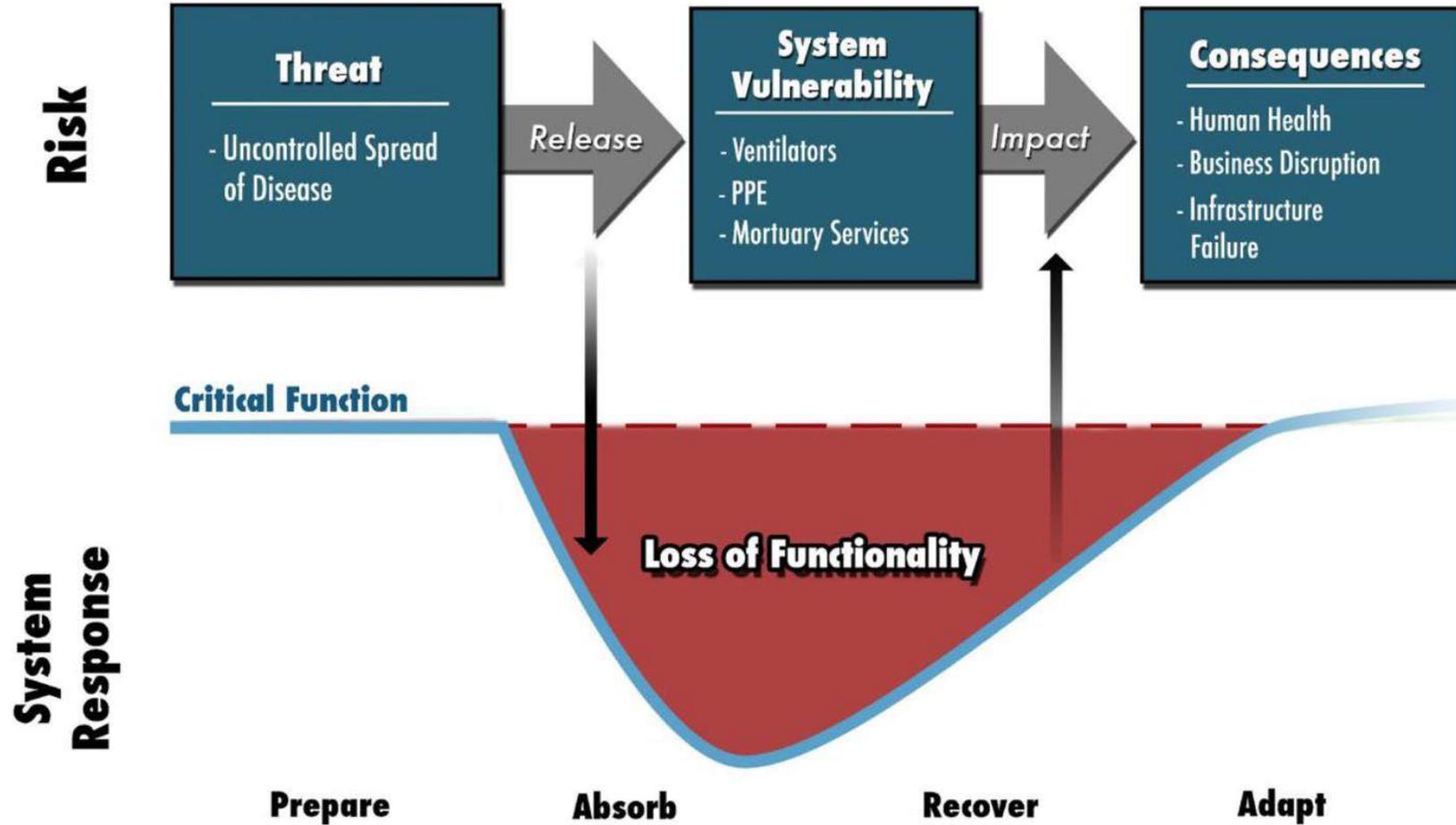
[Chart 2-48: Diamond structure supply chains]



Source: METI data



# New Approach to Resilience





# Bouncing Forward

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- COVID-19 disruption as a multi-system challenge.
- Where the threats, exploited vulnerabilities, and consequences of COVID-19 continue to manifest around the globe, extensive consideration must be given not only to how risk is absorbed and mitigated, but how affected systems will recover, adapt, and preferably “bounce forward” toward a more ideal system state.



# Conclusions

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- Covid-19 reveals the world as it is
- Complex, Interconnected but Fragile
- From Competition, Flexibility and Optimisation...
- ...to Co-ordination, Management and Resilience



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