Cut to the chase

NEW ZEALAND PRODUCTIVITY COMMISSION
Te Kōmihana Whai Hua o Aotearoa

February 2024

Improving Economic Resilience

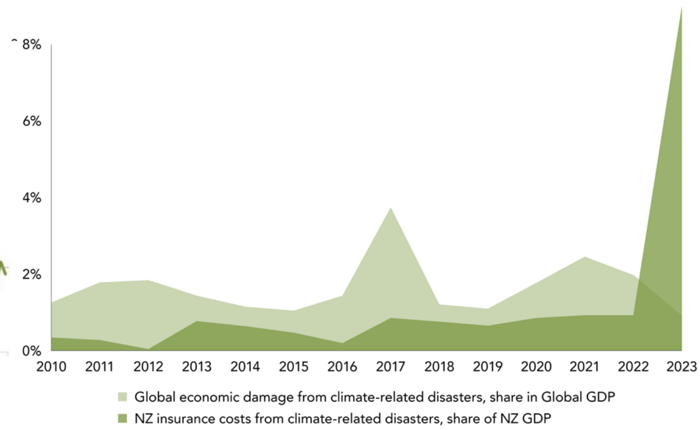
Economic resilience is the capacity of industries and associated communities to anticipate, prepare, absorb, recover and learn from supply chain disruptions. This inquiry investigates Aotearoa New Zealand's resilience to persistent disruptions likely to occur over the medium term, and policies that can enhance resilience. Near-term shortages of critical supplies and long-term infrastructure are out of scope.

The future is increasingly volatile and uncertain

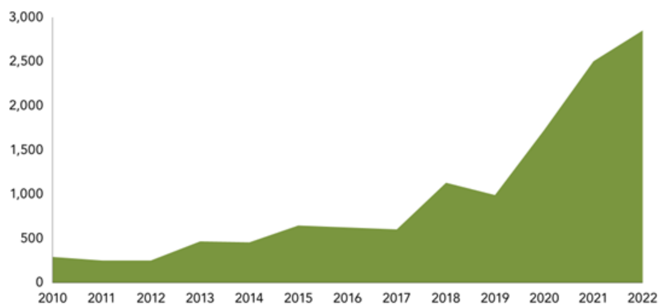
Aotearoa New Zealand is highly likely to experience more frequent supply chain disruptions due to an increasingly uncertain global environment.

Global supply chain pressure index

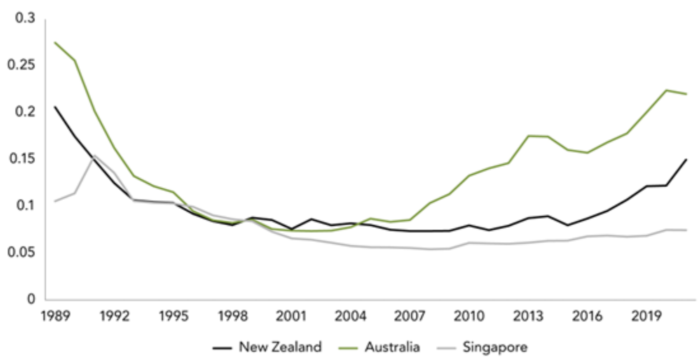
Economic damage from climate shocks



New trade barriers introduced each year



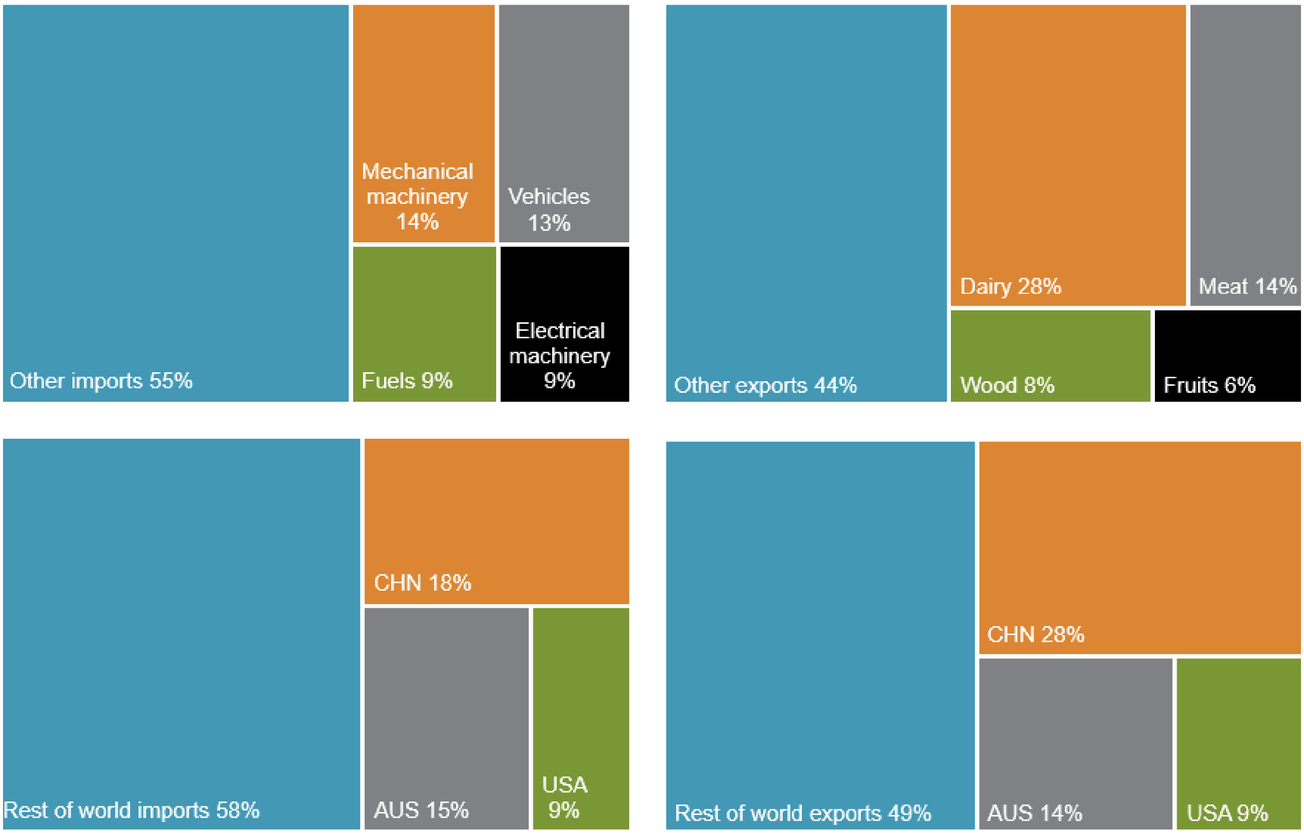
Rising trade concentration (market concentration index)

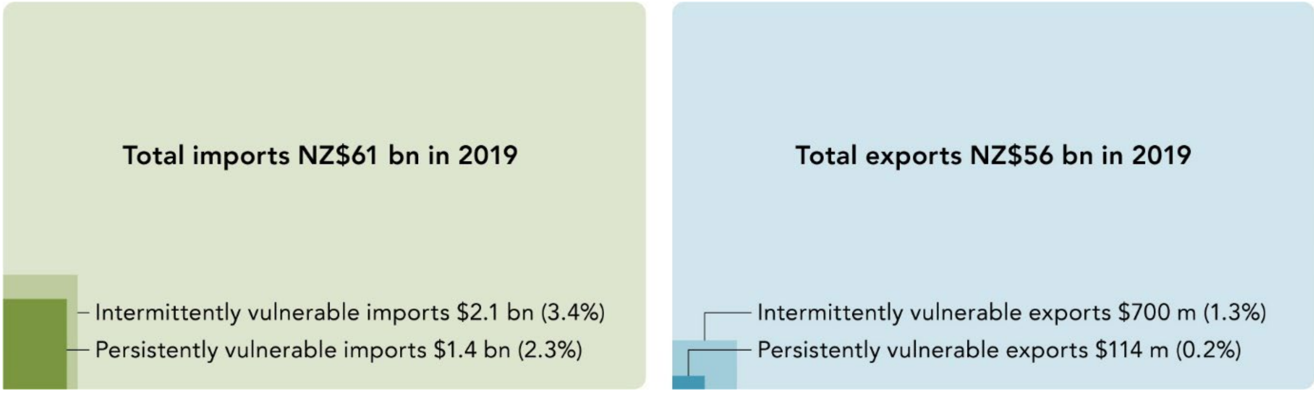


Existing economic challenges around productivity, innovation, infrastructure under-investment, and climate adaptation and mitigation compromise the ability to adapt to future disruptions.

Economic	Geographic	Geopolitical	Domestic challenges
Trade exposure and concentration Concentrated markets limit competition Low levels of productivity and innovation	Increasing risks of climate-related shocks Prone to natural disasters – earthquakes, floods, and cyclones Geographic isolation	Ongoing "slowbalisation" Rise in focus on economic security Unipolar to multipolar context, rise of near-shoring and re-shoring	Chronic under-investment in infrastructure Silos, fragmentation, and sub-therapeutic funding of government strategies

New Zealand's trade has become more concentrated since 2008, increasing the exposure to supply chain disruptions





Aotearoa New Zealand's trade may be more concentrated than direct trade statistics suggest, due to indirect exposures through the country's trading partners.

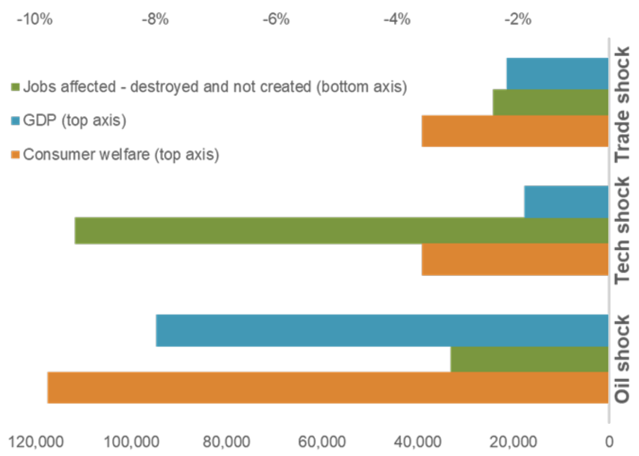
Supply chain shocks are likely to result in significant macroeconomic and employment losses

Economic modelling of disruption impacts

- Shocks reduce GDP by 1.4% to 7.5%
- Shocks lower consumer welfare by 3.1% to 9.3%
- Shocks affect between 24,000 to 112,000 jobs even under optimistic assumptions

Simulated distributional impacts

- Simulations conducted on 212 industries, 17 regions, 6 ethnicities, 11 age groups, and 5 qualification groups
- Simulations also estimate impacts of policy interventions such as labour subsidies

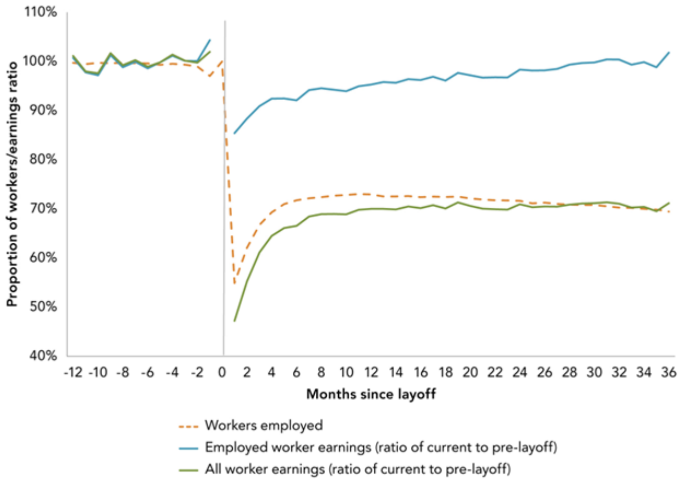


Most impacted (job losses)	Oil shock	Tech shock	Trade shock
Industry	Air & space	Dairy	Food services
Region (#)	Auckland	Auckland	Wellington
Region (%)	Wellington	West Coast	West Coast
Age group	20-24	30-34	15-19
Qual group	Bachelors	Bachelors	Bachelors
Ethnicity	Asian	Asian	Asian

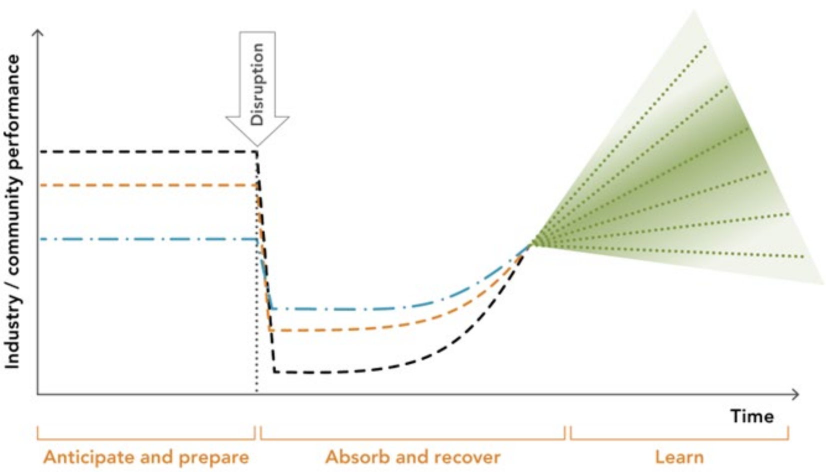
Impacts of involuntary lay-offs are significant and lasting

Empirical research highlights:

- 50% of involuntarily laid-off workers find jobs shortly after a layoff, rising to 70% within six months
- 20% exit the labour market entirely through retirement or long-term unemployment
- 10% emigrate
- Earnings take up to three years to recover to pre-layoff levels for workers who find new employment.



Proactive investments in economic resilience can reduce adverse impacts of disruptions



Risk-accepting, reactive approach
No preparation and no up-front costs but full impacts of disruption
=> Under-investment in resilience

Risk-averse, proactive approach
Reduces impacts of disruptions but requires up-front investments

High risk-aversion approach
Reduced impacts of disruption at high up-front costs
=> Over-investment in resilience

High uncertainty of outcomes
Post-disruption performance can be better or worse than pre-disruption

How can Aotearoa New Zealand prepare for disruptions that are inherently uncertain?

Risks vary in their predictability and impact. Some shocks can be better understood over time through better data and information. Other shocks require both a robust decision-making framework that can adapt to the unexpected and a resource buffer that can be repurposed.

Known knowns	Known unknowns	Unknown unknowns
Existing challenges and bottlenecks where timing and impact are relatively well understood and predictable.	Inevitable risks on the horizon where timing and impact are less well understood.	“Black swan” events – unforeseen or highly unlikely, yet significant in impact.

Learning from what other countries are doing

All economies monitor supply chain vulnerabilities and strive to reduce risks through diversification. Most small advanced economies have leveraged their innovation policies to respond to disruptions. A few large economies employ protectionist industrial policies that are not suitable in the New Zealand context.

Monitor and diversify
Nearly all advanced economies actively diversify and monitor supply chain risks. Many invest in long-term contracts and relationships.

✓

Focus on innovation
Most economies, in particular smaller ones, leverage focused innovation and export strategies to support the competitiveness, diversification, and scale of their frontier industries.

✓

Protectionist strategies
Larger economies also leverage the scale of their diversified domestic markets to onshore parts of global supply chains by subsidising and protecting industries considered important for economic security.

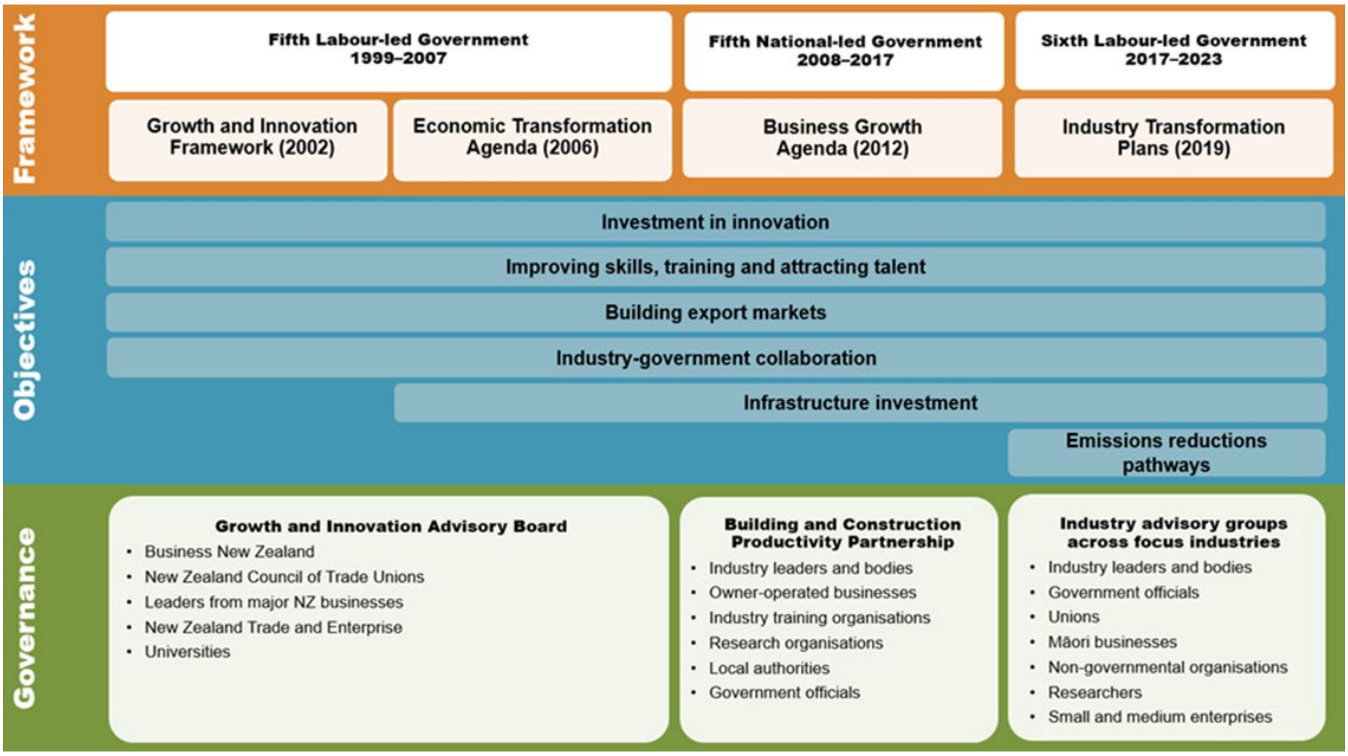
✗

Tailoring policy solutions to Aotearoa New Zealand’s economic and geo-political context

Aotearoa New Zealand has renewed its focus on supply chain management in response to the increase in global volatility and uncertainty through a variety of initiatives. The COVID-19 pandemic led government and firms alike to manage supply chain risks more actively. The dominant approach has been to strengthen relationships with suppliers and customers. The government has introduced a range of policies aimed at reducing the risks of supply chain disruptions, including the pursuit of trade diversification through free trade agreements and international partnerships, support for exporting firms, climate change mitigation and adaptation policies, and national security strategies.

Successive governments have introduced cross-economy policies to improve aspects of productivity and innovation which in turn enhance the resilience and dynamism of New Zealand's economy. These include support for R&D and diffusion of innovation, regulatory policy and stewardship, competition policy, and skills and workforce development policy. The effectiveness of these initiatives in supporting objectives linked to economic resilience depends on institutional trust and social cohesion. These policies created industry-government networks that provide building blocks for future resilience and innovation policies.

Economic development strategies from 1999-2023



Enhancing generic sources of economic resilience

While Aotearoa New Zealand cannot predict the exact nature, timing and impact of future disruptions, generic policy levers and institutional architecture can improve the capability of New Zealand's firms, industries, and communities to respond to supply chain disruptions.

Generic resilience stems from strengthening information, networks, and institutions. Institutional architecture creates networks that enable the pooling of information, insights, and resources to respond to unforeseen disruptions in ways that enhance productivity and innovation.

Inquiry recommendations

Key policy challenge

Recommended solution

Information on critical vulnerabilities
Identifying critical goods, services, and markets requires deep industry insights and trade data analysis.

Data with experts
Build cross-government capability to undertake supply chain analysis and liaise with industry networks to share insights. Make use of an Interdepartmental Executive Board to reduce departmental silos and support a Long-term Advisory Group for Resilience and Innovation.

Coordination of proactive investments
Need for proactive investments in economic resilience to reduce the impacts of disruptions rather than reliance on ad hoc responses after disruptions.

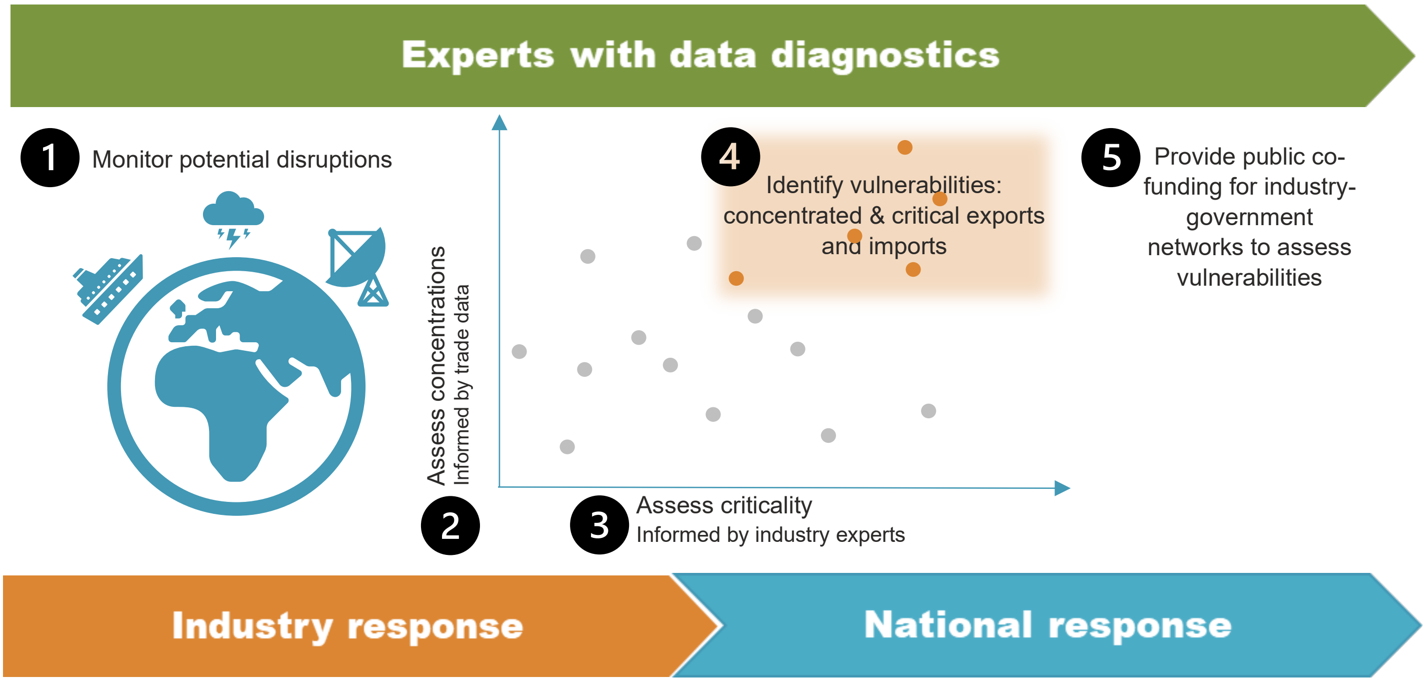
Building public-private networks with co-funding
Strengthen networks between government and private sector by co-funding network operation and include resilience criteria in government co-investment programmes.

Commitment to proactive investments
Intertemporal trade-offs and short-term costs may create political incentives to favour short-term over long-term interests.

Business voice for commitment to the long-term
Give business and other stakeholders a high-level voice to support commitment to long-term investments in resilience, innovation, and related challenges by establishing a Long-term Advisory Group for Resilience and Innovation.

Operational logic for implementing our recommendations

The operational logic for implementing our recommendations is about building generic resilience to respond to increased volatility and uncertainty. This approach emphasises coordination between firms and relevant agencies in identifying and responding to critical vulnerabilities. Most vulnerabilities and emerging disruptions can and should be addressed without escalation to the national level. However, a pathway exists through the long-term advisory group to escalate vulnerabilities and disruptions of strategic importance.



6 Industry adaptation

Firms and industries can invest in resilience through employing supply chain management strategies to address vulnerabilities and disruptions. Strategies that firms can adopt include:

- Digitising supply chains
- Diversifying import and export markets
- Innovation in technologies, products, and business models
- Long-term contracting
- Stockpiling or substitution
- Onshoring or friend-shoring
- Market exit

8 Setting strategic direction

A long-term advisory group for economic resilience and innovation (LAGERI) including leaders from business, education and training, research, Māori and workers, to give them a voice in setting in setting long-term direction. This high-level governance group monitors the impact of cross-economy policies on resilience including innovation and diffusion, trade diversification, competition and coordination, regulatory stewardship, climate adaptation and skills development.

Public sector silos are reduced, and initiatives streamlined through an interdepartmental executive board (IEB) that can align public sector efforts.

7 Co-funding/support options

Firms and industries can use existing initiatives (including co-funding schemes) to support their investments in resilience.

9 Co-investment options

Standard Budget and Cabinet procedures apply for major resilience-enhancing projects not already covered in Step 7.