

# A Supply Chain Risk Analysis based on a 3-Month Prolonged COVID-19 Lockdown

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## Executive Summary

Based on a snap survey, supply chain and logistics specialists predict 72 possible supply chain related risks if New Zealand had to enter an extended Level 3/4 lockdown period. Most of these risks pertain to supply chain continuity issues, such as difficulties to move products through ports, securing raw material and cashflow. The second largest cluster of risks pertains to the flow-on market consequences. Possible losses in market share and brand damage were articulated several times. Labour and social related risks include issues around unemployment, but also fatigue and burnout. These may affect the quality of work as well as health and safety risk. A prolonged lockdown is anticipated to affect the industry support landscape with additional pressure on banks and government, but also delays in capital projects, maintenance, and a drop in investor confidence.

This report was prepared by Massey University's Supply Chain Management Group  
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**Figure:** A consolidation of all supply chain related risks anticipated by the participants of this review if New Zealand had to enter a prolonged lockdown period

This report summarises the outcome of a snap risk review that was conducted amongst a number of supply chain and logistics specialists in New Zealand. These specialists were prompted to reflect on the possible risks and impacts that a prolonged 3-month long COVID lockdown at Level 3 / 4 will have on the country’s supply chains. The aim of the review was to produce information with a short turn-around time. We acknowledge more effort could improve the risk analysis, but time was of the essence when these results were produced. This report should be read from a risk management perspective, the intention is to present as many risk triggers as possible and not to depict a future state for supply chains in New Zealand.

## Comments made by participants

The following comments are direct quotes by participants and do not necessarily reflect the position of Massey University.

“As an essential service we continue to operate however things are a lot slower as a result of additional social distancing required and the use of PPE gear.”

“This assumes a pretty bad scenario. We need to create supply chain visibility for NZ to allow the levers to be pulled early.”

“The "burning bridge" is here – let’s not waste a great crisis & the opportunity to reform.’

“Manufacturing businesses that sell online can survive as long as the national courier distribution system is not restricted by the Government and bringing packaging and raw material across the border is not restricted by the Government.”

“A long lockdown will definitely impact our business - but equally, we are aware of the outcomes of not working through a lockdown strategy. It is a rock and a hard place - which only time will tell which was the right path.”

“Lockdown obviously brings uncertainty and impacts to all enterprises. But its impact is posing disproportionate threats and small businesses could take more heat.”

“Prior to the current L4 lockdown we were already experiencing issues with significant increases for raw materials and also shortages, which have forced changes in manufacturing.”

“It might be worth studying the disproportionate impact on big and small businesses. Big business could have less competition after Covid is over because small competitions may have all exited from the market.”

## Key Risks Identified by Participants

- Inability to complete activities commenced prior to the lockdown
- Inability to move bulk product / finished goods
- Businesses will need to invest more in inventory
- Businesses will run out of cash through investment in inventory & slow sales
- Limited capacities
- Cash flow
- Container charges
- Continued delays in shipping times
- Continued increase in total order lead times door to door due to NZ and overseas restrictions/lockdowns
- Cost impacts
- Delayed inbound packaging for packhouses
- Overall delays
- Delivery interruptions
- Demand surges
- Demand uncertainty
- Difficulty bringing packaging through the border
- Employees mental health/wellbeing. Keeping staff motivated
- Even less space in empty container depots - we already have full container depots
- Freight/3PL warehouses /depots /transitional facilities full of cargo
- Fuel shortages
- Increase in cost for detention/demurrage due to labour shortage & restrictions
- Increase to amendment/cancellation fees for new bookings with continued sailing schedule changes and port omissions & changing lockdown restrictions
- Increased demand for courier services
- Increased inefficiencies
- Increased local lead times for import/export cargo
- Increased pressure in an environment that is already under pressure from the 1st lock-down in 2020
- Inflated prices on container shipping
- Internal operating constraints
- Labour shortage
- Lack of business to transport enough cargo
- Lay off staff from manufacturing sector

- Less products available (in stores) to New Zealanders
- Limited availability of backload freight
- Logistics disruptions
- Loss of brand confidence due to lack of stock
- Loss of export markets
- NZ/international traders going out of business due to decreases in sales
- Only a limited number of or wholesalers being able to operate
- Our suppliers experiencing difficulties bringing raw materials through the border
- Port congestion / alternate ports used for discharge i.e., Northport (Marsden Point) instead of AKL
- projects delayed across the economy
- Psychological impacts of staff
- Reduced capacity to service major ports
- Reduced staff at ports will create export delays of finished goods
- Reduced staff at ports will create import delays for raw materials
- Restricted access to couriers to distribute product
- Road maintenance for transport
- Run businesses at an unsustainable loss
- Increased salary wages to support logistics
- Shipping delays
- Slowed production throughput as a result of social distancing
- Staff burnout
- Staff shortages
- Supply chain security
- Supply constraints
- Supply of raw materials and packaging
- Supply partner performance
- Supply risk
- Supply shortages
- The container loop breaks further, causing more disruptions
- Variance
- Vessel schedules changing/ by-passing ports
- Work on CAPEX delayed and cancelled

**About the authors:**



Carel Bezuidenhout is a Senior Lecturer in Supply Chain Management at Massey University, specializing in supply chain resilience. Carel has more than 20 years’ experience in forecasting and developed several operational forecasting systems that are still in use today. He has more than 25 years’ experience in research and decision support. Other expertise includes Transport, Economics, Complex Systems, Network and Market Analyses.



David Pos is a postgraduate Massey University Supply Chain Management student and a Major in the NZ Army as Commanding Officer of the 3rd Transport Company. David has been involved in a wide range of operations, including providing logistics support during the Canterbury quake, Kaikoura quake, Port Hills fires and Canterbury floods. He is currently the officer in charge of all NZDF staff deployed to COVID managed isolation units in Canterbury. David is currently the Chairman of the Transport Trade Advisory Board.



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