Supply Chain Vulnerabilities

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I'd also like to acknowledge the traditional owners of the lands on which we meet and pay my respects to elders past and present.

Thank you for the opportunity to speak about the Commission's work on Supply Chain Vulnerabilities.

The pandemic has forced the Australian public to grapple with the challenge that this audience deals with every day: the reality that their supply chains are buffeted by many shocks.

The Government tasked the Productivity Commission with identifying vulnerabilities in Australia's supply chains for essential goods and services; and then commissioned a follow-up study on Australia's maritime logistics system. The supply chains study boils down to two questions: where is there risk, and where is risk not adequately managed by firms?

Our approach may be of interest, as we used a new source of data in this field: data on what goods every country imports, and from where. We can easily identify products that are mainly imported from just one country, which is the statistic you often see in the news: Australia gets more than 80% of our laptops from China, and all its fire retardant from the US, for example.

Having most of Australia's supply come from one country could mean that we are dependent on just one supplier, or that all the suppliers are clustered in one country. That country could experience a lockdown, a natural disaster or a political shock.

The innovation is to then ask: is the world trade in this product concentrated? For example, Australia imports chlorine mainly from China; but the global market for chlorine is not concentrated, and China is not the leading exporter of chlorine. This suggests that Australia could source chlorine from another country if there were a disruption to our supply from China.

This filter greatly reduces the number of at-risk products: for example, only half of our chemical imports have world trade that is concentrated. The same pattern appears in textiles (PPE and basic chemicals are two of the product categories that we end up identifying as vulnerable, so those product categories are of interest).

Finally we ask: is Australia getting its supply from the biggest world exporter? If our source is the main source of global supply, when they have a shock, the alternative sources will not be sufficient to meet demand.

This logic is similar to one type of risk analysis you might undertake for your own supply chain: working out what the alternative sources of supply are. It's important to think about how big your supplier is, relative to total supply: if one plant is more than half of total market supply, if anything happens to that plant, alternative suppliers may not be able to ramp up. And it's important to think about the risk of concentration in certain locations; for example, computer chip manufacturers in some locations have been hit by drought and earthquakes and power interruptions.

The surprise is that not many products are vulnerable once we apply those filters: less than five percent of Australia's imported products are vulnerable. And those 5% include many products such as Christmas lights and French champagne, that are not critical, so we apply other filters as well.

We looked at which products are for essential industries, and don't have clear substitutes; again, it's about options.

The Commission's approach reminds us that Australia is part of a global trading system which provides a number of alternative sources of supply. Thanks to advances in technology, it's a lot faster to find suppliers and set up relationships than in the past, but it's still not immediate. Your firm may be thinking about its current list of approved suppliers; but potential suppliers are really important for a slightly longer time horizon. To take a recent example, the risk of AdBlue shortage at Christmas (AdBlue is a diesel additive) came from rising demand for refined urea and some export restrictions from China; but urea is produced in many countries, so it's likely that the shortage could be resolved over a couple of months. But I understand why there were concerns!

With more global trade, production can become concentrated in some large-scale plants, or in some locations that are particularly propitious; that concentration raises the risk of a shock. But the global trading system also gives us options, which are incredibly valuable in a risky world. It's hard to predict which countries will be able to ramp up supply quickly, so options help. Many of you will recall the global shortages of PPE and of PCR tests in the early days of the pandemic. In PPE, one Australian manufacturer expanded its output of surgical masks, and another began production from scratch and ramped up impressively; but one of the major producing countries expanded its output by a factor of 10 by the end of March 2020. And South Korean firms rapidly became major suppliers of PCR tests, in part because an early Covid outbreak occurred there.

Firms need to bear this in mind when considering the benefits of domestic manufacturing. Every firm would like more alternatives for its supply chains, so the option of a domestic supplier, in conjunction with overseas suppliers, could be great. But you would also be considering how much your firm is willing to pay for this, year in and year out.

In some industries a domestic supply will be more expensive and not achieve efficient scale. And if you move to exclusively domestic supply in order to achieve scale, that creates its own risks. First, you're putting all your eggs in one basket. As an example, during its vaccine rollout, Australia chose to produce the Astra Zeneca vaccine domestically, in order to reduce the risk of missing out in global buying markets (and it's worth acknowledging that some countries placed restrictions on vaccine exports, so there were real risks in buying from overseas). But the decision by the Australian Technical Advisory Group on Immunisation to advise against that vaccine for people under 60 required the government to then quickly source alternatives. (I should say that I am a proud recipient of the Astra Zeneca vaccine.) You would also want to ask whether their supply of inputs to that domestic supply was similarly secure. There are lots of great reasons to draw on domestic suppliers, but we could be cautious about the idea of this guaranteeing supply chains given inputs are often sourced from overseas.

In riskier times, domestic production is definitely a possibility that should be considered; for example, some telecom firms chose to build new onshore call centres after lockdowns in India and the Philippines. But there are other strategies to consider: survey data shows that since 2020 Australian firms are stockpiling more, strengthening relationships with suppliers, renegotiating contracts with suppliers, diversifying suppliers, strengthening information flows along the supply chain and even — and in some cases, just wearing the risk, if the cost of these strategies is too high.

Circling back to our initial question, the Productivity Commission's research brief was: which risks to essential industries is not being adequately managed by firms? There have been calls for sovereign manufacturing capability in a wide range of industries but when is that the best option?

The Commission has put forward the view that, first, governments are responsible for managing risks in their own supply chains, for example, in hospitals; and we'll hear from Queensland Health later in the conference.

And second, that firms are responsible for managing their own supply chain risk. (Clearly your firms are taking responsibility for managing their risk, as seen by your presence here!) Government intervention may be justified if a firm's risk tolerance is very different to the community's. This is most likely to happen in price-regulated industries.

Chemicals are one group of products where the Commission did identify vulnerabilities, and some follow-up work has gone into confirming that the chemicals Australia uses for water purification are not vulnerable. (Fortunately it turns out that there are lots of substitutes for those chemicals.) For example, while your water bill may be steep, it's still the case that your water utility is not charging what you'd be willing to pay for clean water; so water utilities may be under-incentivised to secure stocks of these chemicals. Likewise, pharmaceutical pre-distributors (responsible for supplying pharmacies and wholesalers) may not have financial incentives to stockpile medication.

An argument could be made that some solutions to risk are so expensive that firms cannot coordinate to manage the risk. That view has been put forward about the rare earths industry: One country (China) controls about 90% of rare earths supply. As a result, several governments are searching for alternative sources of supply, particularly Japan, as that country has been impacted by Chinese government restrictions on export of rare earths. It's true that this may be too large a problem for one customer firm to solve; but it may also be a problem that multiple governments need to solve together, as multiple countries stand to benefit.

When there is a case for government intervention, subsidising domestic manufacturing is not always the best solution. Governments can also:

- stockpile goods (for instance we have a national medical stockpile)
- require firms to stockpile goods (for example requirements of minimum stockholding of transport fuel)
- provide support to firms in diversifying their sources of supply.

Which (if any) is the best solution will depend on the circumstances. And the government should ask whether any taxpayer support is justified, or whether the benefits primarily go to the firms in question.

In these anxious times, governments have been quick to step in when essential industries seem to be at risk. But some government responses can interfere with the way firms were managing their risk, and over time, it can encourage firms not to invest in preventing or recovering from a shock. This is the same intuition as we laid out in our inquiry on Natural Disaster Funding: while funding to firms impacted by a disaster helps those firms, expecting that help will deter firms from taking appropriate precautions.

In our view, the biggest responsibility of government is to give firms as much flexibility as possible in managing risks. Australia is committed to a rules-based global trading system (supported by the Word Trade Organization) that allows Australia firms to fully benefit from the whole range of possible global suppliers. That rules-based trading system has taken some hits since the start of Covid, as some countries have invoked WTO rules about emergencies to block some types of exports; for example India has blocked exports of some pharmaceuticals, vaccines, and now wheat. Australia can continue to signal its support for the WTO system, and possibly encourage greater clarity on when an 'emergency' can be declared.

Finally, the government could also invest in providing greater flexibility to respond to a shock: Mutual recognition of goods from countries with comparable product safety requirements during a crisis, advance phytosanitary approval of agricultural products from countries that Australia does not currently import from; these policies can give firms more options to respond.

In conclusion, despite all the trials that we are experiencing with global supply chains, we want to remember the tremendous option value Australia gets from drawing on a world of potential suppliers. Global trade is a key tool in our risk management strategies, one that we want to get maximum benefit from.