Team Topic and Number: Manufacturing & Industrial - Team 2

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<u>Will the crisis prompt manufacturing companies to carry out a top-to-bottom review of their global supply chains with an eye towards reducing risks?</u>

Yes, but responses will vary by sector, territory and business.

<u>Future resilience</u> of labour and materials disruption with costs and competitiveness in mind will be the first thing to look at. Companies will need to have a more comprehensive risk management approach throughout their supply chains and on a local, national and international scale.

Global Mismatch - Within the UK and within businesses exposed to the EU, this review is already taking place following the announcement of Brexit. COVID-19 is unique in the way it's spread globally and unlike a single natural disaster which can immobilise one region, it has spread globally, taking countries offline in a way which means global supply and demand become mismatched. i.e. China emerging from lockdown and Europe remaining closed.

Contingency Planning - Companies will need to have contingency plans in place for the whole supply chain (such as dual-sourcing and a reduction in inventory pooling) rather than just elements within their immediate control. They may also consider the use of inventory buffers for the most important materials, at key points within the supply network. Further measures such as increased automation and the adoption of new technologies to increase resilience around labour may be considered.

Locational Decisions will need to be revised, with businesses considering the near-shoring and on-shoring of critical elements of their supply chains chain. Where the previous focus was on lowest cost scenarios, now a more balanced approach to reduce risk could benefit more companies looking to located closer to the customers and increase resilience.

Act Decisively and Quickly - These changes are likely to happen quicker in countries where the state has a greater influence on infrastructure such as port and air-freight facilities, and the ability to incentivise R&D into solving the supply chain issues discussed above. The most effective response to any future global crisis will be the ability of a country to act decisively and quickly to support key supply chains.

Will manufacturing return to areas that lost factories to lower cost production sites?

Near-shoring may well become more prevalent for certain businesses, bringing manufacturing within country borders where possible to reduce the exposure to global pandemics. Near-shoring creates shorter lead times and transport distances which enables reductions in stock levels and the demand for warehouse space.

On-shoring - In the southern states of the United States, there has been a resurgence of manufacturing over the past 20 years particularly in the Automotive and Aviation sector. This growth has been contained to the boundaries of popular growing cities. During COVID-19, we have seen a surge of new "on-shoring" products that are looking to more rural communities where the placement of manufacturing can significantly make a difference to a rural community and develop long term loyalty and workforce.

Global Supply Chains - Manufacturers with global supply chains are likely to find Tier 2 and Tier 3 suppliers most affected which may increase the cost of production.

Locational Decision Drivers - There are many reasons why off-shoring of manufacturing still makes sense for a great deal of businesses and for many businesses this pandemic will not alter their manufacturing strategy in terms of re-location, but only in terms of inventory and materials management. Locational decisions will still be made on a variety of issues including, power, labour availability, connectivity and cost.

Skill Levels - Lower-cost locations without the benefit of skills will possibly not impact the ultimate location decisions – depending upon the skill level needed, production sites may remain the same. It is unlikely in the short term that governments will be in a financial position to incentivise and invest in the workforce to attract moves in production.

In summary, it is unlikely there will be a wholescale move to return to previous near shore locations. Public sector should place the greatest priority on training the workforce. Inventory buffers are more likely to provide a level of pandemic resilience so near shore warehousing will see increased demand.

Will regulatory and competitive environments shift, opening up new production opportunities that have been off radar?

Investment - Global patterns of investment are in a continuous process of change. FDI typically flows to emerging markets, however it is still unknown how businesses will be impacted by the COVID-19 Pandemic. Regular patterns may pivot, and industrialized countries could be forced to create new strategies to compete for new production opportunities.

Asset Redistribution - Some existing companies in the US have been negatively impacted by COVID-19. The disposal of excess assets or underutilized assets will create opportunities to acquire well-built existing facilities. Economic development leaders have already embraced the idea of "on-shoring" distribution and manufacturing. Key markets for manufacturing will remain where there is already a well-established infrastructure however, there will be a need to review efficiencies for business and labor disruptions.

New Policies and Programs - Sectors such as pharmaceuticals will increase the need, particularly in industrialized countries to establish new locations. Capacity must rapidly grow leaving no gaps to obtain life-saving equipment, personal protection equipment and medicines. Arguably, the sheer size of the US economy and the devastating results of a global shutdown have fast-tracked the creation of new policies and programs to eliminate a recurrence, as demonstrated by this pandemic.

In summary, regulatory, and competitive environments will shift: 1) new programs will intensify to protect the complexity of our global economy; 2) new distribution and production centers will be established closer to customers support domestic and foreign asset; and 3) new patterns for FDI will emerge increasing opportunities for employment where pre-COVID-19 jobs did not exist.

Will countries and locations with better overall pandemic readiness make the shortlist for the new factory, even if they are less competitive in costs?

No - Even though "pandemic readiness" and "pandemic recovery" is on the top of everyone's mind right now. This specific COVID-19 pandemic will move into the wave of past issues and we will develop new current topics that we all have to contend with on a personal, national and global basis. In the context of "new factory" and new relocations, the workforce and the workforce's willingness to be available, reliable and learn new skills will continue to be one of the most important topics.

Relocation Drivers - Additional topics that will make the difference in relocations include relative logistics to suppliers and eventual consumers, positive governmental participation, good reliable power and ease of doing business. Future game changers for relocations will be determined by how much technology and modern manufacturing processes are brought in the new factory. Topics such as autonomous materials movements, robotic manufacturing processes, Artificial Intelligence (AI) and the Internet of Things (IoT) will drive future efficiencies and the ability to produce more with fewer people.

In summary, pandemic readiness will make the list of topics to consider relative to corporate relocations. But, the idea of a pandemic can also be considered under catastrophe planning and the many variables of thing going badly can range from hurricanes, earthquakes, civil unrest and other unfortunate events.

Will governments begin to offer new financial incentives to attract industrial jobs and investments as they see opportunities to capture projects that might have previously gone offshore and enable a more stable, controllable supply chain?

This is already happening in some countries and is likely to continue as government will want to encourage companies to behave in a way that will help protect economies for future events such as COVID-19. Funding targets may include research into improved automation and ways of 'remote' manufacturing. May also include the introduction of new and extended Enterprise Zones and LEP regions (growth hubs). It is very possible that more incentives will be offered within certain segments of the United States. Distribution and Manufacturing is not as appreciated in certain parts of the United States as it is in the Southern States and in particular, South Carolina. Measuring the performance of incentives may take legislative intervention and recommendations may focus more on specific functions.

Compliance requirements that may have changed for existing employers will certainly increase the discussion for new incentives.

Governments ability to provide incentives is questionable given how far the bailouts have been needed to keep economies afloat. There is certainly opportunity but ultimately governments do not have endless supplies of cash so recompense will be needed somewhere. Other ways governments can support manufacturers include:

- Consider being strategically flexible with land-use entitlements
- Eliminate or revise/update archaic regulations without compromising safety
- Be clear about new regulations and streamline the permitting process without compromising safety
- Waive fees in a prudent manner for a specific time period
- Be open and flexible to renegotiate existing incentives agreements
- Waive or postpone clawback agreements

- Consider allowing one year “push” for job creation and other commitments on existing performance-based incentives
- Engage community colleges and workforce boards to partner in offering more online training, certifications, etc.