Beyond China: US manufacturers are sizing up new—and more diversified and cost-efficient—global footprints

July 2020

Mexico and Southeast Asia should stand to benefit from shifting supply chains
The COVID-19 pandemic is casting in stark relief vulnerabilities of global footprints that have been developing for several years. For US manufacturers of all stripes and sizes, lowering costs has been the principal motivation for offshoring. For many, that has meant entrenched single-sourcing from China, due to its historical advantages for cost and scale.

A PwC analysis suggests other more attractive supply-chain options for fulfillment outside of China are now on the table, based on numerous factors, including landed cost, risk and fulfillment lead times. Our study estimates that US manufacturers who choose to shift production from China could cut operating costs, on average, by an additional 23% if they near-shored to Mexico, and by 24% if they shifted to another Asian low cost country (LCC). We believe such alternatives would – on top of these cost savings – also add resiliency and improve customer experience.

Naturally, however, there are many instances in which staying in China makes sense – especially regarding high-value products – given established labor skill-sets and manufacturing ecosystems. For those US companies with long-standing supply and production relationships in China, leaving China would also mean leaving supplier networks developed over decades, including a well-developed transportation infrastructure, logistics, production capacity and scale. It follows, then, that some businesses would do well to consider a “China +1” model to achieve regionalized diversification and resiliency. And, of course, staying in (or moving to) China is advisable for those US manufacturers targeting the large China market (“China-for-China” model).

The beginnings of a pivot? We believe there will be an ongoing evolution from China’s traditionally dominant role as the default go-to location for sourcing and production value and that we’re approaching a tipping point of global supply chain rebalancing with a desire, as well as a business imperative, toward resilience, agility and localization needs. Numerous factors are driving this: China’s growth has led to rising labor and logistics costs, geopolitical dynamics have resulted in tariff and trade policy impacts, and the growing need to be more responsive to meet regional and customer-centric demand.

Other viable and competitive low cost country sources (LCCs) have emerged, particularly in southeast Asia, and have significantly improved their supplier bases and manufacturing labor forces, making them a more attractive option than just three years ago. And, particularly for North American manufacturers, Mexico is increasingly poised as an attractive option to China, especially for US market sales, given the new USMCA going into effect on July 1, 2020.
**Dual strategies can improve resilience, customer responsiveness.** We do not anticipate a rush of US manufacturers moving their base of sourcing and manufacturing outside of China. However, based on our model, we expect to see more US manufacturers choosing to diversify their supply chains, with a viable and attractive option being a dual strategy, particularly with China + another Asian LCC or China + Mexico or even China + a LCC in Eastern or Central Europe. Such models also carry the potential to build in resiliency in numerous ways – including lower landed cost and faster fulfillment lead times.

Some key findings of our analysis and related research include:

- US manufacturers shifting production from China could cut operating costs, on average, by an additional 23% if they near-shored to Mexico, and by 24% if they shifted to another Asian low cost country (LCC).

- Dual sourcing scenarios (e.g., China + Mexico or Another Asia LCC + Mexico) could yield savings for most companies averaging 5-20% less than sourcing and/or producing only in China.

- 80% of manufactured imports from China could capture cost efficiencies if produced in other Asian LCCs.

- Nearly half (47%) of CFOs across industries agreed “developing additional, alternate sourcing options” was a pressing issue in light of the COVID-19 pandemic, according to a recent PwC survey.

PwC’s analysis examines a broad set of factors manufacturers ought to consider in order to engineer a global supply chain which achieves resiliency, cost-efficiency and customer centricity. The analysis places sharp focus on what we see as the most important levers affecting supply chain costs: tariffs and taxes, labor content and product value density. These and other variables are in flux, and will likely continue to change; meanwhile, suppliers and industry peers are reassessing plans and priorities to meet rapidly changing market dynamics and consumer needs and preferences.

This report examines what US manufacturers ought to consider when reassessing global supply chains predicated on a future that requires the agility, resilience and responsiveness to customer expectations required to stay competitive – even through global economic disruptions as trying as the present one.
I. The stage is set for supply-chain rebalancing

Ready to ramp up resiliency. Manufacturers are taking a hard look at making changes to future-proof their businesses. Yet, with so many unknown variables surrounding the economic downturn and the trajectory of the pandemic, most manufacturers seem to be merely forging plans, not executing on them. While manufacturers have had to reassess supply chains in the past to build in resiliency, this global pandemic presents unprecedented challenges and uncertainty. A recent PwC survey found that, 16% of US companies operating in China were already planning to adjust production and/or supply either domestically within China and partially outside of China – or completely out of China.[1] Of course, companies that rebalance to other regions will likely do so gradually, given the CapEx requirements and the development of other key requirements including a mature supplier network, logistics, and workforce upskilling.

Global Supply Chain Rebalancing Archetypes for US Manufacturers

Global single-source (one source serving all markets globally)

Global +1 (Diversifying by adding another location in addition to global single-source)

Local-for-Local (Basing in a country to primarily serve that market)

Region-for-Region (Basing in regions to serve those markets, such as EMEA, Americas, APAC)

Looking ahead over the next 3-5 years, many US companies appear to be in a cautious, wait-and-see mode, with 52% of companies surveyed in a PwC study saying it’s “too soon to tell” how the COVID-19 pandemic will impact their China supply chain strategy.[2]
Frequently, companies design supply chains for low cost, but neglect the risks of being non-resilient. A PwC study found that the average estimated loss in market cap of a Fortune 500 company in the event of a reported disruption amounted to $3.2 billion. [3] Given the uncertain path the pandemic is taking, some businesses may again underestimate — or be unprepared for — potentially costly and disruptive supply-chain related effects. And, some may not learn the right lessons from this year and remain exposed to the next large-scale disruption.

**Pivoting to an Asian LCC or Mexico could yield nearly 25% cuts in operating costs.** US manufacturers have historically yielded savings from shifting sourcing and producing to China, which we estimate was 27% less costly than doing so in the US in 2019. However, they now stand to capture even more in Mexico (a further 23%) and other Asian LCCs (a further 24%), our analysis estimates. It’s important to note that overall estimated savings are assuming a given manufacturer with moderate risk mitigation strategies; for those companies with high risk aversion strategies already in place, savings could exceed our estimates.

**Operating cost build-up of a hypothetical industrial product**
The hypothetical product is currently made in China with a total cost of $1000. Manufacturing cost is 10% of COGS; Logistics cost is 5% of total cost.[1]
Supply-chain issues are a top-of-mind issue for most US businesses during this disruption. According to a recent PwC survey, most (47%) CFOs of companies across industries agreed “developing additional, alternate sourcing options” was a pressing issue in light of the COVID-19 pandemic, and 52% agreed “understanding financial and operational health of suppliers” was a top issue.

**Nearly half of CFOs considering alternative suppliers and sourcing**

Q. What impact do you expect on your company’s revenue and/or profits this year as a result of COVID-19?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand financial and operational health of suppliers</td>
<td>52%</td>
</tr>
<tr>
<td>Developing additional, alternate sourcing options</td>
<td>47%</td>
</tr>
<tr>
<td>Change contractual terms (e.g., to provide your company added flexibility and downside protection)</td>
<td>44%</td>
</tr>
<tr>
<td>Use automation to improve the speed and accuracy of decision making</td>
<td>34%</td>
</tr>
<tr>
<td>Extend tools to better understand customer demand (e.g., changes in desired mix of offerings, triggers to place orders)</td>
<td>31%</td>
</tr>
<tr>
<td>Extend visibility into your suppliers’ network (e.g., risk alerts, what-if scenario planning)</td>
<td>30%</td>
</tr>
<tr>
<td>Improve risk-protection measures (e.g., disaster insurance coverage, more flexible force majeure contract clauses)</td>
<td>28%</td>
</tr>
<tr>
<td>Diversify product assembly and/or service delivery locations (e.g., to comply with regulations, shorten delivery lead time)</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: PwC’s COVID-19 CFO Pulse Survey US findings, May 11, 2020
Note: Number of CFO respondents: 288

For many US manufacturers carrying out supply-chain realignment is a viable option; the question is, which one best supports their growth strategies? This could include a China +1 strategy, moving to other ASEAN territories, nearshoring to Mexico or reshoring to the US (especially for mission-critical producers). Or, it could mean a combination of these. And, finally, it could mean no change in the supply chain at all.
Asia’s dynamic labor costs and manufacturing ecosystems alter supply-chain calculus... Labor costs in China have risen with rising living standards, tripling since 2020, and surpassing labor costs in Mexico in 2015. This rise challenges strategies that have fueled sourcing and production decisions for more than two decades. And, more recently, the size of China’s manufacturing workforce has declined, as workforces in other ASEAN countries have risen. These trends (including US-imposed sanctions on China) have resulted in an uptick of US manufacturers sourcing and/or producing in other Asian LCCs and in Mexico.

China’s labor cost surpassed Mexico five years ago
Average compensation costs for manufacturing workers ($ per hour)

Mexico and other Asian LCCs expanded their manufacturing sectors in the past decade, as manufacturing jobs decreased in China
Total manufacturing jobs (Million)

The stage is set for supply-chain rebalancing

Yet other focus areas are also critical to a strong supply-chain strategy. Beyond labor costs, manufacturers will need to consider numerous other factors. And, when weighing so many parameters, trade-offs might be necessary. Developing and implementing global manufacturing footprint changes requires a well-established strategy to address a host of other considerations, including market growth, make-versus-buy, efficiency gains and automation, cost fluctuation, labor availability and productivity, access to suppliers and tax and tariff uncertainties.

Source: The United States Trade Commission, PwC analysis
II. Global cost-optimized supply chain: A comparative analysis of US, Mexico, China and other Asian LCCs

Our comparative cost analysis examined alternative or additional supply chain sourcing and production options for US manufacturers in four territories: US, China, Mexico and other Asian LCCs. In broad terms, each of these locations hold pros or cons in cost attractiveness.

The analysis examines potential costs associated with sourcing and producing products globally, based on some $450 billion of manufactured goods imported to the US in 2019. The analysis takes a close look at what we see as the most influential factors impacting supply chain costs: tariffs and taxes, labor content and product value density. Unsurprisingly, there is no one-size-fits-all, and pros and cons to consider.

An at-a-glance of four supply-chain options

<table>
<thead>
<tr>
<th>Location</th>
<th>Why base there</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>• No CapEx&lt;br&gt;• Remain connected with supply bases&lt;br&gt;• Experienced employees</td>
</tr>
<tr>
<td>U.S.</td>
<td>• Shorter lead times and faster responses to disruptions&lt;br&gt;• No tariffs&lt;br&gt;• Lower logistics costs&lt;br&gt;• Higher quality / better brand image</td>
</tr>
<tr>
<td>Mexico</td>
<td>• Lower labor and overhead costs&lt;br&gt;• Lower or no tariffs&lt;br&gt;• Lower logistics costs&lt;br&gt;• Shorter lead times and faster responses to disruptions</td>
</tr>
<tr>
<td>Another Asian LCC</td>
<td>• Lowest labor costs&lt;br&gt;• Lower tariffs</td>
</tr>
</tbody>
</table>

Looking through the lenses of labor content and product value density. As mentioned earlier, choosing a locale for sourcing and/or production involves numerous considerations and factors. However, for our analysis, we estimated average operating costs in these four locations using two criteria: the value of a manufacturer’s products compared to its physical size/weight (product value density) and the amount of labor
required to produce those products (labor content). When assessing supply chain options using these two variables, our analysis reveals a good starting point to home in on prime candidate locations that could potentially yield the most cost-optimized supply chain solution for a given manufacturer’s characteristics and needs. For example, while machinery and motor vehicles require high labor content, those products possess a low product value density (with a large physical imprint and low values). Such products, then, carry higher logistics costs, and would therefore be prime candidates as most cost-optimized by being nearshored to Mexico.

**Bringing it back home.** Our analysis estimated that, of the some $450 billion of manufactured imports from China in 2019, 20% could achieve cost efficiencies if nearshored to Mexico (18%) or reshoring back to the US (2%). And, 80% of products now imported to the US from China would capture cost efficiencies if they were instead produced in other Asian LCCs.

**20% of manufacturing imports from China to US could capture savings if near-shored or reshored**

---

1. Including tariffs and manufacturing return tax. Assume transportation cost is 10%, 5%, 1% of total cost in Low / Medium / High Product Value Density scenarios. Direct labor cost is 5%, 10%, 20% of COGS in Low / Medium / High Labor Content scenarios
2. Exclude non-manufacturing imports, e.g., agricultural products, livestock, fish, goods returned, used merchandise

Source: United States International Trade Commission, PwC analysis
Some selected cost-optimization scenarios. Any given manufacturer may have complex needs that require likewise complex supply-chain solutions; for example, having a diverse product portfolio requiring a wide range of labor content and covering varying degrees of product value densities. Below, we share four scenarios that demonstrate cost-optimized options for manufacturers with products that have either high or low labor content and product value density characteristics across their product offerings.

Low product value density + high labor content
For low value density products with high labor content, nearshoring is as cost competitive as Asian LCC

Low product value density + low labor content
For low labor content products with low labor density, reshoring is a viable option

Takeaway: Reshoring to the US does not increase costs significantly

*Other costs include SG&A, inventory holding costs and SG&A
Low product value density + Medium labor content
For low value density products, nearshoring could save 24% due to lower labor costs, logistics costs, and tariffs

Takeaway: Nearshoring to Mexico is as attractive as Asian LCC due to lower logistics cost

High product value density + High labor content
For high labor content products, Asian LCC is more cost efficient than nearshoring

*Other costs include SG&A, inventory holding costs and SG&A
1. Include manufacturing return tax
III. The tricky part: weighing trade-offs, making the best (well-informed) bets

Expect trade-offs. As a fundamental starting point, US manufacturers will need to look at their product portfolio and assign values to their product value density and the labor content. This guides them in a direction to pare down the locales they can consider to achieve a cost-optimized solution in a given locale for source or production. However, assessing supply chain options is one thing. Committing to those options can be much more difficult. It’s often typical that the best laid strategy will include trade-offs. For example, one manufacturer may select an attractively low labor cost producer in a Southeast Asian locale, yet may not be assured of the quality or efficiency of that producer, or of the dependability of that producer’s suppliers. Such trade-offs are rooted in unknowns, and are thus seldom quantifiable. Or, a dual production in two territories could be more costly than using a single source, but may well offer greater resilience and even more flexible responsiveness to new local markets.

Or, when moving a plant from one territory to another, the lower, long-term operating costs may (or may not) be worth the capital expenses to carry out that move. For US manufacturers producing for the North American consumer, improved customer responsiveness and agility of basing manufacturing in Mexico, for example, may be a more important criterion – and a higher priority – than a lower overall cost of producing in Southeast Asia or China, for example.

Such trade-offs have much to do with meeting the priorities central to long- and short-term growth strategies.

Supply chain resiliency can be cost-efficient. Many might assume that the stronger and more secure a supply chain is, the greater costs it carries. A manufacturer, for instance, might choose to hedge bets by opening a dual producer or supplier. While that may bring a higher degree of supply-chain protection – and resilience – can it be sustainable cost-wise? Our analysis shows that, for US manufacturers, adopting a dual strategy of adding Mexico as the “plus 1” can actually be more cost efficient than a pure China play. So, manufacturers diversifying from a single China source to a China + Mexico or a China + Another LCC model can trim costs, add flexibility and respond to customer demand more adroitly and swiftly.

Clearly, there will be pros and cons in getting it right. Below are examples of the sorts of trade-offs US manufacturers may well consider when assessing a one-source option versus a dual-source option among the four locations we included in our analysis.
It’s important to note a successful global footprint strategy is not solely predicated on cost-containment. It’s also very much about becoming more flexible and resilient and capturing end-market proximity opportunities – characteristics that can help manufacturers meet consumer demand, and get closer to a “design anywhere, build anywhere” approach. This flexibility is particularly important as trade agreements, tariffs and demand patterns change – thus better enabling businesses to position themselves to gain greater market share and become more competitive.

Our analysis suggests that factors such as lower landed cost and speedier fulfillment can achieve improved resilience. However, there are also paths to creating resilience outside the scope of our analysis, including: design for postponed manufacturing; improving supplier health visibility; eliminating ‘designed in dependence on a single supplier’; ‘design anywhere / build anywhere’ capabilities; and pre modeled alternate distribution routing.

**All options may not be open to all companies.** Keep in mind that moving to a dual strategy could mean losing some scale effects as a result of transition costs associated with operating multiple plants (i.e., the CapEx required to build or lease a new manufacturing facility). Also, a dual model may lead to added – and perhaps unneeded – capacity and duplicate overhead, effectively placing a cost premium for improved resilience. Dual strategies can also be met with issues or unknowns surrounding availability of reliable new suppliers and logistics providers. However, these considerations could be offset by improved flexibility and, for some products, the benefit of direct market access, as well as the prospect of using contract manufacturers to avoid CapEx of a new plant. For some companies, however, such transition expenses are simply an untenable option, and other considerations would need to be made.

Manufacturers of products associated with US critical infrastructures and/or national security would need to look at supply chain realignment from an altogether different perspective. They would need to consider supply chains aimed principally at protecting those products – and less though just cost containment – such as reshoring or near-shoring.
A dual sourcing strategy improves resiliency, yet can trim cost savings

PROS
- No CapEx
- Remain connected w/ supply base
- Experienced employees
- Shorter lead times
- Lower labor costs
- Low or no tariffs
- Lower logistics costs
- Lowest labor costs
- Lower tariffs
- Improve supply chain resiliency via diversification
- Faster responses possible
- Improve supply chain resiliency via diversification
- Lower tariffs

CONS
- Trade / tariff risks
- Low supply chain resiliency
- Uncertain labor availability
- Raw material availability
- Foreign currency fluctuation
- Does not improve resiliency
- Uncertain labor availability
- Lower labor productivity
- Raw material availability
- Does not improve resiliency
- Higher overhead and limited cost savings
- High capital requirements
- High risks during transition / production ramp up

Material Cost & Overhead
Manufacturing Cost & Overhead
Logistics
Tariffs and fees
Other costs*

*Other costs include SG&A, inventory holding costs and SG&A
IV. Cost-optimized supply chain self-assessment

Below are some questions manufacturers might consider as they mull a realignment of supply chains. As they suggest, reassessing your global – and even domestic – sourcing and production requires complex and forward-looking analysis and strategic thinking of how your business can operate in the right place at the right time in both short- and long-term scenarios.

**Building a customer-centric supply chain**

- Where are your customer markets today, and do you have a vision into where they will be in the medium- to long-term future (3-5 years)?
- How are your customers’ needs changing?
- Can you gain a competitive advantage with customers through greater resiliency by providing improved customer responsiveness and customer experience?
- What new technologies can be leveraged to reduce manufacturing costs and improve customer experience?

**Aligning your supply chain to your growth strategies**

- Beyond cost savings, what are the highest supply-chain priorities that support your company’s growth and competitive strategy in the next 3-5 years?
- If you are considering a change to your global supply-chain footprint, are you doing so to move manufacturing capacity—or to add to existing capacity?
- What level of capital investment is financially feasible for your company to shift to a new territory?

**Assessing your global footprint options**

- What geographic regions have an existing supply base for your required raw materials and/or components, particularly Tier-2 and Tier-3 suppliers?
- Is your business prepared to develop a supplier ecosystem in a new locale to meet your needs?
- Have you explored a comparative analysis of developing a new supply base in alternative regions?
- Have you generated scenario planning that estimates increased operational savings surrounding any given move to an alternative territory?
- How long will a first-mover advantage last in your industry?
- What potential scenarios do you envision for changes in labor rates, duties, corporate taxes and foreign exchange rates?
Endnotes

[1] AmCham China and PwC China survey conducted during March 6-13, 2020

[2] AmCham China and PwC China survey conducted during March 6-13, 2020

[3] Source: Knowledge@Wharton, United States Department of Commerce, Forbes, PwC analysis
Contact us

Brett Cayot
Principal
brett.e.cayot@pwc.com
LinkedIn

Kevin Keegan
Principal
kevin.keegan@pwc.com
LinkedIn

Marc Waco
Principal
marc.waco@pwc.com
LinkedIn

Mark Hermans
Managing Director
mark.hermans@pwc.com
LinkedIn

© 2020 PwC. All rights reserved. PwC refers to the US member firm, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details. This content is for general information purposes only, and should not be used as a substitute for consultation with professional advisors.