

SUPPLY CHAIN IMPLICATIONS OF BIDEN'S FIRST 100 DAYS

June 2021

OVERVIEW

- ▶ The first 100 days of the Biden administration have continued to combat the COVID-19 pandemic while also implementing many legal and regulatory policies.
- ▶ These legal and regulatory changes will create opportunities for companies in North America related to electrification of vehicles, mass transportation and the infrastructure needed to support the construction, utilization, and ultimate disposal of those vehicles.
- ▶ Supply constraints resulting from numerous factors related to the pandemic have created supply chain challenges unlike any in recent memory. These constraints will change the way certain parts are sourced and the location from which they are sourced.

BIDEN'S ACTIONS AND AUTO SUPPLY CHAIN IMPLICATIONS

ENVIRONMENTAL	<ul style="list-style-type: none">▶ President Biden has promised to cut greenhouse gas emissions by at least half by 2030▶ Looming costs related to new carbon and methane emission standards along with green energy infrastructure initiatives will impact certain suppliers
TRADE POLICY	<ul style="list-style-type: none">▶ China tariffs likely to remain in place▶ Potential tariffs of up to 25% imposed on Austria, India, Italy, Spain, United Kingdom, and Turkey as retaliation for digital services taxes▶ Prioritize USMCA enforcement
INFRASTRUCTURE	<ul style="list-style-type: none">▶ Accelerate shift to electric cars and mass transit, including funding for the installation of 500,000 charging stations by 2030▶ Study of electric vehicle (EV) batteries, EV battery minerals and microchips for purposes of building new manufacturing infrastructure in the United States
TECHNOLOGY	<ul style="list-style-type: none">▶ Regulating blockchain with clear rules and guidance▶ Corporate cybersecurity accountability through enforcement actions
EMPLOYMENT	<ul style="list-style-type: none">▶ Expanded unemployment benefits and health care subsidies▶ Employer tax credits to those who offer COVID-19-related paid sick and family leave▶ Minimum wage increased to \$15 per hour for federal contractors▶ Recission of new worker classification rules and loosening immigration enforcement



CHALLENGES & DISRUPTIONS

LABOR CHALLENGES

- ▶ The US government passed the American Rescue Plan Act in March 2021 to provide aid for individuals and families
- ▶ The aid and benefits provided by the government is having a significant impact on the labor pool available to fill open positions as the US economy continues its recovery
- ▶ Companies are having to re-evaluate incentives and benefits currently offered in order to retain current employees and attract new ones

GOVERNMENT INCENTIVES

- ▶ Stimulus checks – potential \$1,400 for single taxpayer, \$2,800 for married couple, and \$5,600 for family of 4
- ▶ Enhanced unemployment benefits – \$300/week added to normal unemployment checks through September 6, 2021
- ▶ Expansion of Child Tax Credit
- ▶ Increase in subsidies to health insurers
- ▶ Rent subsidies
- ▶ Food vouchers

LABOR IMPACT

- ▶ The unemployment rate as of April 2021 is 6.1% vs. the pre-pandemic rate of 3.5%
- ▶ Employed persons as April 2021 are 151mm, which is 8mm lower than February 2020
- ▶ Labor participation rate stands at 61.7% as of April 2021 vs. 63.4% at February 2020
- ▶ Unemployed workers can earn \$16 to \$20 per hour when including all available government incentives, negatively impacting desire to work

EMPLOYER IMPACT

- ▶ Average hourly wages in manufacturing have increased to \$23.44 in April 2021 vs. \$22.50 in February 2020
- ▶ Wage growth for low-skilled workers is now equal to high-skilled workers according to the Federal Reserve
- ▶ Companies who are not willing to increase entry level wages to \$15-\$20 per hour are at risk of losing employees
- ▶ Some companies are instituting retention bonuses to retain workers

LABOR IMPACT ON SUPPLY CHAIN

The labor challenges have accumulated at different points in the supply chain to impact output, timing, and costs

- ▶ Manufacturers have been impacted at all levels ranging from raw material to finished goods
- ▶ Transportation carriers and distribution facilities enabling the movement of goods have been equally impacted

6.1%

UNEMPLOYMENT
RATE



4.2%

AVERAGE U.S.
MANUFACTURING
WAGE INCREASE



ENHANCED COVID
UNEMPLOYMENT
BENEFITS



SUPPLY DISRUPTIONS – TRUCKING

TRUCKING

- ▶ 2020 is widely considered the most volatile year ever, but 2021 may overtake it
- ▶ Many factors have led to a shortage of drivers and soaring truck transportation rates
 - ▶ COVID-19 health concerns
 - ▶ Amazon playing a major role with online shopping and attractive “final mile” routes
 - ▶ The December 2017 ELD (e-logging) impact
 - ▶ There was an estimated shortage of 60,000 drivers pre-pandemic; worse now
 - ▶ Can’t fill demand for drivers despite significantly increased compensation (i.e.. \$40k-\$60k+ annual salaries)
- ▶ Tractor production has decreased due to semiconductor shortages – rebounding 2nd half 2021
- ▶ Rate forecasts vary greatly - spot market rates which include fuel surcharges, have increased 33% over the last twelve months
 - ▶ The spread between contract and spot rates is nearly \$0
 - ▶ Contract renewal rates will be higher for the next several quarters
- ▶ Trucking industry has low entry costs which historically led to quick rate rebalancing. However, existing conditions with backlogged demand, low foreign-produced good inventories and federal government assistance point toward a slow return to pre-pandemic rates
- ▶ Some carriers capitalized on market conditions and realized record profits during Q1 2021

SUPPLY DISRUPTIONS – OCEAN PORTS & AIR TRANSPORT

OCEAN

- ▶ All international freight service modes are crippling manufacturers' distribution efforts, and manufacturers are already dealing with their own labor issues
- ▶ Demand outpacing system capacity and a global shortage of ocean containers exists
- ▶ Temporary 2020 shutdowns were followed by an unanticipated demand explosion which created a "whipsaw" effect on orders and inventory
- ▶ Ports have a long backlog of ships waiting to unload, longer unload times, and a shortage of trucks to move parts out of the ports
- ▶ Drewry's composite WCI (World Container Index) container rate has doubled since April 2020. Route rates from Asia to U.S. *only* increased by 60%, whereas in other regions it quadrupled
- ▶ Suppliers now using air freight over the top of ships waiting to unload

AIR

- ▶ Air freight in Asia has become the more expensive—yet more reliable—alternative to ocean freight. Demand has spiked in a matter of months and has nearly reached record 2020 levels.
- ▶ In Asia, inbound cargo increased by 40% in February and 2021 numbers are projected to increase by 12% compared to 2020
- ▶ Rate indices in Asia vary, but March to April increases of 18-24% were realized and represent a 140% increase versus 2019
- ▶ Lead time to book charters has become longer

SUPPLY DISRUPTIONS – RAW MATERIALS

- ▶ The preceding slides illustrate logistic problems compounding operational challenges and manufacturers are already dealing with their own in-house labor issues
- ▶ There has been speculation that some producers may have been manipulating supply, exploiting marketing conditions while enjoying record profits
- ▶ Catastrophic events have exacerbated the pandemic impact and included disruptions such as the Suez canal blockage, Texas power crisis and various manufacturing plant disasters

RESIN	A rough hurricane season and the Texas power grid crisis worsened a tightening market. Prices doubled in 2021 and may not have peaked yet. Producers continue ramping up capacity so relief may be near. Force majeure and allocations are still in place for parts of the market
STEEL	Demand is continuing to increase, supply is tightening, and prices have risen sharply throughout the year nearing 2018 levels, but are far from all-time high levels
ALUMINUM	Mills are slow to fill capacity idled in 2020 and 2021 prices have been near or above all-time highs. Prices are expecting near-term corrections since market capacity is not a constraint and tariffs may be reevaluated as steel stocks skyrocket
NATURAL RUBBER	Global shortfall due to low crop yields and strong demand by China
SEMICONDUCTORS	Growing demand, small group of global manufacturers and tight supply prior to the pandemic. Systemic issues will take time to sort out



OUTLOOK & OPPORTUNITIES

OUTLOOK FOR NORTH AMERICA

Several prevailing themes have been observed across commodity and transportation markets. The next section identifies key factors at a federal government (macro) level and steps down into more granular issues facing automotive supply chain's.



GOVERNMENT POLICY



- ▶ An active Biden administration is expected to be assertive with policymaking which will create a snowball effect on supply chains and decision-making for North American automotive executive leadership
- ▶ Focus on speeding up EV adoption and infrastructure, including manufacturing
- ▶ Existing unemployment stimulus incentives are scheduled to end September 6, 2021.
 - ▶ States maintaining the incentives may reinstitute past unemployment rules or offer new job bonuses
 - ▶ Thus far 25 states have accelerated end dates for these incentives ranging from June 12th to July 10th
- ▶ The need for additional stimulus measures will depend on the timing of loosening of Covid restrictions
 - ▶ Increase in vaccinations and natural herd immunity will allow for the lifting of restrictions
- ▶ Conditions are prime for inflation growth – government flooding the market with money, increasing wages, volatile labor market, sporadic supply shortages, unrelenting media coverage, and occasional panic buying
 - ▶ In May, inflation jumped to an annual rate of 5%, the highest reading in 30 years
 - ▶ The Federal Reserve anticipated this jump and stated it has tools to mitigate further growth if needed
 - ▶ Increasing prices are anticipated to continue due to the ongoing supply and demand imbalance as well as the currently proposed new stimulus package that has yet to be ratified by Congress

GOVERNMENT POLICY

GOVERNMENT POLICY

AUTO INDUSTRY

PROCUREMENT & SUPPLY CHAIN STRATEGIES

CHALLENGES & OPPORTUNITIES FOR SUPPLIERS

- ▶ President Biden has ordered a supply chain “Strike Force” to review supply chains looking for vulnerabilities and dependencies. The outcome will be suggestions for bringing the manufacturing of those products back to the United States or its allies. This is an expansion of the study regarding semiconductors, large capacity batteries, pharmaceuticals, and rare earth elements
- ▶ The current challenges being experienced with these areas are the result of long-term outsourcing strategies to LCCs overseas to take advantage of the favorable economics versus producing them domestically
- ▶ These supply chains also pose substantial risks to national security as they are essential to many military vehicles, systems and applications
- ▶ Long-term strategy requires government, labor and investment incentives to drive reshoring of production

SEMICONDUCTORS

- ▶ Shortages due to COVID-19 and demand for remote work products
- ▶ Shortages resulted in production disruptions at OEMs across the globe
- ▶ Efforts being made to address shortages, but a long-term solution will take time

LARGE CAPACITY BATTERIES

- ▶ Supply availability is crucial to support acceleration of electrification
- ▶ Majority of lithium-ion battery production is currently in China
- ▶ The United States needs to be a leader in newer battery technologies

RARE EARTH ELEMENTS

- ▶ Include lithium, cobalt, nickel, manganese, and graphite
- ▶ The United States led the world in lithium production in the early '90s
- ▶ Mining companies have improved in this area but still lag behind

AUTO INDUSTRY

GOVERNMENT
POLICY

AUTO INDUSTRY

PROCUREMENT &
SUPPLY CHAIN
STRATEGIES

CHALLENGES &
OPPORTUNITIES
FOR SUPPLIERS

- ▶ Commodity markets are expected to be mixed throughout the remainder 2021 and slowly return to pre-pandemic levels
- ▶ More forward buying from companies looking to secure future demand will become a higher priority now; higher inventory levels of certain parts/materials
- ▶ Inflationary pressure will increase manufacturing costs; little relief likely from OEM customers
- ▶ Increased automation will further reduce reliance on labor
- ▶ Limited job creation due to increased employee costs
- ▶ Companies will selectively roll back pandemic-related workforce incentives
- ▶ More work from home of salaried people (i.e., Stellantis will be 30% in office and 70% from home); will require new approaches to sales and relationship building

PROCUREMENT & SUPPLY CHAIN STRATEGIES

GOVERNMENT
POLICY

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CHALLENGES &
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- ▶ Current US sourcing strategies in China were tested mildly during Trump's presidency, but an initial "status quo" tariff stance by Biden's team may accelerate firms considering a China exit of some "critical" parts
 - ▶ Still potential political fallout based on Wuhan lab leak theory
- ▶ Lean and just-in-time (JIT) manufacturing will remain, but impure JIT environments (foreign sourced with localized inventory) will be reevaluated
- ▶ Longer-term contractual commitments to secure supply and become a higher priority customer
- ▶ Auto companies will attempt to maintain higher inventories of certain parts/materials for the remainder of the pandemic and beyond
- ▶ Semiconductors becoming the bottleneck for OEMs has shielded other product categories from scrutiny
- ▶ Increased interest in supply chain visibility and risk management resiliency
- ▶ Force majeure declarations by producers have mainly been unresolved and no major court judgments to date
 - ▶ Legally, these issues will be played out in the coming years as the industry determines how to assign blame and financial responsibility for lost production
 - ▶ This may complicate working relations on a going forward basis until resolved

CHALLENGES & OPPORTUNITIES FOR SUPPLIERS



- ▶ A generational opportunity may appear in the next 1-2 years as reshoring critical automotive products require sourcing in North America. Manufacturers should prepare for an uptick of business activity based on US policymaking, current business environment and anticipated trends.
 - ▶ Trends are already showing increased interest in near shoring opportunities and even selectively, dual sourcing
- ▶ Three categories of products represent sales growth in North America related to Biden’s policymaking efforts:
 1. New EV specific applications – cars, trucks, other mass transit
 - a) EV componentry and engineering services, along with infrastructure and capex to make EV parts represent replacement opportunities for traditional internal combustion engine vehicles
 2. Government sponsored near shoring for national security products
 - a) Large capacity batteries and semiconductors represent advanced technology and will require attracting existing global suppliers. Other components will also be identified by the supply chain “Strike Force” for near shoring
 - b) Both product categories will require a highly skilled workforce

CHALLENGES & OPPORTUNITIES FOR SUPPLIERS



3. Business near shoring for economic and risk purposes

- a) Most US firms procuring supply from China, but attempting to exit generally have two options:
 - Transition to another Asian LCC country (Thailand, Vietnam)
 - Return to North America
- b) Resourcing supply is expensive and comes with risks. Do not expect much current model sourcing changes in Asia, but future model sourcing will likely be reevaluated. Suppliers should be looking at parts that are highly engineered, with long lead times to design and engineer, which are currently produced in China. Those represent near shoring opportunities going forward
- c) North American reshoring is being considered at the highest levels within the past decade
 - Advantages of shortened lead time and customer monitored supply chains will be heightened
 - The Asian labor cost advantage will come under pressure due to rising freight costs and risk
 - Current trade and geopolitical relationship between U.S. and China very uncertain
 - New financial models and Procurement sourcing decisions must account for a pandemic reoccurrence and the hidden costs of overseas supply

CONCLUSION

- ▶ Supply chain issues will be difficult to manage throughout 2021. Some of these will linger into 2022. Inflationary pressures must be carefully managed during this time in order to manage liquidity until things start to normalize
- ▶ Biden's policies will create opportunities for North American companies
- ▶ Increased rate of EV adoption creates opportunities for "white space" business growth
 - ▶ Don't just think about cars: buses, trucks and mass transportation vehicles will also need parts
 - ▶ Don't just think about parts:
 - ▶ Significant software and electrical engineering services will be needed as well
 - ▶ Infrastructure needs such as charging station design, manufacturing and installation are big opportunity as federal incentives will be provided in this area as well. Also, sustainably disposing of batteries needs to be studied and improved, which also poses an interesting business opportunity
- ▶ COVID-19 and the ensuing supply disruptions have been unprecedented in industry history. This will cause fundamental changes in the industry and more specifically in supply chain strategies implemented by procurement organizations
 - ▶ Looking strategically at these opportunities will present ways companies can offer solutions to existing customers while generating organic growth opportunities

ADDITIONAL RESOURCES

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