ECONOMIC VIEWPOINT

Are Supply Chain Problems Jeopardizing Economic Growth?

By Joëlle Noreau, Senior Economist

The supply challenges that businesses are experiencing have been making headlines around the world for months. Economic indicators report many bottlenecks causing sluggishness within businesses. Surveys of numerous organizations suggest that, aside from difficulties experienced by business owners, these effects are slowly spreading to the rest of the economic players, leading to increases in sales prices for consumers in some cases. The current situation does not point to a recovery anytime soon; it will be a matter of quarters, not months. This will certainly affect economic growth. Businesses have had to adapt to constraining and changing conditions for close to two years now. Presumably, they have learned a great deal about managing and securing supply chains. What lessons will they have taken away to prevent the current chaos from happening again?

What Is Going On?

Efforts to improve supply chain efficiency are nothing new. Optimization has been the key word for decades to minimize costs, maximize asset use and keep inventories at their lowest levels, reducing the leeway businesses have. This became quite evident when supply chain performance was put to the test at the beginning of the pandemic, with serious medical equipment shortages around the globe. Since the spring of 2021, in the wake of the rapid economic recovery, breakages in the chains have been on the rise. Significant delivery delays, dramatic tariff increases in transportation (for containers, for instance), and rising prices of raw materials and other commodities are some of the manifestations.

Many reasons have been given to explain the situation: issues at Chinese ports, the week-long blockage of the Suez Canal in the spring, container scarcity, plant production slowdowns or shutdowns because of the pandemic, or worker shortages in the transportation and logistics sector across North America, to name a few. Aside from these factors, two considerations must be taken into account.

On the one hand, demand for goods was feverish around the world a few months after the start of the pandemic and following the lockdowns. It is all the more robust as consumers saved money during the lockdowns, giving them significant purchasing power. The crux of the matter is that supply is unable to keep pace for the reasons mentioned earlier.

On the other hand, the difficulties are also not just transportation-related. Labour shortages in trucking, warehousing, and vessel loading and unloading have been a longtime struggle. However, the problem is now compounded. The crisis cannot be resolved quickly: workers are needed, and they need a minimum level of training. All of that must comply with legislation to guarantee operational safety (daily or weekly limits on the number of hours worked, for example).

This is not the first time that deficiencies have emerged in supply chains. However, the current situation is worse than the 2011 Fukushima nuclear accident and tsunami, the Thailand floods that same year, Hurricane *Katrina* (2005) or SARS (2002–2003). Its repercussions are on a much larger scale. Although the situation seems to be settling down in some ports in China, the same cannot be said for North America. The source of the problem extends beyond port activities, as mentioned previously. The pandemic has exacerbated them.

Affected Economic Sectors in the United States

The current difficulties and diagnosis seem to be documented to a greater extent south of the border. A White House study released in June 2021 portrayed the situation using a few indicators. The issue of inventories was one of the concerns, as they were down compared to pre-pandemic levels. Delays were also very widespread, as shown in graph 1 on page 2. Businesses were asked to answer the following question: "In the last week, did your business have domestic supplier delays?"

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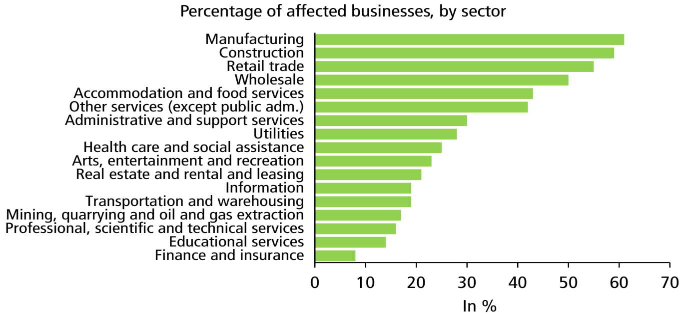
GRAPH 1
United States: Supply chain disruptions vary by sector (June 2021)



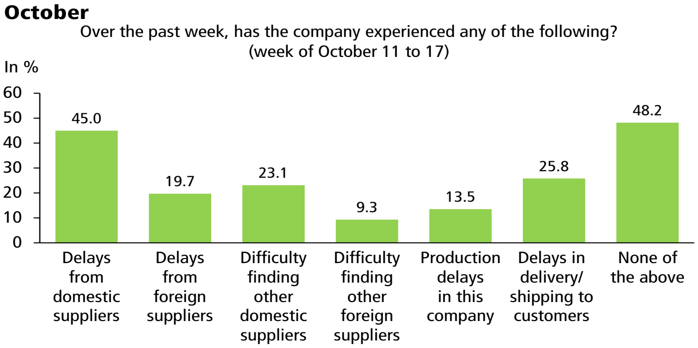
Sources: U.S. Census Bureau, Council of Economic Advisers calculations (White House) and Desjardins, Economic Studies

The manufacturing sector led the way with a little over 60% of respondents, followed by construction, retail trade, wholesale trade, accommodation and food services, and other services (garages, hair salons, aesthetic services, etc.).

The weekly *Small Business Pulse Survey* conducted by the United States Census Bureau illustrates the type of difficulties encountered by U.S. businesses. The mid-October edition revealed that at least 50% of U.S. small and medium sized enterprises experienced delays and/or supplier issues. Graph 2 shows that delays stemming from domestic suppliers accounted for 45.0% of all delays, followed by delays in shipments to consumers (25.8%). Close to a quarter of respondents (23.1%) had trouble finding other domestic suppliers and close to 1 in 5 (19.7%) had to cope with delays from their international suppliers.

Can we expect these irritants to be corrected in the near future? Not necessarily, despite efforts to reduce obstacles to smooth supply chain performance. In mid-October of this year, President Biden had already asked port authorities in Los Angeles and Long Island, where around 40% of the containers destined for the United States arrive, to operate 24/7 in cooperation with major U.S. retailers and parcel delivery companies from across

GRAPH 2
United States: The majority of SMEs encountered difficulties in October



Sources: U.S. Census Bureau and Desjardins, Economic Studies

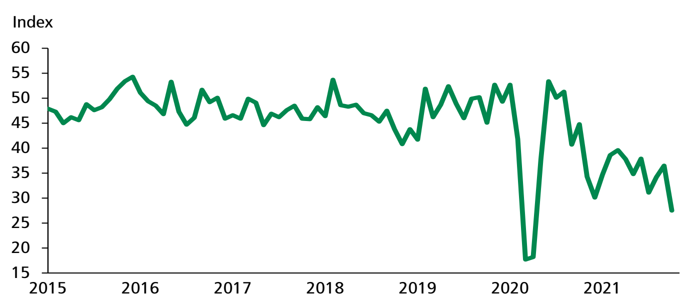
the board. In early November, the U.S. government infrastructure bill (US$1,000B) was passed, and US$17B was earmarked for improvements to coastal and inland port infrastructure, waterways and ports of entry along the U.S. border.

Asking is one part of the equation, implementing is another. This requires hiring labour (longshoremen, truckers, operators, customs officers, security guards, etc.), having the means to properly transport goods (trucks, train cars, cargo planes, etc.) and seeing how, in this context, rules on work safety, the handling of hazardous materials, national security and the environment can be respected. Furthermore, mandatory vaccination for all federal employees and tighter measures for companies with 100 employees or more (mandatory vaccination or weekly screening tests) ordered by President Biden in September could slow down full resource deployment. In light of the foregoing, correcting the irritants and returning to a more normal situation is likely a matter of not months, but quarters.

Meanwhile in Canada

Canada has not been spared from the supply problems and delays. A few indicators measure the extent of the problem. The Ivey PMI index on supplier deliveries, which gauges the sentiment of purchasing managers in businesses, remains very low compared to pre-pandemic years (graph 3). The Bank of Canada's *Business Outlook Survey* for the third quarter of 2021 highlights some facts. These include a historic peak in the number of businesses reporting difficulties in meeting an unexpected increase in demand. Moreover 26% of respondents indicate having significant difficulties, a record for this component. This same survey reports that supply chain disruptions "are increasingly cited as constraints" (graph 4 on page 3). It is worth noting that growth is very fast compared to the fourth quarter of 2019.

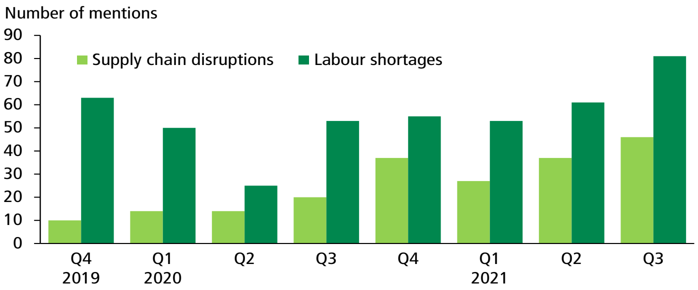
GRAPH 3
Canada: The Ivey PMI index on supplier deliveries continues to be fairly low



Sources: Ivey Business School and Desjardins, Economic Studies

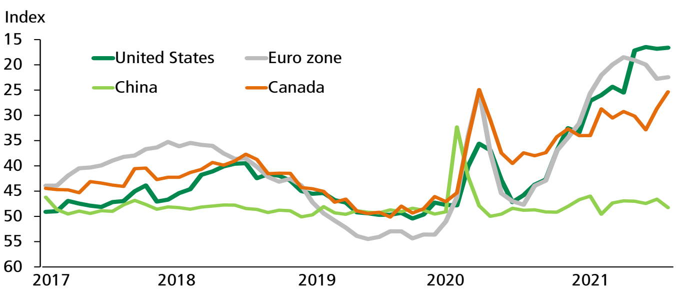
In its October 2021 *Monetary Policy Report*, the Bank of Canada reported that manufacturing suppliers' delivery times were rising to historically high levels (graph 5 on page 3). Transportation costs were also becoming increasingly elevated. It also reported

GRAPH 4
Canada: Disruptions and labour shortages are hampering the response to an unexpected increase in demand



Sources: Bank of Canada and Desjardins, Economic Studies

GRAPH 5
Canada: According to the PMI index, supplier deliveries are rising to historically high levels



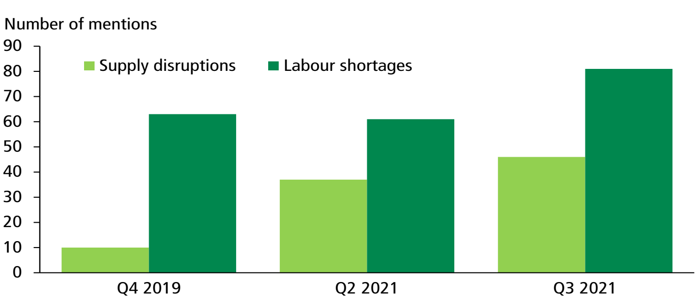
Sources: Bank of Canada and Desjardins, Economic Studies

Logistical and supply problems are not something with which just large companies must deal. In the spring, the Canadian Federation of Independent Business (CFIB), comprising primarily SMEs, reported increasing difficulties in this regard. In May, 40% of businesses were affected, compared to 29% in April 2020. Furthermore, in April 2021, 55% of SMEs were experiencing (production, delivery and supplier) delays. Supplier delays were cited by 90% of these SMEs, production delays by 40%, and delays in delivery and shipping to customers by 37%.

Graph 7 shows the economic sectors hardest hit by delays, among SMEs, in Canada. The four most affected activities in the spring were wholesale trade (76%), followed closely by construction (74%), manufacturing (72%) and retail trade (69%). These are essentially the same sectors as in the United States, but in a slightly different order.

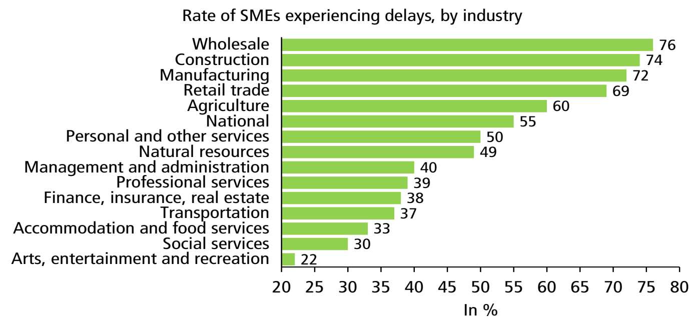
Statistics Canada's *Canadian Survey on Business Conditions* puts all of the above into perspective. Graph 8 provides, so to speak, a list of the irritants encountered by businesses in the third quarter of 2021. In Canada, the most frequently cited irritant is the increase in input costs (38.5% of survey respondents). The labour shortage ranks second (30.3%), followed by transportation costs (22.8%) and difficulty acquiring inputs (15.0%). In Quebec, that supply disruptions were cited by a growing number of respondents in the *Business Outlook Survey* (graph 6). This means that pressure on their production capacity was increasing. At that time, the labour shortage seemed to be causing more of the bottleneck than supply disruptions. However, supply disruptions have been becoming more and more severe since the beginning of 2021.

GRAPH 6
Canada: Businesses report pressures on their production capacity



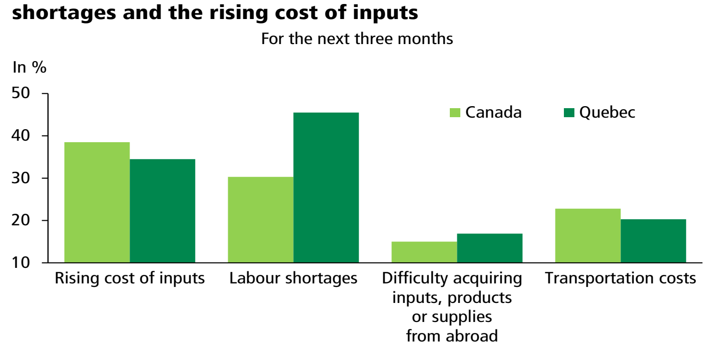
Sources: Bank of Canada and Desjardins, Economic Studies

GRAPH 7
Canada: Delays are primarily affecting the same sectors as in the United States (April 2021)



Sources: Canadian Federation of Independent Business and Desjardins, Economic Studies

GRAPH 8
Canada: The obstacles to overcome are mainly the labour shortages and the rising cost of inputs



Sources: Statistics Canada and Desjardins, Economic Studies the labour shortage comes out on top (45.5%) with a high percentage. The increase in input costs comes in second place (34.5%), close to the Canadian score (38.5%). Transportation costs (20.3%) and difficulty acquiring inputs (16.9%) follow.

These results seem to tone down the message that has been conveyed thus far as to the burden of the currently inefficient supply chains. Survey respondents could provide more than one response. Insofar as the options "rising cost of inputs, difficulty acquiring inputs, products or supplies from abroad, and transportation costs" can be placed in a broad category called "supply chain disruption," it must be acknowledged that a substantial number of respondents are encountering problems. This finding is consistent with what has been mentioned previously.

What Is the Response to Supply Setbacks?

The response to supply setbacks has taken many forms since the beginning of the pandemic. In the first months, the urgent need for medical equipment sparked a bidding war for the procurement of equipment abroad. It also spurred a search for local suppliers and led to the temporary conversion of some businesses into sanitizer, mask and respirator makers. Since then, supply problems have largely extended beyond the medical field, and other means have had to and must still be implemented.

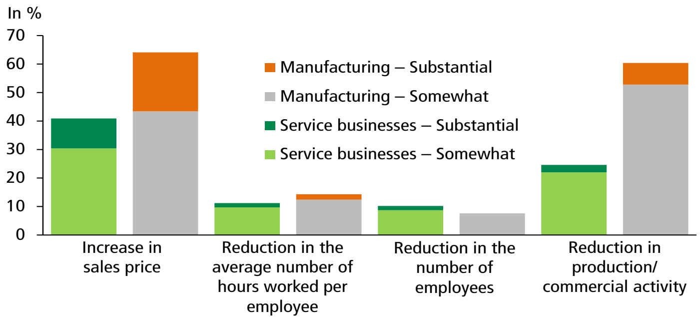
Many consulting firms released studies from the instant that supply chains started experiencing setbacks in the spring of 2020. Countless recommendations were made, including emphasis on workforce planning, the exploration of an extended supply network, an easing of the production schedule, global scenario planning and inventory management improvements, to name a few.

The Federal Reserve Bank of New York tried to see what the business response was by comparing the findings of the *Business Leaders Survey* (service businesses) and the *Empire State Manufacturing Survey* (manufacturing). In October, the rise in sales prices seemed more widespread (64.1% among manufacturers and 40.9% in services). Graph 9 shows that the reduction of operations ranked second (with 60.4% and 24.6%, respectively), followed much further behind by average hours reduced and reduction in the number of employees (less than 15% in both cases).

Short, Medium or Long Term?

Is the situation returning to normal? It is difficult to say, as many parameters must be taken into account. There is the production of goods (intended for consumption or that enter into the composition of other goods), often located in countries where the COVID-19 pandemic situation continues to be a concern. There are also the bottlenecks that have been created, particularly in the transportation and transshipment of goods. Trade must have greater fluidity, and additional efforts will be made to make that happen. The question is whether the

GRAPH 9
United States: Increasing prices is the most common way to deal with supply problems



Sources: Federal Reserve Bank of New York and Desjardins, Economic Studies

ports on the West Coast of the United States will be able to keep operations running 24/7, as per President Biden's wishes in October.

Chinese shipments are also a weak link, with many ongoing delays. Although a slight improvement was noted at the Hong Kong and Shanghai ports (the first and eighth largest ports, respectively, for the transshipment of containers in the world) between August and September, delays are still very long and became even longer in Ningbo (third largest port for the transshipment of containers in the world). Under the circumstances, the problems on that side of the globe should not be expected to resolve in a few months.

Closer to home, in Canada, the recent flooding in British Columbia will impact supply chains. Sections of roads and railroads have been severed, making it more difficult to move goods in and out of Vancouver which is the largest port in the country. This will cast a shadow on an already bleak picture and may further delay a return to normal freight movement.

What Are the Impacts on Growth? And What Can Be Done?

As in any crisis, we must ask ourselves what actions should be taken by decision makers. Despite the good intentions shown by the Biden administration, governments have few solutions in response to this critical, unique situation. The fact remains that the concerted and drastic actions of world governments and central banks in response to the pandemic, as well as the public health restrictions, are responsible for the unprecedented pressures on value chains. The fragility of these chains was laid bare, and there is currently a major risk that production delays and stoppages will be further compounded due to a lack of inputs. In Canada, this situation is holding back the economy's full recovery. The second quarter sent a stark warning, as disruptions in the auto sector were serious enough to contract Canada's GDP, something few anticipated. The danger is that these types of disruptions will spill into other sectors.

As mentioned in this *Economic Viewpoint*, rising input and transportation costs are in addition to the still acute labour shortages. These are two sources of upward pressures on costs at the moment. They eat away at the profit margin of SMEs, which then have fewer resources to invest and modernize their facilities. The pressures on costs also highlight the risk of prolonged transmission of these increases to consumers in the form of inflation. The higher prices that will be passed on to consumers, particularly for necessities, will further reduce their purchasing power for other goods and services. Of course, the natural reflex is to think that central banks will simply have to accelerate the rate hikes to contain the inflationary pressures and prevent a frenzy in inflation expectations. As we explained in a recent *Economic Viewpoint*, this type of intervention in a context of supply shock, like the one characterizing current situation, may slow the economy further without resolving the problem at its source.

At present, a better handle on the pandemic offers hope that a return to normal in the household consumption profile will, over time, relieve the pressure on the demand for goods. In terms of supply chains, activity should eventually resume its cruising speed, as the private sector strives to find solutions and increase capacity. There is also the question as to what extent buy local (regional, national) will have been favoured in the choice of new suppliers. For now, this is still an unknown in this equation. However, much like the pandemic itself, the hope is that the permanent damage that such prolonged delays could cause will be limited. These impacts could take the form of order cancellations, wasted perishable products or even higher inventories than those kept beforehand (with the cost implications that this entails). At the moment, there is no guarantee as to the extent of these impacts and the effect on the viability of some of the more fragile businesses.

Once the dust settles, businesses in sectors hard hit by the current shock will presumably have taken away many lessons on supply chain management and resilience. To prevent the current chaos from happening again, everything suggests that businesses will have to make tremendous investments in, for example, collecting more accurate data and refining their risk management methods. Like practices that evolve with environmental, social and governance risks, the shareholders of many multinational corporations may also put pressure on exposed businesses to rigorously demonstrate the resilience of their business models.