

PERSPECTIVE

Manufacturing in Quebec: Getting Back Up after a Pandemic Tsunami

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The manufacturing sector has been hit hard by the effects of the pandemic, this after already struggling with a labour shortage, fierce competition and rising protectionist tendencies. Recent economic indicators do not show very good performance. However, they conceal the fighting spirit being demonstrated by Quebec companies in a particularly unstable environment. Quebec companies are not the only ones to be experiencing difficulties; their competitors are working hard to overcome the same challenges. The companies here have technology (automation and digitization) as a tool to boost their production, make them more environmentally efficient, maintain their market shares or even increase them on international markets, and keep their place in global supply chains. The program over the next few years is not meant for a flat industry. It will take Quebec manufacturers all the determination they can muster.

The Current Situation

After close to two years of the pandemic, the manufacturing sector is working on regaining lost ground. A quick look at the main economic parameters provides some initial insight:

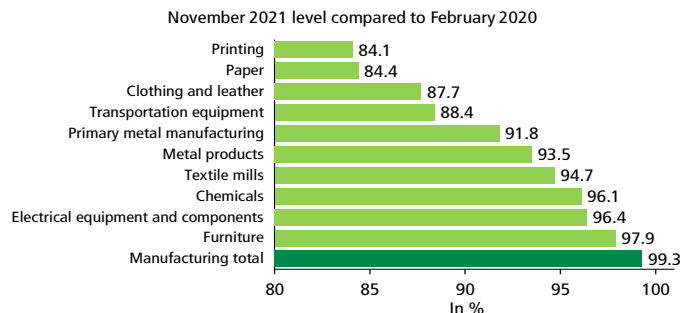
- ▶ Real GDP: almost at February 2020 level;
- ▶ Number of employees: below February 2020 level;
- ▶ Real manufacturing sales: close to February 2020 level;
- ▶ Value of exports in current dollars: above 2019 levels.

A closer analysis brings some nuance. In November 2021, the average real GDP of Quebec's manufacturing sector was 99.3% of February 2020 level. The recovery in real GDP has been very uneven, as shown in graph 1 and graph 2 on page 2. The metallic minerals sector (which accounts for 4.3% of manufacturing GDP) grew 52.9%, undoubtedly driven by significant infrastructure work. The top three sectors in terms of real GDP size are in very different stages of recovery:

- ▶ Transportation equipment manufacturing (14.4% of manufacturing GDP in November 2021), a recovery of 87.9%;
- ▶ Food manufacturing (13.1% of manufacturing GDP in November 2021), a recovery of 106.8%;
- ▶ Primary metal manufacturing (8.3% of manufacturing GDP in November 2021), a recovery of 91.8%.

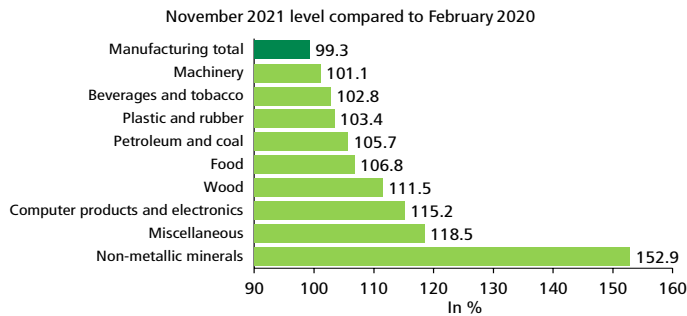
As for sales, the verdict differs when considering the value in current versus constant dollars (when the Canadian manufacturing sales deflator is applied). Graph 3 on page 2 shows the difference. Therefore, the value of sales in constant dollars is virtually the same in December 2021 as it was in February 2020. Although lost ground has been made up, there has been no impressive growth. Differences have been observed between sectors, one example being transportation equipment (around 72% of February 2020 level in current dollars), which was particularly hard hit.

GRAPH 1
Quebec: The recovery in real GDP to February 2020 levels is uneven (1)



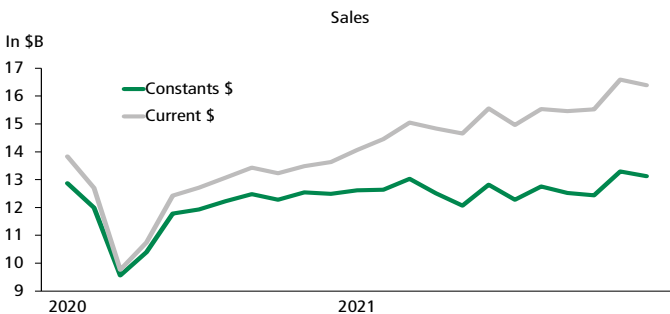
Sources: Statistics Canada and Desjardins, Economic Studies

GRAPH 2
Quebec: The recovery in real GDP to February 2020 levels is uneven (2)



Sources: Statistics Canada and Desjardins, Economic Studies

GRAPH 3
Quebec manufacturers' real sales have reached February 2020 figures, but have not managed to exceed them consistently



Sources: Statistics Canada and Desjardins, Economic Studies

In exports, current dollar data show a strong increase in 2021 (+16.7%), especially compared to a difficult 2020 (-8.7%). The share of transportation equipment in total shipments has decreased significantly (from 20.1% in 2019 to 16.1% in 2021), whereas primary metal manufacturing has picked up (16.9% and 21.3%, respectively). The dramatic increase in 2021 is due mainly to catch-up from 2020 and higher prices for many commodities (metals and wood in particular).

As for the number of employees, the comparison is between the first 11 months of 2019 and the same period in 2021. The level in 2021 is 96.2% of the level in 2019. Should we be surprised? Not at all, especially given the ageing workforce, labour shortage, productivity gains efforts and growing plant automation. The vast majority of sectors have an average number of employees lower than or equal to 2019 figures, with the exception of primary metal manufacturing (109.1%) and electrical equipment, appliance and component manufacturing (109.1% as well). As for capital, after dropping 11.1% in 2020, it was up just 0.8% in 2021 for manufacturing as a whole, to \$4.8B.

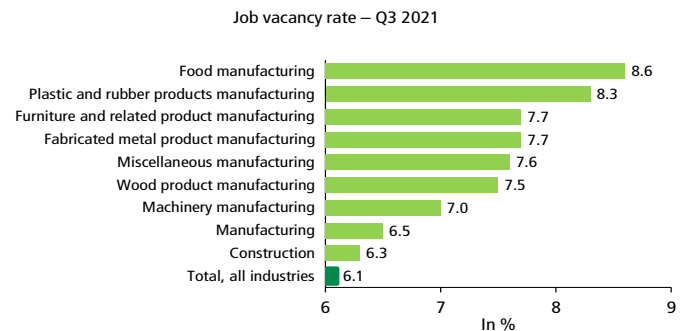
In light of this analysis of key indicators, can the manufacturing sector be called flat? No, especially when we consider the headwinds it must fight. The second section of this analysis will review the challenges.

Constraints That Add Up

► Labour shortage

The labour shortage has been affecting the manufacturing sector directly for many years. The job vacancy rate in this sector (6.5% in the third quarter of 2021) is higher than the Quebec average (6.1%), which is already record-breaking. Industries such as food manufacturing (8.5%) and plastic and rubber products manufacturing (8.3%) are especially affected (graph 4).

GRAPH 4
Manufacturing job vacancy rate in Quebec: food bears the brunt



Sources: Statistics Canada and Desjardins, Economic Studies

Manufacturiers et Exportateurs du Québec (MEQ) toured regions in spring 2021 to survey their members about the labour shortage. According to its survey, the biggest recruitment challenges were in the \$20 per hour or less category. This problem was encountered by 63.1% of respondents and by 35.3% for the category of jobs paying between \$20 and \$29 per hour. Fewer challenges were reported for positions that pay between \$30 and \$39 per hour and those paying \$40 or more (around 7% for each of these brackets). The interesting part of this survey is that it also revealed difficulties by region. Table 1 on page 3 shows how tight the situation is for respondent companies, especially if we look closely at the percentage of the total number of employees that missing workers represent. It exceeds 10% in many regions.

There are a 1001 ways in which the labour shortage is having an effect, such as the costs incurred because it takes longer to recruit and the growing number of approaches involved (within companies, in the region, in the province and abroad). This is compounded by workforce retention issues because workers are wooed by other companies. The adjustments employers make to keep the best sometimes result in outlays that were not initially planned. Schedule changes, work reorganization in terms of both goods production and services, enhancements to some benefits,

TABLE 1
Quebec: estimated number of jobs to fill by manufacturers, by region, as of mid-2021

REGIONS	NUMBER	% OF TOTAL EMPLOYEES
Bas-Saint-Laurent and Gaspésie-Îles-de-la-Madeleine	460	12.9
Saguenay-Lac-Saint-Jean and Côte-Nord	192	8.1
Capitale-Nationale	631	10.8
Mauricie	138	9.3
Estrie	904	8.1
Montreal	901	9.6
Chaudière-Appalaches	1,198	10.0
Abitibi-Témiscamingue, Outaouais and Nord-du-Québec	150	9.4
Laval	227	8.0
Lanaudière	223	11.3
Laurentides	404	8.9
Montérégie	1,559	9.2
Centre-du-Québec	621	10.6

Sources: Tact, Manufacturiers et Exportateurs du Québec and Desjardins, Economic Studies

hiring bonuses, the purchase of robots to mechanize some operations and company digitization are some of the strategies used.

The survey conducted on behalf of MEQ also aimed to quantify the value of the estimated losses over the past two years (from mid-2019 to mid-2021) attributable to the labour shortage. The estimate for this period is \$18B. The effects have been painful. The response to the question “have you had to turn down contracts and/or have you incurred production delays in the past two years due to labour shortages?” was 50% or higher in each Quebec region, as shown in table 2. The response of

TABLE 2
Quebec: effects of the manufacturing labour shortage, by region, as of mid-2021

REGIONS	% OF “YES” RESPONSES BY REGION*
Bas-Saint-Laurent and Gaspésie-Îles-de-la-Madeleine	87.5
Saguenay-Lac-Saint-Jean and Côte-Nord	75.0
Capitale-Nationale	73.8
Mauricie	81.0
Estrie	65.5
Montreal	55.6
Chaudière-Appalaches	73.8
Abitibi-Témiscamingue, Outaouais and Nord-du-Québec	50.0
Laval	63.2
Lanaudière	78.3
Laurentides	57.7
Montérégie	74.2
Centre-du-Québec	78.4

* The question was: “Have you had to turn down contracts and/or have you incurred production delays in the past two years due to labour shortages?”

Sources: Tact, Manufacturiers et Exportateurs du Québec and Desjardins, Economic Studies

the Bas-Saint-Laurent, Gaspésie-Îles-de-la-Madeleine as well as Mauricie regions was above 80%.

► Supply Issues

Supply chain issues have been getting worse for more than a year. Examples include production stoppages and delays in some countries hit harder by the pandemic, the imposition of sanitary conditions that can affect the organization of work to the point of slowing it down, delays in the movement of goods and their transshipment, rising fuel costs, labour disputes in ports and in some plants (slaughterhouses, particularly in Quebec in 2021), the shortage of workers in transport logistics (table 3) largely stretching beyond Quebec, and extreme weather events (such as floods in China in July 2021, wildfires in July 2021 and floods in November in British Columbia), just to name a few.

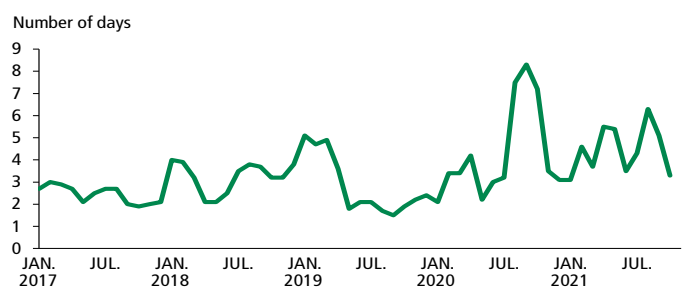
TABLE 3
Number of vacant positions in Quebec in some transportation logistics sectors

OCCUPATIONS	NUMBER		VARIATION
	Q3 2019	Q3 2021	In %
Material handlers	2,510	4,545	81.1
Transport truck drivers	3,755	5,235	39.4
Delivery and courier service drivers	770	1,275	65.6

Sources: Statistics Canada and Desjardins, Economic Studies

However, the situation with container wait times at ports in Eastern Canada seems to have improved somewhat compared to summer 2021, as shown in graph 5. This is not to say that this signals an end to the supply hurdles or delays. Time-limited events (such as blockades of bridges and roads by protesters and extreme weather events) delaying manufacturers’ efforts to restore the fluidity of transport to its pre-pandemic level also play a role.

GRAPH 5
The container port dwell time* seems to have decreased over the fall at Eastern Canada ports



* The port dwell time is the time a container coming into the port spends from the time it is unloaded from the ship until it is loaded onto a train or truck at the port.

Sources: Statistics Canada and Desjardins, Economic Studies

Given this context, the question is whether these constraints will have a positive effect on local companies at a time when some want to shorten and secure their supply chains. Industry associations and numerous chambers of commerce have been forging ties with local companies for years but have stepped up those efforts over the past two years. Work is in progress.

Times Are Changing, Manufacturing Is Too

Faced with recruitment and retention challenges, companies are increasingly exploring different ways of working. To do this, they can choose to robotize their operations and/or digitize their company, two different approaches. According to the Business Development Bank of Canada, “[r]obots are very good at doing repetitive precision work. Industry 4.0 technologies collect data about processes and can, for example, connect robots together or with other parts of the production process.”¹ Companies are slowly discovering the power of technologies and how they can be useful to them.

To this end, the Quebec government introduced the Digital Transformation Offensive in March 2021, among other measures, intended for all sectors across all Quebec regions. Approximately 9,000 companies are enrolled in the approach after 10 months. Will manufacturers take advantage of this opportunity? Lastly, lower costs and the democratization of digital tools might make them more and more accessible to small and medium-sized enterprises.

A sign of the times, environmental concerns are also top of mind for manufacturing companies. Eco-design, product life cycle management, packaging, heating equipment modernization and less energy-intensive modes of transport, to name but a few, are some of the factors to be considered in production. At a time when various governments are committing to reducing greenhouse gases (GHG) and investors are demanding it, manufacturers are being challenged. In a [study](#) conducted by the Institut de la statistique du Québec (ISQ), the organization highlighted the contribution the sector’s exports made to the economy in 2017 (namely \$62.1B in spinoffs for GDP and a contribution to the creation and maintenance of more than half a million jobs). At the same time, it underscored the contribution these exports made to GHG emissions that same year. The estimate was close to a third of Quebec’s total emissions, whether directly or indirectly related to exports of manufactured products.

Business Climate

The manufacturing sector obviously does not operate outside trade rules and agreements. Over the past few years, Canada has entered into and implemented numerous free trade agreements that both open up the domestic market and increase business opportunities abroad. The Canada-European Union Comprehensive Economic and Trade Agreement (CETA), the

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and, more recently, the renewal of the Canada–United States–Mexico Agreement (CUMA) come to mind. While these agreements give the impression of greater openness, protectionism seems to be gaining ground in discourse and in a number of practices.

The most recent World Trade Organization (WTO) status [report](#) for the period from October 2020 to May 2021 reports an improvement in trade openness for products unrelated to the pandemic in G-20 countries. Thus, 35 new trade-facilitating measures and 26 new trade-restrictive measures have been implemented. “The estimated trade coverage of the import-facilitating measures introduced during the review period (USD 438 billion) significantly exceeded the trade coverage of import-restrictive measures (USD 123.89 billion)....”

Nevertheless, the rise in economic nationalism, states’ willingness to ensure greater autonomy in their supply (whatever it might be) and many manufacturers’ intention to shorten their supply chains in order to ensure their strength and security are not conducive to greater trade openness. This could slow the growth of Quebec and Canadian exports, which is not desirable insofar as our domestic markets are fairly small. Furthermore, the change in leadership at the White House may have softened the tone of trade talks, but the rules themselves have not really changed. Manufacturers would like more openness. Exporting manufacturers have been arguing for some time now that a “Buy North American” agreement would be favourable to companies here. Better integration of the Canadian, U.S. and Mexican public markets (basically purchases of goods by governments for public use) would limit the establishment of Canadian companies south of the border in order to meet U.S. government requirements. This is far from a done deal.

A Flat Sector?

It is not because real GDP has not fully recovered to February 2020 level and that real sales have not really exceeded pre-pandemic figures that the manufacturing sector can be called flat.

First, it bears remembering that a significant portion of manufacturing activity relies on transportation equipment (14.4% of real GDP, 9.4% of total shipments, approximately 20% of exports in 2019 and around 16.0% in 2021). This industry is directly tied to the transit of people and goods. We know that the pandemic has crippled the entire transportation industry. Re-establishing trade routes for people and goods takes a long time, an effort punctuated by various waves of COVID-19. This start-stop pattern is reverberating across vehicle and aircraft manufacturers of all kinds, hence the gap with pre-pandemic production levels. This delay weighs on the overall result.

¹ [What is Industry 4.0?](#), BDC.

Many hurdles have been impeding smooth progress and growth in manufacturing over these past few years, namely the labour shortage, which leads to contracts being turned down and limits production, supply issues and some countries' cooler approach to trade talks, despite signed agreements.

Although solutions exist, they cannot be implemented in a few months. Negotiations and worker training (for young people and existing company employees and special programs for less traditional clientele) take time, as does the arrival of foreign workers, whether or not they are temporary. More efficient and less polluting solutions are slowly emerging for raw material and energy use. Truck automation, which could address the trucker shortage, is in the research phase, but is not yet ready.

In the meantime, sleeves have to stay rolled up and a combative resolve displayed. Quebec companies are not the only ones to be experiencing difficulties; their competitors are working hard to overcome the same challenges. The companies here have technology (automation and digitization) as a tool to boost their production, make them more environmentally efficient, maintain their market shares or even increase them on international markets, and keep their place in global supply chains. The program over the next few years is not meant for a flat industry. It will take Quebec manufacturers all the determination they can muster.