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GLENWOOD LABORATORIES CANADA Ltd.: Coping with Tariff War

R. Chandrasekhar wrote this case under the supervision of Professor Nouri Najjar to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In August 2018, Henry Benzoni, president and chief executive officer of Glenwood Laboratories Canada Ltd. (Glenwood), was debating how to deal with the recent and sudden change in customs tariffs affecting one of the key products in Glenwood’s portfolio—aluminum oxygen cylinders. Glenwood, a medical supply company, was importing empty aluminum cylinders from its US supplier for sale to customers in Canada. The cylinders were produced in the United States using aluminum supplied by a Canadian company and then imported by Glenwood and filled with medical-grade oxygen. The changes in tariffs, enforced by the governments of the United States and Canada in June and July 2018, respectively, had hit Glenwood’s product at both ends. The US government had imposed a 10 per cent duty on the import of raw aluminum from Canada to the United States. In retaliation, the Canadian government imposed a 10 per cent duty on the import of aluminum cylinders.

Prior to this trade war, the landed cost of aluminum cylinders for Glenwood was CA$35.85[[1]](#footnote-1) per cylinder. As a result of the trade war, the landed cost for Glenwood had risen to $45.91 (see Exhibit 1).

Changes in exchange rates had also played a part in Glenwood’s troubles. While Glenwood was buying aluminum cylinders in US dollars, it was collecting receivables from its wholesale customers in Canada in Canadian dollars. A weakening Canadian dollar, falling from US$1.26 in April 2018 to US$1.31 in September 2018, had lowered Glenwood’s revenues per unit (see Exhibit 2).

Benzoni had communicated to Glenwood’s customers the company’s intention to raise end prices in light of these cost increases. The price hike would, however, be a tactical decision. He had to find strategic ways of dealing with the recent cost increases and mitigate the risk of future tariff changes. He was primarily focused on three options that, if executed well, could improve the company’s long-term competitiveness.

First, Glenwood could look for new suppliers in countries other than the United States; second, it could sell to end-users directly rather than to wholesalers in Canada; and third, it could look for customers for its oxygen cylinders beyond medical offices.

Benzoni had two other alternatives in dealing with the situation: Glenwood could simply wait, hoping that the tariff changes would be reversed. The North American Free Trade Agreement (NAFTA), for example, was being renegotiated among the three trading partners of the United States, Canada, and Mexico. The World Trade Organization (WTO) could also intervene and ask the United States, in the spirit of free trade, to reverse the tariff changes. Benzoni was also examining the possibility of seeking monetary respite as part of a relief package announced by the Canadian government for Canadian importers affected by changes in trade policy.

MEDICAL SUPPLIES WHOLESALING IN CANADA

The medical supplies wholesaling industry served as a link between health care providers and manufacturers of medical consumables, patient aids, and medical devices. The industry had 1,497 enterprises in 2017, providing employment to 32,486 people and generating sales of $20.46 billion. It was forecast to grow at 6.2 per cent per annum to reach a revenue of $23.9 billion in 2022. However, the number of enterprises was forecast to fall over this period to about 1,250.[[2]](#footnote-2)

Hospitals were the major customer segment of the industry, comprising 43.1 per cent of demand. The next largest segment was medical professionals, which generated 39.7 per cent of demand. This category included physicians (23 per cent), dentists (10.3 per cent), vision care providers (3.1 per cent), and other professionals (3.3 per cent). The balance (17.2 per cent), which came from veterinary facilities, nursing homes, residential care facilities, laboratories, diagnostic centres, and retail outlets like pharmacies, provided a stable source of demand for the industry.

The wholesaling industry was facing three major challenges: The Canadian government was trying to reduce its outlay on health care, and a price squeeze on the purchase of inventory was a regular weapon in its arsenal. Manufacturers were sometimes distributing products on their own, as part of disintermediation, cutting into industry revenue. There was pricing pressure from group purchasing organizations (GPOs), which bought medical supplies in bulk on behalf of health care providers and leveraged their scale to demand low prices from wholesalers.

Individual wholesalers were responding in three ways: They were offering value-added services, such as device maintenance, to improve their clients’ profitability and sustain demand. They were improving their operational efficiencies by investing in productivity tools like demand forecasting and technologies like product tracking, wherein warehoused inventory was tagged electronically to ensure timely replenishments. They were also consolidating in a bid to achieve economies of scale.

The industry was highly fragmented. The three largest operators held less than 10 per cent of market share—Cardinal Health Canada held 8.7 per cent, Henry Schein Inc. held 1.6 per cent, and the Stevens Company Limited held 0.6 per cent.

Price was the primary basis of competition in the industry. Discounting was a common trade practice. Firms were trying to stay competitive by becoming one-stop shops for their customers. They were also using convenience and service as bases of differentiation. The industry had few barriers to entry.

MEDICAL DEVICES INDUSTRY

A medical device was defined by Health Canada as “any article, instrument, apparatus or contrivance, including any component, part or accessory thereof, manufactured, sold or represented for use in the diagnosis, treatment, mitigation or prevention of a disease, disorder or abnormal physical state, or its symptoms and in restoring, correcting or modifying a body function or the body structure.”[[3]](#footnote-3)

In 2017, the industry had 749 enterprises, provided employment to 14,723 people, and generated sales of $4.1 billion. It was growing at a negative rate of 0.6 per cent and was forecast to grow at a negative rate of 0.5 per cent for a five-year period beginning 2017 to record sales of 4.0 billion in 2022. The number of enterprises was forecast to fall over this period to about 700.[[4]](#footnote-4)

The industry had six major product segments: cardiovascular and respiratory devices (representing 25.6 per cent of revenue); medical and industrial diagnostic apparatus (20.9 per cent); surgical devices (12.8 per cent); spinal devices (10.8 per cent); diabetes monitoring devices (6.3 per cent); and others (23.6 per cent).

Despite the indispensable nature of medical devices in health care, the industry was facing two challenges: (1) slow growth in total health expenditure by the Canadian government, and (2) a fall in the value of the Canadian dollar. GPOs were also prevalent in the medical devices industry. Driven by their own need to reduce costs, health care providers were seeking competitive pricing from manufacturers. Progressively shorter product life-cycles and the high costs of developing new technologies were other challenges facing the industry.

Canada was widely known to have the potential to evolve into a global hub for medical device innovation. The country was home not only to some of the leading scientific research institutions but also to a large pool of trained researchers. It had a strong track record for conducting clinical trials. The government was also providing tax incentives for medical technology development.[[5]](#footnote-5)

The medical device manufacturing industry was fragmented, consisting of small- and medium-sized enterprises, 94 per cent of which employed fewer than 100 workers. Small operators specialized in developing technology and products for niche markets like oncology, radiation, industrial controls, or meteorological instruments. Consolidation was ongoing. The industry was also in a mature life-cycle stage, evident from a slow rate of growth and low margins.

Medical devices were categorized by Health Canada as class I, II, III, or IV, depending on the level of risk involved in their use. Class I represented the lowest risk; class IV, the highest risk. An importer and distributor of a medical device was required to hold an *establishment* license while a manufacturer of a class II, III, or IV device was required to hold a *product* licence issued by Health Canada.

Compressed Gas Cylinders

An empty cylinder was considered a medical supply, while a cylinder filled with oxygen was considered a class II medical device. A full cylinder had to be constructed, packaged, and shipped as per the norms of Transport Canada and the CSA Group. Those used by medical professionals were portable.

GLENWOOD LABORATORIES CANADA LTD.—COMPANY BACKGROUND

After graduating with a master of business administration from Pace University in New York, Benzoni was working in client servicing in the financial services sector when he had an opportunity in 1984 to join New Jersey–based Glenwood Inc. as its vice president. Benzoni was to launch the company’s distribution in Canada and be based in Oakville, a suburban town in southern Ontario.

Glenwood Inc. was focused on urology and dermatology products, which it was producing through contract manufacturers. Glenwood Inc. took a 49 per cent stake in their Canadian subsidiary, Glenwood Laboratories Canada Ltd., and the majority stake of 51 per cent was held by Benzoni. The company diversified into medical devices in 1990.

Upon the passing of Glenwood Inc.’s founder in 2008, Benzoni acquired the minority stake from the founder’s two sons to become the sole owner of the Canadian company in 2015. Having become an independent company, Glenwood Laboratories Canada Ltd. retained its original name but discontinued distributing pharmaceutical products in order to concentrate on medical devices. It was already importing branded surgical dressings, defined as a class I medical device by Health Canada, and expanded into class II devices, which were generally customized. It also diversified its supplier base for medical devices beyond the United States to mainland China, Taiwan, and Poland. It had taken a year for Glenwood to turn the corner with the new business and acquire competence in sourcing and distributing respiratory products.

A popular class II product was a cannula—plastic tubing connected to the nose of a patient and designed to facilitate the delivery of oxygen. As was common with many medical devices, cannulas were required by hospitals in multiple specifications. Glenwood provided those specifications to suppliers, who would then either manufacture them or ship them to Oakville from existing inventory.

Glenwood was getting, on average, four to six containers of medical device supplies from China and two or three containers from Taiwan per annum; from Poland it was getting skids on a monthly basis. Its total value of imports of medical devices during 2017 was US$701,550, of which the United States was the largest contributor at US$233,300, followed by China at US$197,230, Poland at $184,000, and Taiwan at US$87,020. The value of aluminum cylinder imports, all from the United States, was $53,998.

The company held a three-month inventory of supplies from China and Taiwan at its warehouse in Oakville because that was the average lead time for stock replenishment from the Far East. Glenwood usually erred on the higher side in a bid to pre-empt a situation of landing a contract from a wholesaler and not having the inventory on its shelves to service the contract.

Glenwood considered its short customer response times and ability to fulfill customer’s short orders as its competitive advantages. The company’s major competitors for oxygen cylinders included Diversco Supply Inc., which served a broader industry category of propane and natural gas equipment; O-Two Medical Technologies Inc., which provided a range of respiratory devices; and Medigas, which specialized in home oxygen therapy.

Glenwood had to ensure that its overseas suppliers were compliant with Health Canada requirements and held recognized certifications. For its part, Glenwood itself was subject to periodic audits from SGS, a global certification agency accredited by Health Canada. The cost of compliance in the health care industry was high. An SGS audit, for example, cost Glenwood US$24,000. The annual cost of compliance (including licences, audits, and staff time) averaged CA$80,000 for Glenwood.

Glenwood’s customer profile consisted of wholesale distributors (76 per cent of revenue), health clinics (12 per cent), hospitals (8 per cent), and end-users (4 per cent). The Stevens Company was one of the company’s large and long-standing customers in the distributor category. The wholesaler had 30 field representatives promoting products from Glenwood, among others, to Canadian end-users.

Glenwood had revenue of $2.1 million in 2017. It had grown between 8 and 16 per cent per year for the last five years. The company was importing about 750 aluminum cylinders, valued at about $25,000, from the United States per annum and selling them in Canada at a markup of between 50 and 60 per cent over the landed cost.

Canada–United States TRADE WAR

The signing of the Canada–United States Free Trade Agreement (CUSFTA) in October 1987 was a leap forward in the liberalization of trade between Canada and the United States. The elimination of tariffs and the reduction in non-tariff barriers (like quotas) were the two anchors of the agreement. CUSFTA placed both Canada and the United States at the forefront of a movement toward the free flow of goods and services across national borders—a movement that would gather momentum worldwide in the next two decades.

Between 1988 and 2017, the trend in Canada–United States trade tariffs was, generally, in one direction—down. In 1988, for example, Canada collected duties equivalent to 2.6 per cent of the value of all US imports. In 2017, the ratio of Canadian duties to overall US imports was 0.2 per cent.[[6]](#footnote-6) The momentum continued even after CUSFTA was replaced by NAFTA in 1994, which brought a third partner, Mexico, into the fold.

The trend was, however, set for reversal when Donald Trump was elected president of the United States in late 2016. He had contested the election on a twin platform of reviving the manufacturing heartland of Michigan, Ohio, and Pennsylvania and ensuring that American companies would “buy American, make American, and hire American.” The latter move was protectionist in nature, undermining the framework of trade rules, built assiduously after the Second World War, under the aegis of the WTO. Soon after taking office, Trump started examining the possibility of citing US national security as the basis for imposing tariffs on the country’s trading partners. The argument was that US defence needed to safeguard domestic supplies of raw materials like steel and aluminum for the manufacture of military tanks and ships. As the WTO had a clear provision for exemptions on grounds of national security, member countries would not be able to challenge the US tariffs as unfair trade practice.

In April 2017, President Trump directed Commerce Secretary Wilbur Ross to investigate the impact of steel and aluminum imports on US national security, pursuant to section 232 of the Trade Expansion Act of 1962.[[7]](#footnote-7) The rarely used provision gave the President sole discretion to take a unilateral action, without Congressional approval, to “adjust the imports of such article so that such imports will not threaten to impair the national security.” On March 8, 2018, Trump enforced the tariffs of 25 per cent and 10 per cent on US imports of steel and aluminum, respectively.

The President’s rationale for the aluminum tariff, beyond national security, was twofold. First, it would “help our domestic aluminum industry to revive idled facilities, open closed smelters and mills, preserve necessary skills by hiring new aluminum workers, and maintain or increase production, which will reduce our Nation’s need to rely on foreign producers for aluminum and ensure that domestic producers can continue to supply all the aluminum necessary for critical industries and national defense.”[[8]](#footnote-8)

Second, over the past two decades, China and other countries had provided massive subsidies to not only create excess capacity but also drive down international prices below cost. This forced many producers in the United States—a country that had been a long-standing proponent of free trade—out of business.

The 10 per cent tariff on Canadian aluminum applied to the following harmonized system (HS) codes: unwrought aluminum (HS 7601); aluminum bars, rods, and profiles (HS 7604); aluminum wire (HS 7605); aluminum plate, sheet, strip, and foil (HS 7606 and 7607); aluminum tubes and pipes and tube and pipe fitting (HS 7608 and 7609); and aluminum castings and forgings (HS 7616.99.51.60 and HS 7616.99.51.70).[[9]](#footnote-9)

The tariffs for steel and aluminum went into effect for countries including China, India, Japan, Russia, Taiwan, Turkey, and the United Arab Emirates; they were placed on hold for Argentina, Australia, Brazil, South Korea, Canada, Mexico, and countries of the European Union (EU). While US negotiators eventually reached agreements with Argentina, Australia, and South Korea, the tariffs became binding for Brazil, Canada, the EU, and Mexico on June 1, 2018.[[10]](#footnote-10)

The United States was Canada’s largest trade partner; the total estimated value of trade between the two countries was US$673.1 billion in 2017. Of this trade, US exports to Canada were US$340.7 billion; US imports from Canada were US$332.3 billion.[[11]](#footnote-11)

For aluminum, the United States had an annual requirement of 5.5 million tonnes but was producing just 0.7 million tonnes. Canada was the single largest supplier of aluminum to the United States, supplying 2.8 million tonnes per annum. The United States was using Canadian aluminum as an input for further processing into products for both domestic consumption—such as defence needs—and export markets. The United States was also the single largest destination market for Canadian aluminum, accounting for 84 per cent of the latter’s domestic production. The two countries shared an integrated aluminum market with combined trade of more than US$11.4 billion annually. As part of NAFTA, their aluminum supply chains were designed to strengthen the global competitiveness of the two economies.

With a production cost of above US$2,000 per metric tonne and an average age of 47 years, US aluminum smelters were among the costliest and oldest in the world. Since 2007, the number of operational smelters in the United States had fallen from 18 to five. Even though electricity costs for its smelters had declined by more than 20 per cent since 2013, the amount of electricity used by US smelters to produce a tonne of aluminum was still among the highest in the world.

In contrast, Canada's smelters, aged an average of 26 years, could make the metal for about $1,500 per tonne. One source of Canada’s comparative advantage in aluminum production was its low cost of electricity, a key resource for producing aluminum.

As WTO intervention was unlikely, Canada resorted to counter-tariffs. Its retaliatory list included 70 categories of industrial and consumer products that the United States was exporting to Canada. Many of these categories targeted the home states of key congressional leaders for political impact, including whiskies (from Kentucky, which was the home state of Senate Majority Leader Mitch McConnell), yogurt products (from Wisconsin, the home state of Paul Ryan, Speaker of the House of Representatives), and orange juice (from Florida, which was a swing state in an upcoming fall 2018 election). In addition, Canada imposed a 10 per cent tariff on imports of aluminum products, effective July 1, 2018.

The Office of the US Trade Representative responded by challenging the Canadian tariffs at the WTO. It could do so because Canadian retaliation did not have an underlying national security angle.

The International Monetary Fund saw the beginnings of a domino effect that could lead to a global trade war, claiming that such a trade war could lower worldwide growth by as much as 0.5 per cent. This would amount to US$430 billion in lost gross domestic product by 2020.[[12]](#footnote-12)

The Canadiangovernment had announced $2 billion in financial support for companies in the Canadian steel and aluminum manufacturing industries. The government was to spend $25 million to extend work-sharing agreements that would pre-empt shop-floor layoffs, and another $50 million on retraining people who would lose jobs. It also promised lending support for companies affected by the US tariffs through the Business Development Bank of Canada and Export Development Canada.

On October 11, 2018, the Canadian government had also promulgated the United States Surtax Remission Order as part of a relief package to Canadian businesses affected by the trade war.[[13]](#footnote-13) Accordingly, it would reimburse to Canadian importers and distributors, like Glenwood, the amount of Canadian surtax they would have paid on their US imports.

Options Going FORWARD

Look for New Suppliers in the Far East

Identifying alternative sources would be a strategic move—not only because imports would not be subject to the retaliatory duties imposed by the Canadian government but doing so would also allow the company to diversify its supplier pool. There were suppliers in countries in the Far East providing aluminum cylinders of comparable quality and whose basic unit prices were also likely cheaper. Glenwood had not dealt with any of them so far, and there were two issues that the company would have to address.

First, the lead time for US shipment was less than 10 days. In contrast, the lead time for shipments from the Far East would be 90 days. Second, cylinders from the US were being imported in the form of single-deck loading platforms known as skids. Each skid housed 81 cylinders and Glenwood would import one to three skids per consignment. In contrast, the shipments from the Far East had to be in the form of containers. Each container would have a minimum of 26 skids holding about 2,100 cylinders equivalent to nearly three years of inventory for Glenwood. A one-time purchase of that magnitude was not economical unless Glenwood sold a larger volume of cylinders in Canada. Imports from the Far East would be an incentive to improve Canadian distribution and acquire more customers to generate more revenue. However, that would be part of demand, rather than supply, management.

A related alternative was to collaborate with competitors in Canada so that collective requirements could be consolidated into a container or two and then shipped locally. Coopetition, as it was called, was common on the supply side in several industries worldwide, as bulk buying was an effective tool in negotiating price discounts. A joint purchase agreement was also treated leniently in Canada under the Competition Act, unlike an agreement between sellers in which signs of “collusion” were demonstrably evident. But coopetition was an untested ground for Glenwood. Building up the trust factor in the ecosystem was time-consuming, and Benzoni was not sure he should take the lead.

Sell to End-Users Directly

One way of reducing costs escalated by the trade war was to cut into the wholesaler’s markup by distributing aluminum cylinders directly to end-users. Wholesalers, which comprised 75 per cent of Glenwood sales, had extensive networks in Canadian health care in addition to economies of scale. They also had “legs on the street,” as the sales force was referred to in the industry, keeping tabs on the ground realities of the business. As a solo operator, Glenwood had none of these advantages. Although it had expertise, built up over the years in business-to-business sales, doing business with customers was not part of its skill set. Whatever sales it was providing to individual end-users, like dentists, was triggered by inbound calls from potential customers. Glenwood was not making any outbound calls or chasing sales leads on its own.

Aluminum oxygen cylinders were different from other medical devices in two ways. First, while hospitals would buy in large numbers, the individual end-user would buy only one, and not more than two, cylinders at a time—one for regular use and one for stock. Second, it was always a one-time sale; there was no provision for recurring sale because a cylinder had a shelf life of up to five years. Even at the end of five years, the cylinder could be refilled with oxygen at designated places for use for another five years. Glenwood was not involved in refilling cylinders.

There were, however, several accessories of an oxygen cylinder that were disposable and hence had provision for repeat purchases, and these included cannulas and oxygen masks. Glenwood had an opportunity to supply these accessories in perpetuity for a one-time cylinder. They were indispensable commodities whenever the use of oxygen cylinders was involved. For example, Glenwood had generated revenue of $140,000 in 2018 from the sale of cannulas alone. Priced at an average of $20.93 per piece, the cannulas carried a profit margin of 38 per cent for Glenwood.

Look for Customers beyond Medical Offices

As an extension of getting into the business-to-consumer markets, the scope of aluminum cylinder usage could be extended. The company had, of late, two instances of doing so with two different product categories of medical devices.

The first pertained to a class-I sterile bandage. Made of 100 per cent cotton, it was popular as a dressing material in treating wounds. The bandage had found an application beyond health care in northern Canada. When pine trees were cut down and efforts were made to populate pine trees elsewhere, the roots would be placed in the bandage, placed underground, and covered with nutrients. The bandage would envelop the roots protectively and, being made of cotton, disintegrate into the soil, even as the new plant would begin to grow. A new and evolving market had opened in the tree-planting industry for medical bandages.

The second pertained to a product used in sports medicine and popular among basketball players as a treatment for soft tissue injuries on their arms. It was a self-adhesive gauze that stayed in place with minimal taping and conformed to difficult body contours. It had become a sought-after product among welders who were using it to pre-empt burns on their sleeves caused by sparks. A new and evolving market had opened in the welding industry for a tubular sports medicine product.

Seek Relief from the Government of Canada

The relief available under the United States Surtax Remission Order was subject to fulfillment of two conditions: (1) evidence of short supply of aluminum cylinders in the Canadian market, and (2) contractual obligations to import aluminum cylinders only from the United States. The process of claiming the refund was elaborate because the onus of proof lay with the applicant. It took time to collect information to approach the government for relief, and the government took three to four months to respond—and not always favourably. Once the amends was submitted for refund of surtax, auditors took anywhere from three to nine months to approve it. There was also a fee of $75 per refund to be paid to the clearing agent. Benzoni was not sure if he should apply for relief.

Deal with the Exchange Rate Risk

A weakening Canadian dollar had been an ongoing issue since 2015 at Glenwood, which had been trading about $700,000 per annum in US currency (see Exhibit 2). The company was dealing with the exchange rate fluctuations in two ways. First, it would incorporate the estimated loss due to changes in exchange rate into its pricing, which it would revise at the beginning of each year. The customer would not be aware of the exchange buffer built into pricing because the price increase would be communicated as part of adjusting general cost increases. Second, Glenwood would buy its required US dollars from second-tier foreign exchange dealers rather than from commercial banks. If 1.31 was the exchange rate, the banks would charge 1.325, while the dealers would charge 1.3175.

Exhibit 1: Pre- and Post-Tariff SCENARIOS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Pre-tariff | Post–US tariff | Post–Canadian counter-tariff |
| Consignment date (United States to Canada) |  | **April 2018** | **July 2018** | **August 2018** |
| Quantity of cylinders per consignment | No. | 162 | 81 | 176 |
| Basic price (per consignment) | US$ | 4,393.61 | 2,046.87 | 5,388.64 |
| Exchange conversion rate | Multiple | 1.26 | 1.31 | 1.30 |
| Basic price | CA$ | 5,530.68 | 2,695.93 | 6,996.07 |
| Surtax | 10% | – | 269.59 | 699.61 |
| GST (on basic + surtax) | 5% | 276.53 | 148.28 | 384.78 |
| Landed cost | CA$ | 5,807.21 | 3,113.80 | 8,080.46 |
| Unit cost (basic) | US$ | 27.12 | 25.27 | 30.61 |
| Unit cost (basic) | CA$ | 34.14 | 33.27 | 39.75 |
| Unit cost (landed) | CA$ | 35.85 | 38.41 | 45.91 |
| End price to customers in Canada | CA$ | 55.99 | 61.99 | 74.09 |

Note: GST = goods and services tax.

Source: Company documents.

Exhibit 2: US–Canadian EXCHANGE RATE FLUCTUATION, 2010–2018



Source: “Canadian Dollar,” Trading Economics, accessed March 6, 2019, https://tradingeconomics.com/canada/currency.

1. All amounts are in Canadian dollars unless otherwise specified. [↑](#footnote-ref-1)
2. IBISWorld Canada, “Medical Supplies Wholesaling – Canada Market Research Report,” accessed February 12, 2019, www.ibisworld.ca/industry-trends/market-research-reports/wholesale-trade/medical-supplies-wholesaling.html. [↑](#footnote-ref-2)
3. “Regulatory Affairs,” Medtech Canada, accessed February 1, 2019, www.medec.org/page/RegulatoryAffairs. [↑](#footnote-ref-3)
4. IBISWorld, “Medical Device Manufacturing – Canada Market Research Report,” 33451bCA, accessed February 12, 2019, www.ibisworld.ca/industry-trends/market-research-reports/manufacturing/medical-device-manufacturing.html. [↑](#footnote-ref-4)
5. Ibid. [↑](#footnote-ref-5)
6. Statistics Canada, “Chart 4: The Ratio of Duties to Canada’s Value of Imports from the United States,” accessed January 30, 2019, www150.statcan.gc.ca/n1/daily-quotidien/181019/cg-d004-eng.htm. [↑](#footnote-ref-6)
7. Congressional Research Service, *Section 232 of the Trade Expansion Act of 1962*, February 23, 2018, accessed January 30, 2019, https://fas.org/sgp/crs/misc/IF10667.pdf. [↑](#footnote-ref-7)
8. “Presidential Proclamation on Adjusting Imports of Aluminum into the United States,” The White House, March 8, 2018, accessed February 7, 2019, www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-aluminum-united-states/. [↑](#footnote-ref-8)
9. Export Development Canada, “Worried about U.S. Tariffs on Steel and Aluminum? Here’s a Primer,” *TradeInsights* (newsletter), June 6, 2018, accessed March 30, 2019, www.edc.ca/en/article/us-tariffs-on-steel-and-aluminum.html. [↑](#footnote-ref-9)
10. “Presidential Proclamation on Adjusting Imports of Aluminum into the United States,” op. cit. [↑](#footnote-ref-10)
11. “Canada,” Office of the United States Trade Representative, accessed February 1, 2019, https://ustr.gov/countries-regions/americas/canada. [↑](#footnote-ref-11)
12. Shailesh Bhadauria, “How Tariff-Proof Is Your Supply Chain Strategy?,” *IndustryWeek*, August 20, 2018, accessed March 30, 2019, www.industryweek.com/supply-chain/how-tariff-proof-your-supply-chain-strategy. [↑](#footnote-ref-12)
13. “Backgrounder – Relief for Canadian Businesses from Countermeasures on Certain U.S. Imports,” Government of Canada, last modified October 11, 2018, accessed April 11, 2019, www.canada.ca/en/department-finance/news/2018/10/backgrounder--relief-for-canadian-businesses-from-countermeasures-on-certain-us-imports.html. [↑](#footnote-ref-13)