Blackleg or blackmail? Economics of the Canada–China canola trade dispute

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Abstract
The Chinese government’s recent decision to suspend the export licenses of two Canadian grain firms has garnered international attention. The dispute has been portrayed by some as a diplomatic dispute between two countries, and by others as a concern about plant health. We analyze the economics of the dispute, including a simple economic model of international trade in which a large-country importer imposes a targeted import ban on one large-country exporter. The model provides a framework for understanding the economic effects of a trade ban under various market conditions. We also discuss the legal framework and dispute settlement process that would be encountered if the disagreement proceeds to a formal dispute in the World Trade Organization.

KEYWORDS
Canada, canola, China, WTO

1 INTRODUCTION

The importance of China as a market for Canadian canola exports was brought to many people’s attention by media coverage of the General Administration of Customs of China’s (GACC) suspension of Richardson International’s license to export canola to China on March 1, 2019. China issued several warnings about pests in canola imports through the spring of 2019, and eventually suspended Richardson International’s and Viterra’s export licenses (AAFC, 2019). Richardson International and Viterra are two

1 We use the term canola to mean whole seeds ready for crushing. Some trade reports include trade in oil as a seed equivalent; we do not do use oil/seed equivalents here.
of the four largest canola and grain exporting firms in Canada; the other two are G3 and Cargill Canada. G3, the remnant of the Canadian Wheat Board, is 50% owned by Bunge Limited, and Cargill Canada is the Canadian arm of America’s largest private grain trader. All Canadian firms source canola from the same areas, and they all face similar risks of a rejected shipment. The suspensions have chilled canola exports to China by all Canadian firms. Canadian canola exports to China were 51,200 tonnes in April 2019, down from 390,800 tonnes in February and 179,900 in March (CGC, 2019). The April level of canola exports to China was the lowest since April 2011 (CGC, 2019). This raises the prospect of the complete removal of Chinese demand for exported Canadian canola; a market that represented 46% of Canada’s canola exports in 2018 (CGC, 2019).

We place China’s 2019 canola trade action in context with respect to the importance of canola to the Canadian agricultural economy, international trade remedies, and the world market for oilseeds. We present an economic model of a targeted import ban, and discuss how a formal trade dispute could progress through the World Trade Organization (WTO) if Canada and China do not resolve the disagreement through bilateral negotiations. We also discuss mitigating factors that might lead negotiators away from pursuing WTO remedies.

2 | BACKGROUND

Over the last two decades, China has grown from a relatively minor market for canola to the world’s largest importer (UN, n.d.). The importance of canola to Canadian agriculture has expanded significantly over this same period. Canola has been the highest revenue field crop in Canada since 2011, when it surpassed spring wheat (Statistics Canada, n.d.). The 2018 Canadian canola crop generated $10.3 billion in revenues, $3.7 billion more than spring wheat (Statistics Canada, n.d.2), and Canada exported 10.2 million tonnes (mmt) of canola, with a value of $5.8 billion (UN, n.d.).

Canadian production of canola expanded with the development of herbicide-tolerant and vigorous canola hybrids in the early 2000s (Malla & Brewin, 2015). Production doubled between 2002 and 2006, from 4.5 mmt to 9 mmt (Statistics Canada, n.d.). By 2017, it had doubled again to 21.3 mmt (Statistics Canada, n.d.). As this production was coming online, exporters began exploring new markets, including China. Nossal and Sarson (2014) document some of the difficulties that Canadian firms encountered in accessing the Chinese market from 2006–2012. They suggest exports to China slowed after the Canadian government prioritized human rights issues in its diplomatic dealings with China, and after the newly elected Canadian Prime Minister extended an official invitation for the Dalai Lama to visit in 2007. The Canadian government began working with the Chinese government on market access in 2009, and a visit by the Canadian Prime Minister to China in 2012 led to an agreement to address “cooperation on canola disease mitigation” (Nossal & Sarson, 2014, p. 150). As shown in Figure 1, monthly exports to China have become a large share of Canadian exports, and have rarely fallen below 200,000 tonnes per month since September 2011. Annual Chinese canola imports from Canada increased from 1.3 mmt in 2011 to 4.7 mmt in 2018 (UN, n.d.).

3 | THE ECONOMICS OF CANOLA TRADE AND A TARGETED IMPORT BAN

We present a stylized model of the world market for canola to illustrate the welfare effects of a targeted import ban, and to identify values for injury determination in a potential WTO trade dispute. Canada and China are large countries in the trade for canola,3 and the model is simplified by grouping all countries other than Canada and China into a Rest of World (RoW) aggregate. This aggregation is reasonable, given some empirical observations about global trade in canola. First, almost all (99% in 2017, UN, n.d.) of Chinese canola imports come from Canada. Second, other canola-exporting countries (most significantly Australia and Ukraine) ship to countries other than China—other large importers include Germany, Belgium, and France. Third, Chinese exports and Canadian imports are negligible—China exported just 5 tonnes of canola, and Canada did not import canola, in 2017 (UN, n.d.). The important trade flows in global canola trade are (1) Canadian exports to China, (2) Canadian exports to other countries (RoW), and (3) other countries’ (RoW) trade with each other (most significantly, Australian and Ukrainian exports to European countries).4 Table 1 reports the top 10 destination countries (which account for 99% of Canadian exports)

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2 Quorum Corporation (various years) sources are used to make this calculation prior to the 2012/13 crop year, when wheat prices were not available from Statistics Canada.

3 China accounted for approximately 22% of global canola imports, and Canada accounted for approximately 57% of global canola exports, in 2017 (UN, n.d.).

4 Our economic model is limited to canola, and does not consider potential substitution effects from other products (e.g., soybeans). We discuss these potential effects in the “Discussion” section, below.
FIGURE 1  Canadian canola exports (thousands of tonnes, not including oil equivalents)
Sources (Statistics Canada, n.d.; CGC, 2019)
[Color figure can be viewed at wileyonlinelibrary.com]

TABLE 1  Ten largest destination countries for Canadian canola exports (millions of kg, 2017)

<table>
<thead>
<tr>
<th>Importing country</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>4,575</td>
</tr>
<tr>
<td>Japan</td>
<td>2,385</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,719</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>809</td>
</tr>
<tr>
<td>Pakistan</td>
<td>790</td>
</tr>
<tr>
<td>United States</td>
<td>575</td>
</tr>
<tr>
<td>France</td>
<td>471</td>
</tr>
<tr>
<td>Germany</td>
<td>87</td>
</tr>
<tr>
<td>Belgium</td>
<td>66</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>61</td>
</tr>
</tbody>
</table>

Source: UN Comtrade.

for Canadian canola exports in 2017. China accounted for 39% of Canada’s canola exports in 2017 (UN, n.d.). Note that we do not model the effects of substitute products, so to the extent that other oilseeds and other edible oils are substituted for canola in the Chinese market, the model overstates the Chinese-market effects of an import ban.

Panel 1 of Figure 2 presents the world market for canola. The excess supply of canola on the world market is represented as $E_{S_W}$, which is the horizontal summation of excess supply from Canada ($E_{S_C}$) and excess supply from the rest of the world ($E_{S_{RoW}}$). Global excess demand ($E_{D_W}$) on the world market is the horizontal summation of Chinese excess demand ($E_{D_{CH}}$) and excess demand from the rest of the world ($E_{D_{RoW}}$). The free-trade equilibrium is point A, with Canada exporting $Q^1$ tonnes of canola at a price of $P^0$; this comprises $Q^2$ to China and $Q^3$ to the rest of the world.\(^5\)

\(^5\) Note that Figure 2 is not calibrated to observed prices, quantities, or estimated elasticities—the relative locations of prices and quantities are ordinal, not cardinal. For example, we know that $X_{CA} > M_{RoW} > M_{CH}$ (i.e., 11.6 mmt > 7 mmt > 4.6 mmt; UN, n.d.), but the distances between intercepts are functions of slope and intercept parameters for the excess supply and excess demand functions.
A Chinese policy to block imports of canola only from Canada could affect world prices and trade flows, but not through the traditional mechanism of an import tariff that shifts excess demand in the world market. Underlying supply and demand conditions in China and Canada remain unchanged, but these two countries would no longer trade canola directly with each other. Chinese canola imports will be supplied by other exporting countries, which could result in different outcomes, depending on Chinese excess demand and RoW market conditions. We use Panel 2 of Figure 2 to illustrate one possible outcome.

Consider the case where Chinese excess demand ($ED_{CH}$) intersects RoW domestic supply ($S_{RoW}$) at point B, below the free-trade price of $P_0$. Supply and demand on the world market are unchanged, and price remains at $P_0$. However, trade patterns will change to reflect the Chinese ban on Canadian canola; Chinese imports ($Q_2$) will be supplied entirely by RoW, and RoW will import more ($Q_1$) from Canada. Consumption and production in each country remain unchanged, Canadian exports remain at $Q_1$, and the world price is unchanged. There would be no welfare effects for consumers or producers in this scenario. This outcome would also arise if Canada was a small-country exporter or China was a small-country importer.

A second possibility could emerge if Chinese demand for canola on the world market exceeded excess demand from RoW at the free-trade price. Figure 3 illustrates this scenario; supply and demand functions are identical to Figure 2, but Chinese excess demand ($ED_{CH}^2$) exceeds RoW excess demand at the free-trade price (note that the free-trade price in Figure 3 is above the free-trade price in Figure 2). If China bans Canadian canola imports in this scenario, then exporters in RoW can sell canola in China at a price of $P_{CH}^1$ at point C. This exhausts RoW production, and all demand in RoW will be met by Canadian imports. Two new canola prices emerge: RoW firms export $Q_3$ to Chinese consumers at the higher price of $P_{CH}^1$, and Canadian firms export $Q_4$ to RoW consumers at the lower price of $P_1$. Chinese imports and Canadian exports fall, while RoW exports, production, and consumption increase. Consumers in Canada and in RoW benefit from lower prices, but Chinese consumer welfare falls due to higher prices. Producers in both China and RoW are better off, but Canadian producer welfare falls because of their lower export price.

A third outcome would emerge if China banned canola imports from all countries, based on a concern that canola from other countries also presents the risk of introducing or spreading crop diseases into China. China would revert to autarky (no trade), and the Chinese canola price would be $P_{CH}^2$ in Figure 3. Canada and RoW would be left to trade with each other at point D; Canada exports $Q_6$ at a price of $P_2$. RoW produces $Q_7$ and consumes $Q_8$. Consumers in Canada and in RoW face lower prices, and Chinese consumers face higher prices, in this scenario. Producers in Canada and in RoW are worse off, while Chinese

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6 China has not suspended the licenses for all Canadian canola exporters, however the risk of a rejected shipment has prevented other Canadian firms from shipping canola to China. We therefore model the current restrictions as a de facto ban on imports from Canada.

7 We do not account for shipments of Canadian canola that avoid sanctions by transhipment to China through other countries.

8 Because the model is not calibrated, we do not observe the intercepts of supply and demand functions. The relative positions of these intercepts (e.g., $ED_{CH}$ may cross the vertical axis above $D_{RoW}$) will not affect our conclusions because the market outcome depends on where $ED_{CH}$ intersects $S_{RoW}$. 

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**Figure 2** International trade effects of a targeted import ban

Panel 1: World

Panel 2: Rest of World
producers benefit from higher domestic prices. Table 2 summarizes the welfare effects for producers and consumers in each country for the three scenarios.

Which of these three scenarios would emerge depends on the parameters of the model, and we do not attempt to parameterise the model here. However, the model’s limitations must be kept in mind when interpreting the results. Most importantly, the model assumes that canola from Canada can costlessly displace domestically-produced canola in RoW, and that the canola produced in RoW can be costlessly transported to, and then sold in, China. Such costs could be considerable, particularly for RoW firms that have not traditionally exported to the Chinese market. As these trade costs increase, trade volumes will decline in all directions (Canada to RoW and RoW to China).

Also, the RoW aggregate comprises all canola-producing and canola-consuming countries, other than Canada and China. In scenarios where RoW exports canola to China, it is likely that the countries in the RoW aggregate with larger excess supplies (e.g., Ukraine), and countries that would incur lower transport and transaction costs shipping to China (e.g., Australia), would export to China.

### 4 INTERNATIONAL TRADE RULES AND DISPUTE RESOLUTION IN THE WTO

The import restrictions imposed by China have been presented by the Chinese government as a preventative measure in response to the detection of crop diseases in canola shipped from Canada. Such concerns about Canadian canola are not new—Prime Minister Trudeau and Premier Li agreed to a blackleg risk-management plan to protect Canadian exports to China in 2016.
(CCC, 2016). Leptosphaeria maculans, a virulent form of blackleg, is a threat to all canola growing regions (Fitt et al., 2008), and was named as one of the pests in GACC’s suspension of Richardson International’s license to export to China (CCC, 2019a). At the time of writing, Chinese officials had not shared any evidence of a violation, and the Canada Food Inspection Agency disputed Chinese claims (CCC, 2019b).

However, there has been widespread speculation in the popular press (National Post, 2019; The Globe and Mail, 2019) and among Canadian politicians (The Toronto Star, 2019), that these restrictions are motivated by other factors. “Other factors” in international trade disputes are typically protectionist in nature; complainant countries often suspect that import restrictions are protectionist measures aimed at propping up domestic producers through disingenuous use of trade barriers. Commentary about the current dispute has centered around geopolitical motivations, however, instead of traditional protectionist measures. The Royal Canadian Mounted Police arrested Meng Wanzhou, an executive of the Chinese telecommunications firm Huawei, in December of 2018. Wanzhou was arrested at the request of U.S. authorities, who want her extradited to the United States to face charges related to U.S. sanctions against Iran. The public debate about the current dispute has suggested that Chinese trade restrictions on Canadian exports are retaliation for the arrest of a Chinese national in Canada.

The legitimacy of the Chinese claim that Canadian canola presents a risk to Chinese crops is yet to be tested (more on this below). But it is worth noting that there is evidence of China using international trade policies as coercive tools in geopolitical disputes. Fuchs and Klann (2013) observe a temporary negative effect on exports to China from countries where the Dalai Lama is received by the head of state. These observations (coined the “Dalai Lama effect”) lend credibility to Chinese threats to punish trading partners who defy Chinese foreign-policy requests. Although the Chinese government has not, at least publicly, linked canola trade restrictions to diplomatic issues, such action would not be unprecedented.

If Canada decides to pursue a formal international trade case against China, then it may not matter whether the true (though unobserved) motivations for trade restrictions are plant health, protectionist, or diplomatic. The official line from the Chinese government cites concerns about crop diseases in canola (Canola Council of Canada, 2019a) so a formal trade case would be adjudicated according to rules governing plant health. Such a case would proceed through the WTO, of which both countries are Members.

The WTO’s Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) contains the rules that govern trade restrictions that are imposed on grounds of protecting plant health. The Agreement acknowledges Members’ rights to protect domestic plant health through the implementation of import restrictions, however, the Agreement is intended to ensure that such restrictions are not disguised trade barriers for protectionist, or other (e.g., diplomatic), motivations. To this end, the key elements of the SPS Agreement include requirements that Members base trade restrictions on a risk assessment that takes into account “available scientific evidence” (Article 5.2). Restrictions must also be applied uniformly across WTO Members (most favored nation), and across producers in the importing country (national treatment).

For a case to proceed through the WTO’s Dispute Settlement Understanding (DSU), Canada must first seek formal consultations with China, which could be followed by a request for the formation of a WTO Panel if the dispute is not resolved. These consultations are formal procedures that must be notified with the Dispute Settlement Body (DSB). The Canadian government has undertaken informal consultations with the Chinese government, however these do not amount to the formal process that could precede the formation of a WTO Panel.

Canada would be required to present evidence to support the claim that Chinese import restrictions are not consistent with specific articles of the SPS Agreement. Perhaps the most likely articles to be cited in such a case are Articles 2.2 and 2.3. These articles require that a trade measure is “…applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence…” and is not a “…disguised restriction on international trade.” The Canadian government has disputed the voracity of claims that Canadian canola exports present a threat to the health of Chinese canola crops. The Chinese government has not, at least publicly, been forthcoming with a scientific case that has been acceptable to the Canadian government. A WTO Panel could be asked to adjudicate the strength of the Chinese claims.

The SPS Agreement does allow Members to impose provisional trade measures without providing evidence in cases where evidence does not yet exist (Article 5.7), but it appears that the Canadian government believes sufficient evidence exists to conduct a risk assessment (CBC, 2019). The strength of existing evidence would be subject to adjudication by a panel.

Two other SPS articles that could be raised in a dispute are Articles 5.6 and Article 6. Article 5.6 requires Members to impose the least trade-restrictive measure necessary to achieve the desired level of protection. A prohibition on imports is the most trade-restrictive measure available to importing countries, and it is possible that a less restrictive measure could achieve the same level of protection for Chinese canola crops. For example, Canada could argue that more stringent inspection and/or dockage standards for imported canola could achieve the same level of protection, without eliminating all imports from Canada. The virulent strain of blackleg (Leptosphaeria maculans) has been shown to be more prevalent in dockage than borne in the seeds.
(Fernando, Zhang, & Amarasinghe, 2016), so lower dockage rates could reduce (though not eliminate) the risk of spreading the infection.

Article 6 obliges Members to apply restrictions on products only from affected areas, even if the affected area comprises only part of an exporting country. For example, if it could be demonstrated that canola produced in designated Canadian growing areas are free of disease, then China would be prohibited from applying the same restrictions on products from that region. Canada has allowed the regionalization of pest prevalence when inspecting imported cereals from the United States—cereals from states that were shown to be free of Karnal bunt (a fungal disease) could be imported without inspection, but imports from other states were subject to inspection (Loppacher, Kerr, & Barichello, 2008). If the Canadian government hoped to pursue this strategy in negotiation with China, then the onus would be on Canada to demonstrate that the disease(s) of concern is prevalent only in specified Canadian growing regions, and that the supply chains from different regions can be segregated. This may not be feasible, however, because blackleg is thought to be prevalent in all Canadian growing regions (CCC, n.d.).

If a formal dispute were to make its way through the WTO DSB, then several outcomes are possible. If China (as respondent) won the case, then trade restrictions that are found not to violate their SPS Agreement obligations could remain in place. It would be up to Canadian exporters to address the underlying health concerns to the satisfaction of Chinese importers.

If Canada (as complainant) won the case, one of three potential outcomes would emerge. First, China could modify the offending policy in a way that conforms with their SPS Agreement obligations. This could mean replacing import bans with less-restrictive measures, depending on the SPS Agreement article on which the panel finding was based. Modifications to the existing policy could extend the duration of the dispute if such changes were not viewed as sufficient by Canada. The duration of the United States–Certain Country of Origin Labelling (US-COOL) dispute was extended because Canada and Mexico believed that the reforms undertaken by the United States after the first panel ruling did not bring them into compliance with their WTO obligations. A compliance panel agreed, and noncompliant restrictions remained in place for longer than would have been the case if labelling requirements were removed after the first panel ruling.

Second, if China chose to not modify the offending policy, they would be provided the opportunity to provide compensation to Canada, typically in the form of lower barriers on other imports. Such an outcome is unlikely, as compensation is not typically provided by losing respondent Members. The WTO’s most favored nation requirement would oblige China to reduce trade barriers to other WTO Members in an amount equivalent to those provided to Canada (Anderson, 2002).

The third outcome, the most likely if Canada were to win a dispute, would be for a WTO Panel (or Appellate Body [AB]) to authorize Canada to retaliate against Chinese imports by suspending tariff concessions in an amount “equivalent to the level of nullification or impairment” caused by the offending policy. One interpretation of the “level of nullification or impairment” caused by an offending policy is the loss in Canadian producer surplus identified in Figure 3 (e.g., area $E^2_{D,P}$ in the case of Chinese excess demand being represented by $E^2_{D,P}$). WTO Panels have not determined allowable levels of retaliation based on concepts of lost welfare in past cases, however. Rather, allowable retaliation is typically based on an estimated value of lost trade. Complainant countries have been granted permission to retaliate against respondent countries (usually with prohibitively high import tariffs) in a dollar amount equivalent to the difference between a counterfactual (absent the offending policy) level of sales and an observed level of sales.

The construction of counterfactual levels of lost trade have taken a sui generis nature across WTO dispute precedents. Arbitrators in the EC-bananas III case, one of the early and important DSB precedent-setting cases, based allowable retaliation on the assumption that banana exports from complainant Members to the EC would reach their highest level over the previous 10 years (WTO, 2000). Retaliation levels in the recent US-COOL dispute were determined through a much more complicated process in which Members presented competing results from econometric and simulation models. The Arbitrator’s determination for allowable retaliation in US-COOL was ultimately arrived at through the estimation of new elasticities, and the application of those elasticities to a model that simulated lost exports from the complainant countries (WTO, 2015).

In the event of Canada winning a WTO case, both Members would likely present results from methodologies that supported their cases—Canada would choose to present results from methodologies and parameters that inflated the dollar value of impairment, while China would present results that deflated the value of impairment. For example, in the US-COOL case, Canada requested that the WTO Arbitrator consider revenue lost in the Canadian market due to downward pressure on meat prices, in addition to lost trade revenue. It would be up to the WTO Panel (or AB, or Arbitrator) to consider these arguments, and to set the value of allowable relation.

Note that the dollar value of allowable retaliation can exceed the dollar value of lost producer surplus. This can be seen in Figure 3 by comparing lost revenue from canola sales to China (area $P^0GQ^00$ to lost producer surplus (area $P^0EFP^4$). Canadian

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$^9$The WTO Arbitrator rejected this request, and did not include lost domestic revenue it the calculation of allowable retaliation (WTO, 2015).
canola exports fall by less than the quantity of pre-policy Chinese imports because most of Canada’s canola exports would find markets in other countries. China would likely argue that impairment due to an import ban is not equivalent to lost sales to China because a large share of those lost sales would be exported to other countries.

China is also likely to argue that impairment estimates should account for the fact that some canola that would have otherwise been shipped to China will be processed into oil or meal in Canada, and then sold to China (China has not imposed new import restrictions on canola oil or meal). This consideration could reduce an estimated value of impairment, but it is not clear how a WTO Arbiterator would decide in such a case. This argument seems reasonable in that diversion of canola into processed products would reduce welfare losses for canola farmers. However, there is a WTO precedent indicating that such an argument would be rejected. The Arbiterator in the US-COOL case rejected Canada’s request to consider reduced revenue from domestic sales in its calculation of allowable retaliation. China would be hoping that Canadian-market sales of canola (that was processed into oil or meal) could result in a lower estimated level of impairment, while Canada’s argument in US-COOL was an attempt to raise the level of impairment. The Arbiterator in US-COOL set a precedent that the effects of an offending policy on sales in the complainant’s home market are not to be considered in determining allowable retaliation.

The decision to proceed with retaliation, should Canada win a dispute, is not an obvious one. The WTO’s DSU is intended as a deterrent, with the hope that cases don’t proceed to the point of retaliation. Retaliation is unambiguously welfare reducing, and is only helpful if it coerces respondent Members into compliance. Producers in the respondent country who may have no connection to the offending policy (e.g., workers in Chinese manufacturing industries) are punished with new trade barriers, and consumers in the small-country complainant Member (Canada) are punished through higher prices that result from the same trade barriers. It would not be unprecedented for a complainant Member country to not retaliate after winning a WTO case—Ecuador did not retaliate against the EC after winning the EC-bananas III case.

Complainant countries, in this case Canada, may view the short-term pain of negative consumer effects as worth their cost if there is a longer run payoff in the form of repealed canola trade barriers in China. But for retaliatory sanctions to be credibly coercive, they must have the potential to inflict injury on the respondent country. It is not clear that the suspension of concessions by Canada would be sufficient to motivate a change in Chinese policy. Canada’s share of total Chinese exports is small (approximately 1% in 2017, UN, n.d.); there is almost no prospect of affecting Chinese export prices. This imbalance of small countries’ versus large countries’ ability to impose coercive retaliatory trade measures has been the subject of debate, particularly when small developing countries win disputes with large developed countries (Bagwell, Mavroidis, & Staiger, 2003; Bown, 2004).

This is not to suggest that Canada should not pursue a formal WTO case, but a decision to impose retaliatory sanctions after winning a case could turn a symbolic victory into a pyrrhic victory. Also, it is conceivable that China would respond to a WTO ruling in Canada’s favor, even if they viewed the potential injury from Canadian retaliation as being small. WTO Member countries have complied with WTO commitments out of a sense of international obligation (Bown, 2004; Kovenock & Thursby, 1992).

Another factor in the decision to pursue formal action through the WTO is that dispute resolution in the WTO is a slow process. The WTO endeavors to complete Panel rulings within approximately one year after the call for consultations (WTO, n.d.), but this process typically stretches beyond one year. More importantly, panel rulings are often appealed by the losing Member, which can extend the process by several months. If a respondent loses an appeal, then they are provided the opportunity to modify the offending policy before being required to pay compensation, or be subjected to the suspension of concessions. Furthermore, Members may call for arbitration following an appellate report. The US-COOL case exemplified how long this process can last. Consultations were first requested in 2008, and the arbitration report that outlined allowable retaliation against the United States was not issued until 2015. Although the United States repealed the COOL policy after the arbitration report, the offending trade barriers were in place for seven years after the initial request for consultations. The slow pace of dispute resolution should be front of mind in attempts to resolve the dispute about canola trade.

A long delay may also jeopardize a WTO case because the AB’s future is uncertain. The AB is supposed to have seven permanent members who hear appeals that move beyond initial WTO Panels. However, the AB is currently down to three members because the United States has blocked new appointments (appointments to the AB are made by a consensus of all WTO Members). Appealed cases require three members to proceed, so if a current AB member resigns before the WTO reaches a solution to this impasse, any WTO Panel ruling will be in legal limbo because it cannot be appealed. The WTO DSU’s credibility is in jeopardy.

Another consideration in the decision to pursue a formal WTO dispute is that the prevalence of pests in exported Canadian canola may not have increased, and Chinese restrictions may not have explicitly changed. Rather, China may just be applying stricter inspection standards to Canadian canola than in years past. Importing countries have been shown to use inspection standards as nontariff barriers in international food trade (Lawley, 2013). Specifically, Lawley (2013) shows that U.S. inspection standards increase when domestic prices faced by import-competing producers fall. China could argue that Canadian canola
exports have been persistently problematic, but that they are just now applying sufficiently rigorous inspection standards to address the problem. The tightening of inspection standards, which is not in itself a violation of the SPS Agreement, may or may not be related to a real concern about plant health.

5 | DISCUSSION

The markets for other oilseeds, and for processed oils and meal, will be key factors in how the Canada–China dispute affects Canadian canola markets. Current trade tensions between the United States and China could affect Canadian growers and Chinese oilseed markets more than recent canola trade restrictions. China has imposed new import tariffs on U.S. soybeans, and the United States has expanded support for domestic soybean growers in response. U.S. soybean prices set the value for world meal and oil prices, and U.S. surpluses could significantly reduce returns for oilseed farmers and crushers in all countries. The Intercontinental Commodity Exchange (ICE) tracks a crushing margin based on U.S. futures prices for oil and meal. As of this writing, the ICE crushing margin was $84/tonne (ICE, 2019). Although Canada–China trade is a significant share of global canola trade, Canada’s canola production only accounts for approximately 3.5% of the world’s 600 mmt oilseed crop, and China’s canola imports represent about 2.5% of global oilseed trade (USDA, 2019). Canola’s small share of the global oilseed market can help explain the small canola price movements since the Chinese restrictions were imposed.

Although we do not formally model counterfactual prices (i.e., what canola prices would have been had China not imposed new import barriers), recent canola contract prices provide some insights into the magnitude of price changes after the Chinese policy. The ICE nearby canola contract 10 opened the first week of 2019 at $499.5/tn (TFC, n.d.). The price moved slowly down through most of January and February but stayed near the middle of the three-year trading range of $530/tn and $445/tn. Although it traded as low as $477 on March 1, 2019, the day of the first GACC suspension, the closing price that day was $483, just $1.50 below the previous day close. On March 22, when several media sources announced that China has stopped buying Canadian canola, the market closed down $12/tn, but remained higher than recent lows. Contract prices have since rebounded amid concerns about seeding conditions for corn; canola is trading around $450/tn at the time of writing (TFC, n.d.).

6 | CONCLUSION

The dispute between Canada and China over trade in canola has captured national attention in Canada for two reasons. First, some observers have linked the trade policy change in China to a headline-grabbing diplomatic dispute. Second, canola has become a relatively valuable Canadian crop and export product, and the potential loss of demand from the largest importer could have significant effects on the Canadian sector. Although we cannot speak to the existence of a link between diplomatic concerns and trade policies, we put the economics of the dispute into context.

We do not simulate the economic effects of a Chinese ban on Canadian canola imports in this paper—the size of simulated effects will depend on the parameters applied to the model. However, we show that price and welfare effects could be smaller than one might expect. A large share of Canadian exports could be absorbed into other markets, thereby moderating negative effects on Canadian producers. Two unambiguous results do emerge, however: (i) Canadian producers would be worse off under the ban if Chinese demand was large enough that producers in ROW ship all production to China; and (ii) Canadian producers would be worse off if China bans all canola imports. Note that the effects on Canadian consumers run in opposite directions (Canadian consumer welfare increases in both scenarios).

If the disagreement is not resolved between Canada and China through bilateral negotiations, then a WTO case may be forthcoming. If China were to win such a case, then Canada would be left to find a domestic solution to the plant health concerns presented by China. If Canada were to win such a case, then the limitations of WTO retaliation would have to be weighed against the potentially small effects of the Chinese policy on the Canadian canola market before proceeding with retaliatory tariffs.

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10 The nearby contract is a futures contract with the soonest expiration date.
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How to cite this article: Cardwell R, Brewin DG. Blackleg or blackmail? Economics of the Canada-China canola trade dispute. Can J Agr Econ. 2019;1–10. https://doi.org/10.1111/cjag.12203