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NAFTA RENEGOTIATIONS: AN OPPORTUNITY FOR CANADIAN DAIRY?

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SUMMARY

What are the implications of a renegotiated NAFTA for Canadian dairy producers? Many observers dread the prospect of even the slightest liberalization in the dairy sector. This paper takes a different perspective, arguing that opening Canada's dairy sector would come with benefits not just for consumers, which is undeniable, but could also transform the industry and lead to a more productive dairy sector in Canada.

Canadian dairy producers have been protected domestically through supply management and internationally through import-restricting border controls for over 40 years. This combination of domestic and foreign policies keeps Canadian dairy prices artificially high and allows producers to gain enormously from the system while hitting dairy consumers directly in the pocketbook. These policies are extremely costly for Canadian consumers and benefit the protected domestic dairy producers. Canadian international trade policies result in 200-percent tariffs on imports of many dairy products and almost 300-percent tariffs on over-quota imports of cheese. The OECD estimates that from 2010 to 2016, Canadian trade policy with respect to dairy and the "supply management system" annually transfers over US\$2.9 billion from Canadian consumers and taxpayers to milk producers. This is extremely expensive for Canadian consumers and this transfer to Canadian dairy producers underscores why our trade partners have focused on the exorbitant tariffs that support this system. We argue that it is not only consumers that are hurt by the status quo, but that the industry itself can evolve and thrive from increased competition. According to standard trade theory, liberalizing trade in an industry like this leads the least productive producers to exit the industry as the most-productive producers increase market share and expand. These dynamics generate a more competitive and productive industry. We present evidence that these dynamics played out in Canada following the Canada-U.S. Free Trade Agreement (CUSFTA) and the North American Free

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Trade Agreement (NAFTA) and also in liberalized dairy industries in New Zealand and Australia. We argue that the massive economic rents earned by dairy producers in the essentially closed Canadian dairy sector means there is little competition in the industry, which has stifled growth and innovation in the sector. Liberalizing international trade in dairy will turn this around, increase competition in the industry and lead to a more productive and internationally competitive Canadian dairy sector while reducing the high cost of dairy faced by Canadian consumers. Liberalizing dairy will also be a strong signal to our trading partners that we are prepared to expend domestic political capital to improve NAFTA or other trade agreements.

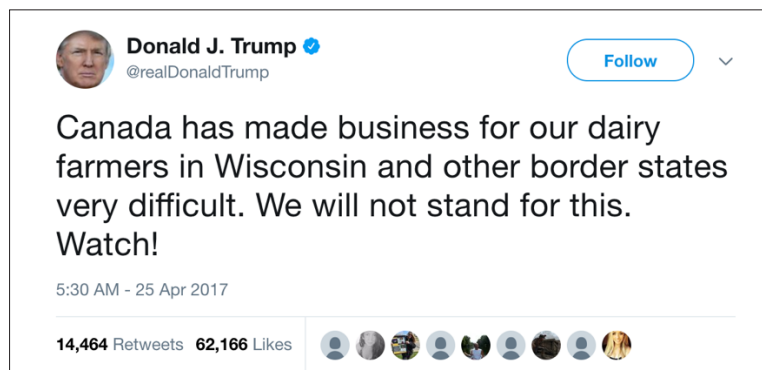
It has become clear that our trading partners have lost patience with our protectionist trade policies with respect to dairy. Multinational organizations such as the WTO have also highlighted the problems that these policies pose. Canada is feeling pressure to reform the system from trading partners who are hurt by supply management policies. Eliminating trade restrictions in the supply management sector would go a long way toward appeasing our trade partners and fulfilling our international commitments. Supply management policies are in violation of the spirit and, arguably, the letter of law in international trade agreements. In the recent Trans-Pacific Partnership (TPP) negotiations, Canada agreed to increase foreign access to its dairy market over a period of time by an estimated 3.25 per cent of its yearly milk production. This was a step in the right direction toward more competition in the sector. Canada should continue to push for reform in the dairy sector along the lines agreed to under TPP — but push even harder in the renegotiation of NAFTA.

Unfortunately, Canadian politicians of all stripes have found that fixing supply management is a non-starter politically, with the powerful supply management lobby being such an effective lobby group. The TPP agreement provided the right opportunity to open the dairy industry. This is obviously good for Canadian consumers but will hurt some Canadian dairy producers. The negative impact on the politically sensitive dairy producers, primarily in southern Ontario and Quebec, has left the level of protection in the industry largely untouched for decades.

Although some dairy producers will be hurt by opening the sector, the industry overall will thrive and become globally competitive. As demonstrated in the empirical literature of trade reform, and as we have observed in other Canadian industries that liberalized under CUSFTA and NAFTA, inefficient producers will close shop and more-productive producers will expand and prosper. The dairy trade liberalization that Canada agreed to under TPP should be the beginning and the NAFTA renegotiations are an opportunity for Canada to step up and do the right thing with respect to international trade in dairy while giving the Americans something they want in the negotiations. At the same time, it is an opportunity to weaken supply management and move toward dismantling it altogether.

INTRODUCTION

During the most recent U.S. presidential campaign, candidate Donald Trump embraced protectionist trade rhetoric. He promised to pull out of the recently signed Trans-Pacific Partnership (TPP), negotiated between 12 countries including Canada, and was extremely critical of NAFTA throughout the campaign, famously calling it the worst trade agreement ever signed. Although free trade is often a rhetorical casualty of presidential elections, once in office, presidents typically take a more pragmatic and forward-looking approach to trade policy. However, President Trump wasted no time in pulling out of TPP and continued to be critical of NAFTA. Although he expressed strong interest in terminating NAFTA, he eventually changed his mind (again) and is now willing to renegotiate the historic agreement.¹ Not only has President Trump been extremely critical of NAFTA, he has been openly critical of the protection that Canada provides its dairy farmers.² On April 25, 2017, he tweeted that “Canada has made business for our dairy farmers in Wisconsin and other border states very difficult. We will not stand for this. Watch!”



From a Canadian perspective, federal and provincial governments began working on the NAFTA files right after the U.S. election. The renegotiation of NAFTA has important and potentially profound effects on the Canadian economy. On May 18, 2017, U.S. Trade Representative Robert Lighthizer wrote to inform Congress that the administration would initiate NAFTA negotiations with Canada and Mexico. According to the U.S. trade representative’s website: “On May 18, 2017, following consultations with relevant Congressional committees, U.S. Trade Representative Robert Lighthizer informed Congress that the President intends to commence negotiations with Canada and Mexico with respect to the NAFTA. Through these negotiations, the United States seeks to support higher-paying jobs in the United States and to grow the U.S. economy by improving U.S. opportunities to trade with Canada and Mexico.”³ In his July 17, 2017 letter to Congress that spells out the administration’s objectives under NAFTA renegotiations, Lighthizer specifically identified

¹ See Jeff Mason and David Lawder, “Trump says was ‘psyched to terminate NAFTA’ but reconsidered,” Reuters, April 26, 2017, <http://www.reuters.com/article/us-usa-trade-nafta-idUSKBN17S2DG>. While this may be a negotiation tactic, President Trump has repeatedly threatened to pull out of NAFTA even after negotiations to improve NAFTA were initiated in August 2017. See Adrian Morrow, “Could Trump really pull the U.S. out of NAFTA?” *The Globe and Mail*, August 29, 2017, <https://beta.theglobeandmail.com/news/world/us-politics/could-trump-really-pull-the-us-out-of-nafta/article36111184/?ref=http://www.theglobeandmail.com&>.

² Reported in Greg Price, “Trump Could Pull U.S. Out Of Nafta with Executive Order,” *Newsweek*, April 26, 2017, <http://www.newsweek.com/nafta-trump-executive-order-590367>.

³ See <https://ustr.gov/trade-agreements/free-trade-agreements/north-american-free-trade-agreement-nafta>.

the supply management practices as subject of negotiations.⁴ The document states that an objective will be to “Seek to eliminate non-tariff barriers to U.S. agricultural exports including discriminatory barriers, restrictive administration of tariff rate quotas (and) other unjustified measures that unfairly limit access to markets for U.S. goods, such as cross subsidization, price discrimination, and price undercutting.” That is, the U.S. seeks to dismantle Canada’s protectionist supply management policies.

It is not only the Trump administration that is fed up with Canada’s dairy policies.⁵ The supply management sectors in Canadian agriculture (dairy and poultry) are shining examples of significant implicit subsidization and protection. Canada employs protectionist trade policy to sustain a domestic supply management program in these sectors. The World Trade Organization (WTO) has often commented on how this trade protection violates the spirit of membership in the organization and points out that this is a place where Canada is indeed extremely protectionist. Canada’s trade protection in these sectors has been an irritant for some of Canada’s trading partners and reducing the trade barriers became a condition for Canada to join negotiations for the Trans-Pacific Partnership (TPP).

Some observers saw the TPP as an opportunity for Canada to step up and do the right thing with respect to dairy. The prospect of eliminating supply management in Canada has become a daunting political challenge and no political party in Canada has been able to move forward with that agenda even though Canadian consumers would benefit from such a policy change. However, the TPP offered an opportunity to reduce trade barriers, thereby weakening supply management and providing at least a small step toward eliminating it altogether. The politically powerful supply management lobby was up in arms, but reducing trade barriers in this area became politically feasible because not only would consumers gain from a move toward dismantling supply management, but Canadian producers would generally gain from the market access afforded by TPP.

The dairy and poultry producers would have to compete in a more liberalized trading environment, but we argue in this paper that the productive producers would benefit from access to a world market for their goods. Canada is a relatively small market and producers could benefit from a more global focus.

Canadian dairy producers have been afforded the luxury of administered pricing and guaranteed revenue through supply management, as well as border controls to limit competing imports since 1971.⁶ This combination of domestic economic and international trade policies has kept Canadian dairy prices artificially high and has allowed some relatively inefficient producers to remain in the market while marginal consumers are priced out. (Slade and Hailu, 2016)

Slade and Hailu (2016) provide direct evidence of the competitiveness impact in the dairy sector when they compare productivity differences between Ontario and New York dairy producers. Controlling for producer characteristics, they find that producers operating in less-competitive Ontario are less productive than observationally equivalent producers in New York, where

⁴ Office of The United States Trade Representative, Executive Office of The President, “Summary of Objectives for the NAFTA Renegotiation,” July 17, 2017.

⁵ For the purpose of this study, the dairy industry is defined as those products identified within milk, cream and milk products (excluding butter and cheese), butter and other fats and oils derived from milk, and cheese and curd.

⁶ For a detailed background discussion of the quota system in Canada’s dairy industry and its political rationale, See Findlay (2012).

the industry is competitive. The type of protection provided to Canadian dairy producers not only creates a disincentive for innovation and investment, but it also directly harms consumers and secondary producers by creating incentives for rent-seeking activities such as lobbying. Another more tacit problem specifically associated with protection in this industry is that it transfers wealth away from non-agricultural regions, as well as away from lower-income families, which traditionally spend a higher proportion of their income on food. It is estimated that on average, supply management costs a Canadian family \$444 per year. (Cardwell, Lawley and Xianget, 2015).

Over the past three decades, Canada has signed 12 free-trade agreements (FTAs), some of which have significantly changed the economic landscapes of their member countries. Notably, the 1994 NAFTA between Canada, the United States and Mexico, the TPP between Canada and several other large economies in the Pacific region, and the 2016 Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union. In all FTA negotiations, some form of unilateral or bilateral liberalization of trade is a necessary ingredient for successfully coming to terms. What does this mean for the Canadian dairy sector? This paper focuses on the dairy sector in major dairy-exporting countries and examines the potential consequences from liberalizing trade in the Canadian dairy sector under NAFTA renegotiations. Several developed countries have liberalized their dairy industries and have benefited tremendously from greater exports and investment in dairy, as economic theory predicts.

Our discussion proceeds as follows: First, we provide an overview of government support for the dairy industry in Canada. We then provide some background information on the dairy industry under NAFTA and in North America, as the NAFTA renegotiation is top of mind. We then consider the possible impact of liberalizing trade in dairy by considering the liberalization experience of New Zealand and Australia. We show that the dairy industry in these countries benefited from dairy trade liberalization and examine the impact of the restrictive trade policy on the Canadian dairy industry and consumer. We conclude with an analysis of the consequence of a renegotiated NAFTA for the Canadian dairy industry.

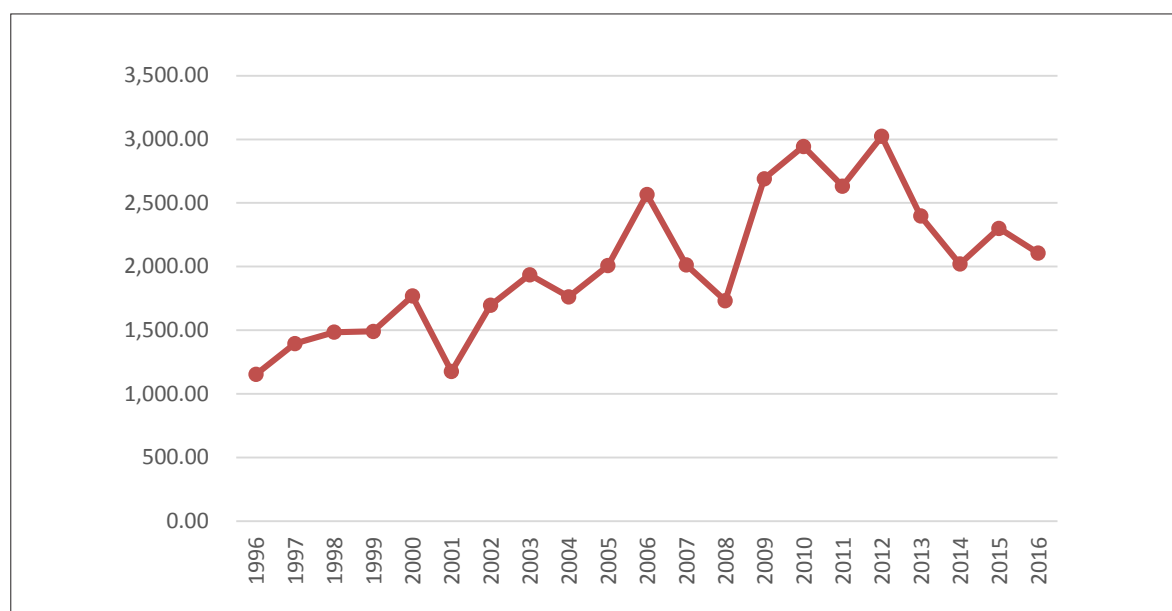
SUPPLY MANAGEMENT IN CANADIAN DAIRY

There is significant variation across countries in the type and the level of government support provided to the dairy industry. Dairy support typically consists of purchasing surplus dairy produce, artificially controlling dairy prices and direct payment and marketing loans for producers. In Canada, the government's involvement in the dairy industry began as early as the 1900s. Over the course of the last century, government involvement evolved into outright government intervention. After a spell of severely low dairy prices in the 1970s, the National Milk Marketing Plan (NMMP) was established by 1974, setting annual production targets (quota) for milk producers in Canada.⁷ The country's first national supply management system was born and soon poultry would come under its umbrella in the late 1970s.

⁷ According to the Canadian Dairy Commission: "... an Interim Comprehensive Milk Marketing Plan in 1970 and the subsequent establishment of the Canadian Milk Supply Management Committee (CMSMC). Ontario, Quebec and the federal government were the original parties to this Plan. All remaining provinces except Newfoundland entered the Plan by the end of 1974, thus becoming the National Milk Marketing Plan (NMMP)." <http://www.cdc-ccl.gc.ca/CDC/index-eng.php?id=3793>.

The Canadian dairy industry relies on a combination of domestic and trade policies in order to protect producers through supply management. At the domestic level, there is administered pricing and supply restriction, while internationally there are import restrictions. Together, these policies allow targeted, above-market prices to be met and maintained. This affects the consumers by allowing some relatively inefficient producers to operate and creates economic deadweight losses by diverting resources away from sectors where they could be used more efficiently. The effect of dairy supply management on the economy is well documented and, on average, Canadian consumers pay more for dairy products compared to their counterparts in other developed countries. Canada reportedly has the highest price of milk in the world.⁸ As illustrated in Figure 1, the OECD estimates that under supply management, dairy producers in Canada received an average of \$2.5 billion per year in support. This was the annual monetary value of the gross transfer from consumers to milk producers arising from the policies of supply management.

FIGURE 1 SUPPORT TO MILK PRODUCERS IN CANADA (US\$ MILLIONS), 1996–2016



Source: OECD agricultural support estimates (2017), <http://www.oecd.org/tad/agricultural-policies/producerandconsumersupportestimatesdatabase.htm#country>.

As shown in Table 1, the five-year average dairy support in other major dairy-producing countries varies from zero in New Zealand to around US\$4 billion in both the U.S. and Japan during 2010–14. Australian support for milk producers went down from an average of US\$300 million during 1995–99 to less than US\$1 million in 2010–14. However, while both the U.S. and Japan spend more in total on their dairy industries than Canada does (Table 1), the per capita expenditure on dairy is much higher in Canada. In fact, a comparison of the value of producer supports relative to total consumer spending is perhaps more informative, given the vast difference in production and consumption volumes. If we normalize the value of support to the value of consumer spending net of that support, we effectively get the effect of support on consumer prices. For Canada, the ratio of support to consumer spending is 98 per cent (in 2016) and this is much higher than any other country except South Korea and Japan. The 98 per cent

⁸ See this blog by Bev Dahlby: <https://www.policyschool.ca/canada-tops-world-rankings-milk-prices/>. It cites an Argentine news report showing that Canada has the highest prices among 33 countries studied.

implies that supply management and Canada’s agricultural policies nearly double the cost of milk to consumers in Canada. Note also that the share of support to dairy producers in Canada accounts for 29 per cent of the total support provided to the entire agriculture sector, whereas in the U.S. it accounts for just 13 per cent (Table 2). In Australia and New Zealand, it is zero.

What is the value of this quota system in Canada? At current market prices, the value of a milk quota is about \$25,000 per total production quota (TPQ) in most provinces and over \$40,000 in British Columbia. This is roughly the cost of a production quota for a typical dairy cow. As there are just under one million dairy cows in Canada, the aggregate value of these quotas is somewhere between \$25 billion to \$30 billion. This is the value of a quota that would be lost if supply management were ended tomorrow and is what most producers are worried about. For the government to use a temporary levy to repay that lost quota value over the span of, say, eight years (as Australia did) would take a consumer levy of roughly 40 cents per litre of milk. This will be discussed in more detail below, but helps to illustrate that liberalization can benefit consumers, benefit productive producers and be structured in such a way as to mitigate potential capital losses to unproductive dairy farmers.

TABLE 1 SUPPORT TO MILK PRODUCERS IN VARIOUS COUNTRIES

	US\$ Million (Five-Year Average)			
	1995-99	2000-04	2005-2009	2010-14
Australia	372.9	27.7	0.2	0.3
Canada	1456.9	1679.7	2161.3	2538.8
Japan	4392.7	3671.8	3059.9	4322.4
Mexico	417.9	705.8	152.3	29.6
New Zealand	0.0	0.0	0.0	0.0
United States	9592.0	9015.4	4002.9	4260.8

Source: Authors’ calculations; OECD agricultural support estimates (2015).

TABLE 2 MILK SUPPORT AS A PERCENTAGE OF TOTAL AGRICULTURE SUPPORT

Country	1986	1991	1995	2000	2005	2010	2014
Australia	61%	47%	17%	4%	0%	0%	0%
Canada	70%	67%	49%	64%	49%	52%	29%
New Zealand	4%	0%	0%	0%	0%	0%	0%
United States	34%	40%	24%	50%	19%	15%	13%

Source: Authors’ calculations; OECD agricultural support estimates (2015).

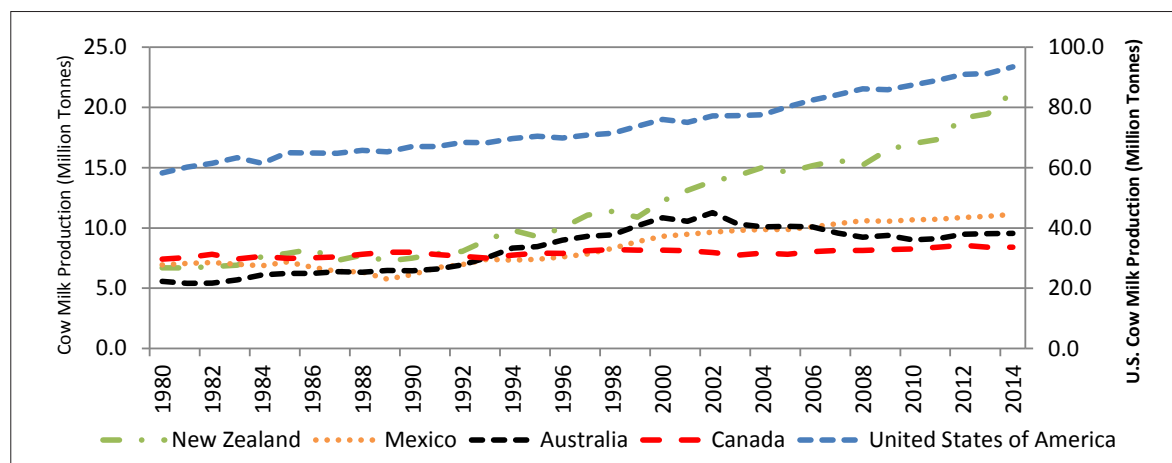
THE DAIRY MARKET IN NAFTA: HOW IS THE CANADIAN INDUSTRY POSITIONED?

How does the Canadian dairy industry compare to that in the United States and how does it compare to the dairy industries of other countries – specifically the signatories to the TPP agreement? Can we learn any lessons from the trade liberalization in dairy that other major exporters, such as New Zealand, undertook? As illustrated in Figure 2, Canada produced roughly 8.4 million tonnes of milk in 2014. Canadian milk production is small compared to the production of its closest trading partner, the U.S., which produced almost 10 times that amount the same year. Australia and New Zealand’s milk production was also higher, with

New Zealand producing twice the amount produced in Canada.⁹ Importantly, Canada's milk production exceeded New Zealand's and Australia's in the 1980s and this changed in the 1990s when both the countries' milk production overtook Canada's. In 2014, New Zealand milk production was 21 million tonnes and Australia's 9.5 million tonnes. Even Mexico's milk production exceeded Canada's starting in the late 1990s. The U.S. is the biggest producer of milk in the world at 93.5 million tonnes.

We also witnessed a decline in domestic dairy consumption, with Canadians drinking less milk, on average, than they have historically. As presented in Table 3, the per capita consumption of milk in Canada decreased from 81.5 litres per year in 2009 to 73.3 litres in 2014. However, per capita cheese consumption has remained steady at 12.4 kilograms per capita. The same trend is also being seen in the U.S., where the per capita fluid milk consumption has fallen from 82.0 litres in 2009 to about 71.6 litres in 2014. In 2014, both Australia and New Zealand per capita milk consumption was well above Canada's. There are many plausible reasons for the increased per capita consumption in both countries, however, the removal of supply management practices in both countries reduced the retail dairy prices and aided the growth of dairy consumption.

FIGURE 2 MILK PRODUCTION IN NAFTA AND AMONG MAJOR DAIRY-EXPORTING COUNTRIES



Source: U.K. Agriculture and Horticulture Development Board (2017).

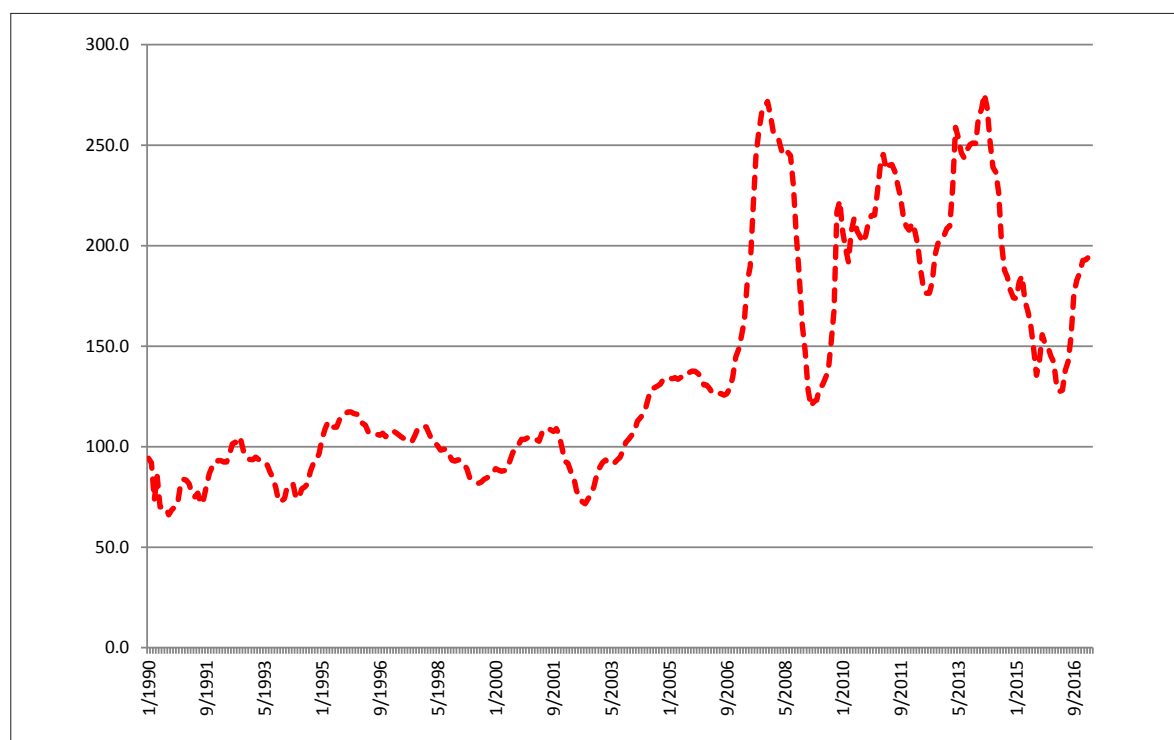
As in other sectors of the economy, when the price of a commodity falls, the consumer benefits from those falling prices. However, the Canadian consumer has not benefited from falling global dairy prices. The price adjustment of a commodity along the supply chain from producer to consumer is the hallmark of a competitive market, but there is no pressure on domestic Canadian producers to cut dairy prices. As illustrated in Figure 3, trends in global dairy prices indicate that they have fallen from their peak in 2014, but the Canadian consumer has not benefited. Between 2006 and 2008, demand from developing countries outpaced supply, especially in China, which was one of the main reasons for higher dairy prices from 2003 to 2008.

⁹ In per capita terms, U.S. and Canadian production is on par since both Canadian production and population are about one-tenth U.S. levels. New Zealand dairy production per capita, on the other hand, is much higher as the population of New Zealand is about one-eighth that of the Canadian population.

TABLE 3 GLOBAL DAIRY CONSUMPTION IN 2014

	Milk (Litres per capita)	Butter Consumption (Kilograms per capita)	Cheese Consumption (Kilograms per capita)
Australia	110.5	4	13.6
Canada	73.3	2.8	12.4
Mexico	29.9	0.4	3.7
New Zealand	108.5	4.8	8.6
United States	71.6	2.5	15.5

Source: Canada Dairy Information Centre.

FIGURE 3 GLOBAL DAIRY PRICE INDEX

Note: The Dairy Price Index consists of butter, SMP (skim milk powder), WMP (whole milk powder), cheese and casein price quotations; the average is weighted by world-average export-trade shares for 2002-04.

Source: Food and Agriculture Organization (FAO).

Milk production across the world is growing and exports are increasing. However, as shown in Table 4, Canada's milk exports amounted to a meagre US\$116 million in 2015 and annual exports averaged US\$160 million from 1995 to 2015. Three countries, New Zealand, the U.S., and Australia are the major players in global milk exports. With annual exports of close to US\$5.3 billion, New Zealand topped the world export market in 2015. The United States is the largest dairy producer in the world and the second-largest exporter in the world with U.S. milk exports reaching US\$2.5 billion in 2014.

Although the U.S. is a big exporter of dairy, it has also been an attractive market for dairy imports. As shown in Table 5, the U.S. imported an average of US\$500 million worth of dairy products from 2010–14. Mexico imported US\$1 billion during 2010–14. Canada imported US\$159 million worth of milk products annually on average during 2010–14. Of course, the dairy industry is broader than just milk and does include butter and cheese as well. Butter consumption is much smaller in value than milk and cheese consumption, but butter

consumption is increasing in many countries. Overall, world exports of butter products more than doubled from US\$4 billion in 1995 to US\$8.3 billion in 2014. In 2014, New Zealand was the largest exporter of butter in the world and exported US\$2.1 billion worth of butter. Canadian exports stood at US\$6 million in 2014; even Mexico exports more than Canada.

TABLE 4 MILK EXPORTS FROM NAFTA AND MAJOR DAIRY-PRODUCING COUNTRIES (FIGURES ROUNDED IN US\$ MILLION)

	Australia	Canada	Mexico	New Zealand	United States
1995	654	133	9	906	467
1996	844	163	16	1,195	343
1997	786	157	26	1,217	464
1998	743	143	27	1,038	456
1999	773	138	44	985	438
2000	879	111	46	1,122	506
2001	915	180	49	1,636	534
2002	935	143	43	1,385	434
2003	742	159	49	1,660	480
2004	960	127	44	1,992	815
2005	1,056	133	67	2,243	939
2006	1,047	170	58	2,544	1,084
2007	1,140	194	58	3,707	1,764
2008	1,297	183	73	4,242	2,205
2009	949	160	65	3,257	1,148
2010	1,078	172	87	4,789	2,030
2011	1,250	225	102	6,391	2,553
2012	1,278	204	96	6,495	2,584
2013	1,262	180	104	8,062	3,599
2014	1,412	187	109	8,670	3,740
2015	1,016	116	92	5,307	2,540

Source: UNCTAD Merchandise Trade Statistic Database.

TABLE 5 MILK IMPORTS FOR NAFTA AND MAJOR DAIRY-PRODUCING COUNTRIES

	US\$ million (five-year average)			
	1995-99	2000-04	2005-2009	2010-14
Australia	39	47	98	193
Canada	56	106	148	159
Mexico	381	474	842	1,060
New Zealand	16	20	49	107
United States	136	234	390	496
NAFTA	573	814	1,380	1,715
TPP	1,619	1,897	3,231	4,566
World	15,385	17,101	29,434	44,913

Source: UNCTAD Merchandise Trade Statistic Database

With the standard of living improving in many countries, cheese consumption is increasing. Cheese imports worldwide increased from US\$11 billion in 1995 to US\$32 billion in 2014. The largest importer of cheese was the U.S. In 2014, Australia, New Zealand, and the U.S. maintained a cheese trade surplus. Over the last 20 years, New Zealand cheese exports increased by US\$1 billion and, during the same period, Canadian cheese exports increased by US\$200 million. Comparing New Zealand cheese exports with Canada, New Zealand sold five times more than Canada did in the international market.

THE DAIRY INDUSTRY BENEFITED FROM ENDING SUPPLY MANAGEMENT IN AUSTRALIA AND NEW ZEALAND

Both Australia and New Zealand had supply management systems for their dairy industries in the past. The supply management practices came into force to support the excess supply of dairy products in both countries.

In Australia, the domestic “market support system” allowed the dairy industry to be one of its most highly regulated and protected industries for almost 80 years, until it was dismantled in 2001. While in Canada the focus of supply management is on industrial milk, in Australia it was the fluid milk, or “market milk,” that was regulated and thus provided the most lucrative premiums for dairy farmers. Each of Australia’s six states had its own milk marketing board, not unlike the provincial dairy marketing boards in Canada. (Edwards, 2003) Eventually, amid a steady process of small but significant reforms and a growing sentiment among producers, processors and consumers that deregulation was inevitable, Australia deregulated its dairy industry in 2000. The Australian government proceeded with deregulation and a package of adjustment, exit and support payments funded by a relatively small retail tax on milk sales (11 cents per litre for a period of eight years).

This reform consisted of two programs: the Dairy Structural Adjustment Program (DSAP), responsible for adjustment and exit payments, and the Dairy Regional Assistance Program (DRAP), responsible for community- and producer-support payments. Through DSAP, \$1.6 billion in payments (all figures being used here are in Australian dollars) averaging \$143,000 and \$72,000 in quarterly instalments were made to farmers respectively and exit payments of up to \$45,000 were made to farmers who chose to leave the industry. (Edwards, 2003) Through DRAP, \$185 million in support payments were made to communities and farmers that were adversely affected by deregulation. (Edwards, 2003) These exit payments were offered to producers who could no longer competitively operate in the industry without some compensation.

In New Zealand, the reforms were initiated in the 1980s, much earlier than in Australia. Surprisingly, farmers were among the first to propose reform. In 1982, the Federated Farmers of New Zealand (FFNZ), which was the country’s main farming organization, submitted an economic position paper to the government. The paper proposed that one of the main causes of inflation was the consistent budget deficit accrued by funding farm subsidies and that the priority should be controlling inflation, as opposed to compensating farmers for the results of inflation. In 1984, virtually all subsidies and export support systems for agriculture were dismantled. By the 1990s, after the six-year transition period, subsidies to the dairy industry were phased out.

As Australian and New Zealand dairy industries became more efficient, they also became more internationally competitive. From 1990 to 2002, the period where reforms were being implemented to phase out support, Australian and New Zealand exports experienced phenomenal growth. Australian milk exports increased from US\$650 million in 1990 to US\$1.4 billion in 2014 and New Zealand became the world's largest exporter. In 2014, New Zealand exported US\$8.67 billion worth of milk. As shown in Table 6, in 1995 New Zealand's share of world milk exports was less than six per cent but increased to 16 per cent in 2014, which is a 10-percentage-point increase in the world share in just a few decades. Canadian exports comprise less than one per cent of the world market. However, it is important to acknowledge the fundamental differences between the dairy industry in New Zealand and those in Australia and Canada. Unlike the latter two, dairy in New Zealand has always been driven by exports, and the industry was accustomed to international market pressures long before it was protected. Another important difference is that while Australia had, and Canada still has, some form of domestic supply management, New Zealand had no accumulated value for production quotas, so deregulation of the market was a significantly simpler process. This is evident from the speed and ease with which the support system was both implemented and dismantled.

TABLE 6 MAJOR PRODUCER SHARE IN WORLD MARKET, 1995-2014

	1995	2000	2005	2010	2014
Canada	0.9%	0.8%	0.6%	0.5%	0.4%
USA	3.0%	3.5%	4.1%	5.8%	7.2%
New Zealand	5.8%	7.8%	9.8%	13.7%	16.7%

Source: Authors' calculation from UNCTAD Merchandise Trade Statistic Database.

The prolonged success of New Zealand dairy as an export-driven industry can be attributed in large part to its reliance on trade liberalization and the benefits these approaches can provide when trying to maintain a strong international market presence and capitalize on export opportunities. The experience in New Zealand highlights the detrimental effects of export subsidies as well as challenges for growth and development of the industry based on supply management and import restrictions. The Australian case is more similar to Canada and may be more useful when considering how to move forward with deregulation of the dairy industry. Certainly, liberalizing international trade in dairy and dismantling supply management will lead some dairy producers to exit the market. However, other producers will grow and expand. Economic theory and evidence from other liberalization experiences indicate that the least productive producers will exit and the most-productive producers will expand. This will yield productivity improvements in the dairy industry. Some form of transition program as employed in Australia will ease the path to a more competitive and productive dairy industry in Canada.

THE LOST DECADE FOR THE CANADIAN DAIRY PRODUCER AND CONSUMER

Both Canadian consumers and the dairy industry overall have lost because of the supply management practices in Canada. The support to milk producers through market price support has kept retail prices high. The trade barriers in the Canadian dairy industry decrease consumer purchasing power and insulates them from the benefits of falling global dairy prices.

Many studies have observed the benefits to consumers from dairy trade liberalization and, according to the OECD, dairy trade liberalization would reduce the Canadian retail dairy price

by 26 per cent, butter prices by 46 per cent, cheese prices by 33 per cent, and milk prices by 32 per cent. (Zhu, Cox and Chavas, 1999) Trade liberalization would not only reduce domestic milk prices but the industry will become more competitive and milk production and supply would increase by seven to 12 per cent, (Larivière and Meilke, 1999) and some of this increased supply could be exported.

If dairy policy reforms are initiated, consumption of milk and dairy products will increase in response to lower retail prices. In the coming years, the OECD estimates that there will be an increase of 23.2 per cent in the global consumption of fresh dairy products. The OECD also points out that, as sugar prices in Canada are among the lowest in the world, Canada will enjoy a significant competitive advantage in the international ice cream market.¹⁰

Canada’s advantage from its experience in agriculture in general and the dairy industry should have been a magnet for attracting investments in the dairy industry. Yet, it is dairy exporters from other countries that have attracted huge investments. As shown in Table 7, during the last 12 years the U.S. attracted US\$2.8 billion in investment in its dairy industry. Canada’s ability to attract investment was dismal, attracting just US\$126 million in the last 12 years. Major dairy exporting countries had varying degrees of success in attracting inbound greenfield investment (GFI). Not surprisingly, New Zealand attracted more than US\$800 million during the years 2009–15 and Mexico attracted more than US\$1 billion to its dairy sector

The Canadian dairy industry has been able to integrate the supply management practices in its cost structure, both at producer and processing levels. Because of this, the dairy industry has failed to attract investments. By maintaining supply management, the dairy industry has suffered a twin blow. First, the consumption of dairy products has decreased in Canada and second the industry has failed to attract foreign investment.

TABLE 7 GREENFIELD INVESTMENT IN THE DAIRY INDUSTRY IN TPP COUNTRIES (FIGURES IN USD MILLION)

	2003-08	2009-15
United States	693.10 (10.5%)	2232.80 (15.4%)
Mexico	146.29 (2.2%)	1027.86 (7.1%)
New Zealand	50.4 (0.8%)	814.52 (5.6%)
Australia	63.40 (1%)	339.05 (2.3%)
Canada	37.7 (0.6%)	89.00 (0.6%)

Source: FT FDI Market, 2016.

CONSEQUENCES OF RENEGOTIATED NAFTA FOR THE CANADIAN DAIRY INDUSTRY

NAFTA is a 27-year-old agreement between the U.S., Canada and Mexico that came into effect on Jan. 1, 1994. The agreement runs to 2,000 pages and has eight sections, which include 22 chapters. The important provisions include market access for exporters, protection for foreign investment and intellectual property, rules-of-origin and trade-dispute mechanisms, and labour

¹⁰ The data are calculated by OECD using the Aglink, a partial equilibrium dynamic supply-demand model. The dairy component of this model covers production and consumption of milk and dairy products. OECD, “An analysis of dairy policy reforms and trade liberalization” (OECD: 2004).

mobility for certain professions through different types of visas. For example, TN-1 visas allow private companies to provide workers for government contracts. Also, goods made within NAFTA countries may be eligible for duty-free treatment or a reduced duty rate.¹¹

The dairy sector's exemption from the NAFTA agreement helped to maintain supply management practices in Canada. The U.S. dairy industry has always complained about the lack of access to Canadian markets. In 2017, three major organizations representing the U.S. dairy industry appealed to the Trump administration to take action against Canada's protectionist policies.¹²

In order to support supply management, Canadian dairy trade policies are geared towards protecting the dairy market. The industry is protected through a tariff-rate quota (TRQ). This is a two-tariff system, where one relatively small tariff is charged on all imports within the quota and then a second, larger, essentially prohibitive tariff is charged on all potential imports that would exceed the quota.

It is unfair to say that only Canada imposes tariffs on the dairy industry, since all major dairy-exporting countries impose some level of tariff on dairy products. However, Canada has one of the highest dairy tariffs among major dairy producers. As shown in Table 8 and Table 9, the in-quota tariffs are relatively low (one per cent to 7.5 per cent on average) on a limited volume of imports. The low quota volume is unduly restrictive, as demonstrated by the concessions that Canada made to increase the quotas under the TPP and CETA agreements. The second piece of the two-tariff system is that Canada charges prohibitive tariffs on any imports exceeding the quota limits. Canada applies an astonishingly high average tariff of 250 per cent on over-quota dairy imports, compared to the 17-per-cent average tariff in the U.S. and 27-per-cent average in Mexico. Australia, one of the largest exporters of dairy products, applies a three-per-cent tariff to dairy products and New Zealand applies a 1.5-per-cent tariff.

Dairy industry reforms are a contentious issue. Dairy product trade accounts for less than 10 per cent of global milk production, but trade in dairy product is highly volatile, with prices fluctuating significantly in the last decade. As discussed earlier, there are only a few big exporters around the world and they have a big share of the market. Also, in the dairy industry, similar to other goods and services, countries both export and import dairy products.

TABLE 8 CANADIAN DAIRY TARIFF-RATE QUOTA (TRQ) VOLUMES AND TARIFF RATES IN 2015

Import	TRQ (000 kg)	In-Quota Tariff (%)	Over-Quota Tariff (%)
Cheese	20,411.9	1.0	245.6
Butter	3274.0	7.5	298.7
Skim Milk Powder (SMP)	4345.0	6.5	201.5
Ice Cream	484.0	6.5	243.4
Yogurt	332.0	6.5	237.5

Source: WTO, Tariff Analysis Online: Bounded – Tariff Quotas, 2015.

¹¹ For more details see Eugene Beaulieu, "Has North American integration resulted in Canada becoming too dependent on the United States?" *Policy Options* 28 (2007): 97-102.

¹² "Dairy groups urge Trump to target Canada's 'protectionist' policies that violate NAFTA rules," *Financial Post*, January 12, 2017, <http://business.financialpost.com/news/retail-marketing/u-s-dairy-groups-urge-trump-to-target-canadas-protectionist-policies-that-violate-nafta-rules>.

TABLE 9 MOST-FAVoured-NATION (MFN) TARIFF FOR DAIRY PRODUCTS IN NAFTA AND AMONG MAJOR DAIRY-EXPORTING COUNTRIES IN 2015

	Simple Average Applied MFN Tariff	
	All Products	Dairy Products
Australia	2.72	3.38
Canada	4.17	248.95
Mexico	7.52	27.04
New Zealand	2.04	1.35
United States	3.51	17.18

Note: "In current usage Most-Favored Nation Tariffs (MFN) tariffs are what countries promise to impose on imports from other members of the WTO, unless the country is part of a preferential trade agreement (such as a free trade area or customs union). This means that, in practice, MFN rates are the highest (most restrictive) that WTO members charge one another."

Source: World Bank World Integrated Trade Solution (WITS).

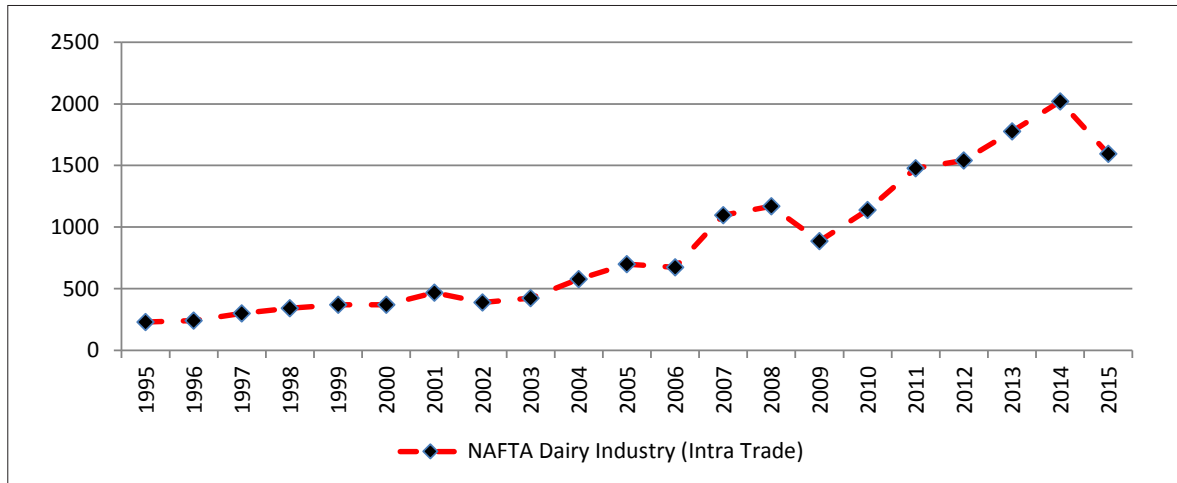
As mentioned earlier, the dairy industry was excluded from the free-trade agreement between Canada and the U.S. NAFTA renegotiations over the dairy industry would likely include discussing market access for U.S. dairy producers through a reduction in the dairy trade tariff and quota as well as non-tariff barriers such as sanitary and phytosanitary measures concerning health, safety and environmental standards and rules of origin. Of the most concern to the Canadian dairy industry will be the increased market access for U.S. dairy producers.

The impact of a renegotiated NAFTA for Canadian dairy producers and consumers will depend on three factors:

First, the nature of changes in the dairy industry trade between countries in NAFTA. The U.S. already exports fresh milk and cream to Canada. Figure 4 illustrates that the intra trade (trade among NAFTA members) in the dairy industry was approximately US\$1.5 billion, which is less than one per cent of total trade under NAFTA. Most of the dairy trade happens between U.S. and Mexico and is worth more than approximately US\$1.2 billion, while bilateral dairy trade between the U.S. and Canada is approximately US\$300 million.

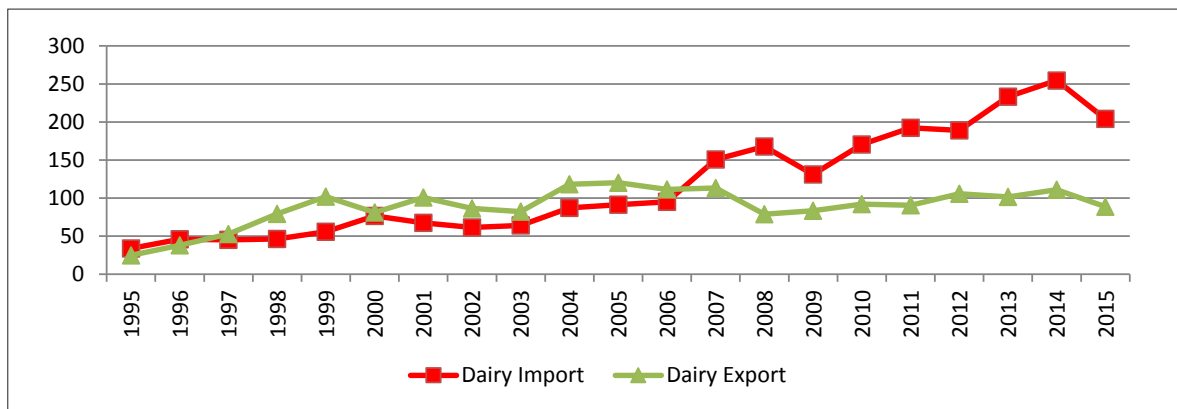
Second, how the domestic food sector in Canada responds to greater access to U.S. dairy inputs for production and processing. The provincial milk-marketing boards set the quotas for milk and other regulations regarding prices and production. The personal-use milk-import quota is set at 65,000 metric tonnes, however since there is no commercial quota available for milk, most of the importing is done through the personal-use quota. Some companies import milk under the commercial quota, which requires that milk imports be used as input for re-exported products. As illustrated in Figure 5, in 2015 Canada imported US\$200 million of dairy products from the U.S. and exported US\$89 million. In 2014, U.S. dairy product exports stood at US\$4.5 billion, including US\$255 million to Canada, accounting for five per cent of total U.S. exports.

FIGURE 4 DAIRY SECTOR INTRA TRADE IN NAFTA COUNTRIES



Source: Authors' calculation from UNCTAD trade statistics.

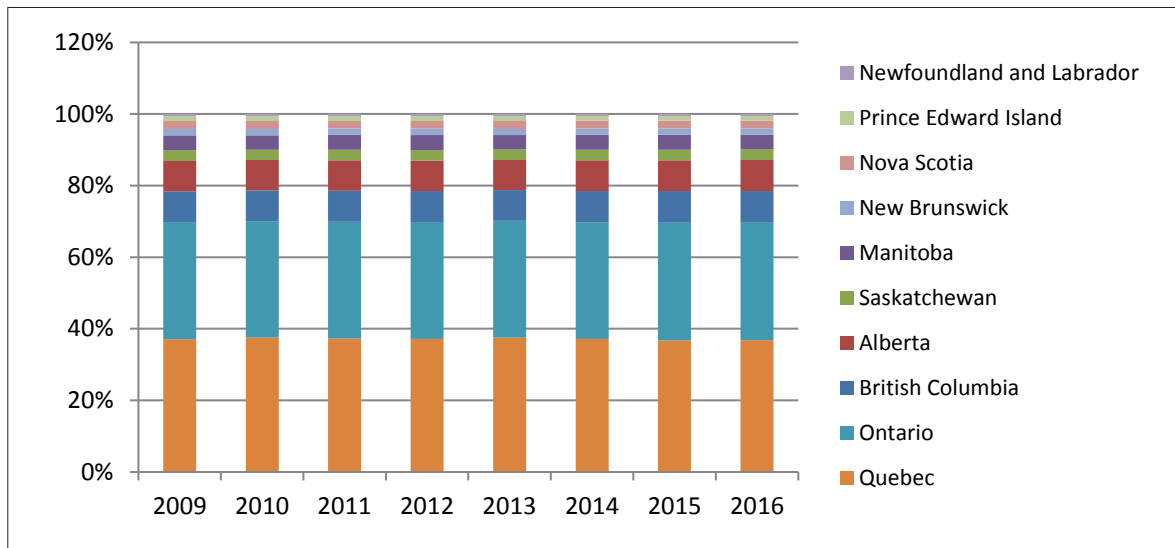
FIGURE 5 BILATERAL DAIRY TRADE BETWEEN CANADA AND U.S.



Source: Authors' calculation from UNCTAD trade statistics.

Third, the kind of incentive the government provides to Canadian dairy producers in the two major milk-producing provinces. The negative impact on the politically sensitive dairy producers primarily in southern Ontario and Quebec has left the high level of industry protection untouched for decades. As shown in Figure 6, the combined share of Ontario and Quebec provincial milk production accounted for approximately 70 per cent of national production and the shares have not changed very much over time.

FIGURE 6 PERCENTAGE SHARE BY PROVINCE OF CANADA'S FARM MILK PRODUCTION



Source: Authors' calculations from Agriculture and Agri-Food Canada (AAFC) data.

In its recent trade deals, the TPP and CETA, Canada gave limited market access to its dairy industry. In the case of the recent TPP negotiations, Canada agreed to increase foreign access to its dairy market by an estimated 3.25 per cent of its yearly milk production. As compensation to domestic dairy producers, the Canadian government would pay \$2.4 billion in income support and \$1.5 billion to maintain the value of production quotas over the course of 15 years. In addition, \$450 million would be paid to producers to aid with upgrading production facilities.

Under the CETA agreement with the European Union, EU milk exports to Canada will double, which represents an increase in foreign access equivalent to two per cent of Canadian domestic milk production (i.e., from the equivalent of one per cent of the Canadian market to two per cent). EU producers will also have access to the growing Canadian cheese market, with the deal allowing access to four per cent of the market to EU exporters. Access to the cheese market will increase from 2,667 metric tonnes in year one to 16,000 metric tonnes in year six. The Canadian government will pay \$350 million as compensation to domestic dairy producers.¹³

A renegotiation of NAFTA obviously holds promise for Canadian dairy consumers but lowering barriers could hurt some Canadian dairy producers. However, we argue that the industry overall will thrive and become globally competitive. As documented in the empirical analysis of trade reform in the dairy industry and, as we have observed in other Canadian industries that liberalized under the Canada-U.S. Free Trade Agreement (CUSFTA) and NAFTA, relatively inefficient producers will close shop, but more-productive producers will expand and prosper. This transformation of the Canadian manufacturing industry has been carefully studied and analyzed by Trefler (2004). Economic theory predicts that trade liberalization will lead to exit from the industry by the least productive firms and expansion by the most-productive firms. This transformation yields a more productive industry overall. So, we would expect to see some dislocation in the industry as inefficient firms close and long-run efficiency gains as the industry adjusts and more-efficient firms emerge in a more competitive environment. Trefler (2004) found that this transformation occurred in the Canadian

¹³ Janyce McGregor, "\$350M dairy programs to help farmers, processors compete under Canada-EU trade deal," CBC News (November 10, 2016), <http://www.cbc.ca/news/politics/dairy-compensation-announcement-ceta-thursday-1.3845003>.

manufacturing industry after implementing CUSFTA. Trefler found the short-run cost, as firms closed and employment in industries affected by free trade declined by 15 per cent. In the long-run, the industries affected by free trade experienced a very large productivity gain of 17 per cent, or one per cent per year. Head and Ries also found evidence of a similar adjustment in Canadian manufacturing consistent with economic theory.

Although there is no guarantee that the Canadian dairy industry will adjust similarly, theory and evidence suggest that this is the case. First, some of the manufacturing industries studied were in food-related products and there is no reason to believe that the agri-food industry will not adjust in a similar fashion. Second, the evidence from Slade and Hailu (2016) provides direct evidence that a more competitive market structure in the U.S. explains better productivity among American dairy producers than with Canadian producers. Third, as we observed in New Zealand and Australia, liberalizing the dairy industry can lead to a transformed dairy sector that can become a world leader as the industry transforms, as economic theory and evidence suggest.

With the renegotiation of NAFTA, we see the liberalization of dairy that Canada agreed to under TPP as an opportunity and an occasion for Canada to step up and do the right thing. The prospect of eliminating supply management in Canada has become a daunting political challenge and no political party in Canada has been able to move forward with it, even though Canadian consumers would benefit from such a policy change. However, renegotiating NAFTA is a tremendous opportunity to reduce trade barriers in the industry and to give the Americans something they want in the negotiations. In fact, supply management has been identified as one of the key goals of the American negotiation team. Failure to offer some movement on supply management could result in the failure of the negotiations. Moving on supply management, as was done in TPP negotiations, can provide the negotiators with something to offer. Although it is politically difficult to move on supply management, it would be good for Canadian consumers and could lead to a more productive dairy industry in Canada. The status quo could jeopardize negotiations. At the same time, it is an opportunity to weaken supply management and move toward dismantling it altogether.

POSSIBLE NEGATIVE IMPACTS OF LIBERALIZATION AND AREAS NEEDING FURTHER RESEARCH

It is important to acknowledge that there are many layers to this problem and that the negative impacts of liberalizing dairy trade and dismantling dairy supply management warrant further consideration. In the following paragraphs we briefly address some of these concerns and highlight some potential unexpected consequences that require a closer look and further research.

Although basic economic theory suggests a clear relationship between dairy trade liberalization, domestic deregulation and lower domestic dairy prices for Canadian consumers, this may be an oversimplification. Dairy processors and food retailers base their prices not just on the cost of inputs, but also on the demographics and socioeconomic characteristics of their surroundings.¹⁴ It is therefore unrealistic to assume that a decrease in dairy prices would be completely passed on to consumers in the short run. Processors and retailers would continue to sell at almost the

¹⁴ Maurice Doyon, "Simple solutions don't apply to supply management," National Post (September 25, 2013), <http://nationalpost.com/opinion/maurice-doyon-supply-management-supports-local-farmers/wcm/fcdfafeb-3ae3-400c-b785-ce57881c0a6c>.

same price as before deregulation, until their customers went elsewhere. However, economic theory also suggests that in the long run, as new processing and retailing firms enter the market in response to the relatively higher profits being accrued by existing ones, competition will increase and the prices faced by consumers will eventually fall. Just how much of these savings would be passed onto consumers in the long run would require further economic analysis.

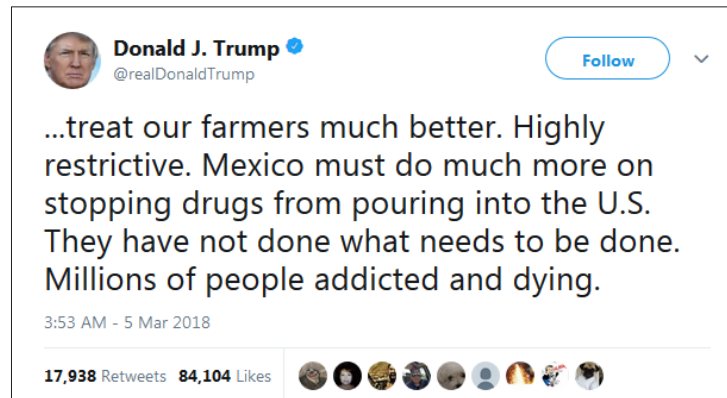
It is also clear that policies like dairy supply management transfers money away from non-agricultural regions towards agricultural ones. However, what is not clear is the impact that stopping these de facto transfer payments would have on the livelihoods and well-being of their current recipients. Many dairy-intensive regions may be dependent in large part on the revenues generated from dairy farming. These revenues are then reinvested, at least in part, within the region by those dairy producers, generating a second round of economic activity and wealth for the region, which then gets reinvested, and so forth. Since it is likely that some of these dairy producers would no longer be able to compete after deregulation, it is possible that some rural communities may be severely affected by the dismantling of supply management and the liberalization of dairy trade. Although evidence from Australia and New Zealand suggests that relatively few producers would exit the industry and economic theory suggests that the industry will transform in the long run due to deregulation, we do not currently know how many dairy producers will exit the industry and we do not know how many will actually reinvest in their respective regions. Before any truly accurate estimates can be made about the negative effects of dismantling supply management and liberalizing dairy trade, these unknowns must be addressed. However, we do know that current producers will be negatively impacted by liberalizing the industry and through the adjustment period as the industry transforms to a more competitive environment. For these reasons, programs to compensate those negatively impacted and programs to help in managing the adjustment to the new regulatory framework will be required.

Lastly, while it may be easy to consider differences between the economic landscapes at the time of deregulation in New Zealand and Australia and the current economic landscape in Canada, we must also consider differences in their physical landscapes. Aside from obvious climatic differences that could possibly explain some of New Zealand and Australia's success after deregulation and dampen expectations of our own, it is also important to recognize that efficiency may differ due to differences in soil and pastures, availability of different feed types and even differing levels and types of diseases and parasites; raw, unadjusted differences in efficiency between Australian and New Zealand producers and Canadian ones may not tell the whole story. However, as evidence from Slade and Hailu (2016) indicate, Ontario dairy producers are similar to New York dairy producers except for the regulatory environment that limits competition in Ontario and lowers its productivity. Therefore, it is likely that the Canadian dairy market would become more efficient after deregulation and, regardless of physical, topographical, or climatic differences, Canada would at the very least have the potential to increase its share of the international dairy market.

CONCLUSIONS

President Trump after announcing the new tariff for steel and aluminum tweeted the U.S. farmers are treated unfairly. The tweet was a subtle reference to the supply management practices in the Canadian dairy sector. There is no denying the fact this is a contentious issue in the current NAFTA renegotiations. The dairy sector can be the major stumbling block in the

renegotiations. However, NAFTA renegotiations present an opportunity to dismantle supply management practices in the Canadian dairy industry. While some producers will suffer in the short run, the industry as a whole will become more productive in the long run and Canadian consumers will gain.



While the costs of supply management and its accompanying trade policies are undeniable, it is also clear that the liberalization of the dairy industry would result in significant adjustment for producers in the short run. Therefore, any exit strategy from supply management has to be carefully planned and the adjustment process should be phased in. Further research can guide the adjustment process and policy to allow the industry to adjust to a new competitive environment. Due to the protected environment that supply management and its requisite trade policies afford dairy producers in Canada, the single most valuable investment in a dairy producer's life may actually be the production quota itself. This means that abruptly dismantling the system without adjustment packages or compensation to producers could be devastating and there must be some opportunity for producers to prepare for the realities of an open market. The aim should be to offer a grace period in order to modernize production methods and facilities, increasing productivity and efficiency so that, ultimately, the more efficient producers can remain competitive once the protection is removed. The first step would be a gradual dissolution of supply management and the trade policies that exist in order to keep it afloat. Australia's success using tax-funded adjustment packages and exit payments is undeniable. (Edwards, 2003)

Perhaps there is a public perception that the dairy industry and all agricultural industries are an integral part of the socioeconomic fabric of Canadian society and are therefore entitled to protection from the realities of the modern market. Or, there might simply be a collective-action problem where consumers, of whom there are many, cannot co-ordinate themselves as effectively as can dairy producers, of whom there are relatively few. These two theories are not mutually exclusive. The capacity to co-ordinate so effectively allows producers to successfully lobby for continued protection, while the premiums generated by this protection affords them the financial means to perpetuate that public perception.

While Australia's political and economic climate at the time of its system's dismantling differs from Canada's, the Australian experience still provides valuable evidence that these sector-specific support systems can be eliminated even after producers have long grown accustomed to their benefits. Australia's dairy industry is thriving and production has since become more efficient by concentrating on larger farms in lower-cost production areas. Its experiment with

supply management also provides us with evidence that a combination of exit payments and adjustment packages may provide the necessary framework required for a smooth transition to an unprotected dairy industry in Canada. Also, while the export subsidies that New Zealand briefly adopted are very different from the Australian or Canadian system of supply management, we can learn from its ability to dismantle its support system in just six years as it continues to succeed as an export-focused industry.

The evidence from Canada's adjustment to CUSFTA and NAFTA are clear. The least efficient plants will likely close when faced with increased competition. The most-efficient plants will expand and capture larger market shares. This will lead to productivity gains in the sector and yield a globally competitive and innovative dairy sector in Canada. Meanwhile, consumers gain from this policy change.

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