DAIRY SYSTEMS AROUND THE WORLD

Export Action Global

Are Canadian Consumers and Farmers Better Off with the Canadian Model?

April 2018

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INTRODUCTION

For over 50 years, Canada's supply management system has carefully managed production, pricing and import policy in the dairy sector.

Before that, Canada was a cheese exporter notably during the Second World War. In the 1960s, the focus shifted to the domestic market. Canadian farmers and processors continue to focus primarily on domestic demand today

Proponents of supply management argue that it should be preserved and that the three pillars – import control, producer pricing and production discipline – have provided price stability for farmers while ensuring a predictable quantity of an extremely perishable product is available to dairy processors. Preserving the status quo of these three pillars of Canada's regulated dairy sector remains paramount to the industry.

It goes without saying that supply management has its critics. These include foreign governments and businesses wanting access to the Canadian market, free market think tanks, public policy commentators and media voices. Detractors of supply management claim the system prevents Canadian farmers from taking advantage of export opportunities, conflicts with trade liberalization and free market principles, and punishes consumers with higher prices and limited choice.

In recent years, supply management has been a frequent target during many of Canada's largest and most comprehensive trade negotiations. As NAFTA 2.0 negotiations continue, some US-based dairy groups and businesses are keen to secure new access to the Canadian market. While the US dairy industry is emboldened by the Trump administration's highly protectionist America First policies, fixated on reducing the US trade deficit, the fact is dairy and other supply managed sectors in the US enjoy a significant trade surplus with Canada. Nevertheless, the Canadian system is faced with a new existential threat with the US officially calling for immediate access to the Canadian market and a total dismantling of supply management within the next decade.

With such an aggressive demand from the US, it is worth asking some key questions about the Canadian system and looking at many of the core issues debated by supporters and detractors alike. This report seeks answers to specific questions including:

How does Canada's dairy industry compare with others around the world?

Would farmers and processors be better off in a deregulated or a mixed (a hybrid of a regulated and free-market) system?

Are retail prices lower in jurisdictions that have abolished highly regulated dairy systems?

The intent of this report is to objectively review data from numerous sources to answer pertinent questions critical to the current public debate about these and other trade-related issues, given Canada's export-oriented economy and its immensely beneficial trading relationship with its NAFTA partners.

The key findings in this report are evidence-based and data-driven. The overall objective is to ensure that as the debate about supply management continues, it is grounded in facts and data that can be verified independently.

Note: All prices in this report are in Canadian dollars unless otherwise stated.

EXECUTIVE SUMMARY

With NAFTA 2.0 talks underway and the Trump administration making aggressive demands of Canada's dairy sector, it is an ideal time to look more closely at supply management.

In this report, we have performed a thorough analysis of available data from a wide range of sources in order to assess dairy systems from a number of Western countries and emerging markets, compare retail prices for dairy products in various markets around the world and examine the challenges and opportunities found in major dairy-producing jurisdictions.

Our research shows that Canadian milk and other dairy retail prices are currently on par with those in other countries and that milk is, in fact, cheaper in Canada than in Australia, New Zealand and the US – a few global powerhouse dairy producers. Additionally, Canadians pay significantly less than Americans for products such as butter, yogurt and cheese despite several US production cost advantages and the general recognition that Canadian farm price is higher than south of the border.

Unlike Canada's regulated system, most other major dairy-producing Western jurisdictions (UK, New Zealand, Australia and the European Union) have deregulated systems. However, virtually all of these jurisdictions swapped regulation for new and larger subsidies. Now, bureaucracies manage a myriad of subsidy programs under which consumers pay for their products once at the retail level and again through their tax dollars. These systems have contributed to injurious price volatility for farmers due to overproduction. This, in turn, has caused world milk prices to plummet, resulting in massive amounts of excess product being dumped.

Perhaps most surprisingly, we have found that several leading American dairy groups have called not only for the protection of Canada's dairy system but for the adoption of Canadian-style dairy policies like supply management in the US.

As a firm founded to help Canadian businesses take advantage of the myriad of opportunities in global markets thanks to Canada's pursuit of a modern 21st century trade agenda, it may be paradoxical to some that Export Action Global would defend Canada's system of supply management. Yet the data show that this domestic focus has actually created the very stability and predictability for farmers and consumers alike that is lacking in export-focused dairy systems. Therefore we conclude there is a valid and evidence-tested argument in favour of supply management and the net benefits it delivers to farmers, consumers and across the dairy sector value chain.


KUBOTA

OVERVIEW OF CANADA'S DAIRY INDUSTRY

As one of the top two commodities in seven out of ten Canadian provinces, dairy is a crucial sector of Canadian agriculture.

In 2016 it ranked third in net farm receipts after grains/oilseeds and red meats.[1] And while it is true that other agriculture and agri-food sectors in Canada are portrayed as export-focused, over 50 per cent of all Canadian primary agriculture-related activity is consumed by the domestic market.[2]

As contributors to a domestic-focused agriculture sector, Canada's dairy producers and processors are drivers of employment and economic activity in every region of the country. This is particularly true in Quebec and Ontario where the bulk of dairy farms, food manufacturers and consumers are located. While the intent of the system was to stabilize farm prices, it must be acknowledged that supply management has helped many rural regions maintain a healthy level of economic activity. As a result, the dairy value chain is a large contributor to GDP, employment and tax revenues to all orders of government.

GDP, tax revenue and employment

The dairy sector's contribution to Canada's GDP increased five per cent from $18.9 billion in 2013 to $19.9 billion in 2015. Also in 2015, $3.8 billion in tax revenues flowed to all three levels of government collectively.[3]

Canada's Dairy Sector at a Glance

2017

- **36 million Canadians**
- **10,951 farms**
- **86 cows per farm (simple average)**

2016

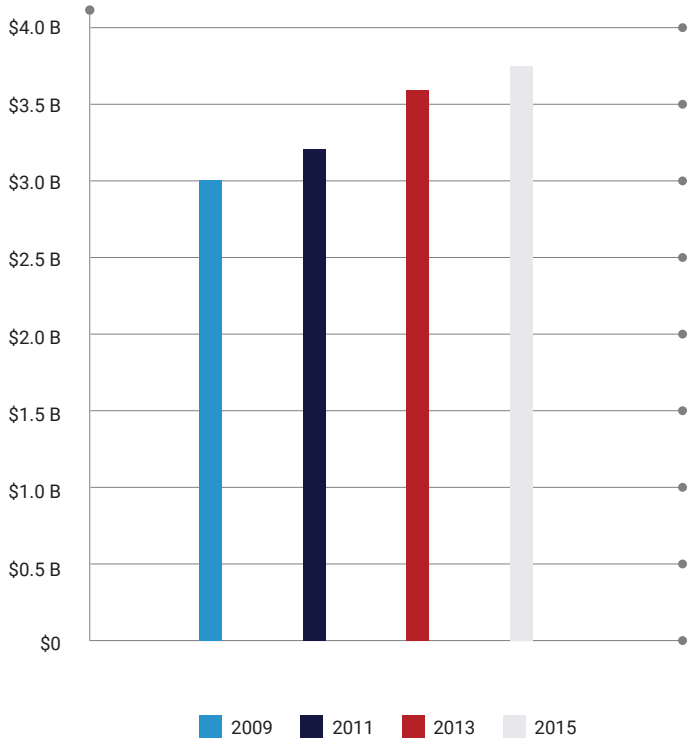
- **8.4 billion litres total production of milk**
- **$6.7 billion total cash receipts**
- **$79.16 average farm gate return**

2015

- **$19.9 billion contributed to Canada's GDP**
- **221,000 Canadian jobs**
- **$3.8 billion in tax revenue**

*Note: Latest available data

Figure 1. Change in Total Tax Revenues from the Canadian Dairy Sector, 2009 to 2015



The consumption habits of Canadians

For the most part, Figure 4 demonstrates reduced Canadian fluid milk consumption mirror habits found in other Western countries. Between 2012 and 2016, fluid milk sales declined by nearly four per cent, dropping to 2.53 billion litres in 2016 from 2.62 billion litres in 2012. However, since 2014, that decline has slowed. Within the fluid milk category (which includes 3.25%, 2%, 1%, skim, buttermilk, chocolate and flavoured milk), it is skim milk that has seen the greatest drop (approximately 270 million litres to 182 million litres) while 3.25%, 2% and chocolate milk have all enjoyed increased sales.[4]

Figure 2. Fluid Milk Sales in Canada - Total, 2012 to 2016 (litres)[5]

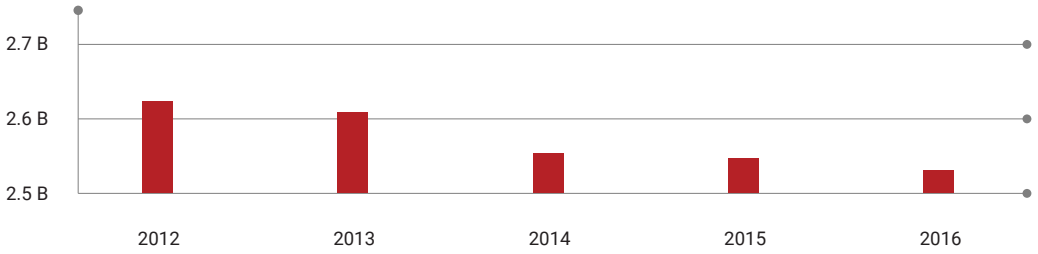
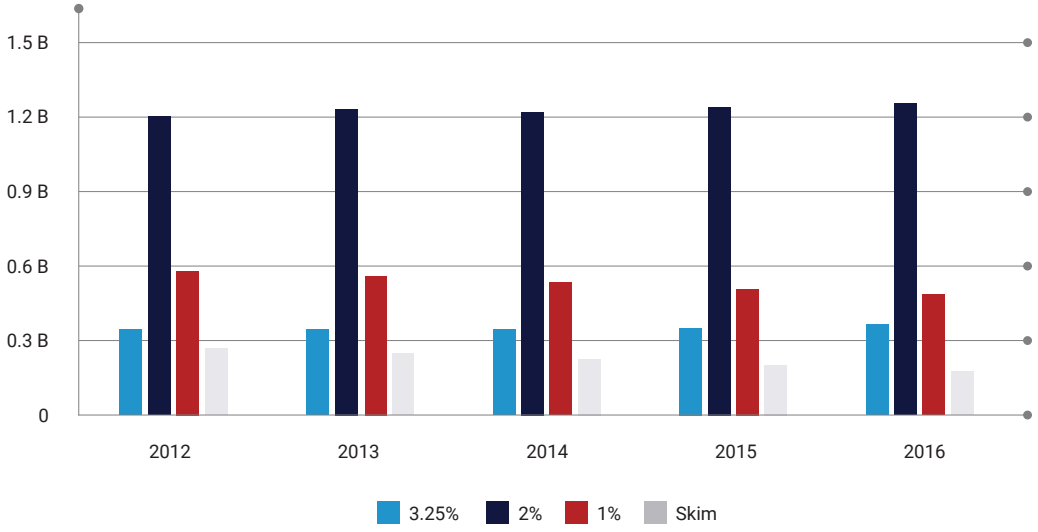


Figure 3. Fluid Milk Sales in Canada - Select Products, 2012 to 2016 (litres per capita)[6]



As Canadians have moved away slightly from drinking milk, they have increased their consumption of other dairy products, especially those containing butterfat. While the per capita consumption of butter in Canada was relatively stable between 2012 and 2016, a significant boost (17.4 per cent) was observed year-over-year from 2015 to 2016. This is in line with global trends that are attributable to the reputational recovery of butter, which is now considered a desired, more natural alternative to margarine and other substitutes.

Contributing to this recovery is research published in the International Journal of Molecular Science that suggests numerous health benefits can be attributed to the consumption of butterfat,[7] while in 2016, Time magazine declared categorically: 'Butter is Back'.[8]

Like butter, cheeses are also increasingly in demand over fat-free milk and yogurt. Cheese consumption in Canada has increased in recent years predominantly for specialty fine-cheese products.[9] Having carefully cultivated a fine cheese market over the past thirty years, cheesemakers from across Canada, and in Quebec in particular, are especially sensitive to new access being given to foreign cheesemakers in trade negotiations. The cultural symbolism of Canada's fine cheese market has largely been overlooked by policy-makers much to the chagrin of the makers of these specialty products. It is also why successive trade negotiations from the Canada-European Union Comprehensive Economic and Trade Agreement (CETA) to the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) and now NAFTA 2.0, worry farmers, cheese makers and processors alike.

Figure 4. Global Milk Consumption - Select Markets, 2012 to 2016 (litres per capita)[10]

Country	2012	2013	2014	2015	2016
Canada	76.6	75.4	73.5	72.7	71.6
United States	78.5	76.1	71.6	70.1	69.2
European Union (28)	65.2	65.4	62.4	60.8	59.4
Australia	113.3	112.5	108.5	108.2	106.6
New Zealand	98.3	104.0	108.4	107.3	106.6

Figure 5. Global Butter Consumption - Select Markets, 2012 to 2016 (kg per capita)[11]

Country	2012	2013	2014	2015	2016
Canada	2.9	2.7	2.8	2.8	3.2
United States	2.5	2.5	2.5	2.6	2.6
European Union (28)	3.7	3.7	3.7	3.8	3.8
Australia	3.7	3.9	4.0	3.9	4.0
New Zealand	4.7	4.9	4.8	4.8	5.1

Figure 6. Total Cheese Consumption in Canada, 2012 to 2016 (kg per capita)[12]

	2012	2013	2014	2015	2016
Cheese	12.04	12.28	12.47	12.67	13.38

Ongoing challenges to supply management

While enjoying relative stability for decades, recent trade negotiations undertaken by successive Canadian governments are posing risks to supply management.

The Comprehensive Economic and Trade Agreement (CETA) signed by Canada and the European Union (provisionally in force since September 2017) increased European cheese access, adding 17.7 million kg to the Canadian market. As the data show, the cheeses entering Canada under CETA are hardly the variety and selection consumers were promised by anti-supply management voices and government defenders. Additional access to the Canadian market was also granted for various products in the recently announced agreement of the CPTPP. Today, NAFTA 2.0 modernization efforts are intensifying as US negotiators are pushing to dismantle supply management altogether. The stated objective of the United States Dairy Export Council (USDEC) is to grow overall American dairy exports from approximately 15 per cent of current production to 20 per cent by 2020, making the proximity of Canadian consumers a natural target.

It should be noted that the entire Canadian market for dairy products (approximately 36 million people) is only 10 per cent of the US population. Even If the US could gain access to 10 per cent of the Canadian market, this would equate to only one per cent of US dairy production and would not be perceived as significant for the US dairy industry. The Canadian market only becomes attractive if Canada was to permit full access – hence the call by some US interests to dismantle supply management.

Cheese Access under CETA

Pre-CETA:

13.5
MILLION KG FROM THE EU

Additional access allocated with CETA:

17.7
MILLION KG

The top 3 cheese types entering Canada under CETA

(as of January 2018)

1. **Parmesan** 265,617 kg
2. **Brie** 80,708 kg
3. **Gouda** 53,186 kg

Source: Global Affairs Canada

Overview of Canada's Dairy Industry

KEY POINTS

While many of Canada's agricultural producers are focused on exports, over half of all primary agriculture activity in Canada serves the domestic market.

As a key driver of significant economic activity across Canada, the dairy industry supports economic growth, job creation, tax revenues and other economic benefits in every region of the country.

Consumption of dairy in Canada has steadily increased over the past decade but consumption of fluid milk continues to fall as Canadians shift to other dairy products including yogurt, cream and cheese. Of note is the significant jump in butterfat consumption attributable to its reputational recovery. This is mirrored in other countries around the world.

Notwithstanding the intricacies of multiple trade deals Canada currently has in place or is negotiating, threats persist for Canada's dairy sector. The permitting of more access to the Canadian market for cheese under CETA has been followed by new access under the CPTPP. Now that NAFTA modernization efforts are underway, the Canadian sector is further threatened as the US attempts to force it to open to additional American imports. Thus, each trade negotiation creates uncertainty and poses risk to the stability of the Canadian dairy industry.

DAIRY SYSTEMS AROUND THE WORLD

In a bid to keep its population healthy and productive, every country strives to maintain access to a steady supply of agricultural goods and dairy products have long played an important role in this pursuit.

This is why governments around the world have intervened and implemented various dairy management systems as policy makers try to achieve a certain level of stability in the market so consumers have access to affordable and safe products.

In this section, we provide an overview of different dairy-producing countries and show that where they have been implemented, deregulation policies have delivered mixed results.

Deregulated systems are heavily impacted by global market forces which are dominated by traded commodity products not always found at the retail level, such as Skim Milk Powder (SMP) and Whole Milk Powder (WMP). Yet, these commodities still influence and lower farm prices and subject farmers to severe price volatility, especially in countries that do not have policies designed to stabilize internal markets.

The United States

In the US, the Federal Agriculture Improvement and Reform Act of 1996 (Farm Bill) was an initiative led by 'free-market' Republicans aimed at loosening regulations across the agriculture sector. In 2014, buoyed by relatively high prices, the Farm Bill suspended government intervention in the pricing of milk and related dairy products. While direct support for pricing was eliminated, significant subsidies and other programs persist at the federal, state and municipal level.[13]

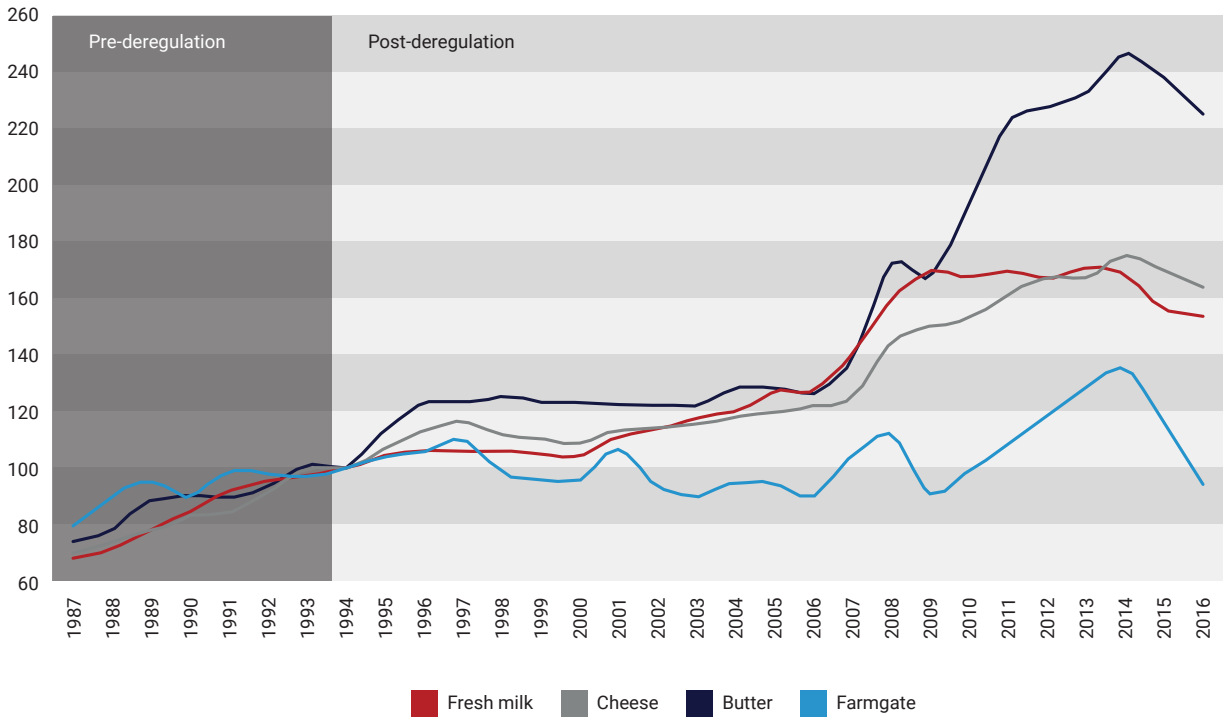
Today, the US dairy industry is facing real challenges thanks in part to production outpacing demand. However, there are efforts by the US Dairy Export Council to address these issues by continuing to seek opportunities in export markets. This is part of the reason for the Trump administration's demand that Canada's market be opened further to products from the American industry.

The United Kingdom

From 1933 to 1994, Great Britain's milk supply was regulated by a series of Milk Marketing Boards (MMB) which held a statutory monopoly on the collection and sale of all milk. The MMBs were established to resist the downward pressure on producer incomes resulting from the increasing power of dairy companies. They became responsible for all milk produced by dairy farmers, selling it on their behalf and pooling the returns to provide equal sums of money relative to the volume of milk consigned by each farmer.[14]

In 1994, the MMBs were abolished and the dairy market was deregulated. However, Figure 7 shows that UK consumers have not benefited at the retail level from lower farm milk prices. Since deregulation, retail dairy prices have continued to rise.

Figure 7. Price Index of Select Products and at Farmgate in the United Kingdom, 1997 to 2016 (1994 = 100)[15]



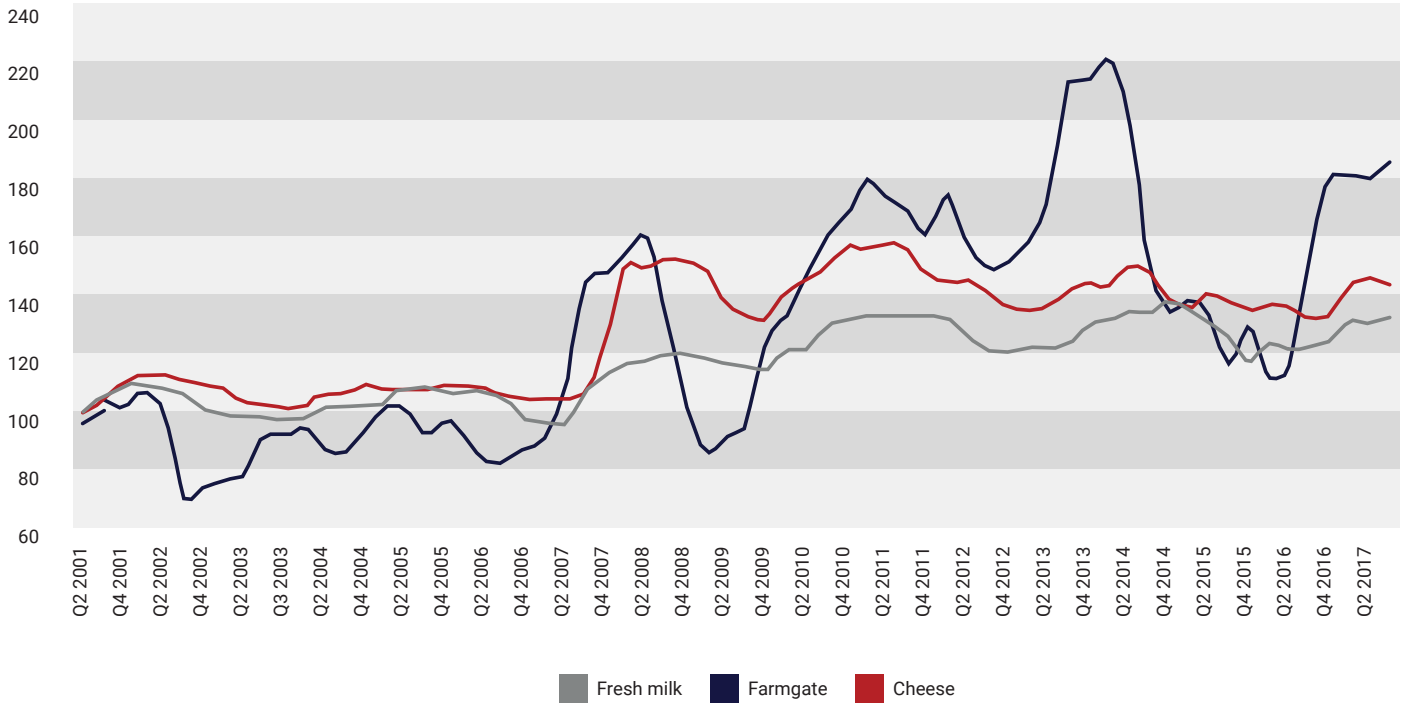
New Zealand

In 1984, New Zealand deregulated much of its economy including its agricultural markets. At the time, dairy producers were most affected by the abolition of fertilizer subsidies and subsidized interest rates, and the interruption of investment development subsidies. Despite the removal of subsidies after 1984, the New Zealand Dairy Board structure remained until 2001 and Figure 8 demonstrates the volatility of the market since then for both farmers and consumers.

Throughout the 1990's, dairy co-operatives amalgamated after the New Zealand government dismantled the domestic dairy system, resulting in the creation of the Fonterra Co-operative Group. Since then, New Zealand's financial support for agricultural producers has remained among the lowest of Organization for Economic Co-operation and Development (OECD) economies.[16]

Today, Fonterra remains cooperatively owned by dairy farmers representing approximately 85 per cent of the industry. However, in recent years, Fonterra has changed the structure of how it distributes benefits to farmers. More benefits are now reinvested in processing capacity and made available to other investors.[17]

Figure 8. Price Index of Select Products and at Farmgate in New Zealand, 2001 to 2017 (Q2 2001 = 100)[18]



Australia

In Australia, deregulation involved the removal of both state and federal legislation specific to the dairy industry. For the states, this meant the discontinuation of regulated sourcing and pricing of milk. At the federal level, support for manufacturing milk prices through the Domestic Market Support scheme was abolished.

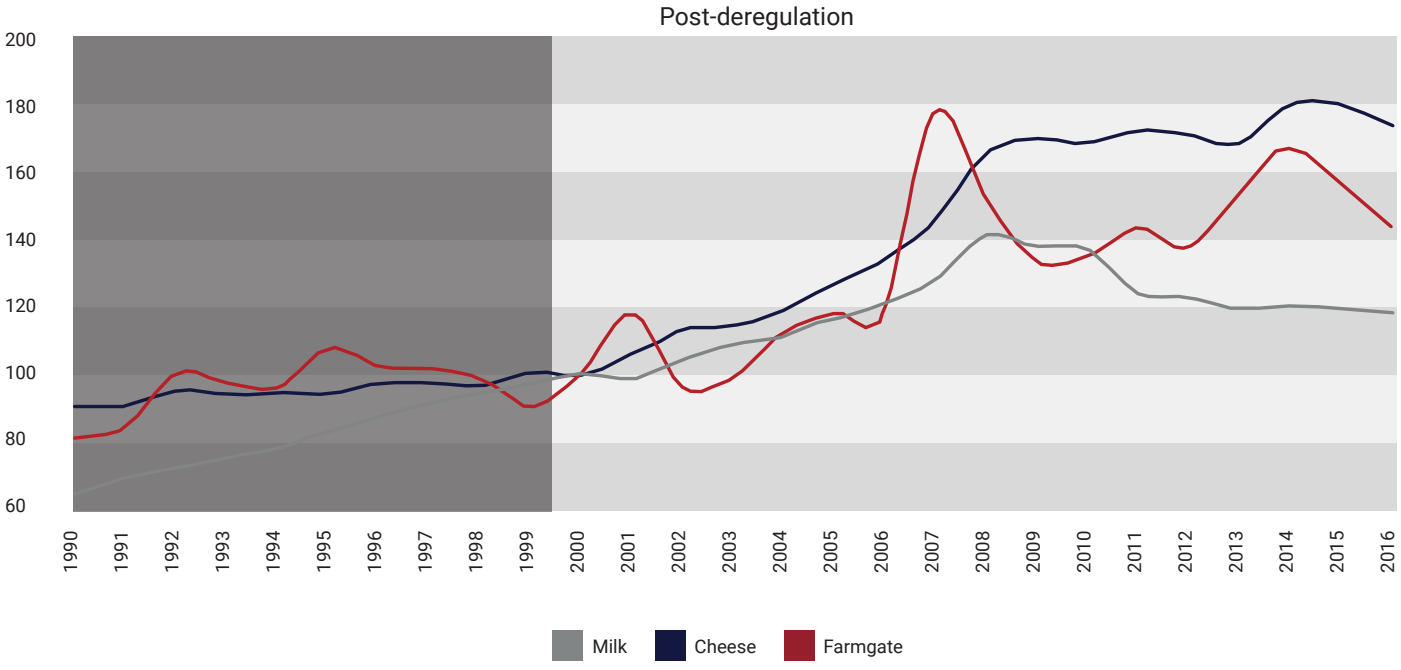
Full deregulation of the Australian dairy industry came into effect in 2000 with the removal of remaining Class 1 (fluid milk) quota and price support. For the three years following deregulation, farmgate prices dropped while retail prices of dairy products remained fairly stable. Although farmgate prices recovered post-deregulation, as Figure 9 shows, this has been accompanied by an increased level of longer-term volatility in the sector.

The European Union

On April 1, 2015, the EU ended its 31-year-old quota policy which had been instituted to address an oversupply of milk and butter throughout the 1970's and 1980's. By eliminating quotas and allowing European dairy farmers to produce as much milk as they want, it was hoped that vast new markets in Asia and South America, previously supplied by rivals like New Zealand and the United States, would open.

However, the result has been a global oversupply of milk as other countries such as China and Russia began to import less and have boosted their domestic industries. This in turn has forced the EU Commission to finance the stocking of cheese and SMP. At the end of 2017, the EU reported it had 380,000 tonnes of surplus SMP in intervention stocks remaining. The uncertainty around what will be done with these stocks has contributed greatly to ongoing market unpredictability.[20] While seeking export opportunities, the EU continues to maintain tariff-rate quotas on imports of dairy products.

Figure 9. Price Indices of Select Dairy Products and at Farmgate in Australia, 1990 to 2016[19]



Dairy Systems Around the World

KEY POINTS

Despite the global trend toward deregulation in many major dairy-producing markets, it is difficult to argue that both consumers and producers have benefited. In Australia, farmers' revenue rose briefly from higher farmgate prices, yet over the longer-term consumers have not seen lower prices compared to other jurisdictions. In the European Union, the dairy sector continues to operate within a highly protected market enforced through Tariff Rate Quotas (TRQs) and receives massive subsidies.

The one exception is New Zealand, where there is evidence that farmers have benefited due to the Fonterra Co-Operative's quasi-monopoly that redistributes a portion of its revenues back to farmers. Additionally, most consumer prices in New Zealand are either in line or lower than prices found in other countries. However, with respect to fluid milk prices, the data (presented later in this report) show that prices are higher in New Zealand than in Canada.

Because deregulation has not lived up to its promise of greater profits and reliability across the entire value chain, many jurisdictions – especially in the United States and Europe – have been forced to further intervene in the market to introduce additional financial support in times of need. In fact, both the EU and US maintain costly agricultural programs that are financially and administratively burdensome to taxpayers, farmers, processors and retailers. Additionally, taxpayers are forced to pay for their products twice – once at the retail level and once through their taxes.

There is little doubt that deregulation has encouraged more production and contributed to global oversupply which has in turn resulted in severe price volatility. While unpredictable market forces of a globally traded commodity are hardly unique to the dairy industry, these results confirm the findings of this report: a regulated system such as the one found in Canada better navigates the instability inherent in less regulated systems.

OPPORTUNITIES AND CHALLENGES IN GLOBAL DAIRY

Opportunities abound for the worldwide dairy industry with a swelling global population, an ever-growing middle class across the developing world, rising incomes and expanding urbanization. Yet despite these opportunities, many challenges remain, characterized by overproduction, worrying price volatility and risk to farmers and processors of having nowhere to sell their products.

Growing global demand

From 2009 to 2016, the global fluid milk market grew at a rate of nearly two per cent per year reaching a volume of 214 billion litres in 2016. Between 2005 and 2015, the global demand for butter, cheese, Skim Milk Powder (SMP) and Whole Milk Powder (WMP) also increased significantly and is expected to continue to grow by 2.5 per cent annually through to 2020.[21]

To meet global demand, the OECD estimates that total world milk production will jump nearly 25 per cent from 748 million tonnes in 2013 to 928 million tonnes in 2023.[22]

However, this includes dairy-producing powers such as India and China that have ramped up production and increased their ability to fill domestic demand, even as they currently continue to import. This means that traditional dairy exporting jurisdictions (US, Europe, Australia and New Zealand) may not have reliable markets to sell into resulting in a pervasive oversupply will continue to fuel price instability around the world.

Emerging global consumption trends

In today's interconnected, technology-driven world, consumers are positioned to demand more from the global food production system. Dairy farmers and processors alike must become innovators to address concepts virtually unheard of a generation ago such as 'sustainability', 'naturalness', and 'reduced environmental impacts' as consumers question the use of genetic modification, growth hormones and pesticides.

For example, North American consumers are shifting from the more traditional fluid milk to innovative items such as pre- and probiotics, lactose-free and calcium or omega-3 fortified products. A modern appreciation for butterfat has also led to significant consumption increases in both Canada and the US resulting in new products like butter coffee and brown butter cocktails. Restaurant giant McDonald's has also switched from margarine to butter as part of its popular all-day breakfast menu.[23]

For the dairy industry to successfully innovate across the value chain, a stable supply of milk products at predictable prices needs to be readily available. Canada's regulated system effectively provides that stability since producers and processors get their revenue from the domestic market, are not reliant on government-supported programs and subsidies and are partially shielded from global price volatility. This allows Canadian producers and processors to invest in innovative ideas and practices with confidence, as evidenced by the growing popularity of grass-fed dairy in Ontario and British Columbia, new milk growlers (self-service dispensing) in BC or 'traceable milk' labels by smaller processors in Quebec and BC who use it as a marketing advantage by allowing consumers to see exactly which farms their milk came from.

Volatility in world prices

Despite steadily growing global demand, recent years have been excessively turbulent for dairy producers around the world as milk prices continue to be some of the most volatile in the entire food sector. Over the past five years, massive swings in world milk prices have been observed with fluctuations of +/- 50 per cent ranging from $69.50 ($56.00 USD)/100 kg in February 2014 to $27.40 ($22.10 USD)/100 kg in May 2016.[24]

The following tables demonstrate how certain dairy products have been subjected to significant price volatility since 2014. The prices at which these products are traded directly impact the 'combined world prices'.

Figure 10. World Price of Butter ($/kg)[25]

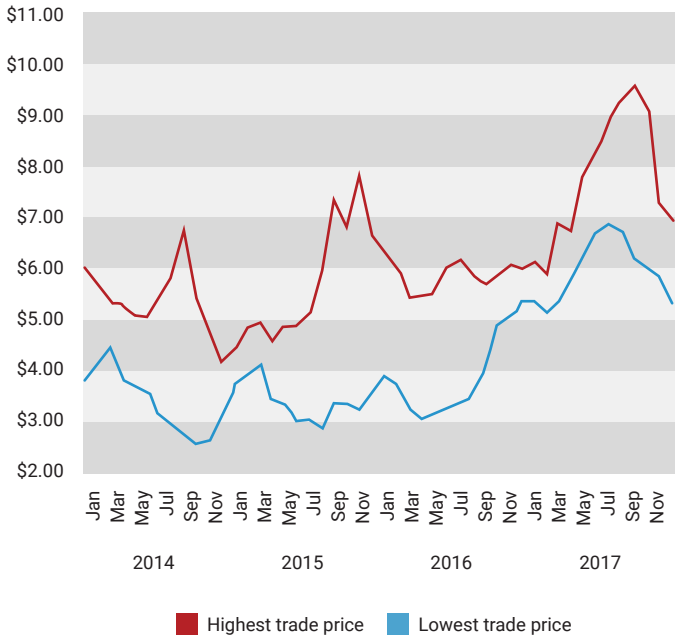


Figure 11. World Price of Cheese ($/kg)[26]

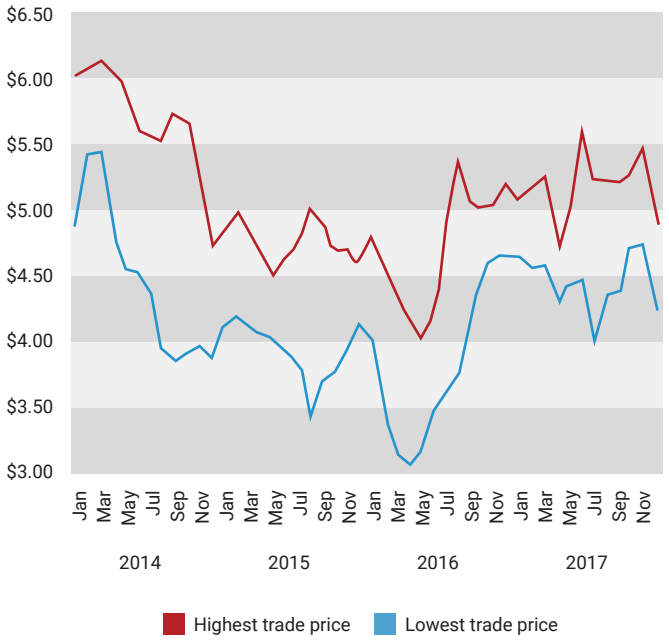


Figure 12. World Price of SMP, 2014 to 2017 ($/kg)[27]

Figure 13. World Price of WMP, 2014 to 2017 ($/kg)[28]

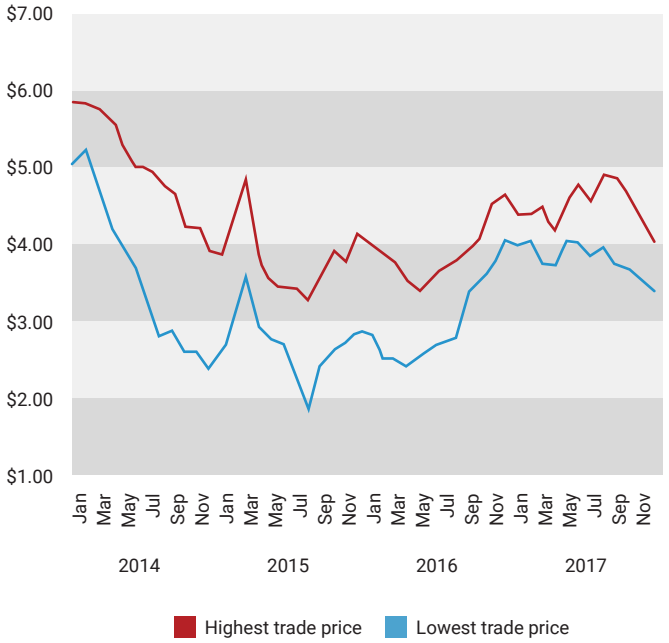
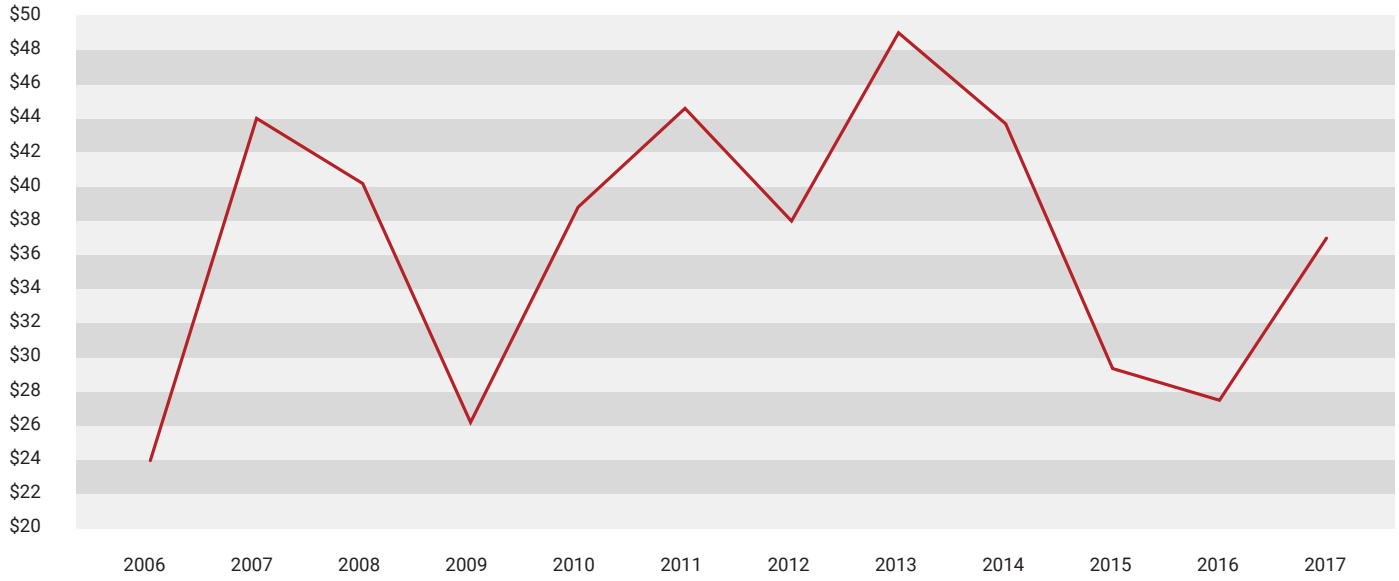


Figure 14. Combined World Milk Prices. Weighted average of 1. Skim Milk Powder & butter (35%), 2. Cheese & whey (45%), 3. Whole Milk Powder (20%) (USD/100kg)[29]



Unlike Canada, the United States and other countries have no system in place to coordinate supply. This forces farmers to make independent production decisions which lead to overproduction with little regard to the impact on the market and to other producers. As a result, farmers are much more susceptible to the boom and bust cycle of price volatility which in turn hinders long-term planning and investment.

This inability to keep farm prices stable in the global dairy industry becomes obvious when examining highly traded commodity products such as butter, cheese, SMP and WMP on an individual basis.

As butter continues its reputational redemption as the healthier alternative to margarine, prices have steadily increased in recent years – most notably in the summer of 2017. Although they have dropped somewhat since then, prices remain high when compared to previous years.

With respect to SMP, the EU has stockpiled over 380,000 tonnes which has led to widespread uncertainty for the world commodity market and, consequently, prices remain low. Similar unpredictability hampers the global cheese and WMP markets.

Opportunities and Challenges in Global Dairy

KEY POINTS

While demand for virtually all dairy products grows steadily around the world, over the past five years price volatility has created an unstable operating environment for the industry. This unpredictability is found throughout the dairy sector across jurisdictions and is due to the volatile nature of traded products, which can result in farm prices varying by as much as +/- 50%.

As demand increases, the global dairy industry is responding to consumer demands. A dairy system that is more stable and predictable is more effective at attracting investment in technology and in encouraging innovation over the long-term.

Because Canada's supply managed dairy system is by its very nature tied to domestic production and consumption, it serves to balance the outputs of Canada's dairy farms with the ability of Canadian processors to meet consumer demands for high-quality, innovative products. When measured against the limitations of deregulation, supply management creates a stable and sustainable environment in which capital can be invested and innovation remains viable.

COMPARISONS OF GLOBAL DAIRY PRICES

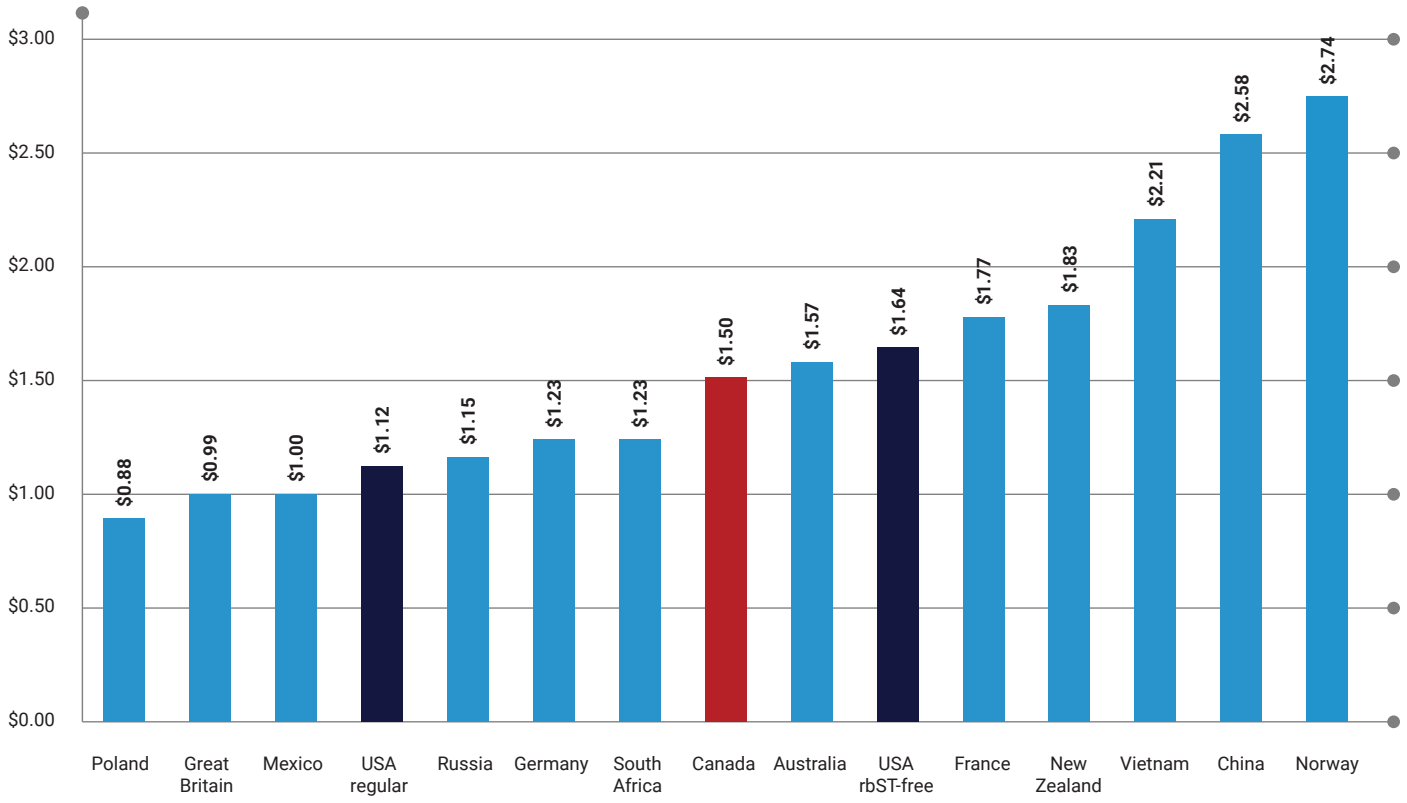
One of the main critiques of Canada's supply management system is that it forces Canadian consumers to pay higher prices for dairy products compared to prices found in other countries.

Critics of the status quo claim that unleashing free market forces on the dairy sector would lower prices across the board. The reality is not so simple as there are many factors that determine retail prices in all jurisdictions. To seek a more accurate picture of prices as opposed to comparing a few price points at a specific moment in time, Nielsen, a firm that tracks a multitude of price points in many countries throughout the year, provided data that calculates a weighted national average for fluid milk and other dairy products in various jurisdictions.

Global fluid milk prices

Nielsen data show the current average Canadian fresh milk retail price is on par with fresh milk prices around the world. While prices are lower in the UK and Russia, Canadians pay less for milk than consumers in countries such as Australia and New Zealand (two deregulated dairy markets), and Canadian milk prices are much lower than prices in France, Norway, Vietnam and China.

Figure 15. Global Retail Fluid Milk Price, 12-months ending October 2017 (per litre)[30]

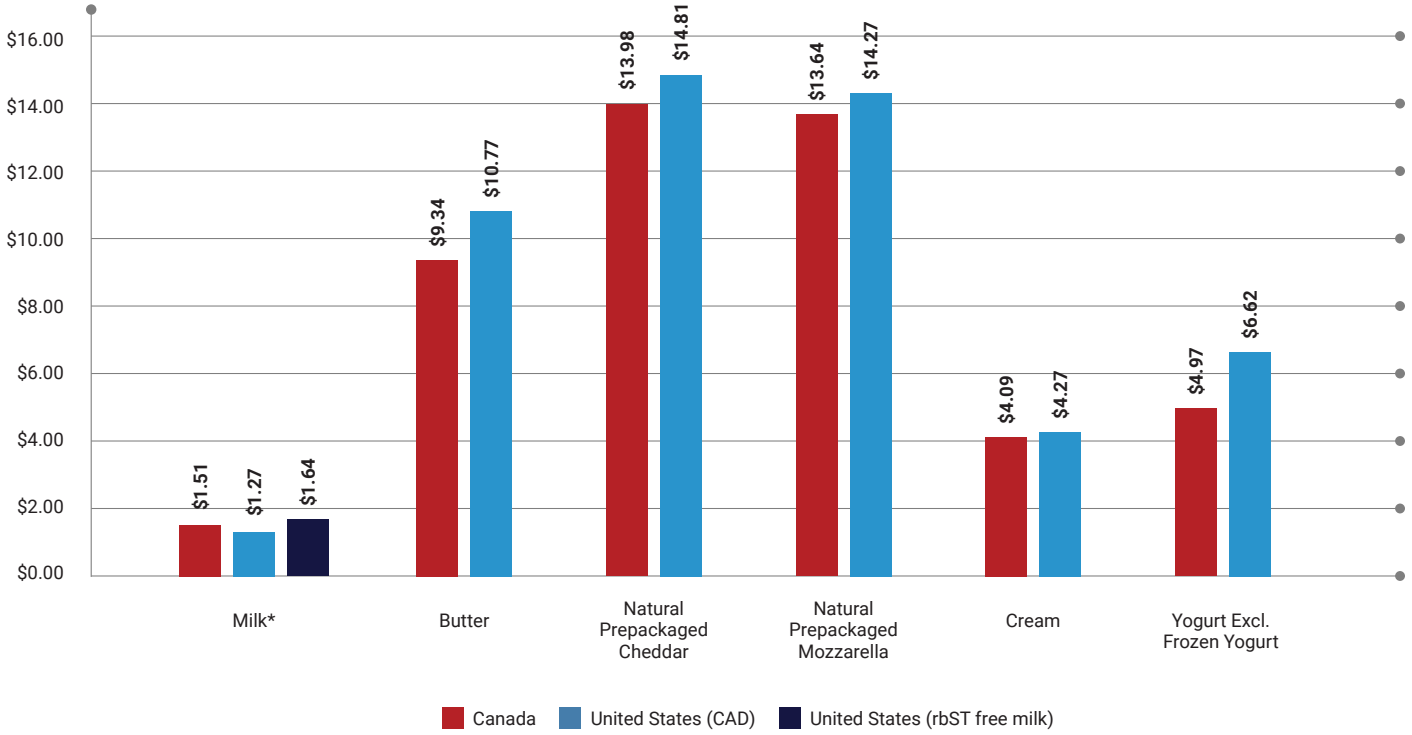


Canadian and American prices on leading retail dairy products

With respect to specific dairy products, Nielsen data also show that Canadians currently enjoy lower retail prices for most items compared to their American neighbours, contrary to the longstanding claim that dairy is cheaper in the US. On average, and subject to fluctuating exchange rates, Canadians and Americans pay similar prices for fluid milk and cream, while Canadians pay significantly less for products such as butter, naturally pre-packaged cheddar cheese, naturally pre-packaged mozzarella cheese and yogurt.

Of note is the difference in average price between 'conventional' and 'rBGH-free' milk in the US. The use and sale of this growth hormone (better known as rbST) is not allowed in Canada and the size of this niche market for rbST-free fluid milk in the US is roughly equivalent to the entire Canadian fluid milk market.

Figure 16. Retail Price Comparison: Canada-US 12 month period ending October 2017[31]



**All milk in Canada is rbST Free. Exchange Rate: 1.3101 USD/CAD. Source: Nielsen (2017)*

Factors that dictate retail prices

There are numerous internal and external factors that determine the retail prices of dairy and other products in individual countries. These include exchange rates, markups along the supply and value chains, the volatile nature of commodity prices, retailer strategies, weather conditions, and government policies.

A 2013 Senate of Canada report examined why prices on many goods remained higher in Canada from 2008 to 2012 when the Canadian dollar was in relative parity with the US dollar. The report determined there were numerous factors that had to be considered including country-specific pricing by manufacturers and the varying costs of transportation in each country. The report also found that Canadian importers may pay a higher price than American importers because of the smaller volume of goods they purchase from foreign manufacturers.[32]

Another key driver of dairy price is of course the markup(s) as raw milk moves from the farm level to the processor level and finally to the retailer who ultimately determines the price paid by consumers. Thus, anecdotal evidence of lower prices in specific countries and regions for specific products are often observed. Retailer strategy coupled with price volatility only adds to this phenomenon, which is essentially a snapshot in time as opposed to the empirical price data shown above where the comparison is valid – i.e. the products being compared are commensurable.

The effect of undocumented labour on US dairy prices

A widely acknowledged yet under-reported phenomenon which affects dairy prices in the US is the role undocumented workers play. According to a 2015 report commissioned by the National Milk Producers Federation (NMPF), nearly half of all workers on US dairy farms are immigrants, and US dairy farms are so reliant on immigrant labour that losing this resource could result in the loss of one-in-six dairy farms and cut US economic output by $39.86 billion ($32.1 billion USD).[33]

The NMPF says if all immigrant labour was lost, retail milk prices would increase 90 per cent, driving the supermarket price of a gallon of milk (3.78 litres), which averaged $4.18 ($3.37 USD) in June 2015, to approximately $7.95 ($6.40 USD). However, it is very likely that losing immigrant labour would be financially disastrous for US farmers and would drive up production costs significantly and likely result in the need for further government subsidies.

While the survey results do not distinguish between documented and undocumented foreign-born workers, 71 per cent of survey respondents said they had either low or medium level of confidence in the employment documents of their immigrant workers. Along with lower minimum and average wages, this is a massive advantage enjoyed by US dairy farmers (in addition to a myriad of other federal, state and local government subsidies) to an extent that is not found in several other dairy-producing markets including Canada.

Comparisons of Global Dairy Prices

KEY POINTS

It is a myth that Canadians always pay more for milk compared to consumers in most other countries. While prices are currently lower in some countries such as the UK, Germany and Mexico, Canadians pay less than consumers in milk-producing countries such as the US, Australia, New Zealand and China. In 2017, many leading dairy products (cheese, butter and yogurt) were significantly cheaper in Canada than in the US, while products such as cream and fluid milk are comparable.

When comparing prices with the US it is important to note that while fluid milk not labelled free of recombinant bovine growth hormones (rbST-free) costs less in the US, Canadian consumers only have access to rbST-free milk in Canadian stores, which is cheaper in Canada than in the US.

US dairy also has a significant labour advantage over Canada due to a lower average minimum wage in many states and an over-reliance on undocumented workers on dairy farms. Per their own report, the National Milk Producers Federation estimates that eliminating immigrant labour would cause US dairy prices to increase by 90 per cent. Given the amount of US dairy products that already enter Canada ($557 million in 2016, compared to the $112 million Canada exported to the US – a 5:1 ratio), Canada and any other country that imports US dairy should consider a dumping challenge against the US since prices are clearly well below the actual costs of production.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UNINTENDED CONSEQUENCES OF DEREGULATED DAIRY SYSTEMS

Having examined the management of the dairy industry in a number of countries, including Canada, we now turn our focus to considering the consequences of these practices.

The interconnectivity of overproduction, dumping of excess supply and price volatility pose constant challenges for the global dairy industry. They wreak havoc on the market and can result in significant ramifications for both farmers and consumers. Many governments have implemented free-market policies, since this conventional wisdom approach has worked well in other industries. But the evidence we have provided shows that for the most part, it has not worked as intended for dairy.

Overproduction in the US, Europe and Oceania

A predominant feature of deregulated dairy systems is recurring cycles of overproduction. Overproduction is a widespread issue in virtually all leading dairy-producing US states including New York, Wisconsin, Michigan and throughout the Northeast. For example, in Wisconsin, the state government has enacted legislation enabling the creation of large farms[34] and implemented programs designed to increase milk production.[35]

In Europe, thousands of farmers have been pushed out of business due to a cycle of overproduction, causing milk prices to plummet. The dairy system has faced further shocks due to the end of milk quotas in 2015 after three decades, the Russian ban on European food imports and plunging oil prices. European markets were stabilized for many years thanks to national milk production quotas. Removing them was supposed to help farmers take advantage of export opportunities and find new sources of growth. However, in practice, overproduction has reemerged, prices have plummeted and profits have been scarce.[36]

Even New Zealand, where dairy is a key economic driver contributing over seven per cent of its $244.9 billion ($270 billion NZD) GDP, overproduction continues to pose problems for farmers.[37] Fonterra, the country's leading dairy co-operative, increased its milk output by three per cent in October 2017 from a year earlier – but that is bad news for world dairy prices, which declined to a seven-month low.

Dumping of excess supply

In October 2016, the Wall Street Journal reported that in the first eight months of that year, American farmers deliberately dumped 162 million litres (43 million gallons) of milk due to oversupply – enough to fill 66 Olympic-sized swimming pools. The dumping was the largest in over 15 years and showcased a remarkable shift from two years earlier, when a milk shortage prompted the increased production.

Milk is being dumped in Michigan due to lack of processing capacity.[38] In Idaho, producers lost contracts in late November 2017 due to oversupply and 10,000 cows were put up for sale.[39]

In the US Northeast Marketing Area administered by the USDA Dairy Program – which includes Vermont, New Hampshire and large parts of New York and Pennsylvania – the amount of milk dumped every year has been steadily increasing since 2000.[40]

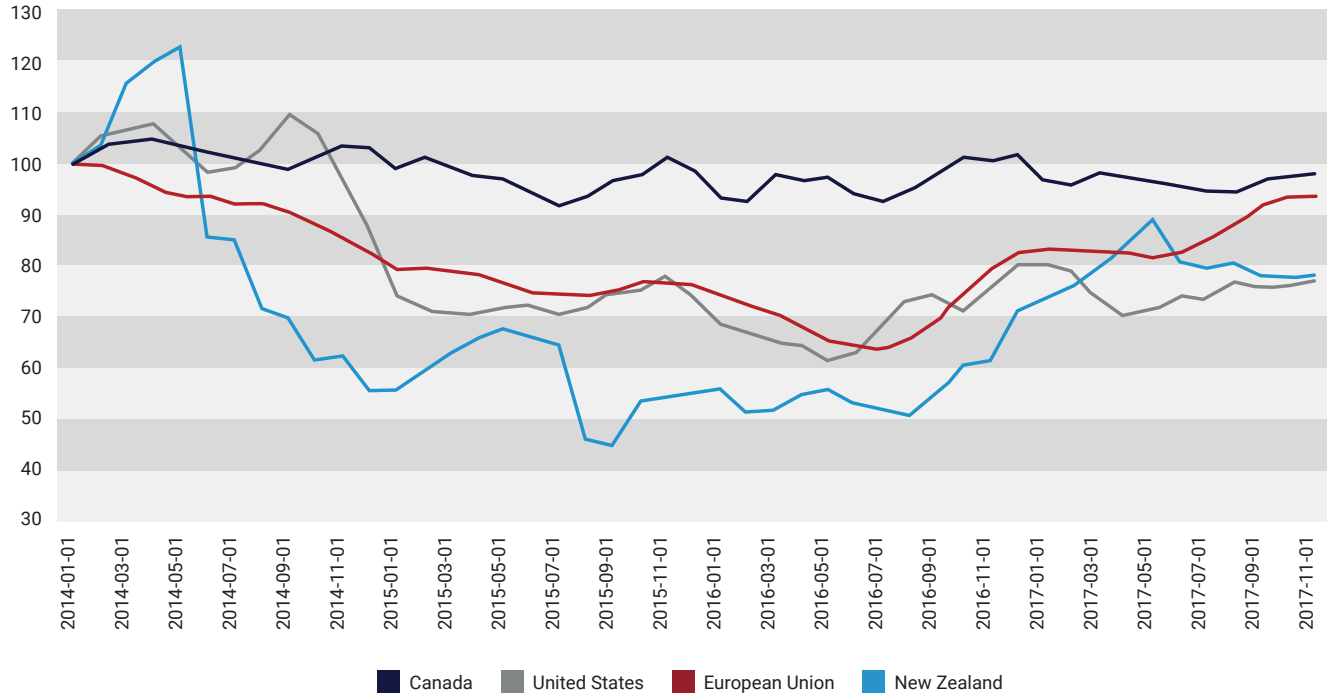
Additionally, China, one of the world's leading milk producers,[41] has been forced to dump milk and slaughter cows to cut financial loses – in part due to a dairy industry in need of modernization.[42]

Disposing of milk is not only observed in deregulated systems. Canadian dairy farmers have also had to rid themselves of excess skim milk. In 2016, Ontario dairy farmers were forced to use millions of litres of excess skim milk for animal feed while the remainder ended up in biodigesters, lagoons or manure pits. However, like China, this was due in large part to the lack of processing capability in the province at the time.[43]

Continued price volatility for farmers

As illustrated in Figure 14 world milk prices have been unstable with fluctuations of +/- 50 per cent in a range (yearly average) between $30.92 ($24.00 USD)/100 kg in 2006 and $63.13 ($49.00 USD)/100 kg in 2013.[44] The result is that across jurisdictions, deregulated systems have subjected farmers to the instability that persists as world prices fluctuate. While price volatility of a globally traded commodity is not unique to dairy, this instability stands in contrast to the comparative steadiness of a regulated system such as Canada's. It also demonstrates how a lack of balance between production and consumption only fuels price instability, particularly as production increases faster than demand, resulting in prices falling thereby negatively affecting farmgate returns.

Figure 17. Gross Farm Revenue Index per HL by Jurisdiction, 2014 to 2017 (January 2014 = 100)[45]



New interventionist measures in Europe

To ease its own milk crisis, the European Commission has mobilized more than $1.5 billion (€1 billion) in new money to support hard-pressed farmers.

In addition to a $762 million (€500 million) package that was presented in September 2015, EU farmers received another $762 million in 2016 to address one of the worst crises they have ever faced. This latest package included financial incentives to reduce milk production with further conditional adjustment aid to be implemented at the Member State level. It also included several technical measures aiming to provide flexibility and cash-flow relief, and to reinforce a safety net by prolonging intervention and private storage aid for SMP.[46]

Calls for supply management-style policies in the US

As the Trump administration continues to criticize and call for the dismantling of the Canadian dairy system, it is noteworthy that many US dairy interests support supply management. In fact, at least six American dairy groups have called for the adoption of Canadian-style policies precisely to safeguard against the injurious price volatility that has recently hurt farmers in major dairy-producing markets around the world.

As early as 2009, US agricultural interests voiced their support for the managed supply of agricultural goods including dairy. In December of that year, the National Council of Farmer Cooperatives (NCFC), representing America's farmer cooperatives, published its support for supply management, taking the position that it is "ubiquitous and necessary throughout the US agricultural sector."[47]

In 2011, the National Milk Producers Federation (NMPF) released a paper entitled 'Foundation for the Future' in an attempt to influence the 2014 Farm Bill. The paper contained several proposals to stabilize price and control production – two key elements of a supply management program.[48]

In January 2017, the Wisconsin Farmers Union (WFU) formally adopted a policy position that "encourages farmers who are members of cooperatives to advocate within their coops for supply management, in order to avoid costly dumping of milk due to oversupply." The WFU further advocates for "a federally oriented supply management system, which would reduce costly overproduction, ensure adequate income for farm families and provide the public with sufficient supplies of safe and nutritious food."[49]

Similarly, the National Farmers Union (NFU) in March 2017 called for the adoption of dairy supply management via US federal legislation and urged Congress to "develop a comprehensive dairy program to allow dairy producers across the nation to receive a profitable return on their investment." [50] The NFU took the further step of submitting NAFTA advice to US Trade Representative Robert Lighthizer stating, "Recently, Canada's pricing system on dairy has received substantial criticism from national dairy organizations and the Administration. While fair trade is essential and both parties to a trade agreement must carry out the provisions to which they have agreed, the US should support other nations' sovereignty. In other words, the US should not work to undermine a system that benefits family farmers on either side of the border."[51]

Finally, in a joint submission to USTR Lighthizer, both the National Family Farm Coalition (NFFC) and The Institute for Agricultural & Trade Policy (IATP) expressed their support for Canada's supply management policies and asked that during the NAFTA negotiations, the US not "pressure Canada to weaken its dairy supply management program," further stating, "Undermining Canadian supply management will not bring a large increase in US dairy exports. Supply management helps ensure that dairy prices are high enough to cover the cost of milk production and keep Canadian family dairy farmers in business. The lack of US dairy supply management results in overproduction and dairy processors pouring millions of gallons of raw milk… Rather than exporting a dairy trade model that benefits price-fixing companies, the US should emulate Canadian dairy supply management…"[52]

Unintended Consequences of Deregulated Dairy Systems

KEY POINTS

There are many sectors in which deregulation has proven successful such as aerospace and telecoms. However in many major dairy-producing markets, deregulation has fueled oversupply. This has led to the dumping of excess milk and resulted in price volatility for both farmers and, to a lesser extent, consumers.

While a lack of processor capacity has been the cause of some dumping in both deregulated and regulated dairy markets (including in Canada), most of the dumping is due to overproduction. In numerous cases, deregulation has exacerbated the problem, resulting in millions of litres of milk being discarded every year because the forecasting of demand is left in the hands of individual farmers. This has led to serious miscalculations and farmers have often been unable to find buyers for their milk.

With little or no coordination mechanisms, farmers generally err on the side of producing more milk. In the US, processors do attempt some level of coordination, but they tend to wait until it's too late. The result is that instead of farmers being advised to limit production, they are dropped as suppliers.

The trend toward deregulation of the dairy industry has made it clear to many agriculture groups in the United States that Canada's supply management system is a model worth adopting. There is a growing understanding that the response to unpredictable market signals needs to be coordinated. Otherwise, dairy producers will respond to both positive and negative price signals by producing more milk, attempting to increase the farm's bottom line – resulting in severe overproduction issues.

Interestingly, while quotas were initially introduced in Europe in the early 1980s to combat excess production, abolishing them in 2015 (in the hope of capitalizing on export opportunities) has resulted once again in oversupply.

Despite the rhetoric of the Trump administration, US dairy interests are not unanimously seeking new access to the Canadian market as part of NAFTA 2.0 negotiations, nor are they opposed to Canada's regulated dairy sector. Quite the opposite; many want the type of stability supply management creates and are calling on their own governments to introduce similar policies.

CONCLUSION

At the outset, we sought answers to three questions as we looked at Canada's supply management system within the context of aggressive US demands as part of NAFTA 2.0 talks:

How does Canada's dairy industry compare with others around the world?

Would farmers and processors be better off in a deregulated or mixed system?

Are retail prices lower in jurisdictions that have abolished regulated dairy systems?

Without question, compared to dairy systems around the world, Canada's system is heavily regulated. Supply management and its pillars maintain strict pricing, production and import controls not found in many other jurisdictions. However, state intervention is prevalent in most major dairy-producing jurisdictions, since vast government subsidies are made available to industry in both deregulated and mixed systems. Simply put, deregulation did not deliver on the promise of providing the so-called appropriate market signals to farmers, and this compelled governments to intervene.

The results for farmers and processors in deregulated systems have been mixed. Overproduction is a persistent problem and price volatility is rampant. Both have been injurious to farmers and have contributed to a lack of processing capacity. Regulating production, pricing and other controls as is done in Canada creates stability across the value chain and avoids many of the problems faced by farmers and processors in deregulated markets. Ultimately, if it is stability and predictability that policy makers are striving for, Canada's system has been successful. Farmers are better off and have avoided the harmful effects of unpredictable pricing and revenue.

As for consumers, again, the results are mixed and ever-changing. What is clear is that there is no proof that deregulated systems automatically lead to lower prices for consumers. In fact, average prices are comparable across regulated and deregulated systems. Currently, Canadians pay lower prices on average for fluid milk than consumers in the US, New Zealand and Australia. Canadians also pay significantly less than Americans for butter, yogurt and cheese. However, prices are affected by numerous factors and cannot be solely attributed to a regulated or deregulated dairy system. Labour costs, exchange rates, market forces, processor and retailer costs and strategies, and other factors ultimately contribute to consumer prices.

In the end, questions about dairy systems are not easily answered, nor are simplistic conclusions easily drawn. What is clear is that a regulated system such as Canada's provides greater stability across the value chain, whereas deregulation creates perpetual instability and unpredictability for farmers, processors, retailers and consumers. Across all systems – whether regulated, deregulated or mixed, governments play a direct or indirect role. This is to be expected when dealing with an industry that is a major economic driver, centred around a highly

perishable commodity. Though this is indeed a complicated policy question, Canada's supply management system is a preferable approach compared to deregulation, with clear benefits for farmers, producers, consumers and all levels of government.

However, the stability created by supply management across the dairy sector's value chain continues to be threatened by trading it away piece by piece in successive trade negotiations. A global oversupply of milk has resulted in waste and price volatility for farmers and continuing to allow other countries new access to the Canadian market forsakes the very stability Canadians have enjoyed for the past 50 years. With the Trump administration demanding increased access to the Canadian market as part of the NAFTA 2.0 talks, it is well worth asking whether replacing a highly regulated system with a deregulated or mixed system is worth it. After careful consideration of the data, we would argue the status quo in Canada is better for all key stakeholders, including farmers, governments, consumers and taxpayers.

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