A study mandated by



AGROPUR Dairy Cooperative

Analysis of the potential impacts of the end of supply management in the Canadian dairy industry



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Foreword

The Boston Consulting Group (BCG) is an international strategy consulting firm working in Montreal and worldwide with multinational organizations facing complex and global challenges.

In recognition of this expertise, Agropur has appointed BCG to lead an independent study in order to understand what the impacts of abandoning the supply management system could be on the dairy industry in Canada.

This document is thus meant to be an objective and fact-based analysis of the dairy product supply management system in Canada. Relying on an in-depth international benchmarking analysis and documented hypotheses, we looked to identify possible stakes and consequences of an immediate market opening.

To this end, a scenario was created, with specific assumptions, to determine the impact on producers and processors of a full opening of the current system without intervention from the State and without a transition period.

The objective of this study is to feed thinking about the potential impact of an abandonment of the supply management system. At a time when the system is under pressure, and when new stakes are emerging, we aim to provide additional analyses to contribute to the public debate.

Contextual setting and objectives of the study

The Canadian dairy industry is facing significant pressures as Canada is currently negotiating several free-trade agreements, notably in the context of the Trans-Pacific Partnership. Some trade partners wish for Canada to open its dairy markets to imports, or even abolish supply management altogether. Others in Canada are also asking for the end of supply management, suggesting that several other countries have undertaken dairy deregulation and are doing much better today.

The approach selected in this study includes: an international benchmarking of several countries and regions that have experienced a deregulation of their dairy industry, an in-depth analysis of the US dairy industry as a potential supply source for Canada, and an analysis of the potential economic impacts of the end of supply management according to a defined scenario. Throughout this study, the impacts of deregulation are assessed for all players of the value chain: the producers, the processors, the consumers, the retailers, and the State.

The content of this report is a summary of the results from BCG's study.

The dairy industry in Canada

Supply management was put in place in Canada in the early 1970s to counter price instability, supply uncertainty, and producers' revenue fluctuations. The system relies on 3 pillars: production control, price setting, and control of imports. Although the Canadian dairy system has evolved since its creation, maintaining these 3 pillars is essential to reach the supply management objectives in the dairy industry. Thus, we observe a tight control of the dairy industry with market sharing quotas as well as tariff quotas – off-quotas tariffs can vary between 200% and 300% depending on the product. In Canada, there are approximately 12,000 dairy farms. They produce about 8 billion litres of milk each year that are sent for treatment and processing to approximately 450 dairy plants¹. It is important to note that the federal government ended dairy subsidies in the early 2000s. Since then, the dairy sector has received no specific subsidy; producers and processors thus receive all their revenues from the market.

When modeling the economic impact with 2013 data, we observe that the direct and indirect contribution of the dairy industry to Canadian GDP exceeds 13 billion dollars:



Economic contribution of the dairy industry to Canadian GDP²

1. Excludes the taxes received by the federal government, provincial government, pension contribution and unemployment insurance, and includes the industry-specific marginal profits 2. Taxes on profit, on wage bill, and other indirect taxes such as land tax and other city taxes 3. Added value and salaries received by suppliers upstream from the participants to the value chain

Again, according to this economic analysis, the Canadian dairy industry generates about 117,000 direct jobs: 43,000 in production, 23,000 in processing, and 51,000 in distribution, retailing, and catering.

Dairy production and processing activities are spread across all Canadian provinces, and are a significant source of development in several regions.

¹ Source: Canadian Dairy Information Centre; 2014.

² Source: Statistics Canada; BCG analysis

Benchmark: Analysis of the dairy industry deregulation in other countries/regions

The full or partial deregulation of dairy industries in other regions of the world has been analyzed in detail, in order to assess its impact on the different players in the value chain. The targeted countries and regions have all experienced, or are about to experience, some form of deregulation of their dairy industry. They are: Australia, New Zealand, the European Union, the United Kingdom, and Switzerland. Moreover, a complete section of this report is dedicated to benchmarking the United States as a potential supply source for Canada.

	Canada	United States	EU	Switzerland	United Kingdom	Australia	New Zeland
	*			+		* ***	***
Population (millions)	36	315	507	8	64	24	4
Dairy farms	11,960	45,340	631,880	24,100	14,160	6,300	11,930
Milk production (million L.)	8,594	91,271	154,041	3,988	13,470	9,516	20,202
Production per capita (L.)	239	290	304	499	210	397	5,050
Number of cows (thousands)	959	9,221	23,243	584	1,820	1,700	4,785
Number of cows per farm	80	203	37	23	128	268	413
% of global production	1.3%	14.1%	23.8%	0.6%	2.1%	1.5%	3.1%

Countries/regions analyzed in the benchmarking framework³

Australia

Between 1986 and 2000, Australia set an objective of increasing its global dairy trade participation. To that end, the country led a first deregulation phase in the industrial milk industry through a significant decrease of State support and supervision. In consequence, raw milk prices for industrial milk converged toward international prices. This first liberalization phase enabled Australia to increase its dairy production by 72% over 10 years – a growth of more than 4 billion litres of milk with 93% of this growth translated into exports, at a time when international dairy product prices were increasing.

While the Australian government wished to limit its subsidies and encourage free trade between its provinces, the country started a complete deregulation of its dairy industry in 2000 by fully eliminating production quotas and the minimum price for drinking milk, among other items. The deregulation has been accompanied by several governmental financial support programs. A major part of these programs' budgets has been dedicated to a transition program intended to enable the restructuring of dairy farms. Part of the financial support has also enabled some farmers to abandon dairy production. The total cost of the government programs was AU\$ 2 billion, entirely funded by an AU¢ 11/litre tax on drinking milk over an 8-year period.

Between 2000 and 2002, right after full deregulation, a decrease of 7% per year in the number of dairy farms was observed. The country lost 2,000 farms in two years.



Evolution of the number of dairy farms in Australia⁴

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<sup>4</sup> Source: Australian Dairy Industry in Focus 2014 - Dairy Australia; BCG analysis
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Additionally, deregulation had varying effects depending on the country's regions. We observe a production shift from the northern regions of Australia, with higher production costs, toward more southern ones, including Victoria and Tasmania, where production costs were lower and that benefited from more favorable climatic conditions. However, overall, there has been a reduction in the number of farms.



After having experienced a strong growth of dairy production between 1990 and 2000, during the first deregulation phase, we observe a reverse trend between 2000 and 2014, following full deregulation. During this period, production dropped by 1.6 billion litres, a 15% decrease.



Evolution of dairy production in Australia⁶

Australia's ambition was to become a more significant player in the dairy product global trade. After having experienced notable progress of 9% per year from 1985 to 2000, exports have continuously decreased since 2000 at an average annual rate of 3%, eventually returning to 1996 levels in 2013. While Australia once represented 18% of global dairy product exports, its share today is only 6%, a third of the share it held in its glory days.



Exports of dairy products from Australia⁷

⁶ Source: Australian Dairy Industry in Focus 2014 – Dairy Australia; BCG analysis ⁷ Source: OECD; BCG analysis In the absence of large Australian players, industry consolidation has been driven by international processors. With the deregulation of drinking milk, there has been a production increase from private labels, with the effect of decreasing processors' margins and lowering consumer price. Meanwhile, consumer prices of other dairy products such as cheese and butter increased faster than inflation over the last 10 years.



Globally, if we assess the success of Australia's dairy deregulation objectives, including the growth of dairy product exports, we can conclude that the results are mixed. Australia has experienced a strong growth in both dairy production and exports through the early 2000s. However, the size of the dairy industry has decreased over the 12 years that followed the second deregulation phase. Exports have been continuously decreasing since 2000 while imports are increasing. Lastly, a growing share of the dairy producers show higher net profits today than in the past, but globally, the Australian dairy industry has declined over the last 15 years.

Some will say that the dairy industry business plan in Australia, after some initial successes, has not fulfilled its long-term objectives.

Key lessons from the Australia benchmark – Impacts on main players



Producers	•	Strong decrease of the number of farms after the deregulation Production shift from North to South Increased farm profitability due to the rise of global prices, but higher price volatility
Processors	•	Lower competitiveness due to the absence of local, large- scale processors. Foreign processors are taking a growing share
Retailers	•	Consolidation of the three largest retailers Growth of private labels in drinking milk, used as a loss leader
Consumers	•	Funding of the deregulation through a tax on drinking milk, for a total of about AU\$ 2 billion Price decrease in drinking milk with the arrival of private labels Price growth above inflation for cheese and butter
State	•	Job losses in northern regions Decrease of governmental subsidies Transition funded by a temporary tax

New Zealand

The New Zealand government also got involved in the consolidation and development of its dairy industry through 2 deregulation waves. In 1984, the government launched a series of reforms aimed at limiting its interventions in several sectors. It then abolished subsidies to the dairy sector, but kept the New Zealand Dairy Board as the single exporter of dairy products.

In 2001, with the stated objective of becoming the worldwide leader in dairy product exportations, the government accepted the merger of the New Zealand Dairy Board with the 2 largest dairy cooperatives in the country, Kiwi Coop Dairies and New Zealand Dairy Group, representing 96% of the market. This is how the Fonterra cooperative was born. The New Zealand Parliament subsequently voted a law to allow the merger of the different dairy coops: the Dairy industry restructuring law. This law's main objectives were to enable the creation of Fonterra, while protecting producers through different provisions, including access to the cooperative and the payment of dividends.

Since the creation of Fonterra, and in a context of growing international prices, we observe that the dairy production experienced a significant annual growth of 4% since 2000 and now exceeds 20 billion litres, i.e. more than 3 times 1980 production levels. Almost all of the growth observed goes to exports, which represent 95% of the New Zealand dairy production.



Over the period from 1980 to 2014, the growth in production and profitability of dairy farms in New Zealand is mainly explained by the increase in international prices. The prices paid to the producers are actually linked to international prices due to the dairy industry's strong dependence on exports. Moreover, the majority of dairy producers are members of Fonterra, which has certainly also had an impact on the profitability of farms given that they can benefit from the added value of milk processing.

12 ⁹ Source: New Zealand Dairy Statistics; BCG analysis



Note: 1 \$NZ = 0.845 \$ Can - Average 2013 exchange rate - Bank of Canada

New Zealand benefits from exceptional climatic conditions to favor the growth of its dairy production. The abundance of pastures, high rainfall, the absence of extreme cold and heat – basically the temperate climate of the country, are all favorable conditions for milk production. By having a production model mainly based on pasture production, costs have remained very low and as a result, New Zealand has succeeded in becoming a significant dairy producer and the main dairy product exporter worldwide.



¹⁰ Source: New Zealand Dairy Statistics; BCG analysis

¹¹ Source: Agritel; Department of Agriculture of the Australian government ABARES 2014 - Agricultural commodities Dairy NZ Economic Survey 2012-13; Northeast Dairy Farm Summary 2014; University of Wisconsin; University of Michigan; USDA; European Commission - FADN database (2012); Agroscope report 2013; Ontario Accounting Project 2013; BCG analysis However, we observe that New Zealand's pasture production model is currently reaching its limits, due in part to the limited surfaces available to increase pastures. The high seasonality of milk production also limits market opportunities and increases processing costs, as plants have to absorb very high production peaks during a few critical weeks, and operate below their capacity during the rest of the year. We also observe that, over the last years, New Zealand's dairy production growth has been made along a conventional production model that requires higher infrastructure investments, and in which a higher share of livestock feed comes from cereals, thus increasing production costs and debt ratio. Moreover, the producers have to secure the outlet for their milk by owning shares in Fonterra. Yet, the purchase of new shares forces some to increase their debt in order to ensure growth. The price of farming lands has also gone up, limiting the growth potential for producers. Hence, the access to pasture surfaces and the high cost of the right to increase milk sales within the cooperative are factors that slow down the milk production increase today.



Note: 2013 farm price (\$NZ0.466/litre) x 18,883 M litres (2013 production) = \$NZ 8.7 billions - Revenues from farm milk selling (2013 = 900k x 7680 (owners operators) + 440k * 4180 (50:50 sharemilkers) = \$NZ 8.7 billions

New Zealand is the main dairy product exporter worldwide with about 32% of global exports. A high share of exports is destined for China and other Asian markets, and composed mainly of commodity products, i.e. whole milk powder, skim milk powder, and butter/butter oil.



From a consumer perspective, between 2000 and 2014, yogurt and drinking milk prices remained relatively stable, while cheese and butter prices grew above inflation.



Retail price of dairy products in New Zealand¹⁴

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¹³ Source: OECD; BCG analysis

¹⁴ Source: OECD; BCG analysis

On the strategic side, during a financial crisis back in the days, New Zealand clearly succeeded in developing its dairy production by betting on its comparative advantages, supported by the government through the creation of a global dairy giant, owned by dairy producers, and with the implementation of required infrastructures to increase the production and exportation of dairy products.

* *	 * * * Key lessons from the New Zealand benchmark – * Impacts on main players 				
	Producers	 Production growth of 3.7%/year over the last 30 years Increase of farm revenues and profits in a period of rising global prices While production costs are still among the lowest worldwide, they are increasing and producers are more indebted 			
	Processors	 Fonterra has a strong domestic and international market position with over 80% share in NZ milk processed and approximately 30% share of the global dairy export market Historically it would appear that it has been more difficult for other processors to establish themselves in NZ compared to other markets. However, the market has been shifting rapidly with Fonterra's share dropping from 95 to approximately 85% 			
	Retailers	 Strong consolidation with 2 players representing 70% of the market alone Limited supply source from processors 			
	Consumers	Small-sized and isolated domestic market: little interest for foreign processors			
	State	 Special law enabling the existence of Fonterra's strong market position (>80% share) No subsidies in the government budget Increased revenues from the dairy industry which contribute 7% to the GDP and represent 20% of the country's total exports 			

European Union

In 2003, the European Union announced a gradual end to its milk quotas system, with the objective of increasing the European dairy industry's competitiveness by enabling it to grow and benefit from exports toward promising markets. The chosen approach was an increase of 1% of production quotas per year starting in 2008, until their complete removal in March 2015.

About 70% of the milk production in the European Union comes from 6 countries: Germany, France, the United Kingdom, Poland, Netherlands, and Italy. We observe large differences between the dairy industries in the 28 member countries, from very small, unproductive 4-cows farms in Romania, to highly productive farms of 153 cows in Denmark.



1. Sum of 101% due to rounded numbers. 2. Livestock Unit: measure of equivalence of number of cows according to some adjustment factors such as livestock age

¹⁵ Source: IDF; FADN; BCG analysis

Moreover, one of the elements that bring particular attention to the European dairy industry is the high level of subsidies paid to producers. In 2013, the Common Agricultural Policy (CAP) represented a total of 57 billion Euros. Guaranteed prices and production support measures have been replaced by fixed subsidies in the form of decoupled aids. Milk producers are therefore directly subsidized.



Although it is too early to measure the full magnitude of the impact of the quotas abolition, the analyses performed allow us to highlight several lessons about the evolution of the European dairy industry over the last years, with the gradual increase of quotas of 1% per year since 2008. Two production models can be identified within the European Union; the northern one which is more consolidated and productive, and the southern one which is more fragmented with higher production costs.

¹⁶ Source: "Expenses related to the markets and direct aids" and "Rural development" items in EU "Natural resource protection and management" budget (CAP expenses)

^{18 &}lt;sup>17</sup> Source: European Commission; BCG analysis



When analyzing the production evolution along these 2 models between 2008 and 2013, we clearly observe that northern countries have produced the additional 1% allowed annually by the quotas changes, while southern countries showed no change. The evidence suggests that this production shift toward northern countries could be amplified with the total abolition of quotas in 2015.



Two types of dairy

models observed¹⁸

¹⁸ Source: FADN; expert interviews; BCG analysis

¹⁹ Source: IDF; BCG analysis

On the milk processing side, 11 of the 25 largest global milk processors are of European origin. Our benchmarking shows us that in general, regulated markets seem to create a favorable environment for the emergence of robust milk processors that are leaders in their markets.

Several large dairy cooperatives have emerged, and some clearly dominate the market in their country of origin, such as those in Denmark, Netherlands, or Sweden. This gives a clear advantage to members – milk producers – that benefit, as in New Zealand, from the output of milk processing.



The European Union is one of the main dairy product exporting regions; with 10% of its production exported, it represents 24% of global exports.

At the domestic market level, several regional variations can be observed. With the 1% quotas increase per year, since 2008, we already observe a shift for some markets with higher production potential. For instance, we see that German milk imports in France have increased by 45% since 2008. This trend is expected to continue with the quotas abolition in 2015.



For consumers, we are currently observing significant gaps in dairy product retail prices across countries, in what is a relatively open market. The quotas abolition could favor a certain degree of convergence in prices, but no impact on the consumption level is expected. We generally observe that there is no correlation between dairy product consumption level and price level.

It is too early to evaluate the impacts of dairy deregulation in Europe, but we can already observe that this deregulation is supported by a relevant governmental support, which takes the form of subsidies to farmers. The CAP budget, which aims at supporting milk producers, is estimated at about 10 billion Euros per year. Moreover, it should be noted that European dairy producers are currently suffering from an increased volatility in prices because of the quotas removal.

²¹ Source: IDF; BCG analysis



Key lessons from the European Union benchmark – Impacts on main players

Producers	 Two models: the North, more consolidated and productive; the South, more fragmented with high production costs Since 2008, production shift from South to North while the North has increased its production by 1.3% per year and the southern one has decreased by 0.2% per year Milk producers are highly subsidized, mainly through decoupled aids to production Producers are suffering from an increased volatility in prices
Processors	 11 companies among the top 25 global dairy processors are European
Retailers	Still relatively fragmented market with supply potential from adjacent countries
Consumers	 Retail prices vary depending on the countries, but do not seem to be correlated with consumption
State	 Quotas increase of 1% per year since 2008 with full quotas abolition in March 2015 Important subsidies maintained through CAP The type of subsidies has changed, but the level continues to grow

United Kingdom

In a context of unstable milk production, the Milk Marketing Board (MMB) was created in 1933 in the United Kingdom. The MMB became the single authorized raw milk buyer and seller in the country, and was responsible for setting prices according to a formula that eventually allowed paying a pool price to milk producers. The MMB also owned a processing subsidiary, Dairy Crest, to process milk surpluses.

In 1979, the United Kingdom started 2 decades of economic reforms to liberalize the markets. In 1994, the State chose to deregulate its dairy industry and to dismantle the Milk Marketing Board, privatizing Dairy Crest.

We observe that after 1994, the milk industry experienced a period of strong consolidation in the number of dairy farms with a loss of 16,000 farms in 10 years, i.e. a 6% decrease per year. This consolidation was accelerated by the reforms implemented and the low prices paid to producers over the period, which were lower than those observed elsewhere in the European Union.



Number and size of farms in the United Kingdom²²



The United Kingdom was left with a dairy industry unable to benefit from the 1% annual quotas increase since 2008. In fact, the production has experienced a slight decrease over the last 10 years.



Milk production and milk quotas in the United Kingdom²³

> After 1994, we observe a clear decrease of State interventions in the dairy industry. However, the Common Agricultural Policy of the European Union has been supporting milk producers. While subsidies represented about 10% of dairy farms' net profit before 1994, they represent between 30% and 50% of their profits today.

Net profits of farms and subsidies from the European Union²⁴



Note: 1. Subsidies include subsidies for investment, crops, livestock, support to rural development, external factors, intermediary consumption, decoupled payments, and the other subsidies. 2. The Euro/GBP exchange rate is the average of monthly exchange rates calculated by Eurostat and available in the CRONOS database. 3. European Commission FADN data base only reports the profits until 2012: 2013 and 2014 are estimated based on UK government statistical data

²³ Source: Dairy Co. Datum; BCG analysis

²⁴ Source: European Commission; FDN database; Gov. UK; BCG analysis

The decreasing domestic production has been insufficient to satisfy the national demand, thus putting the trade balance of dairy products in the United Kingdom in deficit for more than 10 years, with a notable increase of cheese imports over the last years.



Trade balance of dairy products in the United Kingdom²⁵

On the processing side, given their relative weakness as compared to other international players, British processors experienced difficulties in adapting to deregulation, resulting in international processors from other countries in the European Union consolidating the industry. 55% of the milk produced in the United Kingdom is processed by international companies today.

In the absence of big local processors, retailers have been able to play a broader role in the United Kingdom through the presence of private labels and a direct supply from producers. Up to 10% of the milk volume produced is directly traded between retailers and milk producers, limiting processors to the secondary role of contracted manufacturers, mainly for private labels.

²⁵ Source: Department for Environment, Food and Rural Affairs; OECD; BCG analysis

Despite 60% of drinking milk sales being under private label, consumers benefited from relatively stable prices. The picture is however very different for cheese and butter retail prices, which increased faster than inflation. Overall, British consumers have not been the main beneficiaries from deregulation in the United Kingdom.



Ultimately, we observe that drinking milk margins have been transferred from processors to retailers. For cheddar cheese, retailers' margins reach almost half of the retail price today.



Margin shift for drinking milk and cheddar cheese²⁷

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²⁷ Sources: Dairy Co.; BCG analysis

²⁶ Source: Department for Environment, Food and Rural Affairs; OECD; BCG analysis

Note: Dairy Co. UK consulted independent industry experts to confirm the typical yield and the transformation cost for cheddar cheese in the UK

The deregulation era in the United Kingdom had significant impacts on the dairy industry, which did not succeed in its attempt to continue growing over the last 20 years. However, the impact on producers has been mitigated due to subsidies and due to the emergence of direct contracts with retailers. The farms still operating today are larger and more productive. They still benefit from the government support through Common Agricultural Policy budgets. Cheese imports, in particular, have strongly increased and foreign processors leveraged the weakness of the local industry to gain solid establishments. As for local processors, they particularly suffered through these changes. We will now have to wait to assess the impact of the quotas abolition in Europe, which also applies to the United Kingdom.

Key lessons from the United Kingdom benchmark – Impacts on main players

Producers	 Strong decrease in the number of farms after deregulation Decreased total milk production despite the allocation of additional quotas Remaining producers are more profitable, partly due to CAP subsidies on which they are more dependent
Processors	 British processors are fragmented and focused on local products, mainly under private labels with low margin Entry of numerous foreign processors in the market, mainly from the European Union More than half of the milk produced is processed by a foreign processor
Retailers	 Gain of negotiating power through direct supply from producers
Consumers	• Drinking milk price relatively stable, even when producer prices were decreasing
State	 Initially less interventions, but subsidies through the CAP have almost doubled over the last 10 years

Switzerland

In 1999, Switzerland started reforming its dairy industry, which had been highly regulated with guaranteed prices, production quotas, and export subsidies. In 2006 and 2007, Switzerland opened its market to the European Union for dairy beverages, chocolate, and cheeses in order to be able to export high value-added processed products. In 2009, the country complemented its deregulation process by putting an end to quotas to improve the competitiveness of its system. At the same moment, the Milk Interprofessional organization (Milk IP) was created and took charge of the dairy industry organization. The Milk IP, composed of producers, processors, and retailers, managed the milk supply, trying to reconcile the interests of all players, without involvement of the government.

Around 2010, the Milk IP introduced the ABC ranking system in order to differentiate domestic and international sales. The type A milk (85% of the milk), priced highest, is intended for the domestic market. The type B milk (13.5% of the milk), priced around 30% lower than type A, includes the milk intended for over-processing and exports. Finally, type C milk (1.5% of the milk) is the lowest priced and intended for production surpluses. The system developed by Switzerland allows paying different prices depending on the markets, without intervention from the States, while being compliant with WTO rules.



3. The Chocolate Law is the only remaining subsidy measure for exports. The exception is registered and allowed in the framework of WTO agreements; other countries can also briefly benefit from exceptions on some specific products. However, discussions are still underway, the total elimination of subsidies to exports being an important topic in WTO negociations. Note: Volume percentages indicated are approximate.

The end of quotas and cheese trade liberalization between Switzerland and the European Union seem to have enabled a very slight production growth of about 0.7% per year over the last 5 years. Despite a consolidation of the number of farms, farm size remains small with an average of 23 cows per farm. The milk production differentiates itself by high value-added methods that allow selling the products at a higher price to the consumers, such as mountain milk production (30% of the milk), silage-free milk production (35% of the milk), and organic milk production (9% of the milk).



Milk production in Switzerland²⁹

In Switzerland, no less than 43% of the milk is processed into value-added cheese. Exporting these cheeses was actually the main reason for Switzerland to open its markets. Swiss cheese exports have grown by 4% annually since the cheese market was liberalized with the European Union.



²⁹ Source: OFAG; BCG analysis

³⁰ Source: OFAG; BCG analysis

Despite the end of the quotas and the opening of some markets to other countries, several supporting measures are still in place, including relatively high customs duties (117% on average) for dairy products except cheese, milk beverages, and chocolate. Moreover, milk production in Switzerland remains highly subsidized, 1.8 billion Swiss Francs (approximately 2 billion Canadian dollars) in 2013. Subsidies are mainly paid to producers, but a share is also intended to facilitate processing. Today, Switzerland remains a country where milk producers are among the most subsidized around the world.



Other farms 📕 Milk farms

1. Direct payments are allocated to farms depending on several criteria not linked to the production type; breakdown by sector is not available. The estimate has been obtained based on Agroscope data and has been then compared with IFCN data. 2. Includes supports to production (butter, skim milk and milk powder, cheese) until 2009, relief measures in 2009 as well as the administrative aids related to milk valorization. 3. The total budget for 2015 is of 70 millions of CHF of which about 80% apply to dairy products.

Other supporting measures²

Supplement for milk

transformed into cheese

For the consumer, deregulation benefits seem mixed. Dairy prices in Switzerland remained relatively stable, growing below inflation. Nonetheless, although Switzerland has experienced a 16% decrease of raw milk price since 2000, we observe that the consumer only partially benefited from the raw milk price decrease.



Evolution of average prices per product type³²

Note: average annual inflation rate in Switzerland of 0,6%, with a minimum of - 0,7% and a maximum of 2,4% during the 2000-2013 period. OFS data have been compared with those of the World Bank for cross-checking.

Key lessons from the Switzerland benchmark – Impacts on main players

Producers	 Farms remain small (on average 23 cows per farm) with high production costs - «family» model Producers' sustainability relies on subsidies High share of high value-added production (mountain, silage-free, organic)
Processors	 Large processors have strong labels Small specialized cheese dairies (more than 2000) are protected with subsidies
Retailers	 Retail prices remain high with 2 retailers representing 56% of the market
Consumers	 Retail prices are increasing slower than inflation; part of the raw milk price decrease seems to have been transferred to the consumer
State	 Significant subsidies from the State in the dairy sector: 1.8 billion Swiss Francs in 2013

³² Source: Swiss Federal Statistical Office (FSO); BCG analysis

Benchmark summary

Here are the key observations about deregulation from the analyses performed in the context of this international benchmark:

Producers Consolidation and shift toward low-cost regions

- Raw milk prices are converging at the global/regional level (e.g., AUS adjusting to NZ level)
- Farm consolidation is accelerating (e.g., the decrease of the number of farms speeds up from 3% to 6% in the UK) pressure on smaller-scale farm profitability (e.g., Queensland)
- Volumes are redirected toward low-cost regions
- Production is stagnating (e.g., UK, AUS, Switzerland) except when participating in international trade is possible (e.g., NZ, Australia before 2000)
- In none of the regions studied did the quotas have a value as high as in Canada

Processors Increased pressure on small and local processors, consolidation and arrival of new entrants

- Declining margins in common product processing despite the decrease of raw milk prices (e.g., drinking milk in the UK, Australia)
- Branded and value-added products remain protected (e.g., Swiss cheese)
- In fragmented markets, we observe a consolidation (e.g., Chinese processors and Saputo in AUS, Arla and Mueller in the UK)

Retailers Benefit the most from the opening, due to an access to several supply sources, part of the gains are protected

- They benefit most from deregulation due to a better access to low-cost products (e.g., AUS, UK)
- They consolidate supply, increase private labels, establish direct contracts with producers (e.g., Switzerland, UK)
- Part of the value is transferred to the consumer, mainly by private labels (e.g., private label growth in AUS)

Consumers	Limited impact except through some decrease of retail prices		
	 In most markets, the impact on retail prices is limited (e.g., Switzerland, UK) Some visible impacts: AUS and Switzerland with a small decrease in drinking milk prices Price growth above inflation for cheese and butter in the United Kingdom, Australia, and New Zealand No impact on total consumption due to low elasticity 		
State Depending on the desire to keep a dairy industry, intervised through substantial measures to suppose to sector			
	 State involvement is often a major one (e.g., temporary subsidies in AUS, creation of Fonterra in NZ); the industry suffers without intervention (e.g., UK) Family farms are maintained through subsidies (1.8 B in Switzerland and 10 B through the CAP in the EU) The other benefits of regulatory changes are limited except in New Zealand 		

The United States as a supply source for Canada

To complement the international benchmark of the countries that have experienced a deregulation of their dairy industry, we have analyzed more in depth the US dairy industry as a supply source for Canada. No other benchmarked country had an immediate neighbor as significant in the dairy industry as the US.

Overview of the US dairy industry

Although the US dairy industry does not have a supply management system, it remains monitored. To begin with, we observe a vast price regulation system in the United States. Thus, the Federal Milk Marketing Orders aim to monitor milk costs for processors according to milk usage classes, similarly to what is done in Canada. Despite the price-setting mechanisms, we observe that milk prices are volatile and strongly linked to international prices.



Although less generous than in European countries, the United States also have subsidy programs for the dairy industry built into the Farm Bill. In 2013, direct subsidies in the United States were estimated between US \$0 and \$3 per 100 kg of ECM milk, versus US \$5 to \$6 per 100 kg in Europe.

Depending on the year, the budget paid in direct subsidies to milk producers varied between US \$200 M and US \$1.3 B, out of the Farm Bill budget that exceeds US \$150 B per year. However, it is to be noted that the Farm Bill covers a broad range of measures from direct subsidies to food coupons. The majority of aids distributed under the Farm Bill is thus not directly linked to the dairy sector, but benefits the whole agricultural sector (including the dairy sector).



Differences between countries regarding direct subsidies per litre of milk³⁴

Moreover, these figures need to be put in perspective. The contribution of agriculture and its industries to the US GDP is estimated at more than US \$780 B in 2013. Within this amount, US farm contribution amounts to approximately US \$170 B per year. The difference is explained by the contribution of the industries linked to agriculture (e.g., fishing, hunting, food, tobacco), which rely on agricultural inputs to contribute to the economy in terms of added value.



Payments received by US milk producers³⁵

1. Based on the ERS Farm and Operator Households survey in 15 States. 2. And 1.1millions of litres per farm in 2014

³⁵ Source: USDA ERS Farm Finance; Agricultural and Applied Economics, UW Madison; BCG analysis

³⁴ Source: IFCN; European Commission; FAD database; USDA ERS Farm Finance; Agricultural and Applied Economics; UW Madison; OFAG; Australian Dairy Industry In Focus 2014 – Dairy Australia; The History of Farm Bill Spending, Muse the October October Manage International Construction (Construction) (Con

Mercatus Center, George Mason University; BCG analysis

In 2014, the US government redesigned its support offered to the dairy industry through the Farm Bill. As a result, the Dairy Product Price Support Program (DPPSP), the Dairy Export Incentive Program (DEIP), and the Milk Income Loss Coverage program (MILC) were all suppressed and primarily replaced by the Dairy Margin Protection Program (DMPP), which pays allowances to the producers when margins fall below a predefined level. With this reform, the support provided to the dairy industry by the Farm Bill shifted from direct subsidies to margin protection programs.

One of the characteristics of the US dairy industry is the 2-speed milk production, with 1,800 farms (3%) of more than 1,000 cows producing 50% of the milk, and approximately 43,000 farms (97%) of about 90 cows on average producing the remaining 50%. We observe that farms with 1,000 cows or more produced 11% of the milk in the United States in 1992, while they produce more than 50% today. About 375 US farms produce the equivalent of the whole Canadian dairy production.



With an average growth of 1.4% between 2000 and 2013, the United States is the largest cow milk production country and produces more than 90 billions of litres of milk annually. We observe that the production growth over the last 10 years has been mainly directed to exports, because the domestic increase of dairy product consumption has been lower than the milk production increase.



Milk production and consumption in the United States³⁷

The United States, with the ambition of becoming a global leader in dairy product exportation, experienced a significant growth of exports over the past 10 years. This growth is demonstrated by US dairy products representing 15% of global trade in 2013, as compared to 6% in 2003. US exports are mainly skim milk powder, cheese, and whey products.



³⁷ Source: USDA; IFCN Dairy report 2014; BCG analysis

³⁸ Source: OECD; BCG analysis

The United States as a viable supply source for Canada

Due to the proximity between Canada and the United States, and to the predominant role the US could play in the event of an opening of the Canadian dairy system, we performed an in-depth analysis of the US dairy industry. More specifically, we have assessed the potential of the United States to supply milk and dairy products to Canada.

One initial observation shows that there are 960,000 milk cows based in the United States that are within 250km of a Canadian dairy plant. This is an equivalent amount to the whole Canadian dairy livestock.



Note: 2012 figures for the United States because the number of farms and cows per State is only surveyed every 5 years

dairy counties³⁹

When we compare US farms with Canadian farms, we observe that, on average, US farms have 2.5 times as many cows per farm, and that these farms are also 5% more productive in terms of milk yield per cow. Within particular US states, we find that the gap is even larger with Idaho, California, Arizona, and New Mexico, all of which have farms with up to 10 times the number of cows than Canada, and with a 15% to 20% higher productivity than Canadian farms.



Note: 2012 figures for the United States because the number of farms and cows per State is only surveyed every 5 years

We have analyzed production cash costs per farm in Canada and the United States in 2013.

For Canada, this data came from a compilation of production cost studies performed by the Groupes conseils agricoles of Quebec, and from Ontario with Agritel and the Dairy Farm Accounting Project. The data sample consists of 498 farms in Quebec and 100 farms in Ontario. For the United States, data came from a compilation of production cost studies performed by Farm Credit East, the University of Wisconsin and Michigan State University. The data sample consists in 983 Midwest and North-East US farms. In order to obtain comparable data, production cash costs have been compiled. These costs exclude: depreciation, capital yield, farmer compensation, and opportunity costs. 2013 has been selected as it shows a representative average of production costs over the last 5 years.

⁴⁰ Source: US department of agriculture, Dairy Facts 2014; IDFA; Groupes conseils agricoles du Québec – Études fermes 100 vaches et plus; Ageco; BCG analysis

For comparison, US data in the study has been converted into Canadian dollars with the average exchange rate of the last 5 years of US 1 = CA 1.07, unless otherwise indicated.

In terms of production cash costs, the United States have an advantage ranging from 10% (exchange rate at US 1 = CA 1.25) to 23 % (exchange rate at US 1 = CA 1.07) when compared to Canada. This gap is even wider if we consider the US farms of 1,000 cows and more.



Moreover, if we consider each farm's financial capacity in order to understand how each can invest and borrow to fund a possible expansion, we observe that US farms are less indebted than Canadian ones. We can therefore make the hypothesis that the greater stability and higher revenues stemming from supply management enable Canadian milk producers to sustain a higher debt, which enables them to invest more.

Average debt per cow in Canada and the United States⁴²

	Quebec	Ontario	North-East US	University of Michigan
Average number of cows	76	85	315	270
Total debt (CAD)	\$1.5M	\$1.4M	\$1.1M	\$1.3M
Total assets (CAD)	\$3.8M	\$6.1M	\$3.9M	\$5.1M
Debt per cow (CAD)	\$19,900	\$16,600	\$3,400	\$4,950

 ⁴¹ Source: Monthly dairy costs by farm size - USDA; Dairy Farmers of Ontario Farm Accounting project; BCG analysis
 ⁴² Source: USDA ERS; Ontario Dairy Farm Accounting Project; Agritel; BCG analysis

Milk processing plants in the United States⁴³

On the processing side, in the United States there are about 200 milk processing plants within 500 km from Canada and about 500 plants within 1,000 km.



Finally, 24% of the food purchased in Canada is currently imported from the United States, which suggests that Canadian consumers could opt for US dairy products, if available.

In looking toward the United States as potential supply source, we conclude that:

- The country is the largest cow milk producer worldwide;
- A significant share of its dairy production is already exported, representing 15% of global trade, and could be redirected to Canada;
- There is a potential to supply US milk located within 250 km from the border at a production cash cost 10 to 23% lower and from largely less indebted farms;
- There are 200 milk plants within 500km from Canada;
- Consumers are already exposed to US food products.

⁴³ Source: USDA; BNP media dairy plant list; Statistics Canada; BCG analysis

Impacts of the end of supply management in the dairy industry in Canada

In order to evaluate the impacts of the end of supply management in Canada, a scenario has been created in which a total and immediate opening of the Canadian market has been modeled, along the following parameters:

- Abolition of customs duties and import quotas for dairy products;
- Abolition of production quotas for farms;
- Elimination of support prices by the Canadian Dairy Commission.

The scenario anticipates an immediate opening, without a transition period, based on the current structure for all players in the value chain. No interventions, notably from the State, nor no quota buy-back, were taken into account to mitigate the impact.

Two approaches have been used to quantify the market at risk – one for production and one for processing. In the first instance, we analyzed how many Canadian milk producers would still be able to produce milk at a competitive cost as compared to the United States. Next, we analyzed what share of milk processing might be moved outside Canada based on the competitiveness of Canadian milk processing plants.

Approach to quantify the market at risk



Analysis for the production side

If we consider a market opening scenario, we could see a convergence of prices paid in Canada toward US milk prices. Today, the Canadian raw milk price is 28% to 36% higher than in the United States.



1. 2015 includes January and February for Canada and December 2014 for the United States to reflect the decreasing trend started in October 2014 Note: US data reflect the "mailbox price"

We modeled the new Canadian milk price, in the case of a market opening, based on the average US price paid during the last 5 years, and we adjusted the price in order to take the different parameters and hypotheses into account (see box):

- Average premium paid in the United States;
- Conversion from pounds to litres;
- Conversion into CA\$ with the average exchange rate of US \$1 = CA \$1.07 over the last 5 years;
- Price difference observed in the north-eastern US States as compared to the average price in the United States;
- Average milk transportation cost (based on 200,000-litre tanks, i.e. the maximum capacity allowed by the US regulation for transportation) for an average distance of 750km round trip.

⁴⁴ Source: Canadian Dairy Commission; USDA; BCG analysis





Note 1: The producer also generates other revenues than from milk sales (e.g., animals sold), these revenues are not counted in the 80c. but they represent ~4-8c. / litre Note 2: The price difference between North-West vs. US average is of 0.99 and the difference between California price vs. US average is of 0.91

With our hypotheses, this exercise allowed us to determine that the «new» Canadian milk price could be of about 61 /litre, i.e. a decrease of 19 /litre (-24 %).

Next, we assessed the share of milk farms able to produce milk at this new price. We also added 4¢/litre from other farm revenues (excluding patronage dividends from the cooperatives), i.e. the average of other revenues based on the farms analyzed. The new revenue from milk that the Canadian producers would be entitled to would thus be 65 ¢ litre.

For the samples described above, we analyzed the data based on farm production cash costs for Ontario and Quebec.

New milk revenue was compared with current production cash costs, assuming the producers do not adapt. In this model (see box), we observe that with the new revenue of $65 \,$ ¢/litre, 25% to 50% of the milk farms outside Quebec would be at risk. This amounts to 1,500 to 3,000 farms, which represent about 20% to 40% of the production in Ontario and the other Canadian provinces, excluding Quebec.

In the absence of reliable and statistically representative data for provinces other than Quebec and Ontario, we have hypothesized that production costs outside Quebec are equivalent to production costs in Ontario, and have used the production cash costs of the 100-farms sample in Ontario (Groupe conseils agricoles of Ontario – Agritel, Ontario Dairy Farm Accounting Project).



Milk farms and milk volumes at risk with the new Canadian revenue for provinces outside Quebec⁴⁶

The same exercise was performed for Quebec, based on the sample of 498 farms (Groupes conseils agricoles of Quebec – Agritel). Using the new revenue of 65 /litre, 3,000 farms (50% of the total) would be at risk, representing 50% of the current milk production in Quebec.



Milk farms and milk volumes at risk with the new Canadian revenue for Quebec⁴⁷

Note 1: The producer also generates other revenues than from milk sales (e.g., animals sold), these revenues are added to the 80c./l received for the milk Note 2: Cash costs exclude depreciation, capital yield, farmer compensation, and the land and producer opportunity cost

Note 1: The producer also generates other revenues than from milk sales (e.g., animals sold), these revenues are added to the 80c./l received for the milk Note 2: Cash costs exclude depreciation, capital yield, farmer compensation, and the land and producer opportunity cost

⁴⁶ Source: Ontario Dairy Farm Accounting Project; Agritel; BCG analysis

⁴⁷ Source: Agritel; BCG analysis

Combining the results of the 2 analyses, we observe that up to 40% of Canadian milk production would be at risk if supply management were to be eliminated without prior adaptation. 4,500 to 6,000 farms would not cover their cash costs with the new Canadian revenue of 65 %/litre. Based on these analyses, Quebec seems to be the province most at risk.



Of course, within this same scenario, the remaining producers would then have the opportunity to increase their production.

This analysis of the production at risk also does not take the current farms' balance sheets into account. With the debt ratio already higher in Canada than in the United States, financial pressure on Canadian farms would be even higher.

In consequence, there would likely be an even larger share of farms and production at risk, because a majority of farms would not be able to generate the revenues required to reimburse their debt capital, further increasing the financial pressure they would face.

Milk production at risk with the scenario analyzed⁴⁸

Analysis for the processing side

For this section of the analysis, we have assessed the markets at risk based on different product categories: drinking milk, cheese, butter, and yogurt. The raw milk farm price in Canada was aligned with the new Canadian price defined in the previous section. For some products, a benchmark of processing costs for a sample of Canadian and US plants has been performed.

Drinking milk

According to our analyses, 5% to 10% of drinking milk volumes would be at risk if supply management were to be suppressed in Canada. The drinking milk market is of a rather regional nature, and is relatively protected because there is no clear size or efficiency advantage for US plants when compared to Canadian ones.

The analysis of Canadian and US plants' processing costs (excluding milk, ingredients, and packaging) shows that there is a slight gap of 2 to 4 ¢/litre in favor of US plants, mainly due to labor costs. However, average drinking milk transportation costs range from 6¢ to 11¢ per litre for US border states; hence, the price gap for goods delivered in Canada does not justify a shift of processing activities toward the United States.

Our analyses also show that eastern Canada is probably less at risk than western Canada, since many US eastern states already experience a deficit in milk production and are supplied by surpluses from US western states. Further, the share of mega-farms is lower in the east, which would also contribute to a lower risk.

Ultimately, some US western border states could however produce at a lower cost, putting 5% to 10% of the volumes at risk.



Distribution of cows by farm size and by State – 2012 Census⁴⁹

Cheese

Our analyses show that up to 60% of cheese volumes currently produced in Canada would be at risk.

For a sample of Canadian and US plants, cheese processing costs (excluding milk, ingredients, and packaging) present a significant gap of 40 to 50 ¢/kg in favor of US plants. Two main elements explain this cost gap in processing costs. First, labor costs are 20% to 30% higher in Canada. Second, US plants are generally larger and can leverage strong economies of scale.

The largest Canadian cheese dairies process up to 1 million litres of milk per day. In comparison, the largest US cheese dairies process between 4 and 6 million litres of milk per day. Our calculations indicate that the 5 largest cheese plants in the United States process the equivalent of Canada's national milk production.

With this significant gap, US common cheeses could easily overcome added transportation costs and supply the Canadian market, while remaining 30/kg to 45/kg cheaper than Canadian cheeses.

According to this analysis, common cheese would be most at risk given the lesser importance of the brand and country of origin. In Canada, cheddar and mozzarella represent 60% of cheese manufacturing. Nonetheless other cheese types could also be affected.

Butter

Our analyses lead to an estimated 60% of butter production that would be at risk in Canada, because butter plants in the United States, and especially New Zealand, are much larger than butter plants in Canada, where the small market size and low growth do not justify large investments. Thus, the Oceanian price is 30% to 65% cheaper per kilogram of butter.

All in all, it is likely that the only butter production to remain in Canada would be the butter production from cream surpluses of drinking milk and yogurt markets as well as seasonal butter production.



Oceanian price and butter production at risk⁵⁰

Yogurt

In the yogurt category, the Canadian market is directly served by international suppliers that are also present in the United States. It is observed that about 65% of the market shares in Canada (in kg sold) are owned by processors with operations in the United States. In the same way, about 31% of the US market belongs to players not present in Canada. Finally, numerous manufacturers have recently invested in their US operations in order to increase their production capacity.

These investments, coupled with a decline in the growth of yogurt sales in the United States, have led to overcapacity. We estimate that 65% the volumes of yogurt produced in Canada would be at risk.



Total impact

Bringing together the impacts on various dairy products, up to 40% of processed milk volumes in Canada would be at risk.

⁵⁰ Source: Statistics Canada; USDA National Dairy Report April 10, 2015; BCG analysis

⁵¹ Source: USDA annual summaries of dairy products; Euromonitor; Food Navigator USA; BCG analysis

Impacts on the Canadian dairy industry

According to the 2 two approaches taken to determine milk volumes at risk (for the production and processing sides), we conclude that 40% of Canadian milk production would be at risk in the case of an immediate deregulation along the scenario studied. Thus, milk producers and processors would be strongly impacted by the end of supply management.

The extent of the risk is unique, because the United States represents a real alternative to supply Canada, with its production 11 times higher and production costs up to 30% lower than in Canada. Moreover, for the majority of products, processing plants in Canada are generally smaller than those in the US and carry higher processing costs.

Canadian retailers and restaurants already purchase US food products and could therefore have a more competitive supply source available for dairy products outside Canada.



Correlation between raw milk price and retail price variations⁵²

⁵² Source: IDF; Euromonitor; Dairy Co.UK; USDA; OFAG; PSL; Swiss Federal Statistical Office (FSO); Department for Agri-50 culture of the Australian government; Fisheries and Forestry; Statistics New Zealand, BCG analysis

We currently observe a gap in retail prices of 6% to 23%, depending on the exchange rate for drinking milk and cheese between the United States and Canada.

Although they are not included in this study, other independent studies (see the separate study by the Canadian Senate and the CD Howe Institute) suggest that food consumer products are generally higher in Canada than in the United States. However, we did not try understanding these differences in more detail.

It is difficult to evaluate which share of this price gap would be potentially passed on to the consumers. The lessons from our deregulation benchmarks elsewhere in the world do not allow us to conclude that the raw milk price decrease would result in savings for consumers.



1. Excludes the taxes received by the federal, provincial government, pension contribution and unemployment insurance and includes the industry-specific benefits 2. Taxes on the benefits on wage bill and indirect taxes such as property tax and other municipal taxes 3. Added value and salaries received by suppliers upstream from the participants in the value chain

A deregulation and opening of the Canadian dairy industry would represent a risk of net loss equal to CA \$2.1 to 3.5 B for the Canadian GDP, additionally threatening 24,000 jobs directly related to milk processing and production.

⁵³ Source: Statistics Canada; BCG analysis

In order to put the extent of this impact in perspective, it must be noted that the forecasted economic benefits of the Trans-Pacific Partnership for Canada are an estimated \$9 B. A loss of \$2.1 to 3.5 B for the Canadian GDP is significant; especially if we consider that there are few guarantees that the consumer will obtain an advantage when purchasing dairy products.

Beyond the risks of impact on the GDP, numerous social and economic risks exist:

- The food processing trade balance is already in strong deficit (-\$6.5 B), and this deficit could increase;
- Dairy producers are indebted for \$16 to \$18 B with Canadian financial institutions, and parts of these loans are at risk. The reimbursement capacity for remaining operational farms is also in question because lower revenues might not cover debt servicing;
- The dairy industry contributes to the regional fabric and territory occupations. Numerous municipalities could be severely impacted with more than 24,000 jobs at risk, mainly in rural areas.
- It could cost substantial amounts to the Canadian government if it were to finance a transition period or to help producers at risk.

Summary of the study

The supply management system enabled Canada's dairy industry to be built, contributing directly or indirectly \$13.1 B to the Canadian GDP and approximately 117,000 jobs to the milk production (approx. 43,000), processing (approx. 23,000), and distribution (approx. 51,000).

However, the pressure on the Canadian supply management system is increasing

- International organizations are requesting an opening the market to support imports;
- Many comment on the high prices paid by the consumer;
- The quotas system prevents producers' growth and consolidation...
- ...and represents a significant weight for the farms' balance sheet (2 to 3 times more indebted than US farms).

Upon deregulation of the dairy sector, the international benchmarking indicates a transfer of value from the producers and processors downstream in the sector, with a low impact on the consumer; the State is almost always involved through subsidies or industry monitoring (e.g., Fonterra in New Zealand).

- The State's involvement is often a major one through subsidies or industry monitoring (e.g., Australia);
- Except in NZ, where Fonterra owned by design the majority share of the domestic market, and in Australia during the first deregulation phase, there has not been any notable industry growth after opening the market;
- Depending on the desire to maintain the dairy industry's strength, the State's intervention is materialized through substantial supporting measures for the sector (e.g., Switzerland); in markets with no supporting measures, the industry often failed to develop further (e.g., UK);
- Producers' and processors' margins are decreasing, the sector is concentrating (e.g., Australia);
- The volumes produced and processed shift toward lower cost regions (e.g., Europe);
- Retailers benefit most from deregulation due to a better access to low-cost products (e.g., UK);
- Little value is passed on to the consumer, and the impact on total consumption is minimal.

The situation in Canada differs from the situation in the majority of benchmarked countries, mainly due to the proximity of the United States, given that it has a dairy industry about 11 times larger than Canada, operates at more competitive costs and could represent a real alternative to supply Canada.

- The equivalent of the whole Canadian dairy livestock exists within 250km of Canadian plants at a lesser cost;
- US plants also have lower costs and can competitively supply the Canadian market;
- 10 billion litres of exported products could be redirected toward Canada;
- Canadian consumers are already used to buying US branded products and could do the same for dairy products;
- 24% of food products consumed in Canada already come from the United States.

An immediate opening would put 40% of the Canadian dairy industry at risk

- In the case of raw milk price convergence, 37% to 50% of farms would be at risk (between 4,500 and 5,000 farms). This amounts to 40 % of production;
- Drinking milk volumes are more protected because raw milk prices are higher, and transportation costs offset the low processing cost advantage of US plants;
- The processing of industrial consumer goods would be more likely to shift toward the United States (cheese, butter, yogurt);
- Part of the value at risk would be transferred downstream from processing and production;
- The benchmark does not enable us to determine which part of that value, if any, would be passed on to the consumers through a price decrease.

Finally, an opening of the system would represent a risk of net loss of \$2.1 to 3.5 B for the Canadian GDP and would threaten 24,000 direct jobs

- \$1 to 2.4 B of value is at risk of being transferred downstream from processing and production: the benchmark does not enable us to determine whether the profit would be passed on to the consumers through a retail price decrease;
- Other possible impacts: \$6 to 7 B at risk (potential loss) for the banking sector due to loans to insolvent producers, economic and social impacts on municipalities, political risk, etc.

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