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The Impact of NAFTA on U.S. Dairy Exports to Mexico

Prepared for:

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Ingredients | Products | Global Markets

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I. EXECUTIVE SUMMARY

This study evaluates the importance and role that U.S. dairy exports to Mexico play as an economic value for rural America as well as a complementary supplier of dairy products within Mexico's total dairy product demand.

A. Importance of Mexico Dairy Import Market

Mexico is the world's fifth largest importer of dairy products in terms of value. The U.S. is by far the largest supplier of dairy products to Mexico accounting for 77 percent of Mexico's total dairy imports in terms of volume.

In terms of value the U.S. accounted for two-thirds of Mexico's dairy product imports in 2016 followed by New Zealand with under 16 percent and the European Union under 14 percent. In terms of select dairy products the U.S. accounted for:

- 93 percent of Mexico's dry skim milk powder imports, 84 percent of whey product imports and 75 percent of cheese imports.

In terms of volume the U.S. accounted for 77 percent of Mexico's dairy product imports in 2016 followed by New Zealand with 11 percent and the European Union under 7 percent. In terms of select dairy products the U.S. accounted for:

- 94 percent of dry skim milk powder imports, 93 percent of whey product imports and over 70 percent of cheese imports.

B. Mexico is a Deficit Producer of Dairy Products

Dairy product imports are vital to Mexico because it is a deficit producer of dairy products. Mexico's milk production does not meet processing sector demand for high quality milk and is limited by cold chain constraints in various subsectors.

- Mexico's production of non-fat dry milk has been relatively flat since 2012 and only meets about 16 percent of its domestic use. At the same time domestic use of non-fat dry milk is growing 3.8 percent annually.
- Mexico's production of cheese meets about 70 percent of domestic consumption, but consumption is growing at a faster rate. Since 2012 production has been growing at an annual rate of 2.6 percent while consumption is growing 4.0 percent annually.

- Mexico's production of dried whey only meets about 9 percent of domestic use and production has been relatively flat in recent years.

Mexico's consumer demand for cheese, skim milk powder and other dairy products are expected to continue to grow. It is important to note that according to a World Bank report more than 40 percent of Mexico's population lives in poverty, and although economic mobility is slow, as this group transitions into middle income status, domestic consumption of dairy products will accelerate.

C. Importance of NAFTA to U.S. Dairy Exports

Under NAFTA, U.S. exports of dairy products to Mexico are duty free. This provides a huge advantage to the U.S. because export competitors shipping to Mexico are subject to MFN tariff rates of 20 to 45 percent on cheese, 45 percent on skim milk powder and 10 percent on whey products. If the U.S. withdraws from NAFTA, the U.S. would be subject to the same MFN rates as its competitors.

Mexico is the number one export destination for U.S. dairy products with a value of $1.2 billion in 2016, accounting for 25 percent of all U.S. exports and double the level of the second largest U.S. export market, Canada. Mexico is also the fastest growing U.S. export market with an annual growth rate of 13.7 percent (from 2002-2016). Mexico also accounts for 45 percent of total U.S. skim milk exports and 30 percent of total U.S. cheese exports. If the U.S. leaves NAFTA and loses its tariff advantage U.S. exports to Mexico will be at risk.

D. Potential Mexico Trade Agreements Can Increase Export Competition

Mexico is renegotiating its EU-Mexico Free Trade Agreement and is part of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (TPP-11) negotiations which could improve market access for competitor dairy product exports to Mexico.

EU-Mexico FTA renegotiations could provide greater access for EU cheese exports to Mexico. The EU is requesting direct recognition of a list of GI terms regarding cheese such as Asiago, Feta, Gorgonzola, Mozarella di Bufalo Campana and other cheeses. If the EU is granted GI status for those cheeses, U.S. exports of these name cheeses could be restricted because Mexico could only import those cheeses from the EU.

TPP-11 negotiations could provide greater market access for New Zealand and Australia cheese and milk powder exports to Mexico. Duty free tariff rate quotas for cheese and milk powder are proposed in the current negotiations. The duty free quota for milk powder for all countries combined would start at 25,000 tons and increased to 42,000 tons by the 11th year and remain at that level in following years. The duty free quota for cheese for all countries combined would start at 4,250 tons and increased to 6,500 tons by the 11th year and remain at that level in following years. If the TPP-11 agreement is finalized the U.S. would lose additional Mexico market share.

E. U.S. Logistics Advantage

The U.S. has a major transportation advantage in shipping dairy products to Mexico in terms of freight costs and transit times as compared with competitors. In addition, U.S. trans modal investments involving shipping between the U.S. and Mexico are important to both countries. These transportation advantages will continue with or without NAFTA. However, these logistics advantages at best would only partially offset economic losses for the U.S. from leaving NAFTA.

F. Economic Contributions of U.S. Dairy Exports Threatened by the U.S. Leaving NAFTA

From 2012 through 2016, the U.S. dairy industry exported in aggregate $6.7 billion of dairy products to Mexico. However, the impact that dairy exports have on the economy does not stop there; as dairy product manufacturers purchase inputs from other industries, these industries will in turn make their own input purchases and pay wages to their employees. This will continue as these "ripple effects" churn through the economy generating support to business sales, GDP, and employment for many other industries.

Results from the IMPLAN model examining the contributions of dairy exports to Mexico confirm the importance of these industries to the U.S. national economy. The total economic contributions (direct, indirect, and induced contributions) created by dairy exports to Mexico show the true importance of these exports to the overall U.S. economy. By including the impacts to industries that are linked (either by indirect or induced spending) to dairy exports the aggregate 2012-2016 output value of $6.7 billion is magnified to a figure of $23.3 billion in economic output. That is, the economic "ripple effects" of the dairy exports are 3.5 times as large as the value of the dairy exports. Another way to think of these effects is that for every $1 of sales associated with dairy exports to Mexico, an additional $2.50 in output (industry sales) is

supported elsewhere the United States economy. U.S. dairy exports to Mexico also employed 16,492 full time equivalent (FTE) jobs while directly generating an aggregate GDP of $8.4 billion over that five-year period.

G. Conclusions

NAFTA is a major driving force behind growing U.S. dairy product exports to Mexico. The Mexico market accounts for:

- 25 percent of U.S. exports to all destinations.
- More than 25 percent of the growth in U.S. exports to all destinations since 2002.
- 3.5 percent of total U.S. dairy cash receipts.

U.S. export losses are likely to be greater if export competitors such as the EU, Australia and New Zealand are successful in renegotiating or negotiating trade agreements with Mexico to provide greater access to the Mexican market. If the U.S. leaves NAFTA, the growth in U.S. dairy product exports will be adversely impacted and it will be difficult to find new markets to offset those export losses.

The economic impacts of U.S. dairy product exports are even more substantial for the U.S. economy. NAFTA and U.S. dairy product exports benefitted the U.S. economy over the last five years (2012-2016) by contributing:

- $23.3 billion in economic output.
- $8.4 billion in GDP.
- Nearly 16,500 jobs across the entire economy.

If the U.S. withdraws from NAFTA, the above economic impacts will be in jeopardy and result in substantial losses for the U.S. economy.

The above macro-economic impacts are on top of an almost certain negative impacts on farmer prices for milk and resulting negative impacts on farmer incomes. While not the focus of this study, these additional impacts need to be considered with respect to the overall adverse impacts from the U.S. leaving NAFTA.

II. INTRODUCTION

Under NAFTA, US Dairy exports to Mexico have grown from $124 million in 1995 to $1.2 billion in 2016. The US Dairy Export Council (USDEC) commissioned Informa Agribusiness Consulting (Informa) to evaluate the potential economic impact on the U.S. dairy industry if the US withdraws from NAFTA.

If the US withdraws from NAFTA, the duty-free access that US companies enjoy to Mexico would be replaced by WTO most-favored nation (MFN) tariff levels. MFN tariff levels are as high as 45 percent depending on the dairy product. At the same time, Mexico is negotiating with the EU on preferential access to the Mexican market, and discussing with New Zealand and Australia on how to move forward with the Trans-Pacific Partnership (TPP). Higher tariffs for U.S. exports without NAFTA and improved access to Mexican markets for other competitors through revised or new trade agreements would U.S. exports to Mexico in jeopardy.

The purpose of this study is to evaluate the potential economic impact on the U.S. dairy industry and the rest of the economy if the U.S. withdraws from NAFTA. The study will also demonstrate to both Mexico and the U.S. governments the importance and role that U.S. dairy exports play as an economic value for rural America as well as a complementary supplier of dairy products within the total demand by the Mexican consumer.

III. U.S. EXPORTS TO MEXICO ARE VITAL

A. U.S. Export Trends

Mexico is the number one export destination for U.S. dairy products with a value of $1.2 billion in 2016, accounting for one-fourth of U.S. dairy product exports to the world in terms of both value and quantity[1].

Exhibit 1: U.S. Dairy Product Exports to World and Mexico

	World		Mexico		% Mexico Share	
Year	MT	$1,000	MT	$1,000	Quantity	Value
2002	605,876	945,477	115,057	201,484	19.0	21.3
2003	655,488	997,450	140,196	258,457	21.4	25.9
2004	908,002	1,452,904	207,903	385,873	22.9	26.6
2005	989,880	1,628,928	241,056	507,580	24.4	31.2
2006	1,115,264	1,832,038	212,484	436,951	19.1	23.9
2007	1,214,726	2,978,228	280,953	853,310	23.1	28.7
2008	1,374,613	3,752,732	290,749	935,220	21.2	24.9
2009	1,153,884	2,235,082	277,270	637,371	24.0	28.5
2010	1,601,717	3,689,267	313,811	836,361	19.6	22.7
2011	1,734,380	4,786,243	370,705	1,166,445	21.4	24.4
2012	1,795,110	5,123,122	403,511	1,226,701	22.5	23.9
2013	2,133,127	6,714,510	415,545	1,429,215	19.5	21.3
2014	2,147,582	7,095,901	452,352	1,643,942	21.1	23.2
2015	1,970,885	5,239,801	480,260	1,280,058	24.4	24.4
2016	2,022,113	4,699,980	502,251	1,217,797	24.8	25.9
% Ann Gwth	9.0	12.1	11.1	13.7		

Source: FAS GATS

- Mexico accounted for about 45 percent of U.S. dry skim milk powder or SMP (non-fat dry milk) exports to the world in 2016 in terms of both value and volume.
  - The value of U.S. SMP exports to Mexico were $555 million in 2016 with an annual growth rate of 16.7 percent from 2002 to 2016.
  - The volume of U.S. SMP exports to Mexico were 280,675 tonnes in 2016 with an annual growth rate of 14.1 percent from 2002 to 2016.
- Mexico accounted for 30 percent of U.S. cheese exports to the world in 2016 in terms of both value and volume.

[1] Source FAS/USDA GATS

- The value of U.S. cheese exports to Mexico were $362 million in 2016 with an annual growth rate of 16.7 percent from 2002 to 2016.
- The volume of U.S. exports of cheese to Mexico were 89,982 tonnes in 2016 with an annual growth rate of 13.7 percent from 2002 to 2016.

- Mexico accounted for around 8 percent of U.S. exports of whey products to the world in 2016 in terms of both value and volume.
  - The value of U.S. exports of whey products to Mexico were $285 million in 2016 with an annual growth rate of 8 percent from 2002 to 2016.
  - The volume of U.S. exports of whey products to Mexico were 40,741 tonnes[2] in 2016 with an annual growth rate of 8.7 percent from 2002 to 2016.
- Mexico accounted for around 10 percent of the value and 12 percent of the volume of U.S. butter exports to the world in 2016 in terms of both value and volume.
  - The value of U.S. exports of butter to Mexico were $6.7 million in 2016 with an annual growth rate of nearly 20 percent from 2002 to 2016.
  - The volume of U.S. exports of butter to Mexico were 1,841 tonnes in 2016 with an annual growth rate of 8.7 percent from 2002 to 2016.

B. Takeaways

Mexico accounts for about 25 percent of U.S. dairy products exports and is one of the main reasons U.D. dairy exports have been growing. Just as important, Mexico accounts for 45 percent of U.S. skim milk powder exports and 30 percent of U.S. cheese exports. These shares of U.S. exports are primarily the result of NAFTA, which gives the U.S. an advantage over other competitors in terms of tariffs, to be discussed later in this report Mexico Reliance on Imports from U.S.

C. Import Trends

The U.S. is the top supplier to Mexico of dairy products. In terms of value the U.S. accounted for two-thirds of Mexico's dairy product imports in 2016, followed by New Zealand with 15.7 percent and the European Union with 13.6 percent. In terms of volume the U.S. accounted for

[2] Excludes fluid whey.

77 percent of Mexico's dairy product imports in 2016, followed by New Zealand with 11 percent and the European Union with 7.3 percent.

Exhibit 2: Mexico Dairy Product Imports

In $1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
World Total	**781,857**	**862,157**	**1,051,950**	**1,362,704**	**1,232,191**	**1,948,604**	**1,773,986**	**1,232,580**	**1,479,314**	**1,906,786**	**1,878,049**	**2,084,390**	**2,193,400**	**1,775,310**	**1,769,346**
United States	258,054	332,616	449,272	597,877	609,550	1,015,093	1,024,582	699,555	895,261	1,167,804	1,263,599	1,486,544	1,598,236	1,167,745	1,161,366
New Zealand	191,891	208,777	197,982	260,201	232,833	393,571	307,064	230,145	265,107	339,075	240,091	273,633	248,498	221,401	278,298
European Union	168,912	177,156	208,053	239,722	182,218	237,640	196,567	131,867	149,403	198,369	232,025	195,682	225,910	254,133	240,587
Uruguay	31,049	33,816	49,504	71,728	37,682	102,359	108,418	74,449	64,311	80,393	42,691	34,393	39,620	63,688	38,166
Chile	17,053	30,702	59,154	86,869	79,334	104,661	86,685	44,688	64,846	63,434	54,140	56,015	49,839	27,490	20,722
Argentina	24,098	32,743	43,106	45,089	43,400	41,498	11,800	22,812	11,242	19,027	8,012	6,556	9,396	20,888	13,394
Canada	49,559	12,824	8,334	9,769	5,574	10,596	1,612	3,375	890	9,580	11,953	14,238	11,645	9,070	9,052
Australia	37,573	26,862	22,828	31,362	34,755	25,753	8,678	12,271	15,095	14,451	14,639	13,812	6,046	6,235	4,499
Other	3,668	6,661	13,717	20,087	6,845	17,433	28,580	13,418	13,159	14,653	10,899	3,517	4,210	4,660	3,262

Source: FAS GATS

Exhibit 3: Mexico Dairy Product Imports

In Metric Tonnes

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
World Total	**503,933**	**531,145**	**1,204,145**	**626,448**	**544,986**	**652,929**	**537,345**	**549,560**	**519,436**	**562,885**	**582,173**	**576,030**	**555,235**	**625,112**	**694,116**
United States	203,964	240,431	885,504	317,587	319,158	361,297	374,381	360,806	376,934	408,680	443,571	458,357	453,604	481,634	535,915
New Zealand	109,247	112,041	98,052	100,919	96,103	115,199	64,930	95,632	66,607	70,359	54,746	56,441	41,349	51,242	76,326
European Union	71,155	72,736	82,737	60,490	39,170	49,947	26,390	25,172	25,697	31,400	40,912	27,900	30,434	51,389	50,728
Uruguay	40,770	41,627	54,023	66,135	15,913	57,349	31,886	28,422	17,229	16,806	9,252	7,392	6,819	18,493	12,792
Chile	13,066	21,838	42,471	45,043	40,308	42,417	27,384	16,493	18,837	17,454	18,273	18,144	17,054	8,301	6,940
Argentina	14,096	18,979	23,050	18,701	18,342	13,361	3,174	9,619	3,251	4,849	1,485	938	1,344	6,747	4,345
Canada	29,348	6,831	3,245	3,176	1,892	2,757	426	1,427	282	2,543	3,280	3,243	2,736	3,802	4,086
Australia	21,134	13,645	9,244	9,887	11,884	6,643	1,456	5,009	3,052	2,850	3,224	3,205	1,113	1,855	1,408
Other	1,154	3,015	5,818	4,510	2,216	3,959	7,317	6,980	7,547	7,946	7,431	411	781	1,650	1,577

Source: FAS GATS

There are a number of individual dairy products the U.S. accounts for an even larger share including SMP, whey products and cheese.

The U.S. accounts for about 93 percent of Mexico's non-fat dry milk (SMP) imports with the European Union accounting for about 3 percent and New Zealand nearly 2 percent.

Exhibit 4: Mexico Dry Skim Milk Powder (DSMP) Imports

Value in $1,000 and Quantity in Metric Tonnes

	2010		2011		2012		2013		2014		2015		2016	
Partner	**Value**	**Qty**	**Value**	**Qty**	**Value**	**Qty**	**Value**	**Qty**	**Value**	**Qty**	**Value**	**Qty**	**Value**	**Qty**
World Total	**436,413**	**154,897**	**680,243**	**193,996**	**731,617**	**235,542**	**768,998**	**197,757**	**828,318**	**203,182**	**613,744**	**258,523**	**579,373**	**285,631**
United States	387,667	138,888	594,120	170,065	628,058	204,174	727,783	187,380	788,864	193,237	521,240	221,470	538,438	267,538
European Union	4,989	1,640	32,737	8,967	41,268	12,978	1,746	434	21,548	5,982	47,030	18,878	19,206	7,841
New Zealand	37,349	12,331	39,137	11,115	32,119	9,619	8,150	2,087	6,588	1,249	8,289	3,001	10,317	5,165
Canada	177	59	8,464	2,234	10,333	2,836	13,291	3,002	9,286	2,081	6,816	2,846	8,169	3,618
Australia	158	50	1,029	324	4,688	1,327	1,359	366	198	46	2,518	897	795	369
Ukraine	0	0	0	0	355	100	0	0	719	199	2,595	1,041	593	250
Argentina	2,819	878	4,445	1,200	1,332	351	0	0	0	0	10,661	4,100	119	50
Uruguay	0	0	0	0	2,816	796	1	0	2	0	8,901	4,000	28	10
Other	3,254	1,050	311	90	10,648	3,361	16,668	4,488	1,113	389	5,694	2,291	1,708	790

Source: FAS GATS

The U.S. accounts for about 84 percent of Mexico's whey imports followed by the EU with 9 percent and Argentina with 2.6 percent. Mexico's whey imports though have declined in the last two years.

Exhibit 5: Mexico Whey Product Imports

Value in $1,000

	2010	2011	2012	2013	2014	2015	2016
World Total	**79,883**	**90,908**	**91,937**	**98,067**	**107,538**	**62,546**	**44,746**
United States	72,133	80,425	85,098	91,805	100,469	56,401	37,414
European Union	4,123	3,370	4,425	4,364	3,026	3,190	4,131
Argentina	777	601	149	176	1,948	593	1,147
Other	2,850	6,512	2,265	1,722	2,095	2,362	2,054

Note: Volume is not shown because of mixed units.

Source: FAS GATS

The U.S. accounts for about 75 percent of Mexico's cheese import value, followed by the EU with 13.8 percent, Uruguay with 5.8 percent, New Zealand with 2.8 percent and Chile with 2.2 percent.

Exhibit 6: Mexico Cheese Imports

Value in $1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
World Total	**179,305**	**189,673**	**223,559**	**256,812**	**257,331**	**344,660**	**333,249**	**261,850**	**329,722**	**362,463**	**408,116**	**480,150**	**518,219**	**502,361**	**495,788**
United States	66,704	75,714	94,827	92,871	123,235	165,019	191,881	162,468	208,194	223,323	291,519	366,495	401,726	380,109	371,438
European Union	36,818	30,905	28,877	26,762	24,885	44,976	43,162	27,737	39,098	36,634	39,578	38,929	44,865	54,773	68,435
Uruguay	14,830	16,432	25,590	35,429	23,246	36,281	36,409	21,134	25,369	43,882	29,313	28,877	34,136	35,274	28,884
New Zealand	25,783	24,975	23,127	29,223	35,403	32,437	7,111	17,102	10,315	14,533	15,802	16,835	12,157	16,207	13,999
Chile	5,430	12,128	29,209	51,902	39,356	62,696	52,798	27,227	42,918	42,055	28,858	26,394	20,945	13,706	10,981
Argentina	10,015	19,534	10,999	15,288	9,770	2,334	887	5,805	3,244	1,219	2,008	1,930	3,466	1,460	1,401
Other	19,725	9,985	10,930	5,337	1,436	917	1,001	377	584	817	1,038	690	924	832	650

Source: FAS GATS

The U.S. accounts for more than 70 percent of Mexico's cheese import volume, followed by the EU with 14.9 percent, Uruguay with about 7 percent, New Zealand with 4.3 percent and Chile with 2.5 percent.

Exhibit 7: Mexico Cheese Imports

Volume in MT

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
World Total	**71,624**	**77,626**	**226,657**	**78,593**	**78,540**	**86,036**	**68,245**	**73,074**	**80,360**	**78,054**	**89,317**	**103,395**	**99,206**	**116,054**	**126,095**
United States	21,101	24,405	169,536	24,989	34,997	39,816	40,989	42,945	52,221	51,005	66,147	81,652	78,195	87,784	89,327
European Union	14,565	11,564	12,532	6,258	5,643	9,672	7,415	6,343	7,492	5,388	6,791	5,962	7,260	11,785	18,838
Uruguay	6,769	7,468	11,827	11,610	7,396	9,494	7,025	6,517	6,172	8,322	5,941	6,020	6,007	7,623	8,979
New Zealand	13,825	13,954	10,984	10,858	13,977	10,257	1,488	6,192	3,528	4,017	3,861	4,069	2,905	5,131	5,428
Chile	2,223	4,986	11,025	17,345	12,746	16,033	11,056	8,614	10,090	9,012	6,072	5,285	4,172	3,350	3,188
Argentina	5,566	10,766	6,565	5,860	3,458	602	162	2,433	797	227	379	356	593	313	283
Other	7,576	4,484	4,188	1,674	323	162	111	30	60	83	126	50	74	68	52

Source: FAS GATS

Mexico imports a number of different types of cheeses. In terms of different cheeses, GATS data only shows blue-veined cheese, which includes gorgonzola cheese. The U.S. accounts for between 37 and 39 percent of Mexico's blue-veined cheese imports with the EU the largest supplier accounting for about 60 percent of Mexico's blue-veined cheese imports.

Exhibit 8: Mexico Blue-Veined Cheese Imports

Value in $1,000 and Quantity in Metric Tonnes

	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016
Partner	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty
World Total	**3,568**	**419**	**3,915**	**428**	**4,121**	**489**	**3,952**	**475**	**4,485**	**506**	**4,001**	**473**	**3,991**	**521**
United States	1,423	207	1,599	212	1,721	232	1,561	203	1,874	223	1,458	191	1,465	200
European Union	**1,859**	**199**	**1,989**	**204**	**2,014**	**239**	**2,039**	**258**	**2,215**	**266**	**2,248**	**265**	**2,401**	**311**

Source: FAS GATS

As indicated above, it is difficult to break out Mexico's cheese imports by specific types of cheese as countries have different interpretations of HS codes. The imports are classified by the HS code descriptions resulting in cheeses entering under a generic code for other cheese or grouped into a large category. A best estimation of Mexico's total cheese imports by specific type is found in Exhibit 9. Gouda has been the most imported type of cheese by Mexico, growing from 31,200 tonnes in 2012 to a forecasted 56,800 tonnes in 2017.

Exhibit 9: Top 25 Mexico Total Cheese Imports by Type, Metric Tons

	2012	2013	2014	2015	2016	2017f	Trend
Gouda	31,200	36,700	38,445	43,058	50,320	56,811	
Other non-specified	18,248	24,393	15,582	25,427	24,878	17,935	
Pizza mozzarella	7,882	8,204	8,541	8,649	10,104	10,403	
Regular cream cheese	7,544	8,124	8,820	9,421	8,479	9,577	
Monterey Jack	5,144	5,607	6,100	6,489	7,125	7,558	
Fresh mozzarella	4,871	5,145	5,419	5,678	6,530	6,945	
Cheddar for processing	4,478	4,851	5,235	5,937	6,289	6,802	
Edam	2,791	2,845	2,700	2,840	3,578	3,674	
Parmesan-type	2,214	2,433	3,524	3,574	3,578	3,674	
Emmental/Swiss	1,370	1,402	1,390	1,445	1,582	1,908	
Provolone (other)	706	728	757	785	803	825	
Muenster/Munster	542	561	575	592	609	622	
Processed cheese other	698	704	782	789	592	748	
Neufchatel (US)	226	259	288	324	366	394	
Processed cream cheese	188	206	225	244	263	277	
Parmigiano Reggiano	110	125	152	153	218	285	
Brie & Camembert	152	161	179	181	177	183	
Feta (other)	105	112	120	129	139	145	
Ricotta	85	91	96	106	116	121	
Grana Padano	55	62	74	73	104	134	
Processed cheese slices	59	65	71	76	71	85	
Fontina (other)	36	43	45	48	53	58	
Gorgonzola (other)	18	22	27	29	36	42	
Havarti	11	12	14	17	32	39	
Cheddar for consumption	11	10	15	17	20	26	

Source: USDEC

The following table also shows Mexico's total cheese imports by type based on Mexico Customs data. Based on this data Gouda, Romano and Mozzarella cheese are the most imported cheeses.

Exhibit 10: Mexico Total Cheese Imports by Type

	2012		2016	
Type of Cheese	MT	$1,000	MT	$1,000
Gouda	35,880	136,344	57,868	219,898
Romano	27	216,000	36	288,000
Mozzarella	22,216	77,756	27,547	96,099
Parmesan	4,690	37,520	3,149	25,192
Edam	2,791	12,595	3,578	16,101
Emmental/Gruyere/Swiss	1,370	10,960	1,977	15,816
Muenster	677	2,369	1,093	5,292
Provolone	811	4,460	923	5,076
Camembert	205	2,460	256	3,072
Feta	105	840	189	1,512
Gorgonzola	52	920	78	1,380
Neufchatel	226	678	457	1,371
Asiago	36	468	90	1,170
Fontina	40	300	74	555

Source: Mexico Customs data through USDEC

D. Takeaways

The U.S. is a very important business and trading partner of Mexico in terms of dairy products. The U.S. accounts for 77 percent of Mexico's dairy product imports. The U.S. accounts for 93 percent of Mexico's SMP imports, 84 percent of whey product imports, and 70 percent of cheese imports. This U.S. market share is directly the result of NAFTA and the duty free status U.S. exports have under NAFTA. These shares would be in jeopardy if the U.S. withdraws from NAFTA.

IV. MEXICO, A DEFICIT PRODUCER

A. Fluid Milk

Domestic milk production does not currently meet demand by the processing sector for high quality milk. There is not sufficient cold chain for transport to market after processing, or lack of infrastructure to cool milk, and maintaining a lower temperature in the post-milking phase. The limited cold chain constrains growth in various subsectors. As a result, Mexico is a deficit producer of dairy products and imports play a major role in meeting domestic demand.

Exhibit 11: Mexico Fluid Milk Supply and Demand, 1,000 MT

Attribute	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Cows In Milk	6,133	6,800	6,800	6,800	6,850	6,875	6,010	6,204	6,400	6,480	6,400	6,350	6,300	6,350	6,400	6,450	6,500
Production	9,900	9,700	9,924	10,029	10,016	10,214	10,829	11,077	11,036	11,201	11,213	11,434	11,451	11,624	11,900	12,121	12,377
Cows Milk Production	9,756	9,560	9,784	9,874	9,855	10,051	10,657	10,907	10,866	11,033	11,046	11,274	11,294	11,464	11,736	11,956	12,200
Other Milk Production	144	140	140	155	161	163	172	170	170	168	167	160	157	160	164	165	177
Imports	41	20	58	70	77	43	95	63	45	41	38	39	41	35	41	48	50
Total Supply	9,941	9,720	9,982	10,099	10,093	10,257	10,924	11,140	11,081	11,242	11,251	11,473	11,492	11,659	11,941	12,169	12,427
Exports	0	0	0	0	0	0	2	5	5	9	10	13	10	11	11	12	14
Domestic Consumption	9,941	9,720	9,982	10,099	10,093	10,257	10,922	11,135	11,076	11,233	11,241	11,460	11,482	11,648	11,930	12,157	12,413
Fluid Use Dom. Consum.	4,184	4,080	4,352	4,349	4,266	4,305	4,275	4,263	5,206	5,167	4,100	4,168	4,160	4,180	4,185	4,183	4,186
Factory Use Consum.	5,757	5,640	5,630	5,750	5,827	5,952	6,647	6,872	5,870	6,066	7,141	7,292	7,322	7,468	7,745	7,974	8,227
Total Distribution	9,941	9,720	9,982	10,099	10,093	10,257	10,924	11,140	11,081	11,242	11,251	11,473	11,492	11,659	11,941	12,169	12,427
Feed Use Dom. Consum.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: FAS/USDA

Mexico's food industry has been the primary market demand driver contributing to U.S. dairy exports. The processing sector fuels demand for fluid milk and dairy products, such as powdered milk, with the gap between production and demand filled by imports.

B. Skim Milk Powder

Mexico is a deficit producer of non-fat dry milk with production only meeting about 15 percent of its domestic demand. As a result, Mexico is highly dependent on non-fat dry milk imports. Import demand is growing and is expected to continue strong with an annual consumption growth rate of 5.3 percent since 2001 (Exhibit 12).

Exhibit 12: Mexico SMP Supply and Demand, 1,000 MT

Attribute	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production	14	13	13	6	10	18	18	24	25	13	26	55	55	55	55	55	55
Imports	140	132	129	141	155	111	121	152	165	155	194	236	198	203	259	286	300
Total Supply	154	145	142	147	165	129	139	176	190	168	220	291	253	258	314	341	355
Exports	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5
Domestic Consumption	153	145	142	147	165	129	139	176	190	168	220	291	253	258	314	338	350
Prod % Consump	9.15	8.97	9.15	4.08	6.06	13.95	12.95	13.64	13.16	7.74	11.82	18.90	21.74	21.32	17.52	16.27	15.71
Per Capita Consump lbs	3.34	3.12	3.01	3.08	3.41	2.64	2.80	3.50	3.73	3.25	4.19	5.47	4.69	4.73	5.69	6.05	6.19
Total Use	154	145	142	147	165	129	139	176	190	168	220	291	253	258	314	341	355
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Distribution	154	145	142	147	165	129	139	176	190	168	220	291	253	258	314	341	355

Source: FAS/USDA

C. Cheese

Production of cheese in Mexico is almost exclusively for domestic consumption, and supplemented by imports to meet demand. Mexico is also a deficit producer of cheese, with domestic production meeting about 70 percent of its domestic needs. In addition, production growth has slowed in recent years. Domestic use is growing at a faster rate than domestic production (Exhibit 13). The annual growth rate in domestic use is 3.6 percent compared with the growth rate for production of 3.4 percent and is expected to continue to grow.

While cheese production is increasing, this growth faces a constraint in the availability of domestic high quality fluid milk as an input. Cheese is a staple food for all income levels of Mexican households, providing fat and protein in quesadillas, toppings on tacos, and sandwiches. As previously reported, Mexico produces one of the widest varieties of cheeses in Latin America with around 60 varieties.

Exhibit 13: Mexico Cheese Supply and Demand, 1,000 MT

Attribute	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production	175	138	126	134	143	145	184	188	242	264	270	264	270	275	280	285	300
Imports	66	71	78	82	89	86	86	68	73	80	78	89	103	99	116	123	130
Total Supply	241	209	204	216	232	231	270	256	315	344	348	353	373	374	396	408	430
Exports	0	0	0	2	2	2	4	5	4	6	4	4	5	4	5	5	5
Domestic Consumption	241	209	204	214	230	229	266	251	311	338	344	349	368	370	391	403	425
Prod % Consump	72.6	66.0	61.8	62.6	62.2	63.3	69.2	74.9	77.8	78.1	78.5	75.6	73.4	74.3	71.6	70.7	70.6
Per Capita Consump lbs	5.25	4.50	4.33	4.48	4.76	4.68	5.36	4.99	6.10	6.53	6.55	6.56	6.83	6.78	7.08	7.21	7.52
Total Use	241	209	204	216	232	231	270	256	315	344	348	353	373	374	396	408	430
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Distribution	241	209	204	216	232	231	270	256	315	344	348	353	373	374	396	408	430

Source: FAS/USDA

D. Butter

Mexico butter production meets about 77 percent of its domestic demand with the residual needing to be imported. Domestic production is also only growing slowing. Domestic butter production though has a higher annual growth rate than domestic use at 4.4 percent compared with 4.0 percent.

Exhibit 14: Mexico Butter Supply and Demand, 1,000 MT

Attribute	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production	105	78	74	88	93	109	214	180	171	182	187	190	190	192	195	205	210
Imports	35	37	40	53	51	60	72	49	74	49	36	37	50	37	43	65	62
Total Supply	140	115	114	141	144	169	286	229	245	231	223	227	240	229	238	270	272
Exports	0	0	0	0	0	0	2	0	0	0	0	1	6	8	10	15	10
Domestic Consumption	140	115	114	141	144	169	284	229	245	231	223	226	234	221	228	255	262
Total Use	140	115	114	141	144	169	286	229	245	231	223	227	240	229	238	270	272
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Distribution	140	115	114	141	144	169	286	229	245	231	223	227	240	229	238	270	272

Source: FAS/USDA

E. Dry Whole Milk Powder

Mexico produces almost all of its dry whole milk powder domestic needs. Mexico's imports account for only about 8 percent of its domestic use.

Exhibit 15: Mexico Whole Milk Powder Supply and Demand, 1,000 MT

Attribute	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production	138	142	145	160	166	174	182	168	164	173	168	150	150	150	155	156	157
Imports	55	43	44	34	44	43	46	23	27	15	30	9	11	7	7	12	13
Total Supply	193	185	189	194	210	217	228	191	191	188	198	159	161	157	162	168	170
Exports	12	12	11	8	11	6	6	6	6	7	8	5	5	6	11	20	22
Domestic Consumption	181	173	178	186	199	211	222	185	185	181	190	154	156	151	151	148	148
Total Use	193	185	189	194	210	217	228	191	191	188	198	159	161	157	162	168	170
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Distribution	193	185	189	194	210	217	228	191	191	188	198	159	161	157	162	168	170

Source: FAS/USDA

F. Takeaways

Dairy product imports are vital to Mexico because its domestic production cannot meet its growing demand for dairy products. Mexico currently only produces 15 percent of its skim milk powder domestic use and 70 percent of its cheese needs.

V. MEXICO'S DOMESTIC USE OF DAIRY PRODUCTS

A. Fluid Milk

For 2018, fluid use for domestic consumption is forecast flat at 4.2 million tonnes. Demand currently remains stable, while demand for other specialized dairy products has increased. Industry believes that this consumption level could be greatly expanded.

1. Processors

Factory usage is forecast for 2018 at 8.3 million tonnes, or almost double fluid use for domestic consumption. Consumers are demanding more and more specialty-processed milk products, and processors are responding. This includes conversion into powdered milk, use in products such as UHT milk (ultra-high pasteurization for shelf stable milk), and cheese. Milk is also used in the production of yogurt, cream, butter, and anhydrous milk fat production. Many of these processed products do not require refrigeration and therefore are popular among both retailers and consumers. Several sources report that industrial production of dairy value-added products is growing at a significantly faster rate than production of fluid milk.

B. SMP

Growth in SMP use is constrained by the competition for raw material (fluid milk) with other value-added products processors. The industry is seeking to expand production through two new drying facilities, which have been discussed in previous reports, but are not yet in operation (they are currently on hold for recognition as TIF facilities). Overall, in Mexico there are only around 10 drying facilities, so the addition of two more will significantly increase capacity. These facilities will principally produce whole milk powder (WMP), but any surpluses of fluid milk will most likely go to SMP. These facilities will face challenges making their product competitive, as production costs in Mexico are higher than prices on the international market.

SMP consumption is continuing to grow as dairy processors (the primary users of SMP) continue to demand inputs for their processed products or to be reconstituted into specialty milk. For example, SMP from the United States or Canada might be imported as an input for reconstituted UHT.

C. Cheese

Consumption of both fresh and hard or aged cheese will continue to be defined by income and inflation, with fresh cheeses consumed by all income levels, but aged cheese principally consumed by the middle and upper income population. While the low-income consumer purchases fresh cheese varieties in traditional wet markets, a small but growing segment of the population with higher incomes are purchasing fine (aged), and often, imported cheeses, at supermarkets, price clubs (Sam's Club and Costco), and specialized stores.

Middle and high-income consumers are able to refine their consumption patterns through their purchasing power, moving through the "tasting wheel" from soft white cheeses to harder whites and yellows, eventually developing a taste for hard or mature cheeses (blue cheese, gorgonzola). High-end restaurants and resorts also cater to this growing demand. Lower income groups can play an important role in developing this market as well through purchases of less expensive cheeses in similar styles.

As a general trend, millennials are entering the work force with higher educational levels than the previous generation, with greater purchasing power, including young women who are moving away from traditional roles. These types of consumers are customary clients of new restaurant franchises where various dishes are served with a variety of cheeses. For example, many sushi restaurants in middle and high-income areas use "queso Philadelphia," or rather, cream cheese, in many sushi rolls.

D. Butter

As in recent years, butter processors continue to compete for inputs (fluid milk) with other dairy processors. Given the sustained demand from the bakery and confectionary sectors, the hotel, restaurant, and institutional (HRI) sector continues to demand high volumes for baking and direct consumption at restaurants and resorts. Smaller demand comes directly from consumers who purchase butter at grocery stores and retail chains. Consumption is increasing overall, particularly in the HRI processing sector (processed foods, baked goods, etc.), and in Mexico's largest cities (Mexico City, Guadalajara, and Monterrey).

E. Takeaways

Mexico's consumer demand for cheeses, SMP and whey products is expected to continue to grow. Although currently there is growth in the domestic market for dairy products among middle and higher income groups, according to the World Bank, more than 40 percent of Mexico's population lives in poverty. Although economic mobility is low, as this group transitions into middle-income status, there will be an opportunity for domestic use of dairy products to grow even more.

VI. MARKET ACCESS TO MEXICO

Under NAFTA, the U.S. can export dairy products to Mexico duty free. NAFTA provides a huge advantage to the U.S. because export competitors shipping to Mexico are subject to MFN tariff rates ranging from 20 to 45 percent and a tariff rate quota for SMP. Currently negotiations are taking place to modernize NAFTA. If the U.S. withdraws from NAFTA, the U.S. would be subject to the same MFN rates as its competitors. In addition, some competitors are negotiating trade agreements such as TPP-11 and updating the EU-Mexico trade agreement that would allow them greater access to the U.S. market.

This section evaluates potential changes in the U.S. export competitive position to Mexico that could occur from these trade negotiations.

A. U.S. Market Access to Mexico Without NAFTA

1. MFN Tariffs

Currently the U.S. benefits from duty-free exports to Mexico through NAFTA (Exhibit 16), which puts the U.S. in a very advantageous position vis-à-vis its competitors. Although Canada is a partner in NAFTA, Canada still pays MFN rates on dairy product exports to Mexico[3].

Exhibit 16: Dairy Products Classification, Mexico MFN Rates for 2017

HS Code	Classification	Products Included	United States	MFN
0402.10	Milk powder	Skim Milk Powder	0	45
0404.10	Whey, including modified whey	Whey	0	10
0406.10	Fresh Cheese	Mozzarella	0	45
0406.20	Grated/Powdered Cheese	Cheddar, Mozzarella, Parmesan	0	20
0406.30	Processed Cheese	All cheeses	0	45
0406.40	Blue-veined and other Veined Cheese	Gorgonzola	0	20
0406.90.04	Grana or Parmegiano-Reggiano	Parmesan, Gouda	0	20
0406.90.06	Egmont type	Cheddar, Asiago	0	45

Source: WTO

[3] https://www.tariffinder.ca/mx/canada-tariffinder/index.html

In comparison, major competitor cheese exporters to Mexico pay MFN tariffs ranging from 20 to 45 percent depending on how the cheese is classified (Exhibit 17). Competitors also pay a tariff of 10 percent on exports of whey products to Mexico, and a tariff of 45 percent on skim milk powder.

Exhibit 17: Current Mexico Tariff Schedule

HS Code	Classification	United States	Canada	New Zealand	Australia	EU
0402.10	Milk powder	0	45	45	45	45
0404.10	Whey, including modified whey	0	10	10	10	10
0406.10	Fresh Cheese	0	45	45	45	45
0406.20	Grated/Powdered Cheese	0	20	20	20	20
0406.30	Processed Cheese	0	45	45	45	45
0406.40	Blue-veined and other Veined Cheese	0	20	20	20	20
0406.90.04	Grana or Parmegiano-Reggiano	0	20	20	20	20
0406.90.06	Egmont type	0	45	45	45	45

Source: USTR, WTO[4]

If the United States were to exit from NAFTA, cheese, whey, skim milk powder and other dairy product exports would be subject to Mexico's MFN rates for imports, eliminating the competitive tariff advantage the U.S. has held over other competitors. Under this scenario, the U.S. would pay the same tariffs as their competitors in the Mexico dairy market (Exhibit 18).

Exhibit 18: Mexico MFN Tariff Schedule

HS Code	Classification	United States	Canada	New Zealand	Australia	EU
0402.10	Milk powder	45	45	45	45	45
0404.10	Whey, including modified whey	10	10	10	10	10
0406.10	Fresh Cheese	45	45	45	45	45
0406.20	Grated/Powdered Cheese	20	20	20	20	20
0406.30	Processed Cheese	45	45	45	45	45
0406.40	Blue-veined and other Veined Cheese	20	20	20	20	20
0406.90.04	Grana or Parmegiano-Reggiano	20	20	20	20	20
0406.90.06	Egmont type	45	45	45	45	45

Source: USTR, WTO[5]

[4] http://tariffdata.wto.org/ReportersAndProducts.aspx

[5] http://tariffdata.wto.org/ReportersAndProducts.aspx

2. MFN Tariff Rate Quotas

Currently Mexico has a tariff rate quota (TRQ) for imported powder milk under HTS 0402.10.01 (SMP) and 0402.21.01 (WMP) from WTO countries of 80,000 tonnes. Current imports from US are duty-free under NAFTA. If the U.S. withdraws from NAFTA it will have to compete for the TRQ and pay an MFN rate of 45 percent outside the TRQ.

B. Other Trade Agreements

Negotiations to update the EU-Mexico FTA and negotiations to finalize the TPP-11 are two agreements that could make U.S. exports even less competitive to Mexico.

1. EU-Mexico FTA Update Negotiations

Dairy products are not included in the current EU-Mexico FTA and EU dairy product exports to Mexico and are subject to MFN tariff rates. However, under current negotiations to update the FTA, the EU has requested direct recognition of a list of GI terms regarding cheese such as Asiago, Feta, Gorgonzola, Mozzarella di Bufala Campana, and others. If the EU was granted GI status those cheeses, that would restrict competition in those products because Mexico could only import cheeses with those names from the EU. GI status for the EU would be a defacto barrier to trade and reduce market access opportunities for U.S. exports to Mexico. So far Mexico opposes including geographical indications in the agreement.

2. TPP Re-negotiations

Headed by the Japanese leadership, the remaining TPP countries from the original delegation have begun meeting to discuss the future of the trade pact, now called the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (TPP-11). The Japanese strategy is to keep as much of the current deal as intact as possible. The primary adjustments that have been made include removing many of the elements agreed to as a means to satisfy the United States requests during negotiations, including many provisions on intellectual property.

At the APEC summit in November, the remaining 11 countries agreed to most of the elements in the agreement. Despite the failure to sign the agreement in its entirety, primarily due to Canada's position on cultural exemption, there appears to be a clear path forward toward a new revamped agreement. Most of the original language is expected to remain, it has been reported that new language will be included to allow the trade deal to move forward without the United States.

As indicated earlier, Australia and New Zealand are subject to Mexico MFN rates; but, under the TPP-11 currently being negotiated, some dairy product import duties into Mexico would be zero under country specific quotas (CSQ). The quantities for the CSQs would increase over eleven years and remain capped in perpetuity after that. Members of TPP will compete for the Mexico tariff rate quota amounts through auctions in the first three years and on a first come serve basis after that.

Exhibit 19 shows what the Mexico tariff schedule would be in a TPP final draft. Milk powder and cheese imports from Australia, New Zealand and Canada will immediately enter Mexico duty-free[6], but would be subject to country specific quotas (CSQs). Exhibit 20 shows the CSQ schedule as detailed in Mexican tariff elimination section of the TPP. Whey will not have a CSQ and duties for this product will continue at 10 percent for all imports. Although the tariff rate quota quantities are not huge, if granted, they potentially could take the place of U.S. exports.

Exhibit 19: Projected New Tariff Schedule for TPP Members

HS Code	Classification	Canada	New Zealand	Australia
0402.10	Milk powder	CSQ	CSQ	CSQ
0404.10	Whey, including modified whey	10	10	10
0406.10	Fresh Cheese	CSQ	CSQ	CSQ
0406.20	Grated/Powdered Cheese	CSQ	CSQ	CSQ
0406.30	Processed Cheese	CSQ	CSQ	CSQ
0406.40	Blue-veined and other Veined Cheese	CSQ	CSQ	CSQ
0406.90.04	Grana or Parmegiano-Reggiano	CSQ	CSQ	CSQ
0406.90.06	Egmont type	CSQ	CSQ	CSQ

Source: USTR[7]
*Subject to CSQ

[6] https://ustr.gov/sites/default/files/TPP-Final-Text-Mexico-Tariff-Elimination-Schedule.pdf

[7] https://ustr.gov/sites/default/files/TPP-Final-Text-Mexico-Tariff-Elimination-Schedule.pdf

Exhibit 20: TPP Country Specific Quota (CSQ)

Cheese		Milk Powder	
Quota Year	Annual Aggregate Quantity (MT)	Quota Year	Annual Aggregate Quantity (MT)
1	4,250	1	25,000
2	4,475	2	26,700
3	4,700	3	28,400
4	4,925	4	30,100
5	5,150	5	31,800
6	5,375	6	33,500
7	5,600	7	35,200
8	5,825	8	36,900
9	6,050	9	38,600
10	6,275	10	40,300
11+	6,500	11+	42,000

Source: USTR[8]

3. Mexico-Argentina FTA

Mexico is currently in negotiations with Argentina, however much of the short-term future of any free trade agreement between the two countries depends on the efficacy of NAFTA re-negotiations. Mexico, the world's biggest buyer of U.S. corn, is considering offering duty-free access to Brazilian and Argentine maize as an alternative to American imports in a move that could have big consequences for U.S. farmers worried about President Trump's trade and tax agenda. Under the deal, Argentina could gain part of the grains market in Mexico, the second largest Latin American economy.

While there has been progress made towards expanding Argentina and Brazil access to the Mexican markets, most movement has been centered around Mexico's grains market. The U.S. dairy industry is not expected to experience significant impact from any future pact between Argentina and Mexico, particularly as Argentina dairy industry is currently recovering from one

[8] https://ustr.gov/sites/default/files/TPP-Final-Text-Mexico-Appendix-A-1-Tariff-Rate-Quotas-and-Appendix-A-2-Country-Specific-Allocation-for-Sugar-of-Mexico.pdf

of the worst crises in over 20 years, as exchange rates have made it increasingly difficult for Argentina dairy producers to be competitive in the international market.

C. Takeaways

Withdrawing of the U.S. from NAFTA will eliminate current U.S. tariff advantages in exporting to Mexico and the EU-Mexico FTA and TPP-11 agreements could put the U.S. at a competitive disadvantage. This would place about one-fourth of U.S. dairy exports that currently go to Mexico in jeopardy and put the whole U.S. industry at risk. The U.S. government needs to take these considerations into account while renegotiating NAFTA. The benefits for the dairy sector from NAFTA highly outweigh the negative impacts that could occur if the U.S. leaves NAFTA.

VII. US TRANSPORTATION ADVANTAGES

The U.S. has a significant advantage in terms of shipping dairy products to Mexico. The proximity of the U.S. to Mexico and shorter transit time, lower the transportation costs in moving product to Mexico because of the proximity and mode of transportation used (rail/truck versus ship), and the current close business relations in the two countries put the U.S. in a very favorable position vis-à-vis other export competitors. In addition, cross-border intermodal business is likely to expand over the next few years. Transport capacity to serve cross-border trade, especially southbound to Mexico is supported by U.S. investment.

This section compares the U.S. and competitor transportation costs for shipping dairy products to Mexico. The freight rates and time of shipping the product used in this section should be used only as a comparison between exporting origin locations as they assume optimal operating conditions, without risk of negative impacts from external influences. Competing locations in Australia and New Zealand were assumed to use the west coast port of Lazaro Cardenas, whereas product coming in from the European Union and South America were assumed to use the Port of Veracruz on the Gulf of Mexico. All product being imported into Mexico from counties outside of North America is expected to move via shipping 40-foot standard container (dry milk powder) or 40-foot refrigerated container for (cheese & butter).

A. Shipping Dry Milk Powder

Based on interviews, the majority of dry dairy product that is moved directly into Mexico from the US is by rail. The United States has a significant advantage with respect to shipping time compared to competing countries on other continents. Besides the US, only Canada has a shorter freight time under 3 weeks. One risk in transport that is particular to the upper mid-west and movements from Ontario is the requirement to move through Chicago. Chicago has a history of causing delays from rail congestion in the area.

The United States also has a shipping rate advantage. Only Brazil has a combined freight total that approaches those from the US. Brazil may maintain a freight advantage in eastern areas near the Gulf of Mexico, specifically the Yucatan Peninsula. Tulare, CA is competitiveness is limited by the fact that it requires multiple rail carriers to make its way to Mexico City.

Exhibit 21 shows the significant freight and time advantage the U.S. has in shipping dry product to Mexico compared with its competitors. This is a major reason why the U.S. accounts for a very large share of dry dairy products shipped to Mexico.

Exhibit 21: Freight Comparison, Dry Products

Dry Milk Powder		Days	Rate / MT			Days	Rate / MT		Total Days	Total Rate / MT
Tulare, CA	Rail	6	$ 103.24	Mexico City					6	$ 103.24
Dalhart, TX	Rail	4	$ 66.53	Mexico City					4	$ 66.53
Minneapolis	Rail	4	$ 47.76	Laredo	Rail	2	$ 9.33	Mexico City	6	$ 57.09
Ontario	Rail	7	$ 114.23	Mexico City					7	$ 114.23
Quebec	Rail	9	$ 149.72	Mexico City					9	$ 149.72
Wellington	New Zealanc	26	$ 120.09	Lazaro Carde	Mexico	1	$ 74.27	Mexico City	27	$ 194.36
Sydney	Austrailia	29	$ 86.89	Lazaro Carde	Mexico	1	$ 74.27	Mexico City	30	$ 161.16
Rotterdam	EU	23	$ 104.07	Veracruz	Mexico	1	$ 45.68	Mexico City	24	$ 149.75
Buenos Aire:	Argentina	27	$ 87.42	Veracruz	Mexico	1	$ 45.68	Mexico City	28	$ 133.10
Santos	Brazil	24	$ 56.68	Veracruz	Mexico	1	$ 45.68	Mexico City	25	$ 102.36

Sources: CN Railroad – Web Freight Tool; Union Pacific – Web Freight Tool; Searate – Website; World Freight Rate – Website; and Informa

B. Shipping Cheese & Butter

Cheese and butter both require refrigerated freight. While butter and some types of cheese can be shipped frozen, the majority of the cheeses exported by the United States to Mexico will be varieties that cannot be frozen. Both rail and truck rates are shown from locations in the United States in Exhibit 22. Rail provides the most cost-effective solution, but also limits the shipper's ability to control product moves in the event issues arise. One interviewee commented that when shipping by truck, there is always someone with the cargo from origin to destination, while in-transit issues can be more difficult to solve with rail.

The United States has an advantage in shipping duration as well as with freight. The only relevant competitive threat to the U.S. in terms of transportation is from Brazil, which has the lowest non-U.S. freight cost. But, Brazil still has a long freight movement duration of 25 days compared to under a week with product shipped from US origins.

Exhibit 22: Freight Comparison, Refrigerated Products

Cheese / Butter		Days	Rate / MT			Days	Rate / MT		Total Days	Rate / MT
Tulare, CA	Rail	6	$ 113.49	Mexico City					6	$ 113.49
Dalhart, TX	Rail	4	$ 74.92	Mexico City					4	$ 74.92
Minneapolis	Rail	3	$ 113.73	Mexico City					3	$ 113.73
Tulare, CA	Truck	3	$ 243.94	Mexico City					3	$ 243.94
Dalhart, TX	Truck	2	$ 157.20	Mexico City					2	$ 157.20
Minneapolis	Truck	3	$ 244.60	Mexico City					3	$ 244.60
Wellington	New Zealanc	26	$ 243.82	Lazaro Carde	Mexico	1	$ 78.59	Mexico City	27	$ 322.41
Sydney	Austrailia	29	$ 176.36	Lazaro Carde	Mexico	1	$ 78.59	Mexico City	30	$ 254.95
Rotterdam	EU	23	$ 211.25	Veracruz	Mexico	1	$ 51.59	Mexico City	24	$ 262.84
Buenos Aire:	Argentina	27	$ 177.45	Veracruz	Mexico	1	$ 51.59	Mexico City	28	$ 229.05
Santos	Brazil	24	$ 115.07	Veracruz	Mexico	1	$ 51.59	Mexico City	25	$ 166.66

Sources: CN Railroad – Web Freight Tool; Union Pacific – Web Freight Tool; Union Pacific – Circular 2037 Eff. 10/7/07; Searate – Website; and Informa

C. Takeaways

The U.S. has a major transportation advantage in shipping product to Mexico in terms of freight costs and transit times as compared with competitors. In addition, U.S. trans modal investments involving shipping between the U.S. and Mexico are important to both countries. These transportation advantages will continue with or without NAFTA. Thus even if the U.S. withdraws from NAFTA, the government of Mexico should still consider continuing to not only import dairy products from the U.S. but also increase imports from the U.S. Interviews indicated that Mexican importers base their dairy product decisions not only on cost but also on ease of transport.

VIII. ECONOMIC CONTRIBUTION OF DAIRY EXPORTS TO MEXICO TO THE OVERALL U.S. ECONOMY

A. Input-Output Modeling and IMPLAN Methodology

Input-output modeling was utilized to estimate the "ripple effects" that the dairy exports to Mexico have on the broader economy and key countries. The input-output tables and models allow determination of the impact of exogenous changes in final demand on output, while taking account of the interdependencies between different industries and regions, and accounting for leakages out of the economy through items such as imports and taxes.

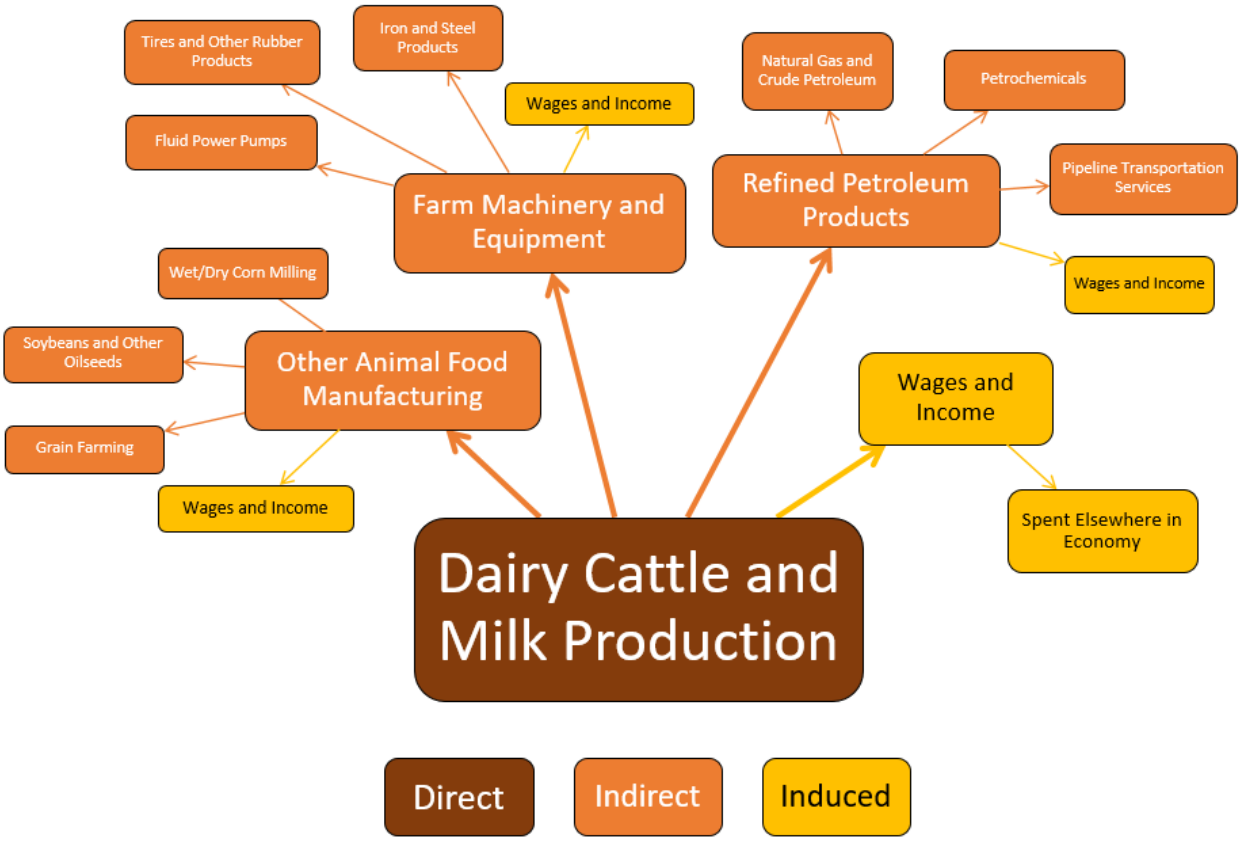
For this analysis, IMPLAN Pro software was used. This IMPLAN model uses historical data to construct a fixed pricing model for 536 pre-defined sectors within the economy. This allows for a detailed examination of how various industries are impacted individually.

Informa used a customized approach to IMPLAN to estimate impacts on jobs, value added (essentially gross domestic product, or GDP) and output (industry sales). There are three different types of impacts incorporated into the analysis: direct, indirect and induced.

- Direct impacts reflect the economic activity that occurs in the industry(ies) in which investments are made or other changes occur. In this analysis, the direct impacts occur primarily at the dairy manufacturing level, or the industries that export their dairy products to Mexico. The direct impact to a country/region is the amount of added economic output or sales; IMPLAN also provides a measure of GDP added, along with full time equivalent (FTE) jobs.
- Indirect impacts are the additional economic impacts that occur to upstream industries, as participants in the directly impacted industry purchase inputs and services in order to produce their commodity or product. For example, increased cheese production resulting from exports to Mexico creates indirect impacts on upstream industries such as support activities for agriculture and dairy farming.
- Induced impacts are those impacts created by changes in the spending of labor income and profits generated by the direct and indirect impacts. In this analysis, wages for the jobs directly and indirectly supported by dairy product manufacturing are spent on goods and services such as housing, medical treatments and groceries. The spending creates induced impacts in these industries.

To illustrate how the direct, indirect, and induced impacts ripple throughout an economy, a simple example from a direct change to the US dairy cattle and milk production industry in IMPLAN is shown in Exhibit 23.

Exhibit 23: Example of Backward Linkages/Upstream Industries Applied to Dairy Production



Source: Informa

B. Contribution to the Overall U.S. Economy

1. Aggregate Contribution Over the Last Five Years

From 2012 through 2016, the U.S. dairy industry exported in aggregate over 2.25 billion MT of dairy products to Mexico, amounting to a $6.7 billion total in sales received by producers. However, the impact that dairy exports have on the economy does not stop there; as dairy product manufacturers purchase inputs from other industries, these industries will in turn make their own input purchases and pay wages to their employees. This will continue as these "ripple effects" churn through the economy generating support to business sales, GDP, and employment for many other industries.

Results from the IMPLAN model examining the contributions of dairy exports to Mexico confirm the importance of these industries to the U.S. national economy. In total, from 2012-2016, U.S. dairy exports to Mexico directly employed over nearly 1,300 full time equivalent (FTE) jobs (in peak year 2014) while directly generating an aggregate GDP of nearly $800 million and business sales of nearly $6.7 billion.

Exhibit 24: Aggregate Economic Contributions Associated with U.S. Dairy Exports: 2012-2016

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	1,286	$ 430.6	$ 794.8	$ 6,658.3
Indirect Effect	8,978	$ 2,780.0	$ 5,084.4	$ 11,975.3
Induced Effect	6,228	$ 1,441.8	$ 2,529.4	$ 4,632.7
Total Effect	16,492	$ 4,652.3	$ 8,408.5	$ 23,266.3

Source: USDA, IMPLAN, and Informa
Note: Employment is not aggregated, selected from peak year 2014

The total economic contributions (direct, indirect, and induced contributions) created by dairy exports to Mexico show the true importance of these exports to the overall U.S. economy. By including the impacts to industries that are linked (either by indirect or induced spending) to dairy exports the aggregate 2012-2016 output value of $6.7 billion is magnified to a figure of $23.3 billion in economic output. That is, the economic "ripple effects" of the dairy exports are 3.5 times as large as the value of the dairy exports. Another way to think of these effects is that for every $1 of sales associated with dairy exports to Mexico, an additional $2.50 in output (industry sales) is supported elsewhere the United States economy.

2. Detailed Contribution of 2016

In 2016, the U.S. dairy industry exported over 500,000 MT of dairy products to Mexico, totaling over $1.2 billion in sales received by producers. Results from the IMPLAN model examining the 2016 contributions of dairy exports to Mexico confirm the importance of these industries to the U.S. national economy. In 2016, U.S. dairy exports to Mexico directly employed over nearly 1,000 full time equivalent (FTE) jobs while directly generating GDP of $141 million and business sales of nearly $1.2 billion.

Exhibit 25: Economic Contributions Associated with U.S. Dairy Exports in 2016

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	959	$ 78.6	$ 144.1	$ 1,196.4
Indirect Effect	6,544	$ 507.6	$ 927.9	$ 2,142.9
Induced Effect	4,536	$ 263.2	$ 461.8	$ 847.5
Total Effect	12,039	$ 849.4	$ 1,533.8	$ 4,186.7

Source: USDA, IMPLAN, and Informa

The total economic contributions (direct, indirect, and induced contributions) created by dairy exports to Mexico show the true importance of these exports to the overall U.S. economy. By including the impacts to industries that are linked (either by indirect or induced spending) to dairy exports the 2016 output value of $1.2 billion is magnified to a figure of $4.2 billion in economic output. That is, the economic "ripple effects" of the dairy exports are 3.5 times as large as the value of the dairy exports. Another way to think of these effects is that for every $1 of sales associated with dairy exports to Mexico, an additional $2.50 in output (industry sales) is supported elsewhere the United States economy.

The economic contributions are not limited solely to business sales. As shown in Exhibit 25, the total contribution of dairy exports indirectly supported over 12,000 jobs across the U.S. and $1.5 billion in GDP in 2016. These additional "ripple effects" are generated in two ways: as indirect effects and as induced effects. As previously discussed, indirect effects are the result of the dairy manufacturing industry purchasing inputs such as raw fluid milk from dairy farmers, natural gas, electricity, and other important inputs. Induced effects occur when wages that the dairy industry and other indirect industries pay their employees are spent elsewhere in the economy. When interpreting these indirect and induced numbers, it should be noted that as opposed to being directly generated by dairy product production for export (such as the direct impacts), these effects are instead indirectly supported by the dairy industry.

Additionally, the contributions of dairy exports do not affect every industry equally or to the same degree. IMPLAN offers a level of granularity, with the ability to model interactions between the directly impacted industries and all 536 categories within the industry sectoring scheme. Each individual industry has its own spending pattern which shows how that particular industry interacts with its upstream industries. As a result, this allows for a closer look at the various impacts on an industry-by-industry basis as well.

The top 15 industries impacted by dairy exports are examined by type of impact (jobs, GDP, sales) in Exhibit 26 through Exhibit 28. As would be expected, several agriculture and dairy-related

industries, such as support activities for agriculture and real estate, are ranked among the most impacted. Still, several non-agricultural industries, such as hospitals, restaurants, and petroleum refineries, are also among the top ones affected. In including these non-agricultural impacts, input-output analysis provides a more holistic view of the impacts to the greater economy.

Exhibit 26: Top 15 U.S. Industries Ranked by Contribution to Output/Business Sales (Mil $)

Total Output/Business Sales (Mil $)	$	4,187
Dry, condensed, and evaporated dairy product manufacturing	$	741
Dairy cattle and milk production	$	519
Cheese manufacturing	$	491
Wholesale trade	$	257
Fluid milk manufacturing	$	170
Other animal food manufacturing	$	97
Truck transportation	$	89
Real estate	$	73
Owner-occupied dwellings	$	66
Management of companies and enterprises	$	51
Petroleum refineries	$	49
Ice cream and frozen dessert manufacturing	$	42
Creamery butter manufacturing	$	40
Soybean and other oilseed processing	$	40
Support activities for agriculture and forestry	$	35

Source: IMPLAN, and Informa

Exhibit 27: Top 15 U.S. Industries Ranked by Contribution to GDP (Mil $)

Total GDP (Mil $)	$	1,534
Dairy cattle and milk production	$	300
Wholesale trade	$	170
Dry, condensed, and evaporated dairy product manufacturing	$	87
Real estate	$	53
Cheese manufacturing	$	51
Owner-occupied dwellings	$	43
Truck transportation	$	39
Management of companies and enterprises	$	32
Support activities for agriculture and forestry	$	27
Fluid milk manufacturing	$	26
Monetary authorities and depository credit intermediation	$	24
Hospitals	$	19
Insurance carriers	$	18
Extraction of natural gas and crude petroleum	$	16
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	$	15

Source: IMPLAN, and Informa

Exhibit 28: Top 15 U.S. Industries Ranked by Contribution to FTE Jobs

Total FTE Jobs	12,039
Dairy cattle and milk production	1,281
Wholesale trade	1,000
Support activities for agriculture and forestry	551
Truck transportation	510
Cheese manufacturing	470
Dry, condensed, and evaporated dairy product manufacturing	415
Real estate	322
Full-service restaurants	208
Hospitals	203
Fluid milk manufacturing	203
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	200
Management of companies and enterprises	195
Limited-service restaurants	192
Employment services	182
Services to buildings	165

Source: IMPLAN, and Informa

If dairy produced for exports were reduced to zero, the significant contributions to the rest of the U.S. economy would be in jeopardy. Under these assumptions, potentially a significant portion of the direct contributions associated with dairy exports could disappear, meaning a significant portion of $1.2 billion of dairy products may not be produced. Additionally, the indirect and induced contributions associated with these dairy exports would come under threat, and would very likely be adversely impacted.

IX. CONCLUSIONS

Mexico is the number one market for U.S. dairy product exports accounting for one fourth of total U.S. exports. In 2016 the U.S. shipped $$1.2 billion worth of dairy products to Mexico, up from $201 million in 2002. In 2016, Mexico accounted for 45 percent of total U.S. skim milk powder exports to all destinations, 30 percent of cheese exports, 10 percent of butter exports and 8 percent of whey exports.

The U.S. is vital supplier of dairy products to Mexico, accounting for two-thirds of Mexico's total dairy product imports, 93 percent of Mexico's skim milk imports, 84 percent of Mexico's whey product imports and 75 percent of Mexico's total cheese imports.

NAFTA is a major driving force behind growing U.S. dairy product exports to Mexico, as import tariffs are zero for imports from the U.S. and the U.S. is not subject to any tariff rate quotas. Export competitors in Mexico such as the EU, New Zealand, Australia, Canada and South America (Uruguay, Chile and Argentina) all pay MFN tariff rates ranging from 20 percent to 45 percent on their exports to Mexico and are subject to a tariff rate quota on milk powder.

However, the Mexico market could be in jeopardy for the U.S. If the U.S. withdraws from NAFTA it will lose its current duty free access to Mexico. This would significantly undermine one of the U.S. core advantages in exporting to Mexico. Without NAFTA, the U.S. would be paying higher tariffs in terms of MFN tariff rates of 20 to 45 percent, or the same levels as its competitors. In addition, some competitors are negotiating trade agreements with Mexico that could make their exports more competitive in the Mexico market.

- The EU and Mexico are renegotiating an expansion of their current free trade agreement. Under the original Mexico-EU FTA, dairy products were not included and the EU pays MFN tariff rates to export to Mexico. But, under the current negotiations, the EU is requesting direct recognition of Geographic Indications (GI) regarding a number of cheeses (Asiago, Feta, Gorgonzola and others), which if agreed to, would impose de facto barriers on Mexico cheese imports from other competitors such as the U.S. Under that scenario, the U.S. would not be able to export GI cheeses to Mexico if their GI names were included in a new agreement.
- The TPP countries Mexico, New Zealand, Australia, Canada, Chile and other potential members are negotiating their own agreement (excluding the U.S.) called the Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPATPP). Dairy products are included in these negotiations where duty free quotas would be established for cheese and

skim milk powder under tariff rate quotas. These country specific quotas will start at 4,250 tonnes for cheese and 25,000 tonnes for skim milk powder in the first year and rise to 6,500 tonnes for cheese and 42,000 tonnes for skim milk into the eleventh year. Although these quotas are not huge, they would take market share away from the U.S.

U.S. dairy product exports are becoming more and more important for the U.S. dairy industry and 25 percent of U.S. dairy product exports would be in jeopardy if the U.S. leaves NAFTA. The dry skim milk industry would potentially take the biggest hits since Mexico accounts for 45 percent of U.S. exports of that product.

The total economic contributions (direct, indirect, and induced contributions) created by dairy exports to Mexico show the true importance of these exports to the overall U.S. economy. By including the impacts to industries that are linked (either by indirect or induced spending) to dairy exports the aggregate 2012-2016 output value of $6.7 billion is magnified to a figure of $23.3 billion in economic output. That is, the economic "ripple effects" of the dairy exports are 3.5 times as large as the value of the dairy exports. Another way to think of these effects is that for every $1 of sales associated with dairy exports to Mexico, an additional $2.50 in output (industry sales) is supported elsewhere the United States economy. U.S. dairy exports to Mexico also employed 16,492 full time equivalent (FTE) jobs while directly generating an aggregate GDP of $8.4 billion over that five-year period.

The U.S. has a major transportation advantage in shipping product to Mexico in terms of freight costs and transit times as compared with competitors. In addition, U.S. trans modal investments involving shipping between the U.S. and Mexico are important to both countries. These transportation advantages will continue with or without NAFTA. Thus, even if the U.S. withdraws from NAFTA, the government of Mexico should still consider continuing to import dairy products from the U.S. However, these logistics advantages would at best only partially offset economic losses in terms of business sales, GDP and jobs for the U.S. from leaving NAFTA.

In conclusion, NAFTA is a major driving force behind growing U.S. dairy product exports to Mexico. The Mexico market accounts for:

- 25 percent of U.S. exports to all destinations.
- More than 25 percent of the growth in U.S. exports to all destinations since 2002.
- 3.5 percent of total U.S. dairy cash receipts.

U.S. export losses are likely to be greater if export competitors such as the EU, Australia and New Zealand are successful in renegotiating or negotiating trade agreements with Mexico to provide greater access to the Mexican market. If the U.S. leaves NAFTA, the growth in U.S. dairy product exports will be adversely impacted and it will be difficult to find new markets to offset losses in exports to Mexico.

The economic impacts of U.S. dairy product exports are even more substantial for the U.S. economy. As indicated earlier, NAFTA and U.S. dairy product exports benefitted the U.S. economy over the last five years (2012-2016) by contributing:

- $23.3 billion in economic output.
- $8.4 billion in GDP annually.
- Nearly 16,500 jobs across the entire economy.

If the U.S. withdraws from NAFTA, the above economic impacts will be in jeopardy and result in substantial losses for the U.S. economy.

The above macro-economic impacts are on top of an almost certain negative impacts on farmer prices for milk and resulting negative impacts on farmer incomes. While not the focus of this study, these additional impacts need to be considered with respect to the overall adverse impacts from the U.S. leaving NAFTA.

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