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Global Dairy Trade Situation and Outlook

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Abstract

This paper provides an overview of the economic trends and outlook for global dairy trade. Particular attention is given to the Asian market due to the significant role it plays in the global dairy trade. The global dairy market is in a challenging period, particularly given the uneven and volatile market movements. Despite these challenges there is reason for optimism in the international dairy market. There are signs the market is in correction mode as low milk prices are translating into slower production growth which in turn is expected to improve the supply situation.

Keywords: dairy, trade, China, India

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Introduction

Trade in the global dairy market is in a challenging period. Internationally, three key economic factors are driving both uneven and volatile market movements: (1) the Russian extension of the trade embargo until supposedly late 2016; (2) the reduction of import demand from China; and (3) dynamics in the international currency exchange market especially the relative strength of the US dollar. These three key factors set the stage for the global dairy market and will continue to be a challenging trade environment throughout 2016. Significant declines in imports from China and Russia have created a surplus in supply, leading to significant downward pressure on global prices. While the price impact has been uneven across dairy products, the general effect has led to reduced export volumes and lower prices for some US dairy products. Additionally, the strong US dollar has put United States dairy exports at a competitive disadvantage compared to other exporters, especially the EU and New Zealand.

Despite these challenges there is reason for optimism in the international dairy market. There are signs the market is in correction mode as low milk prices are translating into slower production growth which in turn is expected to improve the supply situation. The question then becomes one of timing on the turnaround for prices. World market prices have likely bottomed out or are very near to bottoming out, with some industry analysts suggesting that prices may have perhaps gone too low given the current market fundamentals (Informa 2015). International prices have moved higher in the most recent Global Dairy Trade (GDT) auctions in late 2015, although early 2016 saw a slight reversal back to declining prices (Figure 1)[1].

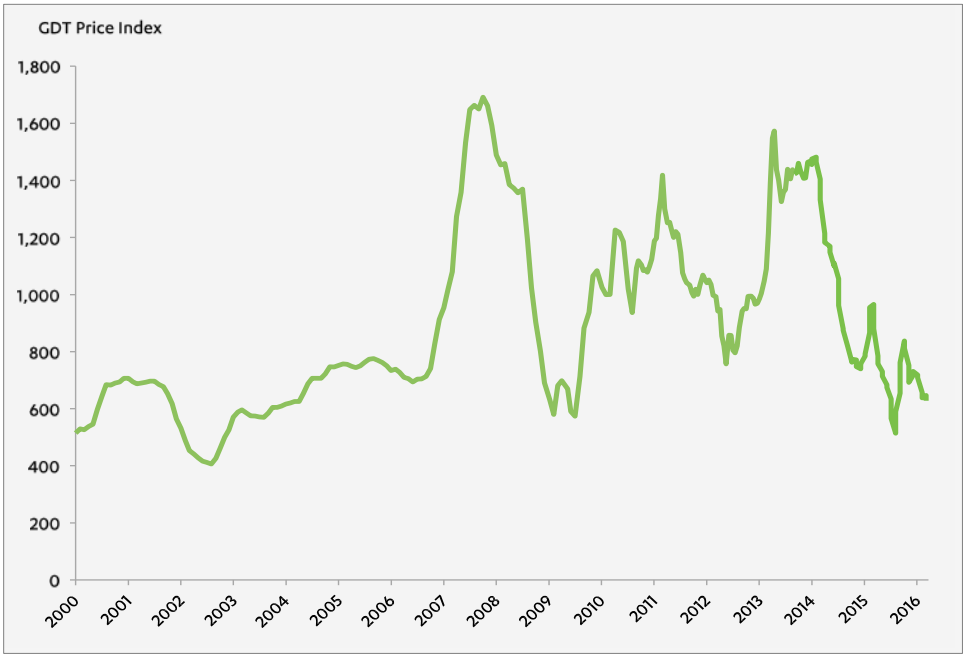

Figure 1. GDT Price Index, five-year view
Source. www.globaldairytrade.info

[1] Global Dairy Trade (GDT) provides market-based benchmark prices for over 30 dairy products globally (www.globaldairytrade.com)

Price response in the GDT is heavily influenced by trading volumes and China engaged in heavy import volumes of milk powder from New Zealand in late 2015 into early 2016. This resulted in the rise in GDT prices in early 2016. The positive price growth quickly returned back to price declines, however, as Chinese imports did not continue and global production levels have not fallen to the degree needed to support price growth. Much of the future direction of the global dairy market is dependent upon the degree of market correction that occurs over the course of 2016.

The international dairy market is increasingly affected not only by the global macroeconomic situation, but especially by economic conditions in Asia (McCully 2015). The region is already an important milk-producing region. As consumption rises in Asia alongside population growth and expansion of the middle class, coupled with increasingly liberalized trade arrangements, Asia is also becoming relevant to the global trade market. While China is clearly one of the largest importers of dairy products, other key Asian importers include Japan, Indonesia, Malaysia, and the Philippines. In addition to import growth, key countries in Asia, like China and India, represent some of the largest global producers of dairy products. Moreover, many of the world's fastest growing dairy companies are based in Asia or serve Asian customers. This trend will no doubt continue in the future, which will have repercussions to the US dairy industry and global dairy trade.

This paper provides an overview of the global dairy market. A particular emphasis is given to the trends and the outlook for the global dairy trade. Dairy is an international market and global economic forces shape not only the world dairy market but increasingly domestic dairy markets as well given the important role that trade plays in the dairy industry. While most of the world's commodities have been "internationalized" for quite some time, the evolution of the dairy industry as a global trade market is a more recent one. The next section of this paper reviews the global dairy trade situation and outlook. The third section takes a deeper dive exploring key trends in the Asian region due to the significant role it plays in the global dairy market. A particular emphasis is given to the key commercial players that have emerged. The final section summarizes and concludes.

Economic Situation and Outlook

Although the global and US dairy outlook remains bearish in the near term, being stuck in a position of oversupply, low prices and stagnant global import demand, international prices are expected to remain low and not recover before 2017.

For perspective, the current situation primarily stems from increased global milk production in 2014 that led to an oversupply of milk in exporting countries in 2015. Key contributing factors to the current situation include lower import demand from China, as well as, the Russian ban on dairy imports from several key producing countries that was extended beyond original expectations.

The Russian ban, which was originally enacted in August 2014, included a ban on most dairy products from the EU, United States, Australia, and Norway in retaliation for economic sanctions imposed on Russia over their involvement in the Ukraine crisis of 2014. Originally, the ban was

expected to last about year but has been extended until late 2016. While the ban had little direct effect on the US since no exports were being sent to Russia from the United States, there has been significant indirect effects as Russia was the EU's largest export market. This resulted in a huge displacement of dairy products globally.

Regarding China, dairy imports (especially powder) grew significantly through 2013 into 2014. The huge import levels not only took substantial product off the trade market but also helped to support strong prices. However, Chinese import demand curtailed sharply in the second half of 2014 as they built up substantial inventories. While there have been a few large spikes in import demand from China since then, they remain brief and appear to take advantage of cheap prices rather than forming a stable trend.

Beyond the import issues with China and Russia, the strengthening of the US dollar and a weakening of international currencies has dampened import demand, at least from a US point of view. Going forward, while relatively flat global production is needed for the market to correct itself, milk supply from the EU continues to grow. The outlook for 2017 depends critically on China coming back to the market, global production declining, and potential adverse weather events that further tighten supply.

Figure 2 shows milk production trends for the major exporting countries which include the EU-28, New Zealand, the United States, Argentina, and Australia (USDEC). While the seasonality of dairy production is apparent, the large aforementioned increase in supply that occurred in 2014 over the previous year is also clear.

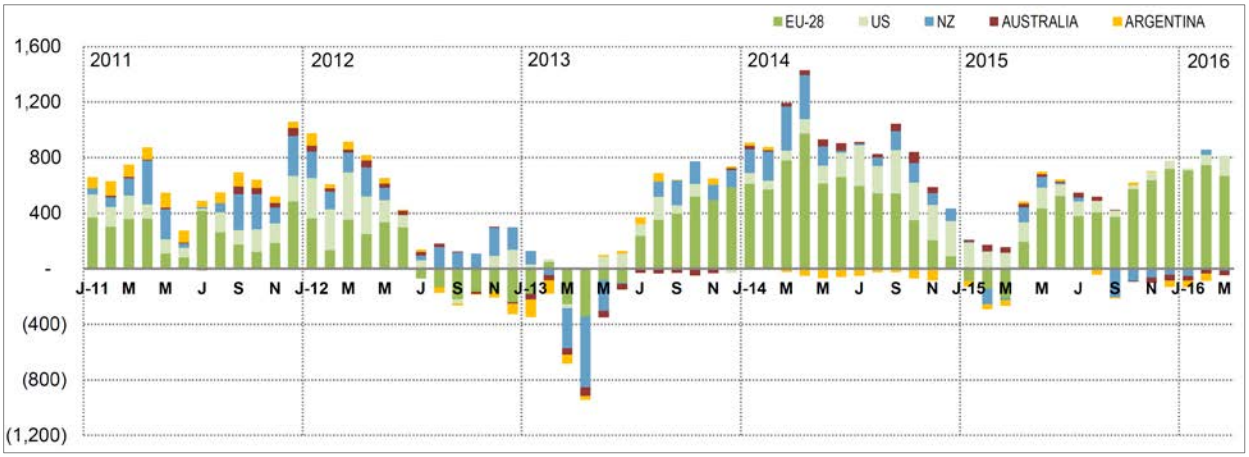

Figure 2. World milk production change from prior year (Key exporters, 1000 MT)
Source. US Dairy Export Council (www.usdec.org)

Moreover, although supply has remained stable throughout 2015/16, the decline in production growth has so far not been enough to offset the declines in import demand. This is evident by the observed trends in global milk prices (Figure 3). Notably, international prices have been on a declining trend since early/mid 2014 (USDEC). Even though the US has experienced downward pressure on dairy prices, the trend has been more mild compared to the price declines experienced by exporters in the EU or Oceania (New Zealand and Australia) especially regarding butter, WMP, and cheese.

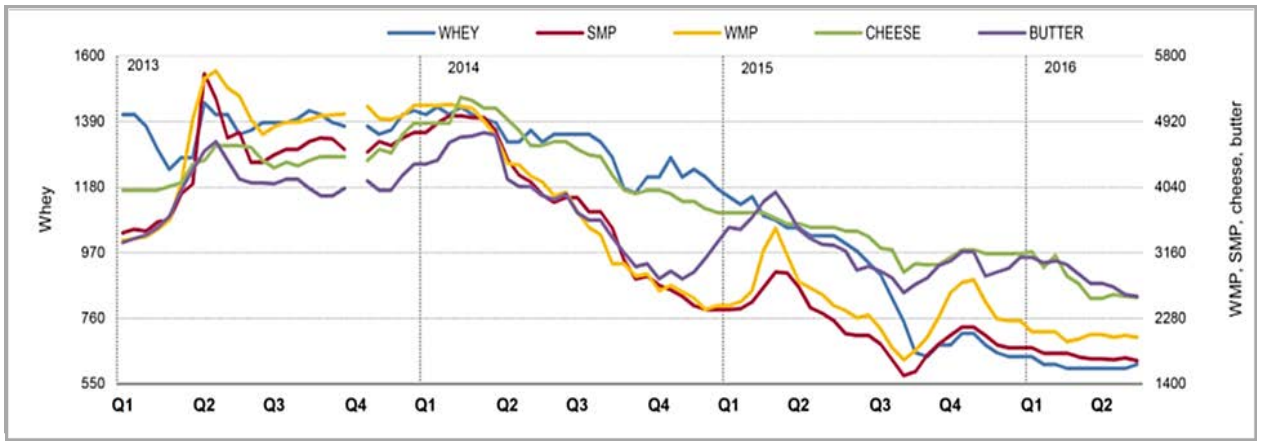

Figure 3. Estimated dairy prices ($/MT)
Source. Global Dairy Outlook, May 2016 (USDEC)

Part of this contrast between the US and world dairy prices has been a very strong domestic demand for butter (and to a lesser extent cheese) which has kept US prices higher than the rest of the exporting world. In fact, the high US butter price relative (Figure 4) to the world market has resulted in the US moving from a net exporter to a net importer of butter in a short amount of time, depicted in Figure 5 (USDA-FAS).

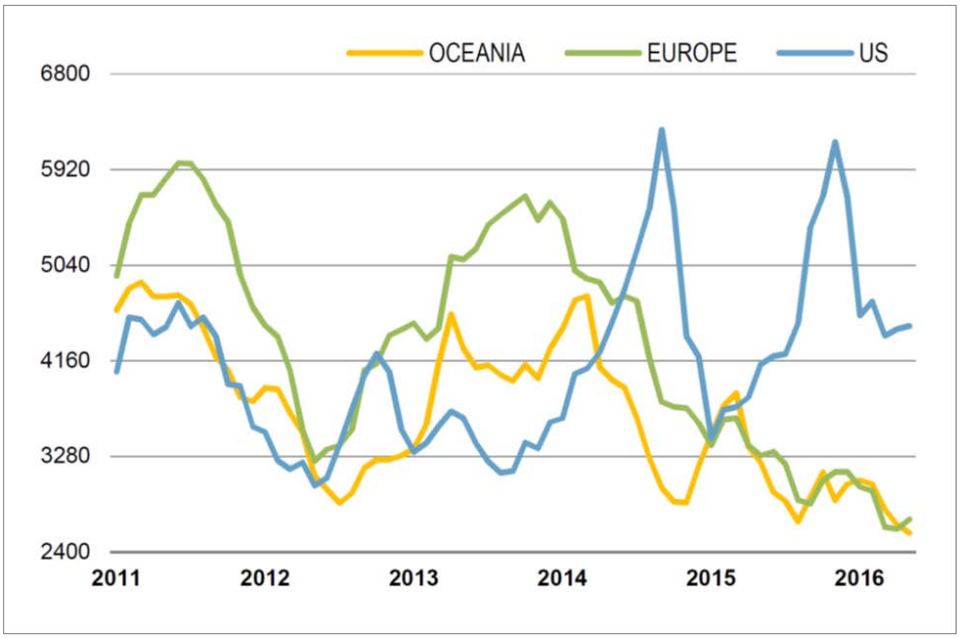

Figure 4. Estimated global butter prices ($/MT)
Source. Global Dairy Outlook, May 2016 (USDEC)

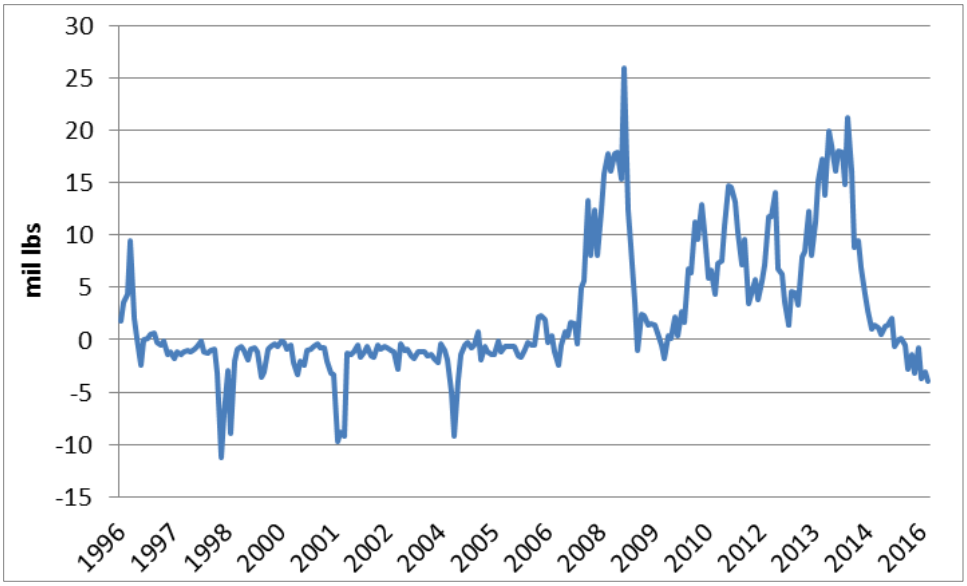

Figure 5. US butter net exports (Mil Lbs.)
Source. Foreign Agricultural Service –US Trade Data (www.usda.fas.gov)

Figure 6 shows the world and top five importers and the market share by major exporter. What's clear is in terms of the differential effect that Russia and China have had on the key dairy exporters, both New Zealand and the EU have been adversely affected (Figure 6). Russia was a key export market for the EU in 2014 and China and New Zealand have historically had strong ties in the global dairy trade market (Global Trade Atlas). The United States depends heavily on Mexico as a dairy export market.

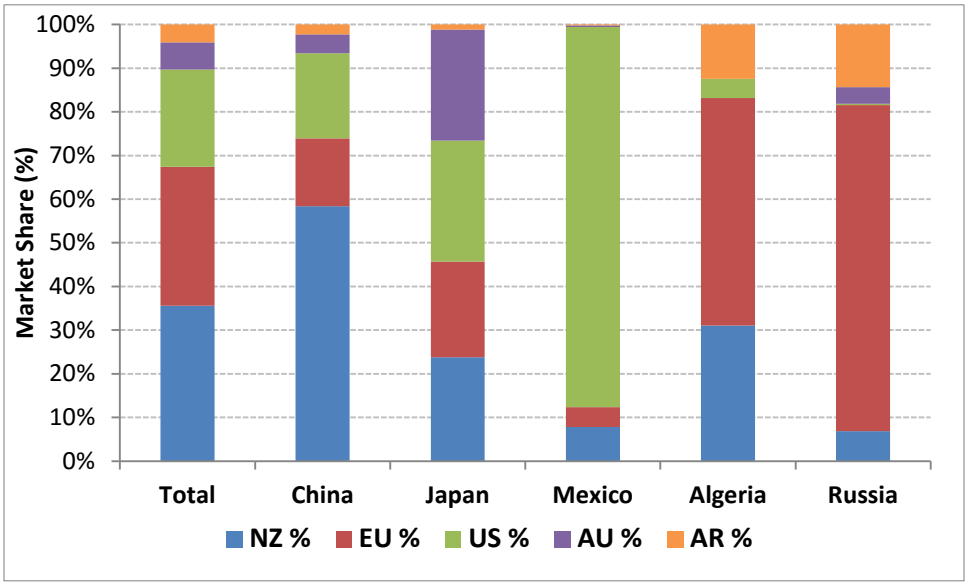

Figure 6. Source of global milk equivalent imports (2014)
Source. Global Trade Atlas (https://www.gtis.com/gta/)

World dairy exports are expected to remain flat throughout the remainder of 2016 (USDEC). Figure 7 shows the trend in aggregate export volume by the major dairy suppliers of SMP,

WMP, cheese, butterfat, and whey. Exports from the United States are at a competitive disadvantage having to cope with the double-edged sword of higher prices compared to the EU or Oceania, as well as, a stronger currency.

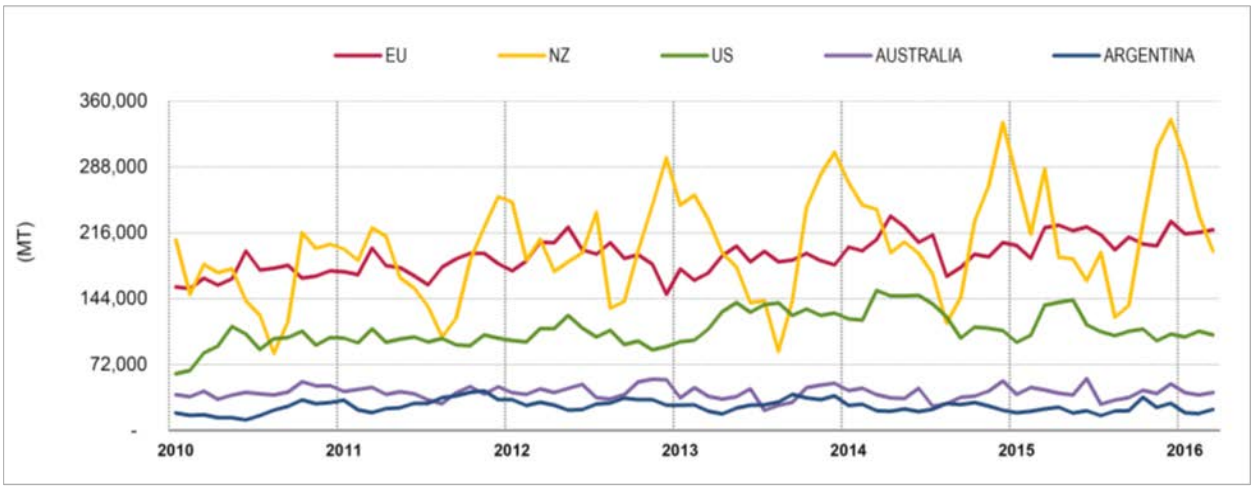

Figure 7. Aggregate export volume by major exporters
Source. US Dairy Export Council (www.usdec.org)

The weakening currency benefits competing exporters and makes their dairy exports more affordable relative to the US, but it also makes imported feed more expensive, so there is some potential downside as well in those countries (Figure 8). It is also important to take history into context. While the dollar has advanced in strength relative to the Euro and the NZ dollar, it is not near the exchange rates seen in the early 2000s.

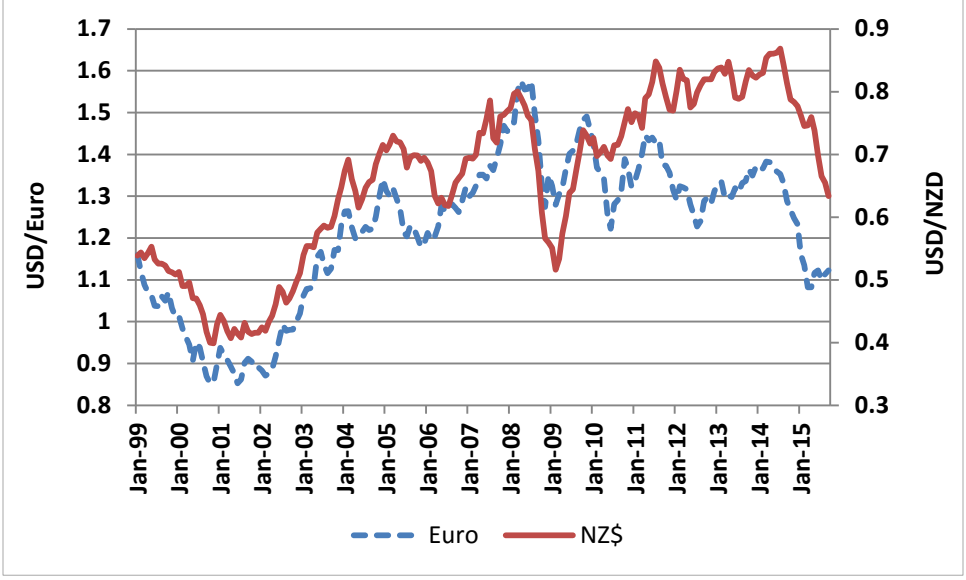

Figure 8. US dollar exchange rate history
Source. CME Group (http://www.cmegroup.com/trading/fx/)

US dairy exports have been growing both in volume and in their share of global trade over time (Figure 9). As exports become a more important part of the domestic US dairy industry, the

impact of global trade and economic conditions becomes increasingly more relevant. Key markets for the United States include China, Mexico, Japan, S. Korea, and the Philippines are also key markets.

Figure 9. US export volume and share of global trade
Source. Global Trade Atlas (https://www.gtis.com/gta/)

While there has been strong growth in China, remarkable import growth has also been seen in Mexico as well as other international markets (Figure 10). Despite the remarkable growth in US dairy exports over approximately the last ten years, recent export volumes have been hit hard by the global dairy economic situation (Global Trade Atlas). The two largest export markets for the United States, China and Mexico, are lower in export value compared to last year according to the US Dairy Export Council.

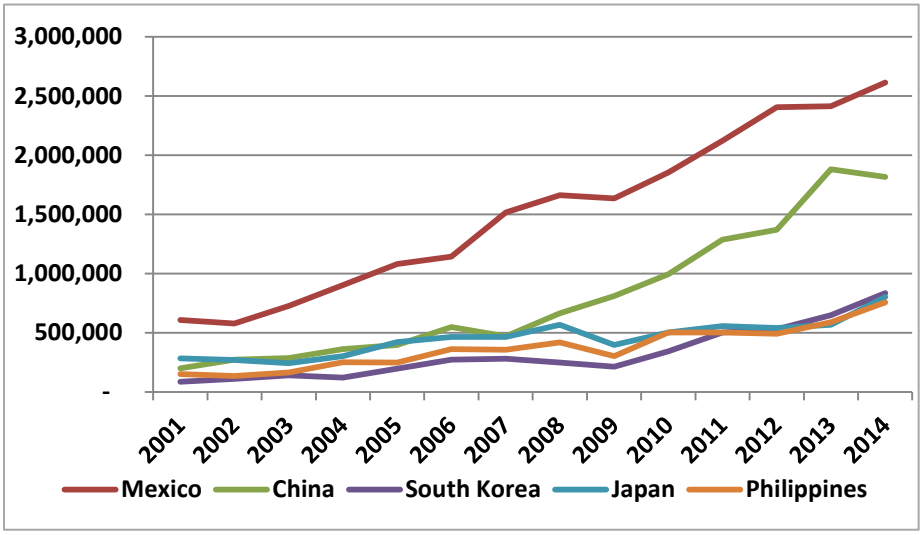

Figure 10. Top five US export destinations (MT)
Source. Global Trade Atlas (https://www.gtis.com/gta/)

In sum, the global dairy trade outlook points to a continued drop in prices until the oversupply imbalance is corrected. Potentially weak margins throughout 2016 should trigger a slowdown in global production of milk. It is anticipated that stronger import demand on the heel of low prices will follow global production cutbacks. Price recovery is not expected to before 2017. Key factors include the return of China to the import market, global weather conditions and a strong El Nino pattern, and the international macroeconomic situation.

Asia and Global Dairy Trade

In 2013, about one-third of global milk production was provided by Asia and Oceania (Figure 11). This share has been increasing for a decade due to the rapid expansion of dairy in the region, especially in China and India. In the past 10 years, Asian milk production grew on average about 4% annually, which represents the fastest growth of any other region and is considerably higher than the global annual growth rate of 1.8% (Table 1).

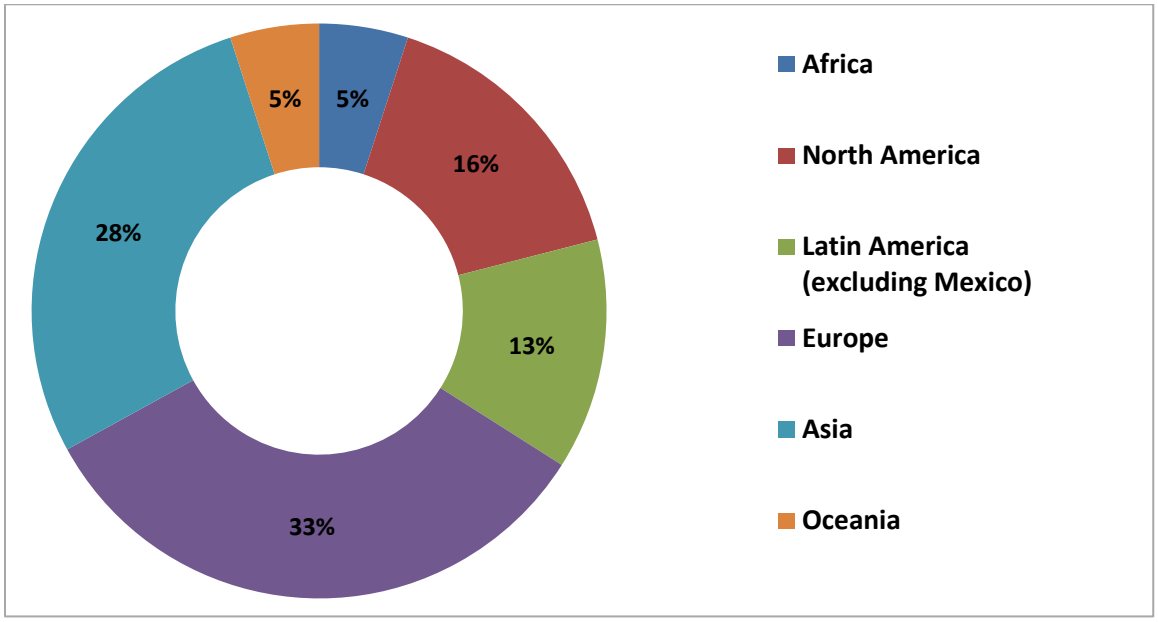

Figure 11. Share of global milk production by region (2013)
Source. FAOSTAT (http://faostat.fao.org/)

Such rapid growth is anticipated to continue over the next ten years and even countries like Japan and Australia which have had negative growth rates are expected to enter a positive growth phase (Figure 12). Key factors associated with the rapid expansion of dairy production in Asia include growing cow numbers and better yields due to improved management practices (Table 1).

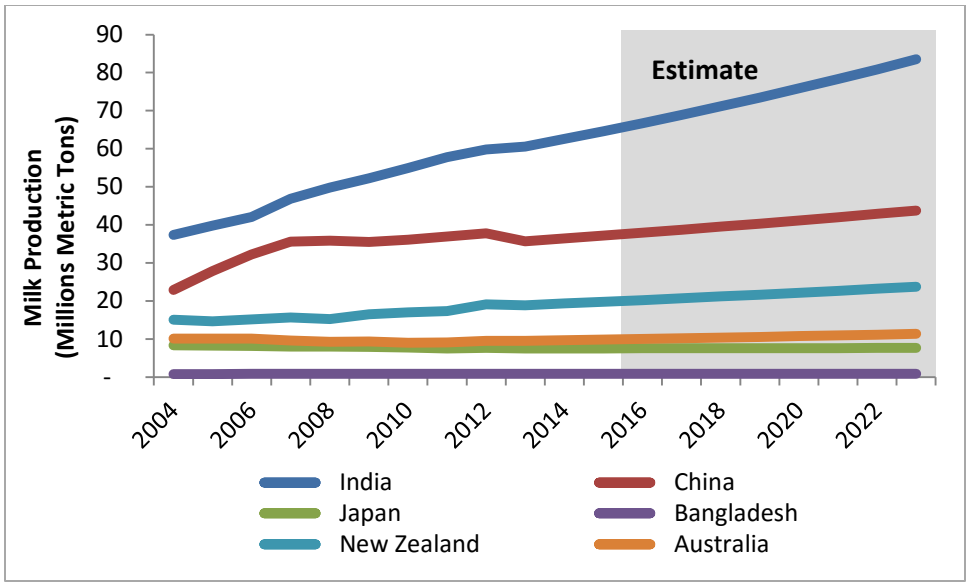

Figure 12. Growth in milk production
Source.OECDSTAT (http://stats.oecd.org/)

Table 1. Milk production and cows in milk –Compound Annual Growth Rates (CAGR)

	Cows Milk Production Thousand Cows			Cows in Milk Thousand Metric Tons		
Country	2013	CAGR 2004–2013	CAGR 2014–2023	2013	CAGR 2004–2013	CAGR 2014–2023
India	60,600.0	5.0%	3.3%	44,900.0	2.2%	1.6%
China	35,670.0	4.5%	2.1%	12,159.1	3.1%	3.1%
Japan	7,508.3	-1.0%	0.2%	992.1	-1.7%	-0.2%
Bangladesh	838.0	0.5%	0.5%	4,077.0	0.4%	0.4%
Indonesia	981.6	6.0%	2.3%	636.0	5.7%	0.8%
Vietnam	456.4	11.7%	2.7%	152.0	4.7%	4.7%
Myanmar	1,380.0	6.5%	6.5%	2,600.0	6.5%	6.5%
Cambodia	23.5	1.2%	1.2%	138.0	1.2%	1.2%

Sources. FAOSTAT, OECDSTAT (http://faostat.fao.org/; http://stats.oecd.org/)

Much of the attention in global markets tends to focus on China and India due to the size of their economies and growth rates. With respect to dairy, however, India does not participate in the global trade market although it is the world's largest single country producer of dairy (including both dairy cows and buffalo). Asian countries consistently rank in the top twenty of global importers of dairy products (Table 2). Several trends emerge from Table 2 including the rise of China as the largest global importer and the fall of Russia from the ranking (due to the import ban). Additionally, the importance of other Asian markets is evident which include Japan, Indonesia, Malaysia and the Philippines.

Table 2. Ranking of top 20 global dairy importers by volume (Asian countries highlighted)

Rank	2000	2005	2010	2015
1	Japan	Japan	China	China
2	United States	Russia	Russia	Mexico
3	Algeria	United States	Japan	Japan
4	Mexico	Mexico	Mexico	Algeria
5	Saudi Arabia	Algeria	Indonesia	Indonesia
6	Philippines	China	Algeria	United States
7	Malaysia	Saudi Arabia	Philippines	Malaysia
8	Thailand	Philippines	United States	Philippines
9	Indonesia	Indonesia	Saudi Arabia	Saudi Arabia
10	Canada	Thailand	Malaysia	UAE
11	Taiwan	Malaysia	Singapore	Egypt
12	China	Singapore	Vietnam	South Korea
13	Egypt	Canada	Egypt	Vietnam
14	Russia	Egypt	Australia	Singapore
15	Vietnam	Vietnam	Thailand	Thailand
16	Venezuela	Taiwan	South Korea	Australia
17	Brazil	South Korea	Venezuela	Taiwan
18	United Kingdom	Nigeria	UAE	Venezuela
19	Australia	Australia	Taiwan	Nigeria
20	Singapore	UAE	Canada	Canada

Source. Global Trade Atlas (https://www.gtis.com/gta/)

Asia is also playing an increasingly important role in dairy production. Table 3 shows the top twenty global dairy producing countries which comprise about 75% of the world's total dairy supply (FAOSTAT). India and Pakistan dairy production is heavily dependent upon buffalo milk production. Clearly, India and the United States are the dominant producers, although India is not a key global trader. Key producing countries in Asia include China, Pakistan and Russia. Interestingly, there is quite a bit of divergence when comparing the ranking of production with productivity (or milk produced per dairy animal). While some of the leading producers and global traders are also among the most productive (United States, Canada, Germany, Japan, and the Netherlands), many of the world's leading producers are also among the least productive (China, India, and Brazil). This is a critical distinction as it suggests the possibility for these under-productive countries to increase supply significantly by making improvements in cow productivity.

Table 3. Top twenty countries for milk production (2012)

Country	Percent Buffalo Milk	Percent Total World	Milk Prod (MT)	Cattle Milk/Cow (kg)	Total Milk Rank	Milk/ Cow Rank
India	55%	16.6%	120,000,000	1,196	1	79
United States	0	12.6%	90,962,099	9,849	2	4
China	9%	5.6%	40,499,500	3,001	3	54
Pakistan	64%	5.1%	37,045,000	1,263	4	77
Brazil	0	4.5%	32,304,421	1,417	5	75
Russia	0	4.4%	31,576,047	3,913	6	44
Germany	0	4.2%	30,506,929	7,280	7	16
France	0	3.3%	23,983,197	6,583	8	21
New Zealand	0	2.8%	20,053,000	4,003	9	43
Turkey	0.3%	2.2%	16,024,826	2,991	10	55
Poland	0	1.8%	12,667,773	5,189	11	35
Argentina	0	1.6%	11,815,000	5,388	12	31
Netherlands	0	1.6%	11,675,448	7,577	13	13
Ukraine	0	1.6%	11,260,102	4,431	14	40
Mexico	0	1.5%	10,880,870	4,536	15	39
Italy	1.8%	1.5%	10,772,027	5,921	16	27
Australia	0	1.3%	9,480,132	5,575	17	28
Canada	0	1.2%	8,450,000	8,817	18	5
Japan	0	1.1%	7,630,418	7,795	19	10
Uzbekistan	0	1.0%	7,195,480	1,791	20	70

Source. FAOSTAT (http://faostat.fao.org/)

Turning attention to a few individual countries, while India is the world's largest milk producer less than half of that milk comes from traditional dairy cows with the majority sourced from the country's large buffalo population. Also, already mentioned is that India is not a global player in that it does not actively import or export milk. India has imported significant volumes of dairy products during times of milk shortage; however, these have declined over time. The milk production sector is highly unorganized and is characterized by many individuals owning few animals. Nearly 50% of the herds come from an average herd size of 1–2 animals which leads to sub-optimal yields and management practices (McCully 2015). If the Indian dairy supply chain can become more formalized and efficient they would likely become a more influential global player. With respect to the key companies operating in India, they include Nestle and Amul. Nestle is a global company and has had a presence in India since the 1959 opening of their plant in Moga. Over time, the Moga plant has grown from an operation of 4,600 farmers producing 2,000 metric tons of milk to now more than 100,000 farmers producing more than 300,000 metric tons of milk (Nestle corporate website). Amul is operated by the Gujaret Cooperative Milk Marketing Federation and is the largest dairy company in India. In 2014 they reported

annual revenue of $574 million and have the capacity to process 4.5 million liters of milk per day with infant formula being a large part of their business (Amul corporate website).

China is the third largest global milk producer after India. Strong demand and government support has rapidly expanded milk production over the past decade. Although buffaloes have a much greater presence in India and Pakistan, buffalo milk is still important to the Chinese industry (Table 3). Presently, the Chinese dairy industry is experiencing a rapid consolidation of the supply chain. The current situation of a many small-scaled farmers connected by a loose network, much like in India, is fading away as larger scale and more efficient farms become more commonplace (Rabobank 2013). While the New Zealand company Fonterra has long had a strong tie to the Chinese dairy industry, other key commercial players include Yili, Mengniu, Beingmate, and Frieslandcampina. The Inner Mongolia Yili Industrial Group Co. Ltd is the largest dairy company in China with a near 25% market share in 2014 (China Daily 2015). Yili had operating revenue of $8.8 billion in 2014 and a profit of $700 million. The China Mengniu Dairy Co. Ltd. is the second largest dairy company in China with a 21.6% market share (China Daily 2014) and an operating revenue and profit of $8.1 billion and $400 million, respectively.

Japan, while a modest producer of dairy does play an important role in global dairy trade. Given the practical resource constraints such as land availability and operating expenses, the Japanese dairy industry is limited to how much it can grow and it is highly protected by the national government through prohibitive import tariffs. Figure 13 shows the tariff rate in % that is applied on global traded dairy products. In fact, global tariffs for dairy are amongst the highest for all traded products with Japanese dairy tariffs second only to Canada.

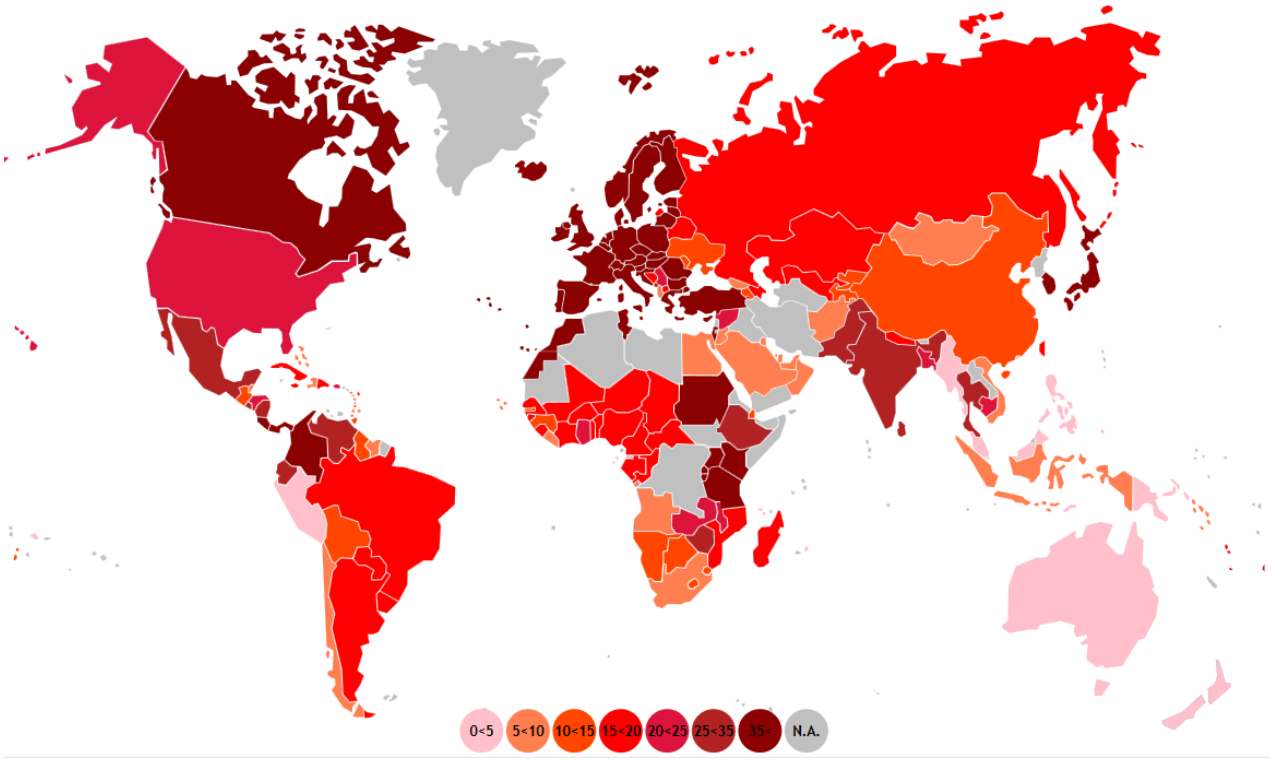

Figure 13. Global dairy tariff rates
Source. World Trade Organization (www.wto.org)

The implementation of the Trans-Pacific Partnership trade agreement is expected to significantly increase market access and import demand. Key commercial players include Meiji which ranked twelve on the Rabobank list of the twenty largest dairy companies with annual revenue of $7.4 billion (Rabobank 2014). Moringa with a global rank of twenty and revenue of $4.8 billion is another key Japanese dairy company.

Summary

The global and US dairy outlook remains bearish throughout 2016 with prices anticipated to have reached or be near reaching a low point. Fundamentally, increased global milk production led to an oversupply in exporting countries. Lower import demand from China and the Russian ban on dairy imports from several producing countries are key contributing factors. Moreover, the strengthening of the US dollar and a weakening of international currencies has dampened import demand. Lower global production is needed for market recovery. Stronger import demand on the back of lower prices could strengthen prices but this is not expected before 2017. The global outlook depends critically on China and unexpected weather events.

Lower prices spurred more imports in other markets but not near enough to counter declines by China and Russia. Overall, US exports are on an increasing trend both in volume and share of world trade. Major markets for the United States include China and Mexico while Japan, S. Korea, and the Philippines are also key markets. While there has been strong growth in China, remarkable growth has also been seen in Mexico as well as other international markets. Additionally, while the US dollar is gaining strength over Euro and NZ dollar, it is not at the level as was seen in the late 1990s and early 2000s.

Beyond the global dairy macroeconomic situation, the Asian dairy markets are becoming more relevant to the global trade space. While certain Asian countries are already dominant dairy producers, such as India, others have become key players in the import market, like China. Still, other countries in Asia are slated to continue to support global dairy trade and support increased import demand as their populations continue to grow and enter the middle class, including Indonesia, Vietnam, and the Philippines.

In summary the outlook for 2016 points to prices bottoming out until the oversupply imbalance is corrected. Weak prices throughout 2016 could trigger a slowdown in global production of milk. It is anticipated that stronger import demand on the heel of lower prices will follow global production cutbacks. While the Russian ban has been extended to late 2016, it is unknown if China will return to peak import demand levels. These factors will have a tremendous impact on the direction and magnitude of prices and exports in the short and long run. More long term, the outlook for the global dairy industry depends critically on the growth of dairy supply and demand in Asia which is increasingly playing an important role in the global dairy marketplace.

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