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EU and U.S. to Vie for Growing Global Dairy Markets

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This is the first of two reports that will highlight the competitive landscape of the global dairy market, and how the U.S. industry is adapting.

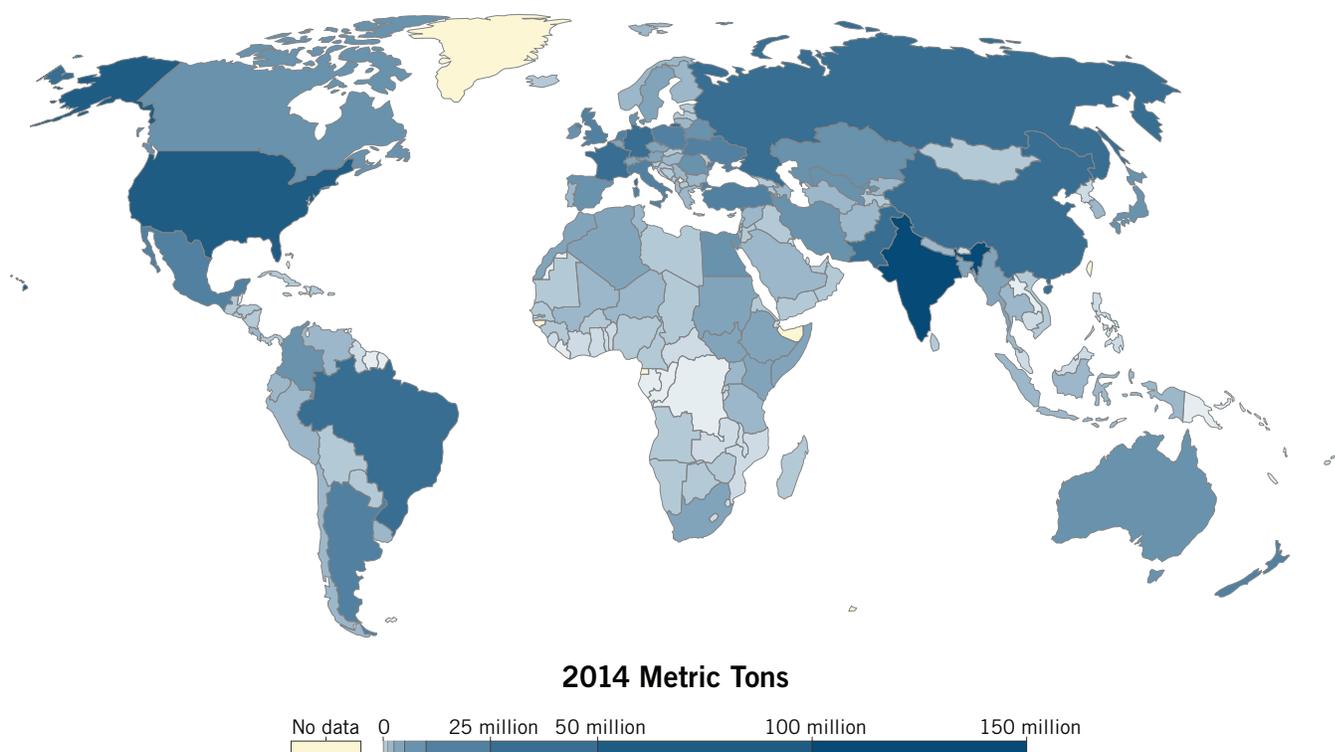
Key Points:

- The major dairy producing regions of the world have reached consumer saturation in their domestic markets and are targeting new consumer markets globally. This sets the stage for accelerated competition.
- The big three competitors, the EU, the U.S. and Oceania, will compete for emerging demand, particularly in Sub-Saharan Africa and Southeast Asia.
- The EU is the most significant force in global milk production and exports, and is best positioned to forge new relationships and increase sales globally. EU members have a long history and a head start in meeting various international tastes and preferences.
- New Zealand is a relatively small dairy producer, but an important exporter to Asian markets. The New Zealand dairy industry has made great strides, but faces significant capacity and environmental constraints that will limit future growth.
- The U.S. is well positioned to compete, but is starting from behind and will need to innovate beyond traditional nonfat dry milk exports. If the U.S. does not adapt, it will be relegated to a supporting role, and impacted by the lower and more volatile prices that accompany commodity exports.

Milk is a global commodity with significant demand growth potential in areas of the world experiencing population growth and rising incomes. Over centuries, certain regions of the world like the U.S., the EU and Oceania have developed into efficient and sophisticated milk producers. Meanwhile, areas of the world where demand is growing most rapidly are far behind in their own dairy production capabilities, or face limitations due to climate, feed availability, or other factors critical to successful dairy production. As global demand for dairy products grows, the established dairy exporters will rely on, and fiercely compete for, these new markets. While all exporters will benefit from global demand growth, the EU, with its years of global marketing experience, stands to extend its reach the furthest into these markets. Barring a major shift in the U.S. to a global marketing focus, the EU will seek to capture greater market share.



Exhibit 1: Milk Production by Country



Source: UN Food and Agricultural Organization

Evolution of Major Milk Producing Regions

Many of the most important factors needed for milk production are lacking in the regions with the greatest demand growth potential. In much the same way that certain crops grow better in certain climates, cows too prefer and perform better under certain conditions. Cows can tolerate a fairly wide range of temperatures, though production generally slows toward temperature extremes, particularly heat, and humidity.

Water and feed availability are critical, as are labor, transportation infrastructure, and less tangible qualities like history and experience. Many of these factors can be bundled into “cost of production”, which is useful for providing a comparison of regions to one another.

The average cost of production for milk worldwide in 2016 was estimated to be \$38.40 USD per 100 kilograms (kg). This compares to an average milk price that year of \$27 USD per 100 kg.¹

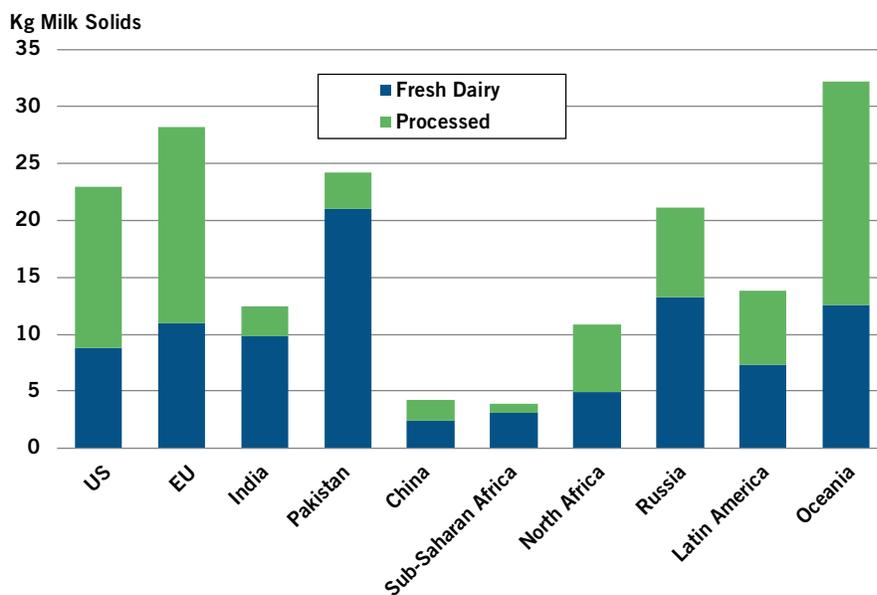
This disparity does not take into account many other important non-milk returns on farm operations including beef. The U.S. fared better than the global average, maintaining a positive milk margin. The impact of this can be seen in the fact that 2016 U.S. production increased while output in the rest of the major exporting regions of the world declined.

Dairy Producers and Exporters

Most of the world’s milk production takes place in the northern hemisphere, primarily in India, the EU, and the U.S. South America has pockets of strong production, particularly in Brazil and Argentina, and Oceania has an established industry, mainly geared toward serving the export markets. Africa is significantly behind the rest of the world in terms of both milk production and consumption. (See Exhibit 1.)



Exhibit 2: Per Capita Dairy Consumption



Source: OECD/FAO

India is the largest milk producing country in the world, though only 45 percent of its production is cows' milk, and nearly all of the milk is consumed directly. At 160 million MT per year, India produces 63 percent more than the 98 million MT produced by the U.S. Pakistan is behind the U.S., followed by Brazil and Germany. The European Union, if counted as one region, would be in second place at 156 million MT.²

India is often left out of the international trade discussion because it is an extremely closed system with almost no imports or exports. Only about 20 percent of Indian dairy production is marketed through the organized dairy sector. The rest is either retained by the farmers or marketed directly from farmer to consumer.³ India and Pakistan, as well as many other developing economies consume primarily fresh fluid milk while much of the more developed world consumes more processed dairy products like cheese and butter. (See Exhibit 2.)

When considered as one region, the EU is the most significant force in global milk production and exports. The biggest dairy-producing states within the EU are Germany, France and the United Kingdom. Milk production in the EU was limited by a quota system for 30 years between 1984 and 2015. When this

quota system was eliminated, production surged and prices swung significantly both in the EU and in the international markets.

Most of the milk in the EU is handled by regional companies and cooperatives, many of which have established an international presence as well. While quota systems offer some level of stability and predictability, they limit opportunities for companies that want to expand internationally. Many of the large European co-ops and brands have an expanded international presence, including in the U.S.

This drive to expand internationally, and the need to adapt that comes along with such an expansion, has given the EU a head start in understanding and serving the global marketplace. The EU will continue to forge new relationships and increase sales globally.

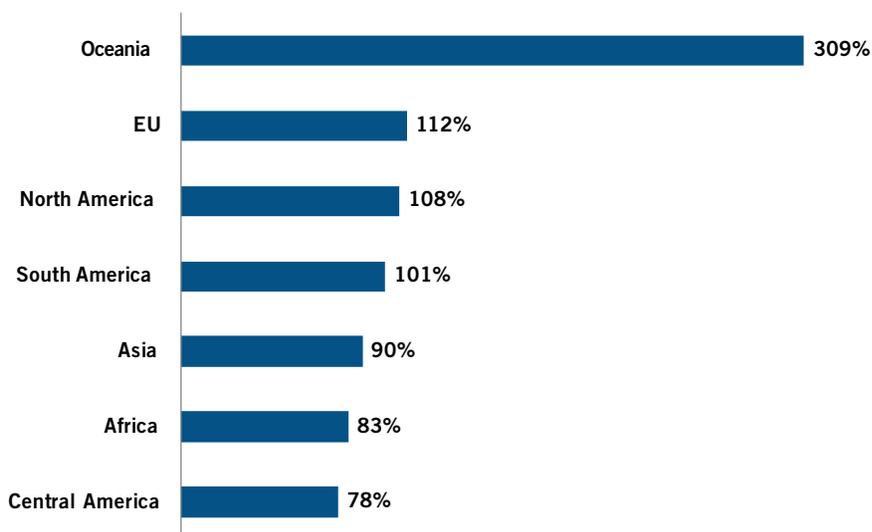
Oceania, which includes the dairy exporting heavyweight New Zealand, has the advantage of geographical proximity and lower transit costs to Asia. While milk production in New Zealand pales in comparison to other regions like the EU or the U.S., it garners a great deal of attention from industry participants primarily because they are an extreme example of a net exporter. (See Exhibit 3.)

However, New Zealand faces significant capacity constraints for future growth. The island nation is almost entirely pasture-based, which makes its production very seasonal and sensitive to weather, with production coming to a halt in the winter. Oceania has developed into a significant whole milk powder supplier to China.

Recently, the OECD conducted an environmental performance review of New Zealand, finding that intensive dairy farming and other industries have pushed New Zealand greenhouse gas emissions to the second-highest level of emissions per GDP unit in the



Exhibit 3: Dairy Production Self-Sufficiency Rate



Source: International Dairy Federation

OECD.⁴ This has raised concerns that future regulation to counteract these impacts could have a limiting effect on dairy expansion in the long-run.

South America has scattered regions of significant milk production, though it cycles through challenges of weather, political and economic setbacks. Brazil is the largest producer, but is still a net importer and relies on supplies from Argentina. Argentina's climate is ideally suited to dairy production, and is well positioned to emerge as a competitor in international markets.

Competing for Market Share

Developing economies hold the most potential for increasing dairy sales, but most of that growth will come in the form of fresh, fluid demand in local markets. Growth in demand from established dairy markets such as the EU and U.S. will be much slower, but there will be opportunities for those regions to supply processed products to developing regions, beyond their fluid needs.

One of the biggest hurdles to meeting new demand internationally is developing and offering products that are affordable for consumers. Sub-Saharan

Africa is a prime example of a booming population with low dairy consumption, but high opportunity. The biggest challenge in much of that region will be making dairy products available in an affordable way.

In contrast, Southeast Asia is a region of rapid growth in demand and rising incomes to match. Asia has been quick to adopt new products and has adapted them to fit into more typical flavor profiles of the region. A prime example of this is the success that Pizza Hut has found in the region. Pizza Hut

now has over 1,300 stores in China, while Domino's has struggled to grow much beyond 100. Domino's primarily maintained their U.S. recipes and delivery/take-out model, while Pizza Hut recognized the hesitance of Chinese consumers toward cheese and tomato and created pizzas with new toppings including tuna and soy sauce.⁵

Regions with highly evolved dairy production and processing industries, but with mature dairy consumption markets, will compete with one another for the emerging demand, particularly in Sub-Saharan Africa and Southeast Asia. Ability to recognize and meet the needs of cultures with different preferences will be a key competitive advantage.

In 2016, Oceania was the dominant exporter of whole milk powder and butter, and its exports of nonfat dry milk were in line with the U.S. and the EU. (See Exhibit 4.) The EU has 42 percent of the share of cheese exports on a volume basis and has a substantial advantage compared to the U.S. in butter and whole milk powder as well. The U.S. is currently only competitive in terms of market share with these other regions on nonfat dry milk, which has traditionally been the preferred method of exporting milk from the U.S.



Exhibit 4: Market Share of Total Exports by Volume

	Cheese	Butter	Whole Milk Powder	Nonfat Dry Milk
EU-28	42%	23%	19%	29%
Oceania	27%	62%	69%	30%
U.S.	15%	3%	1%	30%
South America	3%	1%	6%	1%
Canada	1%	0%	0%	1%
Other	13%	12%	4%	9%

Source: USDA – FAS

Among the leading dairy exporting regions, the EU and Oceania own the clear majority of export market share. The U.S. is well positioned to compete, but is starting from behind and will need to innovate beyond traditional nonfat dry milk. The majority of cheese exports from the U.S. currently go to Mexico, but diversifying the export cheese customer base, especially into Southeast Asia could provide opportunities to grow market share in that category.

The Role of Cooperatives

As consumer demand grows globally, dairy brands will become more globally focused. Some of these brands will be independent, while others may emerge out of existing cooperative brands. It will be challenging, however, for U.S. based cooperatives to operate in a similar fashion on an international scale.

Freshness and perishability are obvious concerns when dealing with fluid milk, but transportation is always an added cost and a challenge with any dairy product. Where dairy production is feasible, some companies may find success by establishing processing plants near customers and working with local producers or cooperatives to source milk locally. A robust system of traceability will be a challenge but a necessity for managing risk in an increasingly global supply chain.

As farms increase in size, large international processors are contracting with independent producers in order to

have a higher level of control over the milk supply. One example of this is Danone’s practice of offering cost-plus contracts to producers in the U.S. supplying their yogurt plants. Another example is Nestlé’s “milk district” model in which they source a significant amount of their milk inputs from direct relationships with producers in 30 countries around the world. These models of vertical integration will compete directly with traditional cooperatives in the U.S.

Conclusion:

As global dynamics evolve and new middle class consumers emerge in previously untapped regions, competition for this new demand will be intense. The EU has a longer history and a head start in the ability to respond to these new international tastes and preferences. Oceania has specialized in serving Asia’s commodity needs, but will be limited in terms of continued growth. The U.S. has the potential to compete on a global scale, but would be well served to think outside of the box, work toward establishing a more international footprint and develop new products to serve emerging markets.

Without a strong focus on developing global competitiveness, the U.S. will continue to lag behind the EU and Oceania in global market share. In that position, the U.S. would be relegated to a supporting role behind the EU, making U.S. milk prices more susceptible to the volatility associated with sporadic commodity exports driven primarily by price. However, if the U.S. leverages its reputation as a safe and reliable dairy exporter and can offer dairy products that meet the needs of emerging markets like those in Southeast Asia, the U.S. could evolve into a dominant position as a reliable global player, thereby providing an additional level of reliability to export sales expectations and market prices. ■



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