The Global Soy Foods Market: An Overview

Prepared for *United States Soybean Export Council* by Agromeris LLC

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Global Soy Foods Market - In this report...



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- In this report, we have researched and analyzed the global soy foods market using data from GlobalData, a UK-based data analytics firm specializing in consumer retail data in market verticals such as food & beverage, alcoholic beverages, cosmetics, OTC health care products, baby care, etc. More detail on GlobalData is provided in the 'Data Sources' section of this report.
- In addition to GlobalData's consumer soy foods market data we also used soybean production and food use data from the USDA Production, Supply, and Demand (PSD) database, US soybean export data from the USDA Foreign Agricultural Service's (FAS) Global Agricultural Trade System (GATS) database, and world population data from the United Nations Department of Economic and Social Affairs, to examine the relationships, if any, between soy foods products sales and soybean trade, production, and consumption on both gross and *per capita* levels.
- The soy foods market data provided by GlobalData covers retail sales of packaged soy foods products, a category that includes traditional soy-based foods such as tofu and soymilk, as well as soy-based products design to fit contemporary consumer tastes such as meat substitutes and desserts.
- There is a substantial portion of soy foods in Asian markets such as China, Vietnam, and Indonesia, that are not purchased through modern retail channels and which GlobalData does not capture. This report also includes some findings from research on Asian soy foods markets conducted by Agromeris in 2020 to supplement GlobalData's retail data.



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Executive Summary

The Largest Opportunities Remain in Asia

This report looks at regional soy foods markets as defined by GlobalData: Africa, Asia, Australasia, East Europe, Latin America, Middle East/North Africa (MENA), North America, and West Europe. The chronological frame of reference is the last five complete calendar years: 2016 – 2020.

In 2020 global sales of soy foods, as defined by GlobalData, reached \$16.1 billion. Globally soy foods sales have grown at a Compound Annual Growth Rate (CAGR) of 2.36 percent over the 2016 – 2020 period. Of the eight regionallydefined soy foods markets, four – Asia, Australasia, East Europe, and MENA, have grown faster than the global rate over that period. Three of these regional markets, Australasia (3.4 percent CAGR), East Europe (5.5 percent CAGR), and MENA (3.1 percent CAGR), accounted for 4.0 percent of global soy foods sales in 2020. The other regional market with a growth rate exceeding the global rate, Asia (2.9 percent CAGR), accounted for 72.2 percent of 2020 global soy foods sales.

Despite being the largest, most mature soy foods market, with – by far – the highest regional *per capita* consumption of soybeans for food. Asia remains the geographic nexus for meaningful growth in soy foods. A onepercent year-to-year increase in soy foods sales in Asia (note this is slower than Asia's actual growth rate over the last five calendar vears) would result in additional sales of approximately \$161 million in 2021. [If Asia's 2.9 percent growth rate persists, incremental sales in 2021 would be approximately \$467 million.] If West Europe, the second largest regional soy foods market by sales, were to continue its 1.51 percent annual growth rate, the year-to-year increase in sales in 2021 would be approximately \$31 million.



+ More detail about GlobalData is presented in the following section.

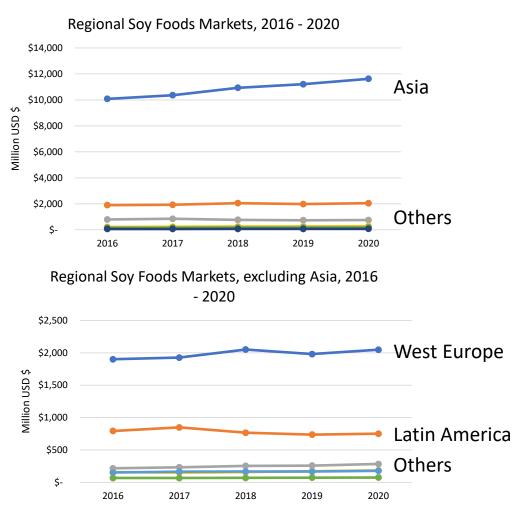


Executive Summary (cont.)

As the dramatic differences in the value of the regional soy foods markets (i.e., total soy foods sales), diminishes the relative importance of growth rates in comparing the potential future value of these markets, we have focused our attention and analysis on the largest soy foods markets outside of North America: West Europe, Latin America, and Asia.

Asia, the largest of these major markets, is also the fastest growing.

The lower chart excludes Asia to make differences in the other markets visible. Both charts exclude North America as the focus is on export markets for US producers.



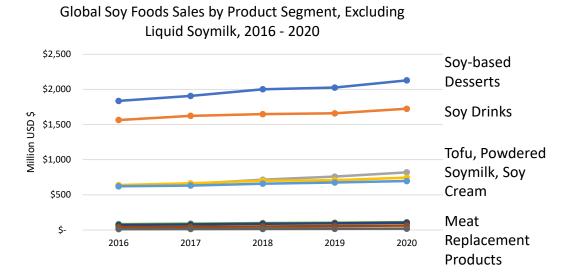




Executive Summary (cont.)

Looking at the global soy foods market on a product segment basis, the fastest growing segments are, somewhat analogously to the geographic situation, the smallest product segments by sales – soy-based products designed to look like, and resemble in taste and texture, meat products such as burgers, meatballs, and sausages.

The differences in volume and value between newer and established soy foods markets and product segments imply the greatest opportunities for increasing soybeans used for food in export markets is in the latter. To increase soybeans for food into fully developed soy foods ecosystems, American producers may want to consider optimizing their soybeans for food use production to meet the requirements and preferences of soy foods processors and consumers in those markets.



This chart excludes liquid soymilk to make differences among the other segments visible. Soymilk in liquid form is by far the largest soy foods product segment: in 2020 global soymilk sales – as reported by GlobalData – made up 60.1 percent of total global soy foods sales. Note that this does not include the considerable volume of soymilk sold in traditional markets that is not included in GlobalData's data set.





Data Sources

All of the soy foods market data, as opposed to trade, food use, *per capita* consumption data, etc., in this report are from GlobalData, a UK-based data analytics firm specializing in consumer retail data in market verticals such as food & beverage, alcoholic beverages, cosmetics, OTC health care products, baby care, etc.

GlobalData employs a "mosaic" approach to its market sizing research, using data from trade organizations, financial/broker reports, national statistics, and proprietary resources such as the firm's consumer surveys and consumer sentiment analysis, and most importantly, primary research.

GlobalData claims to conduct over 5,000 interviews of relevant executives and key opinion leaders annually. Key findings from this "top-down" primary research are corroborated with the "bottom-up" analysis of multiple secondary sources to provide robust and granular market-sizing data.

A couple of caveats regarding GlobalData's coverage of the global soy foods market are in order, however:

- 1. In some Asian countries, especially China, Indonesia, and Vietnam, a very significant portion of soy foods are sold through traditional channels which are not included in GlobalData's coverage
- Unlike GlobalData's product segment coverage which is granular and robust, the firm's brand coverage is inconsistent – for this reason only brand data for some Asian countries is provided, and in this report is consolidated into an appendix

Other data sources used in this report include several departments of the USDA, as well as population data from the United Nations and some findings on Asian soy foods markets from research conducted by Agromeris in 2020. That is included to supplement GlobalData's retail coverage, which does not include the highly fragmented, traditional and streetlevel soy foods sales that make up a large portion of some Asian soy foods markets.

Unless otherwise indicated, all quantitative soy foods market data in this report, excluding data regarding informal markets, are from GlobalData.





Production and distribution of traditional soy foods

In the Asian soy foods markets of China, Indonesia, Vietnam, and to a lesser extent Thailand, soy foods production and distribution remain largely cottage industries, with myriad 'mom & pop'-scale production facilities and informal distribution channels such as street booths, pushcarts and even bicycles. This segment of these markets is typically referred to as the 'informal market.'

In 2020 Agromeris conducted a study on the global plant-based beverage (i.e., plant-based milks such as soymilk, almond milk, etc.) market, which includes estimates of these informal soymilk markets. The following brief section, *Soymilk: Traditional (Informal) Markets* and Modern Retail, provides details.

Traditional producers and channels are not exclusively focused on soymilk; tofu is also produced and distributed informally in some Asian markets (the informal tofu market was not covered in the 2020 Agromeris study), and in Indonesia, where tempeh is the traditional soy-based food, there are, according to the Indonesian Tempeh Forum, over 100,000 producers of tempeh spread throughout the country's 34 provinces. Some key implications of these informal soy foods markets:

- This traditional commerce is not captured in consumer databases such as GlobalData, and so these types of data sources, which typically rely at least in part on data gathered at Points of Sale by modern retailers, do not present the whole picture of soy foods consumption in these markets
 - In China, Vietnam, and Indonesia, informal soymilk sales are estimated to make up more than half of their domestic markets
- Because sales of these products are not tracked, but the basic input of their production, i.e., soybeans, is (theoretically at least) included in the USDA's PSD database, these traditional markets may contribute to a disconnect between soybeans used for food as reported in the PSD, and soy foods sales (as measured by sources like GlobalData)
- Some of the growth in soy foods sales as reported in GlobalData may in fact be a shift in sales channels, and thus production sources, from traditional to modern retail (these Asian markets are seeing growth in modern retail Points of Sales and volumes overall)



A street vendor selling fresh soymilk in Bangkok





Soymilk: Traditional (Informal) Markets and Modern Retail





Global Plant-Based Milk Sales, Historic and Projected

- In 2019, the global market for plantbased milk was worth an estimated \$43.0 billion at the retail level, with soymilk accounting for \$24.7 billion or 57.4 percent of total sales. The market for plant-based milks excluding soy is projected to grow at 4.2 percent annually over the next two years, while soy is likely to grow more slowly at 2.1 percent per year
- Combined, these products should reach \$49.1 billion in sales by 2022
- Soymilk, while still the dominant plantbased milk globally, is likely to experience continued erosion of this lead as the market further broadens with a continual stream of plant-based milk products flooding the U.S. and EU markets

Global Plant-Based Milks Sales - Historic Growth & Projections, Million USD \$

						CAGR	CAGR
	2016	2019	2020	2021	2022	2016-19	2019-22
Soymilk	\$23,447	\$ 24,658	\$ 25,412	\$ 26,212	\$ 27,064	1.3%	2.1%
Plant-Based (excl. soy)	\$15,992	\$ 18,303	\$ 19,463	\$ 20,704	\$ 22,032	3.4%	4.2%
Total Plant-Based Milk	\$39,439	\$ 42,961	\$ 44,875	\$ 46,916	\$ 49,096	2.2%	3.0%
Source: Agromeris estimate	S						







2019 Global Plant-Based and Soymilk Markets, Sales

- The global market for plant-based milks in 2019 was worth an estimated \$43.0 billion at the retail level, with soymilk accounting for \$24.7 billion or 57.4 percent of total sales.
- Due to the large size of its market and a long history of traditional use, China, accounted for 66.0 percent of plant-based milk sales and 71.8 percent of soymilk sales
- The other large markets for soymilk today are all in Asia, with Thailand accounting for 8.2 percent of global sales, Vietnam with 4.1 percent and the rest of Asia with 11.8 percent.
- Western markets such as the U.S., account for less than one percent of the soymilk market globally and 4.3 percent of the overall plant-based milk market

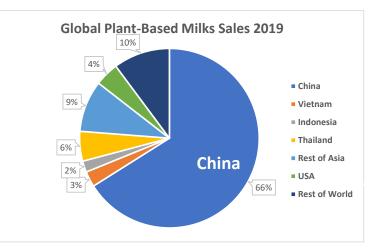
2019 Global Plant-Based Milk Sales, Million USD \$

			Cou	nty or Regio	n			_	
Product Segment	China*	Vietnam	Indonesia	Thailand	Rest of Asia	US	Rest of World	World Total	% of Global Market
Soymilk (packaged)	\$ 4,947	\$ 453	\$ 70	\$ 2,004	\$ 2,913	\$ 202	\$ 550	\$ 11,139	25.9%
Soymilk (loose street sales)*	\$ 12,748	\$ 570	\$ 174	\$ 28	N/A	N/A	N/A	\$ 13,520	31.5%
Total Soymilk	\$ 17,695	\$ 1,023	\$ 244	\$ 2,032	\$2,913	\$ 202	\$ 550	\$ 24,659	57.4%
Other Plant-Based Milks	\$ 10,680	\$ 182	\$ 623	\$ 274	\$1,072	\$1,649	\$ 3,824	\$ 18,303	42.6%
Total Plant-Based Milks	\$ 28,375	\$ 1,205	\$ 867	\$ 2,306	\$3,985	\$1,851	\$ 4,374	\$ 42,962	100.0%
Percent of Global P-B Milks Sales	66.0%	2.8%	2.0%	5.4%	9.3%	4.3%	10.2%	100.0%	

Source: Agromeris estimates

Other Plant-Based Milks include almond, oat, rice, coconut, and all others.

*Primarily street vendor or mom&pop fresh soymilk; China packaged sales include powdered product. N/A: Not Applicable







Global Plant-Based and Soymilk Markets, Liter Volume

- Of the estimated 22.5 billion liters of plant-based milk consumed globally in 2019:
 - 17.1 billion liters, or 75.7 percent, was soymilk
 - 5.5 billion liters, or 24.3 percent, were plant-based milks other than soymilk
- Common alternatives to soy as a primary ingredient among plant-based milks include almond, coconut, oat, and walnut (with the latter consumed primarily in China)
 - The category also includes multigrain products, many of which include soy as a protein source
- Due to its popularity in Asia, especially China, much of the soymilk consumed globally was 'loose' or 'bulk' soymilk
 - Loose soymilk made up 42% of total plant-based milk consumption, and 56% of total soymilk consumption, representing a significant opportunity for packaged product providers.

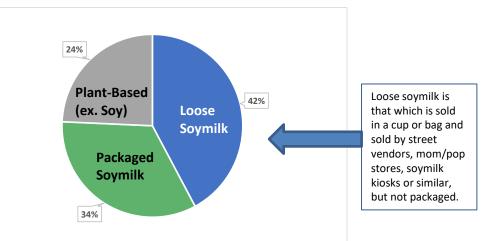
2019 Global Plant-Based Milk Sales, Volume: Million Liters

			Coun	ty or Region	1				
Product Segment	China*	Vietnam	Indonesia	Thailand	Rest of Asia	US	Rest of World	World Total	% of Global Market
Soymilk (packaged)	4,973	253	24	828	1,174	79	227	7,558	17.6%
Soymilk (loose street sales)*	8,853	537	94	17	N/A	N/A	N/A	9,501	22.1%
Total Soymilk	13,826	790	118	845	1,174	79	227	17,059	39.7%
% of Global Soymilk Volume	81.0%	4.6%	0.7%	5.0%	6.9%	0.5%	1.3%	100.0%	
Other Plant-Based Milks	2,825	53	100	63	276	622	1,535	5,474	24.3%
Total Plant-Based Milks	16,651	843	218	908	1,450	701	1,762	22,533	64.0%
Percent of Global P-B Milks Sales	73.9%	3.7%	1.0%	4.0%	6.4%	3.1%	7.8%	100.0%	

Source: Agromeris estimates

Other Plant-Based Milks include almond, oat, rice, coconut, and all others.

*Primarily street vendor or mom&pop fresh soymilk; China packaged sales include powdered product. N/A: Not Applicable







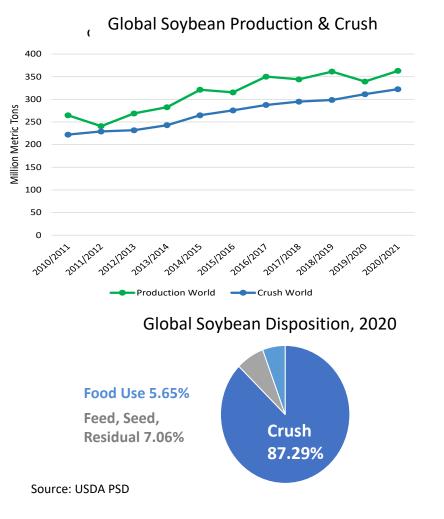
Soybeans Consumed for Food Use





Crush drives production and Asia drives food use

- From 2010 to 2020 global soybean production increased from 264.7 million metric tons to 362.9 million metric tons, a CAGR of 2.9 percent
- Crush the processing of soybeans into meal and oil – increased from 222.2 million metric tons to 322.4 million metric tons over the same period
- Globally domestic food use grew from 15.05 million metric tons to 20.85 million metric tons over the same period
- GlobalData reports a total of 7.96 million metric tons of soy foods sold in 2020
- Contributing to the difference in the gross weight of soybeans used for food and soy foods is the prevalence of traditional/informal markets in several very high soy-consuming countries – this commerce is untracked
- Of the 20.85 million metric tons of soybeans used for food in 2020, 20.04 million metric tons – 96.14 percent – were consumed in Asia

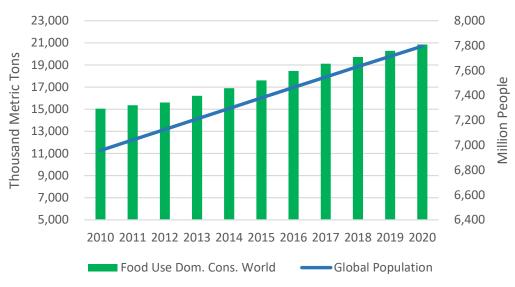






Over the last decade growth in global soy for food use outpaced population growth

- Over the 2010 2020 period, global soy for food use grew at a CAGR of 3.0 percent
- The global population grew at a CAGR of 1.0 percent over this period, while crush grew at a CAGR of 3.4 percent, outpacing growth of food use
- In 2010 global *per capita* soy for food use was 2.16 kilograms per person, in 2020 it was 2.67 kilograms



Soy for Food Use and Population Growth

Sources: USDA PSD, United Nations Dept. of Economic & Social Affairs





The leading *per capita* Soy for Food Use countries are those in which soy foods are a traditional dietary staple

 Nine of the top-ten *per capita* soy for food use countries are in Asia:
 Bolivia is the only country on this list with a *per capita* annual soy for food use volume above one kilogram that is not in Asia Leading Per Capita Soy for Food Use Consuming Countries, 2020

Country	Soy for food (1000 MT)	Population (1000)	Per Capita Consumption Kg/Yr
Taiwan	310	23,817	13.02
Indonesia	2,983	273,524	10.91
China	13,900	1,439,324	9.66
Japan	925	126,476	7.31
Bolivia	78	11,673	6.68
Korea	330	51,269	6.44
Malaysia	175	32,366	5.41
Vietnam	520	97,339	5.34
Thailand	275	69,800	3.94
Burma	97	54,410	1.78
Nigeria	200	206,140	0.97
Russia	110	145,934	0.75
EU	220	448,000	0.49
India	500	1,380,004	0.36

Sources: USDA PSD, United Nations Dept. of Economic & Social Affairs; EU population estimate from Eurostat.





The list of leading *per capita* soy foods consuming countries as determined by GlobalData roughly aligns with leading per capita soy for food use countries

Caution should be used when comparing soy for food use as determined by the USDA PSD with the soy foods consumption from data from GlobalData as the two databases are covering different things, however the overall alignment at a *per* capita level of soy for food use and soy foods consumption does imply a correlation between the amount of soy foods a country consumes and the volume of soybeans that are used for food in that country

Leading Per Capita Soy Foods Consuming Countries by Volume, 2020

Country	Soy Foods Consumption (Million Kgs)	Population (1000)	Per Capita Consumption Kg/Yr
Thailand	436.05	69,800	6.25
Taiwan	117.62	23,817	4.94
Japan	422.94	126,476	3.34
China	4,701.44	1,439,324	3.27
Vietnam	309.64	97,339	3.18
Bolivia	31.14	11,673	2.67
Korea	121.84	51,269	2.38
Malaysia	70.12	32,366	2.17
EU	506.23	448,000	1.13
Burma	38.85	54,410	0.71
Indonesia	24.30	273,542	0.09
Russia	5.92	145,934	0.04
Nigeria	3.49	206,140	0.02
India	18.83	1,380,004	0.01

Sources: GlobalData, the United Nations Dept. of Economic & Social Affairs, Eurostat

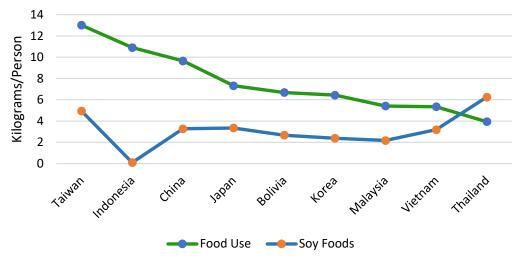




The relationship between food use and soy foods consumption is relatively proportional

- Looking at the relationship between soy for food use and soy foods per capita consumption in the highest per capita consuming countries, we see a rough correlation with two salient discontinuities:
 - Indonesia follows only Taiwan in per capita soy for food use consumption, but the traditional Indonesian soybased staple is tempeh, and its production is a cottage industry: the Indonesian Tempeh Forum estimates there are over 100,000 'mom & pop' tempeh producers spread throughout the country's provinces – there is no reliable data covering this commerce
 - Taiwan leads the world in *per capita* soy for food use but Thailand leads the world in *per capita* soymilk consumption (5.96 liters vs. 4.64 in Taiwan): the high-water content of soymilk drives up the overall *per capita* volume of soy foods (versus soybeans)

Annual Per Capita Soy for Food Use and Soy Foods Consumption of Per Capita Food Use Leaders, 2020



Sources: USDA PSD, United Nations Dept. of Economic & Social Affairs



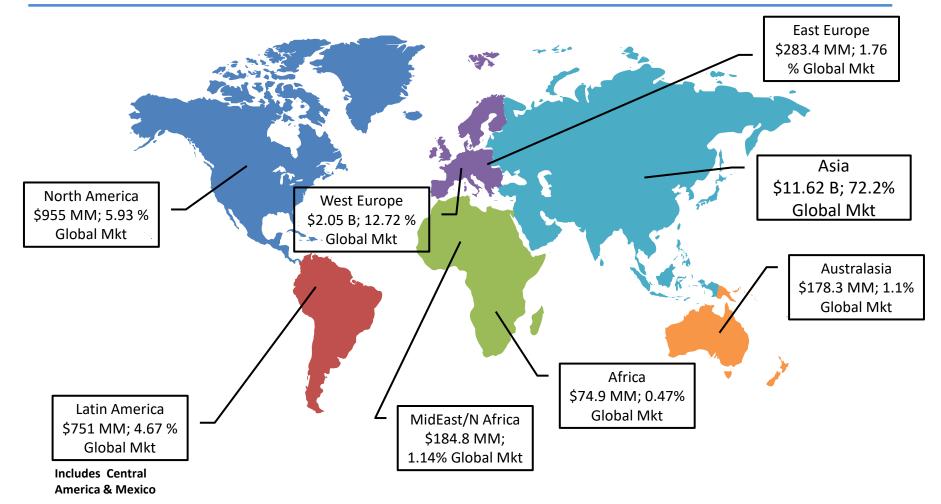


Global Soy Foods Consumer Data





Asia's dominance of the global soy foods market characterizes the picture painted by consumer data as well: soy foods sales in Asia made up 72 percent of the global market by value in 2020







The largest overseas regional soy foods markets after Asia are West Europe and Latin America

- The Asian soy foods market has grown at a CAGR of 2.9 percent over the last five years, faster than the global CAGR of 2.36 percent over that period: from a total global market value of \$14.3 billion to \$16.1 billion
- The growth rate of the global soy foods market excluding Asia over this period was 1.13 percent
- West Europe and Latin America accounted for 12.72 and 4.67 percent of global soy foods sales in 2020, respectively
- West Europe has grown at a CAGR of 1.5 percent over the 2016 – 2020 period, while Latin America has contracted at a rate of (1.1%) over that period

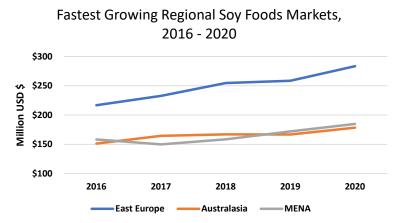
Regional Soy Foo	Regional Soy Foods Markets, Million USD \$ % Global											
Region		2016		2017		2018		2019		2020	Total 2020	CAGR
Asia	\$	10,080	\$	10,362	\$	10,931	\$	11,205	\$	11,621	72.20%	2.9%
West Europe	\$	1,900	\$	1,926	\$	2,051	\$	1,980	\$	2,047	12.72%	1.5%
North America	\$	957	\$	912	\$	903	\$	908	\$	955	5.93%	0.0%
Latin America	\$	793	\$	848	\$	766	\$	737	\$	751	4.67%	-1.1%
East Europe	\$	217	\$	233	\$	255	\$	258	\$	283	1.76%	5.5%
MENA	\$	158	\$	150	\$	159	\$	172	\$	185	1.15%	3.1%
Australasia	\$	151	\$	164	\$	167	\$	167	\$	178	1.11%	3.4%
Africa	\$	68	\$	67	\$	70	\$	72	\$	75	0.47%	2.0%
Grand Total	\$	14,324	\$	14,663	\$	15,301	\$	15,499	\$	16,095	100%	2.36%



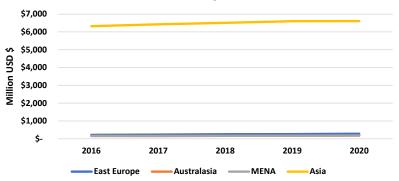


The only regional soy foods markets growing faster than Asia are very small

- Three small regional soy foods markets grew at a faster rate than Asia over the 2016 – 2020 period
- These markets East Europe, Australasia, and the Middle East/North Africa (MENA), had combined soy foods sales of \$646 million in 2020, accounting for 4.0 percent of the global market.
- The East Europe, Australasia, and Middle East/North Africa (MENA) markets grew at rates of 5.5 percent, 3.4 percent, and 3.1 percent respectively, but as the markets are so small the nominal consequences of this growth are not significant when compared to larger markets



Soy Foods Sales Growth 2016 - 2020: Asia and the Fastest Growing Markets







Globally the largest product segment, soymilk, is the slowest growing, and the strongest growth has been in the small volume meat replacement segments

- Soymilk, with 60.1 percent of total global soy foods sales in 2020 and a CAGR of 1.8 percent over the 2016 – 2020 period, is both the largest and slowest growing product segment
- Every product segment with 2016 – 2020 CAGR of greater than 5 percent falls into what GlobalData terms 'meat replacements'
- Together these segments Burgers & Grills, Sausages, Meatballs, Non-formed, and Other portions accounted for \$1.12 billion in sales in 2020: 7.0 percent of the global soy foods market

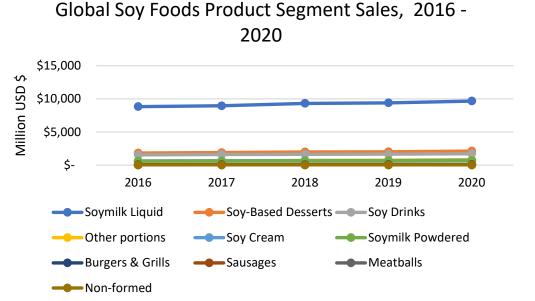
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ilobal Soy Foods Sales by Segment, Million USD \$ % Global												
Segment		2016		2017		2018		2019		2020	Total 2020	CAGR	
Soymilk Liquid	\$	8,830	\$	8,955	\$	9,325	\$	9,400	\$	9,669	60.1%	1.8%	
Soy-Based Desserts	\$	1,836	\$	1,907	\$	2,002	\$	2,025	\$	2,129	13.2%	3.0%	
Soy Drinks	\$	1,564	\$	1,624	\$	1,647	\$	1,659	\$	1,725	10.7%	2.0%	
Other portions	\$	625	\$	655	\$	715	\$	759	\$	820	5.1%	5.6%	
Soy Cream	\$	639	\$	664	\$	700	\$	709	\$	744	4.6%	3.1%	
Soymilk Powdered	\$	621	\$	632	\$	659	\$	675	\$	696	4.3%	2.3%	
Burgers & Grills	\$	83	\$	90	\$	99	\$	104	\$	111	0.7%	6.0%	
Sausages	\$	72	\$	79	\$	88	\$	94	\$	103	0.6%	7.7%	
Meatballs	\$	41	\$	44	\$	50	\$	57	\$	64	0.4%	9.2%	
Non-formed	\$	12	\$	14	\$	16	\$	17	\$	19	0.1%	8.6%	
Grand Total	\$	14.324	Ś	14,663	Ś	15.301	Ś	15,499	Ś	16.081	100%	2.34%	





As in the case of the smaller regional soy foods markets, faster growth in small product segments does not lead to greater gains

- Collectively the meat replacement segments – Burgers and Grills, Sausages, Meatballs, and Other Portions and Non-formed (these latter are actually tofu) grew at a CAGR of 6.1 percent over the 2016 – 2020 period
- However, even if the meat replacement segments continue to grow rapidly, that growth would have less of an impact on soybean consumption for food than slower growth in larger categories
- Meat replacement products are typically made with soy-derived ingredients, i.e., soy protein concentrates and isolates, they are traded and shipped globally like commodities; growth in the sales and production of soy-based meat replacements in a given country may have no effect on soybean consumption in that country if it is importing the soy protein ingredients







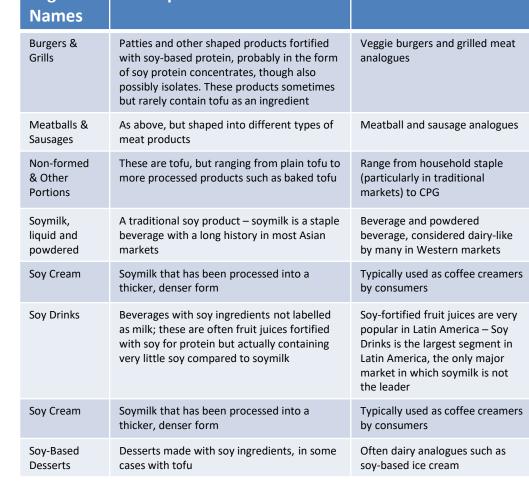
GlobalData's soy foods product segmentation

Segment

Description

GlobalData lumps soy foods products into four sub-categories:

- Tofu and meat replacements: while 'sausages' and 'meatballs' are descriptive, GlobalData also includes 'Other portions' and 'Nonformed' among its soy foods product segments – these latter segments are actually tofu
- Soy-based beverages, i.e., soymilk (liquid and powdered) and soy cream
- Soy drinks: differentiated from (2) above in that soy drinks have some form of soy as an ingredient, but these beverages typically contain lower levels of soy-based ingredients
- Desserts: often made of soymilk (possibly frozen) and tofu; typically consumed in Western countries as dairy-free desserts



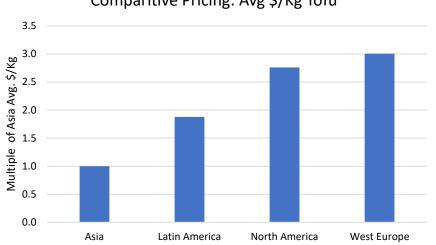


Common Uses



'Non-formed' & 'Other Portions' are tofu

- 'Non-formed' and 'Other portions' are GlobalData-defined soy foods product segments that contain a range of tofu products, from basic, plain tofu, to more highly processed tofu products such as baked or grilled tofu; these latter types of tofu products often include flavorings
- GlobalData defines 'Non-formed' as "tofu in an initial processed state like crumbles," whereas 'Other Portions' is tofu "in any other form"
- When looking at GlobalData's soy foods product segments, consider 'Other Portions' to be more or less plain tofu, and 'Non-formed' as tofu that has been futher processed for flavor and/or appearance
- The more highly-processed products are more expensive than plain tofu: a block of plain tofu, depending on its firmness, will be made up of anywhere between 75 and 90 percent water; baked tofu is typically about 50 percent water
- In Asia, where tofu is a traditional diet staple, plain tofu is widely consumed, bringing down the average price for that segment in Asia, compared to Western markets in which more highly-processed are relatively more popular



Comparitive Pricing: Avg \$/Kg Tofu

The above chart indicates the average per-kilogram price of tofu in Latin America, North America, and West Europe, as a multiple of the average Asian price. The lower price per kilogram of tofu in Asia is due to the popularity of traditional (i.e., plain) tofu in traditional soy-consuming countries, whereas in Western markets more highly-processed tofu products – which typically more closely resemble meat in flavor and texture than plain tofu – are generally preferred.

Caveat: the actual price differences of tofu between Asia and other markets may be greater than the above chart indicates (see slide 7).



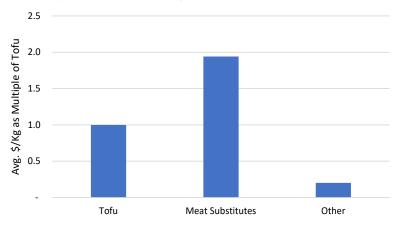


Formed meat substitutes are made from concentrated forms of soy protein making them typically more costly than traditional soy foods products

- Formed meat substitutes are typically smaller products that are more expensive by weight than other product segments
- While these products are sometimes made with tofu, they are more typically grain-based products with soy protein concentrate and isolate ingredients for functional and nutritional purposes
- Traditional soy foods such as soymilk and tofu are mostly water by weight – depending on firmness plain tofu ranges from 75 to 90 percent water, soymilk is typically 90 to 95 percent water
- The high-water content of these traditional soy foods makes them bulkier and less expensive by weight than more highly processed products, contributing to the relatively high gross and per capita volumes of traditional soy foods consuming countries

						% Global	
Segments	2016	2017	2018	2019	2020	Total 2020	CAGR
Soymilk Liquid	6,363	6,384	6,408	6,445	6,442	80.9%	0.2%
Soy Drinks	779	799	810	832	852	10.7%	1.8%
Soy-Based Desserts	289	296	303	310	320	4.0%	2.1%
Soy Cream	186	191	197	202	207	2.6%	2.1%
Other portions	79	82	86	90	93	1.2%	3.4%
Soymilk Powdered	33	33	33	33	33	0.4%	0.0%
Burgers & Grills	6	6	6	7	7	0.1%	3.9%
Sausages	4	4	5	5	5	0.1%	5.7%
Meatballs	3	3	3	3	4	0.0%	6.7%
Non-formed	1	1	1	1	1	0.0%	5.3%
Grand Total	7,742	7,799	7,852	7,928	7,964	100.0%	0.6%

Soy Foods Product Segments: Relative Price 2020



This chart indicates the relative pricing of consolidated segment groups at a global level.

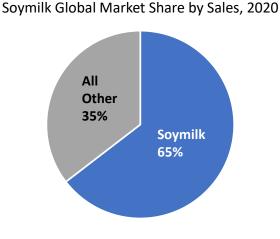
Caveat: the relative prices of Tofu and Other would be lower if traditional channels were included.



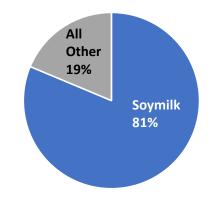


Soymilk is at the opposite end of the soy foods category from meat substitutes: mature, ubiquitous, and little-to-no growth

- Over the 2016 2020 period total global soymilk sales (liquid & powdered) increased from \$9.45 billion to \$10.37 billion, a CAGR of 1.9 percent
- Volumetrically, total soymilk sales increased only 0.2 percent over the same period, but...
- In 2020 total soymilk volumetric share of the global soyfoods market was 81 percent
 - Most of this soymilk volume (typically 93 – 95 percent) is of course water



Soymilk Global Market Share by Volume, 2020

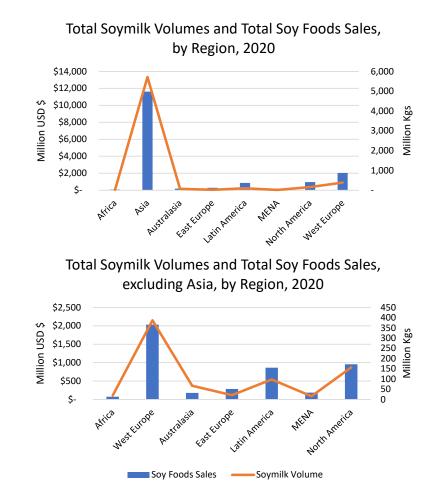






Consumption of soymilk is the primary driver of consumer spending on soy foods

- Overall soy foods spending is driven by consumption of the world's most popular soy food
- A fully matured product, soymilk is globally the slowest growing soy foods product with a CAGR of 1.8 percent over the last five years
- In the most advanced Western markets – North America and West Europe – soymilk has been in decline, due in part to the emergence of alternative grain-based beverages such as almond and oat milk

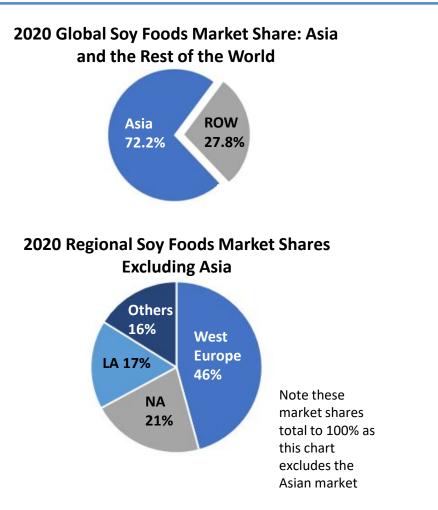






Despite being by far the largest regional soy foods market, Asia has grown faster than other major regional markets

- West Europe and Latin America together make up 63 percent of the global soy foods market excluding Asia
- If North America removed from the-world-excluding-Asia segment to focus on overseas markets, West Europe and Latin America together make up 79 percent of the remaining global soy foods market
- Despite the Asian market being vastly larger and more mature than the West Europe and Latin America soy foods markets, it has grown at a CAGR of 2.9 percent over the last 5 years while West Europe grew at a CAGR of 1.5 percent and Latin America declined (1.1) percent over the same period
- Asian markets best for growth as they use whole soybeans : efficiencies helped by soybeans







West Europe Soy Foods Market





With approximately 12.72 percent of the global market, West Europe is the second largest regional soy foods market by value

- The top five national markets for soy foods – France, Germany, UK, Spain, and Italy – make up over 75 percent (\$1.57 billion) of the \$2.05 billion West Europe market
- The total West Europe soy foods market has grown at a compounded annual growth rate of 1.4 percent from \$1.9 billion in 2016
- The six countries with 2016-20 CAGRs of 4 percent or greater – Germany, Belgium, Austria, Finland, Ireland, Denmark, and Malta – make up 27 percent of the West Europe market value

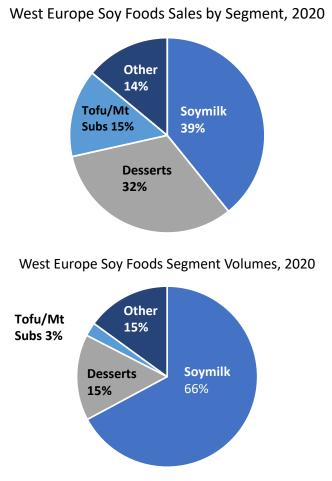
West Europe Soy Foods Sales by Country, Million USD \$											
Country		2016		2017		2018		2019		2020	CAGR
France	\$	342.63	\$	368.67	\$	395.33	\$	379.95	\$	388.24	2.5%
Germany	\$	275.67	\$	285.06	\$	313.52	\$	312.50	\$	338.03	4.2%
United Kingdom	\$	304.83	\$	297.16	\$	322.36	\$	313.71	\$	314.31	0.6%
Spain	\$	325.76	\$	309.31	\$	321.91	\$	301.54	\$	296.91	-1.8%
Italy	\$	232.92	\$	234.69	\$	243.04	\$	228.79	\$	234.25	0.1%
Netherlands	\$	106.54	\$	110.49	\$	116.78	\$	113.61	\$	115.95	1.7%
Belgium	\$	84.16	\$	89.28	\$	97.20	\$	97.06	\$	102.16	4.0%
Austria	\$	42.63	\$	43.75	\$	48.69	\$	48.70	\$	52.48	4.2%
Sweden	\$	40.42	\$	41.38	\$	42.17	\$	40.54	\$	42.58	1.0%
Portugal	\$	47.24	\$	44.34	\$	42.54	\$	37.76	\$	36.33	-5.1%
Switzerland	\$	26.72	\$	27.30	\$	27.74	\$	28.11	\$	29.75	2.2%
Finland	\$	18.67	\$	19.89	\$	21.66	\$	21.81	\$	23.41	4.6%
Norway	\$	20.25	\$	21.64	\$	22.93	\$	22.18	\$	22.81	2.4%
Republic of Ireland	\$	16.71	\$	17.77	\$	19.28	\$	19.25	\$	20.39	4.1%
Denmark	\$	10.26	\$	11.58	\$	12.60	\$	12.74	\$	13.88	6.2%
Greece	\$	8.07	\$	8.24	\$	8.68	\$	8.28	\$	8.65	1.4%
Luxembourg	\$	2.83	\$	2.94	\$	3.14	\$	3.07	\$	3.30	3.1%
Malta	\$	1.99	\$	2.13	\$	2.36	\$	2.32	\$	2.43	4.0%
Iceland	\$	1.16	\$	1.35	\$	1.38	\$	1.27	\$	1.33	2.9%
Grand Total	\$1	L,909.49	\$1	,936.98	\$2	2,063.29	\$1	L,993.19	\$2	2,047.20	1.4%





Soymilk does not dominate the West Europe market like it does globally, but it still leads in value and volume

- Though not as strongly as in the global soy foods market, soymilk leads the soy foods category in West Europe in both value and volume
- The difference in magnitude between the value share of 39 percent and the volume share of 66 percent is due to the price of soymilk in West Europe; with the exception of powdered soymilk, which is a small niche segment sold only in Spain and the UK, soymilk is the least expensive soy food segment in the region
- Note that soymilk is a segment currently in decline in West Europe







While soymilk remains the largest segment in West Europe, it has contracted over the last five years

- In West Europe the leading soy foods category is liquid soymilk with sales of \$796 million in 2020 – approximately 39 percent of total soy foods sales, followed by soy-based desserts with 2020 sales of \$661.3 million, and 'other portions' (tofu) at \$180.2 million in sales in 2020
- The fastest growing segment in West Europe is Non-formed (plain tofu), this segment grew at a CAGR of 10.4 percent from \$4.8 million in 2016 to \$7.9 million in 2020

West Europe Soy Foods Sales by Segment, Million USD \$ 2016 2017 2018 2019 2020 CAGR Segment 844 \$ \$ Soymilk Liquid \$ 831 \$ 857 801 \$ 796 -1.2% Soy-Based Desserts \$ 587 \$ 599 \$ \$ Ś 661 649 635 2.4% Soy Cream 166 \$ \$ 189 \$ \$ 195 3.3% \$ 174 186 128 \$ Other portions \$ 141 \$ 160 \$ 166 \$ 7.1% 180 95 \$ Soy Drinks \$ \$ 97 \$ \$ -0.8% 94 91 91 \$ 37 \$ \$ 47 \$ \$ 8.3% Sausages 54 41 49 35 \$ \$ \$ \$ **Burgers & Grills** \$ 38 43 44 47 5.8% Meatballs Ś 6 Ś 7 Ś 7 Ś 8 Ś 8 6.8% \$ \$ 5 \$ 7 \$ 7 \$ Non-formed 5 8 10.4% 7 Soymilk Powdered \$ 8 \$ \$ 7 \$ 7 \$ -3.2% 6 2.063 Ś Grand Total Ś 1.909 Ś 1.937 Ś 1.993 Ś 2.047 1.4%





As elsewhere, meat substitutes are the fastest growing soy foods product segments in West Europe

- At a compound annual growth rate of 7.1 percent over the last five years, meat substitutes are the fastest growing soy foods sub-segment in West Europe
- Meat substitutes are by far the most expensive soy foods subsegment in West Europe, with a 2020 average price-perkilogram of \$19.49 – compared to \$3.50 across the entire soy foods category

West Europe Soy Foods Sales by Consolidated Segments, Million USD \$										
Segment	2016	2017	2018	2019	2020	CAGR				
Desserts	\$586.63	\$599.30	\$649.41	\$635.18	\$661.33	2.4%				
Meat Subs/Tofu	\$210.62	\$231.74	\$263.59	\$273.22	\$297.45	7.1%				
Soymilk Liquid	\$843.87	\$830.74	\$856.99	\$801.07	\$795.95	-1.2%				
Other	\$268.38	\$275.20	\$293.30	\$283.72	\$292.47	1.7%				

West Europe Avg Price per Kilogram, 2020

Consolidated Segments	Μ	illion USD \$	Million Kgs	Avg \$/Kg
Meat Subs/Tofu	\$	297.45	15.26	19.49
Other	\$	1,749.75	570.26	3.07
Entire Category	\$	2,047.20	585.52	3.50

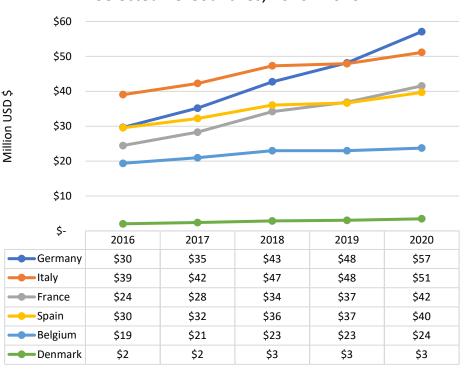




Five countries in West Europe had meat substitute and tofu sales totaling more than \$20 million in 2020

- Germany, Italy, France, Spain, and Belgium each had combined meat substitute and tofu sales exceeding \$20 million in 2020
- The fastest growing of these segment markets is also the largest, Germany, which grew at a CAGR of 14.0 percent over the 2016 – 2020 period
- Together these five countries' meat substitute and tofu sales accounted for 71.7 percent of the total sales of these segments in West Europe
- The chart also includes Denmark, in which these segments are growing faster in West Europe than any countries other than Germany and France; Denmark reached combined meat substitute and tofu sales of \$3.48 million in 2020
- With a combination of high sales, relative to the rest of West Europe, and fast growth, Germany, France, and Italy, form a European sweet spot for the meat substitute and tofu segments

Combined Meat Substitute Segment Sales, Selected EU Countries. 2016 - 2020







Latin America Soy Foods Market





At \$751 million in sales in 2020, Latin America has 4.67% of the global soy foods market and is the fourth largest regional market

- Latin America is the fourth largest regional soy foods market by sales value following Asia, West Europe, and North America – it is the third largest overseas regional market
- The value of this market is in decline – driven primarily by decline in the Argentina and Brazil national markets: the total nominal decline is greater in Brazil's much larger market, but more dramatic in Argentina – by 2020 soy foods sales had halved from 2017
- Peru's soy foods market is also in decline

Latin America Soy Fo	ods Sales k	oy Country	, Million US	SD \$		
Segment	2016	2017	2018	2019	2020	CAGR
Brazil	\$341.65	\$379.24	\$322.35	\$303.20	\$297.55	-2.7%
Mexico	\$ 63.79	\$ 67.11	\$ 68.89	\$ 71.89	\$ 79.59	4.5%
Bolivia	\$ 36.51	\$ 39.76	\$ 43.44	\$ 46.75	\$ 56.04	8.9%
Peru	\$ 78.27	\$ 70.95	\$ 62.95	\$ 58.62	\$ 55.49	-6.6%
Argentina	\$102.24	\$111.51	\$ 78.17	\$ 62.16	\$ 54.50	-11.8%
Cuba	\$ 35.40	\$ 36.82	\$ 38.42	\$ 39.76	\$ 42.20	3.6%
Chile	\$ 28.08	\$ 31.54	\$ 34.77	\$ 34.33	\$ 38.84	6.7%
Colombia	\$ 24.66	\$ 25.37	\$ 28.07	\$ 28.31	\$ 29.53	3.7%
Guatemala	\$ 12.68	\$ 13.74	\$ 13.99	\$ 14.11	\$ 14.88	3.2%
El Salvador	\$ 10.20	\$ 10.66	\$ 11.16	\$ 11.64	\$ 12.42	4.0%
Honduras	\$ 10.19	\$ 10.60	\$ 11.13	\$ 11.57	\$ 12.17	3.6%
Dominican Republic	\$ 9.27	\$ 9.54	\$ 10.06	\$ 10.37	\$ 11.38	4.2%
Costa Rica	\$ 9.25	\$ 9.56	\$ 10.17	\$ 10.72	\$ 11.24	4.0%
Panama	\$ 8.33	\$ 8.84	\$ 9.34	\$ 9.92	\$ 10.70	5.1%
Ecuador	\$ 8.22	\$ 8.34	\$ 8.55	\$ 8.80	\$ 8.79	1.4%
Nicaragua	\$ 4.95	\$ 4.86	\$ 4.79	\$ 4.84	\$ 4.99	0.2%
Paraguay	\$ 3.80	\$ 4.11	\$ 4.30	\$ 4.26	\$ 4.53	3.6%
Puerto Rico	\$ 3.69	\$ 3.80	\$ 3.86	\$ 3.94	\$ 4.16	2.4%
Uruguay	\$ 1.68	\$ 1.96	\$ 2.01	\$ 1.97	\$ 2.06	4.1%
Venezuela	\$ -	\$ -	\$ -	\$ -	\$ -	
Grand Total	\$792.86	\$848.30	\$766.41	\$737.19	\$751.07	-1.1%





Despite a negative growth of (2.7) percent over the last five years, Brazil continues to dominate the Latin American soy foods market

- Note that three out of these five leading Latin America soy foods markets are in overall decline
- Brazil's 2020 soy foods market value of \$297.6 million makes up 39.5 percent of the total value of the Latin America regional market of \$751 million
- The largest segment of the Brazilian soy foods market is soy drinks, which with sales of \$75.7 million in 2020 made up 25.4% of total category sales
- Over the last five years the soy drinks segment has declined by 6.2 percent
- According to the USDA PSD database, the only one of these countries in which soybeans were used for food was Bolivia, implying the vast majority of soy foods products, or the soy-based ingredients of those products, consumed in Latin America are imported into the region from overseas







As in the case of West Europe, Latin America has had relatively strong growth in the smaller meat substitute segments

- Growth in these small segments has been accompanied by decline in the major soymilk and soy drinks segments
- Latin America is the only major regional soy foods market in which soymilk is not the largest product segment by sales; this is due in a large part to the popularity of soy drinks in Latin America, which are typically fruit juices fortified with soy protein
- In this market soy drinks is the largest segment, making up 35 percent of total soy foods sales; by comparison in Asia the soy drinks share is 10.5 percent and in West Europe 4.4 percent
- As in West Europe, the growing segments are tofu/meat substitutes

Latin America Soy Fo	Latin America Soy Foods Sales by Segment, Million USD \$													
Segment	2016	2017	2018	2019	2020	CAGR								
Burgers & Grills	\$ 13.79	\$ 14.99	\$ 15.99	\$ 17.06	\$ 18.19	5.7%								
Meatballs	\$ 0.09	\$ 0.09	\$ 0.10	\$ 0.10	\$ 0.11	2.9%								
Non-formed	\$ 2.85	\$ 3.58	\$ 3.64	\$ 3.96	\$ 4.34	8.8%								
Other portions	\$ 31.66	\$ 35.27	\$ 37.29	\$ 38.53	\$ 40.34	5.0%								
Sausages	\$ 6.89	\$ 7.52	\$ 8.06	\$ 8.65	\$ 9.30	6.2%								
Soy Cream	\$ 75.11	\$ 78.77	\$ 70.58	\$ 66.33	\$ 64.29	-3.1%								
Soy Drinks	\$315.34	\$342.55	\$286.93	\$263.20	\$261.63	-3.7%								
Soy-Based Desserts	\$196.90	\$217.68	\$199.95	\$196.32	\$204.24	0.7%								
Soymilk Liquid	\$130.65	\$127.66	\$123.13	\$121.74	\$125.59	-0.8%								
Soymilk Powdered	\$ 19.58	\$ 20.19	\$ 20.74	\$ 21.30	\$ 23.04	3.3%								
Grand Total	\$792.86	\$848.30	\$766.41	\$737.19	\$751.07	-1.1%								





Declining soy foods markets in Latin America

- Argentina's soy foods market is in decline in every segment, but the only one of consequence is soy drinks
- In Brazil all beverage segments are in decline, but, as in the case of Argentina, the significant loss is in soy drinks
- In Latin America soy drinks are typically fruit juices fortified with soy protein – is the decline in soy foods consumption in Latin America being driven by a massive movement away from juice as consumers seek to cut down on sugar intake?
- Peru is also declining in beverage segments, but the nominal loss in soymilk sales is bigger than the loss in soy drink sales
- Could declines in soy foods use in Latin America also be related to their imported status?



Argentina Soy Foods Sales by Segment, Million USD \$													
Segment	2	2016	2	2017		2018		2019		2020	CAGR		
Burgers & Grills	\$	0.11	\$	0.12	\$	0.09	\$	0.08	\$	0.07	-7.7%		
Meatballs	\$	0.01	\$	0.01	\$	0.01	\$	0.01	\$	0.01	-3.4%		
Non-formed	\$	0.09	\$	0.10	\$	0.07	\$	0.06	\$	0.06	-7.7%		
Other portions	\$	0.31	\$	0.34	\$	0.26	\$	0.24	\$	0.21	-7.4%		
Sausages	\$	0.03	\$	0.03	\$	0.03	\$	0.02	\$	0.02	-4.2%		
Soy Drinks	\$1	01.70	\$1	L10.92	\$	77.71	\$	61.75	\$	54.13	-11.8%		
Grand Total	\$1	02.24	\$1	11.51	\$	78.17	\$	62.16	\$	54.50	-11.8%		

Brazil Soy Foods Sales by Segment, Million USD \$												
Segment	2016	2017	2018	2019	2020	CAGR						
Burgers & Grills	\$ 0.52	\$ 0.66	\$ 0.68	\$ 0.74	\$ 0.81	9.2%						
Non-formed	\$ 2.57	\$ 3.27	\$ 3.34	\$ 3.65	\$ 4.02	9.4%						
Other portions	\$ 3.76	\$ 4.82	\$ 4.95	\$ 5.45	\$ 6.04	9.9%						
Sausages	\$ 0.31	\$ 0.40	\$ 0.41	\$ 0.45	\$ 0.49	9.8%						
Soy Cream	\$ 72.61	\$ 75.86	\$ 67.26	\$ 62.92	\$ 60.65	-3.5%						
Soy Drinks	\$103.99	\$118.74	\$ 93.02	\$ 83.62	\$ 75.69	-6.2%						
Soy-Based Desserts	\$148.42	\$166.18	\$145.92	\$141.06	\$144.94	-0.5%						
Soymilk Liquid	\$ 7.87	\$ 7.70	\$ 5.58	\$ 4.39	\$ 4.05	-12.4%						
Soymilk Powdered	\$ 1.60	\$ 1.62	\$ 1.20	\$ 0.93	\$ 0.85	-11.9%						
Grand Total	\$341.65	\$379.24	\$322.35	\$303.20	\$ 297.55	-2.7%						

Peru Soy Foods Sales by Segment, Million USD \$

Segment	2016	2017	2018	2019	2020	CAGR
Burgers & Grills	\$ 0.42	\$ 0.47	\$ 0.49	\$ 0.52	\$ 0.57	6.2%
Other portions	\$ 1.50	\$ 1.66	\$ 1.74	\$ 1.82	\$ 2.01	6.1%
Sausages	\$ 0.10	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.13	6.1%
Soy Drinks	\$ 18.12	\$ 15.56	\$ 13.36	\$ 12.04	\$ 11.00	-9.5%
Soy-Based Desserts	\$ 3.81	\$ 4.16	\$ 4.36	\$ 4.43	\$ 4.94	5.3%
Soymilk Liquid	\$ 53.70	\$ 48.43	\$ 42.39	\$ 39.24	\$ 36.42	-7.5%
Soymilk Powdered	\$ 0.62	\$ 0.56	\$ 0.49	\$ 0.45	\$ 0.42	-7.4%
Grand Total	\$ 78.27	\$ 70.95	\$ 62.95	\$ 58.62	\$ 55.49	-6.6%



Growing soy foods markets in Latin America

- Bolivia is not only a bright spot for soy foods growth in Latin America

 it is a regional trend defier with strong growth in every segment, especially the beverage segments
- According to the USDA PSD, total soybeans used for food in Latin America in 2020 was 85,000 metric tons; 78,000 metric tons or 91.8 percent of that total was used in Bolivia
- The Chilean soy foods market is similar to the slightly larger Bolivian market with growth across the board, though not as strong in nominal or relative terms
- Mexico also has a robust soy foods market, but it is more typical of the region and of larger global trends in that the strong growth is in meat substitutes

Bolivia Soy Foods Sales by Segment,	Million USD \$	

Segment	2016	2017	2018	2019	2020	CAGR
Burgers & Grills	\$ 0.08	\$ 0.08	\$ 0.09	\$ 0.09	\$ 0.10	4.3%
Other portions	\$ 0.51	\$ 0.54	\$ 0.57	\$ 0.61	\$ 0.64	4.5%
Sausages	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	4.5%
Soy Drinks	\$ 13.03	\$ 14.72	\$ 16.67	\$ 18.51	\$ 23.58	12.6%
Soy-Based Desserts	\$ 17.45	\$ 18.26	\$ 19.11	\$ 19.74	\$ 21.76	4.5%
Soymilk Liquid	\$ 4.53	\$ 5.13	\$ 5.84	\$ 6.51	\$ 8.33	13.0%
Soymilk Powdered	\$ 0.88	\$ 1.00	\$ 1.13	\$ 1.26	\$ 1.60	12.8%
Grand Total	\$ 36.51	\$ 39.76	\$ 43.44	\$ 46.75	\$ 56.04	8.9%

Chile Soy Foods Sales by Segment, Million USD \$

Segment	2016	2017	2018	2019	2020	CAGR
Burgers & Grills	\$ 1.07	\$ 1.21	\$ 1.32	\$ 1.30	\$ 1.33	4.5%
Other portions	\$ 1.84	\$ 2.07	\$ 2.27	\$ 2.23	\$ 2.28	4.5%
Sausages	\$ 0.22	\$ 0.24	\$ 0.27	\$ 0.26	\$ 0.27	4.5%
Soy Cream	\$ 2.39	\$ 2.80	\$ 3.20	\$ 3.29	\$ 3.51	7.9%
Soy Drinks	\$ 18.71	\$ 20.57	\$ 22.24	\$ 21.62	\$ 25.36	6.3%
Soy-Based Desserts	\$ 3.85	\$ 4.64	\$ 5.47	\$ 5.62	\$ 6.09	9.6%
Grand Total	\$ 28.08	\$ 31.54	\$ 34.77	\$ 34.33	\$ 38.84	6.7%

Mexico Soy Foods Sales by Segment, Million USD \$														
Segment		2016		2017		2018		2019		2020	CAGR			
Burgers & Grills	\$	8.29	\$	8.99	\$	9.74	\$	10.64	\$	11.49	6.7%			
Other portions	\$	4.30	\$	4.67	\$	5.07	\$	5.55	\$	6.01	6.9%			
Sausages	\$	4.51	\$	4.91	\$	5.34	\$	5.85	\$	6.36	7.1%			
Soy Drinks	\$	24.88	\$	26.04	\$	25.92	\$	26.32	\$	29.79	3.7%			
Soy-Based Desserts	\$	5.35	\$	5.61	\$	5.74	\$	6.07	\$	6.37	3.6%			
Soymilk Liquid	\$	13.51	\$	13.86	\$	14.00	\$	14.31	\$	16.05	3.5%			
Soymilk Powdered	\$	2.97	\$	3.03	\$	3.07	\$	3.15	\$	3.52	3.5%			
Grand Total	\$	63.79	\$	67.11	\$	68.89	\$	71.89	\$	79.59	4.5%			





Asia Soy Foods Market





The Asian soy foods market operates at a scale that dwarfs other markets

- Asia makes up 72 percent of the global soy foods market by sales, and 83 percent by volume
- China alone makes up 59 percent of the Asia soy foods market by sales
- Excluding China, Asia soy foods sales in 2020 were \$4.72 billion, more than twice the size of the next largest regional soy foods market, West Europe
- Some of the smaller Asian soy foods markets are growing quickly, especially the Philippines, which grew at a CAGR of 11.6 percent over the 2016 – 2020 period
- Over the 5-year period in which Asian soy foods increased at a CAGR of 2.9 percent, soybeans used for food in Asia increased from 14.53 billion metric tons to 20.05 billion metric tons, a CAGR of 2.93 percent – matching growth in food use almost exactly

Asia Soy Foods Sales, Million USD \$

Country	-	2016	2017	2018	2019	2020	CAGR
China	\$	5,951	\$ 6,179	\$ 6,535	\$ 6,628	\$ 6,809	2.7%
Japan	\$	1,574	\$ 1,575	\$ 1,654	\$ 1,737	\$ 1,829	3.1%
Thailand	\$	842	\$ 841	\$ 870	\$ 906	\$ 910	1.5%
Vietnam	\$	462	\$ 465	\$ 481	\$ 495	\$ 534	2.9%
South Korea	\$	295	\$ 305	\$ 336	\$ 324	\$ 344	3.1%
Hong Kong	\$	249	\$ 263	\$ 278	\$ 294	\$ 313	4.6%
Singapore	\$	231	\$ 242	\$ 260	\$ 271	\$ 284	4.3%
Taiwan	\$	188	\$ 194	\$ 201	\$ 204	\$ 218	3.0%
Philippines	\$	50	\$ 60	\$ 67	\$ 78	\$ 87	11.6%
Malaysia	\$	58	\$ 55	\$ 61	\$ 62	\$ 65	2.3%
Indonesia	\$	51	\$ 54	\$ 54	\$ 60	\$ 64	4.7%
India	\$	42	\$ 45	\$ 48	\$ 50	\$ 54	4.9%
Bangladesh	\$	15	\$ 15	\$ 16	\$ 17	\$ 18	4.3%
All Others	\$	73	\$ 68	\$ 71	\$ 80	\$ 93	4.9%
Grand Total	\$	10,080	\$ 10,362	\$ 10,931	\$ 11,205	\$ 11,621	2.9%



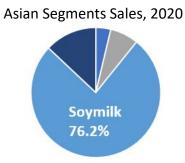


Unlike other regional soy foods markets, growth in Asia is not so concentrated in meat substitutes

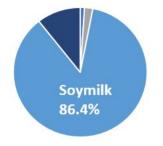
- Burgers & Grills and Other portions (tofu with further processing) are the fastest growing segments
- Soy Drinks and Creams are also growing robustly: Asian consumer trends driving this are
 - Growing consumption of beverages with mixed ingredients (e.g., multigrainbased milks, fruit and soy drinks, etc.
 - Growing coffee consumption in Asia
- Soymilk is the only soy foods segment in Asia growing slower than the entire category's 2.4 percent CAGR over 2016 - 2020

Asia Soy Foods Seg	me	nt Sales, N	∕illi	ion USD \$				
Segments		2016		2017	2018	2019	2020	CAGR
Burgers & Grills	\$	12.68	\$	13.69	\$ 14.87	\$ 15.93	\$ 16.99	6.0%
Meatballs	\$	2.32	\$	2.41	\$ 2.55	\$ 2.67	\$ 2.81	3.9%
Non-formed	\$	1.67	\$	1.70	\$ 1.76	\$ 1.87	\$ 1.97	3.4%
Other portions	\$	313.26	\$	329.20	\$ 354.01	\$ 374.70	\$ 400.43	5.0%
Sausages	\$	6.53	\$	6.85	\$ 7.18	\$ 7.58	\$ 8.01	4.1%
Soy Cream	\$	235.68	\$	246.11	\$ 265.47	\$ 277.53	\$ 292.77	4.4%
Soy Drinks	\$	985.21	\$	1,027.41	\$ 1,105.10	\$ 1,144.94	\$ 1,207.19	4.1%
Soy-Based Desserts	\$	646.89	\$	673.65	\$ 726.34	\$ 762.42	\$ 815.97	4.8%
Soymilk Liquid	\$	7,229.05	\$	7,408.18	\$ 7,771.43	\$ 7,909.54	\$ 8,135.35	2.4%
Soymilk Powdered	\$	573.90	\$	584.90	\$ 611.63	\$ 627.88	\$ 646.85	2.4%
Grand Total	\$	10,007.20	\$	10,294.09	\$ 10,860.34	\$ 11,125.05	\$ 11,528.32	2.9%

Soymilk's dominance is strongest in the world's largest soy foods market



Asian Segments Volumes, 2020





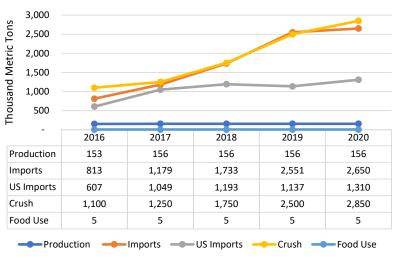


Bangladesh

- Total soy foods sales have grown at a CAGR of 4.3 percent over the last five years, reaching \$18.1 million in 2020
- Bangladesh's total soy foods made up 0.16 percent of the 2020 Asia soy foods market by sales
- In this market the traditional soy foods tofu (i.e., 'Other Portions' in GlobalData's vernacular) and soymilk are by far the leading segments
- U.S. soybean exports to Bangladesh have increased from 607,000 metric tons in 2016 to 1.31 million metric tons in 2020, a CAGR of 16.6 percent
- However, during this same period, Bangladesh's total soybean imports grew from 607,000 metric tons to 2.65 million metric tons, and the U.S. share of these imports fell from a peak of 88.9 percent in 2017 to 49.4 percent in 2020

Bangladesh Soy Foods Sales by Segment, Million USD \$ Segment 2016 2017 2018 2019 2020 CAGR 0.2 \$ 0.2 \$ **Burgers & Grills** Ś 0.2 \$ 0.2 \$ 0.3 3.7% Meatballs 0.7 \$ 0.7 0.8 \$ 3.7% \$ Ś 0.8 Ś 0.8 5.9 \$ \$ Other portions \$ 5.4 \$ 5.6 6.2 \$ 3.7% 6.5 \$ 0.5 \$ 0.6 \$ 0.6 \$ 0.6 \$ Sausages 0.6 3.1% 1.6 \$ 1.5 \$ Soy-Based Desserts \$ 1.5 \$ 1.7 \$ 5.3% 1.9 Soymilk Liquid \$ Ś Ś 6.9 Ś 6.4 6.7 7.2 Ś 8.0 4.6% Grand Total Ś 14.7 \$ 15.3 \$ 16.0 \$ 16.8 Ś 18.1 4.3%

Bangladesh Soybean Use, 2016 - 2020





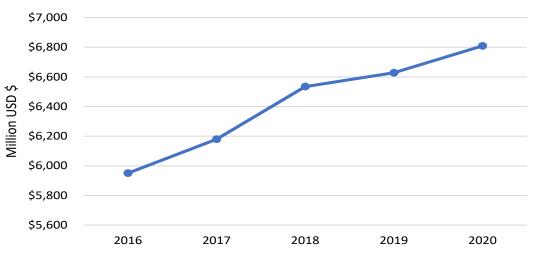


China: most of the global soy foods market – by sales and volume – is here

- China is by far the largest national soy foods market, totaling \$6.8 billion in sales in 2020
- China's soy foods market grew at a CAGR of 2.7 percent over the 2016 – 2020 period
- GlobalData reports total 2020 global soy foods volume at 7.96 billion kilograms; China's total volume of soy foods in 2020 was 4.7 billion kilograms, approximately 59 percent of the global volume

China Soy Foods Sa	les	by Segme	nt,	Million U	SD S	\$			
Segments		2016		2017		2018	2019	2020	CAGR
Other portions	\$	102.37	\$	109.90	\$	122.60	\$ 130.11	\$ 141.08	6.6%
Soy Cream	\$	91.92	\$	99.05	\$	108.74	\$ 113.44	\$ 119.34	5.4%
Soy Drinks	\$	692.79	\$	723.87	\$	778.91	\$ 804.57	\$ 847.86	4.1%
Soy-Based Desserts	\$	313.08	\$	335.50	\$	370.58	\$ 388.96	\$ 421.13	6.1%
Soymilk Liquid	\$	4,602.09	\$ -	4,757.45	\$	4,992.55	\$ 5,029.38	\$ 5,116.47	2.1%
Soymilk Powdered	\$	148.46	\$	153.59	\$	161.22	\$ 161.51	\$ 163.21	1.9%
Grand Total	\$	5,950.71	\$	6,179.35	\$	6,534.62	\$ 6,627.97	\$ 6,809.09	2.7%

China Soy Foods Sales, 2016 - 2020

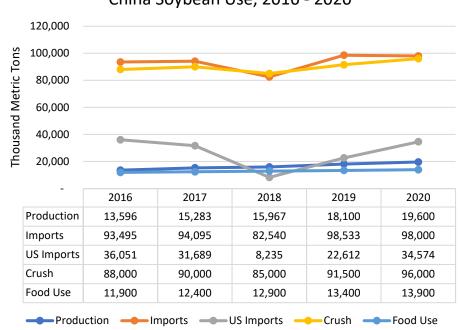






China: growth in production has exceeded growth in food use, but that may change...

- Over the 2016 2020 period soybeans used for food in China increased from 11.9 billion metric tons to 13.9 billion metric tons, a CAGR of 3.2 percent
- Soybean production has held steady over food use driven by demand for soybean meal for meat production, vegetable oil, and soy foods
- US imports dropped sharply in 2018 but have since rebounded to near-2016 levels
- The USDA FAS forecasts production growth will flatten as a downward trend in soybean crop subsidies will curtail acreage growth and no increases in yield are expected
- China for the most part crushes soybean imports and domestic production goes to food use; if food use continues to grow while production flattens, the opportunity in China may be for value-added soybeans (e.g., higher protein, clear hilum, etc.)



China Soybean Use, 2016 - 2020

Source: USDA PSD, GATS



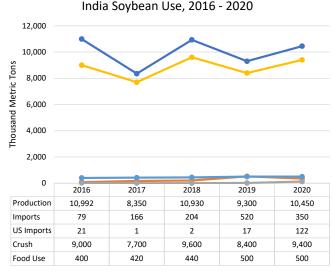


India

- Total soy foods sales grew from \$42.4 million in 2016 to \$53.9 million in 2020, a CAGR of 4.9 percent
- India's 2020 total soy foods sales of \$53.9 million make up 0.46 percent of the 2020 total Asia soy foods market sales
- In 2020, the largest segments, tofu ('Other portions') and soymilk totals combined reached \$45.9 million, more than 85 percent of total soy foods sales
- India is the fifth largest soybean producer in the world – it is a net soybean exporter and soybean imports are miniscule
- India crushes most of its soybean production (89.9 percent in 2020), consumes the oil domestically and is a major soybean meal exporter
- Unfair trade practice complaints citing the low cost of organic soybean meal imported into the U.S. from India (it has been prices lower than the cost of the unprocessed organic soybean equivalent) have been filed with the U.S. International Trade Commission (USITC) and the U.S. Department of Commerce

India Soy Foods Sales by Segment, Million USD \$

Segment	2	2016	2	2017	2	2018	2	2019	2	2020	CAGR
Burgers & Grills	\$	1.3	\$	1.4	\$	1.4	\$	1.5	\$	1.6	4.3%
Meatballs	\$	0.5	\$	0.6	\$	0.6	\$	0.6	\$	0.6	4.1%
Other portions	\$	23.3	\$	25.3	\$	25.7	\$	26.8	\$	27.6	3.4%
Soy Drinks	\$	2.0	\$	2.1	\$	2.4	\$	2.6	\$	3.0	8.0%
Soy-Based Desserts	\$	1.4	\$	1.6	\$	1.7	\$	1.8	\$	1.9	7.0%
Soymilk Liquid	\$	13.3	\$	13.3	\$	15.3	\$	16.2	\$	18.3	6.7%
Soymilk Powdered	\$	0.6	\$	0.6	\$	0.7	\$	0.8	\$	0.9	6.8%
Grand Total	\$	42.4	\$	44.9	\$	47.8	\$	50.2	\$	53.9	4.9%



In May 2021 the USITC found "there is a reasonable indication that an industry in the U.S. is materially injured by reason of imports of organic soybean meal from India" and is currently investigating.

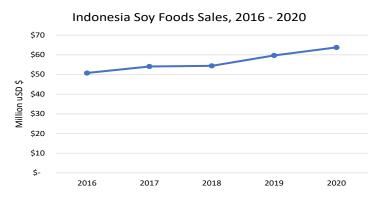




Indonesia: despite the country being a leader in per capita soy foods consumption, soymilk is a growing product segment

- Over the 2016 2020 period, while reported soy foods sales increased from \$50.8 million to \$63.8 million, a CAGR of 4.7 percent,
- Indonesia has the second highest annual per capita soy consumption in the world at ~11 kilograms per person (2nd only to Taiwan at ~13 Kgs)
- This high consumption is not driven by soymilk – the traditional soy food in Indonesia is tempeh, a fermented soybean product that like tofu is extremely versatile and high in protein
- Tempeh production is a small-scale cottage industry: the Indonesian Tempeh Forum estimates there are more than 100,000 independent tempeh producers spread through the provinces of Indonesia, producing 10 Kg to 2 metric tons of tempeh per day – this data is not captured by GlobalData

Indonesia Soy Foods	Sales by S	egment, N	Villion USI) \$		
Segment	2016	2017	2018	2019	2020	CAGR
Soymilk Liquid	\$ 27.13	\$ 29.13	\$ 29.57	\$ 33.10	\$ 36.07	5.9%
Other portions	\$ 13.92	\$ 14.68	\$ 14.59	\$ 15.41	\$ 15.71	2.5%
Soymilk Powdered	\$ 5.15	\$ 5.51	\$ 5.57	\$ 6.21	\$ 6.74	5.5%
Soy-Based Desserts	\$ 2.12	\$ 2.21	\$ 2.16	\$ 2.27	\$ 2.39	2.4%
Soy Drinks	\$ 1.70	\$ 1.78	\$ 1.75	\$ 1.89	\$ 2.00	3.3%
Non-formed	\$ 0.24	\$ 0.26	\$ 0.25	\$ 0.27	\$ 0.27	2.1%
Burgers & Grills	\$ 0.19	\$ 0.20	\$ 0.20	\$ 0.20	\$ 0.21	2.0%
Sausages	\$ 0.16	\$ 0.17	\$ 0.17	\$ 0.18	\$ 0.19	2.5%
Meatballs	\$ 0.17	\$ 0.17	\$ 0.17	\$ 0.18	\$ 0.19	2.0%
Grand Total	\$ 50.78	\$ 54.10	\$ 54.42	\$ 59.69	\$ 63.77	4.7%



Caveat: GlobalData's Indonesian soy foods data does not include the vast, highly fragmented tempeh market.

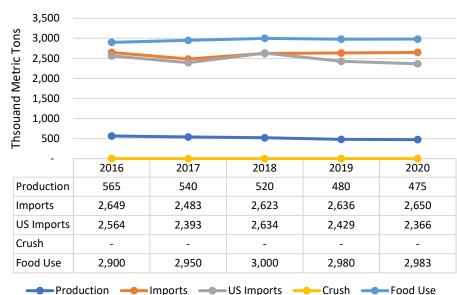




In Indonesia soybeans are used exclusively for food

- Indonesia does not crush soybeans

 nearly all of Indonesia's soybean production and imports goes into food, primarily tempeh; soybean meal is imported
- While production has declined and imports remained flat, food use has grown slowly – at a CAGR of 0.57 percent
- Government support that favors other crops disincentivizes any expansion of soybean production in Indonesia
- The US has the lion's share of soybean imports into Indonesia
- The Indonesia Tempeh Forum estimates that approximately 2 million metric tons of soybeans are imported into Indonesia annually for tempeh production
- FAS/Jakarta projects soybean use for food to reach 3 million metric tons in 2021



Indonesia Soybean Use, 2016 - 2020

Source: USDA PSD, GATS



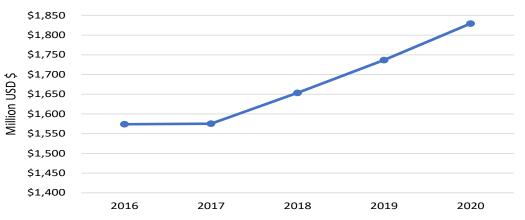


Japan: the second largest national soy foods market after China

- With total soy foods sales of \$1.83 billion in 2020, Japan is the second largest national soy foods market in the world
- Japan's soy foods market grew from \$1.57 billion in 2016 at a CAGR of 3.1 percent
- GlobalData is probably significantly undercounting Japan's soy foods sales as the database does not include traditional soy-based foods widely consumed in Japan in its soy foods product category, i.e., natto, miso, and soy sauce

Japan Soy Foods S	ale	s by Se	egn	nent, N	∕lill	ion US	D \$	\$		
Segment		2016		2017		2018		2019	2020	CAGR
Soymilk Liquid	\$	969	\$	967	\$	1,014	\$	1,065	\$ 1,118	2.9%
Soy-Based Desserts	\$	266	\$	266	\$	278	\$	291	\$ 307	2.9%
Other portions	\$	118	\$	120	\$	128	\$	136	\$ 147	4.5%
Soy Cream	\$	106	\$	109	\$	114	\$	121	\$ 128	3.8%
Soy Drinks	\$	113	\$	112	\$	117	\$	123	\$ 127	2.5%
Non-formed	\$	1	\$	1	\$	1	\$	1	\$ 1	4.2%
Meatballs	\$	0	\$	0	\$	0	\$	1	\$ 1	4.0%
Grand Total	\$	1,574	\$	1,575	\$	1,654	\$	1,737	\$ 1,829	3.1%

Japan Soy Foods Sales, 2016 - 2020

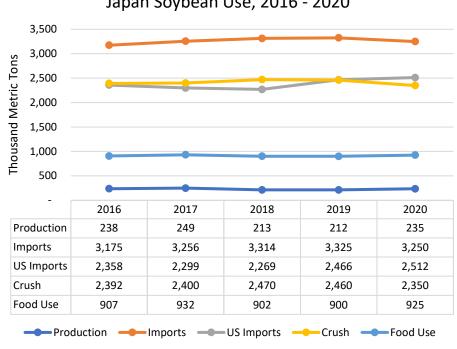






Japan: soybean usage has not changed appreciably over the last five years

- Japan's soybean use has remained static over the 2016 – 2020 period with slightly declining production and negligible import growth
- Japan is entirely reliant on imports for soybeans for food use
- The lack of change in soybean usage in Japan is reflective of the country's demographics: during these five years the population actually declined by 0.2 percent
- USDA FAS/Tokyo projects soybean for food consumption to reach 935,000 metric tons in 2021; the same office also projects imports to decline to 3.12 million metric tons, however approximately 80 percent of Japanese soybean imports are feed grade



Japan Soybean Use, 2016 - 2020







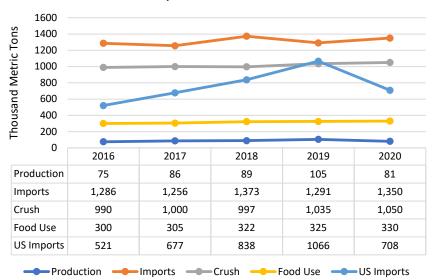
Korea

- Total soy foods sales grew from \$295 million in 2016 to \$344 million in 2020, a CAGR of 3.1 percent
- With \$344 million in total sales, Korea's soy foods market makes up 2.96 percent of the total Asia soy foods market
- Liquid soymilk is by far the largest segment, with sales of \$264 million, or 76.7 percent of total soy foods sales in South Korea in 2020
- Korea's soybean imports are relatively flat, grown from 1.29 million metric tons in 2016 to 1.35 million metric tons in 2020, a CAGR of 0.98 percent
- Soybeans used for food in Korea has stayed within a range of 23 – 24 percent of total imports during the 2016 – 2020 period

Korea Soy Foods Sales by Segment, Million USD \$

Segment	2	2016	. 2	2017	_ 2	018	_ 2	019	_ 2	.020	CAGR
Burgers & Grills	\$	0.0	\$	0.0	\$	0.0	\$	0.0	\$	0.0	4.4%
Other portions	\$	0.3	\$	0.3	\$	0.3	\$	0.3	\$	0.3	4.9%
Soy Drinks	\$	53	\$	57	\$	64	\$	62	\$	66	4.2%
Soy-Based Desserts	\$	0.5	\$	0.6	\$	0.7	\$	0.7	\$	0.7	4.1%
Soymilk Liquid	\$	229	\$	235	\$	258	\$	248	\$	264	2.9%
Soymilk Powdered	\$	12	\$	12	\$	14	\$	13	\$	14	3.5%
Grand Total	\$	295	\$	305	\$	336	\$	324	\$	344	3.1%

Korea Soybean Use 2016 - 2020





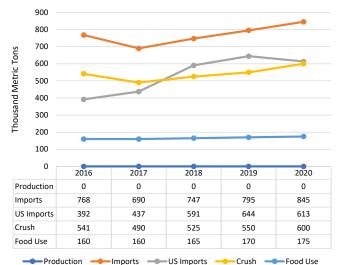


Malaysia

- Total soy foods sales grew from \$57.7 million in 2016 to \$64.7 million in 2020, a CAGR of 2.3 percent
- Malaysia's total soy foods sales of \$64.7 million made up 0.56 percent of total Asia soy foods sales in 2020
- With sales of \$27 million in 2020 soy cream is the largest segment in Malaysia, followed closely by soymilk with 2020 sales of \$23.6 million
- Together the soy cream and soymilk segments made up 78.2 percent of total 2020 soy foods sales in Malaysia
- Malaysia produces no soybeans and crushes most of its imports
- Soybeans used for food is relatively flat in Malaysia, grown from 160,000 metric tons in 2016 to 175,000 in 2020, a CAGR of 1.8 percent

Malaysia Soy Foods S	ale	s by Se	gm	ient, N	/illi	on US	D\$				
Segment	2	2016	:	2017	2	2018	2	2019	2	2020	CAGR
Burgers & Grills	\$	0.1	\$	0.1	\$	0.1	\$	0.1	\$	0.1	4.8%
Meatballs	\$	0.5	\$	0.5	\$	0.6	\$	0.6	\$	0.6	4.6%
Other portions	\$	1.1	\$	1.1	\$	1.3	\$	1.3	\$	1.4	5.2%
Sausages	\$	0.2	\$	0.2	\$	0.2	\$	0.2	\$	0.2	4.7%
Soy Cream	\$	23.1	\$	23.2	\$	26.0	\$	26.1	\$	27.0	3.2%
Soy Drinks	\$	2.7	\$	2.4	\$	2.7	\$	2.9	\$	3.0	2.4%
Soy-Based Desserts	\$	6.2	\$	6.2	\$	7.0	\$	7.0	\$	7.3	3.5%
Soymilk Liquid	\$	22.5	\$	19.7	\$	22.1	\$	22.6	\$	23.6	1.0%
Soymilk Powdered	\$	1.4	\$	1.3	\$	1.4	\$	1.4	\$	1.5	1.0%
Grand Total	\$	57.7	\$	54.7	\$	61.3	\$	62.2	\$	64.7	2.3%

Malaysia Soybean Use, 2016 - 2020





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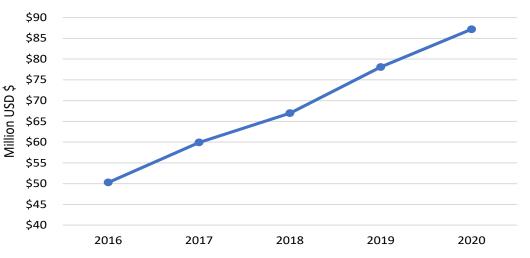


Philippines: a very small but rapidly growing market

- Philippines total soy foods sales of \$87.2 million in 2020 made up only 0.76 percent of the total Asia soy foods market
- However, the Philippines is by far the fastest growing national soy foods market in Asia, with an overall CAGR of 11.6 percent over the 2016 – 2020 period
- In 2020 soymilk made up 83.7 percent of the Philippines soy foods market by sales
- Growth in the Philippines market is driven by beverages: soymilk liquid and powdered, and soy drinks: together these product segments grew at a CAGR of 15.5 percent over the 2016 – 2020 period

Philippines Soy Foo	as	sales by S	egm	ient, iviili	ion	υვη 2			
Segments		2016		2017		2018	2019	2020	CAGR
Burgers & Grills	\$	1.52	\$	1.51	\$	1.52	\$ 1.62	\$ 1.71	2.3%
Non-formed	\$	0.56	\$	0.56	\$	0.57	\$ 0.61	\$ 0.65	2.9%
Other portions	\$	8.95	\$	8.93	\$	9.16	\$ 9.88	\$ 10.42	3.1%
Soy Drinks	\$	4.79	\$	6.24	\$	7.25	\$ 8.71	\$ 9.91	15.7%
Soy-Based Desserts	\$	6.59	\$	6.45	\$	6.49	\$ 6.94	\$ 7.22	1.8%
Soymilk Liquid	\$	27.38	\$	35.60	\$	41.23	\$ 49.42	\$ 56.24	15.5%
Soymilk Powdered	\$	0.50	\$	0.65	\$	0.76	\$ 0.91	\$ 1.03	15.5%
Grand Total	\$	50.30	\$	59.94	\$	66.98	\$ 78.09	\$ 87.18	11.6%

Philippines Soy Foods Sales, 2016 - 2020

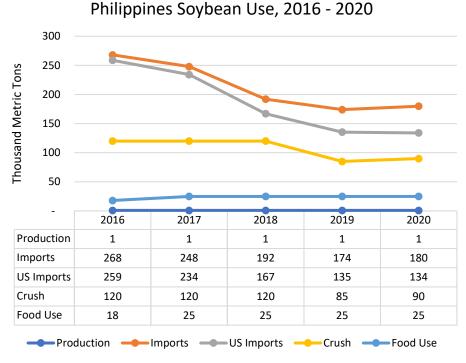






Growth in the Philippines soy foods market is driven by imported products

- While the Philippines soy foods market grew at a CAGR of 11.6 percent, soybeans for food use in the Philippines grew at a CAGR of 6.8 percent
- The Philippines is completely dependent on imports for soybeans and is the largest importer of US soybean meal
- Reduced demand for meat due to COVID-related economic dislocation and African Swine Flu has reduced demand for soybean meal, reducing soybeans going into crush
- According to the USDA Foreign Agricultural Service Philippine soybean imports are purchased almost entirely by the country's sole crusher, so the reduction in US imports is unsurprising
- Soybeans used for food did not grow over the 2016 – 2020 period after 2017, despite strong growth in soy foods sales during that time, so the Philippines soy foods market's growth is being driven by imported products







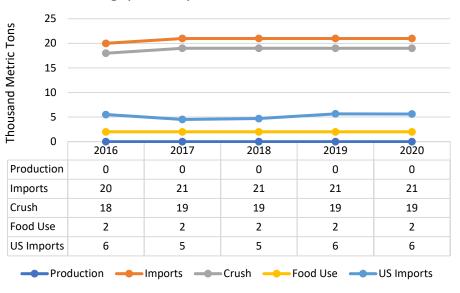
Singapore

- Total soy foods sales grew from \$230.5 million in 2016 to \$284 million in 2020, a CAGR of 4.3 percent
- Singapore's total soy foods sales of \$280 million in 2020 made up 2.4 percent of the total Asia soy foods market
- Soymilk liquid and powdered is by far the strongest segment in this market; in 2020 soymilk sales reached \$244.5 million, 86.1 percent of total soy foods sale
- Singapore produces no soybeans and barely imports them: only a miniscule amount of soybeans are used for food in this country, indicating the soy foods market in Singapore is made up primarily of imported products

Singapore Soy Foods Sales by Segment, Million USD \$

Segment	2016	2017	2018	2019	2020	CAGR
Other portions	\$ 1.0	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.3	5.4%
Soy Drinks	\$ 22.8	\$ 25.0	\$ 28.2	\$ 30.8	\$ 33.4	7.9%
Soy-Based Desserts	\$ 3.6	\$ 3.8	\$ 4.2	\$ 4.4	\$ 4.7	5.8%
Soymilk Liquid	\$112.3	\$117.1	\$124.3	\$128.6	\$134.0	3.6%
Soymilk Powdered	\$ 90.8	\$ 95.1	\$101.7	\$105.7	\$110.5	4.0%
Grand Total	\$230.5	\$242.0	\$259.6	\$270.8	\$284.0	4.3%

Singapore Soybean Use, 2016 - 2020







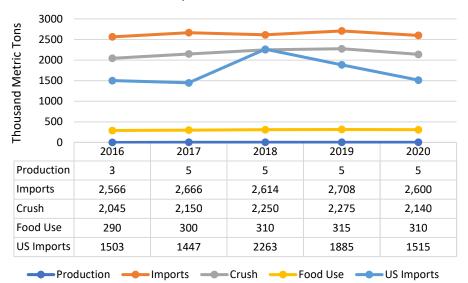
Taiwan

- Total soy foods sales grew from \$187.5 million in 2016 to \$217.7 million in 2020, a CAGR of 3.0 percent
- Taiwan's 2020 total soy foods sales made up 1.87 percent of total Asia soy foods sales
- Soymilk liquid and powdered is the largest product segment: in 2020 total soymilk sales of \$183 million made up 84.1 percent of total soy foods sales in Taiwan
- Other than a strong spike in imports from the U.S. in 2018 – which increased by 56 percent over 2017, U.S. soybean imports to reach 2.3 million metric tons, only to fall by 17 percent in 2019 to 1.9 million metric tons – very little in Taiwan's soybean use has change over the covered period

Taiwan Soy Foods Sales by Segment, Million USD \$

Segment	2016	2017	2018	2019	2020	CAGR
Other portions	\$ 15.5	\$ 17.4	\$ 18.2	\$ 18.2	\$ 18.7	3.7%
Soy Cream	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	2.9%
Soy Drinks	\$ 0.9	\$ 1.0	\$ 1.0	\$ 1.0	\$ 1.1	2.9%
Soy-Based Desserts	\$ 10.4	\$ 11.3	\$ 11.6	\$ 11.5	\$ 11.8	2.7%
Soymilk Liquid	\$115.8	\$118.7	\$122.5	\$124.5	\$134.4	3.0%
Soymilk Powdered	\$ 44.8	\$ 46.0	\$ 47.6	\$ 48.4	\$ 51.6	2.8%
Grand Total	\$187.5	\$194.4	\$201.1	\$203.8	\$217.7	3.0%

Taiwan Soybean Use, 2016 - 2020





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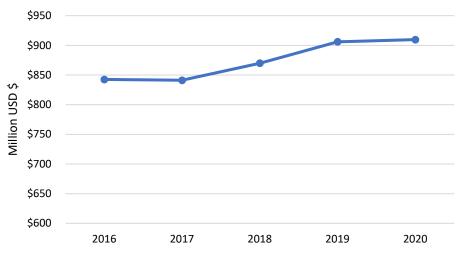


Thailand: a mature and slow-growing soy foods market

- The soy foods market in Thailand is very mature and total sales have grown at a CAGR of 1.5 percent, making it the slowest growing national market in the region
- Like China, Thailand has a relatively mature population with a median age of 39 (compared to 31 in Indonesia and 32 in Vietnam) but without China's vast market to sustain growth
- Growth in this market is in more expensive segments of meat substitutes and desserts
- A shift towards higher value-added products may also be an indication of the Thai soy foods market's maturity

Thailand Soy Foods	Sa	les by Seg	mei	nt, Millior	ו US	D \$			
Segment		2016		2017		2018	2019	2020	CAGR
Burgers & Grills	\$	7.19	\$	7.94	\$	8.90	\$ 9.62	\$ 10.40	7.7%
Other portions	\$	6.93	\$	7.64	\$	8.53	\$ 9.17	\$ 9.84	7.3%
Soy Drinks	\$	15.61	\$	15.62	\$	16.24	\$ 17.02	\$ 17.16	1.9%
Soy-Based Desserts	\$	9.04	\$	10.22	\$	12.00	\$ 13.74	\$ 15.35	11.2%
Soymilk Liquid	\$	605.44	\$	602.47	\$	620.56	\$ 644.51	\$ 644.50	1.3%
Soymilk Powdered	\$	198.27	\$	197.24	\$	203.64	\$ 212.00	\$ 212.38	1.4%
Grand Total	\$	842.47	\$	841.13	\$	869.88	\$ 906.06	\$ 909.64	1.5%





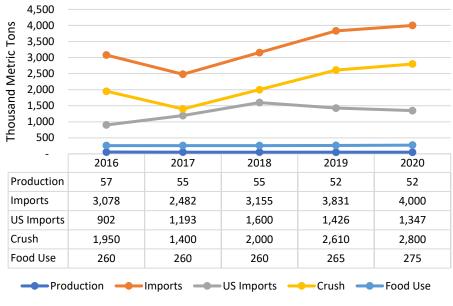




Thailand: similar to Japan – a mature market highly dependent on soybean imports

- From 2016 to 2020 soybeans used for food in Thailand grew from 260,000 to 275,000 metric tons, a CAGR of 1.1 percent
- Thailand's food use exceeds its negligible soybean production and it is dependent on imported soybeans for food
- Soybean imports have grown at a CAGR of 5.4 percent over 2016 – 2020, while US exports have grown at a CAGR of 8.3 percent over the same period, however the US share of imports declined from a high of approximately 51 percent in 2018 to approximately 34 percent in 2020
- In 2020 about 70 percent of soybean imports were used for crush

Thailand Soybean Use, 2016 - 2020



Source: USDA PSD, GATS



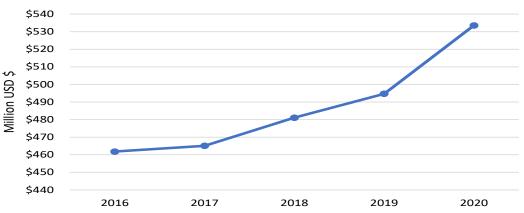


Vietnam: growth in packaged soy foods driven by production and distribution shifts from traditional to modern sources and channels

- Vietnam's total 2020 soy foods sales of \$533.6 million makes up 4.6 percent of the total Asia soy foods market
- Over the 2016 2020 period soy foods sales in Vietnam increased at a compounded annual rate of 3.68 percent
- Soymilk is the largest soy foods product segment making up 74.7 percent of total soy foods sales in 2020
- The fastest growing segment over the period was tofu, which grew at a CAGR of 5.33 percent
- Growth in packaged soy foods in Vietnam is being driven by the expansion of modern grocery and Cstore distribution channels in the country
- Much of this growth is a shifting of soymilk and tofu purchasing from traditional to modern retail channels

Vietnam Soy Foods	Sal	es by Seg	mei	nt, Millior	I US	D \$			
Segments		2016		2017		2018	2019	2020	CAGR
Burgers & Grills	\$	2.22	\$	2.34	\$	2.50	\$ 2.64	\$ 2.75	4.4%
Non-formed	\$	0.21	\$	0.22	\$	0.23	\$ 0.25	\$ 0.25	3.6%
Other portions	\$	8.32	\$	8.77	\$	9.34	\$ 9.86	\$ 10.24	4.2%
Soy Drinks	\$	32.52	\$	32.75	\$	33.90	\$ 34.87	\$ 36.90	2.6%
Soymilk Liquid	\$	346.71	\$	348.47	\$	359.90	\$ 369.51	\$ 398.56	2.8%
Soymilk Powdered	\$	71.85	\$	72.53	\$	75.23	\$ 77.57	\$ 84.87	3.4%
Grand Total	\$	461.83	\$	465.10	\$	481.10	\$ 494.70	\$ 533.57	2.9%

Vietnam Soy Foods Sales, 2016 - 2020

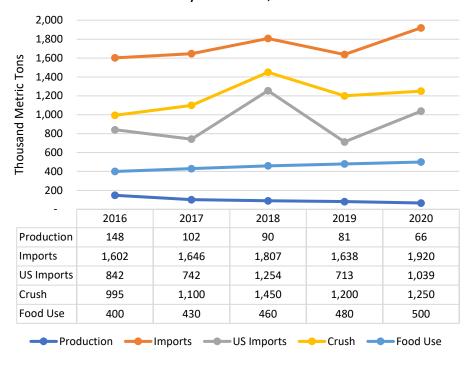






Vietnam is increasingly dependent on imports for soybeans for food use

- Over the 2016 2020 period, soybeans used for food in Vietnam grew from 400,000 metric tons to 500,000 metric tons, a CAGR of 4.5 percent – a faster rate than soy foods sales growth
- Production in Vietnam is declining while soybeans used for food is growing, increasing Vietnam's dependency on imports for soybeans used for food
- Imported soybeans, particularly US soybeans, spiked in 2018, followed by a sharp decline, followed by a positive correction – possibly the result of Vietnamese importers taking advantage of a pricing opportunity in 2018



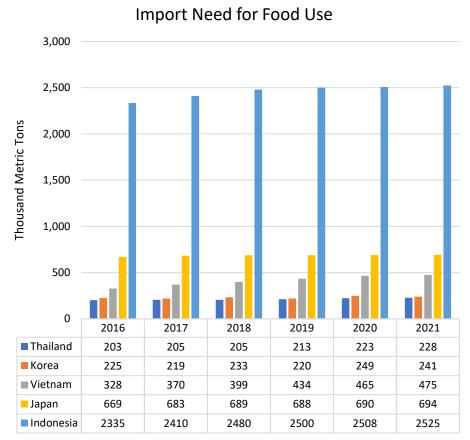
Vietnam Soybean Use, 2016 - 2020





Asia remains deeply dependent on soybean imports for food use

- This data represents the import need for soybeans for food processing (not crush) in countries with high soy foods consumption rates
- These figures represent the difference (gap) between domestic production (if any) and total soybeans used for food
- These are national food use levels, not *per capita*: Indonesia's outlier status is driven largely by the size of its population
- China, while the largest consumer of food grade beans, currently produces enough for their needs although this may change in the next few years



Source: USDA PSD





Points for Consideration

The key regional soy foods market is Asia:

While a mature market, the sheer size of this market continues to deliver growing opportunities for U.S. exporters of both IP food grade and commodity soybeans.

Year-to-year growth may be smaller than other markets, but Asia is where the demand for both food grade and commodity soybeans rests.

A shift towards modern production and distribution in Asia creates opportunities for soybean exporters.

- This shift is being driven by macro trends, including globalization, rapid economic growth, and urbanization, and it will continue
 - Japan, with the second largest national soy foods market in the world, provides an historical example in which thousands of traditional processors went out of business due to the modernization of processing and distribution
- The shift to modern, sophisticated processing and the scaling up of production will drive demand for quality soybeans that will help processors achieve high-yielding and/or high-quality products
- China has traditionally relied on domestic soybeans for food use, using imported beans for crush, but changing CPC agricultural policies may lead to the importation of food grade soybeans into China in the near future







Points for Consideration (cont.)

The U.S. should continue to support development of exports of soybeans and soy proteins to the smaller, food-focused markets

These markets do not currently present meaningful export opportunities for U.S. exporters, however, building awareness of the major role U.S. soybean producers play in feeding the world and helping to enable a global demand shift from meat to more sustainable plantbased proteins will help to support the continually growing food use of IP soybeans as well as the expansion of U.S. commodity soybeans for feed in these markets. Asia, and the smaller, faster-growing markets will likely require very different kinds of support programs:

- In the smaller soy foods markets where traditional products such as tofu and soymilk are not so well understood by consumers, support should focus on educating consumers in those markets about the advantages of soy and how it is the king of all plant-based proteins
- In Asia soybean importers are sophisticated purchasers: export support programs should focus on deepening ties between U.S. producers and Asian customers by helping U.S. producers take on a more advisory/partnership role by developing soybeans optimized for specific food applications









Appendix: Brand-Related Data





In China branded, packaged soymilk sold through modern distribution channels may make up less than half of total soymilk sales and volume

- Soymilk is by far the largest segment in China's soy foods market: 2020 sales of \$5.12 billion account for approximately 75% of total soy foods sales of \$6.8 billion for that year
- However, GlobalData covers packaged soymilk sales, and not the informal "street market" in which small independent vendors sell freshly made soymilk in plastic bags from street carts
- In 2020 Agromeris conducted a study on the Asian soymilk market and estimated China soymilk sales for 2019 at \$4.7 billion for packaged soymilk (vs. \$5.03 billion reported by GlobalData), and street sales of \$12.75 billion

	Sales by Brand, Million USD	· _							% Segment
Segment	Brand		2017		2018		2019	CAGR	Total 2019
Soy Drinks	Others	\$	664.79	\$	717.08	\$	739.52	3.6%	91.9%
	VV	\$	17.51	\$	18.68	\$	19.13	3.0%	2.4%
	Yeo`s	\$	41.57	\$	43.16	\$	45.91	3.4%	5.7%
Segment Total		\$	723.87	\$	778.91	\$	804.57	3.6%	100%
Soymilk Liquid	Dali Garden	\$	514.67	\$	550.85	\$	564.29	3.1%	11.29
	Others	\$2	2,617.33	\$2	2,690.50	\$2	2,655.20	0.5%	52.8%
	Silk	\$	437.00	\$	466.90	\$	478.72	3.1%	9.5%
	Vitasoy	\$	834.65	\$	899.85	\$	930.62	3.7%	18.5%
	VV	\$	102.12	\$	110.67	\$	115.02	4.0%	2.3%
	Yili	\$	251.68	\$	273.77	\$	285.52	4.3%	5.7%
Segment Total		\$4	1,757.45	\$4	,992.55	\$5	5,029.38	1.9%	100%
Soymilk Powdered	Affcet Foods	\$	1.42	\$	1.53	\$	1.58	3.7%	1.0%
	Black Cow	\$	10.66	\$	11.50	\$	11.83	3.5%	7.3%
	Others	\$	130.68	\$	136.33	\$	135.73	1.3%	84.0%
	VV	\$	5.79	\$	6.41	\$	6.75	5.2%	4.2%
	Wondersun	\$	5.04	\$	5.45	\$	5.62	3.7%	3.5%
Segment Total		\$	153.59	\$	161.22	\$	161.51	1.7%	100%





Indonesia: the largest soy foods segment – tempeh – is unbranded

- Although like China and Vietnam Indonesia has a major street-level (often referred to as "loose") soymilk market that is probably larger than the packaged retail market, this is a large population that is very comfortable with soy as a staple, and American soybeans are favored, perhaps this is the growth opportunity in Indonesia
- In 2020 Agromeris estimated 2019 Indonesian soymilk sales at \$244 million, approximately \$70 million packaged and \$174 million in loose street sales

Segment	Brand	2017		2018		2019	CAGR	Total 2019
			-					
Soymilk Liquid	Home Soy	\$ 5.28	\$	5.33	\$	5.94	4.0%	17.9%
	Lactasoy	\$ 0.24	\$	0.24	\$	0.27	4.2%	0.8%
	Others	\$ 6.56	\$	6.83	\$	7.84	6.1%	23.7%
	Soylicious	\$ 4.80	\$	4.85	\$	5.40	4.0%	16.3%
	V-Soy	\$ 12.24	\$	12.31	\$	13.66	3.7%	41.3%
Segment Total		\$ 29.13	\$	29.57	\$	33.10	4.4%	100%
Soymilk Powdered	Mama Soya	\$ 0.78	\$	0.78	\$	0.87	3.8%	14.0%
	Melilea	\$ 0.64	\$	0.65	\$	0.72	4.0%	11.69
	Natoya	\$ 0.01	\$	0.01	\$	0.01	6.2%	0.1%
	Others	\$ 3.91	\$	3.95	\$	4.40	4.0%	71.0%
	Soyalia	\$ 0.17	\$	0.18	\$	0.21	6.2%	3.3%
Segment Total		\$ 5.51	Ś	5.57	Ś	6.21	4.1%	100%





In Japan the growing dessert segment is fragmented but the country's largest segment, soymilk, is commanded by established brands

- Japan's largest soy foods segments by sales in 2020 were soy-based desserts and liquid soymilk [note that GlobalData does not break out dairy-based and soy-based desserts at the brand level]
- The leading dessert brands in market share are Meiji with 20.8 percent of 2019 sales in the segment, and Megmilk with 10.4 percent
- The liquid soymilk segment is dominated by Kikkoman with 51.4 percent of 2019 sales and Marusan-Ai with 18.6 percent

Segment	Brand		2017		2018		2019	CAGR	Total 2019
Dairy-Based & Soy-Based Desserts	Fujicco	\$	33.30	\$	35.15	\$	37.14	3.7%	2.3
, ,	Glico	\$	41.58	\$	43.58	\$	45.73	3.2%	2.8
	Kracie	\$	70.29	\$	73.12	\$	76.15	2.7%	4.7
	Megmilk	\$	153.62	\$	160.05	\$	166.91	2.8%	10.4
	Meiji	\$	317.54	\$	333.27	\$	350.09	3.3%	21.8
	Morinaga	\$	116.06	\$	121.44	\$	127.18	3.1%	7.9
	Ohayo	\$	34.40	\$	36.05	\$	37.82	3.2%	2.4
	Others	\$	623.63	\$	644.88	\$	667.48	2.3%	41.5
	Ouchiyama	\$	10.00	\$	9.97	\$	9.93	-0.2%	0.6
	Private Label	\$	24.46	\$	25.86	\$	27.36	3.8%	1.7
	Pucchin Purin	\$	45.81	\$	48.05	\$	50.44	3.3%	3.1
	Tartare	\$	11.88	\$	12.32	\$	12.79	2.5%	0.8
Segment Total		\$1	L,482.57	\$1	L,543.74	\$2	1,609.02	2.8%	100
Soymilk Liquid	Edensoy	\$	19.64	\$	20.84	\$	22.14	4.1%	2.1
	Kikkoman	\$	500.45	\$	522.87	\$	546.80	3.0%	51.4
	Marusan-Ai	\$	181.70	\$	189.84	\$	198.53	3.0%	18.6
	Meiraku	\$	90.94	\$	96.43	\$	102.34	4.0%	9.6
	Others	\$	21.95	\$	23.58	\$	25.34	4.9%	2.4
	Otsuka-Overall	\$	36.18	\$	37.92	\$	39.78	3.2%	3.7
	Pokka-Overall	\$	36.32	\$	38.07	\$	39.94	3.2%	3.8
	Private Label	\$	49.92	\$	52.73	\$	55.76	3.8%	5.2
	Yakult-Overall	\$	30.33	\$	32.07	\$	33.95	3.8%	3.2
Segment Total		\$	967.42	\$1	L,014.36	\$2	1,064.58	3.2%	100





As elsewhere, soymilk is the leading product segment in the Philippines and the leading soymilk brands are imports

- In the soymilk segment the fastest growing "brand" is private label, with a 2017 – 2019 CAGR of 14.8 percent, however that "brand" only composed 1.3 percent of the Philippine soymilk market
- The market leaders in the liquid soymilk category are Thailandbased Vitamilk with 75.7 percent of the segment in 2019, and Chinabased Vitasoy, with 15.1 percent

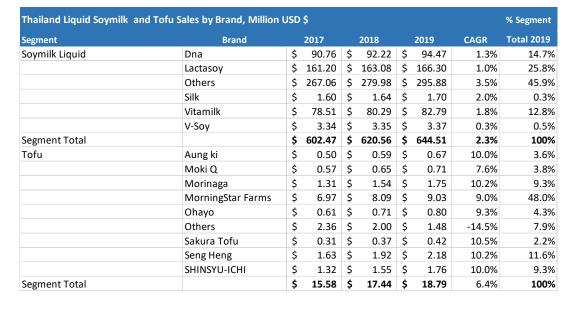
Segment	Brand	2017	2018	2019	CAGR	Total 2019
Soy Drinks	Marigold (Soy Product:	\$ 0.67	\$ 0.81	\$ 1.01	14.7%	11.6%
	Others	\$ 4.52	\$ 5.18	\$ 6.12	10.7%	70.39
	Private Label	\$ 0.55	\$ 0.67	\$ 0.84	15.0%	9.69
	Soymaster	\$ 0.41	\$ 0.49	\$ 0.60	13.6%	6.99
	Vitamilk	\$ 0.09	\$ 0.10	\$ 0.13	13.5%	1.59
Segment Total		\$ 6.24	\$ 7.25	\$ 8.71	11.8%	1009
Soymilk Powdered	Others	\$ 0.60	\$ 0.69	\$ 0.82	11.1%	90.79
	Private Label	\$ 0.05	\$ 0.07	\$ 0.08	17.5%	9.39
Segment Total		\$ 0.65	\$ 0.76	\$ 0.91	11.6%	1009
Soymilk Liquid	Others	\$ 0.91	\$ 0.92	\$ 0.97	2.2%	2.0
	Private Label	\$ 0.41	\$ 0.50	\$ 0.62	14.8%	1.39
	Silk	\$ 1.00	\$ 1.20	\$ 1.47	13.8%	3.09
	Soyfresh	\$ 1.03	\$ 1.21	\$ 1.48	12.9%	3.0
	Vitamilk	\$ 26.91	\$ 31.19	\$ 37.41	11.6%	75.7
	Vitasoy	\$ 5.34	\$ 6.21	\$ 7.47	11.8%	15.19
Segment Total		\$ 35.60	\$ 41.23	\$ 49.42	11.6%	1009





Thailand: the liquid soymilk market is dominated by established brands

- As with other markets, soymilk is the largest soy foods segment in Thailand, making up 94.2 percent (both liquid and powdered soymilk) of total soy foods sales in 2020 according to GlobalData
- The powdered soymilk market in Thailand appears to be fragmented, but the market leaders in liquid soymilk are Lactasoy, Vitamilk (Green Spot), and Dutchmill/Dairy Plus
- The latter brand is not captured by GlobalData and the segment is likely undercounted as a result
- Like China, Thailand has an informal 'street market' for soymilk, but unlike the case in China, we believe the informal market is a small fraction of the overall soymilk market in the country (Agromeris estimated it was ~2 percent of sales in 2019)







Thank you.

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