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Preface

- The Market Potential Index (MPI) for specific industries intends to compare countries identified as having the highest Gross Domestic Product (GDP) globally, based on several dimensions.
- In the 2016, the number of countries used for these rankings was 89, but has increased to 97 for 2017. Countries removed from the MPI rankings include Iraq, Luxembourg, Malta, Myanmar, and Papua New Guinea; while those added are Angola, Bolivia, Cameroon, the Democratic Republic of the Congo, Côte d'Ivoire, Ethiopia, Ghana, Jordan, Kenya, Lebanon, Panama, Tanzania, and Uganda.
- The Index compares these 97 countries on six market dimensions: size, growth rate, capacity, openness, current logistics infrastructure, and country risk. In order to measure each of these dimensions, a different set of indicators has been identified for each industry. Secondary data that has been gathered from reputable sources is used for these indicators, as noted. The rankings of the countries are calculated by adding up the dimensions and weighing them based on relative importance.
- While the MPI is a very useful tool for companies in the process of researching new markets for export, it should not be used as the single source of information in the decision. MPIs are designed to support further market research and is intended to be used for verification purposes. The information in this report can be utilized as a foundation to help identify potential countries for which more detailed research should be conducted.
- The Market Potential Index is calculated with the most recent data that is available, so it is important to note that the results represent the current state of the identified 97 countries, not a forecast.
- Industry specific MPIs are updated annually, and can be accessed at: <u>https://globaledge.msu.edu/mpi</u>

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Market Overview

The Americas

The food processing markets in the Americas benefit from close proximity to the United States.

Both Mexico and Canada have free trade agreements with both the US and the EU.

Brazil is an emerging market that has large potential.

Canada

Canada's food processing sector is highly developed. The food and beverage processing industry is the second largest manufacturing industry in Canada in terms of value of production.¹ There was an increase in investment in food processing equipment from packaged goods companies and restaurants in 2015 to meet the growth in demand. Investments into dairy and meat processing equipment, however, remained flat due to decreased demand for these products.

Owing to relatively high production costs, some foreign processers have moved their operations elsewhere. Food and beverage companies from the United States seeking to enter the Canadian marketplace have a number of opportunities. The United States is Canada's primary trading partner and the demand for U.S. products can be attributed to many factors, such as proximity to the market, reliable shipping methods, similar business practices and similar food tastes between Canadians and Americans.²

Mexico

The food processing market in Mexico, ranked 12th, is growing rapidly. Mexico's growth is encouraged by rising incomes, growing urbanization and an expanding retail network. Bakery and meat products create the majority of the Mexican food production market. Milk processing equipment is a growing market as companies are expanding their production capabilities.³ Mexico also has one of the largest soft drink sectors in the world and high per capita soft drink consumption. Recent investment projects include Nestle, Mars, Mondelez and Tyson. ⁴

Mexico relies on imports of food processing machinery as their domestic production is minimal. The U.S. and Germany are their largest foreign suppliers of machinery. The Mexican government also taxes high calorie foods such as confectionary, snacks and soft drinks which could dampen domestic sales of these items.⁵

Brazil

Brazil, while only ranked 37th in the 2017 Food Processing MPI, has substantial long term growth potential. The country operates as one of the world's top beef exporters and the current largest chicken producer. They are also the largest grower of coffee. Brazil's huge population offers large opportunities for food and drink processing in the future.⁶

¹ http://www.agr.gc.ca/eng/industry-markets-and-trade/market-information-by-sector/processed-food-and-beverages/overview-of-the-food-and-beverage-processing-industry/?id=1174563085690

² BMI Food and Drink Report Q3 2017

Still, like China, concerns have been raised over the quality and safety of their food processing operations. China, the European Union, and the United States are all among trade partners that have imposed import restrictions, further regulation, and even bans on Brazilian meat. The Brazilian government has been moving forward in lifting these embargos. Once the safety issues have been resolved, the Brazilian food processing market is expected to grow and exports will rise.

Asia

Emerging markets in Asia have strong potential due to large populations, vast farmland and a rising middle class. Of the one billion people projected to enter the middle class by 2030, two-thirds will come from developing economies. Emerging economies are seen as the future of food companies. However, food safety concerns and difficulty of doing business will hinder growth in the near term.

India

India, ranked 4th, has a strong food processing industry. The food processing industry growth is supported by a growing population and urbanization. India is located in a strategic location, close to many food importing nations in the Middle East and Southeast Asia.

There is also strong government support for the industry through the "Make it India" campaign, promoting the domestic manufacturing sector. The Indian government has set up a \$300 million "Food Processing Fund" to support the opening and growth of food parks. There are currently 42 Mega Food parks being set up. Mega Food parks are aimed at establishing a "direct linkage from farm to processing and then to consumer markets" through a network of collection centers and primary processing centers.

This streamlined approach has prompted investment from many multinational food processing companies such as Kraft, Mars, Nestle, Kellogg, Coca Cola, and Hershey's among many others.

Despite the opportunities that India's market presents, U.S. exporters have issues with poor infrastructure, high tariffs, protectionist policies and bureaucratic complexities. However, many U.S. companies decided the benefits of doing business in India outweigh the costs due to the tremendous potential.¹¹

http://www.ey.com/Publication/vwLUAssets/Appetite_for_growth/\$FILE/Appetite_for_growth.pdf

³ Passport: Machinery for Food Beverage and Tobacco Processing

⁴ BMI Research Food and Drink Report Q3 2017

⁵ BMI Research Food and Drink Report Q3 2017

⁶ BMI Research Industry View Q3 2017

^{7 7} AgWeb: Europe Raises 'Serious Concerns' Over Brazil Meat After Probe

⁸ EY Appetite for Growth:

⁹ Passport: Machinery for Food Beverage and Tobacco Processing

¹⁰ Make it India: http://www.makeinindia.com/sector/food-processing

¹¹ Export.gov https://www.export.gov/article?id=India-Market-Overview

China

China, ranked number 1, has benefitted from the emergence of a large number of middle class consumers. Due to this rise of disposable income, many food and beverage companies are now seeing China as a potential growth vehicle. The market for food and beverage processing equipment has grown substantially in the last few years. China has enormous potential due to its immense and growing population and therefore, high food consumption. Demand will continue to rise and new machinery will be needed as new food processing plants are built. 12

China is known for their poor food safety practices. This is partially due to their fragmented food supply chain. According to a quality control company in China, 48% of their inspections in 2014 did not pass international requirements. With many scandals coming out in recent years, food processing companies are expected to choose safer equipment with innovations that decrease human handling and increase food safety. Additionally, growing disposable incomes are allowing Chinese people to pay a higher price for better quality and safer foods. 4

Europe

European countries, although well established, will be lower growth territories in the future. The balance of FDI is increasingly shifting towards emerging economies and away from the traditional markets in Europe and the US. However, currently, these countries have well established food supply chains and are technologically advanced.

Germany

Germany, ranked 3rd, has a well-established food processing industry and is the largest economy in Europe. Their production is supported from high demand from developing countries and therefore, exports are high. There is also a significant level of domestic demand including bakery products, coffee, tea, spices and ready meals. The rising global meat consumption also aids demand. Germany's abundant farmland makes it a prime location for investment.¹⁵

The German food processing market is very innovative, spending significant amounts on R&D to make processes safer and more efficient. German consumers are drawn to high quality and innovative products. The presence of numerous companies along the entire food-processing value chain makes it easy for newcomers to find suppliers, distributors, and other valuable partners. However, the food and drink market in Germany is highly competitive and is dominated by larger multinational corporations.

¹² Passport: Machinery for Food Beverage and Tobacco Processing in China

¹³ http://www.cnn.com/201<u>5/01/16/world/china-food-safety/index.html</u>

¹⁴ Passport: Machinery for Food Beverage and Tobacco Processing in China

¹⁵ https://www.gtai.de/GTAI/Content/EN/Invest/ SharedDocs/Downloads/GTAI/Industry-overviews/industry-overview-food-beverage-industry-en.pdf?v=7

United Kingdom

The United Kingdom, like Germany, has a highly developed food processing industry. Ranked 5th, they are continuously growing and adapting to new consumer demands for convenience and healthier foods. The UK is home to many multinational food and drink producers. The UK has over 7,000 food and drink manufacturing companies. The global food and drink industry is very competitive in nature and in the UK, many mergers and acquisitions have taken place. ¹⁶ In 2015, the Great British Food Unit was established with the goal of increasing food exports and supporting inward investment. The goal is to have food and drink exports that rival Germany and France, who both export more than double the UK. ¹⁷

However, the weak British pound and rising inflation have increased commodity prices. This has caused decreased investment in the food processing sector. The industry is forecast to make a full recovery and to continue to grow. To keep up with rising demand, companies are expected to expand and invest in newer processing equipment in the future. 18

¹⁶ Invest in UK: http://www.investinuk.net/industry/food-and-drink/food-and-drink

¹⁷ Gov.uk https://www.gov.uk/government/news/great-british-brands-to-take-world-by-storm-through-new-british-food-unit

¹⁸ Passport: Machinery for Food Beverage and Tobacco Processing

Germany has a well-established food 2017 **Germany** processing industry and is the largest D PROCESSING
Top 10 Markets economy in Europe. The German food processing market is very innovative, spending significant amounts on R&D to make processes safer and more efficient. Japan **Netherlands** China France China has **Spain** benefitted from the emergence of a large number of Canada middle class consumers, allowing Chinese people to pay a Canada's food processing sector higher price for **United Kingdom** is highly developed. The food and better quality and beverage processing industry is safer foods. the second largest manufacturing industry in Canada in terms of India is located in a strategic location, close to In 2015, the Great British Food Unit was value of production. many food importing nations in the Middle established with the goal of increasing India East and Southeast Asia. There is strong food exports and inward investment. The government support for the industry through goal is to have food and drink exports the "Make it India" campaign, promoting the that rival Germany and France, who both domestic manufacturing sector. International Business Center export more than double the UK. Michigan State University

Results of the 2017 Food Processing MPI

	OVERALL	Market Size (30/100)	Market Growth Rate (15/100)	Market Capacity (10/100)	Market Openness (15/100)	Logistics Infrastructure (15/100)	Country Risk (15/100)
	RANK	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX
China	1	100	53	100	69	78	60
Canada	2	21	37	44	100	84	88
Germany	3	32	9	31	81	89	94
India	4	38	45	80	70	36	57
United Kingdom	5	27	27	29	87	89	87
Netherlands	6	19	41	40	82	100	92
France	7	29	24	29	80	79	88
Japan	8	32	21	18	80	67	92
Spain	9	19	26	20	79	80	77
Belgium	10	14	27	13	78	92	89
Switzerland	11	10	25	56	76	68	100
Mexico	12	24	45	22	82	57	51
Ireland	13	6	55	63	79	59	86
Denmark	14	9	40	24	81	73	91
Sweden	15	8	34	24	79	78	96
Indonesia	16	26	76	26	68	9	54
Hong Kong	17	6	30	54	85	77	84
Australia	18	16	27	44	78	35	91
Italy	19	21	22	17	73	61	77
Singapore	20	6	31	34	86	81	88
Korea, Rep.	21	14	34	14	75	71	79
Norway	22	8	31	30	78	56	97
New Zealand	23	6	55	17	84	34	93
Austria	24	10	22	21	77	62	94
Malaysia	25	9	58	9	77	56	69
United Arab E.	26	7	41	20	80	72	69
Qatar	27	4	75	25	78	42	67
Finland	28	6	16	22	81	66	90
Vietnam	29	12	86	22	66	28	43
Saudi Arabia	30	12	54	12	73	44	60
Turkey	31	17	45	21	67	48	44
Czech Republic	32	7	37	8	78	49	85
Israel	33	6	48	17	73	43	78
Estonia	34	4	44	7	78	48	86
Chile	35	8	31	12	83	47	76

RANK INDEX INDEX INDEX INDEX	INDEX 58
Panama 36 4 45 11 80 77	
Brazil 37 21 25 50 64 30	39
Poland 38 11 17 14 76 49	76
Portugal 39 6 24 10 77 62	77
Russia 40 26 10 47 58 30	39
Kenya 41 6 97 29 64 26	38
Lithuania 42 5 47 9 74 47	73
Slovakia 43 5 47 7 75 36	78
Philippines 44 11 63 15 72 6	58
Morocco 45 6 45 17 70 49	57
Slovenia 46 4 32 11 75 48	76
Hungary 47 6 40 6 76 40	67
Peru 48 7 50 14 70 37	57
Thailand 49 13 27 23 70 30	54
Latvia 50 4 33 8 74 44	75
Guatemala 51 5 55 14 80 35	41
Nigeria 52 21 54 23 56 15	15
Colombia 53 7 34 9 76 41	51
<i>Uzbekistan</i> 54 6 100 14 78 6	16
Dominican Rep. 55 4 41 7 84 45	42
Costa Rica 56 4 33 8 87 28	59
Egypt 57 10 47 13 68 45	25
Sri Lanka 58 5 67 12 70 24	38
Uruguay 59 4 36 9 73 40	59
Bangladesh 60 9 84 20 55 7	28
Romania 61 7 25 17 72 29	59
Ghana 62 5 69 20 68 20	36
Honduras 63 3 64 13 68 38	35
South Africa 64 10 19 7 68 43	49
Ethiopia 65 10 83 35 53 1	20
Ecuador 66 5 40 12 80 47	27
Algeria 67 9 57 7 63 18	39
Greece 68 7 16 13 73 47	50
Bahrain 69 3 33 6 78 42	48
Argentina 70 11 42 19 56 32	32
Pakistan 71 10 49 28 61 26	21
El Salvador 72 3 27 8 87 36	43
Kuwait 73 4 21 12 74 24	61

	OVERALL	Market Size (30/100)	Market Growth Rate (15/100)	Market Capacity (10/100)	Market Openness (15/100)	Logistics Infrastructure (15/100)	Country Risk (15/100)
	RANK	INDEX	INDEX	INDEX	INDEX	INDEX	INDEX
Jordan	74	4	44	1	77	29	39
Oman	75	1	35	5	70	40	55
Croatia	76	5	13	7	74	43	46
Kazakhstan	77	6	44	20	73	12	31
Cote d'Ivoire	78	4	36	25	69	35	28
Bulgaria	79	5	19	5	71	23	58
Nicaragua	80	3	50	10	77	23	24
Cyprus	81	4	1	9	74	31	65
Lebanon	82	4	76	5	53	26	20
Cambodia	83	6	54	19	65	4	29
Cuba	84	6	35	8	88	34	1
Azerbaijan	85	4	53	17	57	21	30
Bolivia	86	4	49	14	68	4	34
Uganda	87	4	40	33	67	7	28
Tunisia	88	5	41	6	61	17	40
Cameroon	89	4	59	28	53	6	27
Paraguay	90	4	39	10	67	18	32
Ukraine	91	6	27	17	68	24	12
Tanzania	92	4	31	33	52	12	30
Serbia	93	4	5	10	70	17	38
Belarus	94	5	16	6	78	22	7
Venezuela	95	15	13	5	44	18	1
Angola	96	6	7	4	52	4	16
Congo, Dem. Rep.	97	3	62	30	1	4	9

^{*} Overall Rank is calculated by weighting the six dimension values. For Index values, values of the countries are converted into a 1-100 scale based on their relative magnitudes in each of the six dimensions. An index value of 100 indicates a country with the largest (or most favorable) value in a dimension whereas an index value of 1 indicates the smallest (or least favorable). While both the overall rank and index values show the rank order of the countries, the index values also indicate the magnitude of each country in relation to others in that order.

Assumptions

The food processing MPI aims to measure the market potential of countries for companies that supply products to the players in the food processing industry. This MPI targets those who use food and drink processing equipment and machinery. The MPI doesn't cover the packaging industry. Therefore, indicators such as the retail value of food and soft drinks, import value of food processing equipment, and urban population are used for the measurement of the market size. Also, the value added to the agricultural produce is also used as a market size indicator. Market growth rate is measured by calculating the Compounded Annual Growth Rate (CAGR) of each market size indicator for the last five years.

The size of arable land and the number of employment in agriculture are used to measure the market capacity among other financial indicators, assuming that the amount of food processing will increase with the increased agricultural production.

Trade and tariff data for the following Harmonized System (HS) codes are used for the measurement of the market openness dimension as well as other generic export related indicators.

HS7 Code DEFINITION

820830	Knives and cutting blades for kitchen appliances or for machines used by the food industry
841720	Bakery ovens, including biscuit ovens
841940	Distilling or rectifying plant
841981	Machinery for making hot drinks or for cooking or heating food
841989	Other machinery for the treatment of materials by a process involving a change of temperature, including similar laboratory equipment
842111	Cream separators
842122	Centrifuges for filtering or purifying beverages other than water
8434	Milking machines and dairy machinery.
8435	Presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages.
8437	Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm-type machinery.
8438	Machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink, other than machinery for the extraction or preparation of animal or fixed vegetable fats or oils.
847920	Machinery for the extraction or preparation of animal or fixed vegetable fats or oils

Indicators and Resources

Dimension	Weight	Measures Used		
Market Size	30	 Agriculture Value-Added (2015)³ Expenditure on Food, Beverage, and Tobacco (2016)¹ Food and Beverage Market Size (2016)¹ Imports of Food Processing Equipment (2016)² 		
Market Growth Rate	15	 CAGR of Agriculture Value-Added (2010-2015)³ CAGR of Expenditure on Food, Beverage, and Tobacco (2011-2016)¹ CAGR of Food and Beverage Market Size (2011-2016)¹ CAGR of Imports of Food Processing Equipment (2011-2016)¹ 		
Market Capacity	10	 Arable Land (2014)³ Employment in Agriculture (2016)¹ Foreign Direct Investment, Net Inflows (2015)³ GNI Per Capita (2016)³ 		
Market Openness	15	 Applied Tariff Rate on Food Processing Equipment (2016) ⁴ Burden of Customs Procedure (2016) ³ Cost to Import, border compliance (2016) ³ Cost to Import, documentary compliance (2016) ³ Imports of Food Processing Equipment from US as a Share of Global Imports (2016) ³ 		
Logistics Infrastructure	15	 Distance of Country from US (2016)⁵ Linear Shipping Connectivity Index (2016)³ Logistics Performance Index (2016)³ Quality of Port Infrastructure Index (2016)³ 		
Country Risk	15	 Business Risk Rating (2016) ⁸ Economic Risk Rating (2016) ⁷ Intellectual Property Rights Protection (2016) ⁹ Political Risk Rating (2016) ⁶ 		

Data used are those available for most recent year. All sources were accessed in May-June 2017.

- ¹ Passport GMID, Global Market Information Database
- ² UN Comtrade, <u>Commodity Trade Statistics Database</u>
- ³ World Bank, <u>World Development Indicators</u>
- ⁴ World Trade Organization (WTO), <u>Tariff Database</u>
- ⁵ Happyzebra, <u>Distances</u>
- ⁶ Credendo, Country Risks
- ⁷ Coface, <u>Economic Studies</u>
- ⁸ Swiss Export Risk Insurance, <u>Cover Practice for Countries and Banks</u>
- ⁹ International Property Rights Index, <u>2016 IPRI Report</u>

Year To Year Comparison

	RANK			
Country	2017	2016	2014	
China	1	1	1	
Canada	2	3	4	
Germany	3	5	6	
India	4	2	2	
United Kingdom	5	4	7	
Netherlands	6	11	14	
France	7	14	12	
Japan	8	7	3	
Spain	9	30	34	
Belgium	10	16	28	
Switzerland	11	23	20	
Mexico	12	15	10	
Ireland	13	22	44	
Denmark	14	27	32	
Sweden	15	19	21	
Indonesia	16	21	15	
Hong Kong SAR, China	17	9	11	
Australia	18	12	13	
Italy	19	40	38	
Singapore	20	8	8	
Korea, Rep.	21	10	22	
Norway	22	18	19	
New Zealand	23	28	26	
Austria	24	20	36	
Malaysia	25	25	17	
United Arab Emirates	26	13	23	
Qatar	27	6	53	
Finland	28	24	25	
Vietnam	29	53	49	
Saudi Arabia	30	26	30	
Turkey	31	29	33	
Czech Republic	32	43	50	
Israel	33	37	52	
Estonia	34	36	48	
Chile	35	33	24	
Panama	36	33	'	
Brazil	37	31	9	
Poland	38	44	62	
Portugal	39	41	61	
Russian Federation	40	17	5	
Kenya	41	-,	5	
Lithuania	4± 42	51	67	
Slovakia	43	47	66	
Philippines	43	46	51	
Morocco	45	38	39	
Slovenia	45 46	59	68	
Hungary	47	59 57	74	
Peru	47 48	50	7 4 29	
FEIU	40	5∨	- 3	

	RANK				
Country	2017	2016	2014		
Thailand	49	45	31		
Latvia	50	66	72		
Guatemala	51	54	46		
Nigeria	52	39	45		
Colombia	53	42	35		
Uzbekistan	54	89	89		
Dominican Republic	55	56	42		
Costa Rica	56	62	41		
Egypt, Arab Rep.	57	49	56		
Sri Lanka	58	65	58		
Uruguay	59	63	37		
Bangladesh	60	71	76		
Romania	61	68	85		
Ghana	62				
Honduras	63	61	47		
South Africa	64	52	43		
Ethiopia	65				
Ecuador	66	70	60		
Algeria	67	64	55		
Greece	68	74	84		
Bahrain	69	58	40		
Argentina	70	77	65		
Pakistan	71	60	69		
El Salvador	72	72	57		
Kuwait	73	34	18		
Jordan	74				
Oman	75	35	16		
Croatia	76	79	83		
Kazakhstan	77	82	79		
Cote d'Ivoire	78				
Bulgaria	79	75	77		
Nicaragua	80	76	71		
Cyprus	81	67	73		
Lebanon	82				
Cambodia	83	73	75		
Cuba	84	87	87		
Azerbaijan	85	85	81		
Bolivia	86				
Uganda	87				
Tunisia	88	78	63		
Cameroon	89				
Paraguay	90	69	64		
Ukraine	91	80	80		
Tanzania	92				
Serbia	93	86	86		
Belarus	94	83	78		
Venezuela	95	55	54		
Angola	96				
Congo, Dem. Rep.	97				

For More Information

For the indexing methodology, please refer to:

"Measuring the Potential of Emerging Markets: An Indexing Approach" - S. Tamer Cavusgil, Business Horizons, January-February 1997, Vol. 40 Number 1, 87-91

"Complementary Approaches to Preliminary Foreign Market Opportunity Assessment: Country Clustering and Country Ranking" - S. Tamer Cavusgil, Tunga Kiyak and Sengun Yeniyurt,

Industrial Marketing Management, October 2004, Volume 33, Issue 7, 607-617