

Food security in a food self-sufficient economy: A review of China's ongoing transition to a zero hunger state

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Electronic supplementary material

Supplementary Tables S1–S4

Table S1. China's agricultural export to the world in 2000–2020

Product	2000			2005			2010			2015			2020			2000–2020	
	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	pp		
Live animals	0.38	2.80	0.33	1.34	0.45	1.02	0.60	0.95	0.60	0.95	0.60	0.86	0.60	0.86	–1.94		
Meat and meat products	0.72	5.31	0.71	2.88	0.89	2.02	1.01	1.60	1.01	1.60	0.71	1.02	0.71	1.02	–4.29		
Prepared meat offal	0.49	3.61	1.19	4.83	1.46	3.31	1.76	2.79	1.76	2.79	1.54	2.21	1.54	2.21	–1.40		
Milk and dairy	0.05	0.37	0.10	0.41	0.06	0.14	0.06	0.09	0.06	0.09	0.09	0.13	0.09	0.13	–0.24		
Eggs	0.03	0.22	0.08	0.32	0.14	0.32	0.20	0.32	0.20	0.32	0.18	0.26	0.18	0.26	+0.04		
Fresh, chilled, or frozen fish	1.31	9.66	3.02	12.26	5.74	13.00	7.53	11.92	7.53	11.92	6.57	9.44	6.57	9.44	–0.22		
Dried, salted, or smoked fish	0.11	0.81	0.21	0.85	0.35	0.79	0.47	0.74	0.47	0.74	0.39	0.56	0.39	0.56	–0.25		
Crustaceans and molluscs	0.84	6.19	1.12	4.55	2.70	6.12	5.32	8.42	5.32	8.42	3.29	4.73	3.29	4.73	–1.46		
Fish, prepared and preserved	1.39	10.25	3.18	12.91	4.40	9.97	6.25	9.89	6.25	9.89	8.07	11.59	8.07	11.59	+1.34		
Rice	0.56	4.13	0.22	0.89	0.42	0.95	0.27	0.43	0.27	0.43	0.92	1.32	0.92	1.32	–2.81		
Maize	1.05	7.74	1.10	4.46	0.03	0.07	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	–7.73		
Cereals	0.03	0.22	0.05	0.20	0.09	0.20	0.05	0.08	0.05	0.08	0.04	0.06	0.04	0.06	–0.16		
Meal and flour	0.05	0.37	0.09	0.37	0.12	0.27	0.07	0.11	0.07	0.11	0.07	0.10	0.07	0.10	–0.27		
Cereal preparations	0.12	0.88	0.32	1.30	0.67	1.52	0.89	1.41	0.89	1.41	1.00	1.44	1.00	1.44	+0.56		
Vegetables	1.27	9.37	2.56	10.39	6.03	13.66	6.81	10.78	6.81	10.78	8.06	11.58	8.06	11.58	+2.21		
Prepared and preserved vegetables	1.02	7.52	2.18	8.85	4.48	10.15	6.65	10.53	6.65	10.53	6.38	9.16	6.38	9.16	+1.64		
Fruits and nuts	0.35	2.58	0.91	3.69	2.41	5.46	4.88	7.73	4.88	7.73	6.83	9.81	6.83	9.81	+7.23		
Preserved fruits	0.53	3.91	1.15	4.67	2.21	5.01	2.93	4.64	2.93	4.64	3.77	5.42	3.77	5.42	+1.51		
Sugar and honey	0.18	1.33	0.28	1.14	0.73	1.65	1.01	1.60	1.01	1.60	1.09	1.57	1.09	1.57	+0.24		
Confectionery sugar	0.14	1.03	0.34	1.38	0.68	1.54	1.08	1.71	1.08	1.71	1.15	1.65	1.15	1.65	+0.62		
Coffee	0.02	0.15	0.05	0.20	0.14	0.32	0.45	0.71	0.45	0.71	0.19	0.27	0.19	0.27	+0.12		
Cocoa	0.02	0.15	0.06	0.24	0.10	0.23	0.11	0.17	0.11	0.17	0.05	0.07	0.05	0.07	–0.08		
Chocolate	0.01	0.07	0.05	0.20	0.11	0.25	0.33	0.52	0.33	0.52	0.27	0.39	0.27	0.39	+0.32		
Tea and mate	0.36	2.65	0.50	2.03	0.83	1.88	1.49	2.36	1.49	2.36	2.17	3.12	2.17	3.12	+0.47		
Spices	0.15	1.11	0.42	1.70	0.77	1.74	0.93	1.47	0.93	1.47	1.86	2.67	1.86	2.67	+1.56		
Feeding stuff for animals	0.30	2.21	0.50	2.03	1.98	4.48	2.68	4.24	2.68	4.24	2.92	4.19	2.92	4.19	+1.98		
Edible products and preparations	0.60	4.42	1.15	4.67	2.15	4.87	3.56	5.64	3.56	5.64	5.65	8.12	5.65	8.12	+3.70		
Oilseeds	0.41	3.02	0.70	2.84	0.71	1.61	1.02	1.61	1.02	1.61	1.21	1.74	1.21	1.74	–1.28		

pp – percentage point, i.e. change in the contribution to total agricultural exports

Source: Authors' own elaboration, based on the United Nations Conference on Trade and Development (UNCTAD) (2022)

Table S2. China's agricultural import from the world in 2000–2020

Product	2000		2005		2010		2015		2020		2000–2020	
	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	pp	
Live animals	0.05	0.55	0.11	0.51	0.27	0.45	0.55	0.54	0.63	0.39	–0.16	
Meat and meat products	0.65	7.19	0.62	2.88	2.20	3.79	6.77	6.59	30.11	18.84	+11.65	
Milk and dairy	0.21	2.32	0.41	1.90	1.80	3.02	2.63	2.56	5.61	3.51	+1.19	
Butter and other fats	0.01	0.11	0.03	0.14	0.09	0.15	0.27	0.26	0.55	0.34	+0.23	
Cheese and curd	–	–	0.03	0.14	0.11	0.18	0.35	0.34	0.59	0.37	–	
Fresh, chilled, or frozen fish	0.77	8.52	2.29	10.63	3.32	5.57	3.61	3.52	5.01	3.13	–5.39	
Crustaceans and molluscs	0.39	4.31	0.52	2.41	0.98	1.65	2.70	2.63	4.65	2.91	–1.40	
Fish, prepared and preserved	0.01	0.11	0.02	0.09	0.09	0.15	0.23	0.22	2.84	1.78	+1.67	
Wheat and meslin	0.15	1.66	0.76	3.53	0.31	0.52	0.89	0.87	2.26	1.41	–0.25	
Rice	0.11	1.22	0.20	0.93	0.25	0.42	1.47	1.43	1.46	0.91	–0.31	
Barley	0.31	3.43	0.43	2.00	0.54	0.91	2.86	2.79	1.88	1.18	–2.25	
Maize	–	–	–	–	0.37	0.62	1.11	1.08	2.49	1.56	–	
Cereals	–	–	–	–	0.04	0.07	3.02	2.94	1.23	0.77	–	
Cereal preparations	0.02	0.22	0.06	0.28	0.22	0.37	0.86	0.84	1.26	0.79	+0.57	
Vegetables	0.09	1.00	0.53	2.46	1.56	2.62	2.72	2.65	2.12	1.33	+0.33	
Prepared and preserved vegetables	0.04	0.44	0.06	0.28	0.12	0.20	0.28	0.27	0.23	0.14	–0.30	
Fruits and nuts	0.37	4.09	0.63	2.92	2.06	3.46	5.87	5.72	11.56	7.23	+3.14	
Preserved fruits	0.01	0.11	0.07	0.32	0.27	0.45	0.58	0.56	1.39	0.87	+0.76	
Fruit and vegetable juices	0.01	0.11	0.07	0.32	0.17	0.29	0.21	0.20	0.30	0.19	+0.08	
Sugar and honey	0.15	1.66	0.42	1.95	0.99	1.66	1.98	1.93	2.46	1.54	–0.12	
Confectionery sugar	0.03	0.33	0.03	0.14	0.06	0.10	0.20	0.19	0.32	0.20	–0.13	
Coffee	0.01	0.11	0.03	0.14	0.10	0.17	0.46	0.45	0.55	0.34	+0.23	
Cocoa	0.04	0.44	0.11	0.51	0.28	0.47	0.36	0.35	0.30	0.19	–0.25	
Chocolate	0.03	0.33	0.06	0.28	0.16	0.27	0.52	0.51	0.47	0.29	–0.04	
Feeding stuff for animals	0.91	10.07	1.31	6.08	3.30	5.54	4.97	4.84	5.42	3.39	–6.68	
Margarine and shortening	0.11	1.22	0.02	0.09	0.07	0.12	0.29	0.28	0.48	0.30	–0.92	
Edible products and preparations	0.20	2.21	0.48	2.23	1.65	2.77	4.53	4.41	10.83	6.78	+4.57	
Oilseeds	2.94	32.52	8.00	37.14	26.54	44.56	38.36	37.36	43.29	27.09	–5.43	

pp – percentage point, i.e. change in the contribution to total agricultural imports

Source: Authors' own elaboration, based on the United Nations Conference on Trade and Development (UNCTAD) (2022)

4 Table S3. China's agricultural export to the EU in 2000–2020

Product	2000			2005			2010			2015			2020			2020–2000	
	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	USD billion	portion of total agricultural export (%)	pp	pp	
Meat and meat products	0.05	4.17	0.01	0.39	0.03	0.60	0.02	0.35	0.02	0.32	0.02	0.32	0.02	0.32	–3.84	–3.84	
Prepared meat offal	0.00	0.00	0.00	0.00	0.05	1.00	0.08	1.39	0.08	1.39	0.09	1.45	0.09	1.45	+1.45	+1.45	
Eggs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.01	0.16	+0.16	+0.16	
Fresh, chilled, or frozen fish	0.18	15.00	0.56	21.96	1.13	22.55	1.15	20.00	1.15	20.00	1.06	17.12	1.06	17.12	+2.12	+2.12	
Dried, salted, or smoked fish	0.00	0.00	0.02	0.78	0.06	1.20	0.04	0.70	0.04	0.65	0.04	0.65	0.04	0.65	+0.65	+0.65	
Crustaceans and molluscs	0.10	8.33	0.08	3.14	0.41	8.18	0.37	6.43	0.37	6.43	0.26	4.20	0.26	4.20	–4.13	–4.13	
Fish, prepared and preserved	0.07	5.83	0.26	10.20	0.21	4.19	0.30	5.22	0.30	5.22	0.28	4.52	0.28	4.52	–1.31	–1.31	
Cereals	0.00	0.00	0.01	0.39	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cereal preparations	0.00	0.00	0.01	0.39	0.03	0.60	0.03	0.52	0.03	0.52	0.01	0.16	0.01	0.16	+0.16	+0.16	
Vegetables	0.14	11.67	0.30	11.76	0.62	12.38	0.61	10.61	0.61	10.61	0.43	6.95	0.43	6.95	–4.72	–4.72	
Prepared and preserved vegetables	0.21	17.50	0.40	15.69	0.67	13.37	0.61	10.61	0.61	10.61	0.55	8.89	0.55	8.89	–8.61	–8.61	
Fruits and nuts	0.01	0.83	0.07	2.75	0.19	3.79	0.29	5.04	0.29	5.04	0.31	5.01	0.31	5.01	+4.17	+4.17	
Preserved fruits	0.06	5.00	0.18	7.06	0.37	7.39	0.32	5.57	0.32	5.57	0.36	5.82	0.36	5.82	+0.82	+0.82	
Fruit and vegetable juices	0.04	3.33	0.13	5.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	–3.33	–3.33	
Sugar and honey	0.02	1.67	0.01	0.39	0.07	1.40	0.15	2.61	0.15	2.61	0.09	1.45	0.09	1.45	–0.21	–0.21	
Confectionery sugar	0.02	1.67	0.04	1.57	0.06	1.20	0.07	1.22	0.07	1.22	0.06	0.97	0.06	0.97	–0.70	–0.70	
Coffee	0.00	0.00	0.01	0.39	0.06	1.20	0.12	2.09	0.12	2.09	0.06	0.97	0.06	0.97	+0.97	+0.97	
Cocoa	0.00	0.00	0.02	0.78	0.05	1.00	0.08	1.39	0.08	1.39	0.03	0.48	0.03	0.48	+0.48	+0.48	
Tea and mate	0.05	4.17	0.03	1.18	0.06	1.20	0.11	1.91	0.11	1.91	0.11	1.78	0.11	1.78	–2.39	–2.39	
Spices	0.01	0.83	0.02	0.78	0.07	1.40	0.16	2.78	0.16	2.78	0.32	5.17	0.32	5.17	+4.34	+4.34	
Feeding stuff for animals	0.03	2.50	0.01	0.39	0.18	3.59	0.38	6.61	0.38	6.61	0.58	9.37	0.58	9.37	+6.87	+6.87	
Edible products and preparations	0.03	2.50	0.07	2.75	0.13	2.59	0.28	4.87	0.28	4.87	0.46	7.43	0.46	7.43	+4.93	+4.93	
Oilseeds	0.11	9.17	0.17	6.67	0.14	2.79	0.11	1.91	0.11	1.91	0.15	2.42	0.15	2.42	–6.74	–6.74	

pp – percentage point, i.e. change in the contribution to total agricultural exports

Source: Authors' own elaboration, based on the United Nations Conference on Trade and Development (UNCTAD) (2022)

Table S4. China's agricultural import from the EU in 2000–2020

Product	2000		2005		2010		2015		2020		2020–2000	
	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	USD billion	portion of total agricultural import (%)	pp	pp
Live animals	0.01	1.37	0.01	0.96	0.02	0.64	0.07	0.69	0.07	0.34	–1.03	–1.03
Meat and meat products	0.08	10.96	0.07	6.73	0.54	17.31	1.92	18.92	8.40	40.88	+29.92	+29.92
Milk and dairy	0.06	8.22	0.10	9.62	0.29	9.29	0.73	7.19	1.59	7.74	–0.48	–0.48
Butter and other fats	0.00	0.00	0.01	0.96	0.01	0.32	0.04	0.39	0.09	0.44	+0.44	+0.44
Cheese and curd	0.00	0.00	0.00	0.00	0.02	0.64	0.06	0.59	0.14	0.68	+0.68	+0.68
Fresh, chilled, or frozen fish	0.04	5.48	0.17	16.35	0.19	6.09	0.10	0.99	0.20	0.97	–4.51	–4.51
Crustaceans and molluscs	0.01	1.37	0.01	0.96	0.03	0.96	0.05	0.49	0.05	0.24	–1.13	–1.13
Wheat and meslin	0.00	0.00	0.12	11.54	0.00	0.00	0.00	0.00	0.72	3.50	+3.50	+3.50
Barley	0.09	12.33	0.06	5.77	0.12	3.85	1.11	10.94	0.40	1.95	–10.38	–10.38
Maize	0.00	0.00	0.00	0.00	0.01	0.32	0.04	0.39	0.06	0.29	+0.29	+0.29
Cereal preparations	0.00	0.00	0.02	1.92	0.05	1.60	0.17	1.67	0.19	0.92	+0.92	+0.92
Vegetables	0.01	1.37	0.01	0.96	0.01	0.32	0.02	0.20	0.06	0.29	–1.08	–1.08
Prepared and preserved vegetables	0.00	0.00	0.01	0.96	0.02	0.64	0.06	0.59	0.08	0.39	+0.39	+0.39
Fruits and nuts	0.00	0.00	0.00	0.00	0.01	0.32	0.05	0.49	0.06	0.29	+0.29	+0.29
Preserved fruits	0.00	0.00	0.02	1.92	0.05	1.60	0.07	0.69	0.07	0.34	+0.34	+0.34
Fruit and vegetable juices	0.00	0.00	0.01	0.96	0.02	0.64	0.04	0.39	0.05	0.24	+0.24	+0.24
Sugar and honey	0.01	1.37	0.01	0.96	0.02	0.64	0.03	0.30	0.07	0.34	–1.03	–1.03
Confectionery sugar	0.00	0.00	0.00	0.00	0.01	0.32	0.04	0.39	0.05	0.24	+0.24	+0.24
Coffee	0.00	0.00	0.00	0.00	0.01	0.32	0.03	0.30	0.06	0.29	+0.29	+0.29
Cocoa	0.00	0.00	0.00	0.00	0.01	0.32	0.02	0.20	0.02	0.10	+0.10	+0.10
Chocolate	0.01	1.37	0.03	2.88	0.11	3.53	0.36	3.55	0.21	1.02	–0.35	–0.35
Feeding stuff for animals	0.06	8.22	0.03	2.88	0.05	1.60	0.18	1.77	0.31	1.51	–6.71	–6.71
Margarine and shortening	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.20	0.01	0.05	+0.05	+0.05
Edible products and preparations	0.04	5.48	0.09	8.65	0.32	10.26	2.19	21.58	4.43	21.56	+16.08	+16.08
Oilseeds	0.13	17.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	–17.81	–17.81

pp – percentage point, i.e. change in the contribution to total agricultural imports

Source: Authors' own elaboration, based on the United Nations Conference on Trade and Development (UNCTAD) (2022)