The Evolution of Turkey-PRC Economic Relations

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NIGS-CASS MEETING, BFSU

The One-Belt-and One-Road Initiative in the Global Context

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Outline

- Evolution Turkey-PRC bilateral economic relations
- A general outlook on the Turkish-Chinese trade relations from the 1990's into the 2000's
- An assessment of the Turkish-Chinese trade relations using
 - Concentration in trade analysis
 - Intra-industry trade analysis
 - Vertical specialization analysis
- Conclusion and discussion

- Before the migration of the Turkish peoples to Anatolia, Turkish and Chinese have interacted with eachother as early as 209 BC during the Han Dynasty and the Great Hun Dynasty
- During the Tang Dynasty (618-907), via the Silk Road, not only economic, but also social and cultural relations were strenghtened between the Chinese and the Turks
- Establishment of Turkey-PRC diplomatic relations: 1971
- Initial trade agreement between Turkey and PRC: 1974
- Nevertheless, bilaretal relations remained at a low profile until early 1980s.

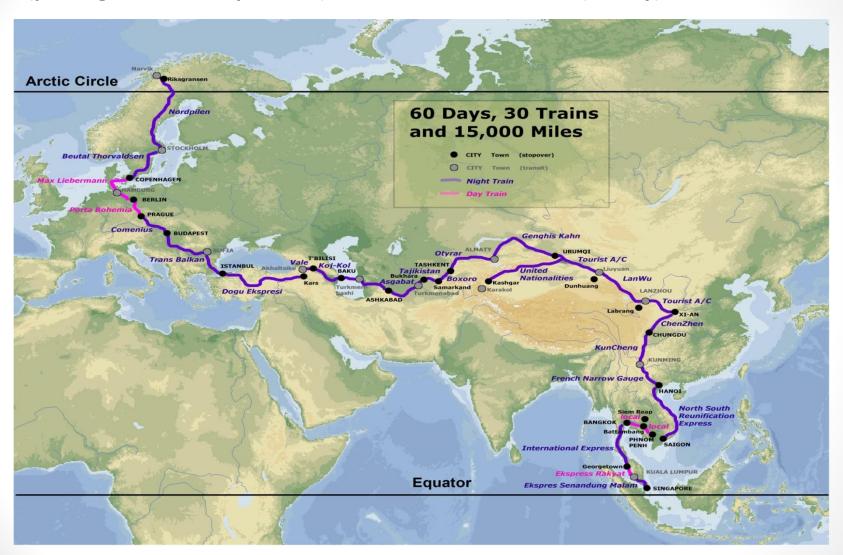
- In May 1981, first diplomatic visit from Turkey to PRC by Minister of the Trade Kemal Cantürk
- Later in December 1981 during the diplomatic visit of Ministry of Foreign Affairs İlter Türkmen to China, the initial economic, industrial and technical agreement between Turkey and PRC was signed
- December 1982: initial state visit to PRC by the Turkish President Kenan Evren
- In 1990's, there were only three diplomatic agreements between the two states: bileretal investment incentives and protection agreement in 1990; prohibition of double taxation agreement in 1995; memorandum of understanding to establish a trade counsel in 1999.

- After 2009, bileteral relations picked up pace, and numerous agreements and protocols were signed between the two states.
- Particularly in October 8, 2010, comprehensive cooperation agreements in trade, cultural, technical, communications technologies, infrastructure, transportation, and maritime areas were signed between the Turkey and PRC.
- 2012 in Turkey was the «Cultural Year of China» (Vicepresident Xi visited Turkey in 2012); and 2013 in China was the «Cultural Year of Turkey».
- Recently, in September 2016, Turkish President Erdoğan visited Hangzhou, and in November 2015 President Xi visited Antalya, Turkey for the G-20 Summit

- In the ancient silk road, China was the starting point, Turkey was the end; in OBOR Initiative, Turkey is again playing a role as an investment and cooperation partner that would help bridge East and West.
- In 2008, Turkey with Azerbaijan, Iran, Georgia, Kazakhstan and Kyrgyzsytan initiated the «Silk Road Initiative and Caravanserai Project», aimed at facilitating border crossings, and simplification and harmonization of customs procedures.

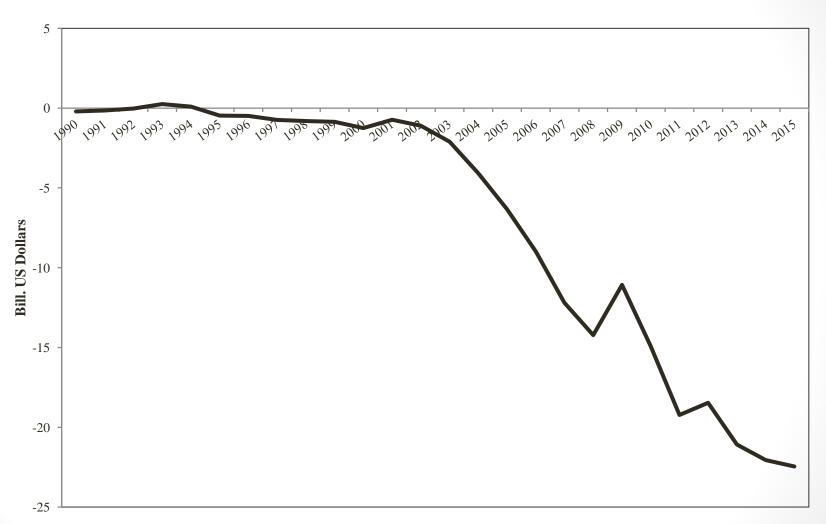
- In Turkey, a high-speed train between two major metropolitan areas, Ankara-Istanbul, along with a new east-to-west (Kars to Edirne) railway plan, mirrors China's OBOR Initiative;
- In the context of the Silk Road Initiative, the two countries both agreed to build a roughly 7,000 km rail network, including high speed train projects in Turkey with the participation of Chinese companies (the construction is expected to be completed by 2023);
- Turkey was a founding member of the Asian Infrastructure Investment Bank (AIIB) as of March 2015;
- Although Turkey is not a resource-rich country, she is a key thoroughfare for energy resources (particularly the natural gas pipelines)

Turkey's railroad proposal through Almaty-Aktau port in Kazakhstan (passing over the Caspian Sea)- Baku-Tbilisi-Kars-Edirne (Turkey)

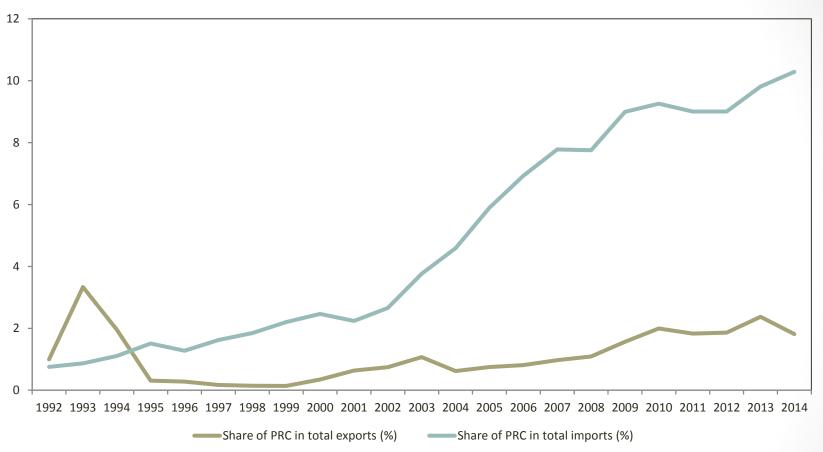


- Turkey's and China's bilateral trade volume has reached \$27.3 billion in 2015.
 - Turkey's exports to China was about \$2.4 billion, 1.7 % of the country's total exports, and imports from China reached \$25 billion, 12.3 % of Turkey's imports;
- As of 2015, China is Turkey's 2nd-largest trading partner after Germany, surpassing Russian Federation as the 2nd largest partner up to 2015.
- Turkish-Chinese trade volume is targeted to reach \$100 billion by 2020;
- Foreign direct investment from Turkey in China has reached \$100 million in total since the mid-2000's (\$20 million in 2015), and in 2015 FDI from China in Turkey has jumped by \$446 million particularly with the purchase of EMBA Electricity Production Company by Shanghai Electric Company

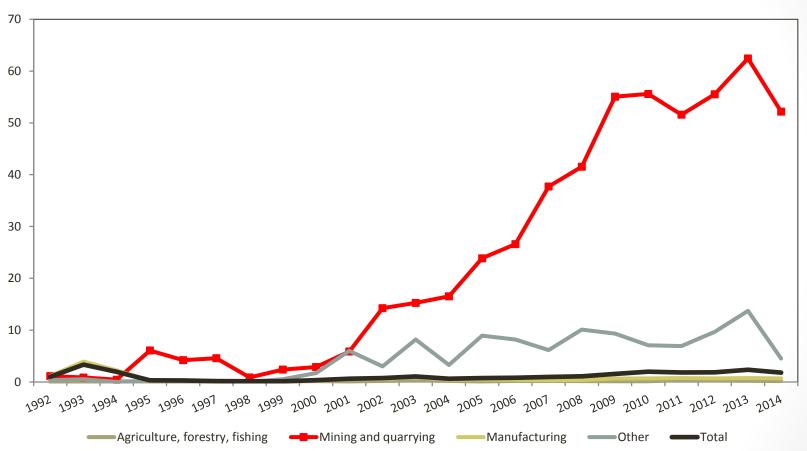
Turkey's Trade Balance with PRC



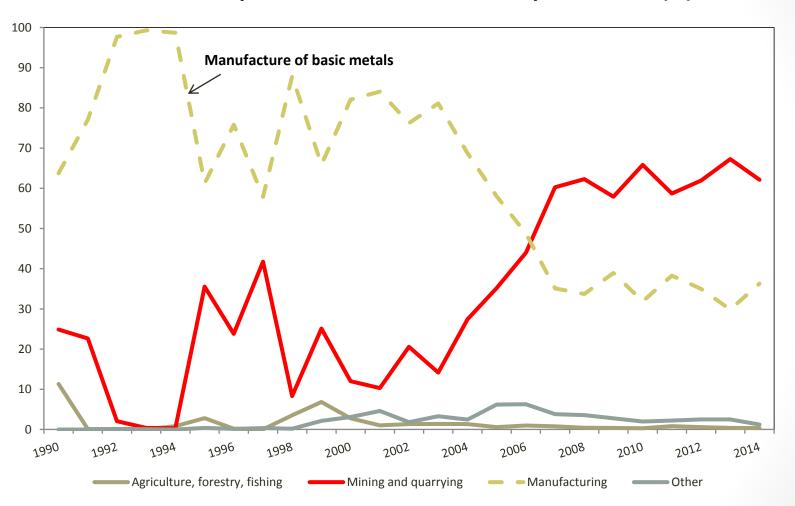
Share of PRC in total foreign trade, Turkey (%)



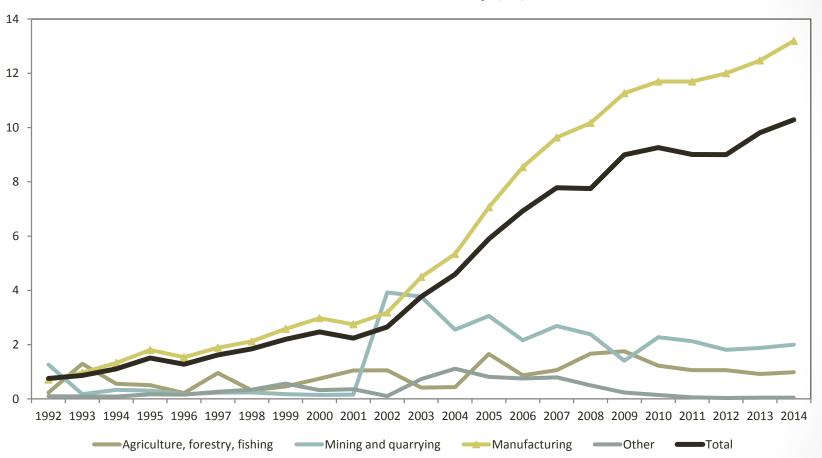
Sectoral exports to PRC; share in total sectoral exports to world from Turkey (%)



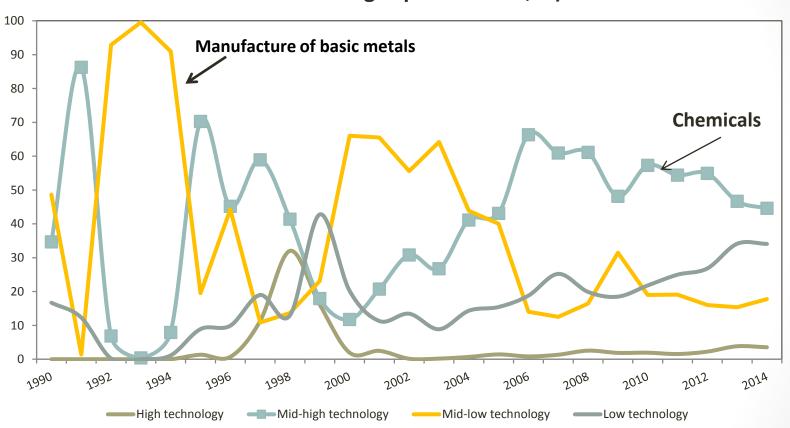
Sectoral exports to PRC, share in total exports to PRC (%)



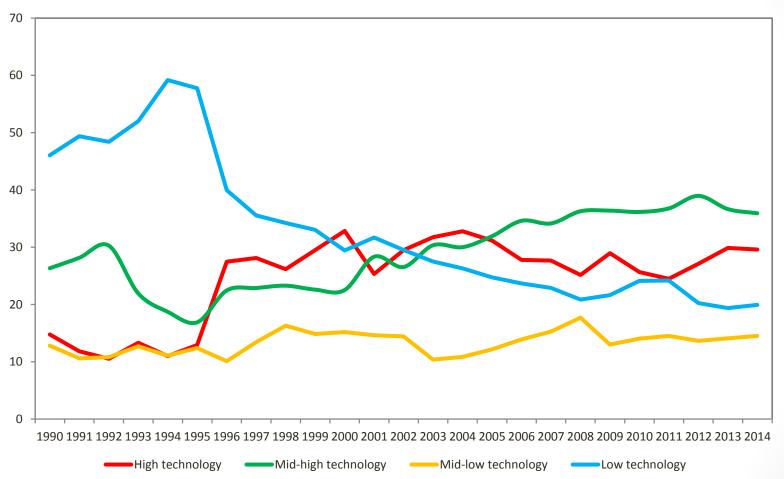
Sectoral imports from PRC; share in total sectoral imports from the world to Turkey (%)



Technology categories in manufacturing exports (share in total manufacturing exports to PRC, %)



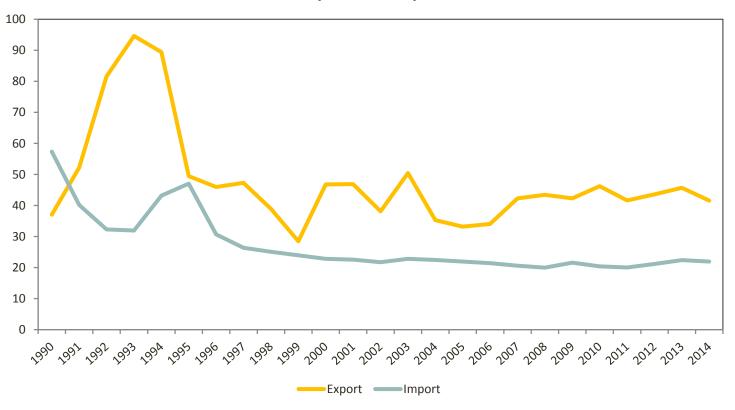
Technology categories in manufacturing imports (share in total manufacturing imports from PRC, %)



Concentration analysis

- Indices used in Concentration Analysis of Trade with PRC:
 - Gini Hirscmann Index: $\mu_i = 100 \sqrt{\sum_{i=1}^n \left(\frac{x_i}{X}\right)^2}$
 - Here, x_i denotes a country's trade (export or import) in sector i, and X denotes the total trade (export or import) with a partner country;
 - The smaller the index, the higher is the diversification in sectors in trade (export or import)
 - As the index increases (close to 100), diversification diminishes, and concentration increases.
 - Concentration Index (CR1 and CR4): share of one and four sectors with the largest contribution to total (exports or imports)

Gini-Hirschmann Concentration Index (All sectors)



Concentration Index, All sectors

	CR1	index	CR4	ndex
	Export	Import	Export	Import
1990	24.88	55.99	62.31	71.81
1991	39.65	35.40	91.35	61.84
1992	80.77	21.38	97.97	54.79
1993	94.56	26.83	99.28	48.95
1994	89.28	40.86	97.10	58.68
1995	35.53	45.15	85.25	62.61
1996	31.19	24.68	81.80	49.87
1997	41.54	18.15	73.29	42.76
1998	27.22	16.05	66.00	39.48
1999	20.45	14.52	45.72	38.50
2000	44.61	12.43	61.84	35.75
2001	44.54	12.13	63.45	34.06
2002	33.43	11.44	58.48	33.24
2003	48.14	11.85	69.65	35.55
2004	26.19	13.35	61.40	33.34
2005	20.30	14.56	60.55	30.78
2006	20.98	13.81	60.64	29.51
2007	34.34	11.30	70.47	28.35
2008	35.55	9.52	73.21	28.73
2009	33.14	12.62	72.05	32.34
2010	35.88	10.98	76.86	27.66
2011	28.77	9.36	72.40	28.54
2012	30.59	9.89	74.08	32.06
2013	34.84	12.94	74.78	35.78
2014	28.88	12.73	70.95	34.18

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Concentration Index, Manufacturing

	CR1	index	CR4	index
	Export	Import	Export	Import
1990	21.55	24.40	70.16	46.55
1991	51.37	25.02	95.06	50.56
1992	82.68	26.28	99.59	53.11
1993	95.08	29.65	99.57	52.54
1994	90.35	43.73	98.27	62.80
1995	51.61	47.25	84.59	65.52
1996	41.13	25.38	80.62	51.28
1997	32.08	19.07	65.76	44.92
1998	30.96	16.43	69.94	40.40
1999	14.92	14.85	46.18	39.36
2000	54.35	12.71	72.27	36.56
2001	52.98	12.51	73.79	35.11
2002	43.86	11.89	68.87	34.54
2003	59.34	12.36	79.35	37.09
2004	38.09	13.92	71.94	34.75
2005	34.99	15.07	69.09	31.85
2006	33.84	14.17	58.85	30.27
2007	29.05	11.59	50.36	29.07
2008	32.49	9.75	53.91	29.44
2009	30.31	12.79	56.77	32.77
2010	36.58	11.09	54.04	27.95
2011	37.30	9.44	53.80	28.79
2012	36.77	9.96	54.16	32.29
2013	32.30	13.01	53.61	35.98
2014	30.49	12.81	53.41	34.39

	Export	Import
1990-1993	Mining of non-ferrous metal ores; Manufacture of basic iron and steel; Manufacture of basic chemicals; Manufacture of man-made fibers	Natural gas
1994-1999	Mining of non-ferrous metal ores; Manufacture of basic iron and steel; Manufacture of man-made fibers	Textiles (Until 1999 up to 40% of total, it is the most important import item; over time textiles drops to 15% of imports after 1999)
Early 2000's	Mining of non-ferrous metal ores; Manufacture of basic iron and steel; Manufacture of basic chemicals; Starting from 2002, export in quarrying of stone, sand and clay picks up	With the textiles falling down to roughly 10%, imports begin to diversify: radio, television and communication equipment and apparatus, office,
After 2007	Mining of non-ferrous metal ores and quarrying exports dominate; the sum of these two make up 60% of all exports to China; additionally manufacture of basic chemicals and manufacture of manmade fibers exports are still important	accounting and computing machinery, and electrical machinery and apparatus manufacturing imports gain importance; textiles fall to 2% by 2012.

Intra-industry trade analysis

Grubel-Lloyd index:

$$B_i = 1 - \frac{|X_i - M_i|}{X_i + M_i}$$

- Without any aggregation, GL-index is calculated for 71 ISIC Rev
 3-3 digit sectors for the years 1990-2014 :
 - 12 sectors: agriculture, animal husbandry, forestry, mining
 - 9 sectors: high technology manufacturing
 - 15 sectors: mid-high technology manufacturing
 - 12 sectors: mid-low technology manufacturing
 - 20 sectors: low technology manufacturing
- If index value ≥ 0.5 : evidence of intra-industry trade.

NIGS-CASS MEETING; Beijing

Agriculture, forestry, fishing, mining and quarrying

Code	ISIC description	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999					
	Growing of crops; market															
011	gardening; horticulture	0.759	0.116	0.166	0.049	0.867	0.409	0.038	0.002	0.344	0.476					
012	Farming of animals	0.000	0.000	0.000	0.031	0.048	0.000	0.000	0.000	0.000	0.784					
	Forestry, logging and related															
020	service activities	0.000		0.000	0.000	0.195	0.463	0.416	0.000	0.940	0.622					
	Mining of non-ferrous metal															
	ores, except uranium and															
132	thorium ores	0.704	0.924	0.961	0.675	0.373	0.218	0.313	0.305	0.865	0.541					
	Quarrying of stone, sand and															
141	clay	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062	0.134	1.000					
142	Mining and quarrying n.e.c.		0.000	0.000	0.000	0.004	0.000	0.036	0.006	0.044	0.297					
	IIT Sector count	2	1	1	1	1	1	0	0	2	5					
Code		2000	2004	2002	2002	2004	2005	2000	2007	2000	2000	2010	2011	2012	2012	2044
Code	ISIC description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
011	Growing of crops; market	0.275	0.240	0.242	0.000	0.640	0.110	0.202	0.246	0.004	0.122	0.175	0.200	0.220	0.241	0.220
011 012	gardening; horticulture			0.343	0.830	0.649	0.110	0.392	0.246	0.094	0.132	0.175	0.388	0.339	0.341	0.220
012	· ·	0.300	0.423	0.230	0.075	0.476	0.757	0.892	0.623	0.617	0.140	0.277	0.188	0.387	0.308	0.165
020	Forestry, logging and related service activities	0 277	0.000	0.245	0.000	0.002	0.007	0.060	0.122	0.000	0.034	0.040	0.002	0.158	0.169	0.234
020	Fishing, aquaculture and	0.577	0.000	0.245	0.000	0.002	0.007	0.000	0.122	0.000	0.054	0.040	0.065	0.136	0.109	0.234
	service activities incidental															
050	to fishing	0.000	0.000	0.000	0.000	0.000	0.566	0.000	0.866	0.520	0.217	0.000	0.081	0.723	0.354	0.525
030	Mining and agglomeration	0.000	0.000	0.000	0.000	0.000	0.300	0.000	0.800	0.320	0.217	0.000	0.081	0.723	0.554	0.323
101	of hard coal		0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.206
101	Extraction and		0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.200
103	agglomeration of peat							0.000	0.000	0.000	0.000	0.052	0.000	0.000	0.000	0.000
131	Mining of iron ores					0.000	0.000		0.204	0.002	0.000	0.000	0.000	0.000		0.000
	Mining of non-ferrous metal															
	ores, except uranium and															
132	thorium ores	0.728	0.901	0.308	0.700	0.348	0.241	0.127	0.070	0.073	0.026	0.030	0.035	0.023	0.019	0.029
	Quarrying of stone, sand and															
141	clay	0.310	0.091	0.083	0.055	0.049	0.034	0.024	0.037	0.037	0.023	0.022	0.021	0.024	0.017	0.020
142	Mining and quarrying n.e.c.	0.243	0.960	0.930	0.889	0.578	0.780	0.673	0.676	0.552	0.643	0.645	0.631	0.512	0.378	0.355
	IIT Sector count	1	2	1	3	3	3	2	3	3	1	1	1	2	0	1

NIGS-CASS MEETING; Beijing

Low technology, manufacturing

Code	ISIC description	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999					
	Production, processing and															
	preservation of meat, fish,															
	fruit, vegetables, oils and															
151	fats	0.425	0.258	0.000	0.000	0.084	0.944	0.579	0.621	0.882	0.503					
	Manufacture of other food															
154	products	0.005	0.000	0.498	0.000	0.585	0.397	0.550	0.680	0.181	0.498					
155	Manufacture of beverages							0.000			0.000					
	Manufacture of other															
172	textiles	0.698	0.000	0.006	0.007	0.063	0.072	0.244	0.033	0.032	0.059					
	Tanning and dressing of															
	leather; manufacture of															
	luggage, handbags,															
191	saddlery and harness	0.000	0.000	0.000	0.017	0.453	0.349	0.002	0.055	0.084	0.188					
	Manufacture of paper and															
210	paper products	0.000	0.000	0.000	0.000	0.488	0.000	0.010	0.120	0.109	0.024					
361	Manufacture of furniture	0.000	0.000	0.000	0.253	0.529	0.077	0.119	0.002	0.000	0.149					
	IIT Sector count	1	0	1	0	4	1	2	2	1	2					
Code	ISIC description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Code	Production, processing and	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Code	Production, processing and preservation of meat, fish,	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Production, processing and preservation of meat, fish, fruit, vegetables, oils and															
Code	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats												2011			
151	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy	0.407	0.175	0.304	0.265	0.286	0.437	0.692	0.540	0.916	0.603	0.729	0.806	0.712	0.759	0.852
	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products	0.407	0.175	0.304	0.265	0.286	0.437	0.692	0.540	0.916	0.603	0.729	0.806	0.712	0.759	
151	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food	0.407	0.175 0.653	0.304 0.464	0.265 0.996	0.286	0.437 0.526	0.692 0.360	0.540	0.916 0.155	0.603 0.838	0.729 0.394	0.806 0.296	0.712	0.759	0.852
151 152 154	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products	0.407 0.001 0.647	0.175 0.653 0.948	0.304 0.464 0.911	0.265 0.996 0.490	0.286 0.409 0.489	0.437 0.526 0.597	0.692 0.360 0.913	0.540 0.663 0.762	0.916 0.155 0.733	0.603 0.838 0.845	0.729 0.394 0.931	0.806 0.296 0.692	0.712 0.594 0.576	0.759 0.940 0.470	0.852 0.906 0.441
151	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages	0.407 0.001 0.647	0.175 0.653 0.948	0.304 0.464 0.911	0.265 0.996 0.490	0.286 0.409 0.489	0.437 0.526 0.597	0.692 0.360 0.913	0.540 0.663 0.762	0.916 0.155 0.733	0.603 0.838 0.845	0.729 0.394 0.931	0.806 0.296 0.692	0.712 0.594 0.576	0.759 0.940 0.470	0.852
151 152 154 155	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages Manufacture of tobacco	0.407 0.001 0.647 0.000	0.175 0.653 0.948	0.304 0.464 0.911	0.265 0.996 0.490	0.286 0.409 0.489	0.437 0.526 0.597	0.692 0.360 0.913	0.540 0.663 0.762	0.916 0.155 0.733	0.603 0.838 0.845	0.729 0.394 0.931 0.045	0.806 0.296 0.692 0.233	0.712 0.594 0.576 0.990	0.759 0.940 0.470	0.852 0.906 0.441 0.618
151 152 154	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages Manufacture of tobacco products	0.407 0.001 0.647 0.000	0.175 0.653 0.948	0.304 0.464 0.911	0.265 0.996 0.490	0.286 0.409 0.489	0.437 0.526 0.597	0.692 0.360 0.913	0.540 0.663 0.762	0.916 0.155 0.733	0.603 0.838 0.845	0.729 0.394 0.931	0.806 0.296 0.692 0.233	0.712 0.594 0.576 0.990	0.759 0.940 0.470	0.852 0.906 0.441
151 152 154 155	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages Manufacture of tobacco products Dressing and dyeing of fur;	0.407 0.001 0.647 0.000	0.175 0.653 0.948	0.304 0.464 0.911	0.265 0.996 0.490	0.286 0.409 0.489	0.437 0.526 0.597	0.692 0.360 0.913	0.540 0.663 0.762	0.916 0.155 0.733	0.603 0.838 0.845	0.729 0.394 0.931 0.045	0.806 0.296 0.692 0.233	0.712 0.594 0.576 0.990	0.759 0.940 0.470	0.852 0.906 0.441 0.618
151 152 154 155	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages Manufacture of tobacco products Dressing and dyeing of fur; manufacture of articles of	0.407 0.001 0.647 0.000	0.175 0.653 0.948 0.000	0.304 0.464 0.911 0.000	0.265 0.996 0.490 0.325	0.286 0.409 0.489 0.000	0.437 0.526 0.597 0.000	0.692 0.360 0.913 0.034	0.540 0.663 0.762 0.041	0.916 0.155 0.733 0.918	0.603 0.838 0.845 0.421	0.729 0.394 0.931 0.045	0.806 0.296 0.692 0.233	0.712 0.594 0.576 0.990 0.000	0.759 0.940 0.470 0.052	0.852 0.906 0.441 0.618
151 152 154 155	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages Manufacture of tobacco products Dressing and dyeing of fur; manufacture of articles of fur	0.407 0.001 0.647 0.000 0.000	0.175 0.653 0.948 0.000	0.304 0.464 0.911 0.000	0.265 0.996 0.490 0.325	0.286 0.409 0.489 0.000	0.437 0.526 0.597 0.000	0.692 0.360 0.913 0.034	0.540 0.663 0.762 0.041	0.916 0.155 0.733 0.918	0.603 0.838 0.845 0.421	0.729 0.394 0.931 0.045	0.806 0.296 0.692 0.233	0.712 0.594 0.576 0.990 0.000	0.759 0.940 0.470 0.052	0.852 0.906 0.441 0.618
151 152 154 155 160	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats Manufacture of dairy products Manufacture of other food products Manufacture of beverages Manufacture of tobacco products Dressing and dyeing of fur; manufacture of articles of fur Manufacture of paper and	0.407 0.001 0.647 0.000 0.000	0.175 0.653 0.948 0.000	0.304 0.464 0.911 0.000	0.265 0.996 0.490 0.325	0.286 0.409 0.489 0.000	0.437 0.526 0.597 0.000	0.692 0.360 0.913 0.034	0.540 0.663 0.762 0.041	0.916 0.155 0.733 0.918	0.603 0.838 0.845 0.421	0.729 0.394 0.931 0.045 0.496	0.806 0.296 0.692 0.233 0.762	0.712 0.594 0.576 0.990 0.000	0.759 0.940 0.470 0.052	0.852 0.906 0.441 0.618 0.000
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Mid-low technology, manufacturing

Code	ISIC description	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999					
	Manufacture of rubber															
251	products	0.000	0.000	0.309	0.000	0.084	0.895	0.338	0.000	0.002	0.000					
	Manufacture of glass and															
261	glass products	0.000	0.000	0.000	0.000	0.000	0.276	0.793	0.772	0.511	0.415					
	Manufacture of basic iron															
271	and steel	0.907	0.000	0.043	0.022	0.026	0.899	0.324	0.230	0.019	0.144					
	Manufacture of structural															
	metal products, tanks,															
	reservoirs and steam															
281	generators	0.000	0.000	0.000	0.048	0.000	0.289	0.066	0.000	0.951	0.000					
	IIT Sector count	1	0	0	0	0	2	1	1	2	0					
Code	ISIC description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Manufacture of refined															
232	petroleum products	0.763	0.000	0.005	0.464	0.000	0.000	0.955	0.285	0.583	0.077	0.113	0.103	0.021	0.664	0.502
	Manufacture of rubber															
251	products	0.004	0.011	0.129	0.134	0.083	0.094	0.262	0.238	0.324	0.550	0.615	0.522	0.364	0.331	0.306
	Manufacture of glass and															
261	glass products	0.474	0.164	0.014	0.005	0.002	0.012	0.006	0.002	0.007	0.021	0.017	0.018	0.029	0.019	0.041
	Manufacture of basic iron															
271	and steel	0.940	0.317	0.280	0.183	0.748	0.922	0.020	0.048	0.031	0.392	0.099	0.069	0.078	0.076	0.062
	Manufacture of basic															
	precious and non-ferrous															
272	metals	0.010	0.671	0.045	0.460	0.116	0.103	0.361	0.057	0.274	0.445	0.230	0.143	0.119	0.042	0.017
	Manufacture of structural															
	metal products, tanks,															
	reservoirs and steam															
281	generators	0.200	0.044	0.027	0.512	0.827	0.461	0.385	0.138	0.099	0.092	0.824	0.555	0.234	0.242	0.773
	Building and repairing of															
351	ships and boats	0.174	0.000	0.038	0.347	0.000	0.000	0.000	0.000	0.007	0.518	0.000	0.162	0.009	0.000	0.000
	IIT Sector count	3	1	0	3	2	2	1	0	1	2	2	2	0	1	2

Mid-high technology, manufacturing

Code	ISIC description	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999					
Couc	Manufacture of basic	1330	1331	1332	1333	1334	1333	1330	1337	1330	1333					
241	chemicals	0.802	0.643	0.742	0.048	0.647	0.006	0.017	0.013	0.024	0.026					
242																
except	Manufacture of chemicals															
2423	other than pharmaceuticals	0.002	0.712	0.000	0.364	0.839	0.038	0.166	0.102	0.277	0.219					
243	Manufacture of man-made	0.507	0.401	0.401	0.775	0.007	0.065	0.049	0.206	0.205	0.264					
243	fibres Manufacture of domestic	0.587	0.491	0.481	0.775	0.087	0.065	0.048	0.296	0.285	0.364					
293	appliances n.e.c.	0.000	0.000	0.002	0.001	0.751	0.032	0.018	0.019	0.122	0.046					
	Manufacture of electricity															
	distribution and control															
312	apparatus	0.000	0.042	0.000	0.000	0.000	0.808	0.430	0.087	0.082	0.001					
313	Manufacture of insulated wire and cable	0.000	0.541	0.000	0.000	0.000	0.000	0.000	0.021	0.493	0.173					
	Manufacture of parts and															
	accessories for motor															
343	vehicles and their engines	0.000	0.000	0.797	0.000	0.055	0.964	0.687	0.115	0.115	0.339					
	IIT Sector count	2	4	3	1	3	2	1	0	1	0					
	1010 1	2000	2004	2002	2000	2004	2005	2005	2007	2000	2000	2010	2011	2042	2042	2014
Code	ISIC description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
241	Manufacture of basic chemicals	0.159	0.233	0.219	0.221	0.427	0.332	0.391	0.333	0.386	0.567	0.512	0.458	0.515	0.426	0.353
	Manufacture of man-made															
243	fibres	0.319	0.476	0.904	0.836	0.713	0.456	0.203	0.089	0.061	0.163	0.197	0.138	0.133	0.151	0.053
	Manufacture of electricity															
212	distribution and control	0.103	0.460	0.022	0.000	0.050	0.040	0.034	0.053	0.053	0.050	0.022	0.036	0.024	0.022	0.030
312	apparatus Manufacture of motor	0.102	0.469	0.033	0.060	0.058	0.018	0.021	0.053	0.053	0.050	0.033	0.026	0.034	0.023	0.028
341	vehicles	0.000	0.102	0.171	0.066	0.180	0.504	0.388	0.823	0.129	0.047	0.003	0.000	0.001	0.019	0.045
	Manufacture of parts and															
	accessories for motor	0.405		0.000	0.44				0.00=	0.04	0.400	0.45	0.400	0.055	0.06=	0.000
343	vehicles and their engines		0.522	0.220	0.414	0.784	0.471	0.472	0.337	0.314	0.193	0.154	0.102	0.063	0.067	0.083
	IIT Sector count	0	3	1	1	2	3	1	1	0	1	1	1	1	0	0

High technology, manufacturing

Code	ISIC description	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999					
	Manufacture of															
	television and radio															
	transmitters and															
	apparatus for line															
	telephony and line															
322	telegraphy	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.225	0.689	0.213					
	IIT Sector count	0	0	0	0	0	0	0	0	1	0					
Code	ISIC description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Manufacture of															
	television and radio															
	transmitters and															
	apparatus for line															
	telephony and line															
322	telegraphy	0.000	0.467	0.003	0.000	0.001	0.001	0.000	0.000	0.009	0.006	0.004	0.004	0.005	0.007	0.001
	Manufacture of															
	aircraft and															
353	spacecraft	0.000		0.000		0.000	0.012	0.000	0.009	0.136	0.037	0.701	0.211	0.412	0.975	0.830
	IIT Sector count	0	1	0	0	0	0	0	0	0	0	1	0	0	1	1

Vertical specialization analysis

<u>Vertical Specialization</u>: Measures how much a partner country's imports contribute to the foreign value added content of a country's exports

Since the mid-2000's, China's contributions to foreign value added content in Turkish exports has steadily increased; in 2011, Chinese contribution to vertical specialization of Turkish exports was 13.2 percent, and surpassed the contribution of Germany (Gündoğdu, 2015)

Countries	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011*
RoW	18.3	19.5	17.1	16.2	17.2	23.1	27.2	284	29.7	29,8	34.3	37.1	34.5	28.8	18.6	19.1	19.4
China	5.9	3.4	3.3	3.6	3.1	3.2	2.6	3.0	3.7	4.0	4.4	4.8	5.4	8.5	10.9	13.0	13.2
Germany	15.7	16.6	16.4	15.8	16.0	13.6	12.8	12.9	12.6	12.4	10.5	10.1	9.1	11.0	12.1	11.2	11.0
Italy	10.6	11.5	10.9	10.5	9.4	9.5	10.2	9.0	8.6	6.8	5.8	5.2	4.9	6.5	7.5	7.1	6.7
Spain	2.0	2.5	2.9	2.7	3.1	3.2	3.0	3.0	2.6	3.6	3.2	3.0	2.7	4.2	5.0	5.1	5.5
Russian Fed.	8.5	6.7	4.4	5.7	7.1	5.1	6.7	5.9	5.5	7.8	9.7	9.7	14.0	5.6	5.1	4.9	5.2
France	6.0	6.3	7.3	7.2	8.8	7.3	5.8	6.2	6.4	6.1	4.8	4.5	4.0	5.4	6.5	5.1	4.8
UK	4.4	4.9	5.3	5.2	5.1	4.9	4.8	4.7	5.8	4.0	3.2	2.7	2.3	3.7	3.9	4.4	4.4
USA	4.4	3.9	5.3	4.4	3.8	3.6	4.2	2.7	2.2	1.9	1.8	1.6	1.7	1.6	2.1	1.8	2.2

Conclusion

- Starting with the early 2000's, Turkish-Chinese trade relations began to accelerate;
- In 2015, Turkish exports to China reached \$2.4 billion (1.8% of total exports from Turkey) and imports from China reached \$27 billion (10.3% of imports into Turkey)
- Nevertheless, the export and import patterns between China and Turkey has shown an unbalanced pattern: exports from Turkey to China concentrated mostly in raw materials and intermediate goods; imports from China concentrated in finished goods, particularly since mid-2000's in mid-high and high-technology products
 - Furthermore, most intra-industry trade between Turkey and China occured in a low technology sector, food manufacturing

Conclusion

- In order to benefit from the relatively high level of intra-industry trade in low technology manufacturing sectors such as food, textiles and furniture, Turkish entrepreneurs are expected to examine the tastes and preferences of Chinese consumers and study the market structures, and identify the possible niche, differentiated consumer products markets with relatively high value added.
- Based on our results, although it may be difficult to correct the large trade balance between Turkey and the PRC in favor of Turkey, higher diversification of exports to PRC and a shift towards manufacturing of higher value added products appears to be essential.

谢谢