

## Appendix 1: Tables of Strength Centrality Measures

The tables below contain the two strength centrality measures across five critical junctures. MOSC1 is trade partner's annual total share of DPRK trade expressed as a percentage ranging from 0-100. MOSC2 is the DPRK's share of a given trading partner's annual trade expressed as a percentage ranging from 0-100.

	<b>Measure of Strength Centrality (MOSC1)</b>				
	Trade partner's total share of DPRK trade				
	1990	1995	2003	2007	2017
Albania			0.0097	0.0024	0.0007
Algeria	0.0145	0.1139	0.1216	0.2460	0.0212
Andorra		0.0026	0.0025	0.0000	
Angola				13.2495	
Antigua and Barbuda				0.0009	0.0021
Argentina	0.0038				
Armenia			0.0017	0.0006	0.0096
Australia	1.6367	0.0323	0.1988	0.0990	
Austria	1.3648		0.0998	0.0681	0.0188
Azerbaijan			0.0173		0.0009
Bahrain	0.0004			0.0004	
Bangladesh	0.0290	0.0262	0.2051	0.0167	
Barbados			0.0013	0.0084	0.0118
Belarus			0.0756	0.0516	0.0039
Belgium	0.8739	0.8893	0.4881	0.0467	0.0032
Belize			0.0022	0.0012	0.0001
Benin			0.0164	0.0783	0.0013
Bhutan				0.0000	
Bolivia	0.0437	0.0124	0.0306	0.0074	0.0193
Bosnia and Herzegovina			0.0302	0.0104	0.0011
Botswana					0.0001
Brazil	0.0008	1.9987	4.1840	3.0076	0.0900
Brunei			0.0022	0.0002	0.0214
Bulgaria			0.1154	0.1427	0.0123
Burkina Faso		0.0028	0.0006	0.0829	0.1359
Burundi				0.0004	0.0026
Cambodia			0.0738	0.0027	
Cameroon	0.0114	0.0036	0.0045	0.0003	0.0041
Canada	0.0328	0.0568	0.6619	0.2521	0.0050
Cape Verde			0.0018	0.0005	0.0025
Central African Republic		0.0194	0.0000	0.0004	0.0006
Chad		0.0027			
Chile	0.0018	0.1977	0.2257	0.3984	

China	29.0729	21.6108	31.4842	26.2230	93.0654
Colombia	0.0304	0.1581	0.5500	0.1240	0.0242
Comoros			0.0004		
Congo				2.8424	0.0023
Costa Rica	0.0186	0.1078	0.0584	0.0407	0.0276
Cote d'Ivoire		0.0049	0.0362	0.0059	0.0022
Croatia		0.0128	0.0314	0.0061	
Cuba			0.3096		
Cyprus	0.1331	0.0200	0.0003	0.0019	0.0117
Czech Republic		0.1651	0.0895	0.0623	0.0144
Denmark	0.1478	0.0872	0.4426	0.0977	0.0041
Djibouti	0.0202				
Dominica	0.0002		0.0006	0.0000	
Ecuador			0.0070	0.0023	0.0440
Egypt	0.3242	0.0753	0.4307	0.0036	
El Salvador	0.0004		0.1443	0.0782	0.0086
Eritrea			0.0008		
Estonia		0.0100	0.0070	0.0080	0.0067
Ethiopia	0.2112	0.2604	0.0443	0.1433	
Fiji	0.0104		0.0048	0.0040	0.0429
Finland	0.2015	0.0036	0.0510	0.0307	
France	1.4979	1.3278	0.3606	0.2002	0.0206
Gabon			0.0206	0.0374	
Gambia					0.0002
Georgia			0.0023	0.0170	
Germany	7.7396	3.1920	2.8119	0.6848	0.1165
Ghana			0.1283	0.0025	0.2071
Greece	0.0802	0.1682	0.0225	0.0114	0.0009
Grenada	0.0005	0.0006	0.0002		
Guatemala	0.0174	0.0330		0.0125	0.0039
Guinea		0.0191		0.0050	
Guyana			0.0029	0.0004	0.0078
Honduras	0.0264	1.0243	0.3798	0.2327	0.2052
Hungary	1.1836	0.0212	0.0569	0.0343	
Iceland		0.0013			
India	2.8404	2.5676	3.9814	10.5845	1.7401
Indonesia	5.0309	1.2325	0.0732	0.0394	0.0404
Ireland	0.0468	0.5918	0.1860	0.0410	
Israel			0.0008	0.0003	
Italy	1.5257	1.2084	0.9581	0.1353	0.0078
Jamaica	0.0602		0.0222	0.0418	
Japan	27.7383	22.7298	8.0213	0.1209	0.0000
Jordan	0.0056	0.0024	0.0153		
Kazakhstan		0.0388		0.0204	0.0102
Kenya	0.0011		0.0655	0.0279	0.0022

Kuwait				0.0002	0.0044
Kyrgyz Republic		0.0494	0.0100	0.0006	0.0000
Latvia		0.1018	0.0002		
Lebanon			0.1137	0.0580	0.0162
Libya	0.0374				
Lithuania		0.0046	0.0174	0.0013	0.0229
Luxembourg			0.0189	0.0011	0.0347
Macedonia			0.0016	0.0206	0.0099
Madagascar	0.1337	0.0022	0.0035	0.0064	0.0312
Malawi			0.0001	0.0015	0.0051
Malaysia	0.5660	0.0516	0.2182	0.1154	0.1300
Maldives		0.0032			
Mali	0.0187		0.0069	0.0048	0.1772
Mauritania			0.0026	0.0031	0.0105
Mauritius	0.1273	0.0665	0.0309	0.0254	0.0004
Mexico	2.0302	7.7035	0.9257	0.6007	0.1175
Moldova		0.0001	0.0008	0.0038	0.0006
Mongolia			0.0049	0.0032	0.0061
Montenegro				0.0060	0.0097
Morocco					0.0020
Mozambique			0.0015	0.0033	0.0844
Myanmar					0.0053
Namibia			0.0371		0.0000
Nepal	0.0096		0.0717		
Netherlands	0.3395	1.5060	0.4706	0.7043	0.0176
New Zealand	0.0201	0.0006			
Nicaragua	0.1152	0.0070	0.1454	0.0627	0.0328
Niger		0.0023	0.0064	0.0825	
Nigeria			0.5459	0.6856	0.0862
Norway	0.2239	0.0003		0.3443	0.0001
Oman	0.0002				
Pakistan	0.0229		0.0441	0.2476	0.5186
Palau				0.0007	
Papua New Guinea	0.0199		0.3929		
Paraguay	0.0593		0.1093	0.2761	
Peru	0.1400	0.1061	0.1005	0.2259	0.1859
Philippines	0.4891		0.0111	0.0000	0.0227
Poland	0.8863	1.3210	0.2110	0.1908	0.0365
Portugal	0.0032	0.0085	0.0037	0.0027	0.0026
Qatar				0.0680	
Romania	1.0698	0.0079	0.2251	0.0092	0.0007
Russia			3.4980	1.8222	1.4535
Rwanda				0.0006	
Saint Kitts and Nevis		0.0072	0.0012	0.0018	
Saint Lucia	0.0187	0.0215		0.0000	0.0039

Saint Vincent and the Grenadines			0.0008	0.0010	
Samoa			0.0065	0.0156	0.0234
Sao Tome and Principe			0.0001		0.0030
Saudi Arabia	0.1685	1.4889	0.1927	0.4585	
Senegal	0.0221		0.0091	0.0202	0.0496
Seychelles	0.0003	0.0004	0.0004	0.0472	0.0278
Sierra Leone					0.0012
Singapore	2.5914	1.8375	1.8804	0.8376	0.0094
Slovak Republic		0.0291	0.0514	0.0151	0.0164
Slovenia		0.0051	0.1356	0.1052	0.0019
Solomon Islands					0.0039
South Africa		0.0718	0.2210	1.8605	0.0413
<b>South Korea</b>	<b>0.8110</b>	<b>20.4291</b>	<b>22.2870</b>	<b>23.8555</b>	<b>0.0187</b>
Spain	1.2002	0.1498	0.5944	0.0960	0.0449
Sri Lanka	0.0167		0.0028	0.0055	0.2127
Sudan		0.0992	0.0054	0.0002	0.0006
Suriname	0.0029	0.0471	0.0659	0.0646	0.0777
Sweden	0.8087	1.0282	0.1995	0.0159	0.0015
Switzerland	0.2360	0.2185	0.2076	0.0433	0.1003
Syria	0.0022		0.0427	0.7650	
Taiwan			0.5019	0.3283	0.0498
Tanzania		0.0057	0.0132	0.0188	0.0535
Thailand	2.3114	1.6232	7.7705	2.8696	
Timor					0.0001
Togo	0.0232	0.0112	0.0593	0.0001	0.0312
Tonga	0.0006				
Trinidad and Tobago	0.0112	0.0280	0.0640	0.0828	
Tunisia	0.1265	0.0518	0.0298	0.0163	0.0549
Turkey	1.5985	0.2095	0.1174	0.0321	0.0335
Uganda		0.0447	0.0028	0.0126	0.0161
Ukraine			0.1806	0.0949	0.0553
United Arab Emirates	0.0456		0.0026	0.0006	0.0023
United Kingdom	0.5489	1.2266	0.4945	0.1964	0.0068
<b>United States</b>	<b>0.0019</b>	<b>0.1969</b>	<b>0.2473</b>	<b>0.0229</b>	<b>0.0000</b>
Uruguay	0.0183	0.0285	0.0076	0.0091	0.0025
Venezuela	0.0009	0.0013	0.0002	2.6736	
Vietnam				0.0837	
Yemen				0.0207	
Yugoslavia	1.0674			0.0240	0.0064
Zambia		0.0198	0.0004	0.0018	0.0290
Zimbabwe	0.0752	0.1433		0.0240	0.0096

## Appendix 2: Commodity Trade Share

Figures 2a-2i show the trade share between North Korea and various trade partners across three commodities: automobiles, anthracite coal, and fish/crustaceans. The data on automobiles reflects the trade share of *imports only*. Anthracite coal and fish/crustaceans reflect total trade share (both imports and exports). Data compiled using UN Comtrade data retrieval tool on the UN Comtrade website:

<https://comtrade.un.org>.

### Cars (7810):

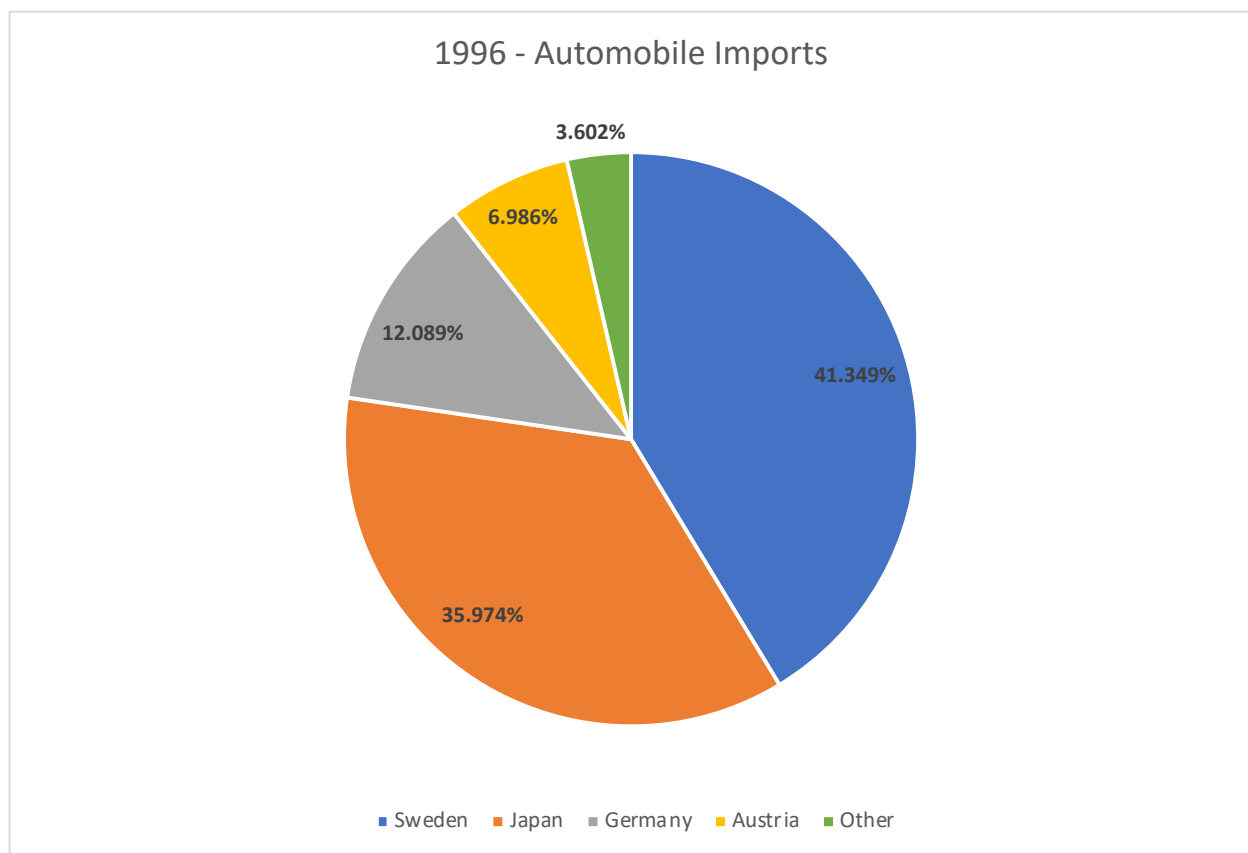


Figure 2a.

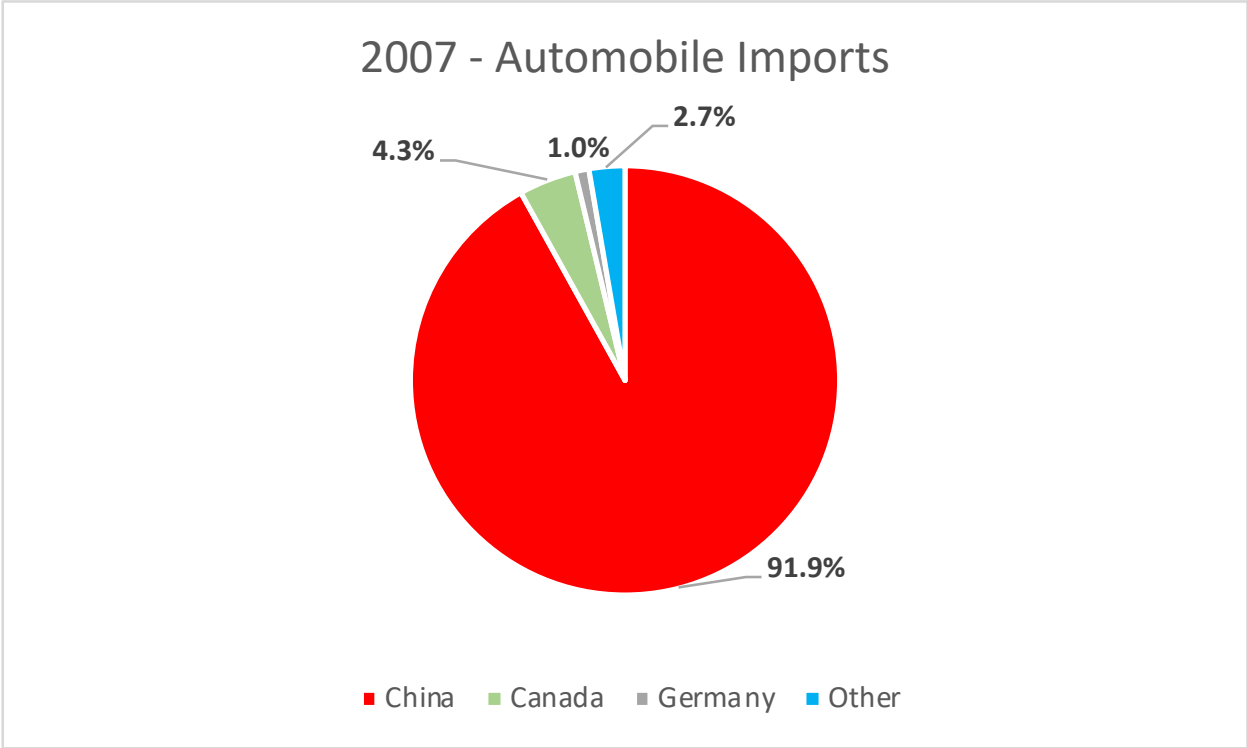


Figure 2b.

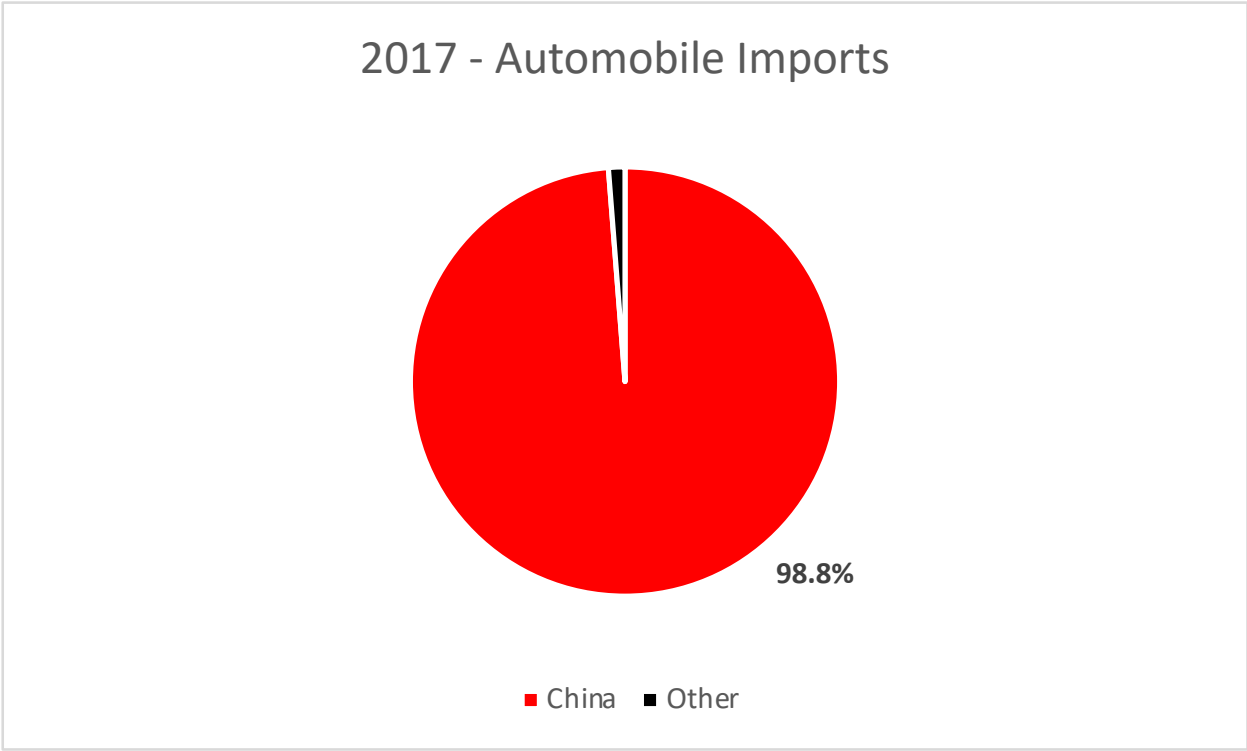


Figure 2c.

**Coal (3221):**

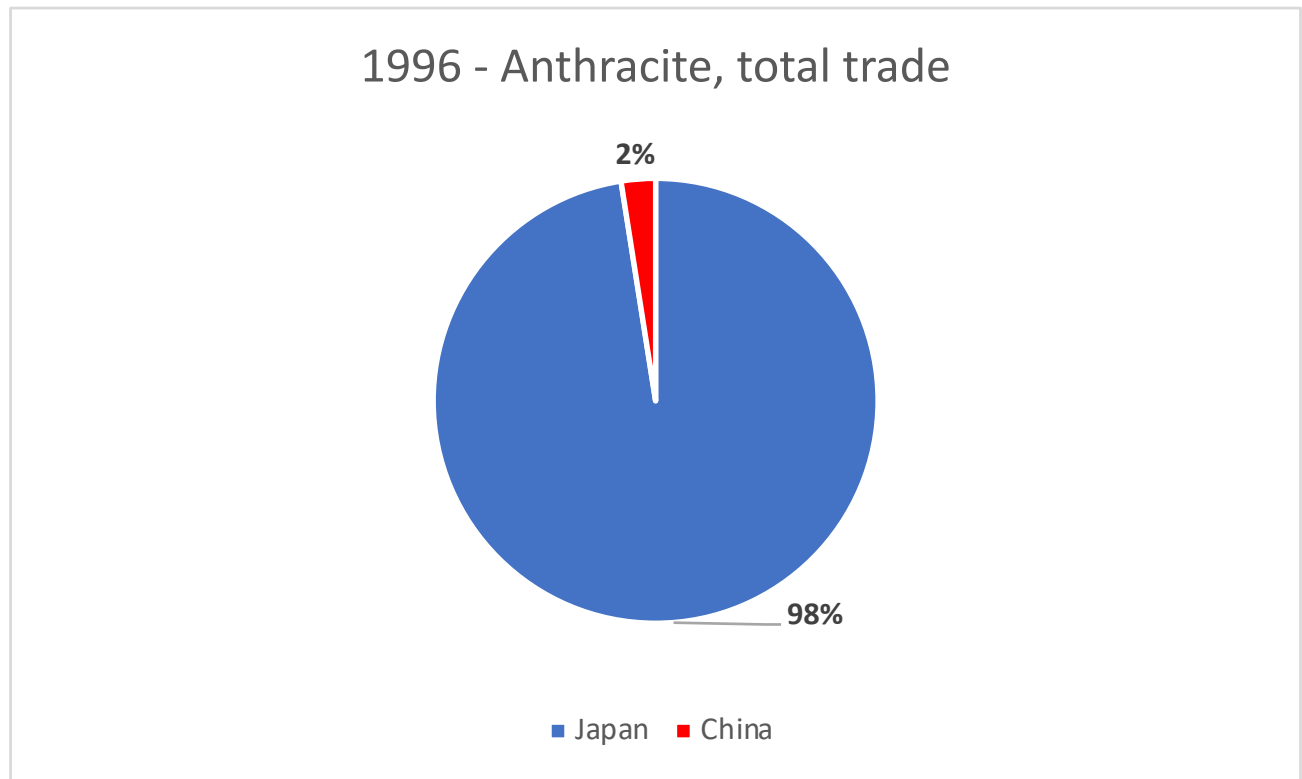


Figure 2d.

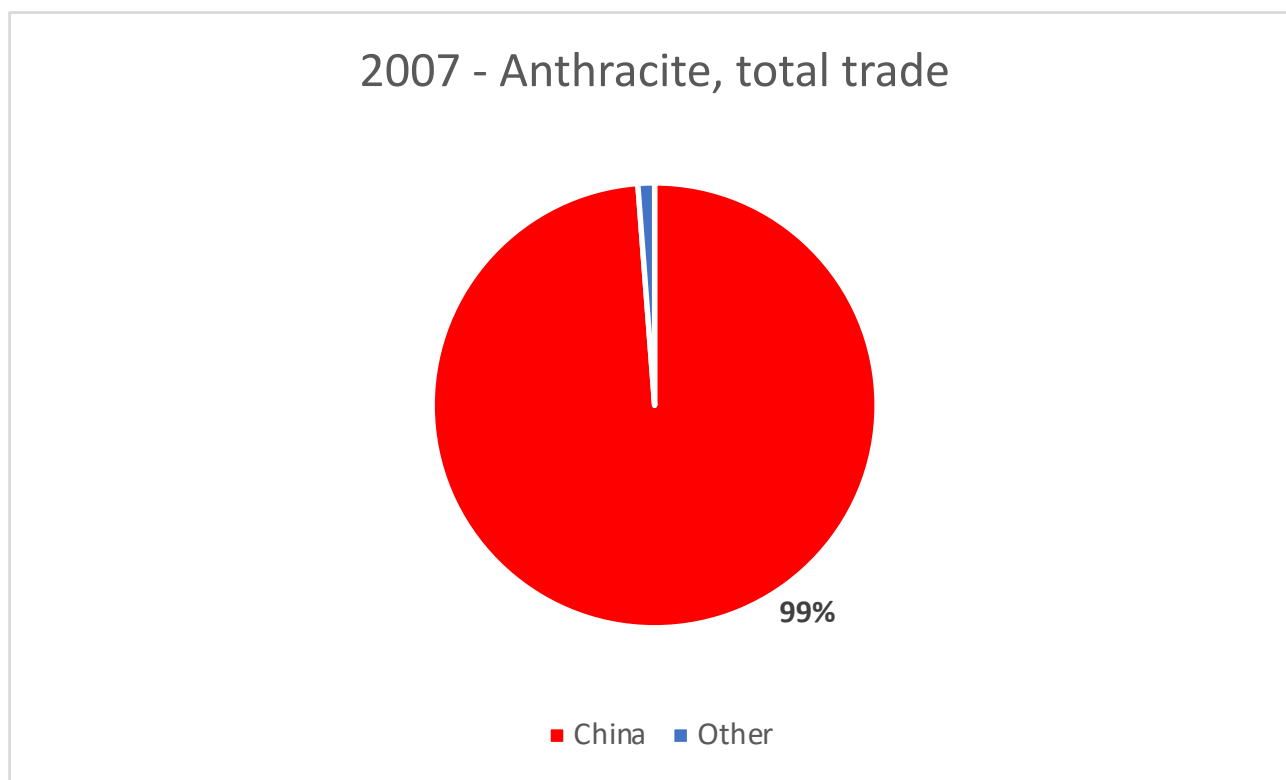


Figure 2e.

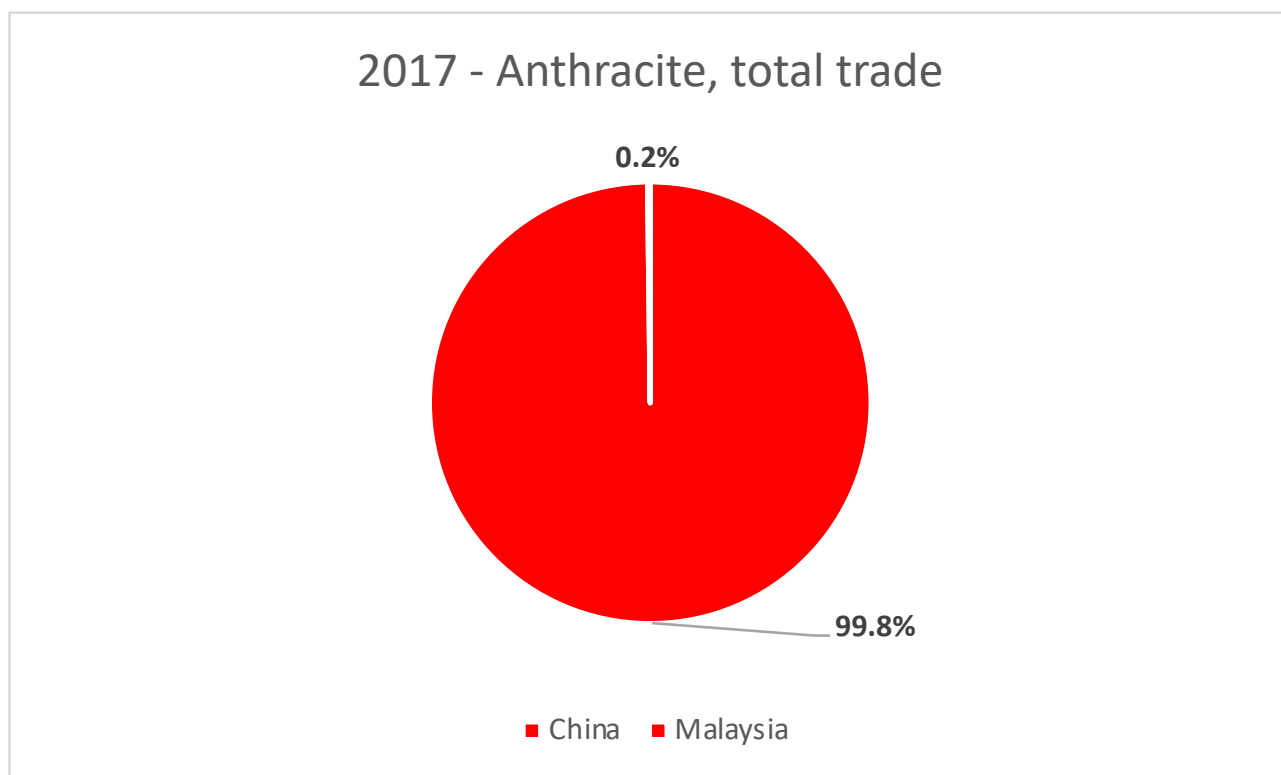


Figure 2f.



**Crustaceans and Fish (0360)**

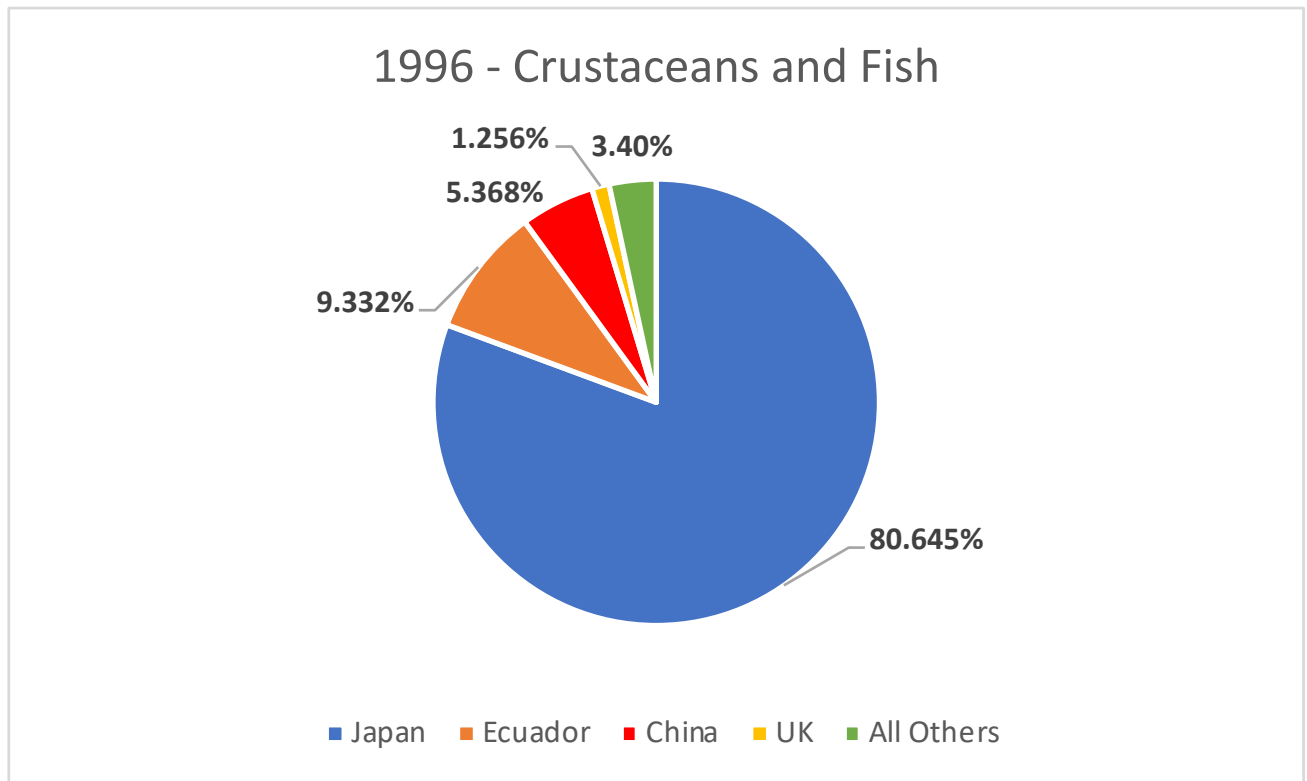


Figure 2g.

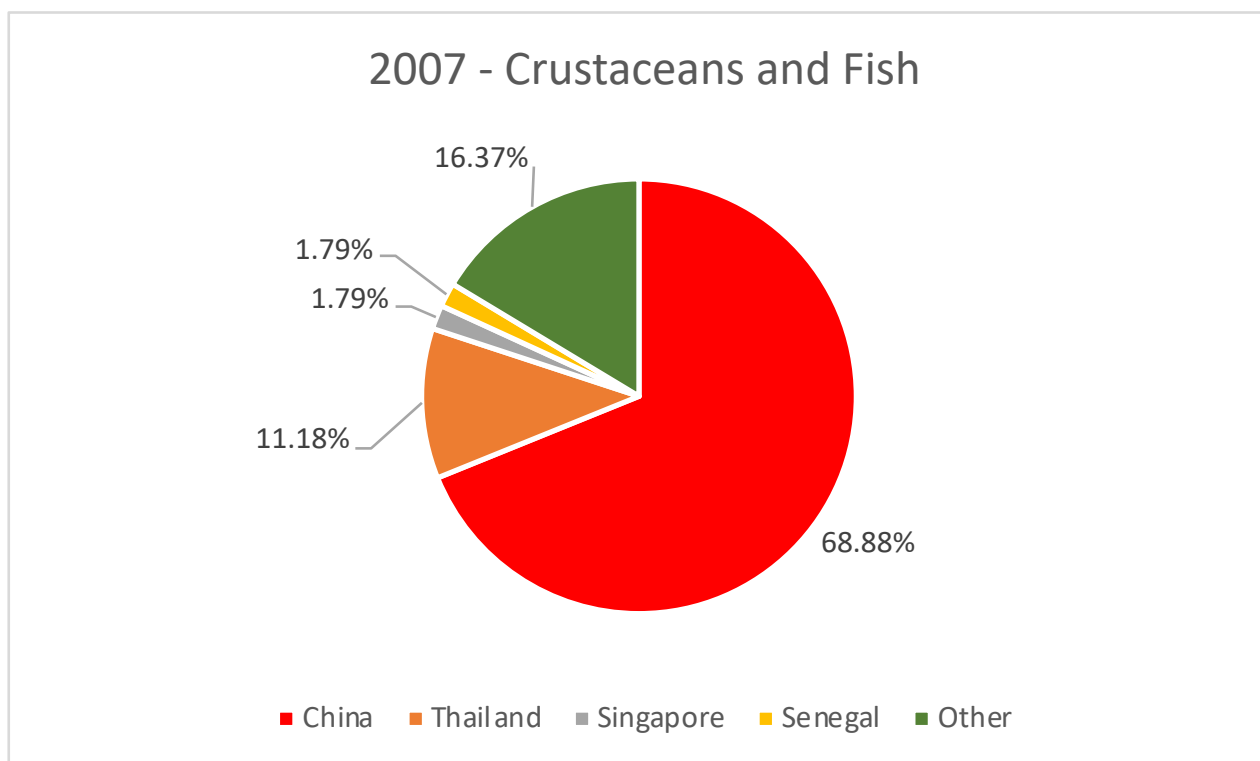


Figure 2h.

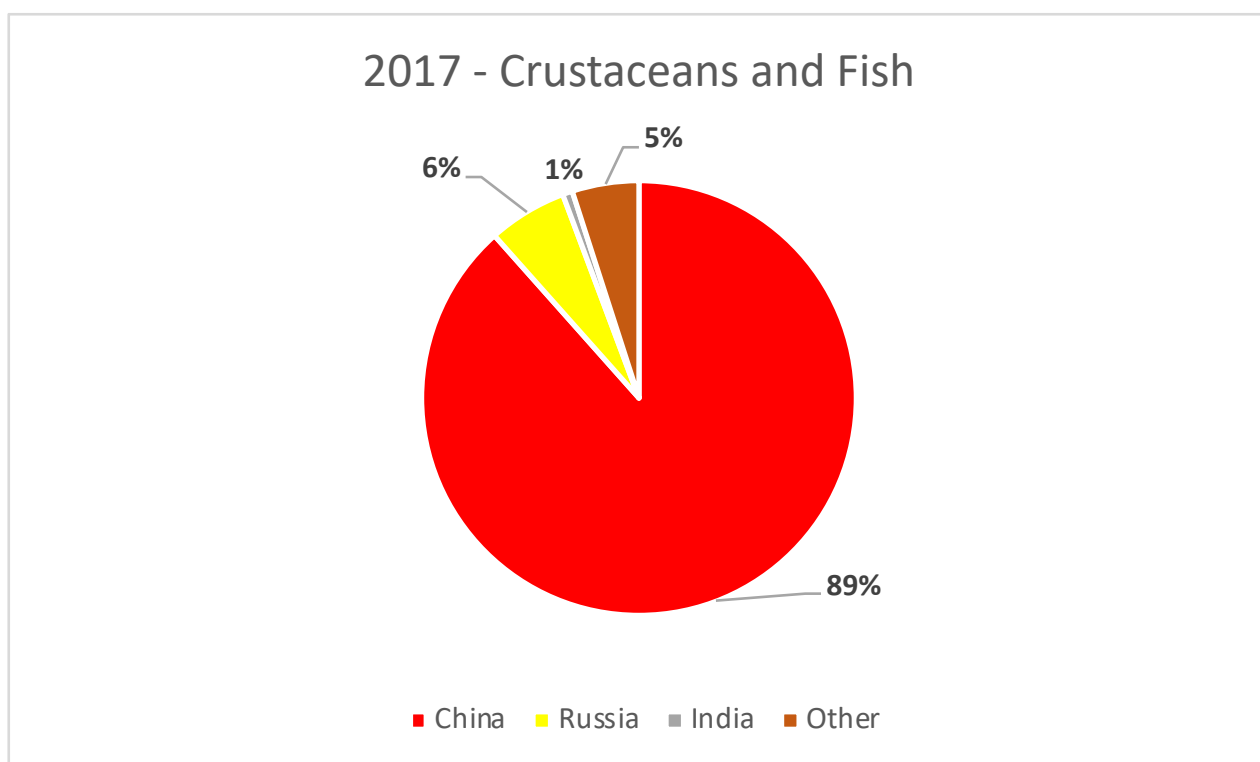


Figure 2i.

## Appendix 3: OLS Regression Results

Supplementary Material

5 February 2024

```
. reg MOSC1 i.diplomacy, robust level(90)
```

Linear regression	Number of obs	=	100
	F(3, 96)	=	2.72
	Prob > F	=	0.0487
	R-squared	=	0.0828
	Root MSE	=	11.194

MOSC1	Coefficient	Robust std. err.	t	P> t	[90% conf. interval]	
diplomacy						
1	-2.110005	1.870549	-1.13	0.262	-5.216765	.996756
2	-2.784278	1.406967	-1.98	0.051	-5.121083	-.4474723
3	5.851214	4.353135	1.34	0.182	-1.378827	13.08125
_cons	4.152245	1.358713	3.06	0.003	1.895584	6.408906

Marginal Effects (Adjusted Predictions) of our independent variable *Diplomacy* with 95% confidence intervals:

Adjusted predictions	Number of obs = 100
Model VCE: Robust	

Expression: Linear prediction, predict()

	Delta-method				[95% conf. interval]	
	Margin	std. err.	t	P> t		
diplomacy						
0	4.152245	1.358713	3.06	0.003	1.455221	6.849268
1	2.04224	1.285634	1.59	0.115	-.5097225	4.594203
2	1.367967	.365316	3.74	0.000	.6428201	2.093113
3	10.00346	4.135659	2.42	0.017	1.794239	18.21268

The marginal effects are plotted in the paper – see Figure 2.