

Online Appendix

Table A.1. Frequency ratios and AVEs of NTMs, by HS 2-digit sector

HS sections	HS2 codes	HS2 names	Simple freq. ratio of NTMs	AVE of NTMs all HS6 lines (mean)		AVE of NTMs if NTM=1 (mean)	
				Unconstr. estimation*	Constrained estimation [#]	Unconstr. estimation*	Constrained estimation [#]
I	1	Live animals	0.262	0.017	0.167	0.066	0.638
	2	Meat & edible meat offal	0.219	0.027	0.148	0.123	0.674
	3	Fish and crustaceans	0.180	0.017	0.107	0.097	0.596
	4	Dairy products, eggs	0.313	0.000	0.173	0.000	0.552
	5	Products of animal origin	0.112	0.024	0.066	0.218	0.592
II	6	Live trees & other plans, bulbs, roots	0.304	0.019	0.153	0.061	0.503
	7	Edible vegetables	0.234	0.037	0.138	0.157	0.590
	8	Edible fruit and nuts	0.265	0.043	0.151	0.161	0.572
	9	Coffee, tea, maté	0.224	-0.001	0.117	-0.003	0.521
	10	Cereals	0.223	0.087	0.190	0.392	0.852
	11	Products of the milling industry	0.191	0.072	0.121	0.376	0.633
	12	Oil seeds & oleaginous fruits	0.199	0.008	0.110	0.042	0.552
	13	Lac, gums & resins	0.206	-0.086	0.050	-0.418	0.244
	14	Vegetable plaiting materials	0.108	0.014	0.080	0.129	0.741
	III	15	Animal or vegetable fats and oils	0.202	0.067	0.145	0.333
IV	16	Preparations of meat, of fish	0.309	-0.090	0.105	-0.290	0.339
	17	Sugars	0.278	-0.027	0.150	-0.097	0.540
	18	Cocoa	0.250	-0.077	0.092	-0.309	0.366
	19	Preparations of cereals, flour, starch or milk	0.385	0.310	0.427	0.805	1.110
	20	Preparations of vegetables, fruit, nuts	0.274	0.018	0.170	0.065	0.619
	21	Miscellaneous edible preparations	0.317	0.018	0.208	0.056	0.658
	22	Beverages, spirits and vinegar	0.204	-0.023	0.105	-0.111	0.514
	23	Residues and waste from the food industries	0.120	0.003	0.082	0.026	0.681
	24	Tobacco	0.193	0.026	0.098	0.137	0.508
	V	25	Salt	0.053	0.027	0.045	0.511
26		Ores, slag and ash	0.023	0.007	0.013	0.307	0.585
27		Mineral fuels, mineral oils	0.085	0.045	0.076	0.531	0.896
VI	28	Inorganic chemicals	0.093	0.043	0.076	0.465	0.814
	29	Organic chemicals	0.130	0.044	0.091	0.339	0.705
	30	Pharmaceutical products	0.379	-0.056	0.184	-0.147	0.485
	31	Fertilizers	0.199	-0.036	0.076	-0.181	0.383
	32	Tanning or dyeing extracts	0.126	0.076	0.102	0.602	0.813
	33	Essential oils and resinoids	0.229	-0.062	0.087	-0.271	0.382
	34	Soaps	0.171	0.008	0.087	0.047	0.510
	35	Albuminoidal substances	0.149	0.002	0.062	0.012	0.417
	36	Explosives	0.078	0.036	0.048	0.464	0.613
	37	Photographic or cinematographic goods	0.075	0.050	0.069	0.666	0.920
	38	Miscellaneous chemical products	0.119	0.040	0.082	0.340	0.692
VII	39	Plastics and articles	0.122	0.048	0.088	0.392	0.715
	40	Rubber and articles	0.119	0.061	0.106	0.511	0.890
VIII	41	Raw hides and skins	0.077	0.051	0.078	0.668	1.017
	42	Leather	0.097	0.012	0.053	0.119	0.549
	43	Fur skins and artificial fur	0.036	0.010	0.017	0.270	0.480
IX	44	Wood and articles of wood	0.110	0.048	0.075	0.433	0.679

	45	Cork and articles	0.074	0.135	0.141	1.831	1.915
	46	Straw	0.081	-0.014	0.020	-0.177	0.246
X	47	Pulp of wood	0.058	0.061	0.084	1.062	1.457
	48	Paper	0.106	0.028	0.066	0.262	0.627
	49	Printed books, newspapers	0.075	0.080	0.088	1.065	1.166
XI	50	Silk	0.041	0.015	0.029	0.366	0.702
	51	Wool	0.079	0.053	0.081	0.665	1.025
	52	Cotton	0.096	0.017	0.061	0.182	0.635
	53	Other vegetable textile fibres	0.071	0.030	0.047	0.423	0.665
	54	Man-made filaments	0.118	0.013	0.060	0.107	0.506
	55	Man-made staple fibres	0.105	0.017	0.062	0.160	0.593
	56	Wadding	0.115	0.051	0.082	0.447	0.711
	57	Carpets	0.096	0.050	0.075	0.518	0.782
	58	Special woven fabrics	0.081	0.032	0.054	0.395	0.666
	59	Impregnated, coated, covered, lamin. textile fabrics	0.095	0.058	0.087	0.607	0.918
	60	Knitted or crocheted fabrics	0.087	0.046	0.076	0.529	0.878
	61	Apparel & clothing accessories, knitted/ crocheted	0.090	0.029	0.061	0.327	0.681
	62	Apparel & clothing access., not knitted/ crocheted	0.109	0.051	0.082	0.468	0.755
	63	Other made-up textile articles	0.094	0.058	0.084	0.611	0.887
XII	64	Footwear	0.149	0.026	0.086	0.176	0.579
	65	Headgear	0.055	0.022	0.048	0.412	0.876
	66	Umbrellas	0.052	0.015	0.028	0.286	0.535
	67	Feathers	0.045	0.031	0.036	0.697	0.805
XIII	68	Stone articles	0.058	0.051	0.059	0.875	1.018
	69	Ceramic products	0.099	0.024	0.058	0.247	0.586
	70	Glass articles	0.092	0.074	0.095	0.804	1.037
XIV	71	Pearls, precious stones and metals	0.003	0.002	0.002	0.732	0.732
XV	72	Iron & steel	0.084	0.034	0.062	0.408	0.746
	73	Articles of iron or steel	0.110	0.048	0.075	0.441	0.679
	74	Copper	0.064	0.025	0.047	0.386	0.739
	75	Nickel	0.026	0.034	0.038	1.300	1.443
	76	Aluminum	0.099	0.026	0.060	0.259	0.605
	78	Lead	0.031	0.050	0.057	1.605	1.841
	79	Zinc	0.057	0.015	0.041	0.269	0.711
	80	Tin	0.041	0.031	0.032	0.737	0.785
	81	Other base metals	0.022	0.052	0.055	2.327	2.461
	82	Tools	0.110	0.079	0.106	0.720	0.962
	83	Miscellaneous articles of base metal	0.095	0.056	0.077	0.592	0.810
XVI	84	Nuclear reactors	0.118	0.087	0.111	0.736	0.940
	85	Electrical machinery & equipment	0.150	0.077	0.121	0.516	0.806
XVII	86	Railway	0.057	0.057	0.060	0.994	1.053
	87	Vehicles	0.150	0.034	0.105	0.230	0.697
	88	Aircraft	0.045	0.030	0.036	0.667	0.799
	89	Ships, boats	0.052	0.008	0.032	0.149	0.613
XVIII	90	Optical, photog., measuring, prec., medical instr.	0.136	0.060	0.106	0.443	0.777
	91	Clocks and watches	0.000	0.000	0.000	0.000	0.000
	92	Musical instruments	0.045	0.018	0.033	0.400	0.737
XIX	93	Arms and ammunitions	0.044	0.008	0.021	0.182	0.474
XX	94	Furniture	0.114	0.081	0.129	0.712	1.136
	95	Toys	0.127	0.053	0.100	0.419	0.788
	96	Miscellaneous manufactured articles	0.088	0.054	0.078	0.618	0.890

*Unconstrained estimation means that impact of NTMs on trade is not restricted in the econometric estimation.

#Constrained estimation means that NTMs are constrained to have a non positive impact on trade in the estimation.

Table A.2. AVEs of trade-reducing and trade-facilitating NTMs, by HS 2-digit sector

HS2 codes	HS2 names	Share of trade-reducing in NTM-ridden observations	Mean AVE trade-reducing NTMs (AVE>0)	Mean AVE trade-facilitating NTMs (AVE≤0)
01	Live animals	0.408	1.495	-0.919
02	Meat & edible meat offal	0.446	1.394	-0.899
03	Fish and crustaceans	0.504	1.071	-0.893
04	Dairy products, eggs	0.408	1.267	-0.875
05	Products of animal origin	0.616	0.888	-0.858
06	Live trees & other plans, bulbs, roots	0.525	0.903	-0.868
07	Edible vegetables	0.537	1.034	-0.862
08	Edible fruit and nuts	0.529	1.084	-0.878
09	Coffee, tea, maté	0.473	0.994	-0.899
10	Cereals	0.542	1.533	-0.956
11	Products of the milling industry	0.648	1.035	-0.834
12	Oil seeds & oleaginous fruits	0.467	1.119	-0.900
13	Lac, gums & resins	0.267	0.597	-0.788
14	Vegetable plaiting materials	0.487	1.263	-0.948
15	Animal or vegetable fats and oils	0.554	1.269	-0.829
16	Preparations of meat, of fish	0.329	0.866	-0.858
17	Sugars	0.344	1.470	-0.921
18	Cocoa	0.322	1.012	-0.936
19	Preparations of cereals, flour, starch or milk	0.641	1.557	-0.539
20	Preparations of vegetables, fruit, nuts	0.454	1.172	-0.856
21	Miscellaneous edible preparations	0.424	1.384	-0.923
22	Beverages, spirits and vinegar	0.414	1.079	-0.952
23	Residues and waste from the food industries	0.518	0.878	-0.892
24	Tobacco	0.503	1.055	-0.795
25	Salt	0.674	1.188	-0.890
26	Ores, slag and ash	0.712	0.793	-0.893
27	Mineral fuels, mineral oils	0.596	1.483	-0.878
28	Inorganic chemicals	0.629	1.226	-0.827
29	Organic chemicals	0.594	1.156	-0.859
30	Pharmaceutical products	0.344	1.211	-0.858
31	Fertilizers	0.379	0.937	-0.862
32	Tanning or dyeing extracts	0.732	1.100	-0.757
33	Essential oils and resinoids	0.299	1.032	-0.828
34	Soaps	0.492	0.933	-0.809
35	Albuminoidal substances	0.577	0.666	-0.882
36	Explosives	0.768	0.861	-0.849
37	Photographic or cinematographic goods	0.738	1.197	-0.826
38	Miscellaneous chemical products	0.626	1.055	-0.856
39	Plastics and articles	0.659	1.025	-0.833
40	Rubber and articles	0.616	1.372	-0.869
41	Raw hides and skins	0.656	1.483	-0.885
42	Leather	0.529	0.983	-0.851
43	Fur skins and artificial fur	0.784	0.609	-0.964
44	Wood and articles of wood	0.725	0.924	-0.863
45	Cork and articles	0.795	2.507	-0.799
46	Straw	0.381	0.514	-0.603
47	Pulp of wood	0.600	2.381	-0.917

48	Paper	0.603	0.989	-0.843
49	Printed books, newspapers	0.884	1.334	-0.973
50	Silk	0.647	1.081	-0.943
51	Wool	0.622	1.616	-0.903
52	Cotton	0.537	1.098	-0.879
53	Other vegetable textile fibres	0.761	0.859	-0.968
54	Man-made filaments	0.602	0.749	-0.865
55	Man-made staple fibres	0.572	0.929	-0.867
56	Wadding	0.739	0.910	-0.866
57	Carpets	0.701	1.080	-0.798
58	Special woven fabrics	0.665	1.076	-0.962
59	Impregnated, coated, covered or laminated textile fabrics	0.662	1.302	-0.753
60	Knitted or crocheted fabrics	0.607	1.465	-0.918
61	Articles of apparel & clothing accessories, knitted/ crocheted	0.621	1.058	-0.871
62	Art. of apparel & clothing accessories, not knitted/ crocheted	0.732	0.955	-0.863
63	Other made-up textile articles	0.718	1.208	-0.905
64	Footwear	0.563	1.002	-0.886
65	Headgear	0.558	1.495	-0.953
66	Umbrellas	0.719	0.682	-0.726
67	Feathers	0.903	0.879	-1.000
68	Stone articles	0.813	1.245	-0.741
69	Ceramic products	0.635	0.880	-0.855
70	Glass articles	0.771	1.293	-0.848
71	Pearls, precious stones and metals	1.000	0.732	-
72	Iron & steel	0.629	1.124	-0.806
73	Articles of iron or steel	0.747	0.866	-0.816
74	Copper	0.614	1.159	-0.843
75	Nickel	0.833	1.727	-0.837
76	Aluminum	0.598	0.989	-0.828
78	Lead	0.815	2.194	-0.988
79	Zinc	0.608	1.087	-1.000
80	Tin	0.931	0.834	-0.574
81	Other base metals	0.868	2.823	-0.922
82	Tools	0.742	1.241	-0.780
83	Miscellaneous articles of base metal	0.770	1.013	-0.819
84	Nuclear reactors	0.766	1.212	-0.819
85	Electrical machinery & equipment	0.690	1.115	-0.815
86	Railway	0.942	1.112	-0.910
87	Vehicles	0.573	1.024	-0.838
88	Aircraft	0.814	1.015	-0.848
89	Ships, boats	0.553	1.036	-0.947
90	Optical, photographic, measuring, precision, medical instr.	0.654	1.159	-0.911
91	Clocks and watches	-	-	-
92	Musical instruments	0.663	1.077	-0.931
93	Arms and ammunitions	0.672	0.663	-0.801
94	Furniture	0.593	1.800	-0.871
95	Toys	0.644	1.151	-0.904
96	Miscellaneous manufactured articles	0.723	1.186	-0.863

Table A.3. Trade restrictiveness indices, by country

Country	T^{merc}	T^{merc}	T^{merc}	T	T	T	dT	dT	dT
	Tariffs	Overall protection		Tariffs	Overall protection		Tariffs	Overall protection	
		Constrained estimation [#]	Unconstr. estimation ^{*,1}		Constrained estimation [#]	Unconstr. estimation [*]		Constrained estimation [#]	Unconstr. estimation [*]
Albania	0.118	0.127	0.114	0.135	0.161	0.122	0.018	0.026	0.015
Argentina	0.130	0.178	0.121	0.142	0.324	0.265	0.020	0.105	0.070
Australia [◇]	0.058	0.149	0.056	0.097	0.314	0.150	0.009	0.098	0.022
Austria [◇]	0.016	0.026	0.023	0.055	0.407	0.236	0.003	0.166	0.055
Belgium [◇]	0.021	0.033	0.031	0.068	0.328	0.272	0.005	0.108	0.074
Burkina Faso [♦]	0.106	0.163	0.143	0.121	0.292	0.267	0.015	0.085	0.071
Bangladesh [♦]	0.172	0.172	0.172	0.220	0.220	0.220	0.049	0.049	0.049
Belarus	0.085	0.168	0.084	0.106	0.323	0.211	0.011	0.105	0.045
Bolivia	0.080	0.122	0.020	0.087	0.228		0.008	0.052	-0.026
Brazil [⊥]	0.109	0.262	0.033	0.131	0.463	0.180	0.017	0.214	0.033
Brunei	0.148	0.196	0.158	0.585	0.863	0.842	0.343	0.745	0.708
Canada [◇]	0.028	0.041	-0.052	0.077	0.117		0.006	0.014	-0.063
Switzerland [◇]	0.041	0.041	0.041	0.195	0.198	0.198	0.038	0.039	0.039
Chile [◇]	0.069	0.103	0.052	0.069	0.207	0.070	0.005	0.043	0.005
China [⊥]	0.137	0.233	0.083	0.206	0.407	0.233	0.042	0.166	0.054
Ivory Coast	0.093	0.323	-0.360	0.117	0.543		0.014	0.294	-0.266
Cameroon	0.139	0.162	0.139	0.159	0.221	0.175	0.025	0.049	0.031
Colombia	0.112	0.235	-0.009	0.131	0.460	0.258	0.017	0.212	0.067
Costa Rica	0.041	0.041	0.040	0.072	0.082	0.073	0.005	0.007	0.005
Czech Rep. [◇]	0.041	0.047	0.030	0.063	0.087		0.004	0.008	-0.003
Germany [◇]	0.015	0.022	0.020	0.049	0.293	0.219	0.002	0.086	0.048
Denmark [◇]	0.018	0.027	0.034	0.047	0.258	0.487	0.002	0.067	0.237
Algeria	0.131	0.478	0.006	0.160	0.704	0.366	0.026	0.496	0.134
Egypt	0.128	0.571	0.152	0.197	0.837	0.617	0.039	0.700	0.380
Spain [◇]	0.015	0.032	0.030	0.056	0.341	0.313	0.003	0.116	0.098
Estonia [◇]	0.009	0.009	0.009	0.050	0.050	0.050	0.002	0.002	0.002
Ethiopia [♦]	0.136	0.136	0.136	0.181	0.181	0.181	0.033	0.033	0.033
Finland [◇]	0.011	0.020	0.017	0.043	0.263	0.188	0.002	0.069	0.035
France [◇]	0.014	0.020	0.019	0.046	0.226	0.199	0.002	0.051	0.039
Gabon	0.153	0.155	0.157	0.175	0.180	0.178	0.031	0.032	0.032
Great Britain [◇]	0.019	0.028	0.026	0.092	0.271	0.216	0.008	0.073	0.047
Ghana	0.145	0.190	0.128	0.247	0.381	0.308	0.061	0.145	0.095
Greece [◇]	0.013	0.027	0.026	0.052	0.354	0.347	0.003	0.125	0.120
Guatemala	0.068	0.086	0.001	0.098	0.158		0.010	0.025	-0.037
Hong Kong	0.000	0.004	-0.009	0.000	0.053		0.000	0.003	-0.009
Honduras	0.053	0.053	0.053	0.080	0.080	0.080	0.006	0.006	0.006
Hungary [◇]	0.061	0.069	0.039	0.088	0.125		0.008	0.016	-0.007
Indonesia	0.045	0.073	0.025	0.083	0.333	0.259	0.007	0.111	0.067
India [⊥]	0.257	0.257	0.257	0.298	0.298	0.298	0.089	0.089	0.089
Ireland [◇]	0.008	0.012	0.011	0.042	0.134	0.112	0.002	0.018	0.013
Iceland [◇]	0.032	0.032	0.032	0.128	0.131	0.131	0.016	0.017	0.017
Italy [◇]	0.017	0.027	0.026	0.073	0.272	0.248	0.005	0.074	0.062
Jordan	0.119	0.261	0.092	0.162	0.439	0.279	0.026	0.193	0.078
Japan [◇]	0.082	0.088	0.054	0.330	0.364	0.216	0.109	0.133	0.047
Kazakhstan	0.043	0.146	-0.006	0.075	0.320		0.006	0.103	-0.031

Kenya	0.117	0.117	0.117	0.183	0.183	0.183	0.033	0.033	0.033
South Korea [◊]	0.107	0.108	0.108	0.510	0.515	0.515	0.260	0.265	0.265
Lebanon	0.057	0.116	-0.029	0.098	0.265		0.010	0.070	-0.037
Sri Lanka	0.074	0.074	0.074	0.138	0.138	0.138	0.019	0.019	0.019
Lithuania	0.021	0.053	-0.045	0.064	0.177		0.004	0.031	-0.054
Latvia	0.028	0.099	-0.046	0.073	0.261		0.005	0.068	-0.050
Morocco	0.228	0.594	0.083	0.275	0.894	0.677	0.076	0.800	0.458
Moldova	0.048	0.048	0.048	0.205	0.205	0.205	0.042	0.042	0.042
Madagascar [♦]	0.029	0.029	0.029	0.046	0.046	0.046	0.002	0.002	0.002
Mexico [◊]	0.153	0.387	0.214	0.213	0.595	0.485	0.045	0.354	0.235
Mali [♦]	0.095	0.112	0.091	0.110	0.176	0.113	0.012	0.031	0.013
Mauritius	0.122	0.159	0.106	0.232	0.321	0.250	0.054	0.103	0.062
Malawi [♦]	0.091	0.148	0.138	0.122	0.263	0.247	0.015	0.069	0.061
Malaysia	0.063	0.302	0.155	0.269	0.559	0.429	0.072	0.312	0.184
Nigeria	0.219	0.475	-0.065	0.307	0.677	0.342	0.094	0.458	0.117
Nicaragua	0.048	0.130	0.002	0.080	0.304		0.006	0.092	-0.003
Netherlands [◊]	0.014	0.025	0.024	0.061	0.322	0.298	0.004	0.104	0.089
Norway [◊]	0.046	0.060	0.023	0.258	0.293	0.182	0.066	0.086	0.033
New Zealand [◊]	0.028	0.176	0.094	0.045	0.426	0.332	0.002	0.182	0.110
Oman	0.117	0.157	0.078	0.258	0.340	0.207	0.067	0.116	0.043
Peru	0.126	0.243	0.083	0.129	0.426	0.250	0.017	0.182	0.063
Philippines	0.037	0.642	0.279	0.068	0.788	0.592	0.005	0.621	0.350
Pap. N. Guinea	0.035	0.035	0.034	0.166	0.173	0.169	0.028	0.030	0.029
Poland [◊]	0.104	0.118	0.080	0.151	0.212	0.137	0.023	0.045	0.019
Portugal [◊]	0.037	0.050	0.047	0.176	0.304	0.252	0.031	0.092	0.063
Paraguay	0.119	0.219	0.029	0.130	0.351		0.017	0.123	-0.026
Romania	0.120	0.143	0.065	0.157	0.225		0.025	0.050	-0.009
Russia [⊥]	0.103	0.292	0.055	0.126	0.499	0.287	0.016	0.249	0.082
Rwanda [♦]	0.092	0.092	0.092	0.116	0.116	0.116	0.013	0.013	0.013
Saudi Arabia	0.142	0.158	0.152	0.350	0.374	0.367	0.123	0.140	0.135
Sudan [♦]	0.174	0.598	0.145	0.215	0.773	0.520	0.046	0.598	0.270
Senegal [♦]	0.086	0.488	0.007	0.108	0.676	0.227	0.012	0.457	0.051
Singapore	0.000	0.108	0.046	0.000	0.312	0.214	0.000	0.097	0.046
El Salvador	0.066	0.066	0.066	0.101	0.101	0.101	0.010	0.010	0.010
Slovenia [◊]	0.102	0.230	0.052	0.121	0.398	0.207	0.015	0.158	0.043
Sweden [◊]	0.015	0.019	0.018	0.053	0.180	0.152	0.003	0.032	0.023
Thailand	0.110	0.135	0.088	0.169	0.252	0.173	0.028	0.064	0.030
Trinidad & T.	0.072	0.072	0.072	0.298	0.298	0.298	0.089	0.089	0.089
Tunisia	0.229	0.400	0.157	0.300	0.576	0.395	0.090	0.331	0.156
Turkey [◊]	0.044	0.046	0.046	0.096	0.107	0.106	0.009	0.011	0.011
Tanzania	0.137	0.618	0.249	0.160	0.880	0.713	0.026	0.774	0.509
Uganda [♦]	0.066	0.067	0.065	0.083	0.085	0.078	0.007	0.007	0.006
Ukraine	0.064	0.134	-0.108	0.154	0.383		0.024	0.147	-0.085
Uruguay	0.097	0.220	-0.075	0.117	0.460		0.014	0.212	-0.035
United States [◊]	0.025	0.091	-0.106	0.050	0.273		0.003	0.075	-0.103
Venezuela	0.136	0.234	0.044	0.159	0.396	0.141	0.025	0.157	0.020
South Africa	0.070	0.075	0.067	0.133	0.149	0.128	0.018	0.022	0.016
Zambia [♦]	0.086	0.115	0.083	0.113	0.208	0.128	0.013	0.043	0.016

*Unconstrained estimation means that impact of NTMs on trade is not restricted in the econometric estimation.

#Constrained estimation means that NTMs are constrained to have a non positive impact on trade in the estimation.

¹ With an externality and some negative AVEs, the MTRI can be smaller or larger than the TRI and the two indices may not have similar signs. ♦: LDCs. ⊥: BRIC countries. ◊: OECD countries.