

Data Appendix for the Article Entitled “Determinants of World Demand for U.S. Corn Seeds: The Role of Trade Costs”

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This appendix provides description of the data sources, a copy of the data tables (also available in excel format) and the simple regressions used to derived expected prices of corn in various countries. The variable definitions are included in the excel file.

Data Sources

The U.S. seed corn export data are based on Foreign Agricultural Trade of the United States (FATUS) from the USDA, which reports both value and volume. Under FATUS, volume is derived from value divided by the unit value of the largest seed category. We found some irregularities in the volume data reported in FATUS. Hence, we transformed the seed export value (US\$) into quantities (metric tons) using the U.S. seed corn price in respective years as the average export unit value. This step provides quantity data that are consistent with the value data and that are quality adjusted, as the export volume is expressed in the same volume unit for every country. The U.S. seed corn quantities and prices are from the Economic Research Service, USDA. Annual seed corn production in the United States is calculated by adding total exports of U.S. seeds to the estimated total domestic (U.S.) use of seeds.¹ Annual U.S. domestic use of seed is assumed to be equal to corn planted acres times the seed rate as assumed by USDA. Corn planted area for all purposes is taken from the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, USDA. Average seeding rate per acre for corn is based on data from Cropping Practices surveys and

¹ When estimating trade share by country, we compute shares based on total seed use for countries included in the sample, and hence shares do add up to one.

the Agricultural Resource Management Survey (ARMS), Economic Research Service, USDA. The U.S. corn seed use data are by calendar year.

The seed export data are based on the calendar year. We concentrate on 1989 to 2004 because of the limited export data availability in FATUS. Our final country sample consists of 48 countries based on the following criteria. This sample was selected based on an average minimum corn production of 1 million metric tons (mmt) per year, including seed corn and forage, during the time period of the study. Australia was added to the sample because it has very restrictive corn seed regulations, although its corn production is smaller than 1 mmt. Total world corn production and each country's corn production are based on the Food and Agriculture Organization of the United Nations FAOSTAT.²

The FAOSTAT provides production data on Seed Maize (HS code: 1005) as well as Maize for Forage and Silage (HS code: 1214.90). Growers buy hybrid corn seed to produce silage just as they would to produce corn for other purposes. We found inconsistencies between large seed net imports and small corn outputs reported under HS 1005 in some countries in the FAOSTAT data. Notably, we found that Japan, the United Kingdom, and the Netherlands have sizeable imports of corn seeds but no significant seed maize production in the FAOSTAT data. Most of these countries use corn for silage instead of maize. Given these facts, we account for the corn production for silage as being relevant for the overall demand for seed corn. To aggregate these two types meaningfully, we use 8 bushels of grain maize per one ton of silage to get units in green maize physical equivalent. Corn production data are by calendar year. Our original country sample consisted of 54 countries. We deleted Belarus, Moldova, Kazakhstan, and the Russian federation for which we found some irregularities (wide unexplainable swings) in corn production data that could

² World corn output here is the sum of corn production in countries included in the sample so as to be consistent with the definition of trade shares.

not be reconciled using other data sources. We also deleted Malawi and Nigeria, for which data were incomplete.

As noted earlier, in our framework the expected producer price of corn is assumed to approximate the (unobserved) unit cost of corn seed production under the assumption of perfect competition in corn production and CRTS. We obtain the expected price by regressing the corn price of each country on the lagged U.S. corn price including time trend and then getting the predicted values. The current producer price is by calendar year and based on the FAOSTAT.

Tariffs applied to U.S.-sourced corn seeds are based on World Bank's World Integrated Trade Solution (WITS) database (see Table 7 in the Data Appendix). Tariff data are currently limited to 1996-2004 in WITS. Hence, we found some pre-1996 data from the Trade Analysis and Information System (TRAINS) database and Agricultural Market Access Database (AMAD). We use whatever data are available for 1989-1995 in TRAINS or AMAD and backtrack to 1989 assuming the same value for missing information. Tariff data are by calendar year.

Direct air distance between the U.S. and the major financial capital of each country is based on the World Distance Tables from the Inter-University Consortium for Political and Social Research (ICPSR) database. We use the log of air distance between the two major cities of the respective countries as the proximity measure. The cities are usually the capitals of the two countries. But we substitute the capital for a major city in a few cases, as the major city seems to be the country's economic center. For example, we use Shanghai for China rather than Beijing. Distance is set equal to zero for the United States.

The number of SPS regulations imposed by the importing country is based on data from the Export Certification Project Demonstration (EXCERPT) database maintained at

Purdue University on behalf of USDA APHIS. The SPS regulations for each country are updated in 2006 by the EXCERPT. However, older regulations starting from 1996 are reported in the EXCERPT archives. We look at phytosanitary certificates, import permit, and field inspection as well as some other demanding regulatory requirements, including seed testing, post-entry testing, and quarantine. Virtually all countries require a phytosanitary certificate, except Canada. Australia and China have a seed import ban, although China has imported a small amount of seeds in recent years. Some seed lines have to be imported by China to initiate local production. Hence, the Chinese trade ban has not been as tight in recent years, although seed imports remain very small relative to the size of the Chinese corn sector. We use a large number for the SPS count (prohibitive SPS compliance cost) for China and Australia to mimic an SPS count equivalent to the bans.

Over time, most countries have streamlined their SPS regulations. Argentina and Chile have a low SPS count. The most radical simplifications have occurred in some Eastern European countries, which are now members of the European Union (EU). Notably, in the last 10 years, Hungary started with an SPS count of 68, streamlined it to 30 in 2003, and eventually adopted EU regulations (SPS count of 3) with EU accession in 2004. South Africa, India, and Indonesia also simplified their regulations by removing all SPS requirements. Egypt, Zimbabwe, and, surprisingly, Brazil have very high SPS counts. The Brazilian case is puzzling, as the country is a large corn producer that would benefit from accessing better seeds.

Tables

Table 1: Total import demand of the U.S. corn seed by countries in Metric tons (1989-2004)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	493943.4	522192.1	535973.3	569043.1	538175.3	579514.4	542765.6	612930.0	629212.2	627780.7	600873.6	627964.1	590830.5	637413.9	638277.8	653424.5
Argentina	619.4	130.8	310.1	543.0	532.2	471.5	1765.5	3042.0	10830.8	1767.9	1240.6	1243.9	469.3	653.8	410.9	279.0
Australia	14.0	0.0	11.3	242.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	10.6	2.0	3.9	15.1	31.8
Austria	243.9	466.9	537.9	1622.0	180.9	1588.8	972.5	301.5	682.8	510.0	144.9	721.6	1384.1	450.9	997.2	2645.8
Belgium-Lux	0.0	13.3	1111.7	140.6	64.9	300.0	139.4	211.3	173.3	0.0	240.2	207.4	158.9	18.2	0.0	0.0
Brazil	0.0	0.0	0.0	0.0	0.0	0.0	7.6	47.6	0.8	7.0	12.9	37.3	82.4	7.1	82.5	204.3
Bulgaria	0.0	0.0	410.6	0.0	0.0	16.1	0.0	0.0	0.0	1.3	113.3	0.0	0.0	0.0	0.0	14.2
Canada	788.4	2003.5	3106.3	3369.7	3043.2	4420.7	5094.8	4859.3	6201.2	7277.3	6329.7	9629.4	9765.8	8965.1	5883.1	9652.8
Chile	288.4	303.7	385.7	164.3	291.4	743.1	370.1	727.1	404.7	342.2	321.0	775.8	471.5	295.3	618.1	322.4
China	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	1.8	45.4	64.9	49.8	43.6	19.0
Colombia	0.0	40.6	0.0	0.9	30.6	0.0	0.0	13.7	0.0	15.4	17.5	41.7	221.4	63.8	114.3	279.5
Congo, D.R.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.3	0.0	0.0
Croatia	1.3	1.3	1426.4	75.5	16.2	28.1	9.7	7.6	9.5	25.3	36.6	14.8	25.1	50.8	0.0	0.0
Czech Republic	8.6	0.0	2.3	0.0	17.8	0.0	8.8	0.0	0.0	0.0	0.0	11.1	8.9	5.2	16.0	0.0
Egypt	85.8	0.0	1.9	0.0	7.2	0.0	0.0	1.5	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Ethiopia	0.0	0.0	21.3	21.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France	1874.4	8532.6	7665.5	7465.3	5834.6	4815.9	5838.5	3300.7	3084.2	4182.6	3625.4	1688.4	4693.1	8580.5	7818.7	6850.8
Germany	429.1	1366.3	4190.2	1698.1	1703.3	1254.5	1725.8	1741.7	999.0	614.1	387.4	37.3	367.0	42.4	51.6	83.1
Ghana	0.0	0.0	0.0	0.0	0.0	0.0	223.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greece	1213.7	1732.6	3622.3	2219.6	2629.5	3951.0	914.8	1828.7	821.1	732.1	409.3	413.7	208.1	1188.5	597.2	1691.3
Guatemala	25.7	1.3	1.3	2.2	7.5	5.9	0.0	15.2	7.9	142.0	12.6	4.9	299.6	442.7	18.2	12.9
Hungary	366.6	550.6	1140.1	75.5	203.4	525.0	61.5	170.5	28.8	337.5	345.2	728.1	289.5	864.8	388.7	950.4
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	3.2	0.0	0.0	0.0
Indonesia	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	16.0	0.0	7.6	0.0
Italy	7270.5	13861.2	15818.6	19164.0	10017.1	11632.1	13406.9	10913.9	8509.9	14565.9	7127.0	6278.8	3508.7	1830.1	131.4	174.5
Japan	1047.6	1563.6	1374.0	2579.4	1020.7	1053.6	1349.3	2179.5	1474.9	1577.9	316.1	775.0	609.5	758.0	546.1	463.0
Kenya	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	104.5	513.7	270.8	286.7	245.5	0.0
Korea,Rep	251.9	138.9	410.0	306.7	645.8	362.4	996.9	676.6	289.0	402.4	67.7	748.0	2020.3	735.9	772.7	657.4
Malawi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mexico	3947.3	4738.1	4180.2	8253.4	10232.7	8623.8	5624.6	3211.3	3984.0	2752.1	3837.8	4846.7	14367.1	12016.8	5520.5	5718.0
Nepal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0
Netherlands	178.2	1121.7	3883.0	901.5	2168.4	3205.7	2847.7	3215.1	3130.3	4300.5	6371.9	422.2	150.8	231.7	84.3	148.1
Nigeria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pakistan	20.3	86.3	2.3	103.9	139.4	158.5	330.3	232.1	354.2	163.4	670.6	1475.9	530.1	1567.6	1604.7	2280.1
Philippines	0.0	0.0	0.0	0.0	0.0	13.9	0.0	7.6	10.3	0.0	5.1	110.2	27.6	56.0	12.9	38.4
Poland	0.0	0.0	0.0	0.0	12.8	5.3	0.0	0.0	0.0	0.0	3.9	2.9	0.0	0.0	0.0	0.0
Portugal	184.2	1154.1	894.6	616.3	529.4	492.2	577.1	863.7	308.6	171.5	1325.0	444.0	274.5	292.1	349.8	174.5
Romania	549.8	1452.9	3112.1	839.0	382.8	24.4	0.0	57.2	330.8	0.8	296.3	435.7	40.8	9.4	8.0	36.6
Serbia/Montenegro	1.3	1.3	1426.4	75.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Slovakia	34.6	0.0	9.3	0.0	9.7	11.4	0.0	0.0	0.0	11.0	0.0	0.8	3.2	1.5	0.0	0.0
South Africa	1.0	31.5	103.4	1.6	51.2	7.7	27.7	287.5	1348.3	443.4	401.1	1981.3	782.0	2137.8	841.6	480.6
Spain	1627.3	2851.0	1933.6	2382.0	1656.5	2260.9	3246.3	1653.8	1656.8	1991.3	2291.1	1123.4	1578.7	1145.1	3225.2	2378.3
Tanzania, U.R.	0.0	0.0	0.0	0.0	12.5	11.7	14.1	0.0	0.0	0.0	0.0	0.0	246.2	264.5	134.3	0.0
Thailand	2.9	0.0	0.0	390.7	18.4	0.0	0.0	2.3	0.0	5.2	33.5	861.3	12.5	36.2	4.9	10.6
Turkey	101.3	110.6	176.7	156.4	620.2	288.9	115.3	111.8	1017.5	676.2	463.4	617.1	355.7	172.8	174.5	1173.9
Ukraine	0.0	0.0	0.0	0.0	8301.0	947.7	1397.5	125.8	135.8	13.0	38.1	0.0	34.4	36.5	8.4	1113.4
United Kingdom	2.5	205.4	3.2	19.0	26.5	7.1	65.9	690.6	108.1	195.5	7.0	100.6	175.6	131.1	378.4	18.1
Venezuela	0.0	11.7	94.3	17.7	199.7	0.0	105.0	1.2	1.1	3.4	4.4	267.2	1124.9	558.9	275.9	735.3
Viet Nam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	2.3	0.0	0.0	0.0	0.0
Zimbabwe	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	17.5	0.0	35.4	1019.6	0.0	0.0
Sample total	21180.0	42471.6	57369.8	53446.8	50616.1	55074.4	47670.5	40598.0	45921.2	43236.4	36626.4	40564.1	44732.0	45001.6	31429.7	38711.8
Total	21784.2	44912.8	58154.8	54331.6	51804.7	55585.5	48393.2	42191.7	46186.6	43963.0	37040.6	41762.9	46304.6	50237.8	33776.0	39321.6

Table 2: U.S. total corn seed production (metric tons)

<u>Year</u>	<u>Production</u>
1989	515727.60
1990	567104.86
1991	594128.10
1992	623374.68
1993	589980.03
1994	635099.84
1995	591158.78
1996	655121.70
1997	675398.74
1998	671743.72
1999	637914.27
2000	669727.00
2001	637135.10
2002	687651.69
2003	672053.73
2004	692746.06

Table 3: U.S. Corn seed price (US\$ per metric ton)

<u>Year</u>	<u>Price</u>
1989	3148.20
1990	3082.06
1991	3095.29
1992	3165.84
1993	3205.52
1994	3236.39
1995	3399.53
1996	3425.98
1997	3681.72
1998	3831.63
1999	3884.54
2000	3858.09
2001	4065.32
2002	4056.50
2003	4497.43
2004	4629.71

Table 4: Corn production 1989-2004 (1000 metric tons)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	207193	217536	204838	256879	175970	271623	202323	249937	250808	265483	257178	270685	260194	247119	275793	319692
Argentina	14314	10563	12543	16504	17123	15792	13393	14221	19552	22835	17601	20081	18995	18049	18381	18387
Australia	217	219	194	269	199	204	242	325	398	271	338	406	345	454	310	395
Austria	2628	2504	2445	1842	2390	2275	2291	2540	2642	2432	2457	2569	2388	2334	2067	2339
Belgium-Lux	1328	1174	1358	1662	1782	1530	1402	1581	1875	1931	2188	1907	2099	2148	2071	2162
Brazil	26590	21348	23624	30506	30056	32488	36267	32185	32948	29602	32038	31879	41955	35933	48327	41788
Bulgaria	3526	2122	3736	2189	1219	1492	1964	1160	1799	1409	1865	865	947	1443	1277	2218
Canada	7932	8492	8538	5954	7568	8010	8286	8629	8282	10258	10503	8146	9624	10290	11053	10443
Chile	1009	917	933	1015	1025	1073	1063	1068	1017	1079	760	791	921	1066	1332	1463
China	79310	97214	99148	95773	103110	99674	112362	127865	104648	133198	128287	106178	114254	121497	115998	130434
Colombia	1044	1213	1274	1056	1130	1161	1020	967	978	755	971	1204	1192	1174	1510	1746
Congo, D.R.	960	1008	1023	1053	1130	1184	1008	1101	1167	1215	1199	1184	1169	1155	1155	1155
Croatia	na	na	2620	1596	1733	1750	1795	1946	2246	2044	2196	1587	2272	2563	1630	2261
Czech Republic	2766	2367	2751	1972	2407	1542	1777	2157	2085	1918	1855	1814	1854	2055	1636	1865
Egypt	4529	4799	5122	5069	5039	5112	4535	5165	5806	6337	6143	6474	6094	6431	6530	6236
Ethiopia	1689	2056	1410	1526	1456	1396	1990	3164	2987	2344	2832	2683	3298	2826	2744	2906
France	23587	18342	24084	27313	26459	24376	23930	24167	28360	26819	27264	26654	27318	26586	21493	26507
Germany	13486	12773	12517	12142	14734	12175	12451	14629	14739	13821	13911	13892	13705	14074	12477	15336
Ghana	715	553	932	731	961	940	1034	1008	996	1035	1014	1013	938	1400	1289	1158
Greece	2232	2024	2340	2110	2114	2089	1859	2137	2241	1939	2078	2145	2243	2270	2554	2501
Guatemala	1247	1272	1233	1366	1295	1188	1062	1047	861	1069	1025	1054	1091	1050	1054	1072
Hungary	8360	5656	8998	5126	4799	5553	5537	6786	7630	6923	7962	5473	8467	6658	4995	8967
India	9651	8962	8064	9992	9601	8884	9534	10769	10816	11148	11510	12043	13160	11200	14900	14100
Indonesia	6193	6734	6256	7995	6460	6869	8246	9307	8771	10169	9204	9677	9347	9654	10886	11225
Italy	9965	9156	9331	10484	11292	10609	11560	12941	13194	12060	13076	12884	13575	13578	11341	14383
Japan	1321	1392	1236	1311	997	1216	1159	1091	1115	1054	975	1074	1039	989	927	947
Kenya	2631	2290	2400	2430	2089	3060	2699	2160	2214	2464	2322	2160	2790	2409	2711	2607
Korea, R.	121	120	75	92	82	89	74	72	87	80	79	64	57	73	70	78
Malawi	1510	1343	1589	657	2034	1040	1661	1793	1226	1772	2479	2501	1589	1557	1983	1733
Mexico	11563	15365	15097	17754	19056	19117	19226	19119	18592	19369	18600	18471	21069	20212	22623	23478
Nepal	1201	1231	1205	1291	1210	1273	1302	1331	1317	1367	1686	1415	1484	1511	1569	1590
Netherlands	2188	1924	1902	2173	2465	1931	1774	1912	2421	2117	2425	2170	2099	2144	2115	2093
Nigeria	5008	5768	5810	5840	6290	6902	6931	5667	5254	5127	5476	4107	4596	4890	5203	5567
Pakistan	1179	1185	1203	1184	1213	1318	1504	1491	1517	1665	1652	1643	1664	1737	1897	2797
Philippines	4522	4854	4655	4619	4798	4129	4161	4345	4332	3823	4585	4511	4525	4319	4616	5413
Poland	2454	2714	2095	1079	1754	1021	1182	1687	1689	1777	1880	2244	2703	3384	3831	4803
Portugal	1335	1377	1360	1374	1556	1640	1685	1846	1909	2220	1951	1891	1923	1813	1814	1805
Romania	7566	8141	11499	7403	8565	9789	10283	10010	12999	8846	11133	4988	9229	8505	9688	14675
Serbia/Montenegro	na	na	7552	4593	4094	4827	5946	5473	7048	5281	6214	3034	6030	5691	3905	6689
Slovakia	1900	1349	1795	1402	1536	1157	1289	1505	1516	1270	1406	825	1243	1292	1028	1328
South Africa	12481	9180	8614	3277	9997	13275	4866	10171	10136	7693	7946	11431	7772	10076	9705	9737
Spain	4235	3975	4144	3722	2687	3338	3502	4770	5435	5182	4532	4872	5865	5224	5120	5646
Tanzania	3128	2445	2332	2226	2282	1486	2874	2822	2386	2073	2848	2870	3348	3495	2322	3232
Thailand	4393	3722	3793	3672	3328	3965	4155	4533	3832	4617	4286	4466	4466	4230	4081	4124
Turkey	2040	2147	2219	2252	2529	1909	2012	2115	2197	2438	2427	2442	2344	2246	2946	3146
Ukraine	na	na	19400	15661	17197	14747	15974	10028	15677	8455	6914	8762	7454	7658	10700	11765
United Kingdom	191	210	344	401	555	599	664	846	856	792	833	813	833	833	833	833
Venezuela	921	1002	1025	844	988	1095	1167	1033	1199	983	1149	1690	1801	1392	1823	2126
Viet Nam	838	671	672	748	882	1144	1177	1537	1651	1612	1753	2006	2162	2511	3136	3431
Zimbabwe	2019	1972	1586	362	2012	2326	840	2609	2192	1418	1520	2108	1467	499	930	550
World	622764	620976	616288	650505	590913	666710	607058	675902	677743	696075	689263	672709	691726	678094	719425	803864

Table 5: Corn acreage planted in 1000 Ha (1989-2004)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	28889	29575	30336	31625	28232	31612	28532	31589	31739	31769	30968	31777	30318	31088	31352	32267
Argentina	3944	2770	2860	3385	3663	3480	2957	3414	4150	3755	3270	3669	3496	3035	2938	2975
Australia	52	52	49	52	45	44	50	56	67	57	66	82	74	83	50	70
Austria	311	308	294	276	273	276	266	289	273	251	254	262	267	246	246	254
Belgium-Lux	136	138	151	157	170	159	160	193	202	208	235	202	223	217	224	219
Brazil	12919	11394	13064	13364	11870	13749	13946	11934	12562	10586	11611	11615	12330	11751	12966	12411
Bulgaria	898	849	839	887	744	547	539	561	522	539	510	524	396	354	473	413
Canada	1259	1233	1299	1061	1192	1119	1173	1279	1246	1318	1335	1290	1487	1503	1450	1295
Chile	137	116	115	123	124	124	121	118	126	120	93	89	103	108	140	140
China	20434	21483	21649	21120	20771	21229	22849	24571	23837	25281	25939	23086	24311	24661	24093	25467
Colombia	759	837	822	696	731	741	656	593	573	455	541	572	574	555	601	665
Congo, D.R.	1179	1234	1262	1297	1369	1433	1281	1377	1427	1461	1501	1482	1463	1482	1482	1483
Croatia	na	na	391	385	388	385	368	375	386	392	398	403	420	423	420	428
Czech Republic	394	393	370	364	333	302	312	337	310	277	287	280	287	289	293	303
Egypt	842	830	869	826	829	865	736	743	814	877	817	843	873	828	834	789
Ethiopia	1021	1278	1154	999	838	1243	1464	1881	1718	1449	1651	1656	1893	1507	1791	1802
France	3589	3331	3437	3392	3335	3138	3207	3307	3335	3260	3113	3163	3388	3238	3270	3232
Germany	1532	1594	1592	1538	1595	1553	1577	1699	1664	1576	1574	1515	1529	1520	1636	1710
Ghana	567	465	610	607	637	629	689	665	652	697	697	695	713	940	792	733
Greece	228	211	234	213	216	215	186	218	218	222	218	224	219	230	248	251
Guatemala	600	634	669	726	700	607	546	575	576	629	590	592	593	602	603	603
Hungary	1393	1417	1412	1459	1386	1460	1240	1220	1215	1167	1258	1340	1387	1310	1278	1298
India	5915	5904	5859	5963	5995	6136	5979	6300	6321	6204	6422	6611	6582	6290	7300	7500
Indonesia	2944	3158	2909	3629	2940	3109	3652	3744	3355	3834	3456	3500	3286	3127	3359	3357
Italy	1173	1121	1189	1172	1247	1219	1244	1344	1329	1250	1317	1349	1392	1386	1445	1477
Japan	126	126	125	122	119	111	107	105	103	101	99	96	93	91	90	87
Kenya	1420	1380	1310	1407	1344	1500	1439	1489	1505	1476	1567	1500	1640	1592	1671	1351
Korea, R.	25	26	22	21	20	22	18	18	21	20	20	16	14	17	17	18
Malawi	1271	1344	1392	1368	1327	1129	1229	1243	1234	1293	1369	1435	1446	1488	1550	1538
Mexico	6591	7477	7113	7383	7592	8352	8183	8267	7549	8007	7293	7261	7941	7250	7848	7977
Nepal	751	758	754	775	757	771	792	794	794	799	802	819	825	826	836	834
Netherlands	203	206	208	226	239	240	228	234	244	234	247	225	231	238	242	247
Nigeria	3590	5104	5142	5223	5309	5426	5472	4273	4200	3884	3423	3159	3283	3282	3469	3479
Pakistan	863	845	848	868	879	890	939	928	933	962	962	944	942	936	947	982
Philippines	3689	3820	3589	3482	3149	2692	2736	2729	2726	2354	2642	2510	2487	2395	2410	2527
Poland	382	383	321	242	232	201	181	223	225	230	250	314	404	515	596	701
Portugal	313	319	317	288	292	299	299	307	316	324	294	284	285	270	272	267
Romania	2828	3027	2801	3614	3236	3118	3223	3409	3117	3216	3071	3100	3009	2809	3153	3230
Serbia/Montenegro	na	na	1561	1543	1417	1418	1403	1470	1391	1378	1285	1235	1248	1224	1227	1226
Slovakia	344	304	315	322	304	275	261	266	265	235	253	244	237	240	245	240
South Africa	4394	4163	3816	4173	4377	4661	3526	3761	4023	3560	3567	4012	3189	3533	3651	3204
Spain	641	586	598	512	386	457	462	545	592	548	483	522	596	543	563	567
Tanzania	1980	1631	1848	1908	1824	1203	1368	1580	2391	3359	3637	3701	2622	2737	1580	2000
Thailand	1710	1545	1399	1236	1218	1351	1263	1315	1198	1380	1207	1215	1196	1134	1113	1100
Turkey	521	526	522	531	557	502	539	574	570	576	544	584	579	530	590	730
Ukraine	na	na	2173	5746	5489	5157	4655	4179	4457	3627	3349	3122	2856	2602	3255	3280
United Kingdom	25	34	44	51	78	94	106	111	109	103	107	104	129	121	121	120
Venezuela	442	462	448	374	342	385	415	366	424	355	367	483	522	447	531	621
Viet Nam	509	432	448	478	497	535	557	615	663	650	692	730	730	816	913	991
Zimbabwe	1182	1146	1101	881	1238	1401	1409	1535	1640	1224	1446	1417	1223	1318	1388	1200
World total	160384	158906	160834	164124	157362	161139	155315	159944	158678	155289	155703	153905	152869	151538	155560	157325

Table 6: Expected corn price in US\$ (1989-2004)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	93.00	90.00	93.00	81.00	98.00	89.00	128.00	107.00	96.00	76.00	72.00	73.00	78.00	91.00	96.00	98.00
Argentina	108.72	101.46	97.96	100.72	88.44	105.25	95.98	134.85	113.54	102.26	81.96	77.70	78.46	83.23	96.02	101.04
Australia	144.97	136.25	132.42	135.94	121.11	141.75	130.58	178.14	152.29	138.68	114.06	109.01	110.08	116.04	131.79	137.91
Austria	266.08	255.21	242.53	227.12	218.52	196.74	186.79	155.01	150.50	141.46	136.50	124.27	109.76	93.44	73.48	71.21
Belgium-Luxembourg	257.28	243.53	230.47	218.45	203.83	194.23	180.14	174.35	158.17	143.73	127.72	114.49	102.12	90.45	80.16	81.02
Brazil	152.30	143.02	131.81	129.21	116.59	123.35	112.74	134.21	115.57	103.61	85.64	78.37	74.43	73.18	77.27	80.61
Bulgaria	65.45	64.93	71.04	77.03	73.26	88.34	86.52	115.92	106.30	103.17	94.20	95.63	100.32	107.60	120.09	123.34
Canada	97.58	92.80	91.98	97.10	87.36	106.34	99.58	140.33	121.69	112.95	95.30	93.49	96.63	103.73	118.74	123.69
Chile	155.84	147.22	143.79	148.14	133.04	155.55	144.33	195.37	168.60	154.79	129.32	124.59	126.35	133.29	150.61	157.09
China	104.02	101.08	100.95	105.04	98.59	112.50	108.15	137.52	124.75	119.00	106.93	106.10	108.77	114.26	125.37	128.88
Colombia	180.13	179.07	178.17	177.51	176.25	176.15	175.01	175.80	174.18	172.95	171.37	170.43	169.69	169.11	168.86	169.06
Congo, D.R.	239.17	247.27	251.51	249.97	262.89	247.85	257.88	221.61	243.22	255.18	275.82	281.02	281.41	277.94	266.75	261.93
Croatia	146.91	139.77	134.74	132.88	119.65	125.18	116.98	134.13	119.59	110.34	96.34	90.78	87.86	87.05	90.47	93.11
Czech Republic	141.10	131.91	127.08	128.77	112.58	129.49	118.14	158.98	134.57	121.04	97.71	91.79	91.31	95.17	107.74	113.18
Egypt	213.09	207.10	200.93	194.48	188.72	181.64	175.74	167.67	162.31	156.50	151.10	144.98	138.63	132.09	125.20	124.97
Ethiopia	229.56	221.56	210.95	196.43	191.69	168.05	161.35	123.39	124.50	119.11	119.57	109.61	96.40	80.58	59.55	56.30
France	208.24	197.89	189.11	182.72	170.38	169.53	158.37	166.24	150.34	138.39	122.88	113.71	106.52	100.92	98.48	100.47
Germany	227.14	214.62	204.52	198.07	182.50	184.55	170.81	186.23	165.20	150.24	129.82	119.11	111.44	106.21	105.83	108.86
Ghana	196.49	184.56	179.80	185.80	164.90	195.99	180.48	251.00	213.98	194.88	159.64	153.09	155.50	165.08	189.00	197.96
Greece	227.07	218.55	211.88	208.00	197.15	199.77	190.32	203.14	188.12	177.74	163.18	156.05	151.24	148.29	149.05	151.37
Guatemala	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Hungary	112.58	106.96	103.84	104.45	95.72	105.07	98.20	121.26	106.92	98.81	85.09	81.34	80.71	82.58	89.43	92.54
India	117.28	117.73	117.84	117.48	118.32	116.84	117.44	114.18	115.75	116.51	118.00	118.20	117.99	117.47	116.30	115.90
Indonesia	139.34	131.33	128.78	134.42	119.58	144.34	133.60	188.38	161.26	147.79	122.03	118.12	121.03	129.40	148.69	155.52
Italy	293.12	278.78	265.49	253.80	238.13	230.15	215.28	213.12	195.07	179.67	161.89	148.34	136.12	124.95	115.91	117.23
Japan	1055.59	1056.77	1063.15	1077.31	1072.01	1104.34	1102.93	1163.82	1146.83	1142.83	1127.14	1132.22	1143.79	1160.55	1187.69	1194.18
Kenya	113.45	115.60	120.24	128.62	127.66	144.76	145.67	176.48	169.91	169.56	163.61	167.63	174.77	184.40	199.01	202.13
Korea, R	377.22	368.79	371.82	392.04	369.28	429.61	415.45	538.81	490.26	470.37	424.69	424.85	439.34	465.29	514.16	528.48
Malawi	75.47	77.97	80.76	83.98	86.11	90.34	92.69	98.52	100.00	102.21	103.76	106.48	109.55	112.92	116.86	117.22
Mexico	223.69	219.90	214.97	208.33	205.97	195.33	192.11	175.19	175.40	172.75	172.68	168.03	161.96	154.75	145.25	143.82
Nepal	128.49	125.39	124.11	125.53	120.18	127.93	123.93	141.63	132.21	127.30	118.33	116.59	117.12	119.45	125.39	127.65
Netherlands	228.07	216.79	206.53	197.79	185.25	180.06	168.28	168.67	153.84	141.55	126.98	116.47	107.22	98.99	92.78	94.05
Nigeria	367.53	294.09	280.89	358.05	209.30	497.32	393.75	1013.11	728.81	595.12	325.88	297.62	344.66	451.95	679.72	755.03
Pakistan	159.03	154.31	153.47	158.45	148.88	167.45	160.79	200.71	182.40	173.79	156.45	154.64	157.68	164.61	179.30	184.15
Philippines	195.71	182.79	176.03	178.53	157.90	181.97	165.97	223.96	189.45	170.36	137.40	129.10	128.51	134.09	152.00	159.71
Poland	116.03	107.72	105.34	111.82	96.12	123.31	112.05	171.77	142.76	128.54	101.01	97.15	100.67	110.11	131.39	138.78
Portugal	264.71	252.00	240.54	230.96	216.69	211.49	198.16	199.83	182.75	168.79	152.02	140.25	130.04	121.09	114.63	116.19
Romania	132.78	132.98	134.06	134.88	134.78	136.45	136.53	139.55	138.90	138.86	138.27	138.66	139.35	140.29	141.72	142.02
Serbia/Montenegro	148.52	158.01	161.21	154.97	172.32	144.07	155.19	92.35	123.85	139.62	169.55	174.32	171.23	161.85	139.89	132.03
Slovakia	133.02	125.33	120.88	121.29	107.52	119.30	109.98	139.62	120.56	109.61	91.37	86.11	84.90	86.94	95.48	99.53
South Africa	128.42	124.89	123.05	123.74	118.10	124.69	120.32	136.19	126.76	121.54	112.53	110.27	110.12	111.65	116.55	118.66
Spain	265.28	253.98	243.31	233.59	221.49	213.99	202.37	198.34	184.82	172.89	159.53	148.70	138.67	129.26	121.12	121.91
Tanzania	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Thailand	121.05	112.93	109.72	113.88	99.62	120.98	110.40	158.79	133.47	120.43	96.34	91.90	93.60	100.22	116.67	122.82
Turkey	183.37	177.59	176.11	179.49	169.14	185.33	177.73	214.06	195.47	186.04	168.36	165.33	166.88	172.09	184.62	189.20
Ukraine	216.25	203.60	191.99	181.96	157.18	150.82	137.64	137.06	120.73	107.02	90.96	79.09	68.53	59.03	51.62	52.93
United Kingdom	188.63	174.66	151.84	142.53	126.23	123.44	108.54	116.01	95.51	79.67	59.64	47.07	36.82	28.44	23.80	26.13
Venezuela	174.57	173.90	177.83	188.66	182.24	209.18	206.21	258.45	241.68	236.41	220.78	223.57	232.10	245.23	267.57	273.32
Viet Nam	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zimbabwe	na	na	29.92	53.18	85.23	100.29	130.58	132.73	170.06	201.53	238.27	265.64	290.07	312.16	329.55	326.62

Table 7: Applied border tariff on U.S corn seed exports 1989-2004

country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
United States	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Argentina	5	5	5	5	2.5	2.5	0	0	0	0	0	0	0	0	0	0
Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Austria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belarus	1	1	1	1	1	1	1	5	5	5	5	5	5	5	5	5
Belgium-Lux	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Canada	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chile	11	11	11	11	11	11	11	11	11	11	10	9	8	7.8	7	6
China	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Colombia	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5
Congo, D.R.	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Croatia	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Czech Republic	4	4	4	4	4	4	4	4	2	1.3	1.3	0	0	0	0	0
Egypt	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
Ethiopia	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
France	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ghana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guatemala	5	5	5	5	5	5	5	0	0	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	0	0	40	35	30	25	20	20	20	20	20
India	0	0	0	0	0	0	0	0	0	70	70	50	50	50	50	50
Indonesia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Japan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kenya	31	31	31	31	31	31	31	31	31	31	31	31	25	25	25	25
Korea, Rep	0	0	0	0	0	0	0	357.6	353.9	350.2	346.5	342.8	339.1	335.4	331.7	328
Malawi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nepal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nigeria	30	30	30	30	30	30	30	30	30	30	30	30	25	25	25	25
Pakistan	25	25	25	25	25	25	25	10	10	10	10	10	5	5	5	5
Philippines	20	20	20	20	20	20	20	3	3	3	3	0	0	3	3	3
Poland	0	0	0	0	0	0	0	10	10	10	10	10	32.41	19.37	16.84	16.84
Portugal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Romania	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Serbia/Montenegro	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Slovakia	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.7	0	0	0	0	0
South Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanzania	20	20	20	20	20	20	20	20	20	20	20	20	20	20	12.5	12.5
Thailand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0
Ukraine	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Venezuela	10	10	10	10	10	10	5	5	5	5	5	5	5	5	5	5
Viet Nam	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.5	2.5	2.5	3.5	0	0
Zimbabwe	30	30	30	30	30	30	30	30	30	30	30	30	25	25	25	25

Table 8: Direct air distance (Miles)

Country	Distance
United States	603
Argentina	9013
Australia	7546
Austria	7546
Belgium-Lux	6669
Brazil	8527
Bulgaria	9941
Canada	1206
Chile	8556
China	10601
Colombia	4355
Congo, D.R.	9345
Croatia	9456
Czech Republic	7123
Egypt	9872
Ethiopia	11456
France	6656
Germany	6972
Ghana	8432
Greece	9751
Guatemala	3036
Hungary	6842
India	12031
Indonesia	15801
Italy	7750
Japan	10134
Kenya	12900
Korea, R	13087
Malawi	9967
Mexico	2716
Nepal	12567
Netherlands	6616
Nigeria	6423
Pakistan	12161
Philippines	13087
Poland	7419
Portugal	6432
Romania	6503
Serbia/Montenegro	7658
Slovakia	8345
South Africa	6733
Spain	6542
Tanzania	13678
Thailand	13783
Turkey	9128
Ukraine	9872
United Kingdom	6358
Venezuela	4025
Viet Nam	13754
Zimbabwe	13890

Table 9: Count of SPS measures applied to U.S. seed corn imports (1989-2006)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
United States	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Argentina	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Australia	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Austria	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Belgium-Lux	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Brazil	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Bulgaria	32	32	32	32	32	32	32	32	32	32	32	32	32	3	3	3	3	3
Canada	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chile	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1
China	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Colombia	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Congo, D.R.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Croatia	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Czech Republic	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Egypt	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Ethiopia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
France	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Germany	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Ghana	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Greece	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Guatemala	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Hungary	68	68	68	68	68	68	68	68	68	68	68	68	68	68	30	3	3	3
India	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Indonesia	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Italy	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Japan	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Kenya	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	4
Korea,Rep	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Malawi	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mexico	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Nepal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Netherlands	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Nigeria	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pakistan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Philippines	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Poland	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	3	3	3
Portugal	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Romania	23	23	23	23	23	23	23	23	23	23	23	23	23	3	3	3	3	3
Serbia/Montenegro	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Slovakia	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
South Africa	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0
Spain	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Tanzania	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Thailand	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turkey	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	3	3	3
Ukraine	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
United Kingdom	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Venezuela	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Viet Nam	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Zimbabwe	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33

Table 10: The years reported by EXCERPT on the SPS regulations.

Country	Year
United States	2006
Argentina	1999-2006
Australia	1999-2006
Austria	1999-2006
Belgium-Lux	1999-2006
Brazil	1999-2006
Bulgaria	1993-2006
Canada	1999-2006
Chile	1999-2006
China	1999-2006
Colombia	1999-2006
Congo, D.R.	1999-2006
Croatia	1996-2001
Czech Republic	1999-2006
Egypt	1995-2006
Ethiopia	1996-2006
France	1999-2006
Germany	1999-2006
Ghana	1999-2006
Greece	1999-2006
Guatemala	1997-2006
Hungary	1999-2006
India	1996-2006
Indonesia	1998-2006
Italy	1999-2006
Japan	1999-2006
Kenya	1995-2006
Korea, R	1999-2006
Malawi	na
Mexico	1999-2006
Nepal	1997-2006
Netherlands	1999-2006
Nigeria	1993-2006
Pakistan	1995-2006
Philippines	1995-2006
Poland	1997-2006
Portugal	1999-2006
Romania	1997-2006
Serbia/Montenegro	1996-2006
Slovakia	1999-2006
South Africa	1996-2006
Spain	1999-2006
Tanzania	1995-2006
Thailand	1995-2006
Turkey	1999-2006
Ukraine	1999-2006
United Kingdom	1999-2006
Venezuela	1995-2006
Viet Nam	1995-2006
Zimbabwe	1996-2006

Expected Corn Price Regressions (TSP Program and Output)

TSP Version 5.0
(4/05/05) Windows32 4MB
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In case of questions or problems, see your local TSP
consultant or send a description of the problem and the
associated TSP output to:

TSP International
P.O. Box 61015
Palo Alto, CA 94306
USA

PROGRAM

COMMAND

```
*****  
*****  
1 options crt;  
2 freq a;  
3 smpl 1988 2003;  
4 READ(FILE='C:\MY DOCUMENTS\Corn Seed work\data  
  report\expectedpricejune29.xls');  
5  
5 TREND T;  
6  
6 ?regressing each country's price on the lagged US price  
6  
6 ?note that we dont have pirce for Guatemala,Tanzania, and Viet  
Nam  
  so we have 50 countries  
6  
6  
6  
6 olsq AR C USA(-1) T; ?Argentina  
7  
7 GENR C1 = @FIT; ? store the fitted value of dependet variable  
for  
  each country  
8
```

```
8 ?generate 2004 value, note US price at 2003 is 96;  
8 print @coef;  
9 copy @coef B;  
10 set b1 = B(1,1);  
11 set b2 = B(2,1);  
12 set b3 = B(3,1);  
13 set AR2004= b1+b2*96+b3*16;  
14  
14 ?genr AR2004= b1+b2*96+b3*16;  
14 print AR2004;  
15 set AR89= b1+b2*100+b3*1;  
16 set AR90= b1+b2*93+b3*2;  
17 print AR89;  
18 print AR90;  
19  
19 olsq AUS C USA(-1) T; ?Australia  
20  
20 GENR C2 = @FIT;  
21  
21 print @coef;  
22 copy @coef B;  
23 set b1 = B(1,1);  
24 set b2 = B(2,1);  
25 set b3 = B(3,1);  
26 set AU2004= b1+b2*96+b3*16;  
27  
27 print AU2004;  
28  
28 olsq AUST C USA(-1) T;?Austria  
29  
29 GENR C3 = @FIT;  
30 copy @coef B;  
31 set b1 = B(1,1);  
32 set b2 = B(2,1);  
33 set b3 = B(3,1);  
34 set At2004= b1+b2*96+b3*16;  
35 print B;  
36  
36 print At2004;  
37  
37
```

```

37
37
37 olsq BELU C USA(-1) T;?Belarus
38
38 GENR C4 = @FIT;
39
39
39
39 olsq BL C USA(-1) T;?Belgium-Luxembourg
40
40 GENR C5 = @FIT;
41 copy @coef B;
42 set b1 = B(1,1);
43 set b2 = B(2,1);
44 set b3 = B(3,1);
45 set BL2004= b1+b2*96+b3*16;
46 print BL2004;
47
47
47
47
47 olsq BRA C USA(-1) T;?Brazil
48
48 GENR C6 = @FIT;
49 copy @coef B;
50 set b1 = B(1,1);
51 set b2 = B(2,1);
52 set b3 = B(3,1);
53 set BRA2004= b1+b2*96+b3*16;
54
54 print BRA2004;
55 set BRA89= b1+b2*100+b3*1;
56 set BRA90= b1+b2*93+b3*2;
57 print BRA89;
58 print BRA90;
59
59
59
59 olsq BUL C USA(-1) T;?Bulgaria
60
60 GENR C7 = @FIT;
61

```

```

61 copy @coef B;
62 set b1 = B(1,1);
63 set b2 = B(2,1);
64 set b3 = B(3,1);
65 set BUL2004= b1+b2*96+b3*16;
66
66 print BUL2004;
67 set BUL89= b1+b2*100+b3*1;
68 set BUL90= b1+b2*93+b3*2;
69 print BUL89;
70 print BUL90;
71
71
71 olsq CA C USA(-1) T;?Canada
72
72 GENR C8 = @FIT;
73 copy @coef B;
74 set b1 = B(1,1);
75 set b2 = B(2,1);
76 set b3 = B(3,1);
77 set ca2004= b1+b2*96+b3*16;
78 print ca2004;
79
79
79 olsq CHI C USA(-1) T;?Chile
80
80 GENR C9 = @FIT;
81
81 copy @coef B;
82 set b1 = B(1,1);
83 set b2 = B(2,1);
84 set b3 = B(3,1);
85 set chi2004= b1+b2*96+b3*16;
86 print chi2004;
87
87
87
87 olsq PRC C USA(-1) T;?China
88
88 GENR C10 = @FIT;
89
89 copy @coef B;

```



```

150 print egp2004;
151
151
151
151 olsq ETH C USA(-1) T;?Ethiopia
152
152 GENR C16 = @FIT;
153 copy @coef B;
154 set b1 = B(1,1);
155 set b2 = B(2,1);
156 set b3 = B(3,1);
157 set eth2004= b1+b2*96+b3*16;
158
158 print eth2004;
159
159
159 olsq FRN C USA(-1) T;?France
160
160 GENR C17 = @FIT;
161 copy @coef B;
162 set b1 = B(1,1);
163 set b2 = B(2,1);
164 set b3 = B(3,1);
165 set frn2004= b1+b2*96+b3*16;
166
166 print frn2004;
167
167
167
167
167 olsq GER C USA(-1) T;?Germany
168
168 GENR C18 = @FIT;
169 copy @coef B;
170 set b1 = B(1,1);
171 set b2 = B(2,1);
172 set b3 = B(3,1);
173 set ger2004= b1+b2*96+b3*16;
174
174 print ger2004;
175
175

```

```

175
175 olsq GHA C USA(-1) T;?Ghana
176
176
176 GENR C19 = @FIT;
177
177 copy @coef B;
178 set b1 = B(1,1);
179 set b2 = B(2,1);
180 set b3 = B(3,1);
181 set gha2004= b1+b2*96+b3*16;
182
182 print gha2004;
183
183
183
183 olsq GRE C USA(-1) T;?Greece
184
184 GENR C20 = @FIT;
185
185 copy @coef B;
186 set b1 = B(1,1);
187 set b2 = B(2,1);
188 set b3 = B(3,1);
189 set gre2004= b1+b2*96+b3*16;
190
190 print gre2004;
191
191
191
191 olsq HUN C USA(-1) T;?Hungary
192
192 GENR C21 = @FIT;
193
193 copy @coef B;
194 set b1 = B(1,1);
195 set b2 = B(2,1);
196 set b3 = B(3,1);
197 set hun2004= b1+b2*96+b3*16;
198
198 print hun2004;
199
199
199

```

```

199  olsq IND C USA(-1) T;?India
200
200  GENR C22 = @FIT;
201  copy @coef B;
202  set b1 = B(1,1);
203  set b2 = B(2,1);
204  set b3 = B(3,1);
205  set ind2004= b1+b2*96+b3*16;
206
206  print ind2004;
207
207
207
207  olsq INDO C USA(-1) T;?Indonesia
208
208  GENR C23 = @FIT;
209  copy @coef B;
210  set b1 = B(1,1);
211  set b2 = B(2,1);
212  set b3 = B(3,1);
213  set indo2004= b1+b2*96+b3*16;
214
214  print indo2004;
215
215
215
215
215  olsq ITA C USA(-1) T;?Italy
216
216  GENR C24 = @FIT;
217  copy @coef B;
218  set b1 = B(1,1);
219  set b2 = B(2,1);
220  set b3 = B(3,1);
221  set ita2004= b1+b2*96+b3*16;
222
222  print ita2004;
223
223
223  olsq JP C USA(-1) T;?Japan
224
224  GENR C25 = @FIT;

```

```

225  copy @coef B;
226  set b1 = B(1,1);
227  set b2 = B(2,1);
228  set b3 = B(3,1);
229  set jp2004= b1+b2*96+b3*16;
230
230  print jp2004;
231
231
231  olsq KAZ C USA(-1) T;?Kazakhstan
232
232  GENR C26 = @FIT;
233
233
233  olsq KEN C USA(-1) T;?Kenya
234
234  GENR C27 = @FIT;
235  copy @coef B;
236  set b1 = B(1,1);
237  set b2 = B(2,1);
238  set b3 = B(3,1);
239  set ken2004= b1+b2*96+b3*16;
240
240  print ken2004;
241
241  olsq KOR C USA(-1) T;?Korea, Republic of
242
242  GENR C28 = @FIT;
243  copy @coef B;
244  set b1 = B(1,1);
245  set b2 = B(2,1);
246  set b3 = B(3,1);
247  set kor2004= b1+b2*96+b3*16;
248
248  print kor2004;
249
249
249  olsq MAL C USA(-1) T;?Malawi
250
250  GENR C29= @FIT;
251  copy @coef B;
252  set b1 = B(1,1);

```

```

253 set b2 = B(2,1);
254 set b3 = B(3,1);
255 set mal2004= b1+b2*96+b3*16;
256
256 print mal2004;
257
257 olsq MEX C USA(-1) T;?Mexico
258
258 GENR C30 = @FIT;
259 copy @coef B;
260 set b1 = B(1,1);
261 set b2 = B(2,1);
262 set b3 = B(3,1);
263 set mex2004= b1+b2*96+b3*16;
264
264 print mex2004;
265
265
265 olsq MOLD C USA(-1) T;?Moldova, Republic of
266
266 GENR C31 = @FIT;
267
267
267 olsq NEP C USA(-1) T;?Nepal
268
268 GENR C32 = @FIT;
269 copy @coef B;
270 set b1 = B(1,1);
271 set b2 = B(2,1);
272 set b3 = B(3,1);
273 set nep2004= b1+b2*96+b3*16;
274
274 print nep2004;
275
275
275 olsq NETH C USA(-1) T;?Netherlands
276
276 GENR C33 = @FIT;
277 copy @coef B;
278 set b1 = B(1,1);
279 set b2 = B(2,1);
280 set b3 = B(3,1);
281 set neth2004= b1+b2*96+b3*16;
282
282 print neth2004;
283
283
283 olsq NIG C USA(-1) T;?Nigeria
284
284 GENR C34 = @FIT;
285 copy @coef B;
286 set b1 = B(1,1);
287 set b2 = B(2,1);
288 set b3 = B(3,1);
289 set nig2004= b1+b2*96+b3*16;
290
290 print nig2004;
291
291
291
291 olsq PAK C USA(-1) T;?Pakistan
292
292 GENR C35 = @FIT;
293 copy @coef B;
294 set b1 = B(1,1);
295 set b2 = B(2,1);
296 set b3 = B(3,1);
297 set pak2004= b1+b2*96+b3*16;
298
298 print pak2004;
299
299 olsq PHI C USA(-1) T;?Philippines
300
300 GENR C36 = @FIT;
301 copy @coef B;
302 set b1 = B(1,1);
303 set b2 = B(2,1);
304 set b3 = B(3,1);
305 set phi2004= b1+b2*96+b3*16;
306
306 print phi2004;
307
307

```

```

307
307  olsq POL C USA(-1) T;?Poland
308
308  GENR C37 = @FIT;
309  copy @coef B;
310  set b1 = B(1,1);
311  set b2 = B(2,1);
312  set b3 = B(3,1);
313  set pol2004= b1+b2*96+b3*16;
314
314  print pol2004;
315
315
315  olsq POR C USA(-1) T;?Portugal
316
316  GENR C38 = @FIT;
317  copy @coef B;
318  set b1 = B(1,1);
319  set b2 = B(2,1);
320  set b3 = B(3,1);
321  set por2004= b1+b2*96+b3*16;
322
322  print por2004;
323
323
323  olsq ROM C USA(-1) T;?Romania
324
324  GENR C39 = @FIT;
325  copy @coef B;
326  set b1 = B(1,1);
327  set b2 = B(2,1);
328  set b3 = B(3,1);
329  set rom2004= b1+b2*96+b3*16;
330
330  print rom2004;
331
331  set rom89= b1+b2*100+b3*1;
332  set rom90= b1+b2*93+b3*2;
333  print rom89;
334  print rom90;
335
335  olsq RUS C USA(-1) T;?Russian Federation

```

```

336
336  GENR C40 = @FIT;
337
337  olsq SEB C USA(-1) T;?Serbia and Montenegro
338
338  GENR C41 = @FIT;
339  copy @coef B;
340  set b1 = B(1,1);
341  set b2 = B(2,1);
342  set b3 = B(3,1);
343  set seb2004= b1+b2*96+b3*16;
344  print seb2004;
345  set seb89= b1+b2*100+b3*1;
346  set seb90= b1+b2*93+b3*2;
347  set seb91= b1+b2*90+b3*3;
348  set seb92= b1+b2*93+b3*4;
349  set seb93= b1+b2*81+b3*5;
350  set seb94= b1+b2*98+b3*6;
351  print seb89;
352  print seb90;
353  print seb91;
354  print seb92;
355  print seb93;
356  print seb94;
357
357
357
357  olsq SLOV C USA(-1) T;?Slovakia
358
358  GENR C42 = @FIT;
359  copy @coef B;
360  set b1 = B(1,1);
361  set b2 = B(2,1);
362  set b3 = B(3,1);
363  set slov2004= b1+b2*96+b3*16;
364  print slov2004;
365  set slov89= b1+b2*100+b3*1;
366  set slov90= b1+b2*93+b3*2;
367  set slov91= b1+b2*90+b3*3;
368  set slov92= b1+b2*93+b3*4;
369  print slov89;

```

```

370 print slov90;
371 print slov91;
372 print slov92;
373
373
373
373
373 olsq SA C USA(-1) T;?South Africa
374
374 GENR C43 = @FIT;
375 copy @coef B;
376 set b1 = B(1,1);
377 set b2 = B(2,1);
378 set b3 = B(3,1);
379 set sa2004= b1+b2*96+b3*16;
380 print sa2004;
381
381
381 olsq SPN C USA(-1) T;?Spain
382
382 GENR C44 = @FIT;
383 copy @coef B;
384 set b1 = B(1,1);
385 set b2 = B(2,1);
386 set b3 = B(3,1);
387 set spn2004= b1+b2*96+b3*16;
388 print spn2004;
389
389
389
389 olsq THI C USA(-1) T;?Thailand
390
390 GENR C45 = @FIT;
391 copy @coef B;
392 set b1 = B(1,1);
393 set b2 = B(2,1);
394 set b3 = B(3,1);
395 set thi2004= b1+b2*96+b3*16;
396 print thi2004;
397
397
397

```

```

397
397 olsq TUK C USA(-1) T;?Turkey
398
398 GENR C46 = @FIT;
399
399 copy @coef B;
400 set b1 = B(1,1);
401 set b2 = B(2,1);
402 set b3 = B(3,1);
403 set tuk2004= b1+b2*96+b3*16;
404
404 print tuk2004;
405 set tuk89= b1+b2*100+b3*1;
406 set tuk90= b1+b2*93+b3*2;
407 print tuk89;
408 print tuk90;
409
409
409 olsq UKR C USA(-1) T;?Ukraine
410
410 GENR C47 = @FIT;
411 copy @coef B;
412 set b1 = B(1,1);
413 set b2 = B(2,1);
414 set b3 = B(3,1);
415 set ukr2004= b1+b2*96+b3*16;
416 print ukr2004;
417 set ukr89= b1+b2*100+b3*1;
418 set ukr90= b1+b2*93+b3*2;
419 set ukr91= b1+b2*90+b3*3;
420 set ukr92= b1+b2*93+b3*4;
421 print ukr89;
422 print ukr90;
423 print ukr91;
424 print ukr92;
425
425
425
425 olsq UK C USA(-1) T;?United Kingdom
426
426 GENR C48 = @FIT;
427 copy @coef B;

```

```

428 set b1 = B(1,1);
429 set b2 = B(2,1);
430 set b3 = B(3,1);
431 set uk2004= b1+b2*96+b3*16;
432
432 print uk2004;
433 set uk89= b1+b2*100+b3*1;
434 set uk90= b1+b2*93+b3*2;
435 print uk89;
436 print uk90;
437
437
437
437
437 olsq VEN C USA(-1) T;?Venezuela,Bolivar Rep of
438
438 GENR C49 = @FIT;
439 copy @coef B;
440 set b1 = B(1,1);
441 set b2 = B(2,1);
442 set b3 = B(3,1);
443 set ven2004= b1+b2*96+b3*16;
444 print ven2004;
445
445
445 olsq ZIM C USA(-1) T;?Zimbabwe
446
446 GENR C50 = @FIT;
447 copy @coef B;
448 set b1 = B(1,1);
449 set b2 = B(2,1);
450 set b3 = B(3,1);
451 set zim2004= b1+b2*96+b3*16;
452
452 print zim2004;
453 set zim89= b1+b2*100+b3*1;
454 set zim90= b1+b2*93+b3*2;
455 print zim89;
456 print zim90;
457
457
457

```

```

457
457 ? to print all fitted values for all countries in one matrix called
X
457 MMAKE X C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13
C14 C15 C16 C17
C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30
C31 C32 C33 C34 C35
C36 C37 C38 C39 C40 C41 C42 C43 C44 C45 C46 C47 C48
C49 C50;
458
458 PRINT X;
459
459 print AR2004;
460
460
460 end;
EXECUTION

```

```

*****
*****
0
0

```

Current sample: 1988 to 2003

Equation 1

=====

Method of estimation = Ordinary Least Squares

*** WARNING in command 6 Procedure OLSQ: Missing values
for series

=====> AR: 3, USA(-1): 1

Dependent variable: AR

Current sample: 1991 to 2003

Number of observations: 13

Mean of dep. var. = 96.6431 LM het. test = .245599 [.620]

Std. dev. of dep. var. = 22.4869 Durbin-Watson = 2.05217
 [.257,.804]
 Sum of squared residuals = 3044.89 Jarque-Bera test = 2.44278
 [.295]
 Variance of residuals = 304.489 Ramsey's RESET2 = 3.06238
 [.114]
 Std. error of regression = 17.4496 F (zero slopes) = 4.96409 [.032]
 R-squared = .498198 Schwarz B.I.C. = 57.7594
 Adjusted R-squared = .397838 Log likelihood = -53.9120

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	8.65822	38.1105	.227187	[.825]
USA(-1)	1.00311	.344269	2.91375	[.015]
T	-.244958	1.36894	-.178940	[.862]

*** WARNING in command 7 Procedure GENR: Missing values for series
 =====> @FIT: 3

@COEF

	1
1	8.65822
2	1.00311
3	-0.24496

AR2004 = 101.03768

AR89 = 108.72450

AR90 = 101.45776

Equation 2

=====

Method of estimation = Ordinary Least Squares

*** WARNING in command 19 Procedure OLSQ: Missing values for series
 =====> AUS: 1, USA(-1): 1

Dependent variable: AUS
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 132.875 LM het. test = .216949 [.641]
 Std. dev. of dep. var. = 25.6787 Durbin-Watson = 1.78122
 [.129,.587]
 Sum of squared residuals = 4655.06 Jarque-Bera test = 8.48805
 [.014]
 Variance of residuals = 387.922 Ramsey's RESET2 = 1.00651
 [.337]

Std. error of regression = 19.6957 F (zero slopes) = 5.89876 [.016]
 R-squared = .495746 Schwarz B.I.C. = 68.3786
 Adjusted R-squared = .411703 Log likelihood = -64.3165

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	22.9412	40.8898	.561049	[.585]
USA(-1)	1.22334	.386310	3.16673	[.008]
T	-.154447	1.25858	-.122715	[.904]

*** WARNING in command 20 Procedure GENR: Missing values for series
 =====> @FIT: 1

@COEF

	1
1	22.94115
2	1.22334
3	-0.15445

AU2004 = 137.91063

Equation 3

=====

Method of estimation = Ordinary Least Squares

*** WARNING in command 28 Procedure OLSQ: Missing values for series

=====> AUST: 1, USA(-1): 1

Dependent variable: AUST
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 171.828 LM het. test = .888478 [.346]
Std. dev. of dep. var. = 68.5722 Durbin-Watson = 1.30230
[.014,.212]
Sum of squared residuals = 14075.1 Jarque-Bera test = 1.60854
[.447]
Variance of residuals = 1172.92 Ramsey's RESET2 = 3.84698
[.076]
Std. error of regression = 34.2479 F (zero slopes) = 22.0625 [.000]
R-squared = .786191 Schwarz B.I.C. = 76.6770
Adjusted R-squared = .750556 Log likelihood = -72.6149

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	339.640	71.1012	4.77686	[.000]
USA(-1)	-.454607	.671735	-.676764	[.511]
T	-14.0492	2.18848	-6.41962	[.000]

*** WARNING in command 29 Procedure GENR: Missing values for series

=====> @FIT: 1

B

	1
1	339.64011
2	-0.45461

3 -14.04924

AT2004 = 71.20997

Equation 4

=====

Method of estimation = Ordinary Least Squares

*** WARNING in command 37 Procedure OLSQ: Missing values for series

=====> BELU: 7, USA(-1): 1

Dependent variable: BELU
Current sample: 1995 to 2003
Number of observations: 9

Mean of dep. var. = 160.694 LM het. test = .045331 [.831]
Std. dev. of dep. var. = 83.5925 Durbin-Watson = 1.45122
[.015,.528]
Sum of squared residuals = 26612.3 Jarque-Bera test = .497373
[.780]
Variance of residuals = 4435.39 Ramsey's RESET2 = .605207
[.472]
Std. error of regression = 66.5987 F (zero slopes) = 3.30177 [.108]
R-squared = .523944 Schwarz B.I.C. = 52.0299
Adjusted R-squared = .365258 Log likelihood = -48.7340

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	-5.45972	238.666	-.022876	[.982]
USA(-1)	2.66563	1.56480	1.70350	[.139]
T	-6.14604	10.5435	-.582920	[.581]

*** WARNING in command 38 Procedure GENR: Missing values for series

=====> @FIT: 7

Equation 5
=====

Method of estimation = Ordinary Least Squares

*** WARNING in command 39 Procedure OLSQ: Missing values for series

=====> BL: 1, USA(-1): 1

Dependent variable: BL
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 167.941 LM het. test = 2.73311 [.098]
Std. dev. of dep. var. = 70.0231 Durbin-Watson = 1.65252
[.080,.481]
Sum of squared residuals = 23119.6 Jarque-Bera test = 8.70689
[.013]
Variance of residuals = 1926.63 Ramsey's RESET2 = 6.79144
[.024]
Std. error of regression = 43.8934 F (zero slopes) = 11.8148 [.001]
R-squared = .663202 Schwarz B.I.C. = 80.3991
Adjusted R-squared = .607069 Log likelihood = -76.3370

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	265.051	91.1260	2.90862	[.013]
USA(-1)	.173130	.860921	.201098	[.844]
T	-12.5405	2.80484	-4.47102	[.001]

*** WARNING in command 40 Procedure GENR: Missing values for series

=====> @FIT: 1

BL2004 = 81.02302

Equation 6
=====

Method of estimation = Ordinary Least Squares

*** NOTE: Further warning messages for missing values are suppressed by

OPTIONS LIMWMISS=n; Current setting ==> 10

Dependent variable: BRA

Current sample: 1991 to 2003

Number of observations: 13

Mean of dep. var. = 104.306 LM het. test = 1.89513 [.169]
Std. dev. of dep. var. = 29.1489 Durbin-Watson = 1.08496
[.003,.133]
Sum of squared residuals = 3598.70 Jarque-Bera test = .396632
[.820]
Variance of residuals = 359.870 Ramsey's RESET2 = 2.86212
[.125]
Std. error of regression = 18.9703 F (zero slopes) = 9.16608 [.005]
R-squared = .647044 Schwarz B.I.C. = 58.8456
Adjusted R-squared = .576453 Log likelihood = -54.9982

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	90.0353	41.4316	2.17311	[.055]
USA(-1)	.668628	.374270	1.78649	[.104]
T	-4.60085	1.48823	-3.09148	[.011]

BRA2004 = 80.60994

BRA89 = 152.29724

BRA90 = 143.01599

Equation 7
=====

Method of estimation = Ordinary Least Squares

Dependent variable: BUL
 Current sample: 1991 to 2003
 Number of observations: 13

Mean of dep. var. = 95.3400 LM het. test = 3.93229 [.047]
 Std. dev. of dep. var. = 22.9677 Durbin-Watson = 2.01974
 [.237,.786]
 Sum of squared residuals = 3396.07 Jarque-Bera test = 1.68027
 [.432]
 Variance of residuals = 339.607 Ramsey's RESET2 = .180207
 [.681]
 Std. error of regression = 18.4284 F (zero slopes) = 4.31986 [.044]
 R-squared = .463511 Schwarz B.I.C. = 58.4689
 Adjusted R-squared = .356213 Log likelihood = -54.6215

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	-3.61790	40.2482	-.089890	[.930]
USA(-1)	.650306	.363580	1.78862	[.104]
T	4.03304	1.44573	2.78962	[.019]

BUL2004 = 123.34000
 BUL89 = 65.44569
 BUL90 = 64.92659

Equation 8

=====

Method of estimation = Ordinary Least Squares

Dependent variable: CA
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 103.708 LM het. test = .158566 [.690]
 Std. dev. of dep. var. = 19.3205 Durbin-Watson = 2.67954
 [.776,.985]

Sum of squared residuals = 2395.45 Jarque-Bera test = .283087
 [.868]
 Variance of residuals = 199.621 Ramsey's RESET2 = 3.17498
 [.102]
 Std. error of regression = 14.1287 F (zero slopes) = 7.08964 [.009]
 R-squared = .541622 Schwarz B.I.C. = 63.3957
 Adjusted R-squared = .465226 Log likelihood = -59.3337

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	-5.70348	29.3323	-.194444	[.849]
USA(-1)	.989884	.277119	3.57205	[.004]
T	2.14797	.902843	2.37912	[.035]

CA2004 = 123.69293

Equation 9

=====

Method of estimation = Ordinary Least Squares

Dependent variable: CHI
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 147.388 LM het. test = .791997 [.373]
 Std. dev. of dep. var. = 22.4716 Durbin-Watson = .951844
 [.001,.052]
 Sum of squared residuals = 2398.46 Jarque-Bera test = .114961
 [.944]
 Variance of residuals = 199.872 Ramsey's RESET2 = 3.34410
 [.095]
 Std. error of regression = 14.1376 F (zero slopes) = 11.6853 [.002]
 R-squared = .660735 Schwarz B.I.C. = 63.4052
 Adjusted R-squared = .604191 Log likelihood = -59.3431

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	25.2496	29.3507	.860273	[.406]
USA(-1)	1.29669	.277294	4.67625	[.001]

T .459942 .903410 .509118 [.620]

CHI2004 = 157.09136

Equation 10

=====

Method of estimation = Ordinary Least Squares

Dependent variable: PRC
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 111.535 LM het. test = .655697 [.418]
Std. dev. of dep. var. = 18.7504 Durbin-Watson = 1.75059
[.116,.562]
Sum of squared residuals = 3259.78 Jarque-Bera test = .886389
[.642]
Variance of residuals = 271.648 Ramsey's RESET2 = .447413
[.517]
Std. error of regression = 16.4818 F (zero slopes) = 3.05970 [.084]
R-squared = .337726 Schwarz B.I.C. = 65.7064
Adjusted R-squared = .227347 Log likelihood = -61.6443

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	29.8509	34.2173	.872392	[.400]
USA(-1)	.702212	.323271	2.17221	[.051]
T	1.97587	1.05320	1.87606	[.085]

PRC2004 = 128.87716

Equation 11

=====

Method of estimation = Ordinary Least Squares

Dependent variable: COL

Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 174.313 LM het. test = 2.91698 [.088]
Std. dev. of dep. var. = 11.7757 Durbin-Watson = 1.98568
[.241,.740]
Sum of squared residuals = 1746.02 Jarque-Bera test = 1.09456
[.579]
Variance of residuals = 145.501 Ramsey's RESET2 = 2.04723
[.180]
Std. error of regression = 12.0624 F (zero slopes) = .671151 [.529]
R-squared = .100605 Schwarz B.I.C. = 61.0240
Adjusted R-squared = -.049294 Log likelihood = -56.9619

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	177.667	25.0424	7.09465	[.000]
USA(-1)	.040253	.236591	.170138	[.868]
T	-.779690	.770802	-1.01153	[.332]

COL2004 = 169.05641

Equation 12

=====

Method of estimation = Ordinary Least Squares

Dependent variable: CON
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 257.298 LM het. test = .206820 [.649]
Std. dev. of dep. var. = 57.3954 Durbin-Watson = 1.74885
[.115,.561]
Sum of squared residuals = 42003.0 Jarque-Bera test = 2.27221
[.321]
Variance of residuals = 3500.25 Ramsey's RESET2 = .073631
[.791]
Std. error of regression = 59.1629 F (zero slopes) = .587996 [.571]
R-squared = .089253 Schwarz B.I.C. = 84.8770

Adjusted R-squared = -.062539 Log likelihood = -80.8149

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	332.908	122.827	2.71039	[.019]
USA(-1)	-.964434	1.16042	-.831111	[.422]
T	1.35039	3.78058	.357190	[.727]

CON2004 = 261.92844

Equation 13

=====

Method of estimation = Ordinary Least Squares

Dependent variable: CRO
 Current sample: 1993 to 2003
 Number of observations: 11

Mean of dep. var. = 107.125 LM het. test = .198645E-02
 [.964]
 Std. dev. of dep. var. = 22.8297 Durbin-Watson = 1.30680
 [.011,.331]
 Sum of squared residuals = 2301.92 Jarque-Bera test = .013537
 [.993]
 Variance of residuals = 287.740 Ramsey's RESET2 = 1.79061
 [.223]
 Std. error of regression = 16.9629 F (zero slopes) = 5.05670 [.038]
 R-squared = .558338 Schwarz B.I.C. = 48.5950
 Adjusted R-squared = .447923 Log likelihood = -44.9981

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	97.5646	42.7948	2.27983	[.052]
USA(-1)	.527938	.344471	1.53260	[.164]
T	-3.44605	1.75920	-1.95887	[.086]

CRO2004 = 93.10992

CRO89 = 146.91243

CRO90 = 139.77081

CRO91 = 134.74095

CRO92 = 132.87871

Equation 14

=====

Method of estimation = Ordinary Least Squares

Dependent variable: CZ
 Current sample: 1993 to 2003
 Number of observations: 11

Mean of dep. var. = 114.411 LM het. test = 6.70562 [.010]
 Std. dev. of dep. var. = 23.7404 Durbin-Watson = 1.74244
 [.086,.652]
 Sum of squared residuals = 1216.07 Jarque-Bera test = .783361
 [.676]
 Variance of residuals = 152.009 Ramsey's RESET2 = 5.38585
 [.053]
 Std. error of regression = 12.3292 F (zero slopes) = 14.5386 [.002]
 R-squared = .784233 Schwarz B.I.C. = 45.0853
 Adjusted R-squared = .730292 Log likelihood = -41.4885

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	33.9127	31.1046	1.09028	[.307]
USA(-1)	1.08755	.250373	4.34371	[.002]
T	-1.57111	1.27864	-1.22873	[.254]

CZ2004 = 113.17952

CZ89 = 141.09634

CZ90 = 131.91240

CZ91 = 127.07864

CZ92 = 128.77018

Equation 15

=====

Method of estimation = Ordinary Least Squares

Dependent variable: EGP
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 169.345 LM het. test = 4.94735 [.026]
Std. dev. of dep. var. = 59.7167 Durbin-Watson = .725179
[.000,.012]
Sum of squared residuals = 38966.0 Jarque-Bera test = 12.1415
[.002]
Variance of residuals = 3247.16 Ramsey's RESET2 = 2.91615
[.116]
Std. error of regression = 56.9839 F (zero slopes) = 1.68751 [.226]
R-squared = .219513 Schwarz B.I.C. = 84.3141
Adjusted R-squared = .089432 Log likelihood = -80.2520

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	230.231	118.303	1.94612	[.075]
USA(-1)	-.045310	1.11768	-.040539	[.968]
T	-6.30696	3.64134	-1.73204	[.109]

EGP2004 = 124.97021

Equation 16

=====

Method of estimation = Ordinary Least Squares

Dependent variable: ETH
Current sample: 1989 to 2003

Number of observations: 15

Mean of dep. var. = 147.487 LM het. test = .067555 [.795]
Std. dev. of dep. var. = 56.9646 Durbin-Watson = 1.86509
[.170,.653]
Sum of squared residuals = 5268.00 Jarque-Bera test = 23.5596
[.000]
Variance of residuals = 439.000 Ramsey's RESET2 = 1.14634
[.307]
Std. error of regression = 20.9523 F (zero slopes) = 45.7421 [.000]
R-squared = .884040 Schwarz B.I.C. = 69.3063
Adjusted R-squared = .864714 Log likelihood = -65.2442

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	319.812	43.4986	7.35225	[.000]
USA(-1)	-.651271	.410957	-1.58477	[.139]
T	-12.5621	1.33888	-9.38258	[.000]

ETH2004 = 56.29585

Equation 17

=====

Method of estimation = Ordinary Least Squares

Dependent variable: FRN
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 151.582 LM het. test = .120658 [.728]
Std. dev. of dep. var. = 43.5444 Durbin-Watson = 1.57225
[.057,.415]
Sum of squared residuals = 8027.20 Jarque-Bera test = 1.32674
[.515]
Variance of residuals = 668.933 Ramsey's RESET2 = .233611
[.638]
Std. error of regression = 25.8637 F (zero slopes) = 13.8418 [.001]
R-squared = .697608 Schwarz B.I.C. = 72.4652
Adjusted R-squared = .647209 Log likelihood = -68.4031

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	183.796	53.6950	3.42297	[.005]
USA(-1)	.396195	.507289	.781006	[.450]
T	-7.58536	1.65272	-4.58961	[.001]

FRN2004 = 100.46520

Equation 18

=====

Method of estimation = Ordinary Least Squares

Dependent variable: GER
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 163.752 LM het. test = .460133 [.498]
 Std. dev. of dep. var. = 46.1598 Durbin-Watson = 1.78641
 [.132,.591]
 Sum of squared residuals = 6312.77 Jarque-Bera test = 1.24068
 [.538]
 Variance of residuals = 526.064 Ramsey's RESET2 = .273329
 [.611]
 Std. error of regression = 22.9361 F (zero slopes) = 22.3522 [.000]
 R-squared = .788376 Schwarz B.I.C. = 70.6633
 Adjusted R-squared = .753106 Log likelihood = -66.6012

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	182.957	47.6170	3.84226	[.002]
USA(-1)	.607385	.449866	1.35015	[.202]
T	-8.27518	1.46564	-5.64611	[.000]

GER2004 = 108.86287

Equation 19

=====

Method of estimation = Ordinary Least Squares

Dependent variable: GHA
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 184.681 LM het. test = 4.09652 [.043]
 Std. dev. of dep. var. = 55.6787 Durbin-Watson = 2.36487
 [.533,.925]
 Sum of squared residuals = 34459.9 Jarque-Bera test = 1.06356
 [.588]
 Variance of residuals = 2871.66 Ramsey's RESET2 = 1.67714
 [.222]
 Std. error of regression = 53.5879 F (zero slopes) = 1.55689 [.251]
 R-squared = .206023 Schwarz B.I.C. = 83.3924
 Adjusted R-squared = .073693 Log likelihood = -79.3303

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	16.0070	111.252	.143880	[.888]
USA(-1)	1.79254	1.05107	1.70544	[.114]
T	.616979	3.42433	.180175	[.860]

GHA2004 = 197.96216

Equation 20

=====

Method of estimation = Ordinary Least Squares

Dependent variable: GRE
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 185.971 LM het. test = 3.19195 [.074]
 Std. dev. of dep. var. = 30.7813 Durbin-Watson = 1.55057
 [.052,.397]

Sum of squared residuals = 3252.27 Jarque-Bera test = .835603
 [.658]
 Variance of residuals = 271.022 Ramsey's RESET2 = 2.19487
 [.167]
 Std. error of regression = 16.4628 F (zero slopes) = 18.4718 [.000]
 R-squared = .754820 Schwarz B.I.C. = 65.6891
 Adjusted R-squared = .713956 Log likelihood = -61.6270

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	191.209	34.1779	5.59453	[.000]
USA(-1)	.464128	.322899	1.43738	[.176]
T	-5.27486	1.05199	-5.01418	[.000]

GRE2004 = 151.36759

Equation 21
 =====

Method of estimation = Ordinary Least Squares

Dependent variable: HUN
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 98.1971 LM het. test = .071996 [.788]
 Std. dev. of dep. var. = 24.1850 Durbin-Watson = 1.52980
 [.047,.380]
 Sum of squared residuals = 6090.57 Jarque-Bera test = 1.03402
 [.596]
 Variance of residuals = 507.548 Ramsey's RESET2 = .169905
 [.688]
 Std. error of regression = 22.5288 F (zero slopes) = 2.06706 [.169]
 R-squared = .256234 Schwarz B.I.C. = 70.3945
 Adjusted R-squared = .132273 Log likelihood = -66.3324

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	52.7570	46.7715	1.12797	[.281]
USA(-1)	.623243	.441878	1.41044	[.184]

T -1.25278 1.43962 -0.870217 [.401]

HUN2004 = 92.54385

Equation 22
 =====

Method of estimation = Ordinary Least Squares

Dependent variable: IND
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 117.156 LM het. test = .946523 [.331]
 Std. dev. of dep. var. = 8.67977 Durbin-Watson = 2.48191
 [.629,.956]
 Sum of squared residuals = 1037.73 Jarque-Bera test = 2.04405
 [.360]
 Variance of residuals = 86.4778 Ramsey's RESET2 = 1.09838
 [.317]
 Std. error of regression = 9.29934 F (zero slopes) = .098320 [.907]
 R-squared = .016123 Schwarz B.I.C. = 57.1217
 Adjusted R-squared = -.147857 Log likelihood = -53.0597

	Estimated Coefficient	Standard Error	t-statistic	P-value
C	125.560	19.3061	6.50364	[.000]
USA(-1)	-.080319	.182396	-.440353	[.668]
T	-.121687	.594239	-.204779	[.841]

IND2004 = 115.90244

Equation 23
 =====

Method of estimation = Ordinary Least Squares

Dependent variable: INDO

Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 137.872 LM het. test = .208866 [.648]
Std. dev. of dep. var. = 29.3593 Durbin-Watson = 1.99900
[.250,.749]
Sum of squared residuals = 7223.43 Jarque-Bera test = 4.99666
[.082]
Variance of residuals = 601.952 Ramsey's RESET2 = 1.27298
[.283]
Std. error of regression = 24.5347 F (zero slopes) = 4.02365 [.046]
R-squared = .401416 Schwarz B.I.C. = 71.6739
Adjusted R-squared = .301652 Log likelihood = -67.6118

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	-.261331	50.9359	-.513059E-02	[.996]
USA(-1)	1.36508	.481221	2.83671	[.015]
T	1.54559	1.56780	.985837	[.344]

INDO2004 = 155.51626

Equation 24
=====

Method of estimation = Ordinary Least Squares

Dependent variable: ITA
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 203.320 LM het. test = 9.89342 [.002]
Std. dev. of dep. var. = 62.4888 Durbin-Watson = 1.59398
[.063,.433]
Sum of squared residuals = 8660.17 Jarque-Bera test = .923314
[.630]
Variance of residuals = 721.681 Ramsey's RESET2 = .298621
[.596]
Std. error of regression = 26.8641 F (zero slopes) = 31.8754 [.000]
R-squared = .841586 Schwarz B.I.C. = 73.0344

Adjusted R-squared = .815184 Log likelihood = -68.9724

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	291.612	55.7719	5.22865	[.000]
USA(-1)	.264800	.526910	.502554	[.624]
T	-12.4876	1.71665	-7.27440	[.000]

ITA2004 = 117.23096

Equation 25
=====

Method of estimation = Ordinary Least Squares

Dependent variable: JP
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 1115.80 LM het. test = .549039 [.459]
Std. dev. of dep. var. = 144.356 Durbin-Watson = .766695
[.000,.017]
Sum of squared residuals = 265813. Jarque-Bera test = 2.51015
[.285]
Variance of residuals = 22151.1 Ramsey's RESET2 = 5.81578
[.035]
Std. error of regression = 148.832 F (zero slopes) = .585247 [.572]
R-squared = .088872 Schwarz B.I.C. = 98.7149
Adjusted R-squared = -.062982 Log likelihood = -94.6528

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	905.268	308.987	2.92979	[.013]
USA(-1)	1.29782	2.91918	.444582	[.665]
T	10.2700	9.51058	1.07985	[.301]

JP2004 = 1194.17760

Equation 26

=====

Method of estimation = Ordinary Least Squares

Dependent variable: KAZ
Current sample: 1994 to 2003
Number of observations: 10

Mean of dep. var. = 99.9090 LM het. test = 3.03752 [.081]
Std. dev. of dep. var. = 46.4903 Durbin-Watson = 1.58232
[.039,.575]
Sum of squared residuals = 13928.7 Jarque-Bera test = 1.89860
[.387]
Variance of residuals = 1989.82 Ramsey's RESET2 = 2.17831
[.190]
Std. error of regression = 44.6074 F (zero slopes) = 1.38792 [.311]
R-squared = .283948 Schwarz B.I.C. = 53.8389
Adjusted R-squared = .079362 Log likelihood = -50.3850

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	-137.757	143.816	-.957868	[.370]
USA(-1)	1.61699	1.02391	1.57922	[.158]
T	7.89941	5.94543	1.32865	[.226]

Equation 27

=====

Method of estimation = Ordinary Least Squares

Dependent variable: KEN
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 153.424 LM het. test = 2.57843 [.108]
Std. dev. of dep. var. = 43.0449 Durbin-Watson = 1.04842
[.002,.083]
Sum of squared residuals = 15532.6 Jarque-Bera test = .599823
[.741]

Variance of residuals = 1294.38 Ramsey's RESET2 = 6.95185
[.023]
Std. error of regression = 35.9775 F (zero slopes) = 4.02024 [.046]
R-squared = .401212 Schwarz B.I.C. = 77.4160
Adjusted R-squared = .301414 Log likelihood = -73.3539

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	38.1086	74.6919	.510211	[.619]
USA(-1)	.623126	.705659	.883041	[.395]
T	6.51234	2.29901	2.83267	[.015]

KEN2004 = 202.12605

Equation 28

=====

Method of estimation = Ordinary Least Squares

Dependent variable: KOR
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 432.799 LM het. test = .867028E-02
[.926]
Std. dev. of dep. var. = 83.7075 Durbin-Watson = 1.89619
[.187,.676]
Sum of squared residuals = 57388.5 Jarque-Bera test = 1.52728
[.466]
Variance of residuals = 4782.37 Ramsey's RESET2 = .171577E-02
[.968]
Std. error of regression = 69.1547 F (zero slopes) = 4.25613 [.040]
R-squared = .414984 Schwarz B.I.C. = 87.2178
Adjusted R-squared = .317482 Log likelihood = -83.1557

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	67.4756	143.570	.469984	[.647]
USA(-1)	2.86504	1.35639	2.11225	[.056]
T	11.6228	4.41907	2.63014	[.022]

KOR2004 = 528.48375

Equation 29

=====

Method of estimation = Ordinary Least Squares

Dependent variable: MAL
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 95.8412 LM het. test = .431755E-03
[.983]
Std. dev. of dep. var. = 26.9249 Durbin-Watson = 1.42361
[.028,.297]
Sum of squared residuals = 7749.69 Jarque-Bera test = 1.14343
[.565]
Variance of residuals = 645.807 Ramsey's RESET2 = 5.72217
[.036]
Std. error of regression = 25.4127 F (zero slopes) = 1.85786 [.198]
R-squared = .236434 Schwarz B.I.C. = 72.2013
Adjusted R-squared = .109173 Log likelihood = -68.1393

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	62.2275	52.7587	1.17947	[.261]
USA(-1)	.072412	.498443	.145277	[.887]
T	3.00269	1.62390	1.84905	[.089]

MAL2004 = 117.22210

Equation 30

=====

Method of estimation = Ordinary Least Squares

Dependent variable: MEX

Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 185.755 LM het. test = 6.16249 [.013]
Std. dev. of dep. var. = 33.2766 Durbin-Watson = .933842
[.001,.047]
Sum of squared residuals = 6951.40 Jarque-Bera test = .084304
[.959]
Variance of residuals = 579.283 Ramsey's RESET2 = .077554
[.786]
Std. error of regression = 24.0683 F (zero slopes) = 7.38087 [.008]
R-squared = .551599 Schwarz B.I.C. = 71.3860
Adjusted R-squared = .476865 Log likelihood = -67.3239

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	263.812	49.9675	5.27967	[.000]
USA(-1)	-.285455	.472073	-.604685	[.557]
T	-5.78673	1.53799	-3.76252	[.003]

MEX2004 = 143.82084

Equation 31

=====

Method of estimation = Ordinary Least Squares

Dependent variable: MOLD
Current sample: 1993 to 2003
Number of observations: 11

Mean of dep. var. = 85.1300 LM het. test = .081074 [.776]
Std. dev. of dep. var. = 36.5052 Durbin-Watson = 2.48991
[.518,.967]
Sum of squared residuals = 12096.5 Jarque-Bera test = 9.76837
[.008]
Variance of residuals = 1512.07 Ramsey's RESET2 = 1.98235
[.202]
Std. error of regression = 38.8853 F (zero slopes) = .406644 [.679]
R-squared = .092280 Schwarz B.I.C. = 57.7204

Adjusted R-squared = -.134650 Log likelihood = -54.1236

Method of estimation = Ordinary Least Squares

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	2.34304	98.1016	.023884	[.982]
USA(-1)	.709165	.789657	.898068	[.395]
T	1.72969	4.03274	.428911	[.679]

Equation 32

=====

Method of estimation = Ordinary Least Squares

Dependent variable: NEP
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 124.905 LM het. test = 2.80096 [.094]
 Std. dev. of dep. var. = 15.1251 Durbin-Watson = 1.40938
 [.026,.287]
 Sum of squared residuals = 2614.53 Jarque-Bera test = 1.02486
 [.599]
 Variance of residuals = 217.878 Ramsey's RESET2 = 2.79721
 [.123]
 Std. error of regression = 14.7607 F (zero slopes) = 1.34991 [.296]
 R-squared = .183663 Schwarz B.I.C. = 64.0521
 Adjusted R-squared = .047607 Log likelihood = -59.9900

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	83.1478	30.6442	2.71333	[.019]
USA(-1)	.451992	.289514	1.56121	[.144]
T	.069502	.943225	.073686	[.942]

NEP2004 = 127.65109

Equation 33

=====

Dependent variable: NETH
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 159.286 LM het. test = 6.70071 [.010]
 Std. dev. of dep. var. = 47.5177 Durbin-Watson = 2.63944
 [.749,.980]
 Sum of squared residuals = 4592.23 Jarque-Bera test = .487398
 [.784]
 Variance of residuals = 382.686 Ramsey's RESET2 = .475174E-03 [.983]
 Std. error of regression = 19.5624 F (zero slopes) = 35.3017 [.000]
 R-squared = .854727 Schwarz B.I.C. = 68.2767
 Adjusted R-squared = .830515 Log likelihood = -64.2146

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	221.704	40.6129	5.45896	[.000]
USA(-1)	.253663	.383694	.661107	[.521]
T	-9.50017	1.25006	-7.59978	[.000]

NETH2004 = 94.05314

Equation 34

=====

Method of estimation = Ordinary Least Squares

Dependent variable: NIG
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 455.854 LM het. test = 1.26864 [.260]
 Std. dev. of dep. var. = 325.392 Durbin-Watson = 1.98052
 [.238,.736]
 Sum of squared residuals = 832940. Jarque-Bera test = 3.50976
 [.173]

Variance of residuals = 69411.7 Ramsey's RESET2 = .750812
 [.405]
 Std. error of regression = 263.461 F (zero slopes) = 4.67777 [.031]
 R-squared = .438085 Schwarz B.I.C. = 107.281
 Adjusted R-squared = .344432 Log likelihood = -103.219

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	-1202.54	546.964	-2.19857	[.048]
USA(-1)	15.0611	5.16749	2.91458	[.013]
T	31.9814	16.8355	1.89964	[.082]

NIG2004 = 755.02957

Equation 35
 =====

Method of estimation = Ordinary Least Squares

Dependent variable: PAK
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 164.798 LM het. test = .294863 [.587]
 Std. dev. of dep. var. = 41.9696 Durbin-Watson = .989445
 [.001,.063]
 Sum of squared residuals = 21957.7 Jarque-Bera test = 14.8019
 [.001]
 Variance of residuals = 1829.80 Ramsey's RESET2 = .034977
 [.855]
 Std. error of regression = 42.7762 F (zero slopes) = .738497 [.498]
 R-squared = .109594 Schwarz B.I.C. = 80.0123
 Adjusted R-squared = -.038807 Log likelihood = -75.9502

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	57.8274	88.8065	.651161	[.527]
USA(-1)	.970622	.839008	1.15687	[.270]
T	2.07155	2.73345	.757852	[.463]

PAK2004 = 184.15198

Equation 36
 =====

Method of estimation = Ordinary Least Squares

Dependent variable: PHI
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 166.918 LM het. test = .305974E-04
 [.996]
 Std. dev. of dep. var. = 39.8329 Durbin-Watson = 1.50320
 [.041,.359]
 Sum of squared residuals = 11754.2 Jarque-Bera test = 4.43715
 [.109]
 Variance of residuals = 979.516 Ramsey's RESET2 = .104192
 [.753]
 Std. error of regression = 31.2972 F (zero slopes) = 5.33888 [.022]
 R-squared = .470847 Schwarz B.I.C. = 75.3255
 Adjusted R-squared = .382655 Log likelihood = -71.2634

	Estimated	Standard		
Variable	Coefficient	Error	t-statistic	P-value
C	45.8048	64.9753	.704957	[.494]
USA(-1)	1.54172	.613860	2.51152	[.027]
T	-2.13145	1.99993	-1.06576	[.308]

PHI2004 = 159.70690

Equation 37
 =====

Method of estimation = Ordinary Least Squares

Dependent variable: POL
 Current sample: 1989 to 2003

Number of observations: 15

Mean of dep. var. = 117.052 LM het. test = .108149 [.742]
 Std. dev. of dep. var. = 31.3359 Durbin-Watson = .660867
 [.000,.007]
 Sum of squared residuals = 8029.97 Jarque-Bera test = .231164
 [.891]
 Variance of residuals = 669.164 Ramsey's RESET2 = 1.06365
 [.325]
 Std. error of regression = 25.8682 F (zero slopes) = 4.27190 [.040]
 R-squared = .415882 Schwarz B.I.C. = 72.4678
 Adjusted R-squared = .318529 Log likelihood = -68.4057

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	-35.9477	53.7043	-.669364	[.516]
USA(-1)	1.47880	.507376	2.91460	[.013]
T	2.04771	1.65301	1.23877	[.239]

POL2004 = 138.78044

Equation 38
=====

Method of estimation = Ordinary Least Squares

Dependent variable: POR
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 188.263 LM het. test = .088674 [.766]
 Std. dev. of dep. var. = 55.8125 Durbin-Watson = 1.27677
 [.012,.196]
 Sum of squared residuals = 10215.0 Jarque-Bera test = 4.84623
 [.089]
 Variance of residuals = 851.246 Ramsey's RESET2 = 7.78968
 [.018]
 Std. error of regression = 29.1761 F (zero slopes) = 19.6157 [.000]
 R-squared = .765768 Schwarz B.I.C. = 74.2728
 Adjusted R-squared = .726730 Log likelihood = -70.2108

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	254.487	60.5718	4.20142	[.001]
USA(-1)	.312589	.572257	.546239	[.595]
T	-10.5189	1.86439	-5.64199	[.000]

POR2004 = 116.19415

Equation 39
=====

Method of estimation = Ordinary Least Squares

Dependent variable: ROM
 Current sample: 1991 to 2003
 Number of observations: 13

Mean of dep. var. = 137.869 LM het. test = .107622 [.743]
 Std. dev. of dep. var. = 31.8587 Durbin-Watson = 2.10470
 [.292,.832]
 Sum of squared residuals = 12114.4 Jarque-Bera test = .952262
 [.621]
 Variance of residuals = 1211.44 Ramsey's RESET2 = 8.08304
 [.019]
 Std. error of regression = 34.8057 F (zero slopes) = .026951
 [.973]
 R-squared = .536122E-02 Schwarz B.I.C. = 66.7354
 Adjusted R-squared = -.193567 Log likelihood = -62.8880

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	126.032	76.0168	1.65795	[.128]
USA(-1)	.061104	.686693	.088983	[.931]
T	.632811	2.73054	.231753	[.821]

ROM2004 = 142.02332

ROM89 = 132.77556

ROM90 = 132.98065

Equation 40

=====

Method of estimation = Ordinary Least Squares

Dependent variable: RUS

Current sample: 1993 to 2003

Number of observations: 11

Mean of dep. var. = 104.619 LM het. test = .032689 [.857]

Std. dev. of dep. var. = 31.7553 Durbin-Watson = 1.37860
[.016,.383]

Sum of squared residuals = 4314.14 Jarque-Bera test = .764222
[.682]

Variance of residuals = 539.267 Ramsey's RESET2 = 2.17870
[.183]

Std. error of regression = 23.2221 F (zero slopes) = 5.34975 [.033]

R-squared = .572181 Schwarz B.I.C. = 52.0498

Adjusted R-squared = .465226 Log likelihood = -48.4530

Estimated Standard

Variable Coefficient Error t-statistic P-value

C -50.5448 58.5858 -.862749 [.413]

USA(-1) 1.51619 .471580 3.21513 [.012]

T 1.71316 2.40834 .711346 [.497]

Equation 41

=====

Method of estimation = Ordinary Least Squares

Dependent variable: SEB

Current sample: 1995 to 2003

Number of observations: 9

Mean of dep. var. = 147.539 LM het. test = 1.56333 [.211]

Std. dev. of dep. var. = 90.7478 Durbin-Watson = 2.20130
[.243,.926]

Sum of squared residuals = 60126.1 Jarque-Bera test = 4.15958
[.125]

Variance of residuals = 10021.0 Ramsey's RESET2 = 2.05359
[.211]

Std. error of regression = 100.105 F (zero slopes) = .287153 [.760]

R-squared = .087356 Schwarz B.I.C. = 55.6977

Adjusted R-squared = -.216859 Log likelihood = -52.4018

Estimated Standard

Variable Coefficient Error t-statistic P-value

C 307.269 358.741 .856521 [.425]

USA(-1) -1.57231 2.35206 -.668481 [.529]

T -1.51851 15.8481 -.095816 [.927]

SEB2004 = 132.03101

SEB89 = 148.51935

SEB90 = 158.00701

SEB91 = 161.20543

SEB92 = 154.97000

SEB93 = 172.31921

SEB94 = 144.07145

Equation 42

=====

Method of estimation = Ordinary Least Squares

Dependent variable: SLOV

Current sample: 1993 to 2003

Number of observations: 11

Mean of dep. var. = 104.672 LM het. test = .783670E-02
 [.929]
 Std. dev. of dep. var. = 20.0034 Durbin-Watson = 1.34782
 [.014,.360]
 Sum of squared residuals = 941.535 Jarque-Bera test = .383569
 [.825]
 Variance of residuals = 117.692 Ramsey's RESET2 = .058742
 [.815]
 Std. error of regression = 10.8486 F (zero slopes) = 12.9993 [.003]
 R-squared = .764696 Schwarz B.I.C. = 43.6781
 Adjusted R-squared = .705870 Log likelihood = -40.0812

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	53.8877	27.3693	1.96891	[.084]
USA(-1)	.811524	.220306	3.68362	[.006]
T	-2.01630	1.12509	-1.79212	[.111]

SLOV2004 = 99.53323

SLOV89 = 133.02385

SLOV90 = 125.32688

SLOV91 = 120.87600

SLOV92 = 121.29428

Equation 43

=====

Method of estimation = Ordinary Least Squares

Dependent variable: SA
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 120.589 LM het. test = .022040 [.882]
 Std. dev. of dep. var. = 21.8573 Durbin-Watson = 1.86079
 [.168,.650]

Sum of squared residuals = 5909.70 Jarque-Bera test = .352411
 [.838]
 Variance of residuals = 492.475 Ramsey's RESET2 = .821875
 [.384]
 Std. error of regression = 22.1918 F (zero slopes) = .790557 [.476]
 R-squared = .116420 Schwarz B.I.C. = 70.1684
 Adjusted R-squared = -.030843 Log likelihood = -66.1063

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	87.4025	46.0717	1.89710	[.082]
USA(-1)	.421705	.435267	.968841	[.352]
T	-.576540	1.41808	-.406564	[.691]

SA2004 = 118.66147

Equation 44

=====

Method of estimation = Ordinary Least Squares

Dependent variable: SPN
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 192.489 LM het. test = .533997 [.465]
 Std. dev. of dep. var. = 52.2833 Durbin-Watson = 1.42456
 [.028,.298]
 Sum of squared residuals = 8050.33 Jarque-Bera test = .446863
 [.800]
 Variance of residuals = 670.861 Ramsey's RESET2 = .461099
 [.511]
 Std. error of regression = 25.9010 F (zero slopes) = 22.5227 [.000]
 R-squared = .789642 Schwarz B.I.C. = 72.4868
 Adjusted R-squared = .754582 Log likelihood = -68.4247

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	269.863	53.7723	5.01863	[.000]
USA(-1)	.158049	.508019	.311108	[.761]

T -10.1953 1.65510 -6.15989 [.000]

SPN2004 = 121.91213

Equation 45

=====

Method of estimation = Ordinary Least Squares

Dependent variable: THI
Current sample: 1989 to 2003
Number of observations: 15

Mean of dep. var. = 113.333 LM het. test = .162312 [.687]
Std. dev. of dep. var. = 21.9808 Durbin-Watson = 1.69022
[.093,.513]
Sum of squared residuals = 2593.18 Jarque-Bera test = .958841
[.619]
Variance of residuals = 216.098 Ramsey's RESET2 = 3.64757
[.083]
Std. error of regression = 14.7003 F (zero slopes) = 9.65068 [.003]
R-squared = .616630 Schwarz B.I.C. = 63.9906
Adjusted R-squared = .552735 Log likelihood = -59.9285

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	-2.75972	30.5189	-.090427	[.929]
USA(-1)	1.22857	.288330	4.26098	[.001]
T	.477024	.939366	.507815	[.621]

THI2004 = 122.81512

Equation 46

=====

Method of estimation = Ordinary Least Squares

Dependent variable: TUK

Current sample: 1991 to 2003
Number of observations: 13

Mean of dep. var. = 180.051 LM het. test = .297122 [.586]
Std. dev. of dep. var. = 22.1981 Durbin-Watson = 2.01409
[.234,.783]
Sum of squared residuals = 3703.55 Jarque-Bera test = .130286
[.937]
Variance of residuals = 370.355 Ramsey's RESET2 = .251216
[.628]
Std. error of regression = 19.2446 F (zero slopes) = 2.98297 [.096]
R-squared = .373667 Schwarz B.I.C. = 59.0323
Adjusted R-squared = .248400 Log likelihood = -55.1848

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	91.1981	42.0308	2.16979	[.055]
USA(-1)	.915368	.379683	2.41087	[.037]
T	.632870	1.50976	.419186	[.684]

TUK2004 = 189.19938

TUK89 = 183.36780

TUK90 = 177.59309

Equation 47

=====

Method of estimation = Ordinary Least Squares

Dependent variable: UKR
Current sample: 1993 to 2003
Number of observations: 11

Mean of dep. var. = 105.424 LM het. test = 1.87691 [.171]
Std. dev. of dep. var. = 57.1212 Durbin-Watson = 1.87569
[.134,.738]
Sum of squared residuals = 18302.9 Jarque-Bera test = 1.64669
[.439]

Variance of residuals = 2287.86 Ramsey's RESET2 = 7.71818
 [.027]
 Std. error of regression = 47.8315 F (zero slopes) = 3.13075 [.099]
 R-squared = .439049 Schwarz B.I.C. = 59.9982
 Adjusted R-squared = .298812 Log likelihood = -56.4014

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	200.828	120.672	1.66426	[.135]
USA(-1)	.262410	.971332	.270155	[.794]
T	-10.8180	4.96055	-2.18080	[.061]

UKR2004 = 52.93207

UKR89 = 216.25135

UKR90 = 203.59650

UKR91 = 191.99130

UKR92 = 181.96055

Equation 48

=====

Method of estimation = Ordinary Least Squares

Dependent variable: UK
 Current sample: 1991 to 2003
 Number of observations: 13

Mean of dep. var. = 87.6577 LM het. test = .151123 [.697]
 Std. dev. of dep. var. = 53.1975 Durbin-Watson = .996466
 [.001,.094]
 Sum of squared residuals = 10094.0 Jarque-Bera test = 1.07237
 [.585]
 Variance of residuals = 1009.40 Ramsey's RESET2 = .386142
 [.550]
 Std. error of regression = 31.7710 F (zero slopes) = 11.8218 [.002]
 R-squared = .702767 Schwarz B.I.C. = 65.5495

Adjusted R-squared = .643320 Log likelihood = -61.7020

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	152.726	69.3888	2.20102	[.052]
USA(-1)	.466159	.626820	.743690	[.474]
T	-10.7095	2.49247	-4.29673	[.002]

UK2004 = 26.12612

UK89 = 188.63271

UK90 = 174.66013

Equation 49

=====

Method of estimation = Ordinary Least Squares

Dependent variable: VEN
 Current sample: 1989 to 2003
 Number of observations: 15

Mean of dep. var. = 215.892 LM het. test = 5.88315 [.015]
 Std. dev. of dep. var. = 41.7149 Durbin-Watson = 1.14924
 [.005,.126]
 Sum of squared residuals = 10655.2 Jarque-Bera test = .261205
 [.878]
 Variance of residuals = 887.932 Ramsey's RESET2 = 7.65994
 [.018]
 Std. error of regression = 29.7982 F (zero slopes) = 7.71833 [.007]
 R-squared = .562629 Schwarz B.I.C. = 74.5893
 Adjusted R-squared = .489734 Log likelihood = -70.5272

Variable	Estimated Coefficient	Standard Error	t-statistic	P-value
C	44.7730	61.8632	.723742	[.483]
USA(-1)	1.15030	.584458	1.96815	[.073]
T	7.38242	1.90414	3.87703	[.002]

VEN2004 = 273.32064

Equation 50

=====

Method of estimation = Ordinary Least Squares

Dependent variable: ZIM

Current sample: 1991 to 2003

Number of observations: 13

Mean of dep. var. = 179.940 LM het. test = 5.44322 [.020]

Std. dev. of dep. var. = 137.566 Durbin-Watson = .750689
[.000,.026]

Sum of squared residuals = 105236. Jarque-Bera test = .273624
[.872]

Variance of residuals = 10523.6 Ramsey's RESET2 = 11.1093
[.009]

Std. error of regression = 102.584 F (zero slopes) = 5.78970 [.021]

R-squared = .536595 Schwarz B.I.C. = 80.7872

Adjusted R-squared = .443914 Log likelihood = -76.9398

Estimated Standard

Variable Coefficient Error t-statistic P-value

C -17.3861 224.048 -.077600 [.940]

USA(-1) -.586279 2.02392 -.289675 [.778]

T 25.0181 8.04785 3.10867 [.011]

ZIM2004 = 326.62138

ZIM89 = -50.99587

ZIM90 = -21.87378

X

	1	2	3	4	5
1
2	.	144.96625	266.08096	.	257.28287
3	.	136.24841	255.21397	.	243.53044

4	97.95850	132.42395	242.52855	.	230.47054	
5	100.72288	135.93953	227.11548	.		
	218.44940					
6	88.44057	121.10500	218.52151	.	203.83131	
7	105.24853	141.74733	196.74396	.		
	194.23399					
8	95.97556	130.58282	186.78618	182.61299		
	180.13530					
9	134.85199	178.13863	155.00728	280.42651		
	174.34683					
10	113.54166	152.29405	150.50476	218.30225		
	158.17059					
11	102.26247	138.68286	141.45619	182.83427		
	143.72563					
12	81.95526	114.06162	136.49908	123.37563		
	127.72252					
13	77.69785	109.01382	124.26826	106.56706		
	114.48948					
14	78.45601	110.08270	109.76441	103.08665		
	102.12209					
15	83.22662	116.04496	93.44213	110.26876		
	90.44720					
16	96.02212	131.79393	73.48300	138.77591		
	80.15737					
		6	7	8	9	10
	1
	2	.	.	97.58084	155.83894	104.02384
	3	.	.	92.79963	147.22203	101.08423
	4	131.80841	71.04174	91.97795	143.79189	
		100.95346				
	5	129.21344	77.02570	97.09557	148.14191	
		105.03596				
	6	116.58905	73.25506	87.36494	133.04152	
		98.58529				
	7	123.35487	88.34329	106.34094	155.54527	
		112.49876				
	8	112.73637	86.52357	99.57996	144.33496	
		108.15472				
	9	134.21201	115.91853	140.33340	195.36598	
		137.51686				

10	115.56996	106.29515	121.69382	168.59534
124.74628				
11	103.61420	103.17482	112.95306	154.79164
118.99781				
12	85.64079	94.20174	95.30337	129.31770
106.92944				
13	78.36543	95.63356	93.49181	124.59087
106.09647				
14	74.43320	100.31690	96.62966	126.34750
108.77454				
15	73.17549	107.60146	103.72705	133.29092
114.26147				
16	77.26680	120.08847	118.74352	150.60788
125.36610				

	11	12	13	14	15
1	.	.	.	.	.
2	180.13307	239.16530	.	.	213.08636
3	179.07161	247.26671	.	.	207.09657
4	178.17117	251.51041	.	.	200.92555
5	177.51224	249.96748	.	.	194.48267
6	176.24951	262.89108	119.65135	112.57739	
188.71942					
7	176.15413	247.84608	125.18025	129.49460	
181.64220					
8	175.01216	257.87637	116.98276	118.13555	
175.74303					
9	175.80234	221.61386	134.12630	158.97881	
167.66899					
10	174.17734	243.21735	119.59354	134.56920	
162.31354					
11	172.95485	255.17650	110.34017	121.03506	
156.50499					
12	171.37010	275.81555	96.33535	97.71300	
151.10423					
13	170.42940	281.02368	90.77755	91.79170	
144.97852					
14	169.68997	281.40964	87.85944	91.30814	
138.62625					
15	169.11154	277.93787	87.05308	95.17477	
132.09274					

16	168.85515	266.75061	90.47022	107.74178
125.19675				

	16	17	18	19	20
1	.	.	.	.	.
2	229.56081	208.24498	227.14497	196.49460	
227.07219					
3	221.55756	197.88626	214.61809	184.56381	
218.54843					
4	210.94922	189.11232	204.52075	179.80319	
211.88118					
5	196.43327	182.71555	198.06773	185.79778	
207.99870					
6	191.68637	170.37584	182.50392	164.90433	
197.15431					
7	168.05263	169.52580	184.55429	195.99442	
199.76962					
8	161.35191	158.37469	170.81264	180.47858	
190.31760					
9	123.39020	166.24095	186.22548	251.00446	
203.14374					
10	124.50475	150.33549	165.19521	213.97818	
188.12218					
11	119.10658	138.39198	150.23878	194.87726	
177.74191					
12	119.56985	122.88272	129.81589	159.64351	
163.18448					
13	109.61279	113.71259	119.11117	153.09035	
156.05310					
14	96.39938	106.52342	111.44337	155.49986	
151.24237					
15	80.58087	100.91904	106.20512	165.07953	
148.28815					
16	59.55221	98.48422	105.82594	188.99948	
149.04695					

	21	22	23	24	25
1	.	.	.	.	.
2	112.57574	117.28479	139.33829	293.11652	
1055.58960					

3	106.96026	117.72533	131.32828	278.77533	
1056.77478					
4	103.83775	117.84460	128.77863	265.49332	
1063.15125					
5	104.45470	117.48196	134.41948	253.80013	
1077.31470					
6	95.72300	118.32410	119.58405	238.13493	
1072.01086					
7	105.06535	116.83699	144.33607	230.14894	
1104.34363					
8	98.20338	117.43817	133.59592	215.27814	
1102.93323					
9	121.25710	114.18405	188.37979	213.11775	
1163.81812					
10	106.91621	115.74906	161.25862	195.06935	
1146.83386					
11	98.80775	116.51088	147.78828	179.66895	
1142.82788					
12	85.09010	117.99557	122.03220	161.88535	
1127.14148					
13	81.34435	118.19516	118.11745	148.33855	
1132.22009					
14	80.71481	117.99315	121.02814	136.11575	
1143.78784					
15	82.57825	117.46987	129.39915	124.95215	
1160.54688					
16	89.42763	116.30404	148.69084	115.90696	
1187.68848					
	26	27	28	29	30
1
2	.	113.44586	377.22488	75.47411	223.69324
3	.	115.59631	368.79242	77.96991	219.90471
4	.	120.23927	371.82010	80.75536	214.97433
5	.	128.62099	392.03799	83.97529	208.33124
6	.	127.65582	369.28033	86.10903	205.96997
7	76.00396	144.76129	429.60873	90.34273	
195.33051					
8	69.35049	145.66550	415.44620	92.69371	
192.11287					

9	140.31236	176.47972	538.80542	98.52048	
175.19337					
10	114.25506	169.90642	490.26242	100.00250	
175.40121					
11	104.36762	169.56438	470.36981	102.20866	
172.75449					
12	79.92731	163.61420	424.69186	103.76310	
172.67686					
13	81.35878	167.63403	424.85449	106.47614	
168.03195					
14	90.87518	174.76949	439.34232	109.55125	
161.95978					
15	106.85951	184.39745	465.29028	112.91599	
154.74576					
16	135.77974	199.01042	514.15857	116.86005	
145.24811					
	31	32	33	34	35
1	.	.	.	.	.
2	.	128.48602	228.07014	367.53418	
159.03271					
3	.	125.39159	216.79433	294.08792	
154.30992					
4	.	124.10511	206.53317	280.88605	
153.46960					
5	.	125.53059	197.79399	358.05075	
158.45302					
6	70.16355	120.17619	185.24988	209.29903	
148.87711					
7	83.94904	127.92956	180.06198	497.31906	
167.44925					
8	79.29624	123.93113	168.27884	393.75061	
160.78519					
9	108.68338	141.62833	168.67152	1013.11469	
200.71103					
10	95.52059	132.20599	153.84444	728.81311	
182.39951					
11	89.44946	127.30358	141.55399	595.12250	
173.79420					
12	76.99584	118.33324	126.98055	325.88205	
156.45331					

13 75.88887 116.59476 116.46574 297.61908
 154.64238
 14 78.32772 117.11626 107.21923 344.66159
 157.68456
 15 83.60323 119.44572 98.98737 451.94846
 164.60922
 16 94.55207 125.39113 92.78483 679.72412
 179.29886

36 37 38 39 40
 1
 2 195.71405 116.02776 264.70853 . .
 3 182.79056 107.72386 252.00156 . .
 4 176.03394 105.33517 240.54494 134.06296 .
 5 178.52766 111.81927 230.96384 134.87909 .
 6 157.89555 96.12138 216.69391 134.77866 .
 82.54543
 7 181.97337 123.30869 211.48906 136.45023 .
 110.03379
 8 165.96643 112.04719 198.15691 136.53310 .
 98.10126
 9 223.96213 171.76810 199.82901 139.54897 .
 158.94577
 10 189.45453 142.76100 182.74579 138.89859 .
 128.81897
 11 170.36414 128.54190 168.78845 138.85927 .
 113.85406
 12 137.39825 101.01361 152.01781 138.27000 .
 85.24345
 13 129.09993 97.14611 140.24860 138.65840 .
 80.89185
 14 128.51019 100.67262 130.04231 139.35231 .
 84.12120
 15 134.08736 110.11433 121.08640 140.29063 .
 93.41531
 16 151.99829 131.38643 114.63120 141.71780 .
 114.83892

41 42 43 44 45
 1

2 . . 128.41985 265.27783 121.05106
 3 . . 124.89137 253.97624 112.92811
 4 . . 123.04972 243.30684 109.71943
 5 . . 123.73830 233.58574 113.88216
 6 . 107.52338 118.10130 221.49390 99.61637
 7 . 119.30299 124.69373 213.98547

120.97904
 8 155.18521 109.98297 120.32185 202.36778
 110.39896

9 92.34666 139.61612 136.19180 198.33644
 158.79010

10 123.84664 120.55781 126.75946 184.82217
 133.46722

11 139.62354 109.61474 121.54417 172.88838
 120.43000

12 169.55121 91.36795 112.53353 159.53215
 96.33568

13 174.32195 86.10555 110.27017 148.70470
 91.89844

14 171.23112 84.90078 110.11534 138.66750
 93.60403

15 161.85107 86.94210 111.64732 129.26250
 100.22389

16 139.89256 95.47561 116.55294 121.12188
 116.67229

46 47 48 49 50

1
 2 . . . 174.56802 .
 3 . . . 173.89832 .

4 176.11273 . 151.84273 177.82983 29.92134
 5 179.49170 . 142.53174 188.66315 53.18065

6 169.14015 157.17567 126.22836 182.24194
 85.23414

7 185.33429 150.81868 123.44361 209.17949
 100.28554

8 177.72884 137.63901 108.53871 206.20920
 130.58018

9 214.06108 137.05502 116.00947 258.45337
 132.73346

10	195.47121	120.72644	95.51065	241.67946
170.06346				
11	186.03502	107.02195	79.67344	236.40855
201.53067				
12	168.36052	90.95577	59.64078	220.78494
238.27438				
13	165.33192	79.08816	47.06668	223.56615
265.63763				
14	166.88016	68.53259	36.82338	232.09886
290.06952				
15	172.08987	59.02666	28.44471	245.23279
312.15625				
16	184.62253	51.62002	23.79532	267.56912
329.55276				