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**APPENDIX 1: DATA FOR THE GLOBAL SECTORAL WATER DEMAND  
ANALYSIS AND DETAILED ESTIMATION RESULTS**

**Table A1. Extracted GTAP and water data**

Sector	Country	Output (US\$10 Billion)	Labour (US\$ 10 Billion)	Capital (US\$10 Billion)	Water (mm <sup>3</sup> )	Intermediate (US\$10 Billion)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ELE	COL	0.0016640	0.0000124	0.0001436	0.0004155	0.0004034
ELE	AUS	1.2229395	0.0077950	0.1452815	0.2482354	0.2169195
ELE	NZL	0.0011612	0.0000110	0.0002128	0.0002881	0.0001245
ELE	CHN	11.7487888	0.0189458	0.1533147	2918.1707995	5.2844855
ELE	JPN	513.7278332	2.3398912	42.8801811	10.0910241	88.7330583
ELE	KOR	3.6780192	0.0153140	0.4295517	0.6103352	0.7213619
ELE	MYS	0.0897308	0.0000865	0.0021487	0.0183117	0.0511096
ELE	PHL	0.0388263	0.0000860	0.0039041	0.0024138	0.0149616
ELE	THA	0.3398922	0.0007436	0.0414032	0.0418479	0.0807242
ELE	VNM	0.0010880	0.0000304	0.0000020	0.0004155	0.0005144
ELE	BGD	0.0018374	0.0000013	0.0000940	0.1356749	0.0007481
ELE	IND	8.0815391	0.0634276	0.2160418	373.8424061	2.3614343
ELE	LKA	0.0000944	0.0000004	0.0000149	0.0000248	0.0000181
ELE	XSA	0.0030369	0.0000001	0.0000004	2.2131311	0.0023045
ELE	CAN	0.9862629	0.0107422	0.1791466	81.3083077	0.0986844
ELE	USA	1136.3866118	7.6692085	107.7909097	43503.8396654	261.8623645
ELE	MEX	0.1529450	0.0000325	0.0002994	1.8361220	0.1789823
ELE	XCM	0.0591762	0.0003476	0.0013674	0.0176010	0.0219108
ELE	PER	0.0002196	0.0000109	0.0000064	0.0000248	0.0000375
ELE	VEN	0.0079301	0.0000742	0.0007335	0.0017194	0.0014755
ELE	XAP	0.0002675	0.0000081	0.0000034	0.0560063	0.0000737
ELE	ARG	0.0613541	0.0013895	0.0008342	3.3658332	0.0162404
ELE	BRA	0.0100221	0.0003706	0.0000603	0.5527437	0.0038736
ELE	CHL	0.0102576	0.0001165	0.0023148	0.0015367	0.0011596
ELE	URY	0.0000038	0.0000000	0.0000007	0.0000539	0.0000004
ELE	XSM	0.0002207	0.0000043	0.0000622	0.0000006	0.0000074
ELE	AUT	0.0110177	0.0007947	0.0008077	0.5593518	0.0009779
ELE	DNK	0.0306866	0.0002904	0.0013036	0.0033347	0.0098797
ELE	FIN	0.0476058	0.0004165	0.0029513	1.8753223	0.0092783
ELE	DEU	25.7452795	0.5259703	1.1781160	501.4407473	6.5496191
ELE	GBR	11.6507963	0.2780514	0.3738628	1.0608836	2.3291549
ELE	GRC	0.0500234	0.0003342	0.0005529	0.0106345	0.0233192
ELE	IRL	0.0156671	0.0002956	0.0001742	0.3501819	0.0044378
ELE	ITA	3.3262248	0.0795806	0.1102381	0.3252667	0.7061899
ELE	NLD	0.3678187	0.0012699	0.0109035	7.3353088	0.1289214
ELE	PRT	0.0467794	0.0008204	0.0013484	0.0034269	0.0153751
ELE	ESP	2.1136886	0.0156224	0.2311090	45.5826261	0.3128692
ELE	SWE	0.0533920	0.0001443	0.0039436	0.0185522	0.0183314
ELE	BEL	0.3196398	0.0096769	0.0230799	6.7926491	0.0565634
ELE	CHE	0.0363111	0.0005059	0.0047677	1.6258144	0.0068700
ELE	XEF	0.0000001	0.0000000	0.0000000	0.0000001	0.0000000



ELE	HUN	0.0256049	0.0000760	0.0002367	3.1989595	0.0146788
ELE	POL	0.2791363	0.0004100	0.0005933	24.0314060	0.1974922
ELE	XCE	0.9632183	0.0028850	0.0181360	28.9799295	0.4283175
ELE	XSU	14.7265706	0.0022935	0.0160472	1225.6233678	21.0303745
ELE	TUR	0.2282658	0.0018374	0.0078152	9.3737774	0.0556236
ELE	XME	5.4323053	0.0079608	0.0887580	7.9909314	2.8292055
ELE	MAR	0.0088647	0.0001973	0.0009053	0.0005368	0.0011397
ELE	XNF	0.2769934	0.0012176	0.0065177	13.0457606	0.1125941
ELE	BWA	0.0000102	0.0000002	0.0000005	0.0000006	0.0000028
ELE	XSC	2.1695268	0.0104091	0.1013892	2.0506274	0.7843462
ELE	ZMB	0.0000000	0.0000000	0.0000000	0.0000006	0.0000000
ELE	ZWE	0.0001671	0.0000060	0.0000272	0.0001370	0.0000199
ELE	XSF	0.0000043	0.0000000	0.0000000	0.0000006	0.0000032
ELE	XSS	0.0139057	0.0000153	0.0002307	0.1463151	0.0075911
ELE	XRW	0.0793493	0.0009748	0.0017986	0.5461799	0.0292851
CON	COL	1.0707658	0.0338828	0.0498222	0.0000002	0.2295665
CON	AUS	38.3266610	1.4049553	1.3480015	0.0000068	8.3951586
CON	NZL	0.8754428	0.0133095	0.0018009	0.0000000	0.4636258
CON	CHN	1100.3252409	25.2026912	2.2264579	0.0976125	513.8256756
CON	JPN	20190.0518159	1763.6888395	72.5540253	0.0020015	4574.1125088
CON	KOR	148.1196631	6.0150600	1.0829409	0.0000157	42.7828399
CON	IDN	31.0669006	0.5670202	0.9673017	0.0000003	9.6789388
CON	MYS	7.5714698	0.1411379	0.0283302	0.0000113	3.7156032
CON	PHL	0.6036611	0.0182817	0.0097817	0.0000267	0.1682161
CON	THA	2.8583791	0.0032439	0.1819267	0.0000011	1.0048221
CON	VNM	0.2259850	0.0040831	0.0013442	0.0000000	0.0952105
CON	BGD	0.6483958	0.0011985	0.1339535	0.0000000	0.0932505
CON	IND	54.8195817	0.8210810	1.7665465	0.0020938	14.5620480
CON	LKA	0.0233905	0.0028109	0.0006609	0.0000010	0.0026574
CON	XSA	0.4714525	0.0046525	0.0227955	0.0000051	0.1225767
CON	CAN	138.5524289	12.8957875	0.3268165	0.0021790	36.4270562
CON	USA	40232.8174783	3849.0235664	204.7346316	0.1360081	9661.8366312
CON	MEX	20.1908068	0.8797982	0.2144631	0.0000290	6.3324234
CON	XCM	0.7053621	0.0134709	0.0222156	0.0000040	0.2043461
CON	PER	1.0479172	0.0039142	0.1320310	0.0000070	0.2261606
CON	VEN	0.3662107	0.0108804	0.0373819	0.0000001	0.0471072
CON	XAP	0.0716704	0.0002661	0.0063506	0.0000002	0.0198037
CON	ARG	21.8825183	3.4278361	0.2060774	0.0000013	2.9837051
CON	BRA	196.0987698	3.5430964	6.7535462	0.0000988	58.9241734
CON	CHL	1.1899904	0.0341539	0.0317994	0.0000223	0.2939317
CON	URY	0.0155156	0.0003590	0.0000621	0.0000000	0.0066524
CON	XSM	0.0033154	0.0000656	0.0000676	0.0000000	0.0011136
CON	AUT	14.3117832	1.4009343	0.1066789	0.0000012	2.8647295
CON	DNK	5.3685290	0.3123123	0.0251016	0.0000000	1.7204498
CON	FIN	0.6938381	0.0369719	0.0015861	0.0000001	0.2355957
CON	FRA	380.2825493	17.8465064	3.4157106	0.0003276	106.0219459
CON	DEU	1898.4121820	114.1936022	24.4026975	0.0007066	485.4054083
CON	GBR	855.1077080	16.2199224	19.0140385	0.0000276	293.3928652
CON	GRC	2.5876545	0.0424546	0.0212793	0.0000000	1.0494553
CON	IRL	0.8703476	0.0435766	0.0018905	0.0000000	0.3071783



CON	ITA	276.9621972	7.1594979	14.9500729	0.0003298	59.7906615
CON	NLD	42.4773269	1.3363164	0.1561469	0.0000067	17.9556460
CON	PRT	2.0572260	0.0305973	0.0152589	0.0000009	0.9140875
CON	ESP	115.0092400	7.1165397	2.6763667	0.0000059	16.1162402
CON	SWE	6.6401993	0.4536724	0.0256435	0.0000007	1.8683266
CON	BEL	6.8235909	0.4290710	0.1817070	0.0000120	1.3185377
CON	CHE	9.8667121	1.5654965	0.0084749	0.0000004	2.0326875
CON	XEF	5.2199483	0.7962818	0.0044934	0.0000093	1.1030925
CON	HUN	0.1098940	0.0014639	0.0029029	0.0000034	0.0391367
CON	POL	3.9165348	0.0584921	0.1377251	0.0000673	1.1815333
CON	XCE	5.4965208	0.2502106	0.0330521	0.0003061	1.8884948
CON	XSU	125.6425266	7.5130405	0.8233967	0.0150475	36.2894129
CON	TUR	14.1067934	0.5070716	0.2420204	0.0000230	3.9069272
CON	XME	84.2392757	2.3542920	0.5416168	0.0000074	32.8539940
CON	MAR	0.1967506	0.0121232	0.0004734	0.0000000	0.0674006
CON	XNF	7.3089368	0.3965662	0.0180107	0.0001394	2.6460273
CON	BWA	0.0042113	0.0000866	0.0000573	0.0000000	0.0016194
CON	XSC	1.6916518	0.0800748	0.0042991	0.0000000	0.6395809
CON	ZMB	0.0009100	0.0000021	0.0000029	0.0000000	0.0006016
CON	ZWE	0.0071105	0.0001870	0.0000120	0.0000000	0.0029419
CON	XSF	0.0164140	0.0002178	0.0001835	0.0000000	0.0066379
CON	XSS	3.3490201	0.0273226	0.2970527	0.0000008	0.7451190
CON	XRW	19.9161235	0.4191566	0.6856206	0.0000038	5.6832176
CHM	COL	0.5570175	0.0036997	0.0083681	0.0067801	0.2933897
CHM	AUS	4.3922710	0.0684290	0.0619336	0.1282306	1.8771030
CHM	NZL	0.1173859	0.0027347	0.0014753	0.0006298	0.0505443
CHM	CHN	601.7472284	2.2026066	2.7505327	3283.7472700	279.3360063
CHM	JPN	2496.8861110	32.9210984	24.9558975	14.3809157	902.3725768
CHM	KOR	69.9339481	0.4513723	0.9207808	0.4548201	31.7051219
CHM	IDN	3.1637360	0.0985031	0.1535815	0.0195806	0.9331359
CHM	MYS	1.5854375	0.0015277	0.0398501	0.0470898	0.9142566
CHM	PHL	0.2254703	0.0007244	0.0024823	0.4078962	0.0959971
CHM	THA	0.9090790	0.0029166	0.3765454	0.3961019	0.1442803
CHM	VNM	0.0040758	0.0000076	0.0000027	0.0000008	0.0034160
CHM	BGD	0.0230743	0.0000201	0.0001359	0.0000573	0.0106428
CHM	IND	29.2666172	0.0603211	0.1187671	59.2092559	11.7087182
CHM	LKA	0.0019674	0.0000328	0.0001120	0.0043009	0.0006060
CHM	XSA	0.4740576	0.0005945	0.0014964	0.2517726	0.1860655
CHM	CAN	26.9965910	0.6552630	0.4861973	42.6183073	10.7292961
CHM	USA	10622.6746304	288.3447484	228.8675840	3921.9369687	3611.6050853
CHM	MEX	18.9459963	0.0670600	0.9961120	0.8497611	6.0890346
CHM	XCM	0.6418573	0.0032392	0.0074921	0.3708088	0.3175617
CHM	PER	0.1190789	0.0003761	0.0113000	0.2580830	0.0229172
CHM	VEN	0.5932797	0.0102310	0.0163333	0.0229188	0.1921338
CHM	XAP	0.0150641	0.0000234	0.0004980	0.0054419	0.0049032
CHM	ARG	32.0302318	0.9122749	0.9633889	0.1310220	8.0714893
CHM	BRA	197.9794582	2.1174103	3.3811937	22.7216927	79.5958514
CHM	CHL	0.3097059	0.0041691	0.0074932	1.0475295	0.0944498
CHM	URY	0.0152578	0.0001992	0.0002814	0.0000142	0.0046146
CHM	XSM	0.0024804	0.0000149	0.0000229	0.0001069	0.0011155



CHM	AUT	0.8644686	0.0243058	0.0032593	0.0083429	0.3930113
CHM	DNK	0.6387339	0.0300270	0.0093362	0.0015402	0.2162296
CHM	FIN	0.3330087	0.0055652	0.0057952	0.0070366	0.1305379
CHM	FRA	268.8156743	6.9466047	2.2848068	49.0774902	116.1649288
CHM	DEU	915.3753043	31.3701654	1.1931565	74.7219759	393.6455297
CHM	GBR	198.0141496	5.8161264	2.8272216	3.8038682	63.2793472
CHM	GRC	0.0993476	0.0401024	0.0051480	0.0008639	0.0072900
CHM	IRL	2.2308814	0.0235869	0.1310406	0.0060566	0.5911781
CHM	ITA	243.4743088	2.6953208	2.2330333	47.7866529	109.0427233
CHM	NLD	31.4799670	0.2339521	0.3687668	0.4508225	12.4906302
CHM	PRT	0.3941687	0.0085440	0.0010937	0.0979305	0.1990620
CHM	ESP	15.8696659	0.4658341	0.1749053	0.1481886	5.2833357
CHM	SWE	4.1395452	0.2948583	0.0172075	0.1739789	1.5908181
CHM	BEL	14.2653162	0.4196096	0.0658941	4.5241832	6.1839309
CHM	CHE	12.8723888	0.2078570	0.7527029	0.0220813	3.5640819
CHM	XEF	0.3594919	0.0042774	0.0161476	0.0192404	0.0948069
CHM	HUN	0.1208279	0.0012700	0.0031336	1.1265437	0.0453005
CHM	POL	1.4093137	0.0158297	0.0132880	7.0133023	0.6425657
CHM	XCE	4.3586345	0.0425961	0.0410649	20.0597651	1.9956544
CHM	XSU	26.7271262	0.3257944	0.1522343	251.1684753	12.5841751
CHM	TUR	1.7597346	0.0090010	0.0561062	0.1573972	0.6976479
CHM	XME	16.6533786	0.1896378	0.1688211	0.2301079	7.3621471
CHM	MAR	0.0931329	0.0008395	0.0003342	0.0008515	0.0568105
CHM	XNF	2.0430030	0.0153270	0.0071006	2.0733800	1.2968115
CHM	BWA	0.0000082	0.0000004	0.0000001	0.0000063	0.0000078
CHM	XSC	1.8876657	0.0359938	0.0337645	0.0020118	0.7176150
CHM	ZMB	0.0000037	0.0000000	0.0000000	0.0000038	0.0000003
CHM	ZWE	0.0002103	0.0000001	0.0000002	0.0000019	0.0000655
CHM	XSF	0.0001477	0.0000003	0.0000026	0.0000009	0.0000628
CHM	XSS	0.2732183	0.0008691	0.0034748	0.0092506	0.1378754
CHM	XRW	6.9474542	0.1459301	0.1493751	0.5100981	2.2957505
AGI	COL	9.2171801	0.1352390	0.1045126	0.0016052	3.6169551
AGI	AUS	29.9101874	0.4974336	0.2866308	0.0060375	13.6673842
AGI	NZL	3.4140546	0.0611951	0.0153742	0.0000913	1.6669161
AGI	CHN	1230.7590958	15.0126847	4.7318475	144.9639219	466.8516313
AGI	JPN	3749.0623168	34.6107571	19.8330207	0.0979247	1383.1261420
AGI	KOR	53.4886780	0.1606012	0.1103841	0.0010481	29.6646054
AGI	IDN	48.2068731	0.5292354	1.1460244	0.0006814	16.6068771
AGI	MYS	4.0813219	0.0025562	0.0116124	0.0005103	3.1600069
AGI	PHL	8.8641979	0.0662098	0.1364125	0.2414743	3.7618491
AGI	THA	7.0205880	0.0108230	0.2924708	0.0095203	2.5742504
AGI	VNM	0.1024957	0.0009821	0.0001781	0.0000007	0.0647661
AGI	BGD	1.7262908	0.0023753	0.0135724	0.0000439	1.0405774
AGI	IND	76.9328450	1.1274051	0.5088077	7.1675180	19.8905912
AGI	LKA	0.0209824	0.0002016	0.0026594	0.0001715	0.0043582
AGI	XSA	1.9739995	0.0192567	0.0133606	0.0528188	0.7120115
AGI	CAN	57.3397150	0.8776077	0.8100017	0.3697003	27.6047951
AGI	USA	14738.9826343	124.5809612	234.4889639	10.9751137	7084.8449497
AGI	MEX	120.9479697	0.5329938	4.1115020	0.0437446	43.2376213
AGI	XCM	5.9172144	0.0501575	0.1405571	0.0371893	2.8940619





AGI	PER	2.2165465	0.0053368	0.2323087	0.0237213	0.4755319
AGI	VEN	3.8769903	0.0430479	0.0551587	0.0006246	1.4590191
AGI	XAP	0.4164847	0.0009006	0.0374962	0.0013583	0.1114571
AGI	ARG	180.1093973	3.3468703	6.0628037	0.0031133	46.1656501
AGI	BRA	566.0690915	2.8070803	7.7106842	0.1951009	277.6080952
AGI	CHL	4.3840679	0.0298986	0.0458634	0.0486563	2.1289170
AGI	URY	0.3012599	0.0059647	0.0052977	0.0000028	0.0969117
AGI	XSM	0.0368071	0.0003867	0.0004554	0.0000180	0.0182054
AGI	AUT	3.9762225	0.1262060	0.0316032	0.0002806	1.5719044
AGI	DNK	9.8702047	0.1506840	0.0909614	0.0000501	4.9835010
AGI	FIN	2.8553948	0.0511820	0.0134322	0.0004191	1.5710639
AGI	FRA	595.5131486	10.0595538	9.7277394	0.4603173	295.6897895
AGI	DEU	740.6667992	10.8331142	31.0261157	0.1671297	290.7843229
AGI	GBR	502.9349603	10.6973546	10.6611227	0.0453145	249.9312293
AGI	GRC	4.3682491	0.0371131	0.0344065	0.0000052	3.2709030
AGI	IRL	3.1606899	0.0467634	0.0410918	0.0000778	1.9272792
AGI	ITA	333.8815434	3.5363568	3.3449370	0.4060888	169.4294370
AGI	NLD	56.2898613	0.4039033	0.2295679	0.0050411	33.9969375
AGI	PRT	4.2104075	0.0168680	0.0286410	0.0012522	2.9416234
AGI	ESP	117.1978214	1.1502655	1.5298574	0.0023700	58.5787534
AGI	SWE	4.0163229	0.0373758	0.0176349	0.0001428	2.5211464
AGI	BEL	13.7339635	0.2513883	0.0682989	0.0175553	8.8980756
AGI	CHE	8.9001233	0.1562269	0.1274013	0.0001075	3.9602658
AGI	XEF	3.5319294	0.0730580	0.0388675	0.0021285	1.5790263
AGI	HUN	0.7478040	0.0042266	0.0021295	0.0242831	0.4646592
AGI	POL	19.9804435	0.2134057	0.0636001	0.6123841	10.7367209
AGI	XCE	19.7574176	0.2639844	0.1520557	0.8051993	9.7529594
AGI	XSU	69.4688003	1.0768086	0.4860689	5.3768618	41.5523116
AGI	TUR	15.3704100	0.0461121	0.7731575	0.0052227	5.7174315
AGI	XME	64.3911348	0.8989711	0.6982764	0.0070651	28.8459322
AGI	MAR	0.9115294	0.0263716	0.0056890	0.0001732	0.3711462
AGI	XNF	24.2468034	0.7722835	0.1772099	0.6766551	10.2088934
AGI	BWA	0.0004090	0.0000256	0.0000192	0.0000029	0.0002810
AGI	XSC	7.3355223	0.0569404	0.0792317	0.0000206	3.7655224
AGI	ZMB	0.0070098	0.0001249	0.0000388	0.0006050	0.0031392
AGI	ZWE	0.0344526	0.0003712	0.0013094	0.0000494	0.0110934
AGI	XSF	0.0169591	0.0002502	0.0008010	0.0000051	0.0100254
AGI	XSS	23.6558219	0.2318070	0.3381050	0.0159800	12.0681388
AGI	XRW	98.9997852	1.2918836	0.7395946	0.0292483	45.5189636
AGR	COL	0.9943274	0.0809240	0.0182508	39.1836833	0.0602698
AGR	AUS	2.8611889	0.1292049	0.0313298	777.9060680	0.5445506
AGR	NZL	0.1015925	0.0014556	0.0032885	9.7871403	0.0245639
AGR	CHN	806.4241039	73.6825508	1.7731406	1138748.9196494	82.1029652
AGR	JPN	214.6048490	9.0942878	3.9577334	10269.7672433	19.4119972
AGR	KOR	14.1182846	0.5443430	0.0644866	154.1158889	0.4064294
AGR	IDN	26.8447288	1.7501283	0.4475593	21156.4626487	0.4600279
AGR	PHL	4.3741068	0.3353073	0.0373181	628.6938338	0.1704310
AGR	THA	2.8457983	0.1132158	0.1517594	26053.1516473	0.0575725
AGR	VNM	0.1095840	0.0038507	0.0003912	7656.9451549	0.0119587
AGR	BGD	2.2934011	0.0277120	0.0291672	21640.9160338	0.4615010



AGR	IND	292.2784145	13.2050098	4.6392741	2113778.2937179	20.5005306
AGR	LKA	0.1051889	0.0072623	0.0023301	305.1920812	0.0013987
AGR	XSA	6.6730444	0.2594269	0.1011336	142070.9086700	0.5732277
AGR	CAN	10.9417604	0.3356799	0.1660853	48.8223534	2.8326134
AGR	USA	511.3282139	13.0237527	13.3230663	193646.0593052	103.9343308
AGR	MEX	14.8573475	1.1881413	0.5790438	275.9736902	0.3602832
AGR	XCM	2.4884777	0.1329980	0.0463394	499.1164286	0.2473184
AGR	PER	0.4882045	0.0276398	0.0113761	0.7567661	0.0330446
AGR	VEN	0.1616403	0.0108642	0.0046154	23.9619124	0.0066732
AGR	XAP	0.1764171	0.0092614	0.0031881	519.7804471	0.0161958
AGR	ARG	12.7748974	1.3963952	0.3727219	1172.1487677	0.2458546
AGR	BRA	131.0866701	1.5698841	13.1220864	3988.2803003	15.0861019
AGR	CHL	0.8078401	0.0305126	0.0163702	118.9001725	0.0872018
AGR	URY	0.0155743	0.0006410	0.0001939	12.8789922	0.0020977
AGR	XSM	0.0106374	0.0004949	0.0001429	4.6540321	0.0013520
AGR	AUT	0.0562161	0.0022453	0.0031249	0.0001370	0.0159551
AGR	DNK	0.2301112	0.0051383	0.0136983	0.2378915	0.0692645
AGR	FIN	0.2260958	0.0092681	0.0434799	0.0019138	0.0119758
AGR	FRA	19.5073102	2.3188540	0.7423409	23.1777207	3.1256880
AGR	DEU	2.5812116	0.5113915	0.1328420	170.3349985	1.7636230
AGR	GBR	4.7285651	0.3673144	0.0810150	0.0537773	1.2204339
AGR	GRC	8.3782326	0.7991602	0.1321123	67.9111772	0.5911721
AGR	ITA	16.2753073	3.2168367	0.4687543	991.9322090	0.6204612
AGR	NLD	1.3239524	0.1261616	0.0129833	52.7727093	0.2156461
AGR	PRT	0.1793604	0.0044737	0.0029485	150.0864089	0.0626834
AGR	ESP	8.8900007	1.0280149	0.2127621	1541.5687795	1.1410301
AGR	SWE	0.2562486	0.0070335	0.0253079	0.0465794	0.0615708
AGR	CHE	0.0738231	0.0048108	0.0036395	0.0010099	0.0136251
AGR	XEF	0.0739763	0.0016221	0.0016270	0.0335712	0.0095449
AGR	HUN	0.0727751	0.0029043	0.0001806	7.8868579	0.0152101
AGR	POL	1.0055186	0.0567194	0.0058517	1119.8974332	0.1167398
AGR	XCE	2.1460247	0.0893535	0.0069892	529.1702406	0.3921524
AGR	XSU	9.1863048	0.4432421	0.0339464	180299.3852292	1.9756259
AGR	TUR	15.0798439	1.6790182	0.6785142	2123.6565491	0.7152094
AGR	XME	5.9681438	0.1850541	0.0863632	106700.7253564	1.0171284
AGR	XNF	6.8748385	0.9993790	0.2950370	14568.6614960	0.4348235
AGR	BWA	0.0000024	0.0000003	0.0000003	0.0015367	0.0000014
AGR	XSC	0.3463762	0.0064237	0.0203135	309.1312547	0.0457527
AGR	ZMB	0.0087106	0.0009790	0.0001744	1.8950983	0.0006466
AGR	ZWE	0.0191933	0.0008673	0.0001255	6.4241290	0.0043819
AGR	XSF	0.0095367	0.0009210	0.0001279	0.2852810	0.0011677
AGR	XSS	36.8482705	3.8440964	0.3751864	14985.7589743	4.4748311
AGR	XRW	21.5360234	1.3039899	0.1817793	17397.7013634	1.2213185
TXT	COL	0.0678047	0.0009109	0.0008206	0.0000014	0.0306122
TXT	AUS	0.3633957	0.0094008	0.0029601	0.0000146	0.1929384
TXT	NZL	0.0136070	0.0001485	0.0000174	0.0000000	0.0115775
TXT	CHN	562.2742997	2.6507321	2.3689820	3.2696278	277.3382642
TXT	JPN	20.8805415	0.9744188	0.0698934	0.0003522	11.0384082
TXT	KOR	11.6956532	0.1971087	0.0553719	0.0001643	5.5150335
TXT	IDN	0.8875363	0.0124547	0.0196537	0.0000020	0.2945218





TXT	MYS	0.0995304	0.0007238	0.0004436	0.0000185	0.0658039
TXT	PHL	0.0505285	0.0003852	0.0005219	0.0001795	0.0212162
TXT	THA	1.3330216	0.0018935	0.1903704	0.0002128	0.4297408
TXT	VNM	0.0324410	0.0002536	0.0000293	0.0000000	0.0169021
TXT	BGD	0.2549852	0.0056644	0.0014080	0.0000134	0.1538035
TXT	IND	21.6050964	0.1256077	0.2329788	0.1020084	9.7288244
TXT	LKA	0.0087313	0.0001258	0.0007607	0.0000137	0.0013430
TXT	XSA	1.5056778	0.0095636	0.0156781	0.0033509	0.7244433
TXT	CAN	0.6171245	0.0379703	0.0040363	0.0020433	0.3247628
TXT	USA	231.1988635	11.6734527	1.7650083	0.1313674	125.5941337
TXT	MEX	3.6751480	0.0341626	0.2121299	0.0003582	1.0979043
TXT	XCM	0.5967884	0.0041897	0.0158421	0.0003968	0.3127976
TXT	PER	0.1143858	0.0003449	0.0169776	0.0001958	0.0245878
TXT	VEN	0.0759443	0.0006029	0.0003033	0.0000011	0.0414634
TXT	XAP	0.0086563	0.0000389	0.0014166	0.0000075	0.0032366
TXT	ARG	15.0261918	0.2818513	0.5178735	0.0000335	4.3032459
TXT	BRA	44.6213223	0.4200574	0.7475347	0.0037294	19.1874750
TXT	CHL	0.0588647	0.0007545	0.0012585	0.0001568	0.0262374
TXT	URY	0.0061417	0.0000297	0.0001509	0.0000000	0.0027089
TXT	XSM	0.0002996	0.0000011	0.0000037	0.0000000	0.0001775
TXT	AUT	0.0181815	0.0004324	0.0000187	0.0000001	0.0384399
TXT	DNK	0.0173223	0.0007378	0.0000440	0.0000000	0.0180070
TXT	FIN	0.0030086	0.0002471	0.0000645	0.0000003	0.0024639
TXT	FRA	3.7888588	0.1909842	0.0212349	0.0011164	3.3908815
TXT	DEU	3.6334901	0.7329741	0.0119581	0.0014445	7.1109742
TXT	GBR	4.8965504	0.4672529	0.0354276	0.0002528	2.7152375
TXT	GRC	0.1045897	0.0095551	0.0013893	0.0000002	0.0648425
TXT	IRL	0.0005414	0.0002031	0.0000015	0.0000000	0.0034357
TXT	ITA	45.0274564	0.4865320	0.4078186	0.0071369	21.8891804
TXT	NLD	0.1841513	0.0039874	0.0001935	0.0000064	0.2433761
TXT	PRT	0.4530185	0.0118422	0.0023720	0.0001123	0.3551098
TXT	ESP	1.5343547	0.1110156	0.0143209	0.0000292	0.7242353
TXT	SWE	0.0000002	0.0000795	0.0000037	0.0000000	0.0074453
TXT	BEL	0.0553862	0.0306491	0.0015845	0.0002734	0.2756436
TXT	CHE	0.0067868	0.0026655	0.0007324	0.0000002	0.0197983
TXT	HUN	0.0047547	0.0003298	0.0000485	0.0002420	0.0048582
TXT	POL	0.1166266	0.0030210	0.0008792	0.0011074	0.0637189
TXT	XCE	2.1279716	0.0503542	0.0164148	0.0196197	1.2604305
TXT	XSU	1.9521892	0.0742922	0.0144625	0.0473876	1.2319006
TXT	TUR	1.2609636	0.0027020	0.0299361	0.0000391	0.5264101
TXT	XME	0.8586408	0.0098492	0.0159839	0.0000099	0.6159960
TXT	MAR	0.2352330	0.0150931	0.0022826	0.0000127	0.0489465
TXT	XNF	4.2276566	0.2773236	0.0500476	0.0310390	0.9499812
TXT	BWA	0.0000010	0.0000000	0.0000000	0.0000000	0.0000017
TXT	XSC	0.2200125	0.0127429	0.0011538	0.0000006	0.0851377
TXT	ZMB	0.0000660	0.0000002	0.0000007	0.0000001	0.0000408
TXT	ZWE	0.0012397	0.0000288	0.0000311	0.0000005	0.0004234
TXT	XSF	0.0034920	0.0000591	0.0001205	0.0000002	0.0014471
TXT	XSS	0.5196668	0.0135541	0.0069188	0.0001194	0.2898417
TXT	XRW	1.4248454	0.0374693	0.0260040	0.0001084	0.6097239



PPP	COL	0.0727091	0.0007434	0.0008790	0.0029534	0.0353252
PPP	AUS	2.5309833	0.1001154	0.0629536	0.4067033	0.6732557
PPP	NZL	0.1269820	0.0047937	0.0018303	0.0023932	0.0383916
PPP	CHN	25.9335429	0.3405008	0.1600598	1100.4652676	10.2631473
PPP	JPN	582.5512829	21.2847902	6.7687615	20.1561242	148.2400976
PPP	KOR	5.2590493	0.1293811	0.0544617	0.2826187	1.8743562
PPP	IDN	0.2189023	0.0039499	0.0075285	0.0017021	0.0640808
PPP	MYS	0.0645532	0.0017705	0.0022503	0.1183064	0.0160916
PPP	PHL	0.0230787	0.0001786	0.0004060	0.2180758	0.0085361
PPP	THA	0.0638366	0.0000538	0.0244810	0.0158340	0.0092299
PPP	VNM	0.0009936	0.0000016	0.0000022	0.0000004	0.0005741
PPP	BGD	0.0017453	0.0000178	0.0000153	0.0001100	0.0006888
PPP	IND	0.5916848	0.0028725	0.0069718	6.1122908	0.2525162
PPP	LKA	0.0002511	0.0000027	0.0000083	0.0007814	0.0000521
PPP	XSA	0.0121367	0.0000500	0.0001387	0.0458604	0.0046614
PPP	CAN	27.8635398	1.5617496	0.3726859	220.2000548	8.7787592
PPP	USA	2645.1924904	132.2697661	61.9276507	3900.0895426	649.0808386
PPP	MEX	1.2855915	0.0038678	0.0790225	0.1062473	0.3609427
PPP	XCM	0.0459134	0.0003687	0.0010867	0.0914945	0.0198806
PPP	PER	0.0162779	0.0000437	0.0053101	0.0650409	0.0010644
PPP	VEN	0.0392422	0.0007179	0.0005441	0.0034864	0.0149744
PPP	XAP	0.0015569	0.0000038	0.0003298	0.0019209	0.0003372
PPP	ARG	2.0585986	0.0454513	0.0728550	0.0141511	0.5404894
PPP	BRA	14.7735031	0.2779644	0.2781892	6.4662161	5.5396855
PPP	CHL	0.0693229	0.0006065	0.0025781	0.3303409	0.0220443
PPP	URY	0.0015949	0.0000325	0.0000119	0.0000050	0.0005826
PPP	XSM	0.0001546	0.0000013	0.0000007	0.0000195	0.0000868
PPP	AUT	0.5768505	0.0226949	0.0039017	0.0168874	0.2559796
PPP	DNK	0.6256664	0.0549968	0.0026289	0.0061154	0.1697650
PPP	FIN	4.4379726	0.0468237	0.0918867	0.1283430	1.8097165
PPP	FRA	58.9100685	2.3003760	0.5217296	35.2317337	18.6574785
PPP	DEU	66.6210101	3.4682191	0.2545810	17.9086767	23.3502507
PPP	GBR	58.1706368	3.9159627	0.5021161	5.5520786	17.1627247
PPP	GRC	0.0494878	0.0017435	0.0004109	0.0000814	0.0192750
PPP	IRL	0.0117754	0.0012532	0.0000540	0.0006976	0.0047007
PPP	ITA	26.4655216	0.5188038	0.4154985	19.9399791	10.2665286
PPP	NLD	3.8442519	0.1122141	0.0527464	0.4687609	1.4142268
PPP	PRT	0.1249283	0.0032785	0.0007691	0.0814623	0.0478063
PPP	ESP	2.0013854	0.1112858	0.0223283	0.0767448	0.8244252
PPP	SWE	6.0688115	0.2359777	0.0208013	0.3018420	2.5589250
PPP	BEL	0.4560153	0.0283368	0.0012166	0.6623257	0.2006845
PPP	CHE	0.9260334	0.0858947	0.0054814	0.0197812	0.2799922
PPP	XEF	0.3850596	0.0297877	0.0019795	0.2904687	0.1117063
PPP	HUN	0.0108898	0.0000836	0.0001133	0.1607962	0.0052408
PPP	POL	0.2634800	0.0023144	0.0065334	2.2228725	0.1002196
PPP	XCE	0.3899034	0.0086594	0.0037473	8.8403707	0.1472536
PPP	XSU	6.1455565	0.2508158	0.0517373	419.1812805	1.9690261
PPP	TUR	0.1079502	0.0005462	0.0020763	0.0207061	0.0457646
PPP	XME	2.5780100	0.0737810	0.0276004	0.1940782	0.9061878
PPP	MAR	0.0094185	0.0000778	0.0000328	0.0001711	0.0051606



PPP	XNF	0.2762846	0.0021537	0.0010561	0.6315720	0.1543778
PPP	XSC	0.4964678	0.0105699	0.0141857	0.0012807	0.1549883
PPP	ZMB	0.0000115	0.0000004	0.0000014	0.0006180	0.0000010
PPP	ZWE	0.0000035	0.0000033	0.0000003	0.0001488	0.0000020
PPP	XSF	0.0000452	0.0000022	0.0000020	0.0000149	0.0000106
PPP	XSS	0.0239101	0.0004538	0.0005761	0.0104709	0.0088076
PPP	XRW	1.1279548	0.0181695	0.0353918	0.1376816	0.3487365
PEC	COL	0.0320780	0.0000165	0.0000030	0.0000173	0.0280328
PEC	AUS	0.3372370	0.0000024	0.0004715	0.0000026	0.2966563
PEC	NZL	0.0034092	0.0000000	0.0000038	0.0000000	0.0030338
PEC	CHN	20.7700060	0.0101189	0.0415047	8.5918772	12.5378665
PEC	JPN	62.4731702	0.1397037	0.7323310	0.0347571	34.9647632
PEC	KOR	6.4297870	0.0024042	0.0373521	0.0013797	4.3944823
PEC	IDN	0.2982442	0.0001788	0.0002657	0.0000202	0.3536039
PEC	MYS	0.0848701	0.0000002	0.0000085	0.0000031	0.0816941
PEC	THA	0.4742484	0.0000006	0.0056927	0.0000450	0.2252671
PEC	BGD	0.0001604	0.0000000	0.0000002	0.0000000	0.0002013
PEC	IND	1.1798066	0.0005277	0.0009940	0.2950288	1.3318770
PEC	LKA	0.0009318	0.0000000	0.0000000	0.0000000	0.0007822
PEC	XSA	0.0199209	0.0000004	0.0000011	0.0000900	0.0073595
PEC	CAN	3.0446276	0.0007675	0.0000055	0.0284317	2.8578491
PEC	USA	604.7173386	0.4261672	0.3550043	3.3013543	510.5301850
PEC	MEX	1.3414967	0.0006756	0.0015752	0.0048761	1.0957559
PEC	XCM	0.1652667	0.0000063	0.0000845	0.0004113	0.1391290
PEC	PER	0.0128866	0.0000085	0.0000002	0.0033145	0.0075146
PEC	VEN	0.4151530	0.0000016	0.0014135	0.0000020	0.3348225
PEC	XAP	0.0182661	0.0000113	0.0000002	0.0014969	0.0109206
PEC	ARG	0.1947644	0.0000117	0.0050470	0.0000010	0.1099940
PEC	BRA	2.2583144	0.0012692	0.0020153	0.0077572	1.8957862
PEC	CHL	0.0188458	0.0000009	0.0000856	0.0001287	0.0135885
PEC	URY	0.0002041	0.0000006	0.0000013	0.0000000	0.0001801
PEC	AUT	0.0119145	0.0000028	0.0000010	0.0000005	0.0129753
PEC	DNK	0.0106205	0.0000007	0.0000000	0.0000000	0.0121246
PEC	FIN	0.0142610	0.0000032	0.0000027	0.0000023	0.0138860
PEC	FRA	1.5472619	0.0006945	0.0000073	0.0027946	1.8891871
PEC	DEU	1.9995129	0.0000000	0.0078341	0.0000000	2.4139833
PEC	GBR	5.0713926	0.0030167	0.0607417	0.0011237	3.1904982
PEC	GRC	0.0497582	0.0000001	0.0000190	0.0000000	0.0507770
PEC	IRL	0.0001139	0.0000001	0.0000004	0.0000000	0.0006426
PEC	ITA	2.2737884	0.0001413	0.0021141	0.0014269	1.9994324
PEC	NLD	0.9596091	0.0000579	0.0003643	0.0000635	0.8589719
PEC	PRT	0.0215979	0.0000000	0.0000082	0.0000001	0.0227533
PEC	ESP	0.7814452	0.0000194	0.0006907	0.0000035	0.6502691
PEC	BEL	0.1703636	0.0000143	0.0000558	0.0000877	0.2006537
PEC	XEF	0.0370026	0.0000002	0.0000100	0.0000006	0.0426514
PEC	HUN	0.0067956	0.0000002	0.0000048	0.0000998	0.0060673
PEC	POL	0.0351801	0.0000026	0.0000206	0.0006686	0.0318956
PEC	XCE	0.1928145	0.0000161	0.0000775	0.0043175	0.1646530
PEC	XSU	17.8864935	0.0021760	0.0037290	0.9554541	14.6011855
PEC	TUR	0.1734522	0.0000061	0.0020706	0.0000609	0.1229924



PEC	XME	26.6251126	0.0012748	0.0167241	0.0008810	23.3373126
PEC	MAR	0.0069203	0.0000002	0.0005330	0.0000001	0.0028294
PEC	XNF	1.0689665	0.0000008	0.0043549	0.0000622	0.8529418
PEC	XSC	0.2607458	0.0005269	0.0022557	0.0000168	0.1606832
PEC	ZMB	0.0001421	0.0000000	0.0000000	0.0000000	0.0000281
PEC	XSF	0.0007464	0.0000000	0.0000011	0.0000001	0.0002915
PEC	XSS	0.1928959	0.0000131	0.0001778	0.0000797	0.1845184
PEC	XRW	0.0254967	0.0000034	0.0000177	0.0000068	0.0235365
MNF	COL	0.4152399	0.0063734	0.0032532	0.0014122	0.2219559
MNF	AUS	6.2652956	0.2179839	0.0999667	0.0493893	3.0052082
MNF	NZL	0.1862909	0.0067315	0.0016487	0.0001874	0.0957708
MNF	CHN	2626.2074456	24.6516306	25.2411569	4443.6120239	1087.8024372
MNF	JPN	14983.2461831	372.3191386	132.7999887	19.6646077	5592.3095291
MNF	KOR	167.9600198	1.5820385	0.9156880	0.1927434	88.4808673
MNF	IDN	14.8187047	0.3448550	0.5505139	0.0082884	4.1413943
MNF	MYS	54.5022262	0.1492380	0.4408489	0.5561956	39.2445392
MNF	PHL	5.2925590	0.0076134	0.0059110	0.5183386	4.2459546
MNF	THA	32.7533805	0.0290290	6.3579797	0.4766759	5.4734448
MNF	VNM	0.1820053	0.0005009	0.0004295	0.0000065	0.1283576
MNF	BGD	0.2062220	0.0011949	0.0009207	0.0004121	0.1111383
MNF	IND	42.1102873	0.3768088	0.8622787	44.7196891	13.7945856
MNF	LKA	0.0473354	0.0004619	0.0026869	0.0073345	0.0128377
MNF	XSA	0.5571163	0.0034830	0.0092708	0.1783425	0.2035844
MNF	CAN	47.2824662	3.3857468	0.2152798	26.6251925	31.7033837
MNF	USA	13704.6937460	816.1297162	152.8220047	1342.1636062	5622.3076246
MNF	MEX	41.0821656	0.2376998	3.0457828	0.3641833	14.9299709
MNF	XCM	1.6011017	0.0136392	0.0993529	0.1887812	0.9128196
MNF	PER	0.9288343	0.0004120	0.3284230	0.0341851	0.0679683
MNF	VEN	0.2873322	0.0043478	0.0019506	0.0011776	0.1304392
MNF	XAP	0.1061268	0.0000493	0.0336914	0.0013892	0.0110326
MNF	ARG	16.7658823	0.7060878	0.2650847	0.0122613	4.5748488
MNF	BRA	215.4469870	3.5241699	5.5132145	4.5724631	79.4894978
MNF	CHL	0.2828291	0.0037538	0.0134167	0.1140382	0.1213211
MNF	URY	0.0083080	0.0002760	0.0002933	0.0000024	0.0025723
MNF	XSM	0.0018041	0.0000373	0.0000290	0.0000323	0.0012066
MNF	AUT	4.8893463	0.3413197	0.0612975	0.0141654	2.5943923
MNF	DNK	2.0969787	0.1452269	0.0182225	0.0009007	0.9902660
MNF	FIN	2.9225743	0.0531841	0.0330686	0.0081306	1.4305512
MNF	FRA	442.0648416	27.3344573	6.7863362	23.3495179	188.6979285
MNF	DEU	1616.1474917	126.6211793	6.0199920	36.4666272	684.2230764
MNF	GBR	212.1828551	15.5530855	1.9787637	1.2298889	123.8589255
MNF	GRC	1.7807106	0.1230016	0.0210457	0.0003204	0.6283425
MNF	IRL	2.6869571	0.0506669	0.0464978	0.0015730	1.2568204
MNF	ITA	699.0032660	11.2723890	13.4051436	24.1640551	285.6321389
MNF	NLD	34.7081756	1.4117348	0.2058420	0.3289194	20.7416304
MNF	PRT	3.1743272	0.0911410	0.0130334	0.1263073	1.6568783
MNF	ESP	61.6357578	2.1605279	2.1061457	0.0831000	15.9199078
MNF	SWE	11.5513880	0.7472774	0.0866965	0.0533117	4.8985030
MNF	BEL	10.4772718	0.4367069	0.0640533	0.5693018	7.4154487
MNF	CHE	2.0886799	0.2404591	0.0227380	0.0030886	2.3906500



MNF	XEF	0.2727906	0.0173188	0.0021339	0.0094192	0.2345576
MNF	HUN	0.4178897	0.0040381	0.0036661	0.4330880	0.2342783
MNF	POL	4.2820284	0.0720946	0.0562729	3.8619744	1.7232387
MNF	XCE	8.2576544	0.2767001	0.0744835	15.7551830	4.0550148
MNF	XSU	39.1527818	1.8012466	0.3635609	167.9006689	16.7440856
MNF	TUR	7.1972535	0.0303745	0.3091072	0.0642206	2.8502345
MNF	XME	29.9870497	0.7246859	0.3887213	0.1063198	15.2068409
MNF	MAR	0.4885237	0.0081274	0.0044957	0.0009967	0.2198870
MNF	XNF	9.8438851	0.1655737	0.1191068	2.7081379	4.0935597
MNF	BWA	0.0001018	0.0000042	0.0000024	0.0000089	0.0000550
MNF	XSC	0.7435185	0.0487461	0.0096817	0.0003294	0.2224948
MNF	ZMB	0.0010079	0.0000042	0.0000263	0.0003809	0.0003646
MNF	ZWE	0.0142825	0.0003050	0.0004507	0.0007581	0.0037427
MNF	XSF	0.0322181	0.0003106	0.0008585	0.0001173	0.0103877
MNF	XSS	1.9935256	0.0313957	0.0399892	0.0404025	0.7401618
MNF	XRW	15.6035453	0.3920380	0.3533962	0.1656893	5.4447063
MIN	COL	0.0016890	0.0002254	0.0000376	0.0000000	0.0000980
MIN	AUS	1.8706693	0.0138164	0.0695780	0.0000011	0.4717905
MIN	NZL	0.0004599	0.0000065	0.0000153	0.0000000	0.0000995
MIN	CHN	14.9137262	0.2568058	0.0829400	0.0159088	4.4356419
MIN	JPN	1.8549031	0.0226811	0.0315653	0.0000004	0.2881922
MIN	KOR	0.0929195	0.0020279	0.0114972	0.0000001	0.0036404
MIN	IDN	0.2409746	0.0133764	0.0241641	0.0000001	0.0112096
MIN	MYS	0.0065045	0.0000082	0.0019568	0.0000000	0.0002026
MIN	PHL	0.0090520	0.0000971	0.0003179	0.0000023	0.0015423
MIN	THA	0.0025757	0.0000196	0.0011952	0.0000001	0.0001314
MIN	VNM	0.0022708	0.0000014	0.0000011	0.0000000	0.0015665
MIN	BGD	0.0005336	0.0000002	0.0000606	0.0000000	0.0001069
MIN	IND	0.0441398	0.0005016	0.0011750	0.0000205	0.0097130
MIN	LKA	0.0000491	0.0000023	0.0000081	0.0000000	0.0000009
MIN	XSA	0.0001585	0.0000042	0.0000202	0.0000001	0.0000049
MIN	CAN	0.7771204	0.0068707	0.0130560	0.0000186	0.2257917
MIN	USA	9.8628847	0.4994527	0.1894572	0.0002823	1.6796919
MIN	MEX	0.2172278	0.0026908	0.0167036	0.0000014	0.0305165
MIN	XCM	0.0039596	0.0000402	0.0001294	0.0000002	0.0009645
MIN	PER	0.0180448	0.0003283	0.0005153	0.0000094	0.0046452
MIN	VEN	0.0026506	0.0000373	0.0004622	0.0000000	0.0001386
MIN	XAP	0.0001605	0.0000005	0.0000006	0.0000000	0.0000823
MIN	ARG	0.0645400	0.0097156	0.0051023	0.0000001	0.0006776
MIN	BRA	1.5196269	0.0195527	0.0256319	0.0000087	0.4730648
MIN	CHL	0.2268734	0.0027721	0.0159596	0.0000289	0.0386117
MIN	URY	0.0000189	0.0000007	0.0000009	0.0000000	0.0000019
MIN	XSM	0.0000592	0.0000017	0.0000051	0.0000000	0.0000047
MIN	AUT	0.0030986	0.0003605	0.0000561	0.0000000	0.0002425
MIN	FIN	0.0024617	0.0000245	0.0000276	0.0000000	0.0005874
MIN	FRA	0.0602894	0.0071304	0.0000685	0.0000021	0.0034811
MIN	DEU	0.0474384	0.0001483	0.0002465	0.0000000	0.0131888
MIN	GBR	0.0134654	0.0000265	0.0000099	0.0000000	0.0035707
MIN	GRC	0.0000475	0.0000002	0.0000005	0.0000000	0.0000066
MIN	IRL	0.0000957	0.0000000	0.0000000	0.0000000	0.0000460



MIN	ITA	0.0939104	0.0034635	0.0032442	0.0000026	0.0115147
MIN	NLD	0.0077684	0.0000049	0.0003627	0.0000000	0.0014548
MIN	PRT	0.0002213	0.0000031	0.0000074	0.0000000	0.0000396
MIN	ESP	0.0225082	0.0003516	0.0003067	0.0000000	0.0053910
MIN	SWE	0.0144189	0.0003159	0.0004203	0.0000000	0.0032217
MIN	BEL	0.0001263	0.0000109	0.0000452	0.0000000	0.0002802
MIN	CHE	0.0063118	0.0003520	0.0001694	0.0000000	0.0006360
MIN	XEF	0.0046440	0.0003706	0.0001845	0.0000001	0.0002819
MIN	HUN	0.0000310	0.0000010	0.0000001	0.0000000	0.0000070
MIN	POL	0.0238777	0.0004713	0.0007773	0.0000087	0.0037060
MIN	XCE	0.1944180	0.0021730	0.0004085	0.0000425	0.0872081
MIN	XSU	2.2756705	0.0358618	0.0047537	0.0011488	0.9464717
MIN	TUR	0.0112272	0.0000871	0.0017253	0.0000001	0.0004325
MIN	XME	0.3206999	0.0051013	0.0043079	0.0000003	0.0911869
MIN	MAR	0.0126487	0.0004676	0.0009431	0.0000000	0.0010974
MIN	XNF	0.1100554	0.0037212	0.0087523	0.0000209	0.0090599
MIN	BWA	0.0286204	0.0000648	0.0153826	0.0000000	0.0001120
MIN	XSC	0.2159016	0.0029911	0.0017192	0.0000000	0.0678273
MIN	ZMB	0.0000234	0.0000000	0.0000029	0.0000000	0.0000034
MIN	ZWE	0.0011047	0.0000070	0.0000420	0.0000000	0.0002361
MIN	XSF	0.0004743	0.0000038	0.0000473	0.0000000	0.0000555
MIN	XSS	0.0460726	0.0003021	0.0040804	0.0000001	0.0067816
MIN	XRW	0.1258769	0.0036680	0.0064330	0.0000005	0.0153965
MAC	COL	0.2138079	0.0017609	0.0005962	0.0000003	0.1549953
MAC	AUS	28.4164141	0.7729511	0.3250333	0.0001531	9.7914358
MAC	NZL	0.3868378	0.0114850	0.0040594	0.0000003	0.1506098
MAC	CHN	2813.8335254	17.7474615	15.1983175	2.7966150	1262.2567363
MAC	JPN	24036.2435466	615.0225646	143.4213623	0.0283966	9387.2125260
MAC	KOR	540.8239385	7.2710914	5.5967413	0.0007744	197.3766055
MAC	IDN	2.0468042	0.0152786	0.0220747	0.0000003	0.6404791
MAC	MYS	4.2374561	0.0255822	0.1696379	0.0000833	1.5994802
MAC	PHL	0.3202566	0.0005819	0.0008359	0.0000346	0.1361584
MAC	THA	12.9285423	0.0069216	2.5991858	0.0000994	1.2447257
MAC	VNM	0.0023742	0.0000207	0.0000017	0.0000000	0.0032480
MAC	BGD	0.0179544	0.0000775	0.0002045	0.0000000	0.0073466
MAC	IND	51.0547804	0.4292613	0.6751684	0.0445354	15.6625549
MAC	LKA	0.0006095	0.0000029	0.0000227	0.0000000	0.0000849
MAC	XSA	0.4826838	0.0022935	0.0043960	0.0001027	0.1114300
MAC	CAN	259.5636094	11.1342268	1.6380664	0.0765428	151.7005486
MAC	USA	74900.5513950	4975.4133989	536.8438643	7.1528877	25844.6053445
MAC	MEX	99.3307490	0.5881385	4.2369479	0.0007877	31.4233705
MAC	XCM	0.9328948	0.0082770	0.0137626	0.0001001	0.4429789
MAC	PER	0.6364343	0.0012485	0.1700610	0.0000906	0.0400465
MAC	VEN	0.6351356	0.0077488	0.0046240	0.0000018	0.2662836
MAC	XAP	0.0607805	0.0000519	0.0073627	0.0000013	0.0088734
MAC	ARG	70.2436813	2.2997373	0.6515188	0.0000349	21.6778866
MAC	BRA	463.4516048	10.9378858	3.3948062	0.0124060	178.4119050
MAC	CHL	0.1762754	0.0020835	0.0024546	0.0000553	0.0678616
MAC	URY	0.0030270	0.0001488	0.0000708	0.0000000	0.0008453
MAC	XSM	0.0010794	0.0000082	0.0000051	0.0000000	0.0007225





MAC	AUT	12.9961191	0.5474577	0.0982196	0.0000199	6.0884486
MAC	DNK	6.3349673	0.4844941	0.0195500	0.0000026	2.3252397
MAC	FIN	3.7717179	0.1399638	0.0275947	0.0000187	1.6698766
MAC	FRA	1552.5660262	64.6582716	7.7656967	0.0482834	847.8019155
MAC	DEU	7887.7741540	550.3142557	9.7313968	0.1385498	3222.4706754
MAC	GBR	875.5166461	76.7780617	4.4367601	0.0053075	427.1241460
MAC	GRC	0.4561074	0.1319582	0.0048942	0.0000003	0.0879083
MAC	IRL	2.5134168	0.0912372	0.0117641	0.0000025	1.0769527
MAC	ITA	882.8914282	15.8696602	8.7034962	0.0297391	456.5977978
MAC	NLD	38.3829086	1.1497876	0.2200956	0.0002342	21.0301258
MAC	PRT	2.2662970	0.1298947	0.0050168	0.0001574	1.2731641
MAC	ESP	101.3740989	5.1614669	0.3362266	0.0001735	47.8975227
MAC	SWE	40.0185347	1.3798445	0.1127686	0.0000861	18.7086999
MAC	BEL	37.3996811	1.5679887	0.0415744	0.0017869	20.7647883
MAC	CHE	53.0348748	3.3556653	0.7114085	0.0000377	16.9648522
MAC	XEF	4.5917509	0.2910787	0.0657372	0.0001384	1.6061250
MAC	HUN	0.7665224	0.0056041	0.0078661	0.0005254	0.3631941
MAC	POL	7.3496506	0.1079609	0.0566748	0.0050557	3.1405650
MAC	XCE	17.5254798	0.6049802	0.1419298	0.0301135	7.8065474
MAC	XSU	140.5015655	8.7674833	0.9923878	0.7144308	43.3128226
MAC	TUR	3.3636380	0.0251926	0.1357956	0.0000466	1.4420811
MAC	XME	41.2988201	1.3222463	0.3048352	0.0001696	15.5615541
MAC	MAR	0.0914277	0.0010903	0.0005661	0.0000001	0.0476632
MAC	XNF	4.0296321	0.0338510	0.0200634	0.0004840	1.8703523
MAC	BWA	0.0006393	0.0000009	0.0000004	0.0000000	0.0006207
MAC	XSC	5.6720982	0.1947643	0.0519867	0.0000012	2.1417807
MAC	ZMB	0.0001133	0.0000014	0.0000015	0.0000001	0.0000201
MAC	ZWE	0.0010616	0.0000478	0.0000382	0.0000001	0.0001704
MAC	XSF	0.0042273	0.0000279	0.0000422	0.0000000	0.0002653
MAC	XSS	0.3039044	0.0044994	0.0050142	0.0000051	0.0909855
MAC	XRW	17.6356219	0.4184803	0.2184991	0.0001546	6.5120373
HEV	COL	0.0136448	0.0000932	0.0000708	0.0000926	0.0054709
HEV	AUS	6.2343428	0.0464651	0.0530042	0.0471775	2.7530079
HEV	NZL	0.0294957	0.0002587	0.0003237	0.0000323	0.0134998
HEV	CHN	216.2306026	0.9628692	0.3261149	777.7792023	119.7056996
HEV	KOR	43.8833451	0.0974803	0.3741413	0.0532204	24.2435688
HEV	IDN	0.2422669	0.0031023	0.0047685	0.0003341	0.0686832
HEV	PHL	0.0363784	0.0000116	0.0005124	0.0035380	0.0159186
HEV	THA	0.0987553	0.0000513	0.0167608	0.0037772	0.0041419
HEV	VNM	0.0009492	0.0000103	0.0000042	0.0000006	0.0003672
HEV	IND	16.9953929	0.0363293	0.0683362	19.3211660	7.2940288
HEV	LKA	0.0000316	0.0000001	0.0000003	0.0000084	0.0000091
HEV	XSA	0.1185318	0.0001725	0.0003871	0.0395884	0.0479689
HEV	CAN	13.0126909	0.3968002	0.0607520	13.9832675	4.9659020
HEV	USA	1021.6233565	35.1600429	2.4841354	259.1159844	426.2154594
HEV	MEX	5.6379540	0.0171940	0.2067299	0.1180500	2.2170157
HEV	XCM	0.1386640	0.0006840	0.0021972	0.0424249	0.0567979
HEV	PER	0.0662536	0.0004639	0.0034863	0.1724740	0.0174265
HEV	VEN	0.1463124	0.0009897	0.0035352	0.0012013	0.0534344
HEV	XAP	0.0015850	0.0000054	0.0000208	0.0006866	0.0004093



HEV	ARG	7.1676214	0.2675101	0.4398796	0.0208168	1.1318836
HEV	BRA	46.3822304	0.1300382	0.1096482	0.7560714	31.8801775
HEV	CHL	0.5260041	0.0033989	0.0206963	0.4627156	0.1640965
HEV	URY	0.0001338	0.0000023	0.0000040	0.0000001	0.0000272
HEV	XSM	0.0021578	0.0000068	0.0000528	0.0000266	0.0009581
HEV	AUT	0.4905579	0.0142229	0.0036196	0.0026452	0.1908945
HEV	DNK	0.0091717	0.0000425	0.0000090	0.0000012	0.0053794
HEV	FIN	0.4873012	0.0023042	0.0049130	0.0015785	0.2458354
HEV	FRA	32.1043229	0.4863921	0.1522961	1.8618836	14.1002773
HEV	DEU	155.9968230	1.1548599	0.0517942	1.4904489	102.7378191
HEV	GBR	28.6799206	0.8410172	0.0785945	0.2980250	11.5457798
HEV	GRC	0.0278865	0.0004514	0.0000078	0.0000053	0.0141869
HEV	IRL	0.0029696	0.0000159	0.0000066	0.0000022	0.0013531
HEV	ITA	41.2903161	0.2689864	0.3026810	2.5839422	22.4810872
HEV	NLD	1.3071623	0.0121485	0.0068736	0.0126841	0.6354563
HEV	PRT	0.0196987	0.0003853	0.0000028	0.0023931	0.0109428
HEV	ESP	2.8647106	0.0457622	0.0028765	0.0078876	1.6243771
HEV	SWE	0.4274175	0.0033372	0.0021618	0.0010669	0.2083213
HEV	BEL	3.7700448	0.1073645	0.0001628	0.6272084	2.0462687
HEV	CHE	4.1325951	0.3130295	0.0365398	0.0180178	1.0156566
HEV	XEF	0.8138766	0.0373625	0.0054489	0.0910603	0.2570567
HEV	HUN	0.0232581	0.0000965	0.0000043	0.0463620	0.0167792
HEV	POL	0.4306206	0.0078288	0.0001881	1.8793281	0.2080304
HEV	XCE	2.0629202	0.0194730	0.0122649	4.9687417	0.9933230
HEV	XSU	26.3632424	0.4450409	0.1583474	185.8993011	11.0247683
HEV	TUR	1.5950870	0.0083016	0.0111492	0.0786554	0.7307860
HEV	XME	2.0299680	0.0176921	0.0163945	0.0116316	0.8136653
HEV	MAR	0.0054593	0.0000428	0.0000047	0.0000235	0.0029299
HEV	XNF	0.3554760	0.0027064	0.0003626	0.1983651	0.1807093
HEV	XSC	3.0689319	0.0354540	0.0553563	0.0010737	1.2282734
HEV	ZMB	0.0017161	0.0000000	0.0000043	0.0000186	0.0012079
HEV	ZWE	0.0008912	0.0000033	0.0000124	0.0000367	0.0003422
HEV	XSF	0.0000301	0.0000000	0.0000004	0.0000001	0.0000068
HEV	XSS	0.0660049	0.0000625	0.0001108	0.0003606	0.0280595
HEV	XRW	1.2042402	0.0231789	0.0036725	0.0438994	0.5298795
ENG	COL	0.3053602	0.0012010	0.0222389	0.0002615	0.0274531
ENG	AUS	2.5137536	0.0136379	0.2991973	0.0030370	0.0884228
ENG	NZL	0.0066236	0.0000280	0.0008181	0.0000008	0.0003007
ENG	CHN	14.5676639	0.1374570	0.6635652	24.3522178	1.0400364
ENG	JPN	0.1917581	0.0000198	0.0001322	0.0000010	0.0027804
ENG	KOR	0.0392645	0.0000006	0.0000000	0.0000001	0.0000047
ENG	IDN	4.1194285	0.2099901	0.2785348	0.0049604	0.0702810
ENG	MYS	0.7095238	0.0006666	0.1181460	0.0024417	0.0247793
ENG	THA	0.0538652	0.0000589	0.0095336	0.0009502	0.0006101
ENG	VNM	0.0195845	0.0000969	0.0012479	0.0000012	0.0014274
ENG	BGD	0.0014906	0.0000326	0.0000578	0.0000111	0.0000219
ENG	IND	1.0745823	0.0235355	0.0402922	2.7452482	0.0205235
ENG	XSA	0.0217403	0.0004164	0.0008580	0.0209536	0.0006184
ENG	CAN	16.0424130	0.0503904	0.3907784	0.3894637	2.4281285
ENG	USA	391.5957443	7.4131250	11.2629020	11.9819811	54.9892118





ENG	MEX	6.9160880	0.0143304	1.5643745	0.0215789	0.0968773
ENG	XCM	0.0245553	0.0001271	0.0008980	0.0017290	0.0017518
ENG	PER	0.0041384	0.0001030	0.0001667	0.0083997	0.0001272
ENG	VEN	4.2664441	0.0140408	0.5383965	0.0037377	0.1774475
ENG	XAP	0.0637619	0.0017428	0.0027578	0.0482274	0.0025160
ENG	ARG	0.6654779	0.0553825	0.0715111	0.0009452	0.0097289
ENG	BRA	0.6443547	0.0006605	0.0266499	0.0008422	0.0856964
ENG	CHL	0.0007872	0.0000004	0.0000023	0.0000120	0.0000144
ENG	XSM	0.0000001	0.0000000	0.0000000	0.0000000	0.0000000
ENG	AUT	0.0008288	0.0000029	0.0000070	0.0000001	0.0000880
ENG	DNK	0.0366846	0.0000459	0.0049588	0.0000003	0.0026077
ENG	FIN	0.0003814	0.0000001	0.0000013	0.0000000	0.0000275
ENG	FRA	0.0037329	0.0001297	0.0000156	0.0001089	0.0002361
ENG	DEU	0.4150089	0.0136592	0.0056208	0.0038663	0.0669102
ENG	GBR	10.8177803	0.1282142	0.8828212	0.0099648	0.7211814
ENG	GRC	0.0027753	0.0000589	0.0000016	0.0000002	0.0002691
ENG	IRL	0.0004508	0.0000164	0.0000102	0.0000005	0.0000151
ENG	ITA	0.0711545	0.0003808	0.0097341	0.0008023	0.0003316
ENG	NLD	0.6918838	0.0027149	0.0703413	0.0006217	0.0367356
ENG	ESP	0.0098530	0.0001895	0.0000120	0.0000072	0.0003408
ENG	XEF	7.6823650	0.0518782	0.1640550	0.0277307	0.6907295
ENG	HUN	0.0007898	0.0000247	0.0000317	0.0026009	0.0002729
ENG	POL	0.1998134	0.0144225	0.0001046	0.7593274	0.0254384
ENG	XCE	0.0907266	0.0011996	0.0019762	0.0671297	0.0114396
ENG	XSU	223.9742651	1.4676272	19.4872701	134.4547143	9.6081628
ENG	TUR	0.0090174	0.0003219	0.0005066	0.0006689	0.0001622
ENG	XME	432.7552933	1.4069054	48.4334690	0.2028665	19.5197825
ENG	MAR	0.0000390	0.0000001	0.0000001	0.0000000	0.0000007
ENG	XNF	12.1805500	0.3654890	0.1165390	5.8753643	1.6585937
ENG	BWA	0.0000016	0.0000000	0.0000002	0.0000000	0.0000000
ENG	XSC	0.7390297	0.0047730	0.0066823	0.0000317	0.1809117
ENG	ZMB	0.0000004	0.0000000	0.0000000	0.0000000	0.0000000
ENG	ZWE	0.0000079	0.0000001	0.0000001	0.0000002	0.0000024
ENG	XSF	0.1670896	0.0002209	0.0183202	0.0000820	0.0080690
ENG	XSS	5.2618410	0.1215598	0.2249523	0.1537478	0.3901627
ENG	XRW	0.1626681	0.0070973	0.0098017	0.0029481	0.0033483



**Table A2: Summary statistics of the estimated variables of the model**

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
lnY	727	-0.7974	4.508621	-18.4378	11.22392
lnL	727	-5.48099	5.390958	-27.1992	8.512264
lnK	727	-5.28625	4.775795	-25.8766	6.285707
lnW	727	-6.58969	7.608014	-31.3733	14.56399
lnI	727	-2.02884	4.70282	-20.5835	10.15986
lnLlnK	727	52.25963	76.86333	-6.54698	636.7753
lnLlnW	727	60.32033	92.65262	-49.7206	675.9008
lnLlnI	727	33.53781	59.15936	-20.995	548.4359
lnKlnW	727	56.2089	84.16849	-70.1726	563.7658
lnKlnI	727	30.37538	53.63009	-14.9917	472.0616
lnWlnI	727	33.32025	64.42302	-59.6428	481.9828
ln2L	727	29.53187	44.26175	1.93E-07	369.8993
ln2K	727	25.36065	36.61965	7.59E-06	334.7997
ln2W	727	50.61312	64.11324	0.001038	492.142
ln2I	727	13.10115	22.76317	1.16E-05	211.8403
S1lnwater	727	-0.43984	1.906938	-14.1997	4.976485
S2lnwater	727	0.355925	1.930055	-8.89542	14.56399
S3lnwater	727	-0.2044	1.630146	-14.0189	8.274341
S4lnwater	727	-1.03529	3.759212	-23.4353	0
S5lnwater	727	-0.1864	1.805704	-15.903	10.6806
S6lnwater	727	-0.57178	2.730725	-26.0792	4.901227
S7lnwater	727	-0.35596	1.936327	-16.4677	6.656443
S8lnwater	727	-0.79711	3.116477	-22.1757	1.967516
S9lnwater	727	-1.33223	4.796245	-31.3733	0
S10lnwater	727	-0.22879	1.538591	-12.9484	8.399222
S11lnwater	727	-0.74005	3.094756	-21.1343	2.150817
S12lnwater	727	-0.22011	1.538511	-14.7805	8.268755
S13lnwater	727	-0.83365	3.168045	-21.2663	1.184676

**Table A3: Estimated coefficients of the Cobb-Douglas model**

Variable	Coefficient	Standard Error	t-stat	p-value
Constant	2.242	0.0564603	39.71	0.000
lnL	0.083	0.0140837	5.91	0.000
lnK	0.227	0.0153231	14.80	0.000
lnW	0.215	0.0470366	4.57	0.001
lnI	0.633	0.0140804	44.96	0.000

**Table A4: Estimated coefficients of the Translog model for the global water analysis**

Variable	Coefficient	Standard Error	t-stat	p-value
Constant	2.757	0.0888567	31.02749	0.000
lnL	0.262	0.029433	8.901573	0.000
lnK	0.380	0.0265836	14.29453	0.000
lnW	0.150	0.0083469	17.97074	0.000
lnI	0.446	0.495809	0.9773	0.674
LnL*lnK	-0.005	.0065111	-0.76792	0.589
LnLnW	0.0014	.0023482	0.596201	0.548
LnLnI	-0.229	.0054597	-41.9437	0.000
LnKlnW	-0.002	.0025426	-0.7866	0.007
LnKlnI	-0.024	.0053395	-4.4948	0.000
LnWlnI	0.011	.0023282	4.72468	0.054
0.5ln <sup>2</sup> L	0.030	.0065893	4.552836	0.000
0.5ln <sup>2</sup> K	0.046	.0076358	6.024254	0.000
0.5ln <sup>2</sup> W	0.001	.0011489	0.870398	0.162
0.5ln <sup>2</sup> I	0.051	.0082763	6.162174	0.000

## APPENDIX 2: DETAILED ESTIMATION RESULTS AND DATA FOR SOUTH

### AFRICA MODEL

**Table B1. Data extracted from STATSA census of manufacturing activities**

SECTOR	PROVINCE	OUTPUT (R million)	CAPITAL (R million)	EMPLOYMENT (R million)	INTERMEDIATE (R million)	WATER USE (mm <sup>3</sup> )
AGI	EC	1046.10	50.78	119.63	789.14	1.23
AGI	FS	57.49	2.08	6.94	42.71	2.18
AGI	GP	6683.68	293.35	645.99	5102.10	6.83
AGI	KZN	2535.67	97.10	302.28	1866.31	6.19
AGI	MP	576.83	18.41	63.25	446.43	0.48
AGI	NW	855.54	30.54	101.93	644.40	3.86
AGI	LP	1311.48	40.85	159.39	977.00	0.50
AGI	NC	388.79	9.12	40.89	306.23	1.69
AGI	WC	1966.27	85.92	212.83	1477.74	3.87
AGR	EC	626.29	63.16	109.42	291.50	1776.00
AGR	FS	42.40	6.62	9.93	11.99	864.00
AGR	GP	3702.64	288.78	541.02	1827.16	336.00
AGR	KZN	1418.85	140.38	240.61	623.12	1394.00
AGR	MP	316.68	56.53	53.84	138.44	1349.00
AGR	NW	520.66	81.16	79.72	195.91	1999.00
AGR	LP	657.38	96.17	119.50	266.73	1797.00
AGR	NC	218.90	39.74	39.36	92.86	972.00
AGR	WC	1125.80	116.53	191.52	509.79	2140.00
CHM	EC	696.85	26.82	84.23	518.39	7.75
CHM	FS	21.86	1.56	2.53	16.83	7.03
CHM	GP	5575.52	186.22	597.92	4256.51	56.37
CHM	KZN	1312.66	55.96	197.52	924.11	36.08
CHM	MP	262.06	19.75	34.30	203.42	2.13
CHM	NW	454.92	32.04	63.09	336.61	18.67
CHM	LP	694.00	37.78	103.45	496.05	2.90
CHM	NC	174.16	10.39	20.43	137.09	9.34
CHM	WC	1116.46	43.55	147.53	808.99	23.92
CON	EC	905.40	15.01	165.38	621.98	0.06
CON	FS	73.76	0.91	16.06	55.22	0.17
CON	GP	5031.69	88.87	708.38	3585.02	0.25
CON	KZN	1951.70	38.60	418.54	1280.23	0.29
CON	MP	492.84	13.70	108.94	347.05	0.03
CON	NW	762.35	20.74	158.06	541.43	0.22
CON	LP	1103.45	26.63	238.19	765.33	0.03
CON	NC	353.46	9.24	78.00	251.75	0.09
CON	WC	1582.03	28.40	299.32	1063.98	0.18



**Table B1 cont**

SECTOR	PROVINCE	OUTPUT (R million)	CAPITAL (R million)	EMPLOYMENT (R million)	INTERMEDIATE (R million)	WATER USE (mm <sup>3</sup> )
ELE	EC	329.42	86.52	85.39	189.14	0.00
ELE	FS	9.50	2.90	3.08	4.21	39.00
ELE	GP	1926.11	391.10	479.00	1276.64	68.00
ELE	KZN	852.74	298.21	192.66	369.46	3.00
ELE	MP	164.38	75.65	38.38	77.45	4.00
ELE	NW	298.42	125.00	67.33	127.28	221.00
ELE	LP	447.72	180.64	98.94	186.26	0.00
ELE	NC	89.74	40.32	22.51	42.48	0.00
ELE	WC	614.88	181.32	147.90	314.63	0.00
HEV	EC	1035.44	70.91	273.90	728.57	19.31
HEV	FS	55.63	3.07	20.18	37.06	43.55
HEV	GP	7422.81	404.35	1464.35	5513.71	105.81
HEV	KZN	2269.00	119.88	639.37	1511.86	89.51
HEV	MP	557.97	34.82	139.17	404.12	7.79
HEV	NW	880.68	46.92	224.34	628.85	58.06
HEV	LP	1229.79	57.07	335.24	852.73	7.22
HEV	NC	419.27	23.34	97.53	300.08	25.44
HEV	WC	1903.59	119.77	485.01	1304.05	60.28
MAC	EC	1267.28	35.67	203.58	961.97	0.35
MAC	FS	72.33	1.92	14.82	51.45	0.78
MAC	GP	9229.61	253.09	1144.64	7230.30	2.02
MAC	KZN	2629.34	67.90	467.86	1887.67	1.60
MAC	MP	557.57	19.57	117.87	396.95	0.18
MAC	NW	940.90	28.88	186.82	662.81	1.20
MAC	LP	1362.31	33.39	270.80	941.90	0.14
MAC	NC	469.80	9.38	91.97	344.90	0.52
MAC	WC	2074.58	58.74	352.14	1527.63	1.07
MIN	EC	1138.61	123.15	298.84	498.65	155.00
MIN	FS	55.93	4.72	13.43	21.93	61.00
MIN	GP	7412.32	759.92	1711.25	3318.72	49.00
MIN	KZN	2416.16	311.67	707.64	1035.33	50.00
MIN	MP	831.10	60.26	186.38	328.50	103.00
MIN	NW	1141.45	110.54	293.30	498.63	39.00
MIN	LP	1348.54	175.65	408.11	574.87	13.00
MIN	NC	503.09	35.73	119.68	180.79	137.00
MIN	WC	2019.83	218.54	541.76	858.14	5.00



**Table B1 cont**

SECTOR	PROVINCE	OUTPUT (R million)	CAPITAL (R million)	EMPLOYMENT (R million)	INTERMEDIATE (R million)	WATER USE (mm <sup>3</sup> )
OHM	EC	598.19	15.75	315.21	367.50	11.58
OHM	FS	35.56	0.85	23.81	24.17	26.75
OHM	GP	3991.16	106.21	1737.62	2539.13	65.45
OHM	KZN	1408.71	27.25	745.57	798.56	54.41
OHM	MP	267.15	6.79	190.83	156.98	6.24
OHM	NW	470.57	11.97	293.33	272.46	41.49
OHM	LP	757.37	15.08	428.50	433.93	4.81
OHM	NC	194.30	3.26	149.88	117.10	17.34
OHM	WC	1058.34	24.77	546.20	631.87	35.39
PET	EC	371.52	37.53	21.44	266.79	1.54
PET	FS	4.36	0.80	0.71	1.93	1.54
PET	GP	3109.52	284.46	88.14	2283.91	6.51
PET	KZN	635.86	73.27	55.41	411.13	7.93
PET	MP	143.23	23.92	11.94	75.01	0.53
PET	NW	192.48	36.40	20.35	105.61	5.07
PET	LP	282.66	43.49	30.61	162.25	0.67
PET	NC	83.90	12.64	6.55	53.59	2.36
PET	WC	558.80	59.15	41.60	389.63	5.28
PPP	EC	405.35	30.58	103.07	359.52	13.27
PPP	FS	16.91	1.02	5.98	14.56	23.62
PPP	GP	2625.62	186.34	651.38	2427.68	85.95
PPP	KZN	953.10	46.29	225.91	803.91	57.75
PPP	MP	168.71	16.55	42.34	157.44	4.01
PPP	NW	313.65	25.15	66.33	288.91	32.22
PPP	LP	489.18	23.27	112.64	432.30	4.43
PPP	NC	102.61	4.94	27.54	98.59	13.73
PPP	WC	698.84	46.97	175.06	614.26	39.74
SER	EC	8860.42	619.77	2992.51	3431.35	61.42
SER	FS	338.46	21.05	135.73	115.48	75.13
SER	GP	61873.35	3914.94	17702.50	27661.17	308.60
SER	KZN	18427.38	1389.21	6631.42	6563.60	146.30
SER	MP	2911.01	281.46	1150.22	1034.90	23.04
SER	NW	4989.69	475.77	1836.51	1830.15	71.76
SER	LP	8264.19	735.78	3086.49	2903.83	23.28
SER	NC	1823.64	176.27	712.80	650.13	56.25
SER	WC	14596.19	1065.62	5202.56	5285.11	189.90



**Table B1 cont**

SECTOR	PROVINCE	OUTPUT (R million)	CAPITAL (R million)	EMPLOYMENT (R million)	INTERMEDIATE (R million)	WATER USE (mm <sup>3</sup> )
TEX	EC	347.80	12.82	80.25	246.85	0.34
TEX	FS	28.80	1.28	7.72	18.44	0.99
TEX	GP	1998.04	62.55	325.41	1501.26	1.41
TEX	KZN	843.36	23.64	201.24	562.22	1.69
TEX	MP	196.18	7.48	51.03	129.64	0.18
TEX	NW	331.22	11.59	81.53	218.15	1.27
TEX	LP	467.04	15.00	112.29	308.24	0.14
TEX	NC	145.56	4.16	37.74	95.37	0.55
TEX	WC	636.07	20.61	145.95	441.01	1.09

**Key**

Sector		Province	
AGI	Food, Beverage and Tobacco	EC	Eastern Cape
AGR	Agriculture, Fishing & Forestry	FS	Free State
CHM	Basic Chemicals	GP	Gauteng
CON	Construction	KZN	KwaZulu-Natal
ELE	Electricity	MP	Mpumalanga
HEV	Metal Manufacturing	NW	North West
MAC	Machinery and Equipment	LP	Limpopo
MIN	Mining and Quarrying	NC	Northern Cape
OHM	Other Manufacturing	WC	Western Cape
PET	Petroleum		
PPP	Paper, Pulp and Printing		
SER	Services		
TEX	Leather and Wearing Apparel		

**Table B2: The coefficients of the Cobb-Douglas' model for South Africa**

Variable	Coefficient	Standard Error	t-Stat	p-Value
lnK	0.195938	0.01789	10.95	0.000
lnI	0.608792	0.026624	22.87	0.000
lnL	0.216531	0.021296	10.17	0.000
lnW	0.066518	0.026992	2.46	0.014
Cons	1.082778	0.066393	16.31	0.000
Observations	112			
F(4,107)	3682.24			0.000
R-squared	0.65324			
Adjusted R-squared	0.64528			

**Table B3: The coefficients of the translog model for South Africa**

Variable	Coefficient	Standard Error	t-Stat	p-Value
lnk	0.3853116	0.1139645	3.380	0.001
lnL	0.7720868	0.1271347	6.070	0.000
lnW	0.1654442	0.0665219	2.490	0.015
ln2K	-0.0463149	0.0262756	-1.760	0.081
ln2L	-0.0513564	0.0289235	-1.780	0.079
ln2W	-0.0065339	0.0069380	-0.940	0.345
lnKlnL	0.0774132	0.0475606	1.630	0.107
lnKlnW	-0.0051680	0.0256288	-0.200	0.841
lnLlnW	0.0129294	0.0228915	0.560	0.573
Cons	2.0555990	0.1852263	11.100	0.000
Observations	112			
F(10, 102)	280.41			0.000
R-squared	0.6134			
Adjusted R-squared	0.6059			



**Table B4: The coefficients of the translog model with sectoral dummies for South Africa**

Variable	Coefficient	Standard Error	t-Stat	p-Value
lnK	0.2463	0.0897	2.75	0.007
lnL	0.8125	0.0991	8.2	0
lnW	0.4731	0.0689	6.86	0
ln2K	-0.0309	0.0250	-1.24	0.218
ln2L	-0.0426	0.0293	-1.45	0.15
ln2W	-0.0545	0.0095	5.73	0
lnKlnL	0.0712	0.0511	1.39	0.167
lnKlnW	-0.0182	0.0262	-0.7	0.488
lnLlnW	0.0197	0.0260	0.76	0.45
s1lnW	0.1758	0.0686	6.94	0
s2lnW	0.0035	0.0490	0.07	0.943
s3lnW	0.3019	0.0398	7.58	0
s4lnW	0.4421	0.0924	4.78	0
s5lnW	-0.0134	0.0571	-0.24	0.815
s6lnW	0.0990	0.0292	3.39	0.001
s7lnW	0.5371	0.0962	5.58	0
s8lnW	0.0569	0.0320	1.78	0.079
s9lnW	0.0635	0.0613	1.04	0.303
s10lnW	0.5434	0.5434	6.22	0.000
s11lnW	0.1037	0.0339	3.06	0.003
s12lnW	0.5371	0.0962	5.58	0.000
s13lnW	0.6339	0.0961	6.6	0.000
Cons	2.0905	0.1211	17.26	0.000
Observations	112			
F(23, 89)	321.11			0.000
R-squared	0.5817			
Adjusted R-squared	0.5743			



**Table B5: Table Summary statistics of the estimated variables in South Africa**

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
Output (Y)	117	2133.423	6206.991	4.357515	61873.35
Capital (K)	117	143.1419	406.0066	0.802957	3914.936
Labour (L)	117	555.8714	1830.534	0.712638	17702.5
Water (W)	117	1147.82	2815.18	1.931405	27661.17
lnW	117	134.394	402.1936	0	2140
lnY	117	6.47854	1.569691	1.471902	11.03284
lnK	117	3.665874	1.639767	-0.21945	8.272554
lnL	117	4.91519	1.649053	-0.33878	9.781462
lnW	111	2.293423	2.493998	-2.30259	7.668561
lnKlnL	117	20.17628	13.93106	-0.52812	80.91767
lnKlnW	117	9.974499	12.0142	-8.07837	47.41866
lnlnw	111	12.31915	14.41168	-12.8977	56.06779
lnksq	117	3.665874	1.639767	0.21945	8.272554
lnlsq	117	4.91519	1.649053	0.33878	9.781461
lnwsq	117	2.293423	2.493998	2.30259	7.668561
s1lnw	111	0.059266	0.333243	0.69315	1.916923
s2lnw	111	0.577928	1.960708	0	7.668561
s3lnw	111	0.195901	0.726901	0	4.032469
s4lnw	111	-0.10668	0.426514	-2.30259	0
s5lnw	111	0.142037	0.746236	0	5.398163
s6lnw	111	0.282121	0.990833	0	4.661551
s7lnw	111	-0.03877	0.299072	-2.30259	0.693147
s8lnw	111	0.309467	1.088924	0	5.043425
s9lnw	111	0.247334	0.873912	0	4.18205
s10lnw	111	0.070921	0.361259	-0.69315	2.066863
s11lnw	111	0.242307	0.868769	0	4.453184
s12lnw	111	0.351252	1.211332	0	5.732046
s13lnw	111	-0.03966	0.300012	-2.30259	0.530628

**APPENDIX 3: UPDATED SOCIAL ACCOUNTING MATRIX AND MULTIPLIERS FOR SOUTH AFRICA**

**Table C1: Updated Social Accounting Matrix for South Africa**

SECTORS	Agriculture	Mining	Beverages & Tobacco	Clothing & Textile	Paper, Pulp & Publishing	Petroleum	Other Manufacturing	Metal Manufacturing
<b>Agriculture</b>	51179.44	39	31236.81	614.55	1257.44	1.34	441.12	83.39
<b>Mining</b>	174.49	84078.39	117.13	23.89	216.72	11935.15	2368.04	9466.06
<b>Beverages &amp; Tobacco</b>	4917.889	60.46	99823.11	1178.62	134.75	0	1103.543	16.90133
<b>Clothing &amp; Textile</b>	536.25	450.43	109.4447	33442.74	38.12039	0	240.5841	44.69
<b>Paper, Pulp &amp; Publishing</b>	322.98	153.46	2824.19	353.0498	41966.02	1.58	1332.618	281.6255
<b>Petroleum</b>	2907.73	1256.07	523.55	110.1	270.22	23328.16	5421.384	1399.62
<b>Basic Chemicals</b>	4544.83	3254.82	967.39	2557.774	2313.88	362.9285	68996.97	2654.39
<b>Metal Manufacturing</b>	585.69	2808.21	2070.35	295.7044	139.56	81.68237	1526.521	94345.85
<b>Machinery &amp; Equipment</b>	2005.96	5118.48	517.84	528.7002	779.6	288.96	831.0025	3708.045
<b>Other Manufacturing</b>	430.75	2304.21	2465.59	819.4579	1292.191	30.15	3426.252	766.0711
<b>Electricity</b>	452.27	3733.23	624.92	279.17	512.28	257.92	1125.73	4665.73
<b>Water</b>	225.71	426.54	217.04	59.88	87.27	21.6	66.96	117.37
<b>Construction</b>	206.05	841.63	0	0	0	0	0	0
<b>Services</b>	9847.098	22060.78	45002.11	22173.53	11432.47	15179.26	26264.49	22238.34
<b>Capital</b>	16839.68	23460.27	14246.86	1415.704	5228.822	8134.283	8438.903	12188.8
<b>Unskilled Labour</b>	7101.787	16898.2	4972.932	5265.065	1895.607	542.8917	2170.905	7221.988
<b>Medium-skilled Labour</b>	1040.271	4365.496	3456.139	922.7977	2733.825	501.1002	2003.79	3996.142
<b>High-skilled Labour</b>	238.2006	2348.441	2859.657	822.2685	2327.55	855.98	3422.877	2990.921
<b>Firms</b>	0	0	0	0	0	0	0	0
<b>Least-income Households</b>	0	0	0	0	0	0	0	0
<b>Low-income Households</b>	0	0	0	0	0	0	0	0
<b>Middle-income Households</b>	0	0	0	0	0	0	0	0
<b>High-income Households</b>	0	0	0	0	0	0	0	0
<b>Highest-income Households</b>	0	0	0	0	0	0	0	0
<b>Government</b>	572.413	854.7123	15482.47	2803.183	1174.737	16660.98	2428.248	1102.039
<b>Investment</b>	0	0	0	0	0	0	0	0
<b>Rest of the World</b>	3419.824	11962.82	10878.17	6646.451	5705.463	4011.269	17012.52	8669.843
<b>Total</b>	<b>107549.3</b>	<b>186475.6</b>	<b>238395.7</b>	<b>80312.64</b>	<b>79506.52</b>	<b>82195.24</b>	<b>148622.5</b>	<b>175957.8</b>

Table C1 cont

SECTORS	Machinery & Equipment	Other Manufacturing	Electricity	Water	Construction	Services	Capital	Unskilled Labour
Agriculture	206.14	2292.17	9.71	0	713.2413	973.9	0	0
Mining	156.37	1669.464	3952.16	136.93	4173.316	721.4719	0	0
Beverages & Tobacco	8.93	41.36907	29.74	0	0	12610.38	0	0
Clothing & Textile	770.6393	1304.204	6.35	1.87	523.99	2933.951	0	0
Paper, Pulp & Publishing	383.1449	905.4129	28.89	55.98	490.88	21499.09	0	0
Petroleum	526.35	287.05	103.72	40.64	1987.12	19180.95	0	0
Basic Chemicals	2799.127	6677.15	64.87	199	853	13899.83	0	0
Metal Manufacturing	15303.41	1923.57	180.92	129.32	12595.27	7631.274	0	0
Machinery & Equipment	115517.9	733.3131	1163.26	282.77	6059.42	30934.03	0	0
Other Manufacturing	4075.272	39579.01	55.75	147.83	3261.68	10810.72	0	0
Electricity	647.06	474.72	28993.26	427.29	1067.536	6050.114	0	0
Water	23.56	30.45	121.37	13062.64	91.59	2077.53	0	0
Construction	0	0	1250.87	0	86746.12	8350.898	0	0
Services	48440.81	20095.73	1377.614	560.8218	6128.277	1115810	0	0
Capital	7562.646	3027.285	11465.5	2199.904	8281.711	238502	0	0
Unskilled Labour	6627.511	5307.775	3329.165	333.417	8740.542	71106.68	0	0
Medium-skilled Labour	4507.312	2379.858	1476.14	166.5247	2711.795	138810.7	0	0
High-skilled Labour	4937.438	1832.052	2314.796	302.12	2317.645	58968.61	0	0
Firms	0	0	0	0	0	0	343111.4	0
Least-income Households	0	0	0	0	0	0	0	6549.209
Low-income Households	0	0	0	0	0	0	0	13335.19
Middle-income Households	0	0	0	0	0	0	0	85838.35
High-income Households	0	0	0	0	0	0	0	25429.51
Highest-income Households	0	0	0	0	0	0	0	10362.2
Government	11935.55	2582.164	1111.735	100.1784	3099.811	29088.56	0	0
Investment	0	0	0	0	0	0	0	0
Rest of the World	70792.9	9071.414	276.1526	70.87598	591.8585	34922.44	27305	0
<b>Total</b>	<b>295222.1</b>	<b>100214.2</b>	<b>57311.97</b>	<b>18218.11</b>	<b>150434.8</b>	<b>1824883</b>	<b>370416.4</b>	<b>141514.5</b>



Table C1 cont

SECTORS	Medium-skilled Labour	High-skilled Labour	Firms	Least-income Households	Low-income Households	Middle-income Households	High-income Households	Highest-income Households
Agriculture	0	0	0	1161.373	1873.908	8861.837	2372.792	1606.611
Mining	0	0	0	14.68648	18.1452	105.3415	47.31159	20.97652
Beverages & Tobacco	0	0	0	10440.25	16852.28	79871.43	21517.39	14586.28
Clothing & Textile	0	0	0	1175.996	2700.606	19080.48	5965.266	3396.541
Paper, Pulp & Publishing	0	0	0	15.05778	85.67436	2087.359	1853.211	1768.568
Petroleum	0	0	0	159.8663	265.381	7150.867	6102.661	4701.724
Basic Chemicals	0	0	0	671.6051	1222.933	10502.69	5452.788	3588.556
Metal Manufacturing	0	0	0	11.5771	36.82683	498.1534	302.6131	233.0671
Machinery & Equipment	0	0	0	94.77138	341.6139	10846.41	10860.44	10720.69
Other Manufacturing	0	0	0	175.1699	600.6077	8687.129	4629.741	3366.27
Electricity	0	0	0	727.8532	899.2652	5220.66	2344.734	1039.584
Water	0	0	0	135.376	224.5612	1150.432	360.299	195.7601
Construction	0	0	0	0	0	0	0	0
Services	0	0	0	2687.07	6969.896	88084.79	57292.87	49661.34
Capital	0	0	0	0	0	0	0	0
Unskilled Labour	0	0	0	0	0	0	0	0
Medium-skilled Labour	0	0	0	0	0	0	0	0
High-skilled Labour	0	0	0	0	0	0	0	0
Firms	0	0	0	0	0	0	0	0
Least-income Households	2482.516	208.9023	1399.727	0	0	0	0	0
Low-income Households	6193.585	457.8611	3725.615	0	0	0	0	0
Middle-income Households	94717.09	31087.69	56383.88	0	0	0	0	0
High-income Households	49466.65	37397.79	33236.89	0	0	0	0	0
Highest-income Households	15211.24	16681.09	71667	0	0	0	0	0
Government	0	0	35767.22	195.0689	1440.441	39085.72	26950.41	18801.36
Investment	0	0	140842	9.104741	21.42932	739.6052	725.4737	555.3871
Rest of the World	1000.783	705.217	89	0.074399	0.380314	23.52336	57.78476	44.23717
<b>Total</b>	<b>169071.9</b>	<b>86538.55</b>	<b>343111.4</b>	<b>17674.9</b>	<b>33553.95</b>	<b>281996.4</b>	<b>146835.8</b>	<b>114287</b>



Table C1 cont

SECTORS	Government	Investment	Rest of the World	Total
Agriculture	0	-5771.77	8396.309	<b>107549.3</b>
Mining	0	1470.733	65608.87	<b>186475.6</b>
Beverages & Tobacco	0	-37041.8	12244.17	<b>238395.7</b>
Clothing & Textile	0	3057.809	4532.683	<b>80312.64</b>
Paper, Pulp & Publishing	0	-1406.75	4504.488	<b>79506.52</b>
Petroleum	0	2648.263	3823.803	<b>82195.24</b>
Basic Chemicals	0	4327.503	12710.43	<b>148622.5</b>
Metal Manufacturing	0	6926.326	28331.93	<b>175957.8</b>
Machinery & Equipment	0	73883.72	20005.14	<b>295222.1</b>
Other Manufacturing	0	1478.518	11811.79	<b>100214.2</b>
Electricity	0	-3274.91	1043.556	<b>57311.97</b>
Water	0	-519.754	41.92777	<b>18218.11</b>
Construction	0	52922.5	116.7313	<b>150434.8</b>
Services	192114	28750.64	32711.16	<b>1824883</b>
Capital	0	0	9424	<b>370416.4</b>
Unskilled Labour	0	0	0	<b>141514.5</b>
Medium-skilled Labour	0	0	0	<b>169071.9</b>
High-skilled Labour	0	0	0	<b>86538.55</b>
Firms	0	0	0	<b>343111.4</b>
Least-income Households	7014.094	0	20.44769	<b>17674.9</b>
Low-income Households	9796.266	0	45.43085	<b>33553.95</b>
Middle-income Households	13826.76	0	142.6527	<b>281996.4</b>
High-income Households	1287.388	0	17.55192	<b>146835.8</b>
Highest-income Households	360.4957	0	4.916807	<b>114287</b>
Government	210036.8	0	173	<b>421446.8</b>
Investment	-18840	3248.039	3398	<b>130699.1</b>
Rest of the World	5851	0	0	<b>219109</b>
<b>Total</b>	<b>421446.8</b>	<b>130699.1</b>	<b>219109</b>	<b>6021555</b>



**Table C2: South African SAM Multipliers**

Sectors (1)	Agriculture (2)	Mining & Quarrying (3)	Beverages & Tobacco (4)	Clothing & Textiles (5)	Paper, Pulp & Publishing (6)	Petroleum (7)	Basic Chemicals (8)
<b>Agriculture</b>	2.1180	0.1838	0.5980	0.2120	0.2369	0.1202	0.1662
<b>Mining &amp; Quarrying</b>	0.0949	1.9056	0.0726	0.0719	0.0832	0.4180	0.1433
<b>Beverages &amp; Tobacco</b>	0.5881	0.4645	2.1547	0.4896	0.4395	0.3062	0.3962
<b>Clothing &amp; Textile</b>	0.1188	0.1166	0.0997	1.8182	0.1045	0.0737	0.0947
<b>Paper, Pulp &amp; Publishing</b>	0.1163	0.1056	0.1477	0.1323	2.2235	0.0778	0.1319
<b>Petroleum</b>	0.1785	0.1218	0.1201	0.1158	0.1182	1.4742	0.1876
<b>Basic Chemicals</b>	0.3104	0.2245	0.2000	0.2701	0.2802	0.1356	2.0192
<b>Metal Manufacturing</b>	0.1125	0.1523	0.1168	0.1030	0.0945	0.0756	0.1204
<b>Machinery &amp; Equipments</b>	0.2441	0.2750	0.1996	0.2169	0.2236	0.1627	0.1925
<b>Other Manufacturing</b>	0.1211	0.1446	0.1308	0.1389	0.1620	0.0822	0.1640
<b>Electricity</b>	0.0919	0.1518	0.0831	0.0890	0.1012	0.0755	0.0983
<b>Water</b>	0.0416	0.0429	0.0349	0.0340	0.0358	0.0240	0.0284
<b>Construction</b>	0.0397	0.0539	0.0346	0.0376	0.0338	0.0296	0.0329
<b>Services</b>	2.2543	2.3087	2.4851	2.8945	2.4627	1.9144	2.3650
<b>Capital</b>	0.7617	0.6923	0.6309	0.5582	0.6150	0.5314	0.5635
<b>Unskilled Labour</b>	0.2898	0.3315	0.2253	0.2950	0.2190	0.1628	0.1905
<b>Medium Skilled Labour</b>	0.2260	0.2538	0.2493	0.2730	0.2930	0.1842	0.2375
<b>High Skilled Labour</b>	0.1126	0.1328	0.1318	0.1433	0.1738	0.1020	0.1498
<b>Firms</b>	0.7055	0.6412	0.5844	0.5170	0.5696	0.4922	0.5220
<b>Least-income Households</b>	0.0199	0.0220	0.0168	0.0201	0.0172	0.0125	0.0148
<b>Low-income Households</b>	0.0438	0.0482	0.0374	0.0442	0.0385	0.0280	0.0331
<b>Middle-income households</b>	0.4587	0.4964	0.4197	0.4683	0.4531	0.3195	0.3883
<b>High-income Households</b>	0.2352	0.2534	0.2270	0.2449	0.2554	0.1749	0.2191
<b>Highest-income Households</b>	0.2106	0.2067	0.1864	0.1818	0.1949	0.1510	0.1732

Table C2 cont

Sectors (1)	Metal Manufacturing (9)	Machinery & Equipments (10)	Other Manufacturing (11)	Electricity (12)	Water (13)	Construction (14)	Services (15)
<b>Agriculture</b>	0.1807	0.1171	0.2457	0.1850	0.1729	0.2144	0.2044
<b>Mining &amp; Quarrying</b>	0.2983	0.0658	0.1310	0.3251	0.1402	0.2507	0.0793
<b>Beverages &amp; Tobacco</b>	0.4546	0.2886	0.4404	0.4708	0.4352	0.4822	0.5217
<b>Clothing &amp; Textile</b>	0.1089	0.0760	0.1392	0.1122	0.1046	0.1297	0.1231
<b>Paper, Pulp &amp; Publishing</b>	0.1136	0.0791	0.1416	0.0967	0.1183	0.1234	0.1593
<b>Petroleum</b>	0.1323	0.0772	0.1219	0.1081	0.1123	0.1572	0.1408
<b>Basic Chemicals</b>	0.2304	0.1446	0.3735	0.1710	0.2327	0.2225	0.2050
<b>Metal Manufacturing</b>	2.2554	0.2408	0.1575	0.1229	0.1443	0.5363	0.1118
<b>Machinery &amp; Equipments</b>	0.2801	1.7790	0.2160	0.2701	0.2812	0.3742	0.2618
<b>Other Manufacturing</b>	0.1277	0.1089	1.7648	0.1150	0.1518	0.2029	0.1348
<b>Electricity</b>	0.1994	0.0665	0.0971	2.1086	0.2430	0.1421	0.0937
<b>Water</b>	0.0356	0.0198	0.0308	0.0436	3.5611	0.0365	0.0378
<b>Construction</b>	0.0412	0.0245	0.0356	0.1341	0.0368	2.3981	0.0548
<b>Services</b>	2.4871	1.8396	2.6027	1.9546	2.0347	2.3264	4.4546
<b>Capital</b>	0.6673	0.3893	0.5613	0.8356	0.8730	0.6543	0.7384
<b>Unskilled Labour</b>	0.2797	0.1621	0.2705	0.2888	0.2280	0.3427	0.2479
<b>Medium Skilled Labour</b>	0.2783	0.1904	0.2743	0.2393	0.2258	0.2715	0.3742
<b>High Skilled Labour</b>	0.1557	0.1105	0.1506	0.1790	0.1635	0.1587	0.1778
<b>Firms</b>	0.6181	0.3606	0.5200	0.7740	0.8087	0.6061	0.6840
<b>Least-income Households</b>	0.0199	0.0120	0.0190	0.0205	0.0176	0.0227	0.0202
<b>Low-income Households</b>	0.0441	0.0268	0.0420	0.0453	0.0394	0.0497	0.0454
<b>Middle-income households</b>	0.4831	0.3039	0.4573	0.5007	0.4564	0.5166	0.5363
<b>High-income Households</b>	0.2589	0.1675	0.2443	0.2742	0.2560	0.2683	0.2971
<b>Highest-income Households</b>	0.2046	0.1256	0.1821	0.2389	0.2374	0.2067	0.2290





Table C2 cont

Sectors (1)	Capital (16)	Unskilled Labour (17)	Medium Skilled Labour (18)	High Skilled Labour (19)	Firms (20)	Least-income Households (21)	Low-income Households (22)
<b>Agriculture</b>	0.1267	0.3412	0.3106	0.2779	0.1367	0.5574	0.4977
<b>Mining &amp; Quarrying</b>	0.0380	0.0851	0.0843	0.0842	0.0411	0.0932	0.0868
<b>Beverages &amp; Tobacco</b>	0.3265	0.8859	0.8038	0.7160	0.3525	1.4708	1.3079
<b>Clothing &amp; Textile</b>	0.0769	0.1988	0.1886	0.1731	0.0830	0.2181	0.2401
<b>Paper, Pulp &amp; Publishing</b>	0.0641	0.1393	0.1385	0.1394	0.0692	0.1424	0.1424
<b>Petroleum</b>	0.0702	0.1488	0.1508	0.1549	0.0758	0.1394	0.1345
<b>Basic Chemicals</b>	0.1072	0.2499	0.2442	0.2380	0.1157	0.2795	0.2722
<b>Metal Manufacturing</b>	0.0485	0.1077	0.1063	0.1058	0.0523	0.1162	0.1138
<b>Machinery &amp; Equipments</b>	0.1355	0.2664	0.2746	0.2912	0.1463	0.2225	0.2262
<b>Other Manufacturing</b>	0.0712	0.1602	0.1594	0.1578	0.0769	0.1463	0.1557
<b>Electricity</b>	0.0466	0.1156	0.1103	0.1051	0.0503	0.1700	0.1388
<b>Water</b>	0.0175	0.0442	0.0416	0.0387	0.0188	0.0622	0.0576
<b>Construction</b>	0.0168	0.0379	0.0373	0.0369	0.0182	0.0418	0.0403
<b>Services</b>	1.2445	2.7319	2.7138	2.7178	1.3436	2.7304	2.7752
<b>Capital</b>	1.2467	0.5654	0.5516	0.5404	0.2664	0.6486	0.6274
<b>Unskilled Labour</b>	0.0885	1.2048	0.1992	0.1942	0.0956	0.2360	0.2296
<b>Medium Skilled Labour</b>	0.1130	0.2517	1.2485	0.2470	0.1220	0.2638	0.2636
<b>High Skilled Labour</b>	0.0576	0.1294	0.1273	1.1260	0.0622	0.1395	0.1376
<b>Firms</b>	1.1548	0.5237	0.5109	0.5006	1.2467	0.6008	0.5811
<b>Least-income Households</b>	0.0106	0.0619	0.0299	0.0174	0.0115	1.0176	0.0172
<b>Low-income Households</b>	0.0253	0.1291	0.0707	0.0387	0.0273	0.0392	1.0383
<b>Middle-income households</b>	0.3275	1.0043	0.9499	0.7429	0.3535	0.4398	0.4319
<b>High-income Households</b>	0.1857	0.3968	0.5056	0.6423	0.2005	0.2381	0.2341
<b>Highest-income Households</b>	0.2690	0.2452	0.2582	0.3581	0.2904	0.1934	0.1884



**Table C2 cont**

<b>Sectors (1)</b>	<b>Middle-income Households (23)</b>	<b>High-income Households (24)</b>	<b>Highest-income Households (25)</b>
<b>Agriculture</b>	0.3417	0.2446	0.2357
<b>Mining &amp; Quarrying</b>	0.0842	0.0856	0.0844
<b>Beverages &amp; Tobacco</b>	0.8868	0.6266	0.6025
<b>Clothing &amp; Textile</b>	0.2096	0.1587	0.1422
<b>Paper, Pulp &amp; Publishing</b>	0.1375	0.1397	0.1483
<b>Petroleum</b>	0.1461	0.1617	0.1631
<b>Basic Chemicals</b>	0.2511	0.2358	0.2274
<b>Metal Manufacturing</b>	0.1066	0.1053	0.1097
<b>Machinery &amp; Equipments</b>	0.2554	0.3049	0.3421
<b>Other Manufacturing</b>	0.1633	0.1571	0.1559
<b>Electricity</b>	0.1140	0.1046	0.0921
<b>Water</b>	0.0443	0.0364	0.0342
<b>Construction</b>	0.0377	0.0368	0.0374
<b>Services</b>	2.7176	2.7150	2.8377
<b>Capital</b>	0.5628	0.5299	0.5414
<b>Unskilled Labour</b>	0.2046	0.1894	0.1922
<b>Medium Skilled Labour</b>	0.2505	0.2452	0.2544
<b>High Skilled Labour</b>	0.1287	0.1249	0.1285
<b>Firms</b>	0.5213	0.4908	0.5015
<b>Least-income Households</b>	0.0156	0.0147	0.0150
<b>Low-income Households</b>	0.0348	0.0328	0.0336
<b>Middle-income households</b>	1.3963	0.3778	0.3877
<b>High-income Households</b>	0.2162	1.2073	0.2131
<b>Highest-income Households</b>	0.1712	0.1625	1.1665



**APPENDIX 4: ADJUSTED 2003 SOUTH AFRICAN SAM**

	<b>AGR</b>	<b>MIN</b>	<b>AGI</b>	<b>TEX</b>	<b>PPP</b>	<b>PET</b>	<b>CHM</b>	<b>HEV</b>	<b>MAC</b>
<b>AGR</b>	51179.44	39	31236.81	614.55	1257.44	1.34	441.12	83.39	206.14
<b>MIN</b>	174.49	84078.39	117.13	23.89	216.72	11935.15	2368.04	9466.06	156.37
<b>AGI</b>	4917.889	60.46	99823.11	1178.62	134.75	0	1103.543	16.90133	8.93
<b>TEX</b>	536.25	450.43	109.4447	33442.74	38.12039	0	240.5841	44.69	770.6393
<b>PPP</b>	322.98	153.46	2824.19	353.0498	41966.02	1.58	1332.618	281.6255	383.1449
<b>PET</b>	2907.73	1256.07	523.55	110.1	270.22	23328.16	5421.384	1399.62	526.35
<b>CHM</b>	4544.83	3254.82	967.39	2557.774	2313.88	362.9285	68996.97	2654.39	2799.127
<b>HEV</b>	585.69	2808.21	2070.35	295.7044	139.56	81.68237	1526.521	94345.85	15303.41
<b>MAC</b>	2005.96	5118.48	517.84	528.7002	779.6	288.96	831.0025	3708.045	115517.9
<b>OHM</b>	430.75	2304.21	2465.59	819.4579	1292.191	30.15	3426.252	766.0711	4075.272
<b>ELE</b>	452.27	3733.23	624.92	279.17	512.28	257.92	1125.73	4665.73	647.06
<b>CON</b>	206.05	841.63	0	0	0	0	0	0	0
<b>SER</b>	9847.098	22060.78	45002.11	22173.53	11432.47	15179.26	26264.49	22238.34	48440.81
<b>WAT</b>	225.71	426.54	217.04	59.88	87.27	21.6	66.96	117.37	23.56
<b>CAP</b>	16839.68	23460.27	14246.86	1415.704	5228.822	8134.283	8438.903	12188.8	7562.646
<b>LABLO</b>	7101.787	16898.2	4972.932	5265.065	1895.607	542.8917	2170.905	7221.988	6627.511
<b>LABMED</b>	1040.271	4365.496	3456.139	922.7977	2733.825	501.1002	2003.79	3996.142	4507.312
<b>LABHI</b>	238.2006	2348.441	2859.657	822.2685	2327.55	855.98	3422.877	2990.921	4937.438
<b>HHLeast</b>	0	0	0	0	0	0	0	0	0
<b>HHLow</b>	0	0	0	0	0	0	0	0	0
<b>HHMiddle</b>	0	0	0	0	0	0	0	0	0
<b>HHHigh</b>	0	0	0	0	0	0	0	0	0
<b>HHHighest</b>	0	0	0	0	0	0	0	0	0
<b>FIRMS</b>	0	0	0	0	0	0	0	0	0
<b>GOV</b>	572.413	717.7823	15482.47	2801.313	1118.757	16620.34	2229.248	972.7189	11652.78
<b>INV</b>	0	0	0	0	0	0	0	0	0
<b>ROW</b>	3419.824	11962.82	10878.17	6646.451	5705.463	4011.269	17012.52	8669.843	70792.9
<b>TOTAL</b>	107549.3	186338.7	238395.7	80310.77	79450.54	82154.6	148423.5	175828.5	294939.3



	OHM	ELE	CON	SER	WAT	CAP	LABLO	LABMED	LABHI
AGR	2292.17	9.71	713.2413	973.9	0	0	0	0	0
MIN	1669.464	3952.16	4173.316	721.4719	0	0	0	0	0
AGI	41.36907	29.74	0	12610.38	0	0	0	0	0
TEX	1304.204	6.35	523.99	2933.951	0	0	0	0	0
PPP	905.4129	28.89	490.88	21499.09	0	0	0	0	0
PET	287.05	103.72	1987.12	19180.95	0	0	0	0	0
CHM	6677.15	64.87	853	13899.83	0	0	0	0	0
HEV	1923.57	180.92	12595.27	7631.274	0	0	0	0	0
MAC	733.3131	1163.26	6059.42	30934.03	0	0	0	0	0
OHM	39579.01	55.75	3261.68	10810.72	0	0	0	0	0
ELE	474.72	28993.26	1067.536	6050.114	0	0	0	0	0
CON	0	1250.87	86746.12	8350.898	0	0	0	0	0
SER	20095.73	1377.614	6128.277	1115810	0	0	0	0	0
WAT	30.45	121.37	91.59	2077.53	0	0	0	0	0
CAP	3027.285	11465.5	8281.711	238502	0	0	0	0	0
LABLO	5307.775	3329.165	8740.542	71106.68	0	0	0	0	0
LABMED	2379.858	1476.14	2711.795	138810.7	0	0	0	0	0
LABHI	1832.052	2314.796	2317.645	58968.61	0	0	0	0	0
HHLeast	0	0	0	0	0	0	6215.792	2482.516	208.9023
HHLow	0	0	0	0	0	0	13335.19	6193.585	457.8611
HHMiddle	0	0	0	0	0	0	85838.35	94550.57	31087.69
HHHigh	0	0	0	0	0	0	25429.51	49466.65	37095.67
HHHighest	0	0	0	0	0	0	10362.2	15211.24	16681.09
FIRMS	0	0	0	0	0	340911.5	0	0	0
GOV	2434.334	684.4455	3099.811	28527.74	18147.24	0	0	0	0
INV	0	0	0	0	0	0	0	0	0
ROW	9071.414	276.1526	591.8585	34922.44	70.87598	27305	0	1000.783	705.217
<b>TOTAL</b>	<b>100066.3</b>	<b>56884.68</b>	<b>150434.8</b>	<b>1824322</b>	<b>18218.11</b>	<b>368216.5</b>	<b>141181</b>	<b>168905.3</b>	<b>86236.43</b>



	HHLeast	HHLow	HHMiddle	HHHigh	HHHighest	FIRMS	GOV	INV	ROW	TOTAL
<b>AGR</b>	1161.373	1873.908	8861.837	2372.792	1606.611	0	0	-5771.77	8396.309	<b>107549.3</b>
<b>MIN</b>	14.68648	18.1452	105.3415	47.31159	20.97652	0	0	1470.733	65608.87	<b>186338.7</b>
<b>AGI</b>	10440.25	16852.28	79871.43	21517.39	14586.28	0	0	-37041.8	12244.17	<b>238395.7</b>
<b>TEX</b>	1175.996	2700.606	19080.48	5965.266	3396.541	0	0	3057.809	4532.683	<b>80310.77</b>
<b>PPP</b>	15.05778	85.67436	2087.359	1853.211	1768.568	0	0	-1406.75	4504.488	<b>79450.54</b>
<b>PET</b>	159.8663	265.381	7150.867	6102.661	4701.724	0	0	2648.263	3823.803	<b>82154.6</b>
<b>CHM</b>	671.6051	1222.933	10502.69	5452.788	3588.556	0	0	4327.503	12710.43	<b>148423.5</b>
<b>HEV</b>	11.5771	36.82683	498.1534	302.6131	233.0671	0	0	6926.326	28331.93	<b>175828.5</b>
<b>MAC</b>	94.77138	341.6139	10846.41	10860.44	10720.69	0	0	73883.72	20005.14	<b>294939.3</b>
<b>OHM</b>	175.1699	600.6077	8687.129	4629.741	3366.27	0	0	1478.518	11811.79	<b>100066.3</b>
<b>ELE</b>	727.8532	899.2652	5220.66	2344.734	1039.584	0	0	-3274.91	1043.556	<b>56884.68</b>
<b>CON</b>	0	0	0	0	0	0	0	52922.5	116.7313	<b>150434.8</b>
<b>SER</b>	2687.07	6969.896	88084.79	57292.87	49661.34	0	192114	28750.64	32711.16	<b>1824322</b>
<b>WAT</b>	0	0	0	0	0	0	15129.07	-519.754	41.92777	<b>18218.11</b>
<b>CAP</b>	0	0	0	0	0	0	0	0	9424	<b>368216.5</b>
<b>LABLO</b>	0	0	0	0	0	0	0	0	0	<b>141181</b>
<b>LABMED</b>	0	0	0	0	0	0	0	0	0	<b>168905.3</b>
<b>LABHI</b>	0	0	0	0	0	0	0	0	0	<b>86236.43</b>
<b>HHLeast</b>	0	0	0	0	0	1399.727	7212.135	0	20.44769	<b>17539.52</b>
<b>HHLow</b>	0	0	0	0	0	3725.615	9571.705	0	45.43085	<b>33329.39</b>
<b>HHMiddle</b>	0	0	0	0	0	56383.88	12842.85	0	142.6527	<b>280846</b>
<b>HHHigh</b>	0	0	0	0	0	33236.89	1229.209	0	17.55192	<b>146475.5</b>
<b>HHHighest</b>	0	0	0	0	0	71667	164.7356	0	4.916807	<b>114091.2</b>
<b>FIRMS</b>	0	0	0	0	0	0	2199.904	0	0	<b>343111.4</b>
<b>GOV</b>	195.0689	1440.441	39085.72	26950.41	18801.36	35767.22	211640.9	0	173	<b>439115.5</b>
<b>INV</b>	9.104741	21.42932	739.6052	725.4737	555.3871	140842	-18840	3248.039	3398	<b>130699.1</b>
<b>ROW</b>	0.074399	0.380314	23.52336	57.78476	44.23717	89	5851	0	0	<b>219109</b>
<b>TOTAL</b>	<b>17539.52</b>	<b>33329.39</b>	<b>280846</b>	<b>146475.5</b>	<b>114091.2</b>	<b>343111.4</b>	<b>439115.5</b>	<b>130699.1</b>	<b>219109</b>	<b>6032173</b>