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APPENDIX A

Energy values for NEB analyses

Table A.1 Energy values for net energy balance analyses

Parameters	Values	Data source
N-fertilizer	78.25 MJ/kg	[88]
P_2O_5-fertilizer	17.51 MJ/kg	[88]
K_2O fertilizer	13.81 MJ/kg	[88]
Herbicide	454 MJ/kg A.I.	[89-90]
Diesel	44 MJ/litre	Energy content fuel [86] multiplied by
Coal	24.66 MJ/kg	Input efficiency coefficient [87]
Electricity	10 MJ/kWh	kWh multiplied by overall efficiency of power production in Thailand [86]
Sugar	16.33 MJ/kg	[86]
Bagasse	7.35 MJ/kg	[86]
Corn cob	12.68 MJ/kg	[86]
Biogas	22 MJ/Nm3 biogas	[86]
Labor (farming)	12.1 MJ/hour	[85]
Ethanol	21.2 MJ/litre	[85]
Oil palm seed	0.99 MJ/kg	[97]
Palm fibre	17.62 MJ/kg	[97]
Palm shell	18.46 MJ/kg	[97]
Palm kernel	17 MJ/kg	[97]
Empty fruit bunches	17.86 MJ/kg	[97]
Methanol	30.29 MJ/kg	[101]
Sodium hydroxide (NaOH)	18.25 MJ/kg	[102]
Biodiesel	38.07 MJ/kg	[97]
Glycerol	18.05 MJ/kg	[97]

APPENDIX B

Classification of LCC of biofuels

Table B.1 Classification of life cycle cost of cassava ethanol in Thailand

Descriptions	During yr 2006-2008		
	Maximum	Minimum	Average
Gasoline (ex-refinery prices)	29.61	9.43	19.31
Cassava prices (THB/ton fresh roots)	1730	1180	1400
Dried chips cost (THB/ton)	4477	3102	3652
LCC of cassava ethanol (calculation)			
Feedstock costs	13.45	9.32	10.97
Ethanol conversion costs	7.34	7.34	7.34
Profit margin	2.08	1.67	1.83
Transportation costs	0.25	0.25	0.25
Cassava ethanol costs (THB/litre)	23.12	18.57	20.39

Table B.2 Classification of life cycle cost of molasses ethanol in Thailand

Descriptions	During yr 2006-2008		
	Maximum	Minimum	Average
Gasoline (ex-refinery prices)	29.61	9.43	19.31
Molasses prices (THB/kg)	4.0	2.0	3.5
LCC of molasses ethanol (Calculation)			
Feedstock costs	16.00	8.00	14.00
Ethanol conversion costs	6.13	6.13	6.13
Profit margin	2.21	1.41	2.01
Transportation costs	0.25	0.25	0.25
Molasses ethanol costs (THB/litre)	24.59	15.79	22.39

Table B.3 Classification of life cycle cost of palm biodiesel in Thailand

Descriptions	During yr 2006-2008		
	Maximum	Minimum	Average
Diesel (ex-refinery prices)	25.65	18.99	21.21
Oil palm (THB/ton FFB)	4230	2390	3,563
CPO (THB/ton)	28975	15771	23,061
LCC of palm biodiesel (Calculation)			
Feedstock costs	30.85	16.79	24.55
Conversion costs	7.65	7.65	7.65
Profit margin	3.85	2.44	3.22
Transportation costs	0.03	0.03	0.03
Biodiesel costs (THB/litre)	42.38	26.92	35.45

APPENDIX C

Aggregated Input-Output tables and Coefficients used in the analyses

Table C.1 Definitions of sectors for the new aggregated IO tables (50x50 sectors) compared to the convential IO tables (180x180 sectors) of NESDB [147]

	Agrreated sectors (50 x 50 Sectors)	Former sectors in conventional Thai IO tables (based on 180x180 sectors) and Definitions
001	Paddy, Maize and Cerials	(001-002, 003)
002	Cassava and Other Root Crops	(004-005)
003	Sugarcane	(009)
004	Oil Palm	(011)
005	Rubber (Latex)	(016)
006	Vegeables, Fruits and Others	(006-008, 010, 012-015, 017, 023-024)
007	Livestock	(018-022)
008	Forestry	(025-027)
009	Fishery	(028-029)
010	Coal and Lignite	(030)
011	Petroleum and Natural Gas	(031)
012	Metal Ore	(032-035)
013	Non-Metal Ore	(036-041)
014	Processing, Preserving of Foods and Slaughtering	(042-048)
015	Rice and Other Grain Milling	(049-052)
016	Sugar Refineries	(055)
017	Other Foods	(053-054, 056-060)
018	Animal Food	(061)
019	Distilling, Breweries and Beverages	(062-064)
020	Tobacco Processing and Products	(065-066)
021	Spinning, Weaving , Bleaching and textile Industry	(067-077)
022	Saw Mills and Wood Products	(078-080)
023	Paper Products and Printing	(081-083)
024	Basic Chemical Products	(084)
025	Fertilizer and Pesticides	(085)
026	Resins, Plastics and Other Chemical Products	(086-092, 098)
027	Petroleum Refineries	(093-094)
028	Rubber, Tyres and Other Rubber Products	(095-097)
029	Cement and Concrete Products	(102-103)
030	Other Non-metallic Products	(099-101, 104)
031	Iron and Steel	(105-106)
032	Non-ferrous Metal	(107)
033	Fabricated Metal Products	(108-111)
034	Industrial Machinery	(112-115)
035	Electrical Machinery and Apparatus	(116-122)
036	Motor Vehicles , Motorcycle and Other Carriages	(125-126)
037	Other Transportation Equipment	(123-124, 128)

	Agrreated sectors (50 x 50 Sectors)	Former sectors in conventional Thai IO tables (based on 180x180 sectors) and Definitions
038	Other Manufacturing Products	(129-134)
039	Electricity	(135)
040	Pipe Line	(136)
041	Water Supply System	(137)
042	Constructions	(138-144)
043	Trade and Reparing of Motor Vehicle	(127, 145-146)
044	Restaurants and Hotels	(147-148)
045	Transportation	(149-156)
046	Post and Telecommunication	(159)
047	Banking and Insurance	(160-162)
048	Silo, warehouse, Real-estate and Business Service	(157-158, 163-164)
049	Education, Hospital and Public Services	(165-169)
050	Other Services and unclassified	(170-180)
190	Total Intermedite Transaction	This is the sum of sectors 001 to 180
201	Wages and Salaries	This sector covers compensation by employers to employees both in cash and in kind. Employees are classified as long-term workers, temporary workers, temporary workers, executives and hired laborers in the agricultural sector, but not family workers.
202	Operating Surplus	The operating surplus is defined as the total value added including business income tax, minus wages and salaries, depreciation and indirect taxes, less subsidies.
203	Depreciation	Depreciation consists of capital consumption allowances for all fixed assets. The imputation of depreciation of government buildings is describe in the public administration sector and that of self-occupied dwellings is in real estate sector. The depreciation on fixed assets for leasing such as computers is shown in the sector of owner of fixed assets for leasing such as computers is show in the sector of owner of fixed assets.
204	Indirect Taxes less Subsidies	Indirect taxes cover the domestic commodity sales tax, export duty, licensing frees, service tax of hotels, restaurant and the like, duty stamps and special commodity tax such as those on automobiles, electrical equipment, alcoholic drinks, cigarettes, petroleum products, etc.
209	Total Value Added	This is sum of all the primary inputs from 201 to 204.
210	Control Total	This is sum of total intermediate transactions and value added.
310	Total Demand	This is the sum of Total Intermediate transactions (190) and Total Final Demand
409	Total Imports	This is the sum of imports, import duty, import tax and special imports
600	Control Total	This is sum of total intermediate transactions and final demands which indicates the output distribution of the table and is equal to codes 310 + 409 +Total margin and transportation cost (509).

Table C.2 New aggregated Thai Input-Output tables (50x50 sectors) [Unit: Thousand Thai Baht]

	001	002	003	004	005	006	007	008	009	010	011	012	013	014
001	9243724	0	0	0	0	1343900	4367044	0	0	0	0	0	0	264158
002	0	4502365	0	0	0	0	8374	0	0	0	0	0	0	21941
003	0	0	2115248	0	0	0	0	0	0	0	0	0	0	0
004	0	0	201805	0	0	0	0	0	0	0	0	0	0	21209631
005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
006	6469299	1567256	1323644	438636	1462745	35064993	2915043	570750	515530	0	0	0	0	61229047
007	0	0	0	0	0	0	10602034	0	0	0	0	0	0	128588720
008	8900	0	0	0	0	247403	12026	720888	3751	213	0	0	156828	323561
009	0	0	0	0	0	0	4706920	0	5458279	0	0	0	0	68931584
010	0	0	0	0	0	0	0	0	0	0	0	0	0	0
011	0	0	0	0	0	0	0	0	0	0	11294871	0	0	0
012	0	0	0	0	0	0	0	0	0	0	0	0	0	0
013	0	0	0	0	0	37344	88362	0	11815	0	105549	0	0	468387
014	0	0	0	0	0	0	0	0	0	0	0	0	0	93897681
015	0	0	0	0	0	0	956311	0	541152	0	0	0	0	919173
016	0	0	0	0	0	0	13005299	0	0	0	0	0	0	9177930
017	0	0	0	0	5983	0	0	0	3648359	0	0	0	0	6448584
018	0	0	0	0	0	0	50207419	0	16642861	0	0	0	0	0
019	0	0	0	0	0	0	0	0	0	0	0	0	0	4209
020	0	0	0	0	0	0	91	0	250	0	0	0	0	109
021	214574	24793	0	7651	226754	517712	39071	53893	670999	415	0	0	18601	84055
022	10794	2493	0	8969	2617	1762409	135722	60489	48543	0	0	0	86171	162512
023	0	0	0	0	6366	405096	104724	12237	17760	10815	71809	22762	13472	3446547
024	0	0	0	5202182	2135808	3093432	3762	0	1807139	1293	96944	41067	851963	3004262
025	37400081	2685119	3530972	4160	13850159	37335443	0	78547	7400	0	0	0	0	0
026	61508	30029	1240	0	73167	5259652	8158200	70461	3334924	0	409070	134249	280577	6296444
027	5067559	149840	874534	900573	227932	17608767	2140339	227777	25239727	1259602	27971675	121577	5214312	6986773
028	3719	0	0	0	10140	399974	707	209	3379	0	23125	0	35824	1733
029	6638	0	0	35379	269	45438	23217	0	127914	0	0	0	2011	0
030	0	0	0	0	269675	278819	1610	68715	557	0	0	303	14137	33950
031	3691	0	0	0	0	0	2309	24475	129	0	0	9554	14123	227844
032	0	0	0	0	11099	0	0	0	0	0	0	0	0	1500049

	001	002	003	004	005	006	007	008	009	010	011	012	013	014
033	2626759	581906	370295	994385	1909812	7536539	845498	1201540	50055	10289	0	38234	1236332	23036194
034	910860	45468	395430	39370	460718	3274839	372879	508826	1107634	268296	3191290	11054	1327807	2851949
035	0	0	0	0	8607	193472	204037	66560	41526	692	307091	2149	89313	388420
036	0	0	0	0	0	794	215	0	0	0	0	0	0	9955
037	0	0	0	0	0	0	0	0	2972732	0	353752	100	0	0
038	0	0	0	0	27228	208366	162777	24216	36020	6525	592340	2475	65705	271087
039	21243	0	0	0	316429	437729	1339255	22121	493699	80819	1422154	19440	1235182	8358194
040	0	0				86393	6295	0	15833	0	0	0	919	151086
041	0	0			15042	8298	10259	2347	672	40	3014	48	871	582315
042	21537	1263	404	0	4423	66357	237794	17260	184252	4574	69693	1066	104845	235557
043	63427	19200	14419	1764	88992	3077104	406837	180018	39246	9597	1363810	124915	4407131	1211525
044	0	0	0	0	6885	850492	7444	329905	2359	3649	259192	11804	252125	875182
045	3981	12383	57555	2077	48266	2063642	244576	106306	3140	1562966	712873	211601	2205107	1322627
046	0	0	0		32864	2031387	72752	14463	5958	27508	171443	50392	161103	1306462
047	5116924	1696884	759404	357138	3472565	7771464	2613061	160213	2174205	70599	789220	39546	1038097	7613690
048	675	0	0	0	67859	1901780	21562	3240	280369	13565	28749001	17651	262632	7164012
049	0	0	0	0	14920	2014	0	0	0	876	13386	278	719	222331
050	54350	623	218301	30005	274295	1148174	580582	120330	444572	4034	305075	2283	78110	2920264
190	67310243	11319622	9661446	8224094	25031619	134098187	104604316	4645786	65932740	3336687	78276377	864458	19154017	471749734
201	48663404	7103619	6792303	3088575	27531630	44472283	16920440	8961525	16519871	1682125	40476370	418176	7867694	36210880
202	83340499	6511786	6072598	7770517	100283821	139394915	54938712	6802263	48377898	4973235	69239856	1045389	18172985	65888729
203	4542655	283313	275690	123067	7201682	15538283	2894965	460749	10180801	296916	31030613	124368	2706569	15689083
204	573	56	8133	27	177	802	61915	321481	14619	7109	27701696	53661	1117239	1185671
209	136547131	13898774	13148724	10982186	135017310	199406283	74816032	16546018	75093189	6959385	168448535	1641594	29864487	118974363
210	203857374	25218396	22810170	19206280	160048929	333504470	179420348	21191804	141025929	10296072	246724912	2506052	49018504	590724097

Table C.2 (Cont'2) New aggregated Thai Input-Output Tables (50x50 sectors) [Unit: Thousand Thai Baht]

	015	016	017	018	019	020	021	022	023	024	025	026	027
001	189650099	0	17254	12968355	426906	0	0	0	345720	0	0	155944	0
002	17520145	389	544837	193102	0	0	0	0	0	0	0	1054	0
003	0	24945865	0		0	0	0	0	0	0	0	139	0
004	0		0		0	0	0	0	0	0	0	0	0
005	0		0		0	0	0	0	0	0	0	0	0
006	1338713	203857	10709340	1035455	5767325	2767469	26985179	25192	384512	0	43826	4728079	0
007	0	0	1570488	0	0	0	2441671	0	0	0	52076	1450261	0
008	52767	24239	278869	23747	1406	16204	236990	26782687	2664671	353	50019	1630562	86
009	0	0	2188884	2792723	0	0	0	0	0	0	0	3412670	0
010	0	7253	243211	38603	0	19539	70015	0	558134	263318	0	0	0
011	0	0	0	0	0	0	0	0	0	0	0	11474536	650019205
012	0	0	0	0	0	0	0	0	0	0	0	603732	0
013	0	762	611422	5550	2480	0	119156	41491	31621	88831	0	2730939	1771
014	19386		9716643	24213246	392411	0	9322558	0	136200	457959	1264428	4295647	243076
015	14245241	1452610	15009559	1817571	2918869	0	424126	26908	703381	355847	638	2309688	0
016	2693	3811016	6179839	114340	18612476	539	0	0	561990	29398	103174	402602	0
017	117237	0	24593659	35990	2365528	0	0	0	10706	0	0	539447	0
018	0	0	0	7660841	0	0	0	0	0	0	0	47128	0
019	920	0	14353	0	27684598	4912565	0	0	0	0	0	76405	0
020	0	0	0	0	0	0	0	0	0	0	0	0	0
021	408439	287366	14512	11585	213378	662	385899397	2042023	310268	280637	83938	8268381	17067
022	14370	12422	88657	6212	97277	654	177557	49266406	68383	115892	3860	911349	2046
023	119608	23055	1428546	67818	2210653	1278420	5939391	1576999	79166917	138601	70187	6505046	136079
024	316380	1133303	1354778	444156	11121216	49848	17989103	806043	5735380	12577152	7625228	58950825	3090449
025	0	0	10550		1709	0	0	4574	0	0	2965923	0	0
026	895227	984008	4508118	955070	11235101	75344	70637341	14869096	18231563	435437	747257	264231529	2548283
027	1841177	1217075	2990120	407079	4425281	139712	9670737	1718455	2151530	1900718	221273	21372856	56140663
028	4122	0	1375	0	1380	0	9645530	62564	43912	5158	0	2831633	0
029	110	197579	0	0	2258	0	2264	201621	30677	0	0	0	0
030	0	35311	621874	0	8901337	0	89762	688478	555	107539	154807	2029771	50
031	0	0	0	0	0	0	0	25278	2679	19002	0	316177	0
032	2992	0	39468	0	0	68590	0	1189253	266926	11494	52532	52532	7341

	015	016	017	018	019	020	021	022	023	024	025	026	027
033	82564	306570	934226	1001	23872935	5553	5371063	4824544	1489463	244368	2183	4160344	422399
034	1316654	2212079	1351919	159548	2145200	135802	5908563	2413156	3009011	483805	313203	6369584	826097
035	49064	38213	105471	7668	132392	642	672190	135719	212288	21419	14519	447312	44023
036	432	0	247	0	44155	30	10308	0	947	0	0	3167	0
037	0	0	0	0	0	0	0	0	0	0	0	0	0
038	81149	14746	168560	106875	70478	4337	33837690	815425	316887	22794	16972	2066583	103205
039	8977122	1303404	7784311	936597	2167867	218634	47980265	5890328	3988574	1345277	207538	21791571	2039683
040	1451	213574	122543	1322	0	0	167512	16212	77811	316451	32303	19191215	897848
041	105713	91848	592655	44974	414395	9037	1066406	208358	500927	73285	97113	1094233	110562
042	26561	56843	79636	18460	69855	13173	545122	108662	194983	6384	20871	683756	54311
043	154482	125641	374675	36807	1368679	1590	1241066	622982	247410	127577	50789	1325339	261562
044	67850	75142	198248	52020	317859	4950	4412995	417255	879491	104246	72360	1690002	212665
045	565380	138787	428326	158009	1194668	14034	2138775	790098	1066908	98674	159361	3375470	447505
046	453698	138964	554258	312100	581880	9894	3071803	553819	1318245	165434	153551	3871501	986921
047	2862519	2354929	2122481	766475	3743839	169576	17375297	5012413	2884167	611148	480728	12570866	1426971
048	836875	784688	3089282	683518	8175513	317808	11021686	2623043	4672214	551737	784199	10535776	1161667
049	8610	25726	292001	11531	316610	0	783695	36723	448152	51338	0	1350243	124358
050	275692	217547	1037474	222134	2348987	263166	6909442	564546	527005	159131	36423	1875797	590078
190	242415442	42434811	101972669	56271879	143385504	10497822	682292868	124360351	133240208	21170404	15828747	491731691	721915971
201	17203902	7646926	15065048	2695384	19192722	3695516	110168428	28318430	17665350	2802812	1235338	72309279	17896938
202	22857058	17428993	27157716	5930149	44251857	6650092	153437758	34655949	35102479	6534425	2941532	115166343	31603102
203	3588794	5572710	7081934	431462	13505798	755634	43088335	8799805	8011303	2898994	536180	25050285	14676107
204	801302	2233942	853717	166487	87196518	30470924	8152043	701152	1385384	66752	57647	1902082	98482542
209	44451056	32882571	50158415	9223482	164146895	41572166	314846564	72475336	62164516	12302983	4770697	214427989	162658689
210	28686498	75317382	152131084	65495361	307532399	52069988	997139432	196835687	195404724	33473387	20599444	706159680	884574660

Table C.2 (Cont'3) New aggregated Thai Input-Output Tables (50x50 sectors) [Unit: Thousand Thai Baht]

	028	029	030	031	032	033	034	035	036	037	038	039	040
001	0	0	80	0	0	0	0	0	0	0	502146	144712	0
002	0	0	0	0	0	0	0	0	0	0	0	0	0
003	0	0	0	0		0	0	0	0	0	0		
004	0	0	0	0		0	0	0	0	0	0		
005	100306906		0	0		0	0	0	0	0	42757		0
006	0	0	0	0		0	0	0	0	0	82479	0	0
007	0	0	0	0		0	0	0	0	0	56817	0	0
008	387271	0	931822	15822	34582	22596	0	0	0	65981	178923	181403	0
009	0	0	0	0	0	0	0	0	0	0	74464	0	0
010	0	9595901	1796	10865	2504734	0	21922	0	0	0	13794	12550921	0
011	0	0	0	0		0	0	0	0	0	0		0
012	0	28238	547145	30105	15757225	0	0	0	1363	0	741429	64370621	135284563
013	286802	25017084	16572610	1164622	419086	91189	616745	221810	1639463	148188	6160569	25693	0
014	0	0	0	0	0	0	0	0	0	0	4002173	0	0
015	11552	0	905515	0	0	0	0	40539	0	7617	0	0	0
016	0	0	0	0		0	0	0	0	0	0		
017	0	0	0	0		0	0	0	0	0	0		0
018	0	0	0	0		0	0	0	0	0	0	0	
019	0	0	0	0		0	0	0	0	0	0		0
020	0	0	0	0		0	0	0	0	0	0	0	0
021	7442643	120519	900643	191188	0	149078	270153	2074578	2599484	1509342	15906933	147730	0
022	108280	97818	649532	133726	8099	1671593	1092780	2114066	1712844	1193772	3338797	0	5193
023	298758	1573420	879448	742279	157753	642546	780867	4241453	4131855	72878	4964297	515576	74042
024	14594633	1258810	8102390	6843210	359705	1229419	2098124	14329276	5114815	434471	7894476	1535666	24645
025	0	0	0	0	0	0	0	0	0	0	2429		
026	18880737	3597070	15404944	1211786	452502	10085187	6546297	59462246	35740426	3450643	22576292	302575	8661
027	5031120	8869318	8335341	10260772	1875982	3726632	9819305	8527517	8582788	2024079	3773177	56268368	594823
028	26300530	104	93509	4126	18488	110582	1093417	3374314	30672197	270367	3498337	0	0
029	0	15289098	8299606	32490	114794	0	338	0	0	0	0	0	0
030	0	20533	6380860	316589	0	662899	3082504	22165546	5237721	722897	8040274	0	0
031	407207	7574603	177392	164620343	76600	100758292	32003995	75431681	125848717	10465802	5021279	0	0
032	7106	0	14984	3071409	9938644	26479425	10273662	42461260	21356029	941446	103190137		0

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	028	029	030	031	032	033	034	035	036	037	038	039	040
033	2113969	105897	1040350	1303539	17171	10252458	20002639	23075064	24192795	4018162	3837809	598826	662354
034	855851	1639009	2498506	2627907	336745	1351175	98262839	10774529	95831756	6836503	2997160	2948897	1068626
035	65808	112503	331777	247506	10104	169740	8056035	1079752562	60562922	2325615	2137326	15297637	61456
036	0	0	0	0	0	0	576556	728251	288374867	102130	21187	0	0
037	0	0	0	132	0	0	0	0	0	20677945	0	0	0
038	501821	413914	167563	418901	33479	178211	1436182	9676528	3438722	192877	161207815	294497	78195
039	6042110	13391483	6156151	19548781	1335614	3102182	5248010	18189222	17089683	1736215	6175014	19516115	1599533
040	13579	636620	4206750	616494	267308	662342	319105	1139335	452646	117893	416037	72203955	21314119
041	168178	333582	194590	237202	14404	115764	113709	1445879	475882	29221	410475	85162	141734
042	177526	223034	344657	162762	55807	61580	218329	1283300	612949	45896	265712	654399	109476
043	280624	614653	502830	246721	65814	333668	1108544	1281787	714041	208198	1852010	718109	54094
044	208456	399801	246687	409773	51757	290414	809175	1748333	1965213	209324	1493745	730042	480680
045	295462	665512	434476	1044234	25657	1030253	1192160	3283957	3257138	524860	3809983	873745	333112
046	612811	1025809	1370853	783183	135201	849682	2292801	4911981	5452448	370762	4661733	1233018	515224
047	3082877	3646287	4671467	6291166	759609	3271667	3500620	7636845	10668994	1810994	6886428	19376431	4799800
048	1832772	1152914	6169732	1209627	213890	1822759	2325841	11366842	8500737	1291667	5761570	1569346	1045355
049	63822	499925	548781	374590	29090	100814	43079	1365054	641753	634	281730	374754	524330
050	594325	952595	786860	717043	182288	598994	626000	4473580	7519654	899651	1867620	5078655	1704693
190	190973536	98856054	97869647	224888893	35252132	169821141	213381733	1416577335	772389902	62706030	394145333	277596853	170484708
201	17675791	15103937	13149490	21229883	4466729	20853309	25705868	79392416	55548015	13566862	48572420	102279756	6920797
202	23438827	38515914	17392685	31141556	5918076	38824488	35779627	176354571	107205362	14913029	70661085	80022401	9257842
203	7899831	11504241	9352169	9222337	2317464	7229202	14293554	60009936	31710579	3279619	14908314	68636186	15952404
204	805526	282462	509285	384761	107158	371204	597336	10404339	34932192	232218	5012019	7131674	14358166
209	49819975	65406554	40403629	61978537	12809427	67278203	76376385	326161262	229396148	31991728	139153838	258070017	46489209
210	240793511	164262608	138273276	286867430	48061559	237099344	290208118	1742738597	1001786050	94697758	533299171	535666870	

Table C.2 (Cont'4) New aggregated Thai Input-Output Tables (50x50 sectors) [Unit: Thousand Thai Baht]

	041	042	043	044	045	046	047	048	049	050	190	310	409	600
001	0	0	0	1073192	0	0	0	0	2761	201124	220707119	222609029	-11247026	203857374
002	0	0	0	986838	0	0	0	0	65519	819079	24663643	27039518	-265531	25218396
003	0	0	0	28034	0	0		0	14322	82950	27186558	27189038	0	22810170
004	0	0	0	0	0	0	0	0	0	0	21411436	22478154	-230176	19206280
005	0	0		0	0		0	0	0	0	100349663	175259597	-61084	160048929
006	0	185278	7001	59823762	993527	727	440884	716435	6737845	5791355	240325183	644826709	-62051010	333504470
007	0	0	0	3436500	0	0	0	0	474268	324960	148897795	205295503	-4088665	179420348
008	0	2535394	0	2011220	0	0	792	7067	34845	174885	39820683	38400745	-7672808	21191804
009	0	0	0	28883689	0	0	0	17315	1239858	142544	117848930	202779145	-1207078	141025929
010	0	0	0	685	0	0	0	0	0	137123	2603814	26860801	-15512368	10296072
011	0	0	0	0	0	0	0	0	0	0	872443796	1044454538	-797729626	246724912
012	0	0	0	0	0	0	0	0	0	515936	18345625	14790373	-12078596	2506052
013	33028	51590275	0	7035	29280	0	0	0	13579	822471	110942382	81674590	-8138304	49018504
014	0	0	0	75322369	278437	0	0	1413	3606151	4977640	231245904	785399775	-126912869	590724097
015	0	0	0	18429421	125461	0	0	0	2226717	4463446	79979200	328853939	-1708386	286866498
016	0	0	0	1225293	23479	0	0	0	306951	157150	40708870	82558486	-1262410	75317382
017	0	0	4040123	26451952	1268755	0	51226	24022	2067770	912673	72582014	210267006	-21453264	152131084
018	0	0	0	1395363	0	0	0	0	120394	792222	76866228	83127973	-8410392	65495361
019	0	0	1056006	52279014	3889094	1869	699942	138966	39086	3753005	89637808	407348907	-35917323	307532399
020	0	0	7568	3336056	0	0	37111	0	0	473104	8766513	77165472	-17975905	52069988
021	23833	520658	20226552	6714247	3555640	5646	3494076	517369	1870608	10033860	477970951	1316856506	-157833062	997139432
022	0	20162963	3684366	368829	33262	0	291428	1419454	594565	1436174	93163345	295016732	-28702842	196835687
023	37879	595508	11969824	1450356	2567384	857855	19416624	32181774	21329664	5921374	218176322	345790100	-87826485	195404724
024	1105705	639798	0	6063	4725	0	0	13162	2867469	3168922	203855015	245411834	-181396382	33473387
025	0	95396	0	1578	0	0	0	9553	270	1981545	105163430	102633459	-46170637	20599444
026	262234	15716661	34374923	7831426	2524444	236086	3601387	1791692	55732773	23099158	737357205	1468571419	-378147966	706159680
027	181263	14272066	19746764	11846375	295029480	2065362	3755822	11278517	13354511	7307870	704714915	1171483138	-146921601	884574660
028	2612	4906638	373223	31862	14420959	10918	15275	1039154	787870	4327531	104426547	332746159	-24637495	240793511
029	42589	105999015	0	0	6157	0	0	115227	27740	1441853	132044282	187593042	-797821	164262608
030	0	46133600	1113920	1850417	16784	0	110701	32537	143608	2693858	112022582	215089970	-37661875	138273276
031	11934	72746264	61812	1635	259363	0	0	206614	5141	3867553	600319937	741088520	-400486445	286867430
032	4814	6537448	0	9590	0	0	0	17503	73797	1859795	229386793	294415212	-223902656	48061159

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	041	042	043	044	045	046	047	048	049	050	190	310	409	600
033	101366	33417255	972008	1653077	1804311	376496	224530	507572	1760290	8589142	222782131	442763372	-166493541	237099344
034	49953	5519544	102967	749925	3178100	725848	2331	1897630	165888	4212889	286045619	822426508	-399760084	290208118
035	97702	46726217	7598633	5119797	2748290	7226187	4749194	2119584	2289742	35762081	1286751205	3339148174	-1253058823	1742738597
036	10448	582	588030	0	4297439	0	0	45313	0	78	294815263	1149230042	-240276942	818923939
037	0	8926	0	0	16724272	0	0	0	962	1569	40740258	198382497	-90104598	94697758
038	333326	931653	2542404	602997	1219121	268962	2180658	2834356	8768091	15785926	252528639	934399688	-277140069	533299171
039	5967007	5225215	45776376	44326949	5082833	8740284	7882959	13363395	20126591	12389005	406388163	535703488	-36618	535666870
040		8315	58766	5159918	2303296		707	3428	412242	888179	132499802	222294739	-20149	216973917
041	740264	159123	929198	1568569	509819	427159	76224	873762	300538	821388	15204238	37701410	-537	37700873
042	8955	358163	964688	1213720	198460	224126	1040901	1958049	643671	856308	14510110	645726716	-278614	645443154
043	24651	2933920	5882019	548287	83264795	891337	1290800	1010406	2990914	1862451	125627257	188966450	-76154	2390152163
044	29897	4198024	52946200	1070441	5737581	1118381	4494754	6173998	3485945	2398712	101801453	777239394	-111410710	665828684
045	42437	31927053	36326420	984044	75568850	5633843	5401948	8274157	3389345	7810118	211261859	700941242	-84757585	881762562
046	58687	1037339	26501861	10080986	6162399	47446772	16748445	8411069	3714600	17767244	178191308	315901659	-43104584	272797075
047	3047255	9011346	96288759	9245627	22581384	14730294	39674488	18942131	3251176	6751956	385982020	485292847	-7407567	477885280
048	197936	8979692	24072564	9091816	33817710	8291388	13464330	18624302	4065139	8389776	256978057	585024861	-52635827	532389034
049	259199	525077	206026	1970881	1029435	935492	1659193	2548096	2738510	1598268	22022044	897574393	-26244597	871329796
050	243662	1768079	24620903	2739695	3685333	6045401	8421704	69391495	3381035	39559013	207066698	456421616	-47265619	409155997
190	12918636	495372485	423039904	400929530	594939659	106260433	139228434	206506517	175222761	257125263	10728664612	24159914485	-5648450706	18511463779
201	9050816	57483976	452742777	69941603	122422541	48215456	112950371	59294309	589437961	60133915	2588743966	2588743966	0	258743966
202	8038012	56738950	1120105357	129755321	101502875	73539845	166400688	132674086	59497487	45228202	3659436942	3659436942	0	3659436942
203	6147915	31324151	143828104	34483830	60271437	42992281	34319760	98451460	53263581	18785832	1005530282	1005530282	0	1005530282
204	1545494	4523592	67573910	30718400	2626050	1789060	24986027	35462662	-6091994	27882785	529087977	529087977	0	529087977
209	24782237	150070669	1784250148	264899154	286822903	166536642	338656846	325882517	696107035	152030734	7782799167	7782799167	0	7782799167
210	37700873	645443154	2207290052	665828684	881762562	272797075	477885280	532389034	871329796	409155997	18511463779	3194271652	-5648450706	26294262946

Table C.3 Technical coefficient matrix or Inverse matrix $(I-A)^{-1}$

	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023	024	025
001	1.05	0.00	0.00	0.00	0.00	0.01	0.17	0.00	0.04	0.00	0.00	0.00	0.00	0.05	0.73	0.02	0.10	0.28	0.01	0.00	0.00	0.00	0.01	0.01	0.01
002	0.00	1.22	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
003	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.38	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
004	0.00	0.00	0.00	1.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00
005	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06	0.01	0.01	0.00	0.00
006	0.04	0.09	0.07	0.03	0.01	1.12	0.06	0.03	0.02	0.00	0.00	0.00	0.00	0.16	0.04	0.03	0.12	0.10	0.03	0.00	0.01	0.00	0.00	0.00	0.01
007	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.02	0.00	0.00	0.00	0.01	0.29	0.00	0.00	0.04	0.12	0.00	0.00	0.00	0.19	0.03	0.00	0.00
008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
009	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	1.06	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.03	0.12	0.00	0.00	0.00	0.00	0.01	0.00	0.01
010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.09	0.07	0.00	0.00	0.00
011	0.05	0.03	0.07	0.08	0.02	0.08	0.06	0.03	0.20	0.17	1.17	0.10	0.14	0.09	0.06	0.06	0.09	0.08	0.06	0.01	0.01	0.00	0.08	0.00	0.11
012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
013	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.02	0.00	0.01	0.00	0.08
014	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.07	0.00	0.00	0.00	0.00	1.24	0.00	0.00	0.10	0.53	0.00	0.00	0.00	0.00	0.00	0.02	0.00
015	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.01	0.00	0.00	0.00	0.00	0.03	1.05	0.02	0.13	0.05	0.02	0.00	0.00	0.00	0.01	0.14	0.01
016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	1.05	0.05	0.01	0.07	0.00	0.00	0.00	0.00	0.01	0.01
017	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	1.20	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
018	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.15	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.02	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00
021	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	1.64	0.03	0.01	0.03	0.02
022	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.00	0.01	0.01
023	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.03	0.01	0.01	0.03	0.02	0.03	0.05	0.03	0.03	1.70	0.03	0.03
024	0.14	0.11	0.13	0.20	0.09	0.12	0.05	0.02	0.05	0.01	0.01	0.05	0.04	0.07	0.11	0.08	0.07	0.09	0.10	0.01	0.09	0.04	0.13	1.62	0.72
025	0.23	0.16	0.21	0.32	0.10	0.15	0.05	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.17	0.08	0.04	0.08	0.01	0.01	0.01	0.00	0.00	0.00	1.17

	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023	024	025
026	0.03	0.03	0.03	0.04	0.01	0.05	0.11	0.02	0.06	0.01	0.01	0.10	0.03	0.08	0.03	0.04	0.09	0.07	0.10	0.02	0.22	0.19	0.27	0.05	0.11
027	0.06	0.04	0.08	0.10	0.02	0.10	0.07	0.03	0.25	0.22	0.15	0.11	0.17	0.10	0.06	0.07	0.09	0.09	0.06	0.01	0.07	0.06	0.07	0.15	0.11
028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
029	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.01	0.00	0.01	0.00	0.01	0.01
031	0.03	0.04	0.04	0.07	0.02	0.04	0.03	0.08	0.03	0.02	0.01	0.04	0.05	0.08	0.03	0.04	0.04	0.05	0.11	0.00	0.03	0.07	0.04	0.04	0.04
032	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.00	0.03	0.02	0.01	0.01	0.01
033	0.02	0.03	0.03	0.06	0.02	0.03	0.02	0.07	0.01	0.01	0.00	0.02	0.03	0.07	0.02	0.02	0.02	0.03	0.10	0.00	0.02	0.05	0.02	0.02	0.02
034	0.02	0.01	0.04	0.02	0.01	0.03	0.02	0.04	0.03	0.05	0.03	0.01	0.05	0.03	0.02	0.07	0.03	0.03	0.03	0.01	0.03	0.04	0.05	0.05	0.06
035	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.02	0.02
036	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
037	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
038	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.08	0.01	0.01	0.01	0.01
039	0.02	0.02	0.02	0.03	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.05	0.05	0.04	0.09	0.05	0.04	0.01	0.11	0.07	0.06	0.08	0.06
040	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.02	0.02	0.02	0.03	0.02
041	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
043	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.03	0.02	0.01	0.06	0.10	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.02
044	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01
045	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.17	0.01	0.10	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.02
046	0.01	0.01	0.01	0.01	0.00	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.02	0.02	0.02
047	0.04	0.10	0.06	0.04	0.03	0.04	0.04	0.02	0.03	0.02	0.01	0.03	0.04	0.05	0.05	0.06	0.05	0.05	0.04	0.01	0.05	0.06	0.05	0.05	0.06
048	0.02	0.02	0.02	0.03	0.01	0.03	0.02	0.01	0.04	0.03	0.14	0.03	0.03	0.04	0.02	0.03	0.05	0.04	0.05	0.01	0.04	0.04	0.06	0.05	0.08
049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
050	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02

Table C.3 (Cont' 2) Technical coefficient matrix or Inverse matrix $(I-A)^{-1}$

	026	027	028	029	030	031	032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047	048	049	050
001	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01
002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
005	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01
006	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.13	0.01	0.00	0.00	0.01	0.01	0.03
007	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01
008	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
009	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
010	0.00	0.00	0.07	0.01	0.01	0.01	0.07	0.01	0.01	0.01	0.01	0.00	0.02	0.03	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
011	0.17	0.92	0.15	0.17	0.17	0.17	0.13	0.13	0.13	0.09	0.10	0.10	0.09	0.37	0.82	0.08	0.13	0.03	0.09	0.36	0.04	0.03	0.06	0.04	0.09
012	0.01	0.00	0.00	0.00	0.01	0.01	0.42	0.06	0.03	0.03	0.03	0.02	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
013	0.01	0.00	0.01	0.17	0.14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
014	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.01	0.01	0.02
015	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.02
016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
017	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01
019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.01
020	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
021	0.04	0.00	0.07	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.04	0.08	0.00	0.00	0.01	0.01	0.02	0.02	0.01	0.00	0.02	0.01	0.01	0.06
022	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
023	0.04	0.02	0.01	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.04	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.08	0.12	0.05	0.05
024	0.23	0.01	0.18	0.04	0.14	0.10	0.04	0.07	0.06	0.08	0.07	0.06	0.08	0.01	0.01	0.06	0.05	0.00	0.04	0.02	0.01	0.01	0.02	0.03	0.06
025	0.01	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01

	026	027	028	029	030	031	032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047	048	049	050
026	1.63	0.02	0.17	0.06	0.22	0.04	0.07	0.10	0.10	0.18	0.14	0.12	0.15	0.02	0.01	0.02	0.10	0.04	0.06	0.03	0.02	0.04	0.05	0.12	0.16
027	0.12	1.19	0.07	0.15	0.15	0.16	0.14	0.12	0.13	0.08	0.10	0.10	0.09	0.18	0.12	0.05	0.14	0.03	0.08	0.45	0.04	0.03	0.06	0.04	0.08
028	0.01	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.05	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.02
029	0.00	0.00	0.00	1.10	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
030	0.01	0.00	0.00	0.00	1.05	0.00	0.00	0.01	0.02	0.04	0.02	0.02	0.02	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
031	0.04	0.01	0.04	0.14	0.05	2.38	0.03	1.07	0.53	0.33	0.57	0.46	0.07	0.02	0.02	0.01	0.39	0.01	0.04	0.03	0.02	0.01	0.03	0.01	0.11
032	0.01	0.00	0.01	0.01	0.01	0.04	1.27	0.17	0.10	0.10	0.08	0.05	0.36	0.01	0.01	0.01	0.04	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.04
033	0.02	0.00	0.02	0.01	0.02	0.02	0.01	1.06	0.12	0.05	0.06	0.08	0.02	0.01	0.01	0.01	0.07	0.00	0.03	0.01	0.01	0.00	0.01	0.01	0.04
034	0.04	0.02	0.02	0.04	0.05	0.04	0.03	0.04	1.53	0.04	0.23	0.16	0.03	0.02	0.03	0.01	0.04	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.03
035	0.02	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.13	2.65	0.26	0.11	0.03	0.09	0.02	0.03	0.21	0.00	0.04	0.03	0.10	0.04	0.06	0.01	0.28
036	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
037	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
038	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.02	0.01	1.44	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.07
039	0.08	0.02	0.06	0.12	0.09	0.19	0.05	0.11	0.09	0.08	0.09	0.08	0.06	1.05	0.02	0.18	0.08	0.03	0.09	0.03	0.05	0.03	0.05	0.04	0.07
040	0.06	0.00	0.02	0.03	0.06	0.04	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.16	1.11	0.03	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.02
041	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
043	0.01	0.01	0.01	0.02	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.03	1.01	0.01	0.11	0.01	0.01	0.01	0.01	0.01
044	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.03	1.00	0.01	0.01	0.01	0.02	0.01	0.01
045	0.02	0.01	0.01	0.03	0.02	0.02	0.06	0.02	0.02	0.02	0.02	0.02	0.03	0.01	0.01	0.01	0.07	0.02	0.01	1.10	0.03	0.02	0.03	0.01	0.03
046	0.02	0.01	0.01	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.03	0.02	1.22	0.05	0.03	0.01	0.07
047	0.05	0.01	0.04	0.05	0.07	0.08	0.04	0.06	0.05	0.04	0.05	0.06	0.05	0.05	0.04	0.10	0.06	0.06	0.04	0.05	0.08	1.10	0.06	0.01	0.05
048	0.06	0.12	0.03	0.04	0.08	0.04	0.03	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.11	0.02	0.05	0.02	0.04	0.10	0.05	0.04	1.06	0.02	0.05
049	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	1.00	0.01
050	0.02	0.02	0.01	0.02	0.03	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.03	0.16	0.01	1.12

Table C.4 Employment coefficients of each sector for 1 million THB spending in each sector (persons-year/M THB)

No.	Economic sectors	Employment coefficients			Employment multiplier (e_j)
		Direct (l_i)	Indirect	Total	
001	Paddy, Maize, Cereals	14.11	1.89	16.00	1.13
002	Cassava and other root crops	14.11	4.91	19.01	1.35
003	Sugarcane	14.11	3.22	17.33	1.23
004	Oil Palm	14.11	1.54	15.65	1.11
005	Rubber	14.11	0.52	14.63	1.04
006	Beans, Nuts, Vegetable, Fruits and other agriculture	14.11	2.50	16.61	1.18
007	Livestock	14.11	5.74	19.85	1.41
008	Forestry	14.11	1.43	15.54	1.10
009	Fishery	3.21	1.77	1.78	0.55
010	Coal and Lignite	0.18	0.48	0.67	3.64
011	Petroleum and Natural Gas	0.18	0.48	0.66	3.60
012	Metal Ore	0.18	0.72	0.90	4.92
013	Non-metal Ore	0.18	0.78	0.96	5.24
014	Slaughtering, Palm oil and food processings	0.80	8.85	9.65	12.03
015	Rice, Tapioca, Maize and Other Grain Milling	0.68	12.57	13.25	19.51
016	Sugar	0.37	6.69	7.06	19.10
017	Other food products	1.44	5.13	6.56	4.57
018	Animal feed	0.71	8.79	9.50	13.37
019	Distilleries and beverages	0.28	1.76	2.04	7.27
020	Tobacco processing & products	0.19	1.16	1.35	7.24
021	Spinning, Weaving, Bleaching and Textile products	1.25	2.72	3.97	3.19
022	Saw mills and Wood products	1.30	3.95	5.25	4.03
023	Pulp, Paper products and Printing	1.09	2.20	3.29	3.03
024	Basic Industrial Chemicals	0.74	1.30	2.04	2.76
025	Fertilizer and Pesticides	1.15	1.78	2.93	2.54
026	Resins, Plastics and Other Chemical Products	0.55	1.69	2.24	4.08
027	Petroleum Refineries and Other petroleum products	0.02	0.56	0.57	36.60
028	Rubber Sheets, Block Rubber, Tyre and other rubber products	0.52	7.57	8.09	15.51
029	Cement and concrete	0.82	0.75	1.57	1.91
030	Ceramic, Glass and Other non-metallic products	0.83	1.36	2.19	2.64
031	Iron and Steel products	0.20	0.94	1.14	5.69
032	Non-ferrous Metal	0.66	0.86	1.52	2.30

No.	Economic sectors	Employment coefficients			Employment multiplier (e_j)
		Direct (l_i)	Indirect	Total	
033	Hand Tools and Fabricated Metal Products	1.44	1.04	2.48	1.72
034	Engines, Agricultural and Industrial Machinery	0.74	1.45	2.19	2.96
035	Electrical Machinery & Apparatuses	0.33	1.53	1.86	5.58
036	Motor vehicle	0.30	1.63	1.93	6.42
037	Other transport equipment	0.09	1.18	1.27	14.67
038	Scientific Equipments and Other Manufacturing Goods	0.96	1.83	2.79	2.90
039	Electricity	0.14	0.50	0.64	4.72
040	Pipe Line	0.14	0.63	0.76	5.66
041	Water Supply System	0.14	0.43	0.57	4.21
042	Contruction	3.30	1.53	4.83	1.46
043	Trade	2.32	0.53	2.85	1.23
044	Restaurant and Hotel	3.53	4.00	7.52	2.13
045	Transport	0.96	1.13	2.09	2.17
046	Post and Telecommunication	0.96	0.75	1.71	1.78
047	Bank & Inssurance Services	0.66	0.70	1.36	2.06
048	Silo, Real-estate	1.22	1.26	2.48	2.04
049	Education, Hospital & Public Services	3.16	0.66	3.82	1.21
050	Other Services & Unclassified	2.52	2.17	4.69	1.86

Table C.5 GDP and Import coefficients of each sector

| No. | GDP coefficient (THB value added/THB output) | | | Import coefficient (THB import/THB output) | | |
---	Direct GDP	Indirect GDP	Total GDP	Direct Import	Indirect Import	Total Import
001	0.67	0.40	1.07	0.06	0.21	0.27
002	0.55	0.15	0.70	0.01	0.02	0.03
003	0.58	0.26	0.84	-	0.03	0.03
004	0.57	0.03	0.60	0.01	0.02	0.03
005	0.84	0.13	0.97	0.00	0.10	0.10
006	0.60	0.59	1.19	0.19	0.27	0.46
007	0.42	0.18	0.60	0.02	0.13	0.16
008	0.78	0.15	0.93	0.36	0.12	0.48
009	0.53	0.17	0.71	0.01	0.11	0.12
010	0.68	0.13	0.80	1.51	0.50	2.00
011	0.68	2.41	3.09	3.23	4.19	7.43
012	0.66	0.26	0.91	4.82	2.24	7.06
013	0.61	0.30	0.91	0.17	0.53	0.70
014	0.20	0.40	0.60	0.21	0.26	0.47
015	0.15	0.20	0.36	0.01	0.22	0.22
016	0.44	0.11	0.55	0.02	0.06	0.08
017	0.33	0.14	0.47	0.14	0.07	0.21
018	0.14	0.31	0.45	0.13	0.08	0.21
019	0.53	0.12	0.65	0.12	0.06	0.18
020	0.80	0.09	0.89	0.35	0.04	0.38
021	0.32	0.47	0.79	0.16	0.55	0.71
022	0.37	0.21	0.58	0.15	0.21	0.35
023	0.32	0.77	1.09	0.45	1.06	1.51
024	0.37	1.73	2.10	5.42	6.25	11.67
025	0.23	0.96	1.19	2.24	0.53	2.77
026	0.30	1.60	1.90	0.54	2.74	3.27
027	0.18	2.09	2.28	0.17	4.17	4.33
028	0.21	0.11	0.31	0.10	0.13	0.23
029	0.40	0.13	0.53	0.00	0.07	0.07
030	0.29	0.15	0.44	0.27	0.22	0.49
031	0.22	1.97	2.19	1.40	5.17	6.57
032	0.27	0.48	0.75	4.66	2.04	6.70
033	0.28	0.57	0.85	0.70	0.81	1.51
034	0.26	0.81	1.08	1.38	1.95	3.33
035	0.19	1.08	1.27	0.72	2.15	2.86
036	0.28	0.12	0.40	0.29	0.14	0.44
037	0.34	0.14	0.48	0.95	0.32	1.27
038	0.26	0.32	0.58	0.52	0.48	1.00
039	0.48	1.06	1.55	0.00	1.93	1.93

No.	GDP coefficient (THB value added/THB output)			Import coefficient (THB import/THB output)		
	Direct GDP	Indirect GDP	Total GDP	Direct Import	Indirect Import	Total Import
040	0.21	0.38	0.60	0.00	0.62	0.62
041	0.66	0.05	0.71	0.00	0.08	0.08
042	0.23	0.04	0.27	0.00	0.06	0.06
043	0.75	0.32	1.06	0.00	0.73	0.73
044	0.40	0.16	0.56	0.17	0.23	0.40
045	0.33	0.53	0.86	0.10	1.33	1.43
046	0.61	0.48	1.09	0.16	0.66	0.81
047	0.71	1.06	1.77	0.02	1.39	1.41
048	0.61	0.89	1.50	0.10	1.74	1.84
049	0.80	0.06	0.85	0.03	0.08	0.11
050	0.37	0.49	0.86	0.12	0.59	0.70