

11.L

United Kingdom

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11.L.1 Introduction

Provision of the UK Input-Output (*I-O*) table for use in version 5 of the GTAP data base follows as closely as possible the guidelines detailed in Huff, McDougall and Walmsley (1999). The source data are the Commodity by Commodity Domestic Use matrix and the Commodity by Commodity Imports Use matrix for the UK for 1990, compiled by the Central Statistical Office. These matrices detail 123 commodity sectors (Appendix Table 11.L.A1). The derivation of a GTAP Sectoral Classification Revision 2 (*GSC2*) concordance involves separate mapping procedures for agricultural and non-agricultural sectors. For the non-agricultural sectors, the procedure is mainly one of aggregation. For agriculture, the principal task is to disaggregate the single sector of the UK I-O table into the twelve agricultural sectors represented in *GSC2*.

11.L.2 Non-Agricultural Sectors

To derive a concordance between the 122 non-agricultural sectors in the UK I-O table and the 45 non-agricultural sectors in GSC2 requires a three-step procedure: first, a mapping between the UK I-O sectors and the UK Standard Industry Classification (*SIC*) for 1980; second, a mapping between the *SIC* and the International Standard Industry Classification (*ISIC*) Revision 3; and finally, a mapping between the *ISIC* Revision 3 and GSC2. The first of these is published with the UK I-O tables; the second is provided by the Office for National Statistics; and the third is listed in Huff, McDougall and Walmsley (1999).

On completion of this three-step procedure, if a UK I-O sector is represented by more than a single sector in GSC2, then an allocation of the former to the recipient sectors of the latter is made, where possible, on the basis of gross output shares, as recorded in *Business Monitor, Census of Production* and *Business Monitor, Retailing*. Where insufficient information precludes this approach, an arbitrary equal division is applied. Details of the concordance, with percentage allocations, are given in Appendix Table 11.L.A2.

11.L.3 Agricultural Sectors

In the UK I-O table, agriculture is represented by a single sector. The principal task therefore is to disaggregate this sector into the 12 sectors representative of agriculture in GSC2. A first step is simply to split the row and column entries for agriculture in the UK I-O table into the 12 GSC2 sectors on the basis of gross output shares (from *Agriculture in the UK*), thus treating as identical the input and supply structures in each of the 12 agricultural sectors.

The resulting row and column entries for the 12 agricultural sectors are then modified using data from a Social Accounting Matrix (*SAM*) for the UK for 1984 (Roberts, 1992). This *SAM* focuses on agriculture, with 23 farm types (industries), 12 agricultural commodities (unfortunately not a perfect mapping of the 12 agricultural sectors represented in GSC2), and 25 non-agricultural sectors. Data from the *SAM* are used to produce a symmetric 37 sector commodity by commodity matrix under the industry technology assumption. Coefficients from this matrix are then used to make adjustments to cell entries in the rows and columns of the 12 disaggregated agricultural sectors derived from the UK I-O table on the basis of gross output shares, whilst ensuring that all rows and columns remain balanced.

11.L.4 Caveat

An exercise of this type demands a caveat. The provision of a UK I-O table for use in the GTAP data base requires some heroic assumptions, particularly in the disaggregation of the single agricultural sector. Mechanical apportionment is combined with human judgement, the latter based primarily on a 1984 SAM for the UK. Greater accuracy in provision of the agricultural sectors awaits the availability of more recent and more detailed I-O type data.

11.L.5 Additional Comments

In the primary inputs quadrant of the UK Commodity by Commodity Domestic Use matrix, 'Sales by Final Demand', representing transactions which are required for accounting purposes but which do not accord with a 'produced' good, e.g., used cars, are stripped out, with corresponding row totals amended through 'Changes in Stocks'.

Likewise, re-exports of imports are also stripped out from the Imports Use and Domestic Use matrices.

Commodity tax and import duty data are not provided.

References

Agriculture in the UK. Various years, H.M.S.O., London.

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Huff, K., McDougall, R. and Walmsley, T. 1999. *Contributing Input-Output Tables to the GTAP Data Base*, GTAP Technical Paper No. 1, Release 4.1, Purdue University, USA.

Input-Output Tables for the United Kingdom, Central Statistical Office, H.M.S.O., 1995, London.

Roberts, D. 1992. *UK Agriculture in the Wider Economy: An Analysis using a Social Accounting Matrix*, unpublished Ph.D. thesis, University of Manchester, U.K.

Appendix

Table 11.L.A1 Classification of UK Input-Output Industry/Product Groups (1990)

Sector	Industry/Product Groups
1	Agriculture and horticulture
2	Forestry
3	Fishing
4	Coal extraction and manufacture of solid fuels
5	Extraction of mineral oil and natural gas
6	Coke ovens, mineral oil processing and nuclear fuel production
7	Electricity production
8	Gas
9	Water supply
10	Extraction of metalliferous ores and minerals n.e.s.
11	Iron and steel, and steel products
12	Aluminum and aluminum alloys
13	Other non-ferrous metals (including precious metals)
14	Extraction of stone, clay, sand and gravel
15	Structural clay products
16	Cement, lime and plaster
17	Concrete, stone, asbestos and abrasive products
18	Glass
19	Refractory and ceramic goods
20	Inorganic chemicals
21	Organic chemicals
22	Fertilizers
23	Synthetic resins and plastic materials, synthetic rubber
24	Paints, dyes, pigments, printing ink
25	Specialized chemicals for industry and agriculture
26	Pharmaceutical products
27	Soap and toilet preparations
28	Chemical product n.e.s.
29	Man-made fibres
30	Metal castings, forgings, fastenings, springs, etc.
31	Metal doors, windows, etc.
32	Packaging products of metal
33	Metal goods n.e.s.
34	Industrial plant and steelwork
35	Agricultural machinery and tractors
36	Metal-working machine tools
37	Engineers small tools
38	Textile machinery, machinery for working other materials
39	Process machinery and contractors
40	Mining, construction and mechanical handling equipment

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Table 11.L.A1 Classification of UK Input-Output Industry/Product Groups (1990) (continued)

Sector	Industry/Product Groups
41	Mechanical power transmission equipment
42	Other machinery and mechanical equipment
43	Ordnance, small arms and ammunition
44	Office machinery and computer equipment
45	Insulated wires and cables
46	Basic electrical equipment
47	Electrical equipment for industry, batteries, etc.
48	Telecommunication etc. equipment, electronic capital goods
49	Electronic components and sub-assemblies
50	Electronic consumer goods, records and tapes
51	Domestic electric appliances
52	Electric lighting equipment, etc.
53	Motor vehicles and parts
54	Shipbuilding and repairing
55	Aerospace equipment manufacturing and repairing
56	Other vehicles
57	Instrument engineering
58	Oils and fats
59	Slaughtering and meat processing
60	Milk and milk products
61	Fruit, vegetables and fish processing
62	Grain milling and starch
63	Bread, biscuits and flour confectionery
64	Sugar
65	Confectionery
66	Animal feeding stuffs
67	Miscellaneous foods
68	Alcoholic drink
69	Soft drinks
70	Tobacco
71	Woollen and worsted
72	Cotton etc. spinning and weaving
73	Hosiery and other knitted goods
74	Textile finishing
75	Carpets and other textile floor coverings
76	Jute etc. yarns and fabrics, and miscellaneous textiles
77	Leather and leather goods
78	Footwear
79	Clothing and furs
80	Household and other made-up textiles
81	Timber processing and wood products (not furniture)
82	Wooden furniture, shop and office fittings
83	Pulp, paper and board
84	Paper and board products

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Table 11.L.A1 Classification of UK Input-Output Industry/Product Groups (1990) (continued)

Sector	Industry/Product Groups
85	Printing and publishing
86	Rubber products
87	Processing of plastics
88	Jewelry and coins
89	Sports goods and toys
90	Other goods
91	Construction
92	Wholesale distribution
93	Retail distribution
94	Distribution and repair of vehicles, filling stations and other goods
95	Hotels, catering, public houses, etc.
96	Railways
97	Road and other inland transport
98	Sea transport
99	Air transport
100	Transport services
101	Postal services
102	Telecommunications
103	Banking and finance
104	Insurance
105	Auxiliary financial services
106	Estate agents
107	Legal services
108	Accountancy services
109	Other professional services
110	Advertising
111	Computing services
112	Other business services
113	Renting of movables
114	Owning and dealing in real estate
115	Public administration
116	Sanitary services
117	Education
118	Research and development
119	Health services
120	Recreational and welfare services
121	Personal services
122	Domestic services
123	Ownership of dwellings

Table 11.L.A2 Concordance Between GSC2 and UK I-O Table for 1990

GSC2		UK I-O table	
No.	Code	Sector	
1	pdr	nil entry	-
2	wht	part of 1	Agriculture and horticulture
3	gro	part of 1	Agriculture and horticulture
4	v_f	part of 1	Agriculture and horticulture
5	osd	part of 1	Agriculture and horticulture
6	c_b	part of 1	Agriculture and horticulture
7	pfb	nil entry	-
8	ocr	part of 1	Agriculture and horticulture
9	ctl	part of 1	Agriculture and horticulture
10	oap	part of 1	Agriculture and horticulture
11	mk	part of 1	Agriculture and horticulture
12	wol	part of 1	Agriculture and horticulture
13	for	2	Forestry
14	fsh	3	Fishing
15	col	4	Coal extraction and manufacture of solid fuels
16	oil	68% of 5	Extraction of mineral oil and natural gas
17	gas	32% of 5	Extraction of mineral oil and natural gas
18	omn	10	Extraction of metalliferous ores and minerals n.e.s.
		14	Extraction of stone, clay, and gravel
19	cmt	39% of 59	Slaughtering and meat processing
20	omt	50% of 58	Oils and fats
		61% of 59	Slaughtering and meat processing
21	vol	50% of 58	Oils and fats
22	mil	60	Milk and milk products
		22% of 65	Confectionery
23	pcr	nil entry	-
24	sgr	64	Sugar
25	ofd	61	Fruit, vegetables and fish processing
		62	Grain milling and starch
		63	Bread, biscuits and flour confectionery
		66	Animal feeding stuffs
		67	Miscellaneous foods
		78% of 65	Confectionery
		50% of 69	Soft drinks
26	b_t	68	Alcoholic drink
		70	Tobacco
		50% of 69	Soft drinks
27	tex	29	Man-made fibres
		71	Woollen and worsted
		72	Hosiery and other knitted goods
		74	Textile finishing
		75	Carpets and other textile floor coverings
		76	Jute etc. yarns and fabrics, and miscellaneous textiles
		80	Household and other made-up textiles
		56% of 73	Hosiery and other knitted goods

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Table 11.L.A2 Concordance Between GSC2 and UK I-O Table for 1990 (continued)

GSC2		UK I-O table	
No.	Code	Sector	
28	wap	79	Clothing and furs
		44% of 73	Hosiery and other knitted goods
29	lea	77	Leather and leather goods
		78	Footwear
30	lum	15% of 33	Metal goods n.e.s.
		96% of 81	Timber processing and wood products (not furniture)
		8% of 82	Wooden furniture, shop and office fittings
31	ppp	83	Pulp, paper and board
		84	Paper and board products
		85	Printing and publishing
		17% of 50	Electronic consumer goods, records and tapes
		3.5% of 90	Other goods
32	p_c	6	Coke ovens, mineral oil processing and nuclear fuel production
33	crp	20	Inorganic chemicals
		21	Organic chemicals
		22	Fertilisers
		23	Synthetic resins and plastic materials, synthetic rubber
		24	Paints, dyes, pigments, printing ink
		25	Specialised chemicals for industry and agriculture
		26	Pharmaceutical products
		27	Soap and toilet preparations
		28	Chemical products n.e.s.
		86	Rubber products
		87	Processing of plastics
		3.5% of 90	Other goods
34	mmm	15	Structural clay products
		16	Cement, lime and plaster
		17	Concrete, stone, asbestos and abrasive products
		18	Glass
		19	Refractory and ceramic goods
35	i_s	87% of 11	Iron and steel, and steel products
		27% of 30	Metal castings, forgings, fastenings, springs, etc.
36	nfm	12	Aluminum and aluminum alloys
		13	Other non-ferrous metals (including precious metals)
		11% of 30	Metal castings, forgings, fastenings, springs, etc.
37	fmp	31	Metal doors, windows, etc.
		32	Packaging products of meal
		34	Industrial plant and steelwork
		13% of 11	Iron and steel, and steel products
		62% of 30	Metal castings, forgings, fastenings, springs, etc.
		79% of 33	Metal goods n.e.s.
		8% of 82	Wooden furniture, shop and office fittings
		3.5% of 90	Other goods
38	mvh	53	Motor vehicles and parts

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Table 11.L.A2 Concordance Between GSC2 and UK I-O Table for 1990 (continued)

GSC2		UK I-O table	
No.	Code	Sector	
39	otn	54	Shipbuilding and repairing
		56	Other vehicles
		12.5% of 48	Telecommunication etc. equipment, electronic capital
		50% of 55	goods
			Aerospace equipment manufacturing and repairing
40	ele	90% of 44	Office machinery and computer equipment
		40% of 48	Telecommunication etc. equipment, electronic capital
		50% of 49	goods
		41.5% of 50	Electronic components and sub-assemblies
		3.5% of 90	Electronic consumer goods, records and tapes
			Other goods
41	ome	35	Agricultural machinery and tractors
		36	Metal-working machine tools
		37	Engineers small tools
		38	Textile machinery, machinery for working other materials
		40	Mining, construction and mechanical handling
		41	equipment
		42	Mechanical power transmission equipment
		43	Other machinery and mechanical equipment
		45	Ordnance, small arms and ammunition
		46	Insulated wires and cables
		47	Basic electrical equipment
		51	Electrical equipment for industry, batteries, etc.
		52	Domestic electric appliances
		57	Electric lighting equipment, etc.
		6% of 33	Instrument engineering
		58% of 39	Metal goods n.e.s.
		35% of 48	Process machinery and contractors
		50% of 49	Telecommunication etc. equipment, electronic capital
		41.5% of 50	goods
		50% of 55	Electronic components and sub-assemblies
			Electronic consumer goods, records and tapes
			Aerospace equipment manufacturing and repairing
42	omf	88	Jewellery and coins
		89	Sports goods and toys
		12.5% of 48	Telecommunication etc. equipment, electronic capital
		4% of 81	goods
		84% of 82	Timber processing and wood products (not furniture)
		63% of 90	Wooden furniture, shop and office fittings
			Other goods
43	ely	7	Electricity production
44	gdt	8	Gas
45	wtr	9	Water supply
46	cns	91	Construction

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Table 11.L.A2 Concordance Between GSC2 and UK I-O Table for 1990 (continued)

GSC2		UK I-O table	
No.	Code	Sector	
47	trd	92	Wholesale distribution
		93	Retail distribution
		94	Distribution & repair of vehicles, filling stations & other
		95	goods
48	otp		Hotels, catering, public houses, etc.
		96	Railways
		97	Road and other inland transport
		100	Transport services
49	wtp	98	Sea transport
50	atp	99	Air Transport
51	cmn	101	Postal services
		102	Telecommunications
52	ofi	103	Banking and finance
		105	Auxiliary financial services
53	isr	104	Insurance
54	obs	106	Estate agents
		107	Legal services
		108	Accountancy services
		109	Other professional services
		110	Advertising
		111	Computing services
		112	Other business services
		113	Renting of movables
		114	Owning and dealing in real estate
		118	Research and development
		10% of 44	Office machinery and computer equipment
		42% of 39	Process machinery and contractors
		11.5% of 90	Other goods
		50% of 121	Personal services
55	ros	122	Domestic services
		11.5% of 90	Other goods
		50% of 120	Recreational and welfare services
		50% of 121	Personal services
56	osg	115	Public administration
		116	Sanitary services
		117	Education
		119	Health services
		50% of 120	Recreational and welfare services
57	dwe	123	Ownership of dwellings