

14.6

Finland and Sweden

Leena Kerkelä

14.6.1 Finland

Finland is part of the European Union (EU) countries but for studying country specific issues we built a separate table for Finland and Sweden. For Finland, the base year for the input-output (I/O) table is the same, 1992, as in the version 3 data base. The current version of the table is a commodity by commodity table compared to the previous table which was an industry by industry table. This change was a result of joining the EU as the statistics of Finland has started moving towards the statistical practices of the EU. Individual taxes were reported separately as a matrix and this was an improvement too. The original table covered 64 sectors valued in millions of Finnish marks (FIM) at producers prices which is the counterpart of the basic price used, for example, in the EU statistics.

It was possible to deliver the table to the Global Trade Analysis Project (GTAP) staff so that some of the 12 agricultural and 8 food processing sectors were aggregated to broader entities. Risto Vaittinen from the Consumer Research Center had information about the I/O structure of the Finnish agriculture based on the GEMFIN-model of the Finnish economy (Rutherford, Törmä, and Vaittinen, 1995) and he split the only agricultural sector to seven smaller sectors: “milkproducts”, “beefproducts”, “porkproducts”, “poultry & eggs”, “grains”, “other crops” and “rest of agriculture”. All the 8 food processing sectors of GTAP (cmt, omt, vol, mil, pcr, sgr, ofd, b_t) were built by splitting or aggregating the original sectors as shown in table 14.6.1 below. The delivered table had 44 sectors out of the 50 in GTAP version 4.

Table 14.6.1 Sectoral splits for Finland

GTAP	Finland /Production	Imports
	0	.14*2900 Other mining
oil	0	.71*2900 Other mining
gas	0	.15*2900 Other mining
cmt	.38*3111 Slaughtering etc meat	.69*3111 Slaughtering etc meat
omt	.62*3111 Slaughtering etc meat	.31*3111 Slaughtering etc meat
vol	.21*3113 Grain mill products	.047*3113 Grain mill products
pcr	0	.04*ofd= 57 Mfim
sgr	.535*3114 Sugar, chocolates	.073*3114 Sugar, chocolates
ofd	.79*3113+.465*3113+3115	.953*3113+.984*3114+3115
gdt	0	0

Sources: For production figures, see Rutherford, Törmä, and Vaitinen (1995). For imports, see *Finnish Food Industry: Statistical Survey*, 1997. For gas production, see "Industrial Statistics," ETLA's data base.

Taxes were reported by commodity in the Finnish table. The only task was to split the matrix into domestic and imported parts. This was done by using the share in the industry of the total production value. Except in the case where there was a net subsidy, all the subsidy was allocated to domestic commodities. This happened in fsh, cmt, mil, ppp, and t_t. Duties were added to imported commodities to report them duty-inclusive.

Many services in Finland are produced by local and state governments and their prices are below production costs. Of greater importance are public day care and health services, real estate activities by local governments (communities) and some transport services. In the original table, this public production was reported as a negative column reducing the final demand by the government. It doesn't increase GDP. We changed their treatment by adding a vector of net sums to both columns and rows. This abolished the negative vector but added the value-added so that the original equality between row and column sums remained the same. The whole row was treated as a labor input in the value added. This way the treatment resembles the Swedish one. GDP calculated from the table increased by 12.3 billion FIM.

Both the items of depreciation and operating surplus were added to employment of capital. The land rent is deducted from the operating surplus in I/O tables. The shares for the split are taken from sources that have estimated the asset values in respective sectors. The rule for split has been the relative share of asset values for capital and land.

In forestry the source is *Statistics Finland* (1991), while for agriculture the source is Ala-Mantila (1992).

Table 14.6.2 GTAP concordance for Finland

GTAP	Finland I/O
pdr	Grains
wht	Grains
gro	Grains
v_f	Other Crops
osd	Other Crops
c_b	Other Crops
pfb	Other Crops
ocr	The rest of the agriculture
ctl	Beefproducts
oap	Porkproducts
	Poultry and eggs
rmk	Milkproducts
wol	Other crops
for	1200 Forestry and logging.
fsh	1300 Fishing.
col	2900 Other mining
oil	2900 Other mining
gas	2900 Other mining
omn	2300 Metal Ore Mining
cmt	3111 Slaughtering, preparing and preserving meat
omt	3111 Slaughtering, preparing and preserving meat
	3116 Manufacture of prepared animal feeds
vol	3113 Grain mill products, bakeries
mil	3112 Manufacture of dairy products
pcr	3113 Grain mill products, bakeries
sgr	3114 Chocolate and sugar confectionaries
ofd	3113 Grain mill products, bakeries
	3114 Chocolate and sugar confectionaries
	3115 Food products n.e.c
b_t	3131 Beverage industries
	3132 Tobacco manufactures
tex	3211 Manufacture of textiles
wap	3212 Manufacture of wearing apparel
lea	3231 Manufacture of leather and fur products
	3232 Manufacture of footwear
lum	3311 Sawing, planing and preserving
	3312 Other manufacture of wood and wood products, except furniture
	3320 Furniture, except primarily of metal
ppp	3411 Pulp mill
	3412 Manufacture of paper and paperboard
	3413 Paper and paperboard articles
	3421 Printing and allied industries
	3422 Publishing
p_c	3530 Petroleum and coal products
crp	3511 Other manufacture of industrial chemicals
	3512 Fertilizers and pesticides
	3513 Medicines, detergents, chemicals
	3514 Other manufacture of industrial chemicals

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Table 14.6.2 GTAP concordance for Finland (continued)

GTAP	Finland I/O
	3551 Rubber products
	3552 Plastic products
nmm	3601 Pottery, china, glass
	3602 Other non-metallic mineral products
i_s	3701 Iron and steel
nfm	3702 Non-ferrous metal basic industries
fmp	3811 Fabricated metal products
mvh	3842 Autos and parts
otn	3841 Shipbuilding and repairing.
	3843 Other motor vehicles
ele	3831 Radio, television and electrical appliance
	3832 Electrical appliance.
	3833 Precision mechanics
ome	3812 Machinery and equipment, except electrical.
omf	3900 Other manufacturing industries
ely	4100 Electricity, gas and steam
gdt	4100 Electricity, gas and steam
wtr	4200 Water works and supply
cns	5100 Building
	5200 Other construction
t_t	6162 Trade
	6300 Restaurants and hotels
	7111 Railway transport
	7119 Other land transport
	7120 Water transport
	7130 Air transport
	7190 Transport services
	7200 Communications
osp	8182 Financing and insurance
	8319 Other real estate
	8329 Business services, machinery leasing
	9400 Recreational and cultural services
	9503 Other personal and household services
osg	9293 Social and related community services
dwe	8311 Dwelling

14.6.2 Sweden

The source table for Sweden was the I/O tables for Sweden 1985 published by Statistics Sweden, the same as in the version 3 data base. The commodity by commodity table included 88 sectors expressed in millions of Swedish crowns valued at producer prices.

For Sweden, agriculture remains as one sector in the newly delivered table. Of food processing, both cmt and omt GTAP sectors are now included in the newly delivered “cmt” sector. In the newly delivered table, there are 38 sectors.

Table 16.4.3 Sectoral splits for Sweden

GTAP	Sweden/Production	Imports
	$.01 \cdot (2100 + 2200 + 2900)$	$.07 \cdot (2100 + 2200 + 2900)$
oil	0	$.92 \cdot (2100 + 2200 + 2900)$
gas	0	$.01 \cdot (2100 + 2200 + 2900)$
omn	$.99 \cdot (2100 + 2200 + 2900)$	0

Source: GTAP Version 3 data base, trade statistics.

Activities by non-profit organizations are reported in Sweden's table as a separate row. For those parts that are used as an intermediate good for certain industries, they are added to labor costs. Other wise they are ignored.

Usage of land was not reported. We assumed a share of 49% of total capital income as accruing to land. Commodity taxes were reported in a single row. The net sum of commodity taxes was -6081 million Swedish crowns, i.e. there is a net subsidy for commodities. We built a tax matrix with the help of a representative tax table from the version 3 data base. First, the representative table was modified to be of the same dimension as the Swedish table. For instance, the sector trn was divided into tge GTAP sectors mvh and otn, using production shares. Then, we split the commodity tax row into two rows, one for taxes on domestic products, and one for taxes on imports. Finally, expanded each row into a matrix, allocating commodity taxes across the GTAP commodities. Duties were added to the imports matrix, to report imports as duty-inclusive.

Table 14.6.4 GTAP concordance for Sweden

GTAP	Swedish I/O sectors	
pdr	1100	Agriculture and hunting
wht	1100	Agriculture and hunting
gro	1100	Agriculture and hunting
v_f	1100	Agriculture and hunting
osd	1100	Agriculture and hunting
c_b	1100	Agriculture and hunting
pfb	1100	Agriculture and hunting
ocr	1100	Agriculture and hunting
ctl	1100	Agriculture and hunting
oap	1100	Agriculture and hunting
rmk	1100	Agriculture and hunting
wol	1100	Agriculture and hunting
for	1200	Forestry and logging
fsh	1300	Fishing
col	2100	Iron ore mining
	2200	Non-ferrous ore mining
oil	2100	Iron ore mining
	2200	Non-ferrous ore mining
gas	2900	Other mining & quarrying
omn	2900	Other mining & quarrying
cmt	3111	Slaughtering, preparing of meat
omt	3111	Slaughtering, preparing of meat
vol	3123	Oils&fats
mil	3112	Dairy products
pcr		deducted from ofd
sgr	3118	Sugar
ofd	3121	Canning, pres. of fruit& vegetables
	3122	Canning of fish
	3116	Grain mill production
	3117	Bakery products
	3124	Cocoa, chocolates&sugar conf
	3125	Other food
	3126	Prepared animal feeds
b_t	3131	Beverage industries
	3132	Tobacco manufacturing
tex	3211	Spinning and weaving
	3212	Textiles, other than clothing
	3213	Hosiery & knitted goods
	3214	Carpets, rugs etc.
wap	3220	Clothing
lea	3230	Leather & Shoes
lum	3310	Sawing, planing & preserv. of wood
	3321	Wooden building materials
	3322	Other wooden materials
	3323	Wooden packaging products
	3324	Furniture and bedding
ppp	3410	Pulp manufacturing
	3420	Paper&board manufacturing
	3431	Fibreboard manufacturing
	3432	Packaging products of paper, board etc.

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Table 14.6.4 GTAP concordance for Sweden (continued)

GTAP	Swedish I/O sectors	
p_c	3433	Other paper & board products
	3440	Printing
	3511	Publishing
	3532	Petroleum refining
	3550	Lubricating oils, grease etc.
crp	3512	General chemicals
	3513	Fertilizers & pesticides
	3514	Plastics & synthetic fibers
	3521	Semifinished plastic products
	3522	Paints
nmm	3523	Drugs and medicines
	3529	Soap, detergents & toilet preparations
	3531	Chemical products n.e.s
	3560	Rubber products
	3610	Plastic products
i_s	3620	Pottery
	3691	Glass&glass products
	3692	Structural clay products
	3699	Cement, lime & plaster
	3711	Other non-metal mineral products
nfm	3712	Iron & steel manufacturing
	3713	Ferro-alloys manufacturing
	3721	Iron & steel casting
	3722	Non-ferrous metals
	3723	Semi-finished non-ferrous metal products
fmp	3810	Non-ferrous metal casting
mvh	3820	Other metal goods
otn	3844	Motor vehicles & parts
	3842	Ship & boat building and repair
	3843	Manufact & repair of railroad equipment
	3845	Bicycles & motorcycles
	3849	Manufacturing & repair of aircraft
ele	3850	Other vehicles
	3832	Electrical machinery etc.
	3833	Electronics and telecommunications
	3839	Domestic electrical appliances
	3860	Other electrical goods
ome	3900	Instruments & photo equipment
omf	3831	Mechanical engineering
ely	4100	Other manufacturing
gdt	4200	Electricity & steam water supply
wtr	4300	Gas manufacture & distribution
cns	5000	Water supply, sewage disposal
t_t	6100	Construction
	6300	Distributive trades
	7100	Restaurants & hotels
	7200	Transport & storage
	81/82	Communication
osp	8311	Financial institutions & insurance
	8320	Other real estate
	9510	Business services
	9	Repair cars, households goods etc.
osg		Personal services
dwe	8312	One&two family houses & leisure houses

References

Ala-Mantila (1992) 'The Principles of Cost monitoring in Agriculture' (in Finnish). Agricultural Economic Research Institute, Research Reports 180, Helsinki.

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