

A Background Note on India Input-output Table in GTAP 4 Database

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14.18.1 The Original Input-output Transactions Tables

The source tables for the India IO Table, included in the GTAP (Release 4) database, are the following:

- Input-Output Transactions Table, 1983-84, Central Statistical Organization, Department of Statistics, Ministry of Planning, Government of India (published in 1990). This Table has 115 sectors.
- Input-Output Table for 1989-90, Planning Commission, Government of India. This has been constructed by the Planning Commission by updating and aggregating the 115-sector 1983-84 IO Table into 60 sectors.

The 1983-84 IO Table is updated to 1989-90 on the basis of input norms, commodity output, exports, imports, investment, Public and private consumption each at the prices prevailing in 1991-92. The actual price rise between 1983-84 and 1989-90 has been assessed for each sector from the detailed data on wholesale price index as available from the Economic Adviser, Ministry of Industry, Government of India.

Reference Year of the Original Table: 1983-84

Units: Rupees lakhs (10 lakhs = 1 million)

Sectoring: 115 sectors, presented both as Commodity by Industry (Absorption Matrix) as well as Industry by Commodity (Make Matrix).

Reference Year of the Original Table Updated: 1989-90

Units: Rupees lakhs (10 lakhs = 1 million)

Sectoring: 60 sectors, presented both as Commodity by Industry (Absorption Matrix) as well as Industry by Commodity (Make Matrix).

All the entries in the IO transaction tables are at factor cost, i.e. excluding trade and transport margins. To begin with, the IO table is prepared at original purchasers' price, i.e. at the price in which the actual transactions take place. The entries at factor cost are arrived thereafter by removing the Components of trade and transport margins and net indirect taxes (indirect taxes minus subsidies).

14.18.2 The India Io Table for GTAP

Initially GTAP release 3 database contain 37 sectors. The number of sectors for GTAP 4 increased to 50. The sectoral break up for IO Table for 60 sectors as well as for GTAP 4 is presented in Appendices 1 & 2. This also presents mapping for 50-sector GTAP IO table from 60-sector IO table.

The total transaction matrix is a commodity x commodity table.

The import transaction matrix is generated as suggested by Hambley like in Canadian IO table. A pro-rata adjustment is done to import column across the user industries.

The domestic use matrix is generated by deducing the generated import matrix from the total use matrix.

The final use of gross domestic product is classified into six categories, viz., (i) private final consumption expenditure; (ii) government final consumption expenditure; (iii) gross fixed capital formation; (iv) change in stock; (v) exports; and (vi) imports.

Imports include the import of merchandise and other items like transport services of merchandise, imports by resident industries, other transport and communication services by non-resident and miscellaneous commodities etc. Imports are reported at c.i.f. value and exclusive of import duties and domestic taxes.

Export comprise of exports merchandise (f.o.b.) and other items like transport and communication in respect of exports other than merchandise, insurance, etc.

The indirect taxes are distinguished as commodity taxes and other indirect taxes and other indirect taxes. Commodity taxes include union and state excise duties, sales tax, custom duties on imports and exports, and other duties and cess. "Other indirect taxes" include tax and stamp duty, etc.

The aggregate value added is given as row vector. Its break up into returns to labor and capital is not available from IO table.

Appendix 1

Sectoral Breakup of Input Output Table, 1983-84

1	Paddy
2	Wheat
3	Other Cereals
4	Pulses
5	Sugarcane
6	Jute
7	Cotton
8	Tea
9	Coffee
10	Rubber
11	Other Crops
12	Animal Husbandry
13	Forestry & Logging
14	Fishing
15	Coal & Lignite
16	Crude Petroleum & Natural Gas
17	Iron Ore
18	Other Metallic Minerals
19	non Metal & Minor Minerals
20	Sugar
21	Khandsari Boora
22	Hydrogenated Oil
23	Other Food & Beverage
24	Cotton Textiles
25	Woollen Textiles
26	Art Silk & Synthetic Fib
27	Jute, hemp, mesta Textiles
28	Other Textiles
29	Wood & Wood Products
30	Paper & Paper Products
31	Leather & Leather Products
32	Rubber Products
33	Plastic Products
34	Petroleum Products
35	Coal Tar Products
36	Fertilizers
37	Pesticides
38	Synthetic Fibre & Resin
39	Other Chemicals
40	Cement
41	Other non Metallic Mineral Products
42	Iron & Steel
43	non Ferrous Metals
44	Tractors & Other Agricultural Machinery
45	Machine Tools
46	Other non Electrical Machinery
47	Electrical Machinery
48	Communications Equipment
49	Electronic Equipment
50	Rail Equipment
51	Motor Vehicles
52	Other Transport Equipment
53	Other Manufacturing
54	Construction
55	Electricity Etc.
56	Rail Transport Service
57	Other Transport Service
58	Communication
59	Trade
60	Other Services

Sectoral Description of Gap 4

Sno Sectors

1	Pdr,	Paddy Rice
2	Wht,	Wheat
3	Gro,	Other Cereals
4	V_f,	Vegetables, Fruits, Nuts
5	Osd,	Oilseeds
6	C_b,	Sugarcane
7	Pbf,	Plant-based Fibers
8	Ocr,	Crops Nec
9	Ctl,	Animal Services
10	Oap,	Animal Products Nec
11	Rmk,	Raw Milk
12	Wol,	Wool, Silk Worms Cocoon
13	For,	Forestry
14	Fsh,	Fishing
15	Col,	Coal
16	Oil,	Oil
17	Gas,	Gas
18	Omn,	Minerals Nec
19	Cmt,	Bovine Cattle, Etc
20	Omt,	Meat Products Nec
21	Vol,	Vegetable Oils and Fats
22	Mil,	Dairy Products
23	Pcr,	Processed Rice
24	Sgr,	Sugar
25	Ofd,	Food Products Nec
26	B_t,	Beverages and Tobacco Products
27	Tex,	Textiles
28	Wap,	Wearing Apparel
29	Lea,	Leather Products
30	Lum,	Wood Products
31	Ppp,	Paper Products
32	P_c,	Petroleum, Coal Products
33	Crp,	Chem, Rubber, Plastic, Prds.
34	Nmm,	Mineral Products
35	I_s,	Ferrous Metals
36	Nfm,	Metals Nec
37	Fmp,	Metal Products
38	Mvh,	Motor Vehicles
39	Otn,	Transport Equipment Nec
40	Ele,	Electronic Equipment
41	Ome,	Machinery and Equipment Nec
42	Omf,	Manufacturing Nec
43	Ely,	Electricity
44	Gdt,	Gas
45	Wtr,	Water Supply
46	Cns,	Construction
47	T_t,	Trade, Transport
48	Osp,	Financial, Business and Recreational Services
49	Osg,	Public Admn, Defense, Education, Health
50	Dwe,	Dwellings

Concordance Between GTAP 4 and 60 Sector I/O Table

1. PDR	1 ind1
2. WHT	2 ind2
3. GRO	3 ind3
4. V_F	4 ind4
5. OSD	(3.69/10.08)*ind5-11
6. C_B	(2.71/10.08)*ind5-11
7. PBF	(1.79/10.08)*ind5-11
8. OCR	(1.72/10.08)*ind5-11
9. CTL	0.1653*ind12
10. OAP	0.2762*ind12
11. RMK	0.5555*ind12
12. WOL	0.0030*ind12
13. FOR	13 ind13
14. FSH	14 ind14
15. COL	15 ind15
16. OIL	0.7019*ind16
17. GAS	0.2981*ind16
18. OMN	ind17,18&19
19. CMT	--
20. OMT	--
21. VOL	(2.45/10.14)*(ind20-23)
22. MIL	(0.64/10.14)*(ind20-23)
23. PCR	--
24. SGR	(4.06/10.14)*(ind20-23)
25. OFD	(0.84/10.14)*(ind20-23)
26. B_T	(2.15/10.14)*(ind20-23)
27. TEX	(0.87825*ind24-28
28. WAP	(0.12175* ind24-28
29. LEA	ind31
30. LUM	ind29
31. PPP	ind30
32. P_C	ind34
33. CRP	ind32,33,36-39
34. NMM	ind40&41
35. I_s	ind42
36. NFM	ind43
37. FMP	ind45
38. MVH	ind51
39. OTN	ind50&52
40. ELE	ind49
41. OME	ind46,47&48
42. OMF	ind44&53
43. ELY	0.8656*ind55
44. GDT	0.0313*ind55
45. WTR	0.1031*ind55
46. CNS	ind54
47. T_T	ind56,57&59
48. OSP	0.0709*ind58&60
49. OSG	0.6003*ind58&60
50. DWE	0.3288*ind58&60 .

Note: (i) '--' indicates data not available or included in some other sector. For example, in case of PCR (no 23) processed rice is included in ind23. (ii) ind1 refers to sector 1 of 60 sector i/o table of India.