

Time series SUTs/IOTs for China

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Aim & Approach

Aim

- Obtain annual time series SUTs for China from the mid 80s up to now.

General overview of the approach

- Official SUTs and IOTs from NBS
 - 1987, 1992, 1997, 2002, 2007
 - Limited use of IOTs 1990, 1995, 2000, 2005
- Extrapolation and benchmarking of SUTs to National Accounts statistics:
 - Total Final demand by type
 - Total Export and total Import
 - Value added and gross output by industry
- Extrapolation using the SUT-RAS method (Temurshoev and Timmer 2009)

Approach SUTs/IOTs

- Quinquennial official IOTs (years ending in '2 and '7) to construct initial version of the supply table and the use table (52 products by 35 industries)
- Secondary production for industry from the official supply table (only coefficients, RAS for consistency with row and column totals of IOTs)
- NA series from the CIP database:
 - GVA by industry (GO is ratio from the IOTs)
 - Final demand by type
 - Total export and total import
 - GDP deflators by industry
 - National deflators based on industry GDP deflators, and row wise deflation of SUT. [At later stage we will add in more information from national accounts (final demand deflators, gross output and intermediate input deflators, import/export deflators). In addition, international deflators (PPPs): World Bank ICP expenditure PPPs adjusted and allocated to industries (for 2005)]

SUTRAS-method

(Temurshoev and Timmer 2009)

- Joint estimation of supply and use tables
- Projected SUTs are immediately consistent; no extra assumptions needed for consistency
- Commodity output is endogenously derived

Advantages of the method:

- Avoid breaks in time series SUTs
- Flexible with respect to the number of SUTs included in the program (current max is 12 SUTs)
- Flexible in the length of the time period considered (current max is 99 years)
- Testing of the SUTRAS method indicates that it performs well (Temurshoev and Timmer, 2009). But further testing is warranted.

Current status and future update

Currently constructed time series SUTs for China:

- For 52 products and 35 industries:
 - SUTs/IOTs in *current* producer prices for the period from 1992 to 2008.
 - SUTs/IOTs in *previous year* producer prices for the period from 1992 to 2008.

Near future:

- Extend the series backwards to mid 80s (include CIOT 1987)
- Intensive testing of the results
- Use SUTs to obtain measures of Energy, Material, and Services, for the CIP database
- Improve various data series, e.g.
 - Include more detailed data on GO/VA ratio for industry

Issues to discuss

- Intermediate input + Final demand + **'Others'** = Gross output + Import

Others' in the IOTs and SUTs of China							
Product	Descr	others' in year=1997	others'/(imports +gross output)	others' in year=2002	others'/(imports +gross output)	others' in year=2007	others'/(imports +gross output)
1	Agricultural products	-2.013.087	-0,9%	6.147.957	2,6%	25.421.360	5,7%
15	Food products and beverages	2.387.907	1,9%	4.555.990	3,4%	16.252.702	4,1%
16	Tobacco products	280.988	1,9%	824.931	4,8%	1.352.874	3,5%
17	Textiles	706.724	0,7%	1.631.543	1,6%	-7.816.487	-3,0%
75	Public administration	-426.635	-1,0%	-7.147.553	-7,4%	480.459	0,3%
	Total	-10.415.239	-0,5%	6.008.674	0,2%	18.604.163	0,2%

- 'Others' are included in the use table in changes in inventories and valuables

Other issues for discussion

- Trade and transport margins, taxes less subsidies on products are not available
- Secondary production in non-manufacturing sectors is not available
- Net exports in SUTs/IOTs for CIOT 1987 and CIOT 1992. This means import and export trade data by product is not available for these years.

Additional material

Columns in USE Table		
Code	NACE	Description
1	AtB	Agriculture, Hunting, Forestry and Fishing
2	C	Mining and Quarrying
3	15t16	Food, Beverages and Tobacco
4	17t18	Textiles and Textile Products
5	19	Leather, Leather and Footwear
6	20	Wood and Products of Wood and Cork
7	21t22	Pulp, Paper, Paper , Printing and Publishing
8	23	Coke, Refined Petroleum and Nuclear Fuel
9	24	Chemicals and Chemical Products
10	25	Rubber and Plastics
11	26	Other Non-Metallic Mineral
12	27t28	Basic Metals and Fabricated Metal
13	29	Machinery, Nec
14	30t33	Electrical and Optical Equipment
15	34t35	Transport Equipment
16	36t37	Manufacturing, Nec; Recycling
17	E	Electricity, Gas and Water Supply
18	F	Construction
19	50	Sale, Maintenance and Repair of Motor Vehicles Retail Sale of Fuel
20	51	Wholesale Trade and Commission Trade, Except of Motor Vehicles
21	52	Retail Trade, Except of Motor Vehicles ; Repair of Household Goods
22	H	Hotels and Restaurants
23	60	Inland Transport
24	61	Water Transport
25	62	Air Transport
26	63	Other Supporting and Auxiliary Transport Activities; Activities of Travel Agencies
27	64	Post and Telecommunications
28	J	Financial Intermediation
29	70	Real Estate Activities
30	71t74	Renting of M&Eq and Other Business Activities
31	L	Public Admin and Defence; Compulsory Social Security
32	M	Education
33	N	Health and Social Work
34	O	Other Community, Social and Personal Services
35	P	Private Households with Employed Persons
36		Financial intermediation services indirectly measured (FISIM)
37		Total
38		Final consumption expenditure by households
39		Final consumption exp. by non-profit organisations serving households
40		Final consumption expenditure by government
41		Final consumption expenditure
42		Gross fixed capital formation
43		Changes in inventories and valuables
44		Gross capital formation
45		Exports
46		Final uses at purchasers' prices
47		Total use at purchasers' prices

Columns
in Use
table

Code	CPA	Description
1	1	Products of agriculture, hunting and related services
2	2	Products of forestry, logging and related services
3	5	Fish and other fishing products; services incidental of fishing
4	10	Coal and lignite; peat
5	11	Crude petroleum and natural gas; services incidental to oil and gas extraction excluding s
6	12	Uranium and thorium ores
7	13	Metal ores
8	14	Other mining and quarrying products
9	15	Food products and beverages
10	16	Tobacco products
11	17	Textiles
12	18	Wearing apparel; furs
13	19	Leather and leather products
14	20	Wood and products of wood and cork (except furniture); articles of straw and plaiting mate
15	21	Pulp, paper and paper products
16	22	Printed matter and recorded media
17	23	Coke, refined petroleum products and nuclear fuels
18	24	Chemicals, chemical products and man-made fibres
19	25	Rubber and plastic products
20	26	Other non-metallic mineral products
21	27	Basic metals
22	28	Fabricated metal products, except machinery and equipment
23	29	Machinery and equipment n.e.c.
24	30	Office machinery and computers
25	31	Electrical machinery and apparatus n.e.c.
26	32	Radio, television and communication equipment and apparatus
27	33	Medical, precision and optical instruments, watches and clocks
28	34	Motor vehicles, trailers and semi-trailers
29	35	Other transport equipment
30	36	Furniture; other manufactured goods n.e.c.
31	37	Secondary raw materials
32	40	Electrical energy, gas, steam and hot water
33	41	Collected and purified water, distribution services of water
34	45	Construction work

Rows in
Use table
(part 1)

35	50	Trade, maintenance and repair services of motor vehicles and motorcycles; retail sale of a
36	51	Wholesale trade and commission trade services, except of motor vehicles and motorcycle
37	52	Retail trade services, except of motor vehicles and motorcycles; repair services of person
38	55	Hotel and restaurant services
39	60	Land transport; transport via pipeline services
40	61	Water transport services
41	62	Air transport services
42	63	Supporting and auxiliary transport services; travel agency services
43	64	Post and telecommunication services
44	65	Financial intermediation services, except insurance and pension funding services
45	66	Insurance and pension funding services, except compulsory social security services
46	67	Services auxiliary to financial intermediation
47	70	Real estate services
48	71	Renting services of machinery and equipment without operator and of personal and house
49	72	Computer and related services
50	73	Research and development services
51	74	Other business services
52	75	Public administration and defence services; compulsory social security services
53	80	Education services
54	85	Health and social work services
55	90	Sewage and refuse disposal services, sanitation and similar services
56	91	Membership organisation services n.e.c.
57	92	Recreational, cultural and sporting services
58	93	Other services
59	95	Private households with employed persons
60		Total
61		Cif/ fob adjustments on exports
62		Direct purchases abroad by residents
63		Purchases on the domestic territory by non-residents
64		Total intermediate consumption/final use at purchasers' prices
65		Compensation of employees
66		Other net taxes on production
67		Operating surplus, gross
68		Value added at basic prices
69		Output at basic prices

Rows in
Use table
(part 2)