

Construction of Provincial Social Accounting Matrices for China

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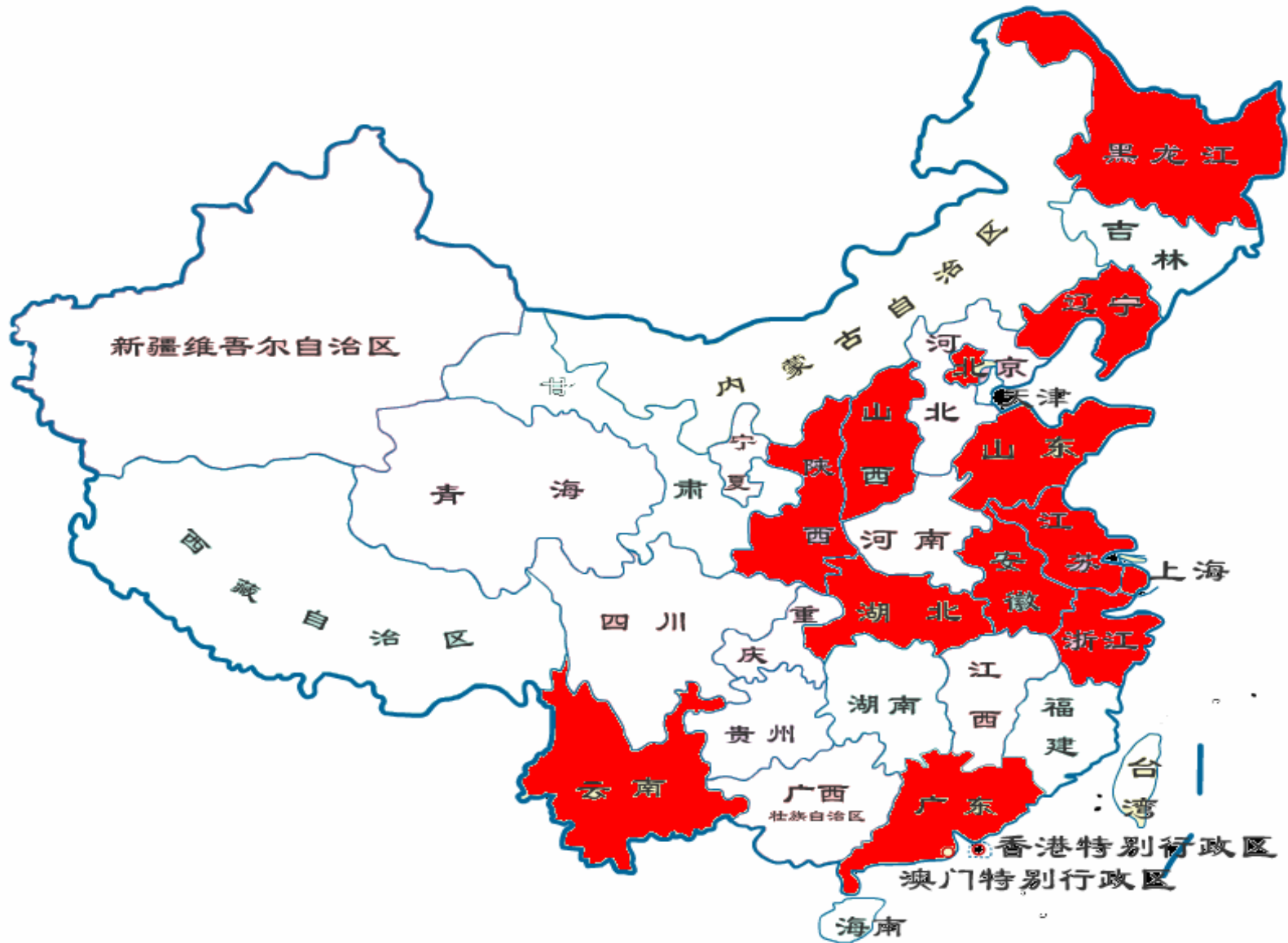
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Overview

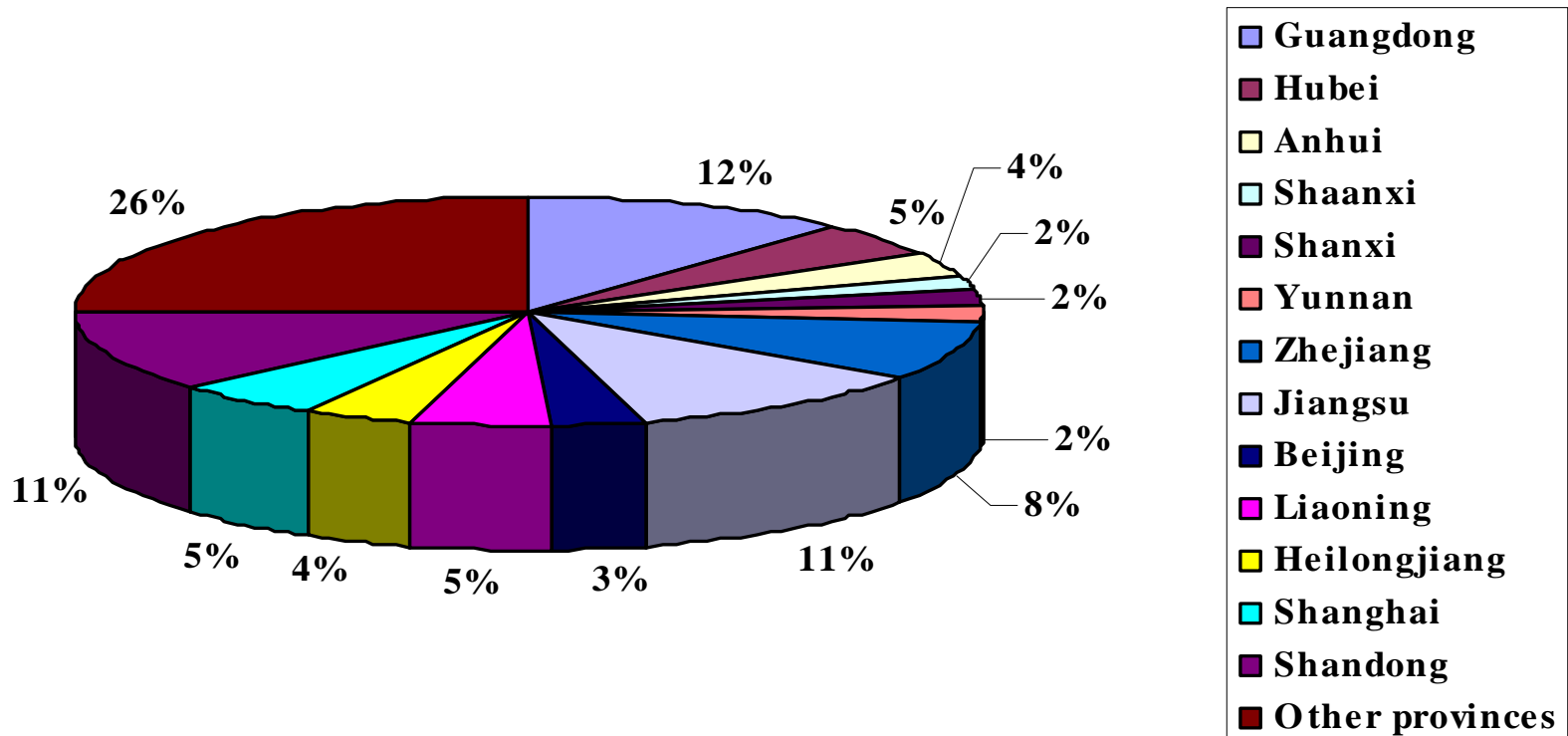
- 👉 Provincial SAMs are essential to our ongoing construction of single and multi-region CGE models, providing a solid database.
- 👉 SAMs have so far been estimated for 13 provinces: six in the east, three in central China, two in the west and two in the northeast.



Note: SAM 13 provinces in red.

GDP Shares by Province

Table 2 Proportions of 13 Provinces' GDP in national GDP



Source: *China Statistical Yearbook 2005*

GDP and Population Shares

	Population	GDP	Import+Export
	(million people)	(billion Yuan)	(billion US dollars)
Mainland China	1299.88	13658.43	1154.55
13 Provinces	648.38	10209.4	985.62
Proportion of These 13 Provinces	50%	75%	85%

Source: *China Statistical Yearbook 2005*

An example– Hubei SAM

About Hubei province:

- 👉 Located in central China, at the middle Yangtze basin.
- 👉 A population of over 60 million people and an area of 185,900 square kilometers, accounting for approximately 5% and 2% of the whole nation respectively.
- 👉 In 2004, Hubei's GDP reached 632 billion Yuan, accounting for approximately 5% of China and the industrial structure was 16.1:47.4:36.5 in 2004.
- 👉 In 2004, the total import and export value was 6.77 billion US dollars, making up only 0.6% of the whole nation.
- 👉 China's traditional manufacturing base and one of the originators of its modern industry. Its automobile and steel industries are both prominent sectors.

An example– Hubei SAM

The 1997 Macro SAM for Hubei is a square matrix comprising 15 rows and columns forming separate accounts in the economy:

-  **Activities**
-  **Commodities**
-  **Factors**
-  **Households**
-  **Enterprise**
-  **Government**
-  **ROMC**
-  **ROW**
-  **Savings/Investment**
-  **Stock Change**

A Social Accounting Matrix for Hubei (1997)

	1	2	3	4	5	6	7	8	9
	Commodities	Activities	Labor	Capital	Households	Enterprise	Local Gov. Subsidies	Central Gov. Subsidies	Extra-budget system
1 Commodities		5899			1787				41
2 Activities	9293								
3 Labor		2005							
4 Capital		939							
5 Households			2005	139		50			
6 Enterprise				776					
7 Local Gov. Subsidies		-27							
8 Central Gov. Subsidies		-18							
9 Extra-budget system		311							
10 Local Gov		79			5	81			
11 Central Gov	18	106				27			
12 ROW	126			23					
13 ROMC	1267								
14 Savings					427	617			270
15 Stock Change									
16 Total	10705	9293	2005	939	2220	776	0	0	311

Hubei SAM

		10	11	12	13	14	15	16
		Local Gov	Central Gov	ROW	ROMC	Investment	Stock Change	Total
1	Commodities	175	56	196	1369	1098	84	10705
2	Activities							9293
3	Labor							2005
4	Capital							939
5	Households	25						2220
6	Enterprise							776
7	Local Gov. Subsidies	27						0
8	Central Gov. Subsidies		18					0
9	Extra-budget system							311
10	Local Gov		101					266
11	Central Gov	28						179
12	ROW							149
13	ROMC							1267
14	Savings	12	4	-47	-101			1182
15	Stock Change					84		84
16	Total	266	179	149	1267	1182	84	

Hubei Micro SAM

- ☞ We disaggregate some accounts of the Macro SAM, including accounts of activities/commodities, labor, capital, households and production taxes, in order to make it more suitable for our research. All other accounts of Hubei Disaggregated SAM can be directly derived from Hubei Macro SAM.
- ☞ **Activities/Commodities:** divided into 53 sectors, which contain five agricultural sectors, 38 industrial sectors, construction and nine service sectors.
- ☞ **Labor:** disaggregated into agricultural labor (which only works in agricultural sectors), unskilled worker (which works in non-agricultural sectors) and professional worker.
- ☞ **Capital:** divided into land and non-land capital.
- ☞ **Households:** disaggregated into rural and urban households, in line with the classification of the I/O table.
- ☞ **Production Taxes collected by the local/central government:** divided into value-added taxes, business taxes and other production taxes.

An example– Hubei SAM

Table 4 Dimensions of Disaggregated Hubei SAM

		1	2	3	4	5	6	7	8	9
		Commodities	Activities	Labor	Capital	Households	Enterprise	Local Gov. Subsidies	Central Gov. Subsidies	Extra-budget System
1	Commodities		53×53			53×2				53×1
2	Activities	53×53								
3	Labor		3×53							
4	Capital		2×53							
5	Households			2×3	2×2		2×1			
6	Enterprise				1×2					
7	Local Gov. Subsidies		1×53							
8	Central Gov. Subsidies		1×53							
9	Extra-budget System		1×53							
10	Local Gov.							1×1		
11	Local Taxes		3×53			3×2	3×1			
12	Central Gov.								1×1	
13	National Taxes	4×53	4×53				4×1			
14	ROW	1×53			1×2					
15	ROMC	1×53								
16	Savings					1×2	1×1			1×1
17	Stock Change									
18	Total	1×53	1×53	1×3	1×2	1×2	1×1	1×1	1×1	1×1

An example– Hubei SAM

		10	11	12	13	14	15	16	17	18
		Local Gov.	Local Taxes	Central Gov.	National Taxes	ROW	ROMC	Investment	Stock Change	Total
1	Commodities	53×1		53×1		53×1	53×1	53×1	53×1	53×1
2	Activities									53×1
3	Labor									3×1
4	Capital									2×1
5	Households	2×1								2×1
6	Enterprise									1×1
7	Local Gov. Subsidies									1×1
8	Central Gov. Subsidies									1×1
9	Extra-budget System									1×1
10	Local Gov.		1×3	1×1						1×1
11	Local Taxes									3×1
12	Central Gov.	1×1			1×4					1×1
13	National Taxes									4×1
14	ROW									1×1
15	ROMC									1×1
16	Savings	1×1		1×1		1×1	1×1			1×1
17	Stock Change							1×1		1×1
18	Total	1×1	1×3	1×1	1×4	1×1	1×1	1×1	1×1	

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