

Table 1. The Correspondence Table between Region and Provinces

Eight regions	Corresponding provinces
Northeast	Heilongjiang, Jilin, Liaoning
Beijing-Tianjin Area	Beijing, Tianjin
North Coast	Hebei, Shandong
East Coast	Shanghai, Jiangsu, Zhejiang
South Coast	Fujian, Guangdong, Hainan
Central Region	Shanxi, Henan, Anhui, Hubei, Hunan, Jiangxi
Northwest	Inner Mongolia, Shaanxi, Ningxia, Gansu, Qinghai, Xinjiang
Southwest	Sichuan, Chongqing, Guangxi, Yunnan, Guizhou, Xizang

Table 2. Labor Costs in China's Eight Major Regions

Region	Number of employed persons in urban areas (10000 people)			Average Salary (RMB)
	Total	Among them: non-private	Among them: private	
Beijing-Tianjin Area	1509	990	519	153488
Northeast	2950	984	1966	62858
North Coast	5400	1643	3757	67234
East Coast	7507	2997	4510	103095
South Coast	7212	2735	4477	91677
Central Region	10437	3556	6881	65994
Northwest	3653	1449	2204	72036
Southwest	7263	2348	4915	70009

Note: Authors' calculation based on *China Statistical Yearbook 2023*.

Table 3. Industry Correspondence Between OECD Input-Output Table and China's Inter-Provincial Input-Output Table

Type of industry	OECD industrial code	OECD input-output table industries	China's inter-provincial input-output table industry
Agriculture	A01_02	Agriculture, hunting, forestry	Agriculture, forestry, animal husbandry and fishery products and services
	A03	Fisheries and aquaculture	
Mining	B05_06	Mining (energy products)	Coal mining products
			Oil and gas extraction products
	B07_08	Mining (non-energy products)	Metal ore mining and dressing products
			Non-metallic minerals and other mineral mining and dressing products
	B09	Mining support service activities	
Manufacturing	C10T12	Food, beverage and tobacco manufacturing	Food and tobacco
	C13T15	Textiles, textile products, leather and footwear	Textiles
			Textiles, clothing, shoes and hats, leather, down and its products
	C16	Timber and timber and cork products	Woodworking products and furniture
	C17_18	Paper products and printing industry	Papermaking, printing and cultural, educational and sporting goods
	C19	Coke and refined petroleum products	Petroleum, coking products and processed nuclear fuels
	C20	Chemicals and chemical products	Chemical products

	C21	Pharmaceuticals, medicinal chemicals and plant products	
	C22	Rubber and plastic products	
	C23	Other non-metallic mineral products	Non-metallic mineral products
	C24	Basic metals	Metal smelting and calendered processed products
	C25	Metal products	Metal products
	C26	Computer, electronic and optical equipment	Communication equipment, computers, and other electronic devices
	C27	Electrical equipment	Electrical machinery and equipment
			General equipment
	C28	Machinery and equipment	Instrumentation
			Specialized equipment
	C29	Cars, trailers and semi-trailers	
	C30	Other transport equipment	Transportation equipment
	C31T33	Repair and installation of machinery and equipment	Repair services for metal products, machinery and equipment
			Other manufactured products and scrap
	F	Construction	Construction
Supply industry	D	Electricity, gas, steam and air conditioning supply	Production and supply of electricity and heat
			Gas production and supply
	E	Water supply; Sewerage, waste management and remediation activities	Water production and supply
	G	Wholesale and retail trade; Motor vehicle repair industry	Wholesale and retail
Producer services	H49	Land transport and pipeline transport	
	H50	Water transport	
	H51	Air transport	Transportation, warehousing and postal services
	H52	Warehousing and support activities for transportation	
	H53	Postal and courier activities	
	J61	Telecommunications	
	J62_63	Information technology and other information services	Information transmission, software and information technology services
	K	Financial and insurance activities Publishing, audio-visual	Finance
	M	Professional, scientific and technical activities	Research and experimental development
	I	Accommodation and food service activities	Accommodation and caterings
	J58T60	Broadcasting activities	
	R	Arts, entertainment and leisure	Culture, sports and entertainment
			Real estate
	L	Real estate activities	Leasing and business services
Lifestyle services	N	Administrative and support services	
	S	Other service activities	Comprehensive technical services
			Public administration, social security and social organization
	O	Public administration and defense; Mandatory social security	Water conservancy, environment and public facilities management
	P	Education	Education
	Q	Human health and social work activities	Health and social work
	T	The activities of the family as an employer; Undifferentiated production of goods and services for household use	Resident services, repairs, and other services

Table 4. Industrial Gradient Coefficients of China's Eight Major Regions

Industries	Northeast	Beijing -Tianjin	North Coast	East Coast	South Coast	Central Region	Northwest	Southwest
Food and tobacco	0.75	0.54	0.90	1.20	0.87	1.17	0.91	1.63
Textiles	0.26	0.06	1.13	1.97	1.61	0.93	0.36	0.20
Textiles, clothing, shoes and hats, leather, down and its products	0.09	0.94	0.63	1.49	3.19	0.79	0.03	0.16
Woodworking products and furniture	1.47	0.29	0.53	1.56	2.00	1.09	0.07	0.79
Papermaking, printing and cultural, educational and sporting goods	0.16	0.58	1.06	1.28	2.30	0.90	0.24	0.37
Petroleum, coking products and processed nuclear fuels	2.35	1.50	1.56	2.22	3.14	0.44	1.03	0.32
Chemical products	1.02	1.18	1.46	1.61	0.72	0.87	0.83	0.52
Non-metallic mineral products	0.78	0.16	1.21	0.76	1.02	1.90	0.88	0.54
Metal smelting and calendered processed products	0.69	0.32	1.59	1.24	0.89	1.29	1.02	0.62
Metal products	0.34	0.29	1.78	1.14	1.47	1.20	0.21	0.37
General equipment	0.52	0.67	1.46	1.79	0.90	0.92	0.17	0.47
Specialized equipment	0.43	0.65	1.11	1.53	0.80	1.50	0.37	0.38
Transportation equipment	3.03	2.38	0.87	1.23	0.74	0.76	0.13	0.89
Electrical machinery and equipment	0.19	0.45	0.84	1.90	1.29	1.04	0.66	0.33
Communication equipment, computers, and other electronic devices	0.34	1.01	0.38	1.69	2.70	0.43	0.24	0.64
Instrumentation	0.27	0.90	0.33	4.17	0.71	0.56	0.03	0.21
Other manufactured products and scrap	0.02	0.46	0.32	1.87	2.02	0.72	0.35	1.56
Repair services for metal products, machinery and equipment	8.00	1.43	0.84	0.89	1.51	0.59	0.32	0.12

Table 5. Industries with Comparative Advantages in Five Regions

Industry Name		
Food and tobacco	Chemical products	Specialized equipment
Textiles	Non-metallic mineral products	Transportation equipment
Woodworking products and furniture	Metal smelting and calendered processed products	Electrical machinery and equipment
Papermaking, printing and cultural, educational and sporting goods	Metal products	Other manufactured products and scrap
Petroleum, coking products and processed nuclear fuels	General equipment	Repair services for metal products, machinery and equipment

The results show that the Northeast region has a certain competitiveness in the fields of woodworking products and furniture, and chemical products, and has outstanding advantages in the fields of petroleum, coking products and nuclear fuel processing products, transportation equipment, metal products, machinery and equipment repair services. The North Coast region has a certain competitiveness in the fields of textiles, papermaking, printing and cultural, educational and sporting goods, petroleum, coking products and nuclear fuel processing products, chemical products, non-metallic mineral products, metal smelting and calendered processed products, metal products, general equipment, special equipment. The Central Region is competitive in the fields of food and tobacco, woodworking products and furniture, non-metallic mineral products, metal smelting and calendered processed products, metal products, special equipment, electrical machinery and equipment. The Northwest are competitive in the fields of petroleum, coking products and processed nuclear fuels, as well as metal smelting and calendered processed products. The Southwest region is somewhat competitive in the areas of food and tobacco, other manufactured products and scrap.

Table 6. The Proportion of India's Undertaking of Industrial Transfer of China in Various Industries

	Industries	Proportion of China's industrial outward transfers θ_1	Proportion of India's Undertaking of industrial transfer θ_*	Proportion of India's Undertaking of China's industrial transfer θ_2
C10T12	Food, beverages and tobacco	19.32%	24.10%	19.32%
C13T15	Textiles and clothing	28.12%	4.99%	4.99%
C16	Woodworking products	31.69%	7.08%	7.08%
C17_18	Paper and printing	44.52%	7.91%	7.91%
C19	Coke and petroleum refining products	31.15%	43.48%	31.15%
C20	Chemical products	13.07%	8.73%	8.73%
C21	Pharmaceutical	13.07%	34.16%	13.07%
C22	Plastic rubber products	10.25%	5.86%	5.86%
C23	Non-metallic minerals	17.84%	26.00%	17.84%
C24	Basic metals	15.17%	34.64%	15.17%
C25	Alloy products	15.17%	0.75%	0.75%
C26	Computer and optical equipment	22.93%	1.49%	1.49%
C27	Electronic Equipment	22.93%	4.73%	4.73%
C28	Machinery and equipment	16.27%	8.68%	8.68%
C29	Automobile manufacturing	18.17%	29.74%	18.17%
C30	Other transportation equipment	18.17%	15.28%	15.28%
C31T33	Equipment repair and installation	12.25%	3.39%	3.39%

Table 7. The Basic Results of The Trade Gravity Model

Industrial code	α_0	α_1	α_2	α_3	α_4	N				
C10T12	(-19.18)	0.837***	-48.27	1.258***	-62.33	0.104***	-5.27	-1.166***	(-39.51)	4200
C13T15	(-12.26)	0.698***	-17.24	1.444***	-22.72	0.1	-1.87	-0.499***	(-5.81)	900
C16	(-3.95)	0.848***	-38.29	1.043***	-26.7	0.0553	-1.86	-1.302***	(-35.44)	2475
C17_18	(-8.01)	0.804***	-51.86	1.061***	-57.24	0.148***	-6.78	-1.199***	(-42.33)	3375
C19	-12.65	0.365***	-14.65	0.585***	-11.47	0.488***	-8.55	-1.621***	(-18.50)	1125
C20	(-14.50)	0.797***	-53.5	1.176***	-56.69	0.0412	-1.89	-1.037***	(-33.41)	2550
C21	(-15.67)	0.571***	-34.11	1.071***	-47.9	0.0541*	-2.08	-0.482***	(-11.87)	1650
C22	(-7.61)	0.555***	-36.74	1.141***	-43.73	0.130***	-4.26	-0.904***	(-26.02)	1950
C23	(-9.77)	0.763***	-36.8	1.320***	-51	0.204***	-5.94	-1.236***	(-36.02)	1800
C24	-2.3	0.773***	-42.6	1.036***	-32.82	0.253***	-7.69	-1.430***	(-32.97)	2700
C25	(-18.90)	0.790***	-50.18	1.144***	-53.09	0.128***	-4.19	-0.801***	(-27.65)	2025
C26	(-2.07)	0.637***	-36.83	0.618***	-19.75	0.129***	-4.16	-0.585***	(-11.17)	975
C27	(-8.11)	0.665***	-34.52	1.200***	-25.28	0.156***	-3.31	-0.794***	(-17.85)	1125
C28	(-14.93)	0.622***	-55.75	1.024***	-54.14	0.124***	-4.86	-0.634***	(-22.83)	1950
C29	(-2.90)	0.419***	-35.52	1.190***	-51.62	0.136***	-4.58	-1.034***	(-27.29)	2550
C30	(-13.46)	0.670***	-34.98	1.270***	-41.9	0.109***	-3.58	-0.741***	(-15.49)	1950
C31T33	(-13.85)	0.884***	-39.53	1.104***	-30.4	0.147***	-5.28	-0.819***	(-21.08)	1125

Table 8. Correspondence Table of OECD Manufacturing Industry

Industry Code	Industry Abbreviation	Industry Name	ISIC Code
C10T12	Food and tobacco	Food, beverages and tobacco	10, 11, 12
C13T15	Textile and garment	Textiles and clothing	13, 14, 15
C16	Woodworking products	Woodworking products	16
C17_18	Paper printing	Paper and printing	17, 18
C19	Petroleum products	Coke and petroleum refining products	19
C20	Chemical products	Chemical products	20
C21	Pharmaceutical	Pharmaceutical	21
C22	Rubber and plastic products	Plastic rubber products	22
C23	Non-metallic minerals	Non-metallic minerals	23
C24	Basic metals	Basic metals	24
C25	Alloy products	Alloy products	25
C26	Computer	Computer and optical equipment	26
C27	Electronic Equipment	Electronic Equipment	27
C28	Machinery and equipment	Machinery and equipment	28
C29	Automobile manufacturing	Automobile manufacturing	29
C30	Other Transportation	Other transportation equipment	30
C31T33	Equipment maintenance	Equipment repair and installation	31, 32, 33

Table 9. Inter-Regional Input-Output Table (ICIO Table)

Output Input		Intermediate demand				Final demand				Total output
		1	2	...	G	1	2	...	G	
Intermediate demand	1	Z^{11}	Z^{12}	...	Z^{1g}	Y^{11}	Y^{12}	...	Y^{1g}	X^1
	2	Z^{21}	Z^{22}	...	Z^{2g}	Y^{21}	Y^{22}	...	Y^{2g}	X^2
	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
	G	Z^{g1}	Z^{g2}	...	Z^{gg}	Y^{g1}	Y^{g2}	...	Y^{gg}	X^g
Value added		Va^1	Va^2	...	Va^g					
Total input		$(X^1)'$	$(X^2)'$	...	$(X^g)'$					
Employment		EMa^1	EMa^2	...	EMa^g					

Among them, the square matrix Z is the intermediate input matrix (with the dimension of $ng \times ng$), whose element z_{ij}^{sr} represents the direct consumption by the j industry in r region of

the i industry in s region; The square matrix $\mathbf{A}$ is the input-output coefficient matrix (with the dimension of $ng \times ng$), and the element $a_{ij}^{sr} = z_{ij}^{sr}/x_j^r$ in the element $\mathbf{A}^{sr}$ represents the intermediate input from the i industry of the s region in the unit output of the j industry of the r region, and $\mathbf{\Lambda}$ represents the diagonalization matrix; $\mathbf{Y}$ is the final demand matrix (with the dimension of $ng \times hg$), and the element y_{ik}^{sr} in the element $\mathbf{Y}^{sr}$ represents the final demand of the products of the i industry of the s region by the k category of the r region. $\mathbf{X}$, $\mathbf{Va}$, and $\mathbf{Ea}$ are the final output vector and value-added vector (with the dimension of $ng \times 1$), respectively, and the elements $\mathbf{X}^s$, $\mathbf{Va}^s$, and $\mathbf{Ea}^s$ represent the total output, added value, and employment of industry i in region s , respectively. $\mathbf{V}$ and $\mathbf{EM}$ represent the value-added rate vector and the employment vector (with the dimension of $ng \times 1$), the element v_i^r in the element $\mathbf{V}^s$ represents the added value of the unit output of the i industry of the s economy, and the element em_i^r represents the number of employment per unit output of the i industry of the s region.

Table 10. The Impact of Industrial Transfer from The Perspective of Employment

Scenarios	Intermediate inputs		Final products		Total	
	Number of employed persons	Average earnings of employees	Number of employed persons	Average earnings of employees	Number of employed persons	Average earnings of employees
ULT	√	√	√		√	√
UL-MLT	√	√	√		√	√
B1-MLT	√	√	√		√	
B2-MLT	√	√	√	√	√	√
B3-MLT	√		√		√	
CE1	√	√	√	√	√	√
CE2	√	√	√	√	√	√
CE3	√	√	√		√	
CP1	√	√	√	√	√	√
CP2	√	√	√	√	√	√
CP3	√	√	√		√	

Note:√ indicates the presence of the corresponding shock.

Table 11. Comparison of the Negative Impact of Industrial Transfer of Intermediate and Final Goods on GDP and Employment (unit: %)

Scenarios	GDP change		Changes in the income of employees		Changes in employment	
	Intermediate goods	Final products	Intermediate goods	Final products	Intermediate goods	Final products
ULT	70.5	29.5	71.2	28.8	66.9	33.1
UL-MLT	73.1	26.9	73.3	26.7	66.8	33.2
B1-MLT	71.6	28.4	71.3	28.7	64.2	35.8
B2-MLT	78.3	21.7	78.6	21.4	73.7	26.3
B3-MLT	65.7	34.3	67.6	32.4	60.6	39.4
CE1	57.4	42.6	54.0	46.0	51.7	48.3
CE2	60.8	39.2	61.1	38.9	56.6	43.4
CE3	50.4	49.6	51.3	48.7	46.1	53.9
CP1	53.1	46.9	54.7	45.3	47.7	52.3
CP2	48.1	51.9	49.1	50.9	45.2	54.9
CP3	41.3	58.7	41.9	58.1	37.7	62.3