

## Measuring the Economic Impact of Tourism in China

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### Abstract

In the past two decades, both inbound tourism and domestic tourism have achieved sustainable growth in China. Tourism has grown to a significant size, and it contributes substantially to the Chinese economy. However, the analysis of its economic impact is still a neglected issue in China (Xu: 1999). This paper tries to measure the economic impact of tourism, evaluate the contribution of tourism to the national economy, and find some policy implications. The impact includes direct and indirect increase in production, labor income, employment, imports, indirect tax etc. through the injection of tourist expenditures into the economy. To catch both the direct and indirect impact of tourism, the paper first constructs a 48 sector social accounting matrix (SAM) for tourism analysis. Then the SAM multipliers are calculated. The total direct and indirect impact of tourist expenditures is the product of the multipliers and the primary injection of tourist expenditures.

In order to strengthen the communication between China and the rest of the world and to earn hard currencies to facilitate imports of technology and facilities, after 1978 the Chinese government made inbound tourism a priority, as many developing countries were doing. However, the study finds that domestic tourist expenditure has a larger economic impact on Chinese economy in terms of production, value added, labor income, indirect tax and employment. The implication is that development of domestic tourism is more desirable than that of inbound tourism. Because export ability has been improved and foreign exchange reserves are high, the role of inbound tourism as a foreign exchange earner has declined. Domestic tourism development could stimulate present weak household consumption, and its development would not trigger a serious problem of insufficient supply as occurred in the 1980s due to the substantial improvement of the ability to meet tourism demands. It is time to shift tourism development priority from inbound tourism to domestic tourism.

### 1. Tourism development in China

The first travel agent, the Amoy Overseas Chinese Travel Agent, was established in October 1949, after the founding of the People's Republic of China, and this lifted the curtain on tourism development in China. In the 1950s and 60s, tens of travel agencies were established to receive overseas Chinese and foreign government guests and other foreign visitors. However, they were

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government agencies intended to achieve political purposes such as strengthening friendship and introducing China to the rest of the world rather than firms intended to make profits. Inbound tourism did not have sustained growth until 1978, when a policy of reform and opening to the world was adopted.

Table 1: Inbound visitor arrivals and tourism receipts: 1978-2000

Year	Visitor Arrivals* (Thousand People)	Growth Rates %	Tourism Receipts (Million US dollars)	Growth Rates %
1978	1,809		263	
1979	4,203	132.3	449	70.9
1980	5,703	35.7	617	37.3
1981	7,767	36.2	785	27.3
1982	7,924	2.0	843	7.4
1983	9,477	19.6	941	11.6
1984	12,852	35.6	1,131	20.2
1985	17,833	38.8	1,250	10.5
1986	22,819	28.0	1,531	22.5
1987	26,902	17.9	1,862	21.6
1988	31,695	17.8	2,247	20.7
1989	24,501	- 22.7	1,860	- 17.2
1990	27,462	12.1	2,218	19.2
1991	33,350	21.4	2,845	28.3
1992	38,115	14.3	3,947	38.7
1993	41,527	9.0	4,683	18.7
1994	43,684	5.2	7,323	**
1995	46,387	6.2	8,733	19.3
1996	51,127	10.2	10,201	16.8
1997	57,588	12.6	12,074	18.4
1998	63,478	10.2	12,602	4.4
1999	72,796	14.7	14,099	11.9
2000	83,444	14.6	16,224	15.1
Average		21.4		20.2
1980-88		25.7		19.9
1990-2000		11.9		19.1

Note: \* Visitor arrivals include both overnight stay tourist arrivals and same day visitor arrivals; one entry to the border is counted as one arrival.

Note: \*\* The method of calculating tourism receipts changed from 1994 when the international standard was adopted. It is not proper to make simple comparisons with the figures of previous years.

Source : The National Tourism Administration ( NTA ) *The Yearbook of China Tourism Statistics*

Since 1978, a policy of reform and opening the door to the rest of the world has been implemented in China, and Chinese tourism has entered a period of reform and rapid growth. In order to earn hard currencies needed for imports of intermediate inputs in the process of industrialization, China put inbound tourism as a priority of development shortly after the reform. In the early 1980s tourism reception capacity was insufficient; in order to increase tourism reception for more inbound tourists, facilities such as government guesthouses and military airfields were provided for inbound tourist reception. Meanwhile, regulation of tourism investment having been gradually reduced, investment from other sectors and other countries flew into the tourism sector. For example, in the 1980s and the 1990s many hotels were built using capital from abroad and other sectors. Travel agencies and hotels were changed from government agencies to business firms. The market mechanism was gradually introduced in the tourism sector. Inbound tourism was transferred from its previous status as “ political activity ” to its present status as “ economic activity. ”

The reform and tourism promotion policies have improved tourism infrastructure construction, and tourism supply has been gradually improved to catch up with the strong demand. Competition and government management have upgraded the tourism services of China. In the past two decades inbound tourism has accomplished a rapid growth except for a decline in 1989 because of the incident of Tian anmen Square ( Table 1 ) In 2000, inbound tourism receipts reached 16.2 billion US dollars, ranking 7<sup>th</sup> in the world, accounting for 6.5% of total exports of China. The inbound tourism receipts of China in 1978 were only 263.9 million US dollars, ranking 41<sup>st</sup> in the world. In 2000, inbound visitor arrivals reached 83.44 million, of whom 31.2 million stayed one night or longer, making China the 5<sup>th</sup> in the world in terms of overnight stay international tourist arrivals. China has become one of the largest destinations and one of the largest international tourism earners. It has had “ unprecedented growth in the history of world tourism development. ( Tang: 2001 )

Domestic tourism grew spontaneously and did not arouse much attention from the government and investors before the middle of the 1980s. From that time on it gradually became popular due to the increase in income and changing of living style brought about by the economic reform; more and more people wanted to travel for pleasure and recreation. Table 2 shows the growth of domestic tourism of China after 1984. Before the incident of Tian anmen Square in 1989, the annual growth rate of domestic tourism receipts remained over 30%. After the decline that year, domestic tourism recovered quickly and strongly, tourism receipts in 1991 exceeded the level of 1988. The average growth rate of tourism receipts from 1986-2000 was 19.9%, which was higher than the growth of total household consumption. The domestic tourism receipts reached 317.5 billion yuan and visitor arrivals reached 744 million in 2000.

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Table 2: Domestic visitor arrivals and tourism receipts: 1984-2000

	Arrivals (100million)	Growth %	Receipts (1billion yuan)	Growth %
1985	2.40	20.0	8	
1986	2.70	12.5	11	32.5
1987	2.90	7.4	14	32.1
1988	3.00	3.4	19	33.6
1989	2.40	- 20.0	15	- 19.8
1990	2.86	19.2	18	20.7
1991	2.90	1.4	20	10.5
1992	3.30	13.8	25	25.0
1993	4.10	24.2	86	*
1994	5.24	27.8	102	18.4
1995	6.29	20.0	138	34.5
1996	6.39	1.6	164	19.1
1997	6.44	0.8	211	28.9
1998	6.94	7.8	239	13.2
1999	7.19	3.6	283	18.4
2000	7.44	3.5	318	12.1
1986-1988		10.8		32.7
1990-2000		11.2		20.1
Average		9.2		19.9

Note: \* After 1993, domestic tourism receipts data was obtained by questionnaire, and it is not appropriate to make simple comparisons with the figures of previous years.

Source : NTA, *The Yearbook of China Tourism Statistics*

Domestic tourism and inbound tourism are two distinctly different tourism activities. With regard to per capita tourist expenditure, domestic tourism data is much lower than that of inbound. Table 3 shows daily expenditures of a tourist in 1999. For example, an overseas Chinese spent 19 times as much as a domestic rural tourist in 1999. Because of the great expenditure difference, domestic tourism is completely different from inbound tourism, in terms of accommodation, ways of accessing tourist destinations, shopping and recreation. The two different levels of demands require investors to provide different tourism facilities, which increases the cost of tourism investors, and reduces the benefit of economy of scale. The low per capita domestic tourist expenditure might lead to a misunderstanding of Chinese domestic tourism. In fact, because of the tremendous number of domestic tourist arrivals, total domestic tourism receipts were twice as large as those of the inbound tourism.

Table 3: Per day per capita tourist expenditure and total visitor arrivals in 1999

	Expenditures (yuan)	Arrivals (million)
Inbound visitors	1,118	72.8
Foreigner	1,197	8.4
Overseas Chinese	1,231	0.1
Hong Kong	905	61.7
Macao	995	
Taiwanese	1,007	2.6
Domestic urban visitors	122	284
Domestic rural visitors	62	435

Note : Domestic per day per capita data is calculated by per capita domestic tourist expenditure divided by the average length of stay

Source : NTA, *The Survey on Domestic Tourists of China 1999* and *The Yearbook of China Tourism Statistics 2000*

## 2. Social Accounting Matrix for tourism analysis

A social accounting matrix (SAM) is essentially “an accounting record for a whole economy (not just transactions among producers)” (Bulmer-Thomas: 1982) The principle of a SAM is that of double entry bookkeeping in accounting. A SAM is a series of row and column accounts, in which row accounts record incomings and column accounts record outgoings (or income and expenditure in many cases) and the sum of each row account must equal the sum of the corresponding column account. What is “incoming” into one account must be “outgoing” from another account.

Table 4 shows an aggregated SAM for Chinese tourism analysis with 12 accounts: one production account, two factor accounts, five institution accounts, a combined capital account, a rest of the world account, an international tourism account and a total account. The production account is further disaggregated into 37 sectors using the data of the IO table, and a more detailed SAM with 48-accounts is created<sup>1)</sup>.

One feature of the SAM is that there is an international tourism account and a domestic tourism account, which record tourist expenditures and their sources. A row account of domestic tourism shows the domestic tourist expenditures are from two accounts: the production account and the household account. The incoming revenue from the production account is the expenditure for business travel and tour paid by companies, and revenue from the household account records the total household budget to be used for private tourism consumption. The column account of tourism shows the domestic tourist expenditures including both business and private tourism expenditures. The domestic tourist expenditure data, obtained from the domestic tourist expenditure survey (NTA, 1998b) are matched to the 37 production sectors of the detailed SAM. For the analysis of

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international tourism trade, an international tourism account is split from the rest of the world. The row account records the outbound spending and the balance with the inbound expenditure, the column for international tourism account shows the inbound tourist expenditures. The inbound tourist expenditure data, obtained from the inbound tourist expenditure survey ( NTA, 1998a ) are matched to the 37 production sectors.

Table 4: Aggregated Social Accounting Matrix 1997 for tourism analysis

		1	2	3	4	5	6	7	8	9	10	11	12
		Production	Factor		Institutions					C-Capital	The rest of the world		Total
			Capital	Labor	House-Holds	D-tourism	Firms	Government	Social Welfare		Rest of World	Int-tourism	
1	Production	123,744			34,063	2,113		8,725		27,416	15,542	1,001	212,603
2	Capital	23,919									249		24,168
3	Labor	41540									14		41,554
4	H-holds	0	9,100	41,554			87	706	1,312				52,759
5	D-tourism	396	0		1,716								2,113
6	Firms	0	13,338		0								13,338
7	Government	10,245	146		260		1,032		142	1,115			12,940
8	Social Welfare				1,453								1,453
9	C-Capital				15,267		12,219	3,509			-2,464		28,531
10	R-World	11,916	1,583										13,499
11	Int-tourism	843									158		1,001
12	Total	212,603	24,168	41,554	52,759	2,113	13,338	12,940	1,453	28,531	13,499	1,001	189,603

Unit : 100 million yuan

### 3. SAM model

To move from a SAM to a model structure requires that each account should be designated as endogenous or exogenous. The SAM endogenous accounts consist of the production accounts, the factor accounts and the household accounts. Exogenous accounts consist of the accounts for domestic tourism, the firm, the government, social insurance, combined capital, the rest of the world and international tourism. Although the two sources of the domestic tourism account are designated as endogenous accounts, the domestic tourism account is designated as an exogenous account, because domestic tourism has similar economic impact as inbound tourism.

For the purpose of analysis, the transaction matrix ( T ) is converted into the corresponding matrix

of average expenditure propensities ( A ) The matrix of average expenditures propensities consists of two parts: “ A<sub>nn</sub> ” and “ A<sub>in</sub> ” “ A<sub>nn</sub> ” is an n × n square matrix of average expenditure propensities for the endogenous accounts, and A<sub>in</sub> is a l × n square matrix of propensities for leakages.

	Endogenous	Exogenous	Total
Endogenous	T <sub>nn</sub> ={t <sub>ij</sub> }	Injection T <sub>nm</sub>	X <sub>n</sub> ={x <sub>i</sub> }
Exogenous	Leakages T <sub>in</sub> ={t <sub>kj</sub> }	Balance T <sub>lm</sub>	X <sub>l</sub>
Total	X <sub>n</sub>		

$$A_{nn} = \{a_{ij}\}; a_{ij} = t_{ij} / x_j; (i = 1 \dots n, j = 1 \dots n) \quad (1)$$

$$A_{in} = \{a_{kj}\}; a_{kj} = t_{kj} / x_j (k = 1 \dots k, j = 1 \dots n) \quad (2)$$

$$X_n = A_{nn} X_n + DT + F + G + SI + CC + E + TI = A_{nn} X_n + Fd \quad (3)$$

X<sub>n</sub> is a vector of total income of the endogenous accounts and x<sub>n</sub> is the sum of the income in the n endogenous account. DT ( domestic tourism ), F ( firms ), G ( government ), SI ( social welfare insurance ), CC ( combined capital ), E ( the rest of the world ) and TI ( international tourism ) respectively represent vectors of expenditure injections from the exogenous accounts to the endogenous accounts. Fd represents the sum of the exogenous accounts. When equation ( 3 ) is rearranged, then

$$X_n = ( I - A_{nn} )^{-1} ( DT + F + G + SI + CC + E + TI ) = ( I - A_{nn} )^{-1} Fd \quad (4)$$

The final change in the endogenous accounts ( X ) derived from change in any exogenous accounts ( Fd ) can be calculated by equation ( 5 )

$$X = ( I - A_{nn} )^{-1} Fd \quad (5)$$

where, Fd represents the changes in any of the seven exogenous accounts. Thus, any change in exogenous accounts “ Fd ” will have a total impact of “ X ” on the endogenous accounts. The “ ( I - A<sub>nn</sub> )<sup>-1</sup> ” is the multiplier.

$$L = A_{in} ( I - A_{nn} )^{-1} Fd \quad (6)$$

where, L is the change of the leakage after the injection of the final demand Fd.

## 4. Impact of tourist expenditures

### 4.1 Schematic illustration of impact of tourist expenditures

Tourist expenditure affects the national economy by increase in output, income of households and firms, government indirect tax, imports and employment. These are called direct impact ( see Figure 1 ) The increase of household wage income and intermediate input demand will arouse another round of increase in production, income, tax, imports and employment etc. The process continues

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successively. The impact caused by increase of intermediate input and labor income in the successive rounds is defined as indirect impact. Equations (5) and (6) trace the total impact of the change in the exogenous accounts. The indirect impact is calculated by deducting direct impact from the total impact.

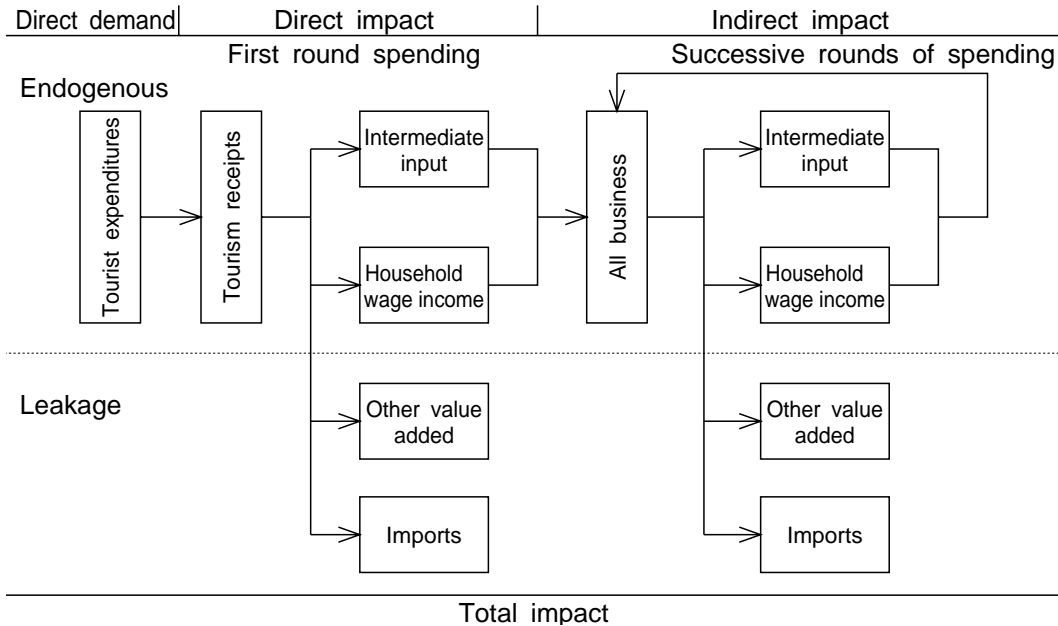


Figure 1: Schematic flow of tourist expending

### 4.2 Total impact of tourist expenditures

Table 6 shows the calculation results of the direct and indirect impact generated by inbound and domestic tourist expenditures. In 1997, inbound tourist expenditure was 12 billion US dollars, equivalent to 100.1 billion yuan in China; and the domestic tourist expenditure was 211.3 billion yuan. Inbound and domestic tourist expenditures totaled 311.4 billion yuan, accounting for 4.2% of GDP in the same year. However, because tourists buy import goods and services (about 8.1% of the total expenditures) which leak out of the Chinese economy, the direct impact of tourist expenditures on domestic production is estimated to be 286.7 billion yuan (92.1% of total tourist expenditures). The indirect impact on domestic production is 2.47 times as large as the direct impact; total domestic production generated by one yuan tourist expenditure is estimated to reach 3.195 yuan, which means the total tourist expenditure in 1997 is estimated finally have generated the domestic output of 994.9 billion yuan, accounting for 14.5% of the GDP.

Every yuan of tourist expenditure generates 0.172 yuan labor income, the labor income generating ability of tourist expenditure is slightly higher than the average of the 37 industrial sectors. The



indirect income generated by tourist expenditure is much larger than the direct income. Tourism is a labor-intensive sector, one million yuan tourist expenditure generates 25 jobs directly, 97 jobs indirectly, a total of 122 jobs. Total tourist expenditures generated 7.8 million direct jobs, about 1.2% of the total employment of China. The total number of direct and indirect jobs generated by tourist expenditures is 37.96 million.

Table 6: The impact of the total tourist expenditures 1997

	Direct effects (a)	Multipliers (b)	Indirect effects (c)	Indirect effect multipliers	Ratio (c)/(a)	Total effects (e)	Total effect multipliers	Ratio (e)/(a)
Output	3,114	1	7,520	2.415	2.415	10,634	3.415	3.415
Domestic output	2,867	0.921	7,082	2.275	2.470	9,949	3.195	3.470
Labor income	535	0.172	1,575	0.506	2.941	2,110	0.678	3.941
Import	247	0.079	438	0.141	1.774	685	0.220	2.774
Value Added	1,210	0.389	2,860	0.919	2.364	4,070	1.307	3.364
Indirect Tax	156	0.050	403	0.129	2.592	559	0.179	3.592
Employment	7,878	25	30,084	97	3.819	37,961	122	4.819

Unit : 100 million yuan; fully employed workers/million yuan; thousand jobs

Generally, the indirect effects of tourist expenditures are much larger than direct effects. The 6<sup>th</sup> column of Table 6 shows the relationship of indirect effects of tourist expenditures to the direct effects. The indirect effects are 1.774 ~ 3.819 times as large as the direct effects. The 9<sup>th</sup> column shows the size of total effects of tourist expenditures compared to the direct effects of tourist expenditures.

Table 7 compares the impact of tourism with that of the three final demands: government consumption, investment and exports. In terms of direct effects, tourism has higher impact than exports in all aspects except imports. Indirect tax generating ability of tourism is the strongest. Employment and value added generating ability is followed by government consumption. However, labor income generating ability is not very strong compared with investment and government consumption; this might be because tourism generates more low-income jobs.

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Table 7: Multipliers of tourist expenditure, government consumption, investment and exports

	Direct impact				Indirect impact				Total impact			
	Govern. consum.	Investment	Exports	Tourism	Govern. consum.	Investment	Exports	Tourism	Govern. consum.	Investment	Exports	Tourism
<b>Output</b>	1	1	1	1	2.766	2.920	2.623	2.415	3.766	3.920	3.623	3.415
Domestic production	0.996	0.954	0.903	0.921	2.610	2.740	2.447	2.275	3.606	3.694	3.350	3.195
Labor income	0.356	0.181	0.139	0.172	0.570	0.551	0.511	0.506	0.926	0.732	0.650	0.678
Imports	0.004	0.046	0.097	0.079	0.155	0.181	0.176	0.141	0.159	0.227	0.273	0.220
Value added	0.469	0.297	0.292	0.389	1.060	1.050	0.951	0.919	1.528	1.348	1.243	1.307
Indirect-tax	0.009	0.033	0.048	0.050	0.148	0.155	0.138	0.129	0.157	0.188	0.186	0.179
Employment	53	21	19	25	105	96	94	97	158	117	113	122

Unit : Yuan; jobs/million yuan

Multiplier effects of tourism are the weakest compared with the three final demands. Direct effect of tourism on job creation is better than that of investment and exports, but the indirect effect of tourism on employment is not strong. In terms of total effects, tourism performs generally better than exports but worse than investment and government consumption.

### 4.3 Impact of nine categories of tourist expenditures

Tourist expenditures on different goods and services have different economic effects on the national economy. Tourist expenditure, based on the data obtained by the survey conducted by the NTA, is classified into 9 categories. By using the SAM model, direct and indirect effects of the 9 categories of tourist expenditures are calculated and shown in Table 8.

Table 8: Impact of tourist expenditures in terms of 9 expenditure categories 1997

		Long distance	Accommodation	Food & Beverage	Loc. Trans.	Telcom	Sight-seeing	Recreation	Shopping	Others	Total or average
Direct effects	Tourist expenditure	909.0	412.5	439.0	93.1	50.2	152.1	86.9	676.2	294.8	3,114
	Share	0.29	0.13	0.14	0.03	0.02	0.05	0.03	0.22	0.09	100
	Domestic output	845	364	425	89	50	149	80	645	220	2,867
	Labor income	179	67	77	23	6	46	13	93	31	535
	Import	64	49	14	4	1	3	7	31	75	247
	Value added	425	215	149	35	28	67	22	217	52	1,210
	Indirect tax	54	26	18	2	2	2	4	44	3	156
	Employment	2,321	1,020	1,516	358	54	755	173	1,272	409	7,878
Direct effect ratio	Tourist expenditure	1	1	1	1	1	1	1	1	1	1
	Domestic output	0.930	0.882	0.967	0.960	0.988	0.979	0.917	0.954	0.747	0.921
	Labor income	0.197	0.162	0.175	0.248	0.117	0.305	0.153	0.137	0.106	0.172
	Import	0.070	0.118	0.033	0.040	0.012	0.021	0.083	0.046	0.253	0.079
	Value added	0.468	0.521	0.339	0.373	0.568	0.442	0.248	0.321	0.175	0.389
	Indirect tax	0.060	0.063	0.042	0.023	0.040	0.012	0.041	0.065	0.012	0.050
	Employment	26	25	35	38	11	50	20	19	14	25
	Indirect effects	Output	2,058	784	1,255	254	109	416	232	1,856	555
Domestic output		1,923	739	1,208	240	102	393	211	1,746	515	7,082
Labor income		422	170	257	43	20	77	53	399	120	1,575
Import		135	45	47	14	7	23	22	109	40	438
Value added		807	313	424	80	37	144	100	712	227	2,860
Indirect tax		120	44	57	11	5	21	14	99	31	403
Employment		7,512	3,240	5,497	784	354	1,412	934	7,753	2,177	30,084
Indirect multipliers		Output	2.264	1.901	2.859	2.728	2.178	2.736	2.674	2.745	1.883
	Domestic output	2.115	1.791	2.752	2.582	2.043	2.582	2.425	2.583	1.748	2.275
	Labor income	0.464	0.413	0.585	0.459	0.398	0.504	0.611	0.590	0.407	0.506
	Import	0.149	0.110	0.107	0.146	0.135	0.154	0.249	0.162	0.136	0.141
	Value added	0.888	0.760	0.966	0.864	0.728	0.945	1.155	1.053	0.770	0.919
	Indirect tax	0.132	0.107	0.129	0.123	0.105	0.137	0.165	0.146	0.104	0.129
	Employment	83	79	125	84	71	93	107	115	74	97
	Total effects	Output	2,967	1,197	1,694	347	159	568	319	2,532	850
Share		0.279	0.113	0.159	0.033	0.015	0.053	0.030	0.238	0.080	100
Domestic output		2,768	1,103	1,633	330	152	542	290	2,391	735	9,949
Labor income		601	237	333	66	26	123	66	492	151	2,110
Import		199	94	61	17	7	27	29	141	115	685
Value added		1,232	529	573	115	65	211	122	929	279	4,070
Indirect tax		174	70	75	14	7	23	18	142	34	559
Employment		9,833	4,260	7,013	1,142	408	2,166	1,107	9,026	2,586	37,961
Total Multipliers	Output	3.264	2.901	3.859	3.728	3.178	3.736	3.674	3.745	2.883	3.415
	Domestic output	3.045	2.674	3.719	3.542	3.031	3.560	3.342	3.537	2.495	3.195
	Labor income	0.661	0.576	0.759	0.707	0.515	0.810	0.764	0.727	0.513	0.678
	Import	0.219	0.227	0.140	0.186	0.147	0.175	0.332	0.208	0.389	0.220
	Value added	1.356	1.281	1.305	1.237	1.296	1.387	1.403	1.374	0.945	1.307
	Indirect tax	0.192	0.170	0.171	0.146	0.145	0.149	0.206	0.211	0.116	0.179
	Employment	108	103	160	123	81	142	127	133	88	122

Unit : 100million yuan; 1000 people

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The tourist expenditure on long distance transportation is the largest expenditure, accounting for 29% of the total. Because China has a large territory, tourists have to take long trips to their destinations. The absolute large amount of long distance transportation expenditure makes it contribute most to domestic output, labor income, value added, indirect tax and employment in terms of both direct effects and indirect effects. In view of multipliers, its direct effects are all above average except for import, but indirect effects are mostly below average, except for import and indirect tax.

The accommodation expenditure accounts for 13% of the total tourist expenditure, and it has relatively strong direct effects on value added ( 0.468 ) and indirect tax ( 0.06 ) The import propensity is also very high ( 0.118 ) ; in other words, tourist expenditure on accommodation is easy to leak out of China and its production effect on domestic production is low ( 0.88 ) This is because of the high involvement of foreign investment and management in the hotel sector. The total multiplier effects of accommodation expenditure are all below those of the average of 9 categories except the total effect on imports, because the indirect effects generating ability is weaker than that of the other 8 kinds of expenditures.

Food & beverage is the third largest expenditure of tourists accounting for 13.2% of total tourist expenditure. It has a strong employment multiplier effect. Direct tourist expenditure of 43.9 billion yuan on food & beverage directly created 1.5 million direct full employment work positions and indirectly 5.49 billion, that means one million yuan expenditure on food & beverage generates 35 full employment positions directly and 125 indirectly for a total of 160. The output multiplier effect of food & beverage expenditure is also the strongest. One yuan tourist expenditure on food & beverage generates indirect domestic output of 2.75 yuan and a total of 3.719 yuan domestic production.

Local transportation expenditure has a strong ability to generate direct labor income and employment. One yuan tourist expenditure generates 0.248 yuan direct labor income, and one million transportation expenditure generates 38 direct work positions, ranked second in the 9 categories. However, its multiplier effects on labor income and employment are not outstanding compared with its direct effects. Its output multiplier effect is among the strongest, one yuan tourist expenditure on local transportation can generate 2.58 yuan domestic production. However, the small absolute amount of local transportation ( 3% of the total tourist expenditures ) limits its total contribution.

Telecommunication takes a small share among the total expenditure. Telecommunication sector is a high value added earning sector: one yuan tourist expenditure on telecommunication, creates as high as 0.568 yuan value added. The direct employment effect of telecommunication expenditure is the lowest among the 9 categories, one million yuan telecommunication expenditure creates only 11 jobs.

Tourist expenditure on sightseeing has very strong effects on labor income and employment: one yuan sightseeing expenditure creates 0.305 yuan direct labor income, and one million sightseeing expenditure generates 50 direct work positions. The indirect production multiplier effect is also very

strong: one yuan tourist expenditure on sightseeing generates 2.582 yuan domestic production. This is next to the multiplier effect of food & beverage ( 2.752 ) and shopping expenditure ( 2.583 )

Indirect multipliers of recreation expenditure on labor income, import, value added, indirect tax, and employment are all very high. However, the share of recreation expenditure on total tourist expenditure is the lowest ( 2% ) ; this limits its general contribution to national economy.

Shopping is the second largest tourist expenditure, accounting for 22% of total tourist expenditures. It has the strongest ability to generate indirect tax in terms of both direct and indirect effects. Its indirect multiplier effects on domestic production ( 0.590 ) labor income ( 2.583 ) value added ( 1.053 ) indirect tax ( 0.146 ) and employment ( 114.7 ) are all among the high level in the 9 categories. Both direct effect and total effects of shopping expenditure on indirect tax are the highest ( 0.065 and 0.211 )

Tourist expenditures classified as “ Others ” are expenditures not listed in the above 8 categories, covering expenditures to travel agents, insurance, healthcare etc.

#### 4.4 Impact of expenditures of 6 kinds of tourist groups

As shown in Table 8 in the previous section, different kinds of tourist expenditures have very different effects on domestic production, labor income, imports, value added, indirect tax, and employment. Because the expenditure structures of the 6 tourist groups are different, they also generate different impacts, although the difference is not significant. Table 9 shows the direct and indirect effects of tourist expenditures of 6 different groups of tourists and the multipliers.

Domestic urban and rural tourist expenditures took as large as 49.8% and 18% of the total tourist expenditures in spite of the low per capita tourist expenditure shown in the previous section. Tourist expenditures of overseas Chinese and Taiwan accounted for relatively small percentages of 0.2% and 5.7%. Expenditures of foreigners and expenditures of visitors from Hong Kong & Macao are close in size, accounting for 13.4% and 12.9% of the total tourist expenditures respectively. The absolutely large shares of domestic urban and rural tourist expenditures make them contribute most in all aspects and in both direct and indirect terms. Their absolute sizes suggest the importance of domestic tourism, in comparison to the inbound tourism.

As discussed before, per capita tourist expenditure varies greatly, but the multipliers of the 6 tourist groups do not vary greatly, the similarity of multipliers of the tourist groups are caused by the similarity of their expenditure structures, especially among the 4 inbound tourist groups and the 2 domestic tourist groups. One implication is that no matter the kind of tourist, poor or rich, if expenditures are similar, the effects of per unit of tourist expenditures do not vary very much.

If we look at the multipliers in detail, we find that domestic tourists have low propensity to buy import goods ( 0.063 and 0.077 ) in comparison with inbound tourists ( all over 0.093 ) Most inbound

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tourist-using hotels are foreign invested, as are most inbound tourist-using transportation vehicles, such as airplanes and buses, and even many foods and beverages are imported. Because the import propensity is calculated from the data of IO table, which is the average data of the sector, the real import propensity of the inbound tourists is assumed to be even higher and that of domestic tourists is even lower. Low consumption propensity of import goods, on the other hand, means high consumption propensity of domestic production, and it further means fewer tourist expenditures are leaked out of the Chinese economy. Compared with the inbound tourist expenditure, every yuan of domestic tourist expenditures generates larger impact on domestic production, labor income, value added, indirect tax and employment, in terms of both direct and indirect terms. One million yuan of domestic tourist expenditure can generate 2-5 more jobs than the same amount of inbound tourist expenditure. One thing that should be mentioned is that behind the data is the fact that these jobs require less skill and are more desirable from the point of view of the employment problem of China. The implication is that one yuan domestic tourist expenditure is more “valuable” to the Chinese economy than one yuan inbound tourist expenditure.

Table 9: Impact of tourist expenditures of 6 tourist groups 1997

	Impact						Multipliers							
	Foreigners	Overseas Chinese	HK& Macao	Taiwan	Rural	Urban	Total	Foreigners	Overseas Chinese	HK& Macao	Taiwan	Rural	Urban	Total
Share	0.134	0.002	0.129	0.057	0.180	0.498	1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tourist expenditures	417.7	7.1	400.2	176.0	560.9	1551.8	3114	0.904	0.907	0.904	0.901	0.937	0.923	0.919
Domestic production	377.4	6.4	361.7	158.5	525.7	1432.4	2862	0.157	0.161	0.166	0.162	0.172	0.178	0.172
Labor income	65.7	1.1	66.2	28.5	96.3	276.1	534	0.096	0.093	0.096	0.099	0.063	0.077	0.081
Imports	40.2	0.7	38.5	17.5	35.2	119.4	251	0.368	0.365	0.376	0.360	0.393	0.400	0.389
Value added	153.8	2.6	150.6	63.4	220.3	621.2	1212	0.048	0.048	0.047	0.046	0.056	0.050	0.050
Indirect tax	20.2	0.3	18.8	8.1	31.2	77.7	156	22	23	23	23	25	27	25
Employment	926	16	933	403	1401	4119	7798	2.349	2.376	2.333	2.353	2.500	2.408	2.404
Production	981.1	16.9	933.7	414.1	1402.4	3736.7	7485	2.208	2.233	2.191	2.209	2.356	2.269	2.263
Domestic production	922.3	15.9	876.7	388.8	1321.2	3521.8	7047	0.486	0.491	0.476	0.483	0.525	0.506	0.502
Labor income	202.8	3.5	190.6	85.0	294.3	785.4	1562	0.141	0.143	0.142	0.143	0.145	0.138	0.141
Imports	58.8	1.0	57.0	25.2	81.1	214.9	438	0.889	0.899	0.879	0.888	0.949	0.918	0.913
Value added	371.5	6.4	351.8	156.4	532.4	1424.4	2843	0.125	0.127	0.124	0.125	0.134	0.130	0.129
Indirect tax	52.2	0.9	49.8	22.0	75.1	201.1	401	92	93	89	91	101	97	95
Employment	3826	66	3560	1595	5646	15049	29743	3.349	3.376	3.333	3.353	3.500	3.408	3.404
Production	1398.8	24.0	1333.9	590.1	1963.2	5288.5	10598	3.112	3.140	3.095	3.110	3.293	3.192	3.182
Domestic production	1299.7	22.3	1238.4	547.4	1846.9	4954.2	9909	0.643	0.652	0.642	0.645	0.696	0.684	0.673
Labor income	268.6	4.6	256.8	113.5	390.6	1061.5	2096	0.237	0.236	0.239	0.243	0.207	0.215	0.221
Imports	99.1	1.7	95.5	42.7	116.3	334.3	690	1.258	1.265	1.255	1.249	1.342	1.318	1.302
Value added	525.2	9.0	502.4	219.8	752.7	2045.6	4055	0.173	0.174	0.171	0.171	0.190	0.180	0.179
Indirect tax	72.4	1.2	68.6	30.1	106.3	278.8	558	114	116	112	114	126	124	121
Employment	4753	82	4493	1998	7047	19169	37541							

Unit : 100 million yuan; 1000 people

## 5. The outlook for tourism development

China is a country with a long history and abundant tourist attractions. After two decades of rapid growth, Chinese tourism has achieved great progress, but there are large gaps between China and the top tourism developed countries, such as the US, Italy, France etc. Table 10 shows the top ten international tourist destinations and international tourism earners. Inbound tourism receipts of the US were 5.3 times as much as those of China in 1999. Countries like Spain, UK, and Italy are much smaller than China in territory, but they lured more tourists and earned more than China. If China follows the way of these countries, there is development potential for China. The present sustained economic growth and stable political situation provide a good environment for the catch-up of China. Although some international incidents such as an economic crisis or terrorist attack could interrupt the growth, experience tells us that tourism would recover quickly and strongly after these incidents, because tourism has become a lifestyle of the people.

Table 10: Inbound tourist arrivals and tourism receipts of the top ten countries and the shares of the world market 1999

Ranking	Country	Arrivals (million)	Share of the world %	Country	Receipts billion USD	Share of the world %
1	France	73.0	11.0	U.S.	74.4	16.4
2	Spain	51.8	7.8	Spain	32.9	7.2
3	U.S.	48.5	7.3	France	31.7	7.0
4	Italy	36.1	5.4	Italy	28.4	6.2
5	China	27.0	4.1	UK	21.0	4.6
6	UK	25.7	3.9	Germany	16.8	3.7
7	Canada	19.6	2.9	China	14.1	3.1
8	Mexico	19.2	2.9	Austria	11.1	2.4
9	Russia	18.5	2.8	Canada	10.0	2.2
10	Poland	18.0	2.7	Greece	8.8	1.9

Note : Arrivals include overnight tourist arrivals only, and exclude same day visitor arrivals. Tourism receipts exclude international long distance transportation fee.

Source : The World Tourism Organization

According to the World Tourism Organization's (WTO) forecast: *Tourism: 2020 vision*, tourists of the 21<sup>st</sup> century will be traveling further from home, and China will become the largest destination in the world with 137.1 million international tourist arrivals by the year 2020, an average growth rate of 8% during 1995-2020. The NTA<sup>23</sup> estimated inbound visitor arrivals would grow 1-3% and inbound tourism receipts would grow 9-14% during 2001-2010. Because the average growth of inbound tourism



receipts from 1995-2000 is 11.4%, and the average growth rate since 1978 is 20.2%, it is not over optimistic to believe the forecasts will be realized.

The size of domestic tourism in terms of tourism receipts is small compared with the developed countries. The domestic tourism revenue is about 4-10 times that of inbound tourism in the tourism-developed countries, but in the case of China it is only 2 times. Given that China is a country with a 1.2 billion population, and the economy has been growing at an annual growth rate of at least 7.1% in the past decade, it is easy to assume that domestic tourism will continue to grow; the potential for growth is significant. The NTA estimated domestic tourist arrivals would grow 8% annually and tourism receipts grow 15% annually in the period 2001-2010. The domestic tourist arrivals would be 2 ~ 2.5 billion and the domestic tourism receipts would be 1000-1050 billion yuan in 2010.

In recent years, with increasing income and holidays, and with increasing business connections with the rest of the world, Chinese tourists are increasingly travelling traveling abroad. Outbound travel is growing rapidly. The WTO has estimated that outbound tourist arrivals of China would grow at an average annual rate of 14% and reach 100 million in 2020, and that China will become the 4<sup>th</sup> largest tourist origination country in the world. The rapid growth of outbound tourism will reduce net foreign exchange earning of tourism.

## 6. Conclusions and Policy Implications

The contribution of tourism to the Chinese economy includes direct and indirect effects, which are classified as ( a ) increase in domestic production. ( b ) generation of labor income and creation of employment. ( c ) generation of government tax. ( d ) foreign exchange earnings from inbound tourist expenditures. and ( e ) other economic effects on regional development, income distribution. The indirect effect of tourism is much larger than the direct effect. The direct and indirect effects show tourism contributes substantially to the Chinese economy. However, compared with other final demands of government consumption, and investment, the multiplier effects of tourism are not outstanding, but they are generally larger than those of exports.

The analysis finds that domestic tourist expenditures generate higher impact on Chinese economy than inbound tourist expenditures. Domestic tourist expenditure has higher direct and indirect effects on domestic production, labor income, indirect tax, employment etc. than inbound tourist expenditure. Compared with domestic tourists, the inbound tourists have higher propensity to import goods and services; therefore, much tourist expenditure leaks out of China and does not generate domestic impact. Domestic tourism was not encouraged before the middle of the 1980s because transportation supply was a bottleneck of the economy and development would increase the problem. In order to earn badly needed hard currency, inbound tourism was made a priority of the government development strategy. The finding suggests that domestic tourism is more desirable for Chinese

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economic development than inbound tourism. In general, because the supply of transportation and accommodation has been gradually improving since the middle of the 1990s, the development of domestic tourism will not increase the problem of short supply. It is time for the government to shift development priority of inbound tourism to domestic tourism.

China is now facing a problem of weak household consumption; the household consumption rate of China is below the world average ( Fan: 2000 ). Electric appliances have entered most urban households, but cars and housing are still too expensive to be bought by most families as electric appliances are. Tourism can provide goods from low prices to high prices fitting consumers ' demands at different income levels. Therefore it can be expected to become one of the hot goods to stimulate consumption. The statistics show that in the last decade domestic tourism consumption has grown faster than total consumption. In 1999 the public holidays of Mayday and National day were extended to 3 days respectively; following that, tourism boomed during the two holidays.

However, inbound tourism development is still very important. In the past two decades, inbound tourism has earned desperately needed hard currency. The growth of inbound tourism is faster than the growth of total exports. Because inbound visitor arrivals have reached a large absolute amount, the growth rate has slowed down compared with the period of 1978-1988. Recent rapid growth of outbound tourism is consuming the foreign exchange earnings of inbound tourism. The development of inbound tourism is of great importance for the balance of payment of the international tourism account. Another reason for inbound tourism promotion is that inbound tourism, as an invisible export, generates larger economic impact on national economy than general exports. Compared with tourism-developed countries, there is still a large potential for tourism development in China. At present, two important questions are how to develop new tourism products to meet the market and how to publicize China in the international tourism market in order to compete with other Asian tourism destinations.

After more than two decades of development, tourism has grown to a significant size. In 2000 total tourism receipts reached 4.3% of total GDP. Tourism has been developed into a pillar industry in the provinces of Yunnan, Hubei, Heilongjiang, Hainan, Tibet and the Municipality of Chongqing. The NTA anticipates that tourism will become one of the key industries, and the ratio of tourism receipts to the GDP will reach 8% in the year 2010. In 1992 the State Council designated tourism as a key sector of tertiary industry. Over half of the provinces and municipalities have designated tourism as a pillar industry or future pillar industry in their region. However, in order to achieve the NTA aim by 2010, it is necessary for the government to continue its industrial and financial policy support of inbound tourism development, and strengthen its support of domestic tourism.

## Endnotes

- 1) For the construction of the SAM, please read the appendix
- 2) NTA, The 9th *Five-year Development Plan of Chinese Tourism and the Outline for the Forecast to 2010*

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Appendix: Construction of a Social Accounting Matrix for Tourism Analysis

The paper uses a Social Accounting Matrix (SAM) with 48 accounts to analyze the impact of tourism. However, it is difficult to construct a SAM with 48 accounts from the beginning, because a SAM requires many pieces of macro economic data, some of which are not consistent and some of which are not available. Therefore, before constructing a more detailed SAM, an aggregated SAM is often constructed to make the data consistent and to estimate those data not available.

The following is an aggregated SAM of 1997 with ten accounts that are one production account; two accounts for factors of production (labor and capital); four institution accounts; one combined capital account; one rest of the world account; and one total account.

Table 1: An Aggregated SAM 1997

		1	2	3	4	5	6	7	8	9	10
1	Production	124,140			35,779		8,725		27,416	16,543	212,603
2	Capital	23,919								249	24,168
3	Labor	41,540								14	41,554
4	H-hold		<i>9,100</i>	41,554		87	706	1,312			52,759
5	Firms		<i>13,338</i>								13,338
6	Government	10,245	146		260	1,032		142	1,115		12,940
7	Social Welfare				1,453						1,453
8	C-Capital				15,267	<i>12,219</i>	<i>3,509</i>			<i>- 2,464</i>	28,531
9	R-World	12,759	1,583								14,342
10	Total	212,603	24,168	41,554	52,759	13,338	12,940	1,454	28,531	14,342	401,846

Note : The data in italic font is estimated. Unit: 100 million yuan

All data of the production account are from the input-output table 1997. The production column account records all expenditures during the production process in addition to the imports. The expenditures in detail include intermediate input demands, labor and capital costs, indirect taxes. The cell (1,1) the sum of the intermediate demand data of the IO table. The capital expenditure of production shown in the cell (2,1) is the sum of the gross fixed capital formation and the operating surplus in the IO table. The labor expenditure shown in the cell (3,1) is from the data of compensation of labor in the IO table. The expenditure to the government account shown in the cell (6,1) is from the data of the net taxes on production of the IO table. The import data is in a negative form in the IO table, and is converted into positive data and shown in the cell (9,1) of the aggregated SAM.

The production row account records outgoing of total production and imports for intermediate input supply, investment, household and government consumption, and exports. The data in the cell

( 1,4 ) is the household consumption; in the cell ( 1,6 ) is the government consumption; in the cell ( 1,9 ) are the exports of the IO table. There is a column of error data and a column of gross capital formation data in the IO table ; these are added up and shown in the cell ( 1,8 ) The 21260.3 billion yuan shown in the cell ( 1,10 ) is the sum of the row account, which equals the sum of the column.

The capital row account shows that Chinese citizens earn 2391.9 billion yuan ( 2,1 ) and 24.9 billion yuan ( 2,9 ) from domestic and abroad respectively. The cell ( 2,10 ) the sum of the row, records the total capital income, and equals the total expenditures of capital account in the cell ( 10,2 ) The 158.3 billion yuan ( 9,2 ) is the capital earning of the foreign capital. The 14.6 billion yuan ( 6,2 ) is the capital expenditure to the government. The data of capital earnings from aboard and capital expenditures to the government and the rest of the world are from the Flow of Funds Table 1997. The data of 1333.8 billion yuan ( 5,2 ) shows the operating surplus of firms, and is estimated by deducting other capital expenditures from the total capital income. The data of 910 billion yuan in the cell ( 4,2 ) is also estimated data, and shows the capital earning distributed to households.

The labor row account shows the factor income of labor from domestic production and the rest of the world. The abroad labor earning of 1.4 billion yuan ( 3,9 ) which is from the Balance of Payment Statement 1997, and the domestic labor earning of 4154 billion yuan, totaling 4155.4 billion yuan, goes to the household account shown in the cell ( 4,3 )

Expenditures of the households include 3577.9 billion yuan household consumption ( 1,4 ) ; 26 billion yuan ( 6,4 ) income tax; 145.3 billion yuan ( 7,4 ) for social welfare insurance; and 1526.7 billion yuan ( 8,4 ) savings, totaling 5275.9 billion yuan. Income tax, household savings and social welfare insurance expenditure are obtained from the Flow of Funds Table 1997. Three pieces of transfer income data of households, the 8.7 billion yuan ( 4,5 ) from firms, 70.6 billion yuan ( 4,6 ) social subsidies from government and 131.2 billion yuan ( 4,7 ) social welfare income, are from the Flow of Funds Table 1997. There is a 910 billion yuan difference between the household expenditure and the sum of labor and transfer income of households. The difference is assumed to be the capital income of households shown in the cell ( 4,2 )

For firm account in the SAM, capital is its only source of income, but there are three expenditures: transfer expenditure to households ( 4,5 ) corporation income tax ( 6,5 ) ; and saving ( 8,5 ) The first two are from the Flow of Funds Table 1997 and the saving data is estimated by deducting transfer expenditure to households and corporation income tax from the total firm income which has been estimated in the previous paragraph.

The government account has 6 sources of income in the aggregated SAM, 4 of them have been explained in the previous paragraphs. The remaining two government incomes are 14.2 billion yuan ( 6,7 ) transfer income from social welfare account, and 111.5 billion yuan ( 6,8 ) credit income from the combined capital account. The former is the surplus of the government run social welfare agency,

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which will be explained in the next paragraph. The 111.5 billion yuan is the sum of the 58.2 billion yuan government budget deficit of 1997 and the 53.3 billion yuan net income of debts the government received in the same year (debt income of government minus payment of principle and interest of the credit). The cell (6,10) the sum of the row, records total government revenue in 1997. The government expenditures include government consumption (1,6), transfer expenditure on households (4,6) and government saving (8,6). The government consumption data is from the IO table; the 70.6 billion yuan transfer to households is from the Flow of Funds Table 1997 and the government saving is estimated by deducting government consumption and transfer expenditure from the total government revenue.

The social welfare account is indeed a sub account of the government, which records the government income and expenditure of health insurance and pension. Households pay 145.3 billion yuan (7,4) and receive 132.2 billion yuan (4,7) benefit to and from the government run health and pension agencies. Because the government takes responsibility for the loss and gain of the management, the 14.2 billion yuan surplus in 1997 is then transferred to the government account.

The combined capital row account records the savings. The total saving of 2853.1 billion yuan recorded in the cell (8,10) equals the total investment recorded in the cell (10,8). A negative data of -246.4 billion yuan in the cell (8,9) is the net saving of the rest of the world. It is estimated by deducting other expenditures of the rest of the world account from the 1434.2 billion yuan total income of that account. The combined capital column account records the total investment and government debt income.

Because China is not a closed economy, a rest of the world account is set up to record the link of China and the rest of the world. The rest of the world row account shows foreign exchange earning of the rest of the world from China, in other words, total foreign exchange expenditures of China. The rest of the world column account, on the contrary, shows expenditures of the rest of the world, or the total foreign exchange earning of China from the rest of the world.

After construction of the aggregated SAM, the production is disaggregated into 37 sub-accounts, and the domestic tourism and international tourism account are separated from the household account and the rest of the world account respectively.

### Production accounts

The data source for disaggregation of the production account is the 37-sector IO table 1997 that is aggregated from the 124-sector IO table 1997. The aggregation principle is to select tourism related sectors, such as hotel, transportation, and travel agency etc. to be remained in the IO table, and to select some sectors less important to tourism to be aggregated.

### International tourism account

Inbound tourism is a kind of export of service, and the inbound tourism receipt is contained in the export data of the IO table and the aggregated SAM shown in Table 1. As a kind of service import, tourist expenditure is included in the import data. In order to have a clear picture of tourism expenditure and the balance of tourism income and expenditure, an international tourism account is split from the rest of the world account of the aggregated SAM. The inbound tourist expenditures matching 37-production accounts are obtained from the tourist expenditure survey conducted by the NTA. The inbound tourist expenditures are classified into 9 categories: accommodation, long distance transportation, food & beverage, recreation, shopping, telecommunication, sightseeing, local transportation, and others. The shopping expenditure is further classified into 12 categories. The disaggregated inbound tourist expenditures are first allocated to the proper sectors of the 37 production accounts. For example, tourist expenditure on food & beverage is allocated to the sector of restaurants; expenditure on long distance transportation is allocated to the sector of passenger transport. Because the survey data of tourist expenditure are at consumer's prices, they are then converted into the data at producer's prices by deducting the trade margin and transportation margin. The trade margin is allocated to the commerce sector; the transportation margin is allocated to the freight transport sector. The final data of inbound tourist expenditures matched to the 37 production accounts are shown in column 47 the international tourism account in Table 2.

The 37 sector export data of the IO table minus inbound tourist expenditure data matched to 37 sectors is the export data of the rest of the world account in the detailed SAM, which is shown in column 46 in Table 2.

The total outbound tourist expenditure is 84.3 billion yuan, which is from the Balance of Payment 1997. Because there is no detailed data on outbound tourist expenditures available, the row of outbound tourist expenditure data is estimated from the import data of the 37-sector IO table and the structure of inbound tourist expenditures. The import data of hotel, transportation, restaurants, and travel agencies in the 37-sector IO table are assumed to be tourist expenditures of outbound tourists. The outbound tourist expenditures on other sectors are estimated according to the expenditure structure of inbound tourists. Adjustments are done when the estimated tourist expenditure data are larger than the total imports data of the IO table. For the detailed outbound tourist expenditure data matching 37-production sector, please look at row 47 in Table 2.

The row vector data of imports minus the estimated row vector data of outbound tourist expenditures are the row vector imports data of the rest of the world account in the SAM ( row 46 in Table 2 )

Because the outbound tourist expenditure is only 84.3 billion yuan, and inbound tourist expenditure is 100.1 billion yuan, a deficit of 15.8 billion yuan is needed to balance the international tourism

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account. The deficit is received from the rest of the world account in the SAM, this means the rest of the world earns 15.8 billion yuan less than its expenditure on international tourism and it has to use its earnings from other fields to fill in the deficit.

### Domestic tourism account

Total domestic tourist expenditure was 211.3 billion yuan in 1997, and this is matched to the 37-production accounts in the same way as the inbound tourist expenditure. The data is shown in column 41 of Table 2.

Domestic tourist expenditures include both private tourist expenditure and corporation tourism expenditure. Unfortunately, the survey conducted by the NTA does not provide specific data on private and business tourist expenditures. However it is clear that private tourist expenditure, as part of household consumption, should be included in the total household consumption data of the IO table. Comparing the 37-sector total consumption data with the tourist consumption data matched to the 37-sector, it is found that tourist expenditures on accommodation and long distance transportation are larger than the total household consumption in the hotel sector and long distance transportation sector. The difference totaled 39.6 billion yuan and is assumed to be business tourist expenditure, and the remaining 171.6 billion yuan is assumed to be private tourism consumption. Then the private tourism consumption is deducted from the total household consumption, and only the other consumption is recorded in the household column account of the SAM.

The 39.6 billion yuan business tourism expenditure on hotel and long distance transportation is evenly deducted from the intermediated input data of the 37-sector IO table. Then the domestic tourism row account has two sources of income: 171.6 billion yuan private tourism expenditure from the household account, and 39.6 billion yuan business tourism expenditure from the 37 production sectors.



Table 2: Social Accounting Matrix for Tourism Analysis 1997

		1	2	3	4	5	6	7	8	9	10	11	12
		Agriculture	Mining	Food mfg	Textiles	Apparel	Furniture	Paper, printing	Petro ref	Chemicals	Medicines	Non-metal	Primary metal
1	Agriculture	3964.1	67.5	5922.8	1158.7	217.9	121.0	198.4	0.0	537.3	169.1	25.8	0.3
2	Mining	51.2	519.0	63.8	34.6	5.8	87.7	42.8	1685.9	713.3	4.7	996.7	1178.6
3	Food mfg	1636.9	1.9	1766.2	1.3	241.1	0.0	0.6	0.0	121.4	71.5	7.1	0.0
4	Textiles	52.8	21.4	18.4	3559.2	1935.3	157.8	220.4	0.8	557.7	13.7	89.6	10.1
5	Apparel	17.9	37.3	13.5	36.9	671.9	56.8	51.6	7.0	41.5	3.2	35.6	19.5
6	Furniture	33.1	18.2	5.6	2.4	1.5	528.3	35.2	1.8	8.8	0.9	25.6	9.3
7	Paper, printing	27.5	8.7	302.3	25.1	39.3	32.4	1047.3	1.4	151.2	68.2	393.2	9.1
8	Petro ref	208.9	152.3	30.4	15.2	9.0	8.6	23.5	139.9	280.2	2.0	242.8	286.6
9	Chemicals	1786.6	331.5	331.7	756.5	420.2	108.5	401.9	66.3	5086.6	163.0	504.8	131.0
10	Medicines	39.2	0.9	16.7	0.1	0.0	0.0	0.6	0.0	6.1	302.0	0.1	0.1
11	Non-metal	62.8	81.3	93.7	13.5	6.9	19.4	26.5	27.8	127.8	23.4	1248.5	209.0
12	Primary metal	3.7	157.6	5.4	1.6	1.3	50.5	31.2	10.8	55.3	1.3	202.8	2246.8
13	Metal prod	73.2	109.1	100.5	17.5	27.7	85.3	69.5	8.7	133.9	9.4	266.5	84.5
14	Machinery	252.0	336.9	52.1	110.6	15.3	18.0	61.0	60.4	182.6	10.1	271.7	260.0
15	Transport eq	71.9	88.9	25.3	7.8	5.1	7.1	23.3	11.8	47.3	3.5	31.7	53.7
16	Electric mach	15.4	96.0	15.2	30.8	5.3	3.9	21.3	20.5	53.8	3.4	44.2	64.6
17	Com Eq	1.9	23.2	4.8	4.8	2.0	1.9	41.6	6.0	13.5	1.8	14.5	15.4
18	Prec instr	1.5	26.2	8.4	4.9	2.5	1.7	7.4	6.6	31.6	3.1	16.8	15.2
19	Mach repair	52.0	26.7	10.5	5.6	2.1	1.8	5.8	12.9	28.0	2.8	13.8	23.5
20	Arts & crafts	30.1	12.3	15.7	10.7	6.2	3.4	6.4	6.1	20.4	2.3	14.3	14.7
21	Other mfg	9.9	57.0	57.4	46.3	47.4	14.1	153.6	8.5	57.7	8.0	95.9	388.6
22	Electr. gas	184.2	342.6	119.2	87.1	18.7	33.9	114.6	68.6	578.4	36.6	398.3	426.9
23	Construction	49.0	15.2	7.4	6.0	3.4	1.2	4.4	3.2	12.0	1.4	6.7	6.6
24	Freight trans	239.5	200.5	149.6	93.9	43.5	37.4	66.6	74.0	266.8	17.8	335.8	217.1
25	Post & com	12.9	87.6	22.3	30.8	30.8	19.1	11.3	11.4	62.2	4.2	33.9	62.2
26	Commerce	434.6	164.5	526.5	407.3	320.2	150.4	236.0	108.2	502.1	80.4	445.4	237.1
27	Restaurants	12.9	44.2	29.2	55.8	14.4	10.2	32.0	5.5	55.9	8.8	57.9	26.4
28	Passenger trans	41.4	5.0	0.3	1.4	0.4	0.2	0.1	0.1	0.7	0.0	0.3	2.9
29	Finance & ins	115.7	83.7	75.6	75.5	31.0	19.6	42.1	31.0	148.1	14.7	115.1	102.1
30	Real estate	5.9	4.1	7.8	5.7	6.6	5.8	5.5	0.5	12.2	2.5	5.8	2.1
31	Utilities	53.5	37.6	17.7	12.6	6.4	3.9	10.9	15.8	42.9	3.1	24.3	44.0
32	Hotels	18.5	7.3	1.6	2.0	0.9	0.3	0.5	0.3	1.9	0.6	7.9	4.9
33	Travel agencies	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
34	Recreation	30.5	26.7	133.8	33.1	42.0	21.0	18.6	5.8	73.4	43.5	34.5	14.6
35	Sports, health	2.0	8.4	1.5	0.5	0.5	0.3	2.5	0.5	1.7	0.1	1.5	4.7
36	Education, culture	20.9	11.3	3.8	3.4	2.2	1.3	4.3	1.2	8.0	1.1	6.2	5.7
37	Public adm	321.9	42.5	10.0	2.8	4.6	1.8	8.6	5.0	18.6	2.7	7.4	10.5
38	Capital	1329.9	1555.3	1458.0	1061.4	593.5	220.3	484.5	250.0	1305.5	311.1	985.7	448.3
39	Labor	12978.7	1649.9	1060.5	1057.9	1054.1	301.4	725.8	145.2	1358.6	173.9	1324.9	759.9
40	Households	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	Dom tourism	0.0	4.6	0.5	1.2	0.4	0.2	0.2	0.1	0.8	0.2	2.0	2.8
42	Firms												
43	Government	433.0	363.5	1307.3	495.0	251.7	104.5	180.4	288.2	786.5	149.9	471.9	375.8
44	Social welfare												
45	C-capital												
46	R-world	400.0	768.5	381.8	848.5	273.2	109.7	421.0	394.5	2066.6	19.4	91.8	821.6
47	Int-tourism	0.0	0.0	88.8	25.5	58.0	8.9	33.7	0.0	17.1	10.0	14.4	0.0
48	Total	25077	7597	14263	10152	6420	2360	4874	3493	15576	1749	8914	8597

Unit : 100 million yuan

## Measuring the Economic Impact of Tourism in China

	13	14	15	16	17	18	19	20	21	22	23	24	25
	Metal prod	Machinery	Transport eq	Electric mach	Com Eq	Prec instr	Mach repair	Arts & crafts	Other mfg	Electr. gas	Construction	Freight trans	Post & com
Agriculture	4.1	3.5	2.1	0.5	0.0	0.0	2.6	115.7	76.9	0.5	72.1	11.2	0.0
Mining	114.4	102.0	30.8	57.3	7.8	2.0	6.6	10.6	20.3	821.6	455.7	37.2	0.0
Food mfg	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	8.7	0.0	11.1	18.4	0.0
Textiles	16.4	60.9	40.2	9.5	1.9	3.4	15.5	118.8	95.1	3.3	36.0	5.9	0.8
Apparel	11.1	27.4	19.4	12.4	3.9	3.1	2.9	16.2	2.7	14.8	21.2	15.5	16.3
Furniture	52.7	27.2	18.2	29.4	7.7	3.7	2.1	11.5	8.0	4.4	367.5	9.3	8.3
Paper, printing	35.1	39.2	19.2	112.7	55.8	11.1	0.5	87.6	10.8	3.0	12.1	14.8	56.8
Petro ref	35.0	77.8	36.0	38.2	12.8	3.9	8.4	10.1	8.0	220.2	496.1	383.2	12.8
Chemicals	159.6	312.5	316.7	738.7	391.0	74.2	20.3	84.9	150.7	48.9	357.4	83.8	6.1
Medicines	0.0	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.3	6.3	2.3	0.3
Non-metal	96.4	77.3	61.4	175.9	190.2	24.5	8.6	3.8	28.9	35.0	4705.6	21.0	4.0
Primary metal	1572.6	1271.7	490.2	1088.5	72.0	52.4	32.3	76.4	31.0	10.1	1080.1	13.9	2.9
Metal prod	649.8	307.2	125.8	270.8	108.9	31.7	40.9	69.9	37.0	29.5	1049.3	12.8	7.1
Machinery	87.2	1590.3	583.8	235.1	31.4	30.9	38.7	5.3	6.1	175.2	446.8	92.2	46.7
Transport eq	22.4	71.9	1522.5	14.0	8.8	1.6	106.6	1.2	3.8	25.9	8.0	203.0	18.5
Electric mach	28.4	348.6	125.2	640.4	378.8	45.9	17.9	2.0	3.6	166.5	781.8	11.9	189.3
Com Eq	10.1	154.1	26.9	196.8	1939.6	120.9	5.6	0.8	3.9	20.4	23.7	9.5	48.8
Prec instr	8.9	27.6	22.1	31.7	8.1	54.1	4.9	0.8	1.5	66.3	104.7	4.8	30.1
Mach repair	6.2	10.2	5.8	7.5	3.1	0.9	36.9	0.4	0.8	30.9	36.9	67.5	75.7
Arts & crafts	10.6	14.9	9.3	10.8	7.8	1.5	1.2	85.4	1.6	7.4	50.8	6.1	3.0
Other mfg	45.6	83.1	29.0	48.1	23.3	16.4	3.5	7.8	92.0	30.1	5.3	6.3	0.3
Electr. gas	178.9	136.0	61.3	59.5	32.4	8.0	10.2	8.6	19.3	262.9	141.6	63.6	54.7
Construction	4.4	13.4	4.9	6.4	2.0	0.9	2.5	1.1	1.0	12.5	10.1	51.3	65.7
Freight trans	110.2	115.1	59.2	70.8	44.2	9.7	8.1	30.8	15.4	126.1	312.5	162.1	18.9
Post & com	91.6	80.9	44.1	33.0	14.7	10.7	3.0	12.5	7.1	15.4	320.5	24.6	1.0
Commerce	155.1	202.2	147.4	196.1	202.8	30.8	15.5	61.8	46.1	210.9	772.7	56.2	30.8
Restaurants	37.8	62.0	15.2	52.1	12.0	4.3	5.1	5.4	6.3	10.8	58.9	25.0	6.4
Passenger trans	1.0	0.9	0.5	0.4	0.2	0.1	0.0	0.1	0.1	0.2	2.7	16.8	0.2
Finance & ins	183.0	113.2	48.1	60.5	33.2	12.4	8.0	10.5	10.2	83.2	107.1	67.7	13.6
Real estate	8.4	6.6	3.5	9.5	10.0	1.8	0.5	1.8	2.4	0.6	2.0	5.7	6.3
Utilities	25.2	21.6	12.3	22.3	7.2	2.1	3.2	0.9	1.6	44.8	9.9	20.8	10.3
Hotels	3.2	6.2	0.9	2.1	0.9	0.3	0.2	0.3	0.5	0.4	4.6	22.3	1.0
Travel agencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Recreation	34.5	60.2	24.5	71.5	32.7	4.3	4.4	5.2	15.7	8.1	332.8	31.2	75.5
Sports, health	1.0	8.3	1.6	1.2	0.1	0.1	0.1	0.2	1.1	3.3	2.1	3.4	0.1
Education, culture	8.4	9.9	4.1	4.5	2.4	0.9	1.2	0.7	0.6	4.2	27.8	13.4	20.0
Public adm	9.7	15.4	8.0	8.8	6.8	1.5	0.9	0.6	2.2	16.9	151.7	1.9	0.6
Capital	388.0	1152.4	556.0	469.9	564.4	107.7	109.1	152.6	694.3	1069.4	1132.2	931.6	815.4
Labor	578.8	1192.6	574.5	539.7	490.6	123.7	164.7	157.3	175.4	532.2	3457.9	1014.2	232.0
Households	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dom tourism	1.3	1.9	0.5	0.7	0.3	0.1	0.1	0.2	0.2	0.2	2.6	14.8	0.3
Firms													
Government	196.2	420.2	262.5	232.6	186.7	28.3	26.6	50.7	40.5	314.9	407.4	153.4	78.4
Social welfare													
C-capital													
R-world	335.0	1758.7	476.9	482.9	1665.4	319.7	0.0	0.0	51.0	0.2	50.1	0.0	14.7
Int-tourism	0.0	0.0	0.0	32.3	31.9	25.4		63.2	0.0				9.4
Total	5318	9985	5791	6075	6594	1175	719	1274	1682	4431	17436	3711	1983

Unit : 100 million yuan

	26	27	28	29	30	31	32	33	34	35	36	37	38
	Commerce	Restaurants	Passenger trans	Finance & ins	Real estate	Utilities	Hotels	Travel agencies	Recreation	Sports, health	Education, culture	Public adm	Capital
Agriculture	77.1	506.5	0.0	0.0	0.6	9.2	20.5	0.1	16.2	8.9	9.3	91.3	0.0
Mining	11.8	6.8	6.2	1.9	12.8	19.8	5.4	0.0	9.4	12.2	39.9	32.3	0.0
Food mfg	316.0	652.4	22.3	0.6	0.6	63.8	49.9	0.6	69.7	13.7	25.1	25.3	0.0
Textiles	74.3	2.6	3.4	0.8	1.1	105.3	11.0	0.1	8.9	12.1	6.1	30.3	0.0
Apparel	107.7	6.0	4.1	8.0	2.9	15.2	6.4	0.2	12.8	5.3	7.0	69.9	0.0
Furniture	91.4	14.5	2.5	18.2	2.9	56.6	3.1	0.0	28.7	7.1	22.6	36.5	0.0
Paper, printing	345.9	6.0	6.4	90.4	12.8	44.6	9.5	0.5	163.9	20.4	246.6	264.0	0.0
Petro ref	165.6	5.2	161.2	12.1	4.6	133.3	5.5	0.1	16.0	4.1	10.2	78.0	0.0
Chemicals	186.1	11.0	15.0	8.2	3.0	166.3	15.9	0.1	39.4	46.3	29.4	44.9	0.0
Medicines	46.4	0.9	0.6	0.7	0.2	5.1	0.7	0.0	1.3	666.2	23.3	21.7	0.0
Non-metal	100.0	7.0	4.4	5.2	72.2	30.2	4.6	0.1	18.8	7.7	29.6	86.7	0.0
Primary metal	4.9	0.8	4.0	0.0	2.9	3.3	0.0	0.0	2.6	0.1	1.5	7.8	0.0
Metal prod	53.1	5.3	2.0	6.2	5.7	10.2	2.1	0.0	41.9	6.6	13.8	93.4	0.0
Machinery	186.3	2.5	34.1	34.5	8.9	56.0	5.3	0.2	37.8	88.1	23.3	147.8	0.0
Transport eq	293.1	0.7	119.8	8.4	4.0	53.3	1.0	0.3	45.0	2.8	9.4	90.4	0.0
Electric mach	340.0	3.2	4.3	16.0	16.7	15.2	9.6	0.1	83.3	6.4	20.2	44.2	0.0
Com Eq	203.5	1.8	2.9	60.7	3.9	6.7	4.3	0.1	350.0	4.7	45.6	99.5	0.0
Prec instr	30.0	0.1	0.7	34.2	2.3	24.5	2.6	0.1	30.2	2.2	11.9	23.6	0.0
Mach repair	43.1	0.3	43.5	21.2	6.0	36.6	3.6	0.2	20.2	10.7	11.6	71.3	0.0
Arts & crafts	50.7	4.4	4.3	17.9	2.8	11.9	7.3	0.6	16.4	2.9	7.6	17.6	0.0
Other mfg	19.6	1.8	0.9	12.6	12.0	20.3	3.3	0.1	4.5	9.9	7.2	7.0	0.0
Electr. gas	117.8	26.0	12.6	24.4	10.7	47.4	23.9	1.1	18.2	33.5	110.3	103.2	0.0
Construction	56.3	1.5	19.3	66.5	72.3	63.8	21.8	0.6	38.0	44.3	163.8	188.0	0.0
Freight trans	121.2	11.0	61.0	9.7	6.8	19.1	2.9	1.0	14.7	11.1	20.2	50.0	0.0
Post & com	84.7	4.3	5.4	59.6	5.1	14.4	11.1	3.8	25.2	16.8	78.6	217.3	0.0
Commerce	906.3	100.2	18.8	35.7	16.1	63.5	15.0	6.2	84.3	110.5	73.7	128.1	0.0
Restaurants	182.2	2.6	10.1	42.8	12.5	17.3	3.8	31.2	30.7	10.2	29.9	162.8	0.0
Passenger trans	67.7	0.0	7.3	39.6	3.5	10.2	2.1	86.0	27.0	5.9	51.8	162.1	0.0
Finance & ins	419.6	7.0	29.3	312.1	85.5	17.3	13.8	7.9	23.2	4.1	17.8	151.5	0.0
Real estate	144.6	7.5	2.6	135.8	11.1	22.6	3.2	2.1	37.8	5.6	9.3	55.1	0.0
Utilities	125.5	1.4	5.1	30.5	7.9	71.3	7.0	32.5	29.2	9.8	47.0	83.6	0.0
Hotels	32.5	1.6	7.8	48.8	3.6	8.2	10.0	22.9	22.4	5.3	36.5	197.6	0.0
Travel agencies	0.0	0.0	0.1	1.0	0.4	1.1	1.6	48.8	1.1	0.3	2.1	5.8	0.0
Recreation	308.7	42.4	20.5	180.9	26.4	25.7	8.8	6.8	56.3	2.9	34.8	65.9	0.0
Sports, health	0.3	2.0	3.1	1.0	0.2	1.6	0.2	0.2	0.6	3.4	6.1	11.6	0.0
Education, culture	26.5	1.3	4.9	17.7	1.9	9.7	2.1	2.0	22.6	7.0	88.3	63.6	0.0
Public adm	26.1	0.0	0.2	2.9	1.3	2.1	0.6	0.1	27.6	1.4	12.5	64.7	0.0
Capital	1576.9	289.1	316.2	706.5	1103.2	318.9	275.7	31.4	117.8	76.7	198.5	761.5	0.0
Labor	2807.5	412.0	292.3	656.9	223.4	752.2	147.5	50.3	354.7	538.5	1370.7	2110.0	0.0
Households	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9100.2
Dom tourism	47.0	0.4	6.0	34.1	2.8	7.8	3.5	55.6	20.8	4.6	38.5	139.1	
Firms													13337.9
Government	1250.5	100.2	90.0	831.1	81.7	30.4	59.1	6.5	98.1	6.0	24.1	61.2	146.3
Social welfare													
C-capital													
R-world	0.0	0.0	0.0	44.1	0.0	0.0	0.0	0.0	83.3	9.4	7.8	20.2	1583.1
Int-tourism		43.1	85.3			7.3	93.8	143.1	39.8	2.2	9.9		
Total	11049	2293	1441	3639	1855	2399	879	544	2190	1848	3034	6186	24168

Unit : 100 million yuan

## Measuring the Economic Impact of Tourism in China

	39	40	41	42	43	44	45	46	47	48
	Labor	Households	Dom tourism	Firms	Government	Social welfare	C-capital	R-world	Int-tourism	Total
Agriculture	0.0	10361	0.0	0.0	0.0		896	408.3	0.0	25077
Mining	0.0	91	0.0	0.0	0.0		- 93	389.8	0.0	7597
Food mfg	0.0	7510	85.5	0.0	0.0		807	696.7	36.4	14263
Textiles	0.0	654	24.5	0.0	0.0		461	1701.1	10.5	10152
Apparel	0.0	2350	31.1	0.0	0.0		478	2142.8	13.2	6420
Furniture	0.0	395	8.5	0.0	0.0		157	290.8	3.6	2360
Paper, printing	0.0	242	32.5	0.0	0.0		145	665.2	13.8	4874
Petro ref	0.0	50	0.0	0.0	0.0		- 74	177.9	0.0	3493
Chemicals	0.0	569	16.4	0.0	0.0		180	1405.4	7.0	15576
Medicines	0.0	413	34.4	0.0	0.0		57	87.3	14.6	1749
Non-metal	0.0	515	13.9	0.0	0.0		346	293.6	5.9	8914
Primary metal	0.0	13	0.0	0.0	0.0		- 492	485.0	0.0	8597
Metal prod	0.0	284	0.0	0.0	0.0		418	650.4	0.0	5318
Machinery	0.0	48	0.0	0.0	0.0		3830	482.9	0.0	9985
Transport eq	0.0	567	0.0	0.0	0.0		1899	310.8	0.0	5791
Electric mach	0.0	942	6.6	0.0	0.0		565	884.5	2.8	6075
Com Eq	0.0	675	6.2	0.0	0.0		654	1779.7	2.6	6594
Prec instr	0.0	46	0.0	0.0	0.0		63	412.8	0.0	1175
Mach repair	0.0	0	0.0	0.0	0.0		- 17	0.0	0.0	719
Arts & crafts	0.0	247	134.2	0.0	0.0		122	216.2	57.2	1274
Other mfg	0.0	65	0.0	0.0	0.0		51	132.7	0.0	1682
Electr. gas	0.0	585	0.0	0.0	0.0		- 167	38.2	0.0	4431
Construction	0.0	0	0.0	0.0	0.0		16383	24.5	0.0	17436
Freight trans	0.0	174	8.0	0.0	0.0		79	292.9	3.4	3711
Post & com	0.0	323	10.9	0.0	0.0		- 36	71.6	39.3	1983
Commerce	0.0	1906	72.3	0.0	0.0		594	1146.2	30.8	11049
Restaurants	0.0	677	307.4	0.0	0.0		6	6.0	106.3	2293
Passenger trans	0.0	72	657.8	0.0	0.0		- 7	0.0	178.3	1441
Finance & ins	0.0	924	0.0	0.0	0.0		4	16.9	0.0	3639
Real estate	0.0	1076	0.0	0.0	0.0		218	0.0	0.0	1855
Utilities	0.0	527	147.4	0.0	627.1		- 2	122.5	71.9	2399
Hotels	0.0	20	260.2	0.0	0.0		- 14	2.5	123.1	879
Travel agencies	0.0	3	220.9	0.0	0.0		12	27.0	218.4	544
Recreation	0.0	24	28.5	0.0	0.0		- 10	142.6	47.2	2190
Sports, health	0.0	864	0.0	0.0	913.8		- 12	2.6	2.6	1848
Education, culture	0.0	850	5.5	0.0	1734.3		- 13	29.6	11.8	3034
Public adm	0.0	0	0.0	0.0	5449.6		- 69	5.4		6186
Capital	0.0	0		0.0	0.0		0	249	0.0	24168
Labor	0.0	0		0.0	0.0		0	14	0.0	41554
Households	41554.1	0	0.0	87.3	705.6	1312	0	0.0	0.0	52759.0
Dom tourism		1716								2113
Firms		0								13338
Government	0.0	260	0.0	1032	0.0	141.6	1115	0.0	0.0	12940
Social welfare		1453								1453
C-capital		15267		12219	3509			- 2463.6		28531
R-world	0.0	0	0.0	0.0	0.0		0	0.0	0.0	13499
Int-tourism		0		0.0	0.0		0	158	0.0	1001
Total	41554	52759	2113	13338	12940	1453	28531	13499	1001	403959

Unit : 100 million yuan