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**The Current and Future Industrial Structure of
Guangdong Province**

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Abstract: Industrial structure of Guangdong Province in P.R.China is developing towards higher Level, the main factor is demand structure that Influence industrial structure. By means of econometric methods, Guangdong macroeconomic model is established to forecast the total demand of this province, and different demand structure can be forecast from coefficients income elasticity etc. With the future demand structure within grasp, and according to the theory of input-output analysis, the future economic development gross and Industrial structure can be forecast.

Key Word: Industrial Structure, Factors of Influence, Forecast, Guangdong Province

1. The Evolutive Industrial Structure of Guangdong Province

The economic development practice has proved that so-called economy is developed on the one hand is that the gross national product and other gross constantly increase and on the other hand is that the industrial structure constantly progresses with the gross. The gross and structure are two the relative independent moving economic appearance which is each other dependence, interaction and close contact. Generally, in economic development the gross increase depends on the state of the structure on the very great degree. The Guangdong Province's economic development over a long period of time paces up and down among extensive economic increase, and there are a lot of reasons of forming this kind of pattern, for example, the restriction of traditional economic system, the lower competence of economic management, as well as the mistake guide of theory and policy. Along with the deepening of the reform and the raise of the understanding level, people pay attention to, the long-term and essential reason is the structure question, and just chiefly is the industrial structure question. In order to advance the increase way of the Guangdong Province's economy to the intensive type from the extensive type, we must firstly grasp the development trend of Guangdong Province's industrial structure.

From 1987, 1992 and 1997's input-output tables of Guangdong Province, total output, GDP and their structure that are listed in term of three times industries are shown such as table 1 and table 2. No matter from the total output or the GDP we can see that three times industrial total all has extremely great increase, and the industrial structure constantly progresses with them. The total output structure from 19.45:57.97:22.58 in 1987 develops to 11.62:64.64:23.74 in 1992 and develops again to 7.37:67.24:25.39 in 1997. The GDP structure from 29.52:39.58:30.90 in 1987 develops to 20.35:48.00:31.65 in 1992 and develops again to 13.41:50.16:36.43 in 1997. Primary industry proportion descends, secondary industry and tertiary industry proportion ascends, and this is the universal law that the industrial structure develops towards higher Level.

Table 1 (10 thousand yuan, %)

	1987		1992		1997	
	Total output	Structure	Total output	Structure	Total output	Structure
Primary industry	3486088.29	19.45	7371121.00	11.62	16564500.00	7.37
Secondary industry	10386714.01	57.97	41016125.69	64.64	151033661.10	67.24
Tertiary industry	4045974.62	22.58	15061237.00	23.74	57019500.00	25.39
Total	17918776.91	100.00	63448483.69	100.00	224617661.10	100.00

Table 2 (10 thousand Yuan, %)

	1987		1992		1997	
	GDP	Structure	GDP	Structure	GDP	Structure
Primary industry	2318349.34	29.52	4714743.92	20.35	9868200.00	13.41
Secondary industry	3108461.55	39.58	11119588.56	48.00	36906061.09	50.16
Tertiary industry	2426902.28	30.90	7331494.59	31.65	26808700.00	36.43
Total	7853713.17	100.00	23165827.07	100.00	73582961.10	100.00

2. The Change Factors and Trend to Influence Structure

The economy theory indicates that the national industrial structure change chiefly is decided by two kinds of evolutions of factor: one kind is the income standard, and another kind is the essential factor supply. The income increase can make that demand structure present quite unanimous change, but the change of the essential factor supply can lead to the change of trade type and the corresponding change of technology aspect. Because the essential factors of production can flow on the very great degree inside the nation, so the industrial structure of a province chiefly is decided by the demand structure. The change of demand structure is the middle link that the raise of income standard is joining the change of industrial structure. The regularity change of the demand structure accompanies just about the raise of the income standard, it forms the basic reason why the industry structure is changed. But the change of the people's demand structure, or in other words the change of the consumptive structure that decide the change of demand structure, dues to the connatural regularity of the mankind's material life. The final use of Guangdong Province in 1987 1992 and the 1997, the import and their structure are shown such as table 3 and table 4, and these two pieces of structure decide the industrial structure. The final use can be divided into consumption, capital formation and export, and they and their structure are shown such as table 5 and table 6 and table 7.

Table 3 (10 thousand Yuan, %)

	1987		1992		1997	
	Final use	Structure	Final use	Structure	Final use	Structure
Primary industry	2421338.54	16.96	5702924.54	13.61	13316288.69	8.44
Secondary industry	8813587.01	61.72	27333519.34	65.21	120427935.27	76.29
Tertiary industry	3045325.46	21.33	8876770.12	21.18	24120794.12	15.28
Total	14280251.03	100.00	41913214.00	100.00	157865018.10	100.00

Table 4 (10 thousand Yuan, %)

	1987		1992		1997	
	Import	Structure	Import	Structure	Import	Structure
Primary industry	209354.05	3.26	826354.21	4.41	4223027.76	5.01
Secondary industry	5324964.28	82.86	17079507.79	91.10	75565012.96	89.66
Tertiary industry	892219.53	13.88	841524.92	4.49	4494016.30	5.33
Total	6426537.87	100.00	18747386.92	100.00	84282057.00	100.00

Table 5 (10 thousand Yuan, %)

	1987		1992		1997	
	Consumption	Structure	Consumption	Structure	Consumption	Structure
Primary industry	1731595.28	34.16	3972913.60	30.63	9285508.53	22.60
Secondary industry	1598063.15	31.53	2218872.98	17.11	13468005.02	32.77
Tertiary industry	1738778.91	34.31	6779013.42	52.26	18339886.42	44.63
Total	5068437.35	100.00	12970800.00	100.00	41093400.00	100.00

Table 6 (10 thousand Yuan, %)

	1987		1992		1997	
	Capital formation	Structure	Capital formation	Structure	Capital formation	Structure
Primary industry	273935.29	8.12	485457.15	5.12	1459859.94	5.33
Secondary industry	2961319.72	87.83	8581763.67	90.51	23368567.73	85.39
Tertiary industry	136349.91	4.04	424679.18	4.48	2538872.34	9.28
Total	3371604.92	100.00	9481900.00	100.00	27367300.00	100.00

Table 7 (10 thousand Yuan, %)

	1987		1992		1997	
	Export	Structure	Export	Structure	Export	Structure
Primary industry	415807.96	7.12	1244553.79	6.40	2570920.22	2.88
Secondary industry	4254204.18	72.84	16532882.69	84.96	83591362.52	93.50
Tertiary industry	1170196.63	20.04	1683077.52	8.65	3242035.36	3.63
Total	5840208.75	100.00	19460514.00	100.00	89404318.10	100.00

The change of consumer demand structure is the most major factor of demand structure change. Along with economic development and income standard raise, the demand of the mankind has a general law that it is shifted from existence to development, and namely the demand center of gravity step by step is shifted from the basic demand of low level which guarantees existence to the demand of high level which develops individuality. The raise of income standard stimulates the differentiation of demand system and the differentiation of industries, causes the interests difference between the industries, and impels the shift of the resources from basic existence material production field of agriculture etc to industry production field of higher process degree. The service industry suit this shift of the industrial center of gravity, and step by step from agriculture and industry independently comes out to become also the industry by oneself. The form of three times industries and their change of proportion relations firstly are the objective result of change about mankind consumption demand structure and demand levels along with the raise of the income standard. Directly perceived through the senses, along with the raise of income standard, the change of regularity in the people expenditure structure will occur, step by step from giving first place to with meals and clothing to giving first place to house, going and use. The expenditure at the aspect of the society service is constantly increased, thus stimulates the overall development and the structure change of consumable productive industry, further drives the total and the structure of the other interrelated industries, and finally promotes the change of whole industrial structure.

The investment demand not only is the great essential factor which is formed the final demand, and the investment will form new production capacity. The distribution of the total investment between the different industries will directly change the existing situation of industrial structure. Under the circumstances of more perfect market mechanism and more accurate price signal, it is showing basically identical that the change trend of the investment and demand structure. Export structure is the mix of the consumption and investment structure outside the province in fact.

With the econometric methods, we construct the macro econometric model of Guangdong Province, which describes the index relations of the gross domestic product, labourer's reward, fixed assets depreciation, tax net amount of production, business surplus, urban and rural resident's savings, revenue, expenditure, interest rate, consumption of the resident, consumption of the

government, final consumption, gross fixed capital formation, changes in inventories, gross fixed capital formation, net export of goods and services etc, and estimate the econometric model using the statistic data in 1978 to in 1997. Under the premise of predicting interest rate with the time series method, we can predict the future indexes of final consumption, gross capital formation and net export of goods and services in Guangdong Province, the values are shown such as table 8 in the particular years.

On the basis of the upper analysis, the factor of deciding consumption structure is the income elasticity of the various industrial consumptions. By the 1997 and 1987's input-output tables of Guangdong Province, we can calculate the income elasticity of the primary, secondary and tertiary industry's consumption in Guangdong Province are respectively 0.56, 0.96 and 1.23. By consumption structure, income elasticity coefficient of consumption and the income of forecasting in the 1997, we can predict the various industrial consumptions and their structure of future, the values are shown such as table 9 in the particular years. The various industrial gross capital formations and their structure of future can be calculated by the table 6, the values are shown such as table 10 in the particular years. The various industrial net exports of goods and services and their structure of future can be calculated by the table 4 and table 7, the values are shown such as table 11 in the particular years. The various industrial final uses that minus imports and their structure can be calculated by table 9, table 10 and table 11, the values are shown such as table 12 in the particular years. These structures have been decided the industrial structure. Similarly we can predict the final use structure trend of more industrial departments.

Table 8 (10 thousand Yuan)

	2000	2005	2010
Final consumption	58782602.60	127077009.46	222700258.05
Gross capital formation	36370471.87	81586432.73	128704087.00
Net export of goods and services	5884967.73	8396271.72	15026469.05

Table 9 (10 thousand Yuan, %)

	2000		2005		2010	
	Consumption	Structure	Consumption	Structure	Consumption	Structure
Primary industry	11546206.58	19.64	20356503.82	16.02	32790269.10	14.72
Secondary industry	19073152.95	32.45	40722592.40	32.05	71046166.09	31.90
Tertiary industry	28163243.07	47.91	65997913.23	51.94	118863822.87	53.37
Total	58782602.60	100.00	127077009.46	100.00	222700258.05	100.00

Table 10 (10 thousand Yuan, %)

	2000		2005		2010	
	Capital formation	Structure	Capital formation	Structure	Capital formation	Structure
Primary industry	1709412.18	4.70	3108443.09	3.81	3964085.88	3.08
Secondary industry	30794878.53	84.67	68116512.69	83.49	105949204.42	82.32
Tertiary industry	3866181.16	10.63	10361476.96	12.70	18790796.70	14.60
Total	36370471.87	100.00	81586432.73	100.00	128704087.00	100.00

Table 11 (10 thousand Yuan, %)

	2000		2005		2010	
	Export minus Import	Structure	Export minus Import	Structure	Export minus Import	Structure
Primary industry	-1881424.18	-31.97	-2679250.31	-31.91	-4840025.68	-32.21
Secondary industry	8966925.33	152.37	12357632.72	147.18	21605057.20	143.78
Tertiary industry	-1200533.42	-20.40	-1282110.69	-15.27	-1738562.47	-11.57
Total	5884967.73	100.00	8396271.72	100.00	15026469.05	100.00

Table 12 (10 thousand Yuan, %)

	2000		2005		2010	
	Final use minus Import	Structure	Final use minus Import	Structure	Final use minus Import	Structure
Primary industry	11374194.58	11.26	20785696.6	9.58	31914329.3	8.71
Secondary industry	58834956.81	58.23	121196737.8	55.84	198600427.7	54.20
Tertiary industry	30828890.81	30.51	75077279.5	34.59	135916057.1	37.09
Total	101038042.2	100.00	217059713.9	100.00	366430814.1	100.00

3. Future Industrial Structure of Guangdong Province

In economic development, the change of industrial structure is a certain economic course that it is accompanying total capacity expanding and the level raising. Accompanying the economic development, each industrial scope really not enlarges at the same time, some industries increase comparatively fast, some industries increase comparatively slowly, and even the specific industry shrinks. This kind of structure change is the embodiment that the comparative advantage gets the exertion between the industries, and is called the high-class of industrial structure. The change of industry from low-class to high-class is an embodiment of the economic development level, and also is the law of the industrial economic development. The change of industrial structure can be adjusted by the market "invisible hand" naturally, and also can be adjusted by the government "

visible hand " forwardly.

In order to suit the economic development need of Guangdong Province for the 21 centuries, the industrial structure must be adjusted in strategy. On the foundation predicting the economic development, the advancement in science and technology and the changes of consumption demand etc, and according to the market guide of effective demand and the principle of market economy, the development direction of the industry is marked out and the corresponding policies are set down, and these policies must be guaranteed effective implementation. Among them, the development direction of the industry is marked out is one of the key process. Considering " invisible hand " and the development direction of the predicting industry, by the table 12 on the basis of the principle of input-output analysis, we can predict the future scope of economic development and the future structure of industry, the values are shown such as table 13 and table 14 in the particular years. These values are calculated at current prices. On the foundation predicting the price indexes, we can predict the future GDP of Guangdong Province as respective 6142.84, 8828.23 and 12217.89 hundred million Yuan in 2000, 2005 and 2010 at 1990's fix prices. 1997 to 2000 the annual average increases by 10.2%, 2000 to 2005 the annual average increases by 7.5%, 2005 to 2010 the annual average increases by 6.7%, and 1997 to 2010 the annual average increases by 7.8%. Among them, 1997 to 2010 primary industry annual average increases by 6.0%, secondary industry annual average increases by 7.3%, and tertiary industry annual average increases by 8.9%. The per capita GDP in 2000, 2005 and 2010 are respectively 8366, 11072 and 14104 Yuan.

Table 13 (10 thousand Yuan, %)

	2000		2005		2010	
	Total output	Structure	Total output	Structure	Total output	Structure
Primary industry	21396408.28	6.98	41705228.56	6.36	66635094.40	6.04
Secondary industry	202609819.8	66.11	426733599.99	65.10	710253564.95	64.41
Tertiary industry	82486036.89	26.91	187037578.29	28.53	325795297.34	29.55
Total	306492265.02	100.00	655476406.84	100.00	1102683956.70	100.00

Table 14 (10 thousand Yuan, %)

	2000		2005		2010	
	GDP	Structure	GDP	Structure	GDP	Structure
Primary industry	12746779.93	12.62	24845635.94	11.45	39697451.69	10.83
Secondary industry	49509032.19	49.00	104275141.02	48.04	173555095.38	47.36
Tertiary industry	38782230.94	38.38	87938938.87	40.51	153178270.38	41.80
Total	101038043.06	100.00	217059715.83	100.00	366430817.45	100.00

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