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Empirical Analysis on the Relations between Rural Residents' Consumption and Economic Growth

—A Case of Liaoning Province

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Abstract Liaoning is a granary province with a large agricultural population and great market potential. Expanding rural residents' consumption becomes a necessity for enlarging domestic demand, solving three agriculture problems and promoting sustainable and rapid economic development. The research shows that since invigorating old industrial base in Liaoning, the contribution rate of rural residents' consumption to economic motivation is low and unstable, which has become one of the choke points for the development of economy. By using the grey correlation method, the influences of rural residents' consumption in different periods to GDP per capita are analyzed, the results show that the consumption level of rural residents were increasing, but their contribution rate on economic growth showed the descending trend. The residential expenses stay in the major position of consumption expenses; the education and entertainment products and service consumption play an important role; the growth of transportation and telecommunication is slow; the expenses on medical care are low and its contribution rate on economic growth is relatively weak. The countermeasures on developing rural economy, increasing rural residents' income, improving rural consumption environment, accelerating rural infrastructure construction, constructing and perfecting rural social security system and expanding rural consumption credit market are put forward to expand rural residents' consumption demand and realize the sustainable development of economy.

Key words Rural residents' consumption, Economic growth, Grey relational degree, China

Liaoning Province is a granary province with a large agricultural population. By 2008, Liaoning Province has had 21.263 million agricultural populations, accounting for 50.1% of total population of Liaoning Province. A large agricultural population provides huge market potential for rural consumption market in Liaoning Province, which could exert great impacts on its economic growth. Therefore, expanding rural consumption demand is of great significance to transforming economic developmental way of Liaoning Province and realizing the healthy and sustainable development of economy. The empirical analysis on the relations between rural residents' consumption and economic growth can provide references in terms of expanding rural residents' consumption and promoting the transformation of economic growth.

1 Data source, index selection and research method

1.1 Data source The data come from *Liaoning Statistical Yearbook* from 1995 to 2009.

1.2 Index selection Firstly, The contribution rate of consumption to GDP = The amount of consumption growth/The amount of GDP growth $\times 100\%$; secondly, Motivation of consumption to GDP = The contribution rate of consumption to GDP \times Growth rate of GDP; thirdly, expenditures of rural residents can be divided into eight items including food expenditures, clothes expenditures, residential expenditures, household equipments and service expenditures, medical care ex-

penditures, transportation and telecommunication expenditures, education and cultural leisure expenditures and other commodities and service expenditures. The GDP per capita of rural residents from 1994 to 2008 is selected as reference sequence and the eight items of rural residents' consumption in this time period are chosen as the comparison sequence.

1.3 Research method In the first place, the contribution rate and motivation rate of consumption on economic growth are screened to reflect the influence of rural residents' consumption to economic growth; in the second place, dividing the statistics of eight items of rural residents' consumption from 1994 to 2008 into three time periods, through the grey relational calculation on the reference sequence and comparison sequence in each time period^[1], the relational degree and its changes of rural residents' consumption to economic growth in Liaoning Province are dynamically analyzed^[2].

2 Results and analysis

2.1 General impacts of rural residents' consumption in Liaoning Province on economic growth The impacts of rural residents' consumption on economic growth can be reflected by the contribution rate and motivation rate of consumption to economic growth (Table 1). The motivation rate and contribution rate of rural residents' consumption in Liaoning Province are low and show the descending trend. Since 2002, the growth rate of GDP in Liaoning Province has kept 12.6% on average; the annual average contribution ratio of final consumption to economic growth was 37.61%, among which, the annual average contribution ratio of rural residents' consumption to economic growth was 0.18%; the annual average motivation rate of rural residents' consumption to economic growth was on-

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ly 0.04%. It can be seen that since the invigoration of Liaoning old industrial base, the contribution ratio and motivation ratio of rural residents' consumption was still low and unstable. The rural residents' consumption of Liaoning Province has become one of the choke points that restrict the growth of economic volume.

Table 1 The contribution ratio and motivation functions of rural residents' consumption to economic growth in Liaoning Province %

Year	GDP growth ratio	Motivation of rural residents' consumption on GDP	Contribution ratio of rural residential consumption expenses to GDP
1994	11.2	1.541	13.76
1995	7.1	1.030	14.50
1996	8.6	1.378	16.03
1997	8.9	0.359	4.03
1998	8.3	1.009	12.16
1999	8.2	0.840	10.24
2000	8.9	0.785	8.82
2001	9.0	0.769	8.55
2002	10.2	0.560	5.49
2003	11.5	-2.179	-18.94
2004	12.8	-0.015	-0.12
2005	12.3	0.763	6.20
2006	13.8	0.389	2.82
2007	14.5	0.269	1.86
2008	13.1	0.519	3.96

Note: the materials come from *Liaoning Statistical Yearbook* from 1995 to 2009.

2.2 Relational analysis of rural residents' consumption and economic growth of Liaoning Province

2.2.1 Grey relations and ranks. From 1994 to 1998, the relational degree of each expenditure of rural residents to GDP per

Table 2 Grey relation and ranking of consumption expenditure of rural residents and GDP per capita in Liaoning Province

	1994 – 1998		1999 – 2003		2004 – 2008	
	Grey relational degree	Rank	Grey relational degree	Rank	Grey relational degree	Rank
Food	0.902	3	0.674	6	0.753	4
Clothing	0.899	5	0.699	5	0.792	2
Dwelling	0.937	1	0.828	2	0.807	1
Household equipment, products and services	0.901	4	0.648	7	0.739	5
Medical treatment	0.877	6	0.757	3	0.684	6
Transportation and telecommunication	0.537	8	0.561	8	0.620	7
educational and cultural equipments and services	0.904	2	0.846	1	0.767	3
Other products and services	0.859	7	0.732	4	0.565	8

Note: the statistics come from *Liaoning Statistical Yearbook* from 1995 to 2009.

2.2.2 Analysis on relational results. These are following features between rural residents' consumption and economic growth:

In the first place, rural residents' consumption level was improving, but its contribution rate on economic growth fluctuated and assumed descending trend. With the continuous development of economy and the implementation of various preferential policies, the income and consumption capability of rural residents has been enhanced, which is reflected on the unceasing increase of per capita consumption of rural residents in Liaoning Province from 1 240. 6. 6 yuan in 1994 to 4 255. 61 yuan in

capita could be ranked in proper order as follows; residential expenditure, education and cultural leisure equipments and services expenditure, food expenditure, household equipments and services expenditure, clothing expenditure, medical and healthy care expenditure, other commodities and services expenditure and transportation and telecommunication expenditure. Rural residents' consumption expenditures have high relational degree with economic developmental level of Liaoning Province in three aspects from residential, cultural and educational equipments and services and food.

From 1999 to 2003, the ranks in proper order were educational and cultural equipments and services expenditure, residential expenditure, medical and healthy care expenditure, other commodities and services expenditure, clothing expenditure, food expenditure, expenditure on household equipments and services, expenditure on resident and expenditure on medical and healthy care. These items had high relational degree on the economic growth in Liaoning Province. With the increase of rural residents' income level, the expenditures on educational and cultural leisure equipments and services have elevated to the first No. 1, the expenditure on resident has descended to No. 2, and the medical care expenditure had ranked the third by replacing food.

From 2004 to 2008, the ranks were as follows: dwelling expenditure, clothing expenditure, educational and cultural equipments and services, medical and healthy care expenditure, transportation and telecommunication expenditure and expenditure on other commodities and services. In this period, the expenditures on dwelling, clothing and educational and cultural leisure has relatively high relational degree to economic developmental level of Liaoning Province. Among them, the relational degree of medical and healthy care with economic growth has descended from the third place to the sixth place.

2008. However, with the growth of income, the per capita consumption of rural residents assumed the descending trend, from 0.87 in 1994 to 0.68 in 2008. Thus, the contribution made by rural residents' consumption to economic growth assumed the descending trend, so did the role played by rural residents' consumption in facilitating rural economic growth. In the second place, residential expenditure stays in the major position of expenditures. Rural residents' expenditures on residential increase with the development of economy. In 1994, the dwelling expenditures of rural residents per capita in Liaoning Province was 156.3 yuan, the figure increased to 601.71 yuan in 2008.

The grey relation of rural dwelling expenditures and economic growth in Liaoning Province ranked first and second, which indicates that residential expenditure plays a leading role in rural residents' consumption and economic growth plays a strong and direct stimulation role in improving the dwelling situation of rural residents. At the same time, with the further deepening of socialist new village construction, rural residents' awareness on improving residential situation is increasing and household living conditions are improving. The rich rural residents have transferred to pursue beautiful and fashion decoration instead of pursuing the size and firm of houses^[3].

In the third place, the expenditures on cultural, education and recreation articles and services assume an important role. The relational degree of cultural, education and recreation articles and services to economic growth ranks top three. It indicated that since 1994, the education expenditure of rural residents in Liaoning Province has had close relevance on economic growth. The survey report on rural consumption and rural consumption environment issued by Chinese Consumers Association showed that education fees have become the major expenditure of rural residents. More than 40% of rural residents planned to spend their income on the education of their sons and daughters. In the meantime, the development of rural economy, the construction of small towns and spirit culture has facilitated the development of rural cultural and entertainment businesses. Many villages and towns have culture stations and activity offices to organize healthy activities for farmers. These activities have increased the expenditures on culture and entertainment.

In the fourth place, the slow development of transportation and telecommunication. The relational degree of transportation and telecommunication to economic growth is relatively low and ranks seventh and eighth. The substantial increase of expenditures on transportation and telecommunication should be based on the favorable infrastructure. In recent years, Liaoning Province has increased the construction on infrastructure, but most of the construction concentrated on urban areas. Rural areas have relatively poor infrastructure construction and weak information smooth system, which restrict rural residents' consumption expenditure on transportation and telecommunication. The great expenditures on transportation and telecommunication can not display its functions on facilitating economy. Besides, the unsmooth transportation and telecommunication may lead to the slow growth of rural residents' income, and then abate their consumption capability and reduce the contribution rate of rural residents' consumption to economic growth, which leads to the vicious circle^[4].

In the fifth place, the expenditure on medical and healthy care is low and relatively weak contribution ratio to economic growth. From 2004 to 2008, the ranks of relational degree of medical care of rural residents had decreased from third to sixth. The expenditure on medical care of rural residents has been axed greatly. The major reason is the imperfect rural social security system and farmers are uncertain about the future so they try to narrow down their current consumption. Farmers can not bear the burden of high medical care fees and medicines. Most rural residents still lack the health keeping awareness.

3 Policies and suggestions

3.1 Developing rural economy and increasing rural residents' income Consumption is the function of income and income increases with the growth of consumption^[5]. Relying on the living consumption of rural residents and the net income of rural residents from 1978 to 2007 indexes, every one yuan's growth of net income per capita of rural residents in Liaoning Province will increase 0.68 yuan of living expenditure^[6]. So the fundamental way of expanding rural expenditure is to increase rural residents' income. In the first place, the government should greatly develop agriculture; adjust the internal structure of agriculture; greatly develop animal husbandry, at the same time, the distinctive agriculture should be vigorously cultivated; improve the industrialization level of agriculture and increase scale interests. In the second place, the agricultural enterprises should be greatly developed and cultivate pillar enterprises of agricultural products with competitiveness to motivate the development of local economy and solve the deep processing of agricultural products and the employment problems of agricultural surplus labors so as to increase rural residents' income.

3.2 Improving rural consumption environment In the first place, the circulation system of rural market should be perfected so as to widen the consumption channels. The government should continue to launch the project of developing rural retail network and "two-hundred market" project. Besides, the government should cultivate the rural market system according to the local situation and take the agricultural market and wholesale market as the priority, so as to provide convenience for the consumption of rural residents. At the same time, the supervision on rural consumption market should be intensified, especially the supervision on agricultural market and agricultural material market to avoid the phenomenon of cheating farmers. The government should guide the enterprises on intensifying rural consumption to explore the marketable products for rural market. The enterprises should launch investigation specialized on rural market and adjust the structure of their products according to the demands of rural residents to satisfy rural consumers' demand.

3.3 Accelerating the construction of rural infrastructure construction It is proved that the backward of rural infrastructure construction will greatly affect the consumption of industrial products of rural residents. For example, if the problems of rural tap water can not be solved, farmers' consumption on washing machine and water heater will be affected. The "Saemaedul movement" in Korean has provided learnable experiences in this aspect. The first stage is the construction of rural infrastructure. Besides, the relation between rural residents' transportation and telecommunication economic growth is low. For one thing, the low income of rural residents restricts their consumption on cars, telephones and computers. For another thing, the shortage of infrastructure including rural road, electronic signal network limits the growth of the consumption. Therefore, enhancing the input on the infrastructure of rural water, electricity, road, and telecommunications and so on will lay a solid foundation for household appliances to go to rural market so as to simulate the growth of rural residents' consumption on these products.

3.4 Establishing and perfecting rural social security system

The slow growth of rural residents' consumption is largely due to the unhealthy and imperfect social security system^[7]. Therefore, the relatively perfect social security system in rural areas should be established as soon as possible to solve the rural residents' worries in medical care, education and old age security, and then the current consumption of rural residents can be stimulated. In the first place, the new rural cooperative medical care system should be continuously implemented. With the development of economy, the proportion of reimbursement of new rural cooperative medical care should be increased gradually to let medical care affordable for farmers. The administration on drug prices should be intensified to reduce the unnecessary circulation sections and cut down the high medicine prices. In the second place, rural old age insurance should be established gradually to eliminate rural residents' difficulties in old age insurance.

3.5 Vigorously expanding rural consumption and credit market

The government should vigorously implement the rural financial policy of "establishing rural credit guarantee mechanism, expanding the scope of rural effective guarantee, vigorously exploring and developing rural diversified credit products; positively expanding the credit market of housing, car and rural consumption". The residential consumption of rural residents in Liaoning Province always keeps close relations with economic growth. In 2008, among the consumption of rural residents in Liaoning Province, the expenditure on dwelling is second only to the expenditure on food. Therefore, the financial department should issue the rural credit preferential policies, for example

expanding the scope of mortgage and elongating the repayment period. The key is to enlarge the credit expenditure on rural houses, cars, refrigerator, color TV and some other consumer durables, so as to let rural residents improve residential situation through loan and further promote the development of rural building materials, decoration and transportation to increase rural residents' consumption level.

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(From page 45)

3 Conclusion

The research shows that, in general, the rural areas of Ganzi District are relatively stable, but there are still many problems in terms of society, economy, politics and values. In the first place, the general state of economic development is backward, which is the basic reason that hinders the development of various social factors and the key point that affect social stability. In the second place, the social security measures are imperfect and the protection on social weak groups and poor people still need improving. In the third place, the disputes among rural residents still exist and most of the disputes are economic disputes. The disputes among people from different ethnic groups are mainly caused by religious belief. In the fourth place, the autonomy of rural residents in some parts of Ganzi District is bad with low open rate of village businesses and corruption. In the fifth place, rural residents' evaluation on social justice is low.

Rural areas in Ganzi District should solve these problems as soon as possible, especially the religious belief, which is the major reason that causes the disputes among different ethnic groups. Religious problems are the principal problems that affect the stability of local place. In view of the instability factors that affect social stability, the relevant prevention and control system should be established and perfected to com-

prehensively supervise and maintain the peaceful and stable development of the stability of rural areas in Ganzi District.

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