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Utility Analysis on Supply of Rural Public Policies in North Bay Economic Zone

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Abstract From analysis on internal and external motive forces of development in North Bay Economic Zone, it indicates that public policies, as basic methods of government intervening against social and economic activities, are fundamental public goods produced by government. Effective supply of public policies brings rural economic growth, environmental protection and sustainable development, which greatly stimulates rural consumption, expands domestic demand and spurs economic growth, showing significant "multiplier effect". In this situation, this paper studies conditions for rural economic development and social transformation of the North Bay Economic Zone. Results show that social and economic development of rural areas of the North Bay Economic Zone needs scientific, reasonable and effective "public policies".

Key words North Bay Economic Zone, Rural areas, Supply of public policies, Utility

In a narrow sense, a public good is production and welfare infrastructure provided by the government through microscopic participation. In a broad sense, apart from infrastructure, public goods also include public policies (for realizing social equity and macroscopic adjustment and control), various institutional arrangement (for promoting socio-economic development and reform and innovation), and spiritual public products favorable for scientific and cultural development. Regardless of narrow or broad sense, the effective supply of public goods is guided, adjusted, supported and guaranteed by public policies. The more rapid development of market economy presents higher demand for various public goods, higher requirement for effectiveness of supply of public goods, and higher demand for public policies. In this sense, public policies are fundamental public goods.

Basic means of government intervening against socioeconomic activities is to formulate and implement public policies, regulations, and administrative means, to remedy market defect and rectify market malfunction. As the value distribution process in the whole society, public policies, as a matter of fact, should follow fair principle, whose validity should be based on public affairs. Authoritativeness and universal benefit of public policies determine their public feature. Stressing public orientation of public policies is to avoid simplification of policy objectives and deviation from fundamental purpose.

Market malfunction and public feature of public policies determine special and fundamental features of public policies as public goods. Economic and social transformation and development of North Bay Economic Zone require scientific and reasonable public policies.

Received: July 6, 2012 Accepted: October 20, 2012

Supported by Project of National Natural Science Foundation (Grant No. 71163003); New Century Higher Education Reform Project of Guangxi Province (Grant No. 2010JGA006).

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1 Concept of utility: understanding by western economics

In economics, utility is the subjective feeling of individual in satisfaction of his demand and is mainly applied to assess subjective satisfaction of individual consumption^[1-2]. In *Exposition of a New Theory on the Measurement of Risk* published in 1738, Swiss mathematician Bernoulli introduced the marginal utility and the law of diminishing marginal utility^[3]. He stated that the determination of the value of an item must not be based on its price, but rather on the utility it yields. The price of the item is dependent only on the thing itself and its equal for everyone; the utility, however, is dependent on the particular circumstances of the person making the estimate. Thus there is no doubt that a gain of one thousand ducats is more significant to a pauper than to a rich man though both gain the same amount. In the opinion of Bernoulli no valid measurement of the value of a risk can be obtained without consideration being given to its utility, that is to say, the utility of whatever gain accrues to the individual or, conversely, how much profit is required to yield a given utility. He further said that "it is highly probable that any increase in wealth, no matter how insignificant, will always result in an increase in utility which is inversely proportionate to the quantity of goods already possessed"^[3]. In other words, with increase in wealth possession, the utility will also growth, but the growth rate is decreasing. Obviously, the utility comparison of Bernoulli is not the total utility, but the marginal utility.

Dr. Marshall states the law of diminishing marginal utility as follows: the additional benefit which a person derives from a given increase of his stock of anything diminishes with the growth of the stock that he has. When he wants to buy something, the part that attracts him to buy can be called the marginal purchase volume, because he still hesitates about whether it is worth of purchase. The utility of marginal purchase volume can be called the marginal utility of the thing for him. In this case, the marginal utility decreases along with increase in the volume he possesses. Arthur

Cecil Pigou ascribed individual or social welfare to their desire and the satisfaction thereof. Such satisfaction can be possession of material or come from knowledge and emotion, so the scope of welfare is very wide and varies with each individual.

The law of diminishing marginal welfare from western economists Marshall to Pigou proves that utility, as subjective feeling, can be compared in principle. Marginal welfare utility refers to satisfaction or income obtained by consumers from newly increased commodities or service of a company. Such satisfaction or income is variable. With increase in variable element input, the proportion of input of variable elements to fixed input is changing. When variable element input increases, its marginal output decreases; when the match ratio of variable element and fixed element becomes proper, the marginal output reaches the maximal value. If it continues to increase variable element input, since other elements are fixed, variable elements become excessive, then marginal output will certainly decrease.

According to central ideas of western economics about the utility, in certain condition, adequate supply of rural public policy will certainly increase the total utility. Therefore, for underdeveloped regions, especially rural areas, adequate supply of public policies satisfy urgent demand of rural areas, and the utility will be far higher than the supply for other regions.

2 Internal and external motive forces of development in North Bay Economic Zone

About motive forces of less developed regions, at present, academic circle has two ideas.

(1) Internal cause is the basis of things development, while external cause is the condition for things development. To realize social and economic development, the North Bay Economic Zone should depend on its internal force. In other words, it is the problem of endogenous development. The endogenous development idea is also divided into two types. Firstly, the problem of less developed regions lies in increasing agricultural output, transforming agricultural industrial structure and realizing agricultural industrial operation. To realize this objective, it should increase input of agricultural elements, such as funds, technologies, labor forces and land, increase labor income of urban residents and rural residents, and guide capital to flow into the primary and secondary industry, so as to improve productivity of less developed regions and increase residents' income. Secondly, restricted by natural endowment, less developed regions fail to bring into full play their development potential. What's worse, the support measures of the state for less developed regions just tackle the problem on the surface, not at the root, farmers' enthusiasm can not be stimulated, widening gap of dual urban and rural structure leads to outflow of numerous farmers, then food security and rural stability get threatened. In this context, new institutional economics considers that improper system hampers development of less developed regions. To solve this problem, it should change these systems, raise the resource allocation efficiency of less developed regions, such as

land property right reform, large scale and industrial operating model, etc. The key of these measures is to improve quality of people, develop education, and strengthen internal development potential of less developed regions.

(2) National conditions of China determine that less developed regions lack self-development ability. It is impossible to develop with its own ability, and it must rely on external motive forces, in other words, it is exogenous development. The external forces include three aspects. The first is industrialization. Speeding up industrialization of less developed regions can expand employment, increase income of urban and rural residents, transfer numerous rural labor forces, accelerate urbanization and development of the tertiary industry, and promote agricultural industrialization and finally realize urban and rural integration. The second force is government. Government should provide huge fund and financial support for less developed regions, for example, infrastructure construction of less developed regions. Besides, government should improve rural endowment insurance and medical security system and increase input in rural education in less developed regions, to provide favorable policy conditions for development of less developed regions. The third force is international market and foreign investment. With China's entry to WTO and close international cooperation, foreign market opens the door to China. Less developed regions should take advantage of this opportunity to bring into play its comparative advantages in labor intensive industry, attract foreign investment, push forward export of agricultural products, and bring along development of rural areas.

Endogenous development is the fundamental condition for socio-economic development of less developed regions, while exogenous development is an essential condition for raising self-development ability of less developed regions, is the means for alleviating market constraints. Without further development of industrialization, there will be no modernization of agriculture. As to actual conditions of China, exogenous development of less developed regions is faced with many difficulties: technical bottleneck of industrialization and slow upgrade of industrial structure lead to serious low level competition; slow urbanization process and long time of stagnation of workers' salary influence market expansion and migration of rural labor forces; government's support is limited due to limited financial resources. Therefore, it is difficult for both endogenous and exogenous development to solve the plight of less developed regions. Joint efforts of both motive forces may gradually change this situation.

Since the *Development Plan for the North Bay Economic Zone* was approved on January 16, 2008, the North Bay Economic Zone has been formally incorporated into the state development strategy. Speeding up opening-up and development of the North Bay Economic Zone concerns self development of Guangxi Province and overall development of the whole country, so it is of strategic significance. To this end, the state has provided following policy support: policy of comprehensive coordinated reform, policy of key project layout, policy of bonded logistic system, policy of fi-

nancial reform, and policy of opening-up and cooperation. The government of Guangxi Zhuang Autonomous Region also has formulated several regulations, including industrial support, financial and taxation support, land use policy, financial support, foreign trade and economic development, human resource and scientific and technological development policies. However, for sustainable development of the North Bay Economic Zone, these are not enough.

3 Basic conditions for rural economic and social transformation and development of the North Bay Economic Zone

(1) Developed infrastructure. Prior construction of infrastructure is an essential condition for economic liftoff of a country. In general, it should at least have the minimum social infrastructure construction.

(2) Rural social security system can directly or indirectly increase farmers' income and consumption level. Lack of education, science and technology, medical care and health, and social security seriously harm benefits of farmers and influence increase in farmers' income. Perfect social security system can reduce farmers' burden. When the expected risk is less for farmers, their motive of preventive deposit will become weak, which will be favorable for improvement of consumption level.

(3) Perfect market system. Perfect market system is favorable for reducing agricultural risks. Adjustment of agricultural structure, deep processing of agricultural products, and development of financial market, land market and service market are favorable for development of agricultural production and increase in farmers' income.

(4) Perfect rural information system. To improve farmers' competitiveness in economic activities and the production efficiency, there will involve information problem. In agricultural aspect, much information is complicated in technology. As result, even if farmers receive information, they may not understand. Therefore, compared with other commodities, wrong selection will lead to higher cost. Even if the information can be obtained, farmers may only understand limited part, instead of the whole information. In this situation, farmers should have necessary information and decision-making ability to make rational selection. Thus, farmers should receive knowledge and skills and grasp technical information, to improve their selection and decision-making ability.

3.1 Economic growth of human resource converting to human capital As outstanding representative of human capital theory, in the long time of study on agricultural economic problem, Theodore Schultz found that the most important reason for rapid growth of production output and agricultural productivity of the United States was not the increase in land, population or stock of material capital, but the improvement of human ability and technical level^[5]. His study also shows that the contribution of increase in material capital to economic growth is limited. When economy develops to certain level, the contribution of increase in material

capital will not increase, while the contribution potential of growth of human capital receives further development and will promote sustainable growth of economy. This proves that public education and application and extension of science and technology are sources and internal variables of growth of modern agriculture. Public education and science and technology promote economic growth from two aspects. The first is working effect of education and science and technology. The working effect of education and science and technology refers to workers with higher educational level or scientific and technological knowledge will have higher working efficiency, which is favorable for improving production efficiency and promote economic growth. The other aspect is allocation efficiency of education and science and technology. Since workers with higher human capital will have higher recognition and understanding ability of economic environment, they will have higher resource allocation ability, then it will be helpful for full use of resources and promote increase in output and economic growth. Schultz specially pointed out the allocation efficiency of education and science and technology is obviously manifested as increase in ability of dealing with economic unbalance. In other words, people with higher stock of human capital will have higher ability of dealing with economic unbalance, and will have more opportunities to make profits, so it is favorable for promoting increase in output and economic growth.

3.2 Utility of environmental protection and sustainable development Rural areas, especially those remote areas, due to far away from population, wealth and authority center, remain on the fringe of economy and politics, and generally take on poor, backward and closed characteristics. Besides, hostile natural conditions of remote mountainous areas increase social and economic costs for development. Poor transportation is also a main reason for poverty and backwardness of rural areas. Harsh living environment of mountainous areas leads to comparatively vulnerable ecological system, imbalance of ecology and frequent occurrence of disasters. Therefore, environmental control is an important measure for reducing disasters and protecting environment. Rural infrastructure construction (such as transportation, power supply, water supply and communication), rural ecological environmental protection and pollution control have features of public goods, whose supply will directly affect improvement of rural living environment and farmers' living conditions, and ultimately influence rural sustainable development.

3.3 Utility of effective supply of rural public policies for the North Bay Economic Zone Effective supply of public policies promotes rural economic growth, environmental protection and sustainable development, which will drive rural consumption, expands domestic demand and spurs economic growth, showing significant "multiplier effect". Through this multiplier effect, it is able to create social wealth several times as much as the investment amount, which is favorable for development of rural economy and the whole national economy.

4 Approaches for effective supply of rural public policies

4.1 Stably and orderly promoting grass-roots political system reform in villages, towns and counties Supply of public goods is not the result of market decision, but the result of political decision. Demand and preference of farmers for public goods are not transmitted by price mechanism, but converted to collective actions through political procedure. A condition for optimal supply of public policies is whether it is able to convert individual preference into basis of public decision. In other words, government decisions should manifest farmers' demand and willingness, to make supply of public goods, regulations and policies reflect farmers' benefits and requirements. Therefore, stably and orderly promoting rural grass-roots political system is not only the requirement of actual practice, but also the basic requirement of historical materialism. This reform should be carried out in at least two levels: (1) Direct election of township (village) leaders and cadres. In accordance with actual conditions of China's political system, party leaders of grass-roots should be elected directly by party members. Direct election is favorable for selection of talents, and can ensure representativeness of deputy to the People's Congress. The party committee leaders at the county level can be nominated by the superior party committee, and decided by all members through differential election system. Deputy of People's Congress and government leaders should be elected directly. In this way, it can basically ensure that authority system of county, township and villages represents benefits of agriculture, countryside and farmers. (2) Establishing right protection organizations for farmers. Farmers have no say in making public decision on rural public goods. As the largest benefit group of China, farmers lack an organization to represent their benefits and have to face a set of state apparatus and social benefit groups separately. Thus, establishing right protection organizations for farmers can help farmers take actions when their benefits get damaged.

4.2 Reforming dual financial system to gradually realize the transformation of state finance to public finance The state finance controls nearly all aspects of social economic life. As direct allocation method of social resources by the state, the finance is manifested as the means of allocation for the state satisfying demand of self functions. James Buchanan sharply pointed out that the state is not abstract, but composed of officials in concrete form. He incisively proved that even in democratic condition, officials are still rational economic men, just like the people in market, and will pursue maximal self benefit. Therefore, government does not take the maximization of social benefits as its policy objective. Due to fundamental problem (such as survival and development) and financial positions of government, government act may deviate from social public benefit. However, the public finance is different, it is based on public demands and public goods, and manifests preference through democratic system. The public finance takes the society as the objective, social demands as orientation, and can resist official finance to the maximum ex-

tent. The most urgent social objectives of China at present are rural development, environmental protection and middle and western development^[6]. Since the public finance is oriented towards social objective, agriculture, countryside and farmers are certainly in its implication. Democratic finance is the condition that guarantees transformation of state finance to public finance. In this sense, public finance is in essence the democratic finance. Although it is disturbed by officials, it can avoid such condition to the utmost extent. In the course of this transformation, it is required to gradually stop the act inertia of dual financial system, to make financial expenditure incline towards agriculture, countryside and farmers.

4.3 Integrating coordinated development of urban and rural areas, to improve development ability of rural areas and farmers The benefit-received principle of supply of public goods requires that taxation paid by an individual should be directly proportional to utility received by him at the time of consuming public goods. Integrating coordinated development of urban and rural areas is to solve the unbalance of urban and rural development, so as to promote coordinated development. For a long time, there is difference in supply of public goods between urban and rural areas. It is not fair in some aspects of supply of rural public goods. Amartya Kumar Sen believed that an essential variable of basic ability equality is the basic feasible ability, which covers many factors (unemployment, lack of doctors and medicines, lack of education and social discrimination) beyond income, utility and basic goods. Due to pairing effect of inferior situation, the inequality of ability may be converted into inequality of other feasible abilities^[7]. According to this theory, the gap between development ability of urban and rural areas and urban and rural residents is the reason for widening gap between urban and rural areas, while the widening gap aggravates the sense of deprived right of low-income people. Relative deprivation of income may lead to absolute deprivation of ability, consequently lead to farmers and rural areas drifting away from mainstream of economic and social development, even losing ability and opportunity of participating in economic and social development. Urbanization and industrialization will certainly lead to expansion of farmers' migration and employment space, increase in pressure of competition, and rapid intensification of farmers' not adapted to the society. It is required to strengthen construction of farmers' development ability, take the promotion of overall and free development of farmers as an essential policy and objective of integrating urban and rural development, to ultimately improve development ability of rural areas and farmers.

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cal guidance and information consultation for farmers.

3.4 Strengthening the building of extension team in rural areas and cultivating high-quality agricultural technology extension personnel The grass-roots agricultural extension personnel are the important people for implementing and promoting the agricultural technology extension work, whose quality is directly related to the extension efficiency. In order to disseminate new knowledge and technology to farmers, the extension workers should not only have excellent professional skills, but also have good overall quality.

(1) Setting up special funds for the grass-roots agricultural technology and personnel's training, to strengthen the training and further education for the grass-roots agricultural technology staff. It is necessary to regularly organize the agricultural technology extension personnel to participate in the knowledge of professional knowledge, dissemination knowledge, and modern information processing knowledge; strengthen further education for them, and adopt the ways of advanced study and exchange to effectively improve the operational capacity of agricultural extension workers; at the same time, strengthen the training of professional ethics and improve the overall quality.

(2) According to the specific circumstances, introducing, recruiting and employing professional agricultural technology backbone, genuinely talented professional technical personnel, and university graduates to engage in the agricultural technology extension work, in order to expand the agricultural technology extension team, and improve the personnel structure of agricultural technology extension team.

(3) Gradually implementing the qualification access system of agricultural technology extension personnel. It is necessary to issue vocational qualification certificate to the qualified agricultural extension personnel through the examination and assessment, and take it as the basic condition for the employment of agricultural technology extension personnel.

3.5 Exploring the advanced service mode to meet farmers' needs The grass-roots agricultural technology extension center should explore the advanced service modes, and take the initiative to provide services for market economy, to satisfy the farmers.

(1) Vigorously carrying out the network informatization extension services. There is a need to strengthen rural informatization construction, and open hotline for agricultural technology extension consultation in some agriculture-related web sites in Guiyang City, with public welfare service as the purpose, to answer

farmers' questions in the network, so that farmers can get instruction and guidance from experts at any time. For the universal and typical questions, the distance education network and information caravan can be used for demonstration and popularization.

(2) Establishing the demonstration bases and demonstration households, and using the technology diffusion effect of the demonstration bases and demonstration households to improve the technology extension coverage. There is a large agricultural population in Guiyang City, with significant differences; it is difficult for agricultural technology extension personnel to directly provide services for each farmer, so it is necessary to strengthen the construction of demonstration bases and demonstration households, to promote the popularization rate of new technology. The practice of Xifeng County and Xiuwen County proves that demonstration has played a significant role in promoting and popularizing technology for farmers, and we should seriously sum up experience. At the same time, it is necessary to broaden the content of the demonstration, developing from the promotion and demonstration of planting and breeding technology to the diversified direction of epidemics prevention, processing and storage of agricultural products, and agricultural machinery technology, to meet market demand, and improve the farmers' satisfaction.

(3) In addition, to meet farmers' needs, we should establish and improve the public welfare grass-roots extension system; adopt policy support measures to actively support and guide agricultural research institutes, educational institutions, agribusiness, and farmers' specialized cooperative organizations, to participate in agricultural technology extension service; gradually build a diversified grass-roots agricultural technology extension system with public welfare nature as the main body.

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