The International Trade and Inter-provincial Trade of China

——An analysis from regional input-output table

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Abstract：The imbalance between outland opening and inland opening, the imbalance between international market integration and domestic market integration and the imbalance between international economic cycle and domestic economic cycle exist in present China's economy are the crucial cause for the difficulties at present. Departure from the interaction between international trade and provincial trade, this paper proposes a simultaneous equation model concerning the international trade dependency and provincial trade dependency. Having adopted the provincial data of China in 1997 to test, there is a two-way negative correlation between the international trade dependency and provincial trade dependency of China. To develop provincial trade may help China's economy transform from dependence on foreign demand to dependence on both foreign and domestic demand, from regional priority development strategy to regional coordination development strategy and from reliance on low-end elements to the standpoint of labor division deepening.

Key words：International trade; Provincial trade; simultaneous equation model; Regional input-output table; Domestic opening

1 Introduction

Since the reform and opening up, China's international trade has developed rapidly, the total import and export of goods is only 20.64 billion U.S. dollars in 1978, to 2009, rose to $ 2,207,270,000,000. From a global perspective, China's total import and export of goods in 1978, ranked world No. 29, and rose to world No. 2 in 2009. However, because GDP assessment, fiscal decentralization and protection of employment and other factors, market segmentation between the provinces are always there, limiting the development of China's inter-provincial trade, thus forming the imbalance between outland opening and inland opening, the imbalance between international market integration and domestic market integration and the imbalance between international economic cycle and domestic economic cycle.

For China's economy in urgent need to change the developing mode, the development of

inter-provincial trade, the promotion of inland opening and the domestic market integration and domestic economic cycle have the following significance: first, the domestic element costs and slowing international demand and other factors make China difficult to continue the dependence on foreign demand in the future, but through the development of inter-provincial trade to expand domestic demand may help the Chinese economy to obtain a new growth engine. Second, the development of the transition as a big country across China's geographical and resource endowments, economic base and social and cultural aspects vary widely, uneven regional development has always been the major challenges facing China's economy. The development of inter-provincial trade to promote regional economic development can help China solve regional fairness. Third, Smith's theorem states that the market determines the degree of division of labor, and division of labor is the source of economic growth. The formation of inter-provincial trade through the development of closer collaboration between the regional circulation system, you can expand the size of the market, thus contributing to deepening the division level to achieve sustainable economic growth.

Further, how to analyze and understand the several relationships : the outland opening and inland opening of China's economy, foreign and domestic market integration, international and domestic economic cycle, is a proposition to be in-depth study. This paper argues that, departure from the analysis of China's international trade and inter-provincial trade is a usually neglected but important path. Here, how to measure the level of China's international trade and inter-provincial trade? What regional and industrial characteristics are there in China's international trade and inter-provincial trade? Is the relationship between international trade and inter-provincial trade a substitution or complementation? If the local trade preferences exist, then why the development of China's inter-provincial trade lags behind the development of international trade? What are the factors influencing the relationship between international trade and inter-provincial trade? To explore and answer these questions is of enlightening and practical value for the positive interaction between the outland opening and inland opening of China's economy, between the foreign and domestic market integration, between the international and domestic economic cycle.

The following part of this paper is organized like this: part 2 is going to analyze the literature of economics based on the relations between overseas markets and the domestic markets.Part 3 is going to set the simultaneous equation model on the mutual relations of international trade and interprovincial trade and give the explanation of the relative variable and sample data. Part 4 is going to give the positive proof and theoretical analysis of econometric model based on the province's data of the China. Part 5 is going to give the conclusion and the policy points.

2 Literature Assessment

Here the paper is going to analyze the literature of economics on China's internal opening-up and external opening-up, based on the perspective of relations between overseas markets and the domestic markets. This paper is going to work out two ways of relative research based on the standard of input-output model.

First, it is the research based on the input-output model. Zhang and Zhao (2006) put the 21 sectors' international input-output tables of five economies(China, Japan, Asian Rising industrialized countries, the ASEAN and the United States) in 1985, 1990 and 1995 into the calculation and worked out the Chinese domestic and international industrial linkage effects. The research came out that during 1985 to 1995, China's domestic industrial linkage effects had gone down while the international ones had been going up gradually. Pan (2005) put the "Asian International Input-Output Table 1995" between China and the United States, Japan, Korea and so on, totally 9 countries and regions, into the measurement of regional multiplier effect, interregional spillover effect and feedback effect between China and those 9 countries and regions, with which China have the closest economic relationships, and found that although China's economy had great influence within the area and interregional interactionability, the increase of the total output amount of those 9 countries and regions was more dependent on the regional multiplier effects of their own areas and even that they had more spillover effects on China. This gives full evidence that Chinese economy comparatively is more influenced by the outside world and is more intended to be export-oriented economy. Lau et al. (2007) established a non-competitive(imported) input-output model that can reflect the processing trade characteristics of Chinese economy and found that in 2002 Chinese export worth $1000 to the US could bring $368 complete domestic added value and meanwhile, the US export to China worth $1000 could bring as much as 868 complete domestic added value. In 2002 the promoting contributions of Chinese export to the US to Chinese domestic employment were 17 times of that of the US export to China, but as Chinese export were mainly labour-intensive products and the processing trade took a big part, the effects brought by export were much smaller than the export total amount.

Second, it is the research based on the non-input-output model. Poncet (2002, 2003) applied the "border effect" model in his research and worked out that the economic globalization may drive the local government to adopt the market segmentation policy and in this way, the expansion of the international trade might "crowds out" the interprovincial trade within the country. During

1987 to 1997, the domestic trade of all Chinese provinces reduced while their international trade kept growing. Zhu et al. (2005) led the domestic market segmentation and the negative relations between the marginal cost and the fixed cost in the Melitz model and explained that the huge increase of China's export trade was forced by the severe domestic market segmentation that made the enterprises not able to rely on the domestic demand to develop the economy of scale and have no other choice but to export. While this kind of separating equilibrium in open economy based on export might get the Chinese enterprises long "locked" into the OEM trade. Huang and Li(2006) adopted the provincial panel data during 1970 to 2000 in the empirical analysis and worked out that the regional market scale and the open degree of the export were the significant factors that affected Chinese provinces' economic growth convergence, and yet during the formation of the gaps between areas in China the foreign markets and the regional markets were substituted by each other. Chen et al. (2007) first used the retail price index to establish the indexes to measure the degree of market segmentation between targeted areas. Then, they they used the interprovincial panel data from 1985 to 2001 to analyse the influence of the variables like the economic openness on the market segmentation. The research found that in the condition of low level, the economic openness accelerated the segmentation of domestic market while an opener economy could advance the integration of the domestic markets. The prediction based on the model shows that there is the possibility that some provinces' domestic merchandise markets might be even more segmented in the future. Li et al. (2008) adopted the questionnaire survey data about 3500 China's enterprises in the empirical analysis and worked out that pressure of competition by external opening-up had played a positive role on eliminating regional protection and integrating domestic market. Lu and Chen (2009) exploited the provincial panel data during 1985 to 2001 and found that higher economic opening , market segmentation had stronger pro-growth effect, this meaned that the provincial governments had given up domestic scale effects when enjoying scale economy from international trade.

3 Econometric model setup and variables introduction

3.1 Econometric model setup

The function applied to the international trade by the Inter-provincial trade. The inter-provincial within a country can promote the development of international trade through the following means: first, Home-Market Effects (HME). HME (Krugman,1980; Helpman&Krugman, 1985)is that when the economies of scale and transport costs exist, firms tend to settle and produce in a place with the largest construction market, production, and because of the increasing scaled returns, a country will choose to export products with higher demand in the domestic market; Further, a large market would attract more companies producing different products, and a small

market trading with them can only choose to produce homogeneous products, the resulting product differentiation will facilitate the development of international trade（Krugman& Venables, 1990).The inter-provincial trade can expand the size of the domestic market, thus providing the market space to display HME, resulting in the increasing scaled returns and product differentiation which will facilitate the development of a country's international trade. Second, the national competitive advantage. In Porter's (2002) diamond model, the expertise and discerning of the domestic customers, related and supporting industries, the competitors of the domestic market and other factors, will form their national competitive advantage, and then become a basis for a country to participate in global competition.Through the inter-provincial trade, you can find more knowledgeable and discerning domestic customers, building industrial association between different regions, foster more domestic competitors, thereby enhancing a country's national competitive advantage, and ultimately in the global market for international trade development .Based on the above reasoning, this paper sets the following regression equation:

$$dftd_{ip} = \alpha_0 + \alpha_1 dptd_{ip} + \alpha_2 ie_{ip} + \alpha_3 ms_p + \alpha_4 klr_{ip} + \alpha_5 rdv_p + \varepsilon_{ip} \qquad （1）$$

Here，$dftd$ is international trade dependency；$dptd$ is inter-provincial trade dependency.

The function applied to the inter-provincial trade by the International Trade. The outland international trade of a country can promote development of inter-provincial trade through the following means: first, the provincial division of labor. If certain areas in a country involve in international trade, then because these regions joined into the international division of labor assume a new function of division, the new functions of dividing labor may form inter-provincial coordination with other parts, thus leading to the inter-provincial trade between various areas. Second, to integrate the inland. When a country's enterprises join into the international market, they will face more diverse demand and more uncertainty, the pressure of international competition will require larger companies integrate domestic market resources in a wider range and scale so as to improve their own competitiveness. Many local companies having been out emphasize that China's industrial base of complete sectors is one of the key factors that make them successfully invest in the developing countries (Yang Yao, 2007). Considering that all the domestic industries and various elements generally distribute in different regions in the country, the action that the enterprises integrate domestic resources will lead to the occurrence and development of inter-provincial trade. Thus, this paper sets the following regression equation:

$$dptd_{ip} = \beta_0 + \beta_1 dftd_{ip} + \beta_2 ie_{ip} + \beta_3 ms_p + \beta_4 gd_p + \beta_5 tg_{ip} + \mu_{ip} \qquad （2）$$

As to a certain province of a country, $dtd_{ip} = dftd_{ip} + dptd_{ip}$, in which dtd_{ip} is the degree of trade dependence. Thus, this paper introduced a defining equation:

$$dtd_{ip} = \delta_0 + \delta_1 dftd_{ip} + \delta_2 dptd_{ip} + \omega_{ip} \qquad \qquad （3）$$

This will analyze the mutual relations of international trade and interprovincial trade through the simultaneous equation model formed by equation (1), (2) and (3).In the simultaneous equation model here, the subscript i represents industries, p represents provinces. $dftd_{ip}, dptd_{ip}$ and dtd_{ip} are endogenous variables, $ie_{ip}, ms_{ip}, klr_{ip}, gd_{ip}, rdv_{ip}$ and tg_{ip} are exogenous variables. α, β and δ represent the coefficient of constant term and variable respectively, $\varepsilon_{ip}, \mu_{ip}$ and ω_{ip} are stochastic error items.

3.2 The Theoretical Connotation and Calculating Method of the Variables

Degree of international trade dependence（$dftd_{ip}$）: $dftd_{ip}$ is the proportion of the export and import sum of p province i industry to industrial added value, which reflects the industry linkage effect and technology economic linkages of p province i industry to the abroad one.

Degree of interprovincial trade dependence（$dptd_{ip}$）: $dptd_{ip}$ is the proportion of the interprovincial outflow and inflow sum of p province i industry to industrial added value, which reflects the industry linkage effect and technology economic linkages of p province i industry to the other regions of the county.

Degree of trade dependence（dtd_{ip}）: dtd_{ip} is the proportion of the export and import and interprovincial outflow and inflow sum of p province i industry to industrial added value.

Industry externalities（ie_{ip}）:The forward and backward linkage of the industry may produce increasing returns to scale and positive feedback effect for the industry externalities of the industry （Henderson,1974）. This paper measures the industry externalities of the industry through the proportion of the industry number of p province i industry to the one of the national i industry.

Market scale（ms_p）:The market scale of a country or a region is the key factor in restricting the degree of labor division. The larger the market scale is, the detailed the possible labor division is, the higher the productivity is. Besides, the demanding links caused by the gathered industries near the customer's market may also produce effect of increasing returns （Krugman,1991）. We measure the relative market scale through the proportion of GDP of p province to national GDP.

Capital labor ratio（klr_{ip}）:A certain link or a procedure of value chain reflects specified technology structure. A country or a region may obtain the core competitiveness by means of keeping the consistency between technology structure and endowment structure and minimizing the application cost of the technology. With the dynamic changing of the endowment structure and comparative advantage, the technology and industry structure of a country or a region may upgrade gradually (Lin et al., 1999), that is, to extend the link of labor division that they undertake in the value chain and upgrade towards the link of high added value. This paper measures the factor endowment structure of P region and i industry through the adoption of the ratio between the average remaining sum of a year from a net value of fixed assets of P region and i industry and the average number of workers of a year in p province and i industry.

Geography distance（gd_p）:The farther the regional distance is, the higher the transporting cost is, which may restrain the deepening of labor division and moving of the goods. Such loss caused by the transporting cost is called "iceber" cost (Samuelson,1954). This paper use geography distance to represent the average geography distance of the local province and the other provinces, its calculating method is gd_p = p provincial area + the sum area of the other provinces / the number of the other provinces.

Technology gap（tg_{ip}）:The industry gradient refers to the differences of the productivity of different countries or regions formed by such factors as economy developing phase, industry evolving state and factor endowment structure, etc. such an industry gradient makes it possible to provide space of labor division and industry transference for their production and trades. As the proxy variable of the industry gradient, the calculating method of the index of constructing technology gap is tg_{ip} =overall labor productivity of P province and i industry/ overall labor productivity of the national i industry.

Provincial dummy variable（rdv_p）:The traditional theory of economy geography proposes that the differences of the economy geography factors between different regions is the key reason to influence the distribution of economy activities. When the literature on China's regional economy is considered, the dummy variable of the eastern, middle and western regions is the basically used one. Therefore, we introduced the provincial dummy variable, the eastern province is 1, the middle and western province is 0. Viewed from such angles as geography, history and priorities after the implementation of the reform and open policy, the eastern provinces of China has certain advantage in connection with overseas markets compared with the mid western provinces. So we predict that the dummy variable of the eastern provinces may show a positive influence on the entrance of the eastern regions into overseas markets.

3.3 Data Specification

The data of Degree of trade dependence adopted in this paper come from China's 29 provinces, autonomous regions and municipalities (not including Hainan and Tibet) input-output tables in 1997, the other data from the *Yearbook of China's Statistics*, *Yearbook of China's Industry Economy Statistics* and *Yearbook of China's Regional Economy Statistics*.

4　Model checking and empirical analysis

4.1 Econometric Methods and Specific Specification of the Model

The equatios should be identified before examining the links between the international trade and interprovincial trade through simultaneous equation models. Among thethree equation models with three variables, a 2×2 non-zero determinant can be constructed through the coefficient matrix of endogenous or predetermined variables that the model (other equations) contain and this equation does not contain and according to the rank condition of identification, we can see that this simultaneous equation model can be identified. Equation（1）contains two endogenous variables and four predetermined variables whereas the simultaneous equation model contain six predetermined variables. Therefore, based on the order condition of identification, we can see that equation（1）can be overidentified. Similarly, both the equation（2）and the equation（3）can be overidentified.

Within the system consisting of two or more equations, system estimation method is much more effective than the two-stage least squares method(2SLS) which estimate each equation one by one. Concerning the simultaneous equation models, three-stage least squares method (3SLS) is the most frequently used estimation method. So the following analysis is to do regression based on

3SLS.

4.2 Regression results and analysis

This empirical analysis here will hinge on the regression results of the full samples adopting 3SLS in Table 1. The regression results adopting 2SLS and sub-samples exist mainly as a robust test.

4.2.1. The interaction between *dftd* and *dptd*

Based on the regression results of the simultaneous equations in Table 1, there is a two-way negative correlation between *dftd* and *dptd* . Unfortunately, this negative correlation did not pass the test of significance. This shows that there does not exist a healthy interaction between China's international trade and inter-provincial trade.

Table 1   The Regression Results of the Simultaneous Equation Models

	Full Samples（3SLS）			Full Samples（2SLS）		
	dftd	*dptd*	*dtd*	*dftd*	*dptd*	*dtd*
dftd		-0.0385	0.9991***		-0.0268	0.9991***
		(0.4417)	(0.0039)		(0.4447)	(0.0039)
dptd	-0.0601		0.9999***	-0.0756		0.9999***
	(0.0719)		(0.0013)	(0.0726)		(0.0013)
ie	-1.3964	-17.152***		-1.6327	-17.225***	
	(1.8793)	(4.2488)		(1.8896)	(4.2638)	
ms	-2.7532*	0.6934		-2.6282	0.6678	
	(1.6051)	(4.7668)		(1.6116)	(4.7846)	
klr	-0.0150*			-0.0206**		
	(0.0078)			(0.0084)		
gd		1.5323***			1.5930***	
		(0.5518)			(0.5848)	
tg		-1.1155***			-1.0897***	
		(0.2584)			(0.2656)	
rdv	1.0096***			0.9791***		
	(0.1485)			(0.1499)		
cons	0.6924**	3.8870***	0.0022	0.7930**	3.8228***	0.0023
	(0.3280)	(0.5406)	(0.0062)	(0.3335)	(0.5734)	(0.0062)
R^2	-0.0242	0.0551	0.9999	-0.0614	0.0562	0.9999
samples	968	968	968	968	968	968

Notes:1. ***,**,*indicate significance at the1％,5％and 10％levels respectively. 2. The data in the brackets are the standard error of the coefficient. 3. The logarithmic of variable results in some of the observations missing, see the last line of the table for the sample number of the final regression process. 4. For two- and three-stage least squares

some of the regressors enter the model as instruments when the parameters are estimated. However, since our goal is to estimate the structural model, the actual values, not the instruments for the endogenous right-hand-side variables, are used to determine R-squared. The model residuals are computed over a different set of regressors from those used to estimate the model. The two- and/or three-stage estimates are no longer nested within a constant-only model of the dependent variable and the residual sum of squares is no longer constrained to be smaller than the total sum of squares. At this point, it is possible for a negative R-squared to emerge.

For the segmented relationship between China's international trade and inter-provincial trade, this paper here will provide a possible explanation by combining the characteristic fact of China's economic development. to. Viewed from the function applied to the international trade by the Inter-provincial trade, first, the Decentralization Reform. Since the reform and opening up, China's Decentralization Reform make the local government obtain the incentive with the main content of fiscal division and political promotion. Mechanism makes the local officials lose the promotion hope because of age, educational background, qualifications and other factors and actively develop the local economy to balance the income and payments of the local finance on the one hand; the political promotion mechanism based on the GDP increasing achievements makes the local officials put the major physical, human and financial resources on the goal of economic development on the other hand. However, when the incentive mechanism motivates the local government to develop economy that takes the fiscal division and political promotion as its main content, its inherent incentive incompatibility makes the local governments to develop the local economy through more competition rather than cooperation(Zhang Shaojun and Liu Zhibiao 2010), the local protectionism of various forms becomes the rational behavior of the local government under the Decentralization Reform. The local protectionism of the local government under Decentralization Reform limits the size of the inter-provincial trade and makes it difficult to display HME to promote international grade. Second, the market level. Since 1978, China has experienced the transition from the planned economy to the market economy, during which the marketing process has achieved great success, but marketing process is very uneven. This is reflected in consumers' rights protection lagging behind; the market level of the eastern coastal areas is higher than that of the Midwest, the market level of the manufacturing and other sectors is higher than that of the other industries, the market level of the product is higher than that of the factor markets (Fan et al, 2007); the reform of administrative monopoly is difficult. The imbalance existing in the marketing process will prevent the cultivation of more expert and discerning domestic customers, the association collaboration between different regions and the development of domestic competitors, thus limiting the development of inter-provincial trade and making it difficult to form a national competitive advantage to promote the development of international trade.

Viewed from the function of international trade on inter-provincial trade, first, the status of the eastern region. Eastern China since the reform and opening up, based on their own industrial base, geographic location and policy support and other advantages, first cut into the global value chain through the development of processing trade and rapidly became a "world factory", the international trade in this region has got a corresponding growth of explosion, but when the eastern part of China joined the global value chain, it only undertook the labor-intensive processing and assembly cycle in the global value chain. The status of low-end division of labor, to some extent, pressed the central and western regions in a status of supplying rude materials, labor and and other factors of production, and in a sense, inhibited the development of labor-intensive industries in central and western regions (Liu Zhibiao and Zhang Shaojun2008).Therefore, the labor division scale and latitude of the eastern, central and western China is difficult to expand and deepen, thereby limiting the inter-provincial trade. It is the low-end labor division status of the eastern region in the global value chain that make the radically increasing international trade of this region do not drive the inter-provincial trade with the central and western region logically. Second, border effect. Trade theory suggests that, under the same trade condition, enterprises still tend to trade with the local enterprises, namely, home bias of trade. What caused the home bias of trade is the various trade barriers between regions, the use of the boundary effect model is a more common method to measure the trade barriers between regions. Boundary effect of trade exists between countries as well as different regions within a country. So, when the enterprises of a country integrate domestic resources to improve the international competitiveness, the inter-provincial trade scale induced by them may be influenced by the size of the boundary effects. Adopted the provincial input-output tables of 1987, 1992 and 1997 and employed the "boundary effect" model, Poncet's (2002,2003) study shows that economic globalization makes China's local governments increase inter-provincial trade barriers, then the expansion of the international trade could "crowd out" the domestic inter-provincial trade. During the period 1987-1997, China's international trade was increasing, while the domestic trade in the provinces was declining. This shows that the existence of provincial border effect makes the international trade maybe "crowds out" inter-provincial trade.

4.2.2 Test of Robustness

We also test the simultaneous equation model through 2SLS. Considering that the technical separability and tradability of the product, development of trade in different sectors will be affected, this paper takes manufacturing including 27 sector s as the sub-sample to make a robustness test,excluding mining and processing sector, electricity, steam and hot water production and supply, gas production and supply and water production and supply.There are many

differences between the economic function and social orientation of the municipalities and that of the common provinces; The literature (Zhang and Gong, 2006) concerning regional economy assumes that the samples including or excluding municipalities have differences in statistics, so we disregard Beijing and Tianjin and Shanghai and Chongqing in this paper and take twenty-five provinces and autonomous regions as the sub-samples to make a regression analysis. All the above regression results do not change the basic conclusion in this paper and provide a good robust support.

Table 2　The Regression Results of Robustness Test

	manufacturing sub-samples（3SLS）			Removal of the sub-sample of municipalities（3SLS）		
	dftd	*dptd*	*dtd*	*dftd*	*dptd*	*dtd*
dftd		0.0026	1.0020***		-0.5723	1.0007***
		(0.5707)	(0.0058)		(0.8874)	(0.0065)
dptd	-0.0441		1.0001***	-0.0510		0.9996***
	(0.0341)		(0.0014)	(0.0504)		(0.0014)
ie	0.2148	-13.575***		-1.3619	-17.870***	
	(1.3631)	(5.0577)		(1.4156)	(4.6068)	
ms	-1.5224	0.6035		0.7075	3.6682	
	(1.3863)	(5.3176)		(1.3058)	(6.1798)	
klr	0.0125			-0.0003		
	(0.0094)			(0.0061)		
gd		2.0617***			1.1847**	
		(0.5819)			(0.5358)	
tg		-2.8164***			-1.3704***	
		(0.4769)			(0.3240)	
rdv	0.8493***			0.5926***		
	(0.1275)			(0.1278)		
cons	0.5520***	5.2278***	-0.0002	0.5683**	4.5958***	0.0021
	(0.1788)	(0.5928)	(0.0090)	(0.2379)	(0.5663)	(0.0076)
R^2	0.0099	0.1181	0.9999	-0.0901	0.0049	0.9999
samples	760	760	760	842	842	842

Notes: Same as Table 1.

5 Conclusions and Implications

The imbalance between outland opening and inland opening, the imbalance between international market integration and domestic market integration and the imbalance between international economic cycle and domestic economic cycle exist in present China's economy are the crucial cause for the difficulties at present. I think that developing inter-provincial trade will

help achieve the following three changes in terms of China's economic developing mode: shift from reliance on external demand to reliance on both domestic and external demand, shift from strategy of regional priority development to regional coordination development, shift from the reliance on low-end factors to the basis on deepening labor of division.

Therefore, departure from the interaction between international trade and inter-provincial trade, this article sets up a simultaneous equation model on international trade dependency and inter-provincial trade dependency. After the test by adopting China's provincial data in 1997, the results shows that there exists a two-way negative correlation between China' international trade dependency and inter-provincial trade dependency. Accordingly, as for the segmented relationship between China's international trade and inter-provincial trade, this article offers a possible explanation by combining the characteristic fact of China's economic development.

In order to achieve a positive interaction between international trade and inter-provincial trade and help achieve the above tree major changes in terms of China's economic developing mode, this study provides the following four enlightenments:

First, to improve the governance of local government. The present governance mechanism between the central government and local government mainly featuring on fiscal decentralization and political promotion, but the incentive incompatibility problems of this governance mechanism may easily lead to local protectionism of local government's limiting inter-provincial trade. Therefore, inland opening should be included in the assessment on the local government officials in time, the problem of delay and directness of inland opening should be given full consideration and the system design should encourage the local government shift from the present reciprocal competing to collaboration, from zero sum game to win-win game, break the market segmentation and reduce repetitive construction, and ultimately drive a positive interaction between international trade and inter-provincial trade.

Second, to speed up the pace of economic transition. Historical experience of the developed countries shows that the establishment of economic system centering on market is a necessary condition for achieving sustainable development. There are still many problems in the marketing process of China's economy, in order to display national competitive advantage and promote the positive interaction between international trade and inter-provincial trade, it is urgent to transit to market economy from the following aspects: first, to protect the rights and interests of consumers from system and laws and increase the penalties on the behavior of harming consumers; second, to

speed up the marketing process of the central western regions, services, factor markets and other factors and form a competing environment across regions, industries and markets; third, the government should be determined to launch from micro-economic activities and clear the way for the reform of administrative monopoly.

Third, to implement industrial upgrading strategy in the eastern regions. At present, due to the rise of the factor costs, RMB appreciation and the interference of trade protectionism and other factors, a diffusing trend emerges in the labor-intensive cycle of the global value chain gathered in the eastern part of China. To this end, China's eastern part should use its incumbent advantage of "world's most competitive contract manufacturing platform", step up to implement industrial upgrading strategy, climb towards the research and marketing and other factors in both ends of the global value chain. At the same time, labor-intensive cycle in the global value chain needs to transfer to the central and western regions, and the inland cycle of global value chain needs to extend and stretch. Therefore, with the increasing of cycles and stretching of chains, each cycle distributing in different regions may interact harmoniously, which promotes a sound interaction between international trade and inter-provincial trade.

Fourth, to do everything possible to reduce inter-provincial trade barriers. Poncet (2005) assumes that the main cause of China's inter-provincial trade barriers is the market-segmenting behavior that the provinces carry on in order to maintain social stability and maximize the fiscal income. To reduce inter-provincial trade barriers and achieve a sound interaction between international trade and inter-provincial trade, some measures can be done from the following aspects: First, to reduce barriers of factors' mobility, to establish nationwide unified open factor markets and to ensure the inter-provincial mobility and quality of labor, capital and other factors. Second, to strengthen and improve the central government's transfer payment system, and enhance the financial capacity of local governments in central and western region so as to ensure the equalization of public services in central and western region.

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