Preliminary draft

Do not quote

Asia-China Economic Integration will be Bright Even without TPP

Li Xin

Beijing Normal University and Perking University

Abstract

The World Trade Organization has failed. In December, the Doha Round is turning ten years old, with nothing to celebrate, and formal negotiations of the Round expired in 2005 without any agreement and informal negotiations stalled in 2008. So a recent initiative to deepen trade relations among the countries bordering the Pacific, the Trans-Pacific Partnership (TPP), has been greeted with much applause and welcome relief as a step in the right direction. But while the TPP should be recognized and applauded for what it will be - and agreement providing increased rules-based certainty in trading relations among TPP members- it does not include China, which its size, location and dynamism exert an inexorable gravitational pull that has made it Southeast Asia's largest trading partner. The essential objective behind this paper is to discuss any region-wide FTA-series of linked agreements with variable coverage of members and issues. By using the recursive dynamic computable general equilibrium model, the two different scenarios are simulated against the baseline, one is for ASEAN+3/+6 FTA, the other is for TPP agreement. The preliminary result shows that, the TPP agreement without China will probably not change the fact that, markets and geography are the principal factors behind Southeast Asia's economic integration with China. After all, trade and investment agreements can only facilitate market forces, not fight them. In the end, markets and geography will point Asia toward integrating first and only then will be in a position to converge with TPP.

I. Introduction

The impact of TPP agreement to the Japan's agriculture is uncertainty. The situation in domestic agriculture affects the Japan's trade policy in several ways. Firstly, there are widespread perceptions that free trade agreements with major agriculture producers such as Australia and the United States, and Japan's participation in the TPP, would come at great cost to Japanese agriculture. This argument would carry a great deal more weight in the present circumstances than previously[1]. Secondly, it is possible that the government's policy of income subsidies to farmers

[1] Aurelia George Mulgan, "TPP off Japan's trade agenda for the time being", East Asia Forum.

may be reviewed owing to changed fiscal conditions. Hence, the likely fiscal squeeze may indirectly undermine any moves to liberalize trade. Thirdly, one of the big selling points of the government's interlinking of agricultural reform with free trade agreements was the prospect of increased agricultural exports. A number of countries have either banned or are restricting food imports from Japan, including Australia, and the likelihood is that Japanese agricultural exports will be viewed internationally as carrying greater risk of radioactive contamination. In these circumstances, the argument that agricultural reform could lead to greater food exports no longer applies.

There are many literatures on the East Asia integration by Applying General Equilibrium model (AGE). Urata and Kiyota (2003) analyzed the impacts of Asian FTAs (including a China-ASEAN FTA) with the GTAP model. Jiang and Mckibbin (2008) used a suite of general equilibrium models to examine the impact of a free trade area of the Asia-Pacific. Marinos and Zhi (2010) developed a global trade AGE framework to simulate the impact of the China-ASEAN free trade area (CAFTA) on China, different with the previous research, they focus on the sectoral and macro implications of CAFTA. In conjunction with the possible development in the existing ASEAN-China FTA and a proposed East Asian FTA, the authors found that both China and Japan gain from all the three FTAs.

II. Industrial supply chains in Asia

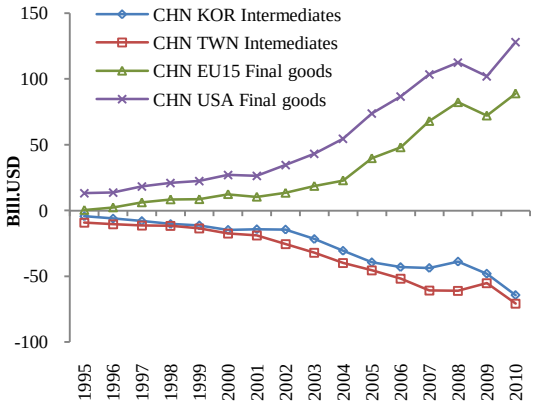
The Cross-border flows of goods, investment, services, know-how and people associated with international production networks—call it 'supply chain trade' for short[2]. Since the 1990s, globalization has been associated with a sharp drop in rich nations' share of world income, world manufacturing and world exports. The big winners are a handful of developing nations who have industrialized by joining, rather than building supply chains.

Figure 1 plots a group of triangle trade relationship in manufactured goods for China and its major trading partners. In each of the four sub-graphs in Figure 4, there are one or two intermediate manufactured goods supplying countries, a final manufactured goods assembling country, and one or two final goods importing (consuming) countries.

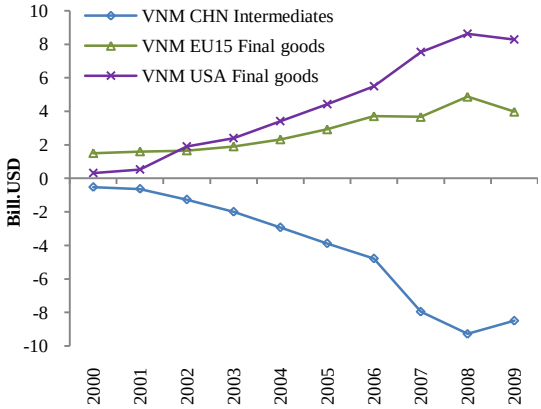
These graphs show that although China still runs large trade surpluses in final goods with the older EU countries and the United States and a simultaneous large trade deficit in intermediate goods with other industrialized countries, it has already become an important supplier of manufactured intermediate goods for many lower wage countries in its neighborhood, such as Viet Nam, south Asian less developed countries and east Asian less developed countries. All those developing economies run surpluses of manufactured final goods with the United States or older EU counties, or both, similar to China. Despite the fact that China is still a global center of final assembly for many manufactured products, there appear to be some labor intensive final assembly activities already migrating from China to other low cost countries.

[2] Richard Baldwin, "The WTO and Global Supply Chains," East Asia Forum.

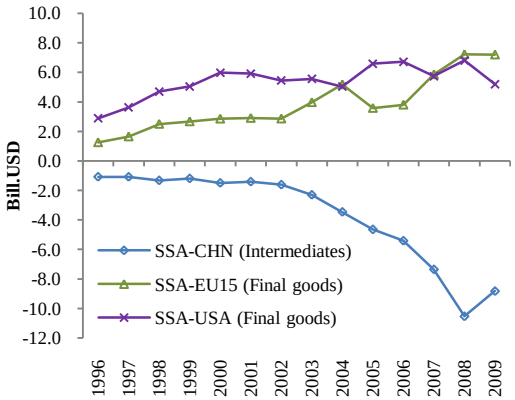
(a) China



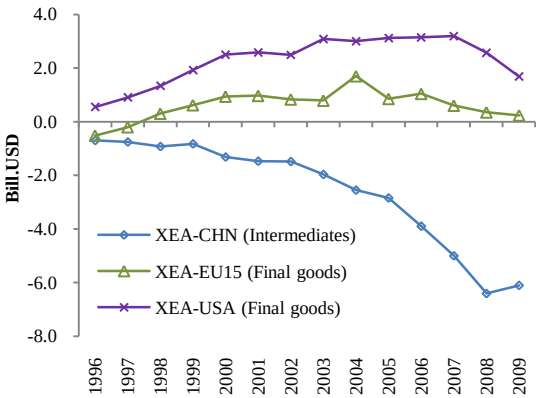
(b) Vie Nam



(d) South Asia Least Developed Countries



(e) East Asia Least Developed Countries



Note: The industry classification of Manufacturing is ISIC rev.3.1 15T37. EU15 is including Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden and United Kingdom. EU12 is including Bulgaria, Czech, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia. SSA is including Nepal, Bhutan, Pakistan, Bangladesh, Sri Lanka and Maldives. XEA is including Lao, Cambodia, Mongolia and North Korea.

Source: China, Viet Nam, Thailand are from BTDIbyE, OECD, 2012ed. EU12, South Asia Least Developed Countries and East Asia Least Developed Countries are from UN Comtrade.

III. The Rules of Origin discussion

Rules of Origin (RoOs) are the criteria needed to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases depend upon the source of imports[3]. The U.S. has always pressed for protectionist RoOs for its sensitive products. US negotiators are pushing for narrow, product-specific RoOs with high threshold levels for determining eligibility. By and large, other TPP countries support more liberal RoOs. They oppose product or country specific RoOs, pushing instead for region-wide rules. Rather than folding

[3] "Technical information on Rules of Origin", World Trade Organization, available online: http://www.wto.org/english/tratop_e/roi_e/roi_info_e.htm.

RoOs into general market access talks, a separate negotiation group is handling them, which increase the likelihood that opponents of true liberalization can prevail[4].

However, East Asian economic integration has been market-driven, not institution-driven, and production networks have flourished despite FTAs in which the rules-of-origin issue complicates the sourcing of imported intermediate inputs. This paper ignores the impact of RoOs for two reasons:

Firstly, the average tariff rates were relatively high in agriculture and textiles industries of China, Japan and Korea, which are the three largest trade partners in Asia. (Table 1)

Table 1 Tariff Structure by Industry in China, Japan and Korea (%)

		China		Japan		Korea	
		Tariff rate	Standard deviation	Tariff rate	Standard deviation	Tariff rate	Standard deviation
The Primary Industry	Agriculture	18.0	12.4	18.4	19.8	52.1	113.8
	Forestry	5.9	4.2	2.9	2.4	6.5	2.5
	Fishery	13.1	3.6	5.2	4.3	18.2	67.7
	Mineral	10.2	13.1	0.9	2.0	4.5	2.6
	Total of the primary products	13.8	11.7	5.9	8.3	34.6	90.7
The Secondary Industry	Textiles	15.2	5.8	6.4	2.9	10.0	3.3
	Chemical	8.9	5.4	2.4	3.1	7.0	9.2
	Steel/Metal	7.7	4.6	1.1	1.7	5.2	2.9
	Electronics	10.3	8.6	0.1	0.7	6.0	3.2
	Machinery	8.8	4.8	0.0	0.0	6.1	3.1
	Automobiles	20.9	12.2	0.1	0.9	7.5	2.4
	Other products	11.7	7.2	1.9	4.6	6.1	3.6
	Total of the secondary products	10.7	76.7	2.5	3.5	7.1	6.1
	Total	11.3	8.0	3.1	5.0	12.4	41.8

Notes:1) Average MFN tariff rates based on HS 6 digits in 2003. 2) HS classification: Agriculture: 1-2 /4-15/17-24, Forest: 44-46, Fishery: 3/16, Mineral: 25-27/71, Textile: 50-63, Chemical: 28-43 47-48 68-70, Steel/ Metal: 72-83, Electronics: 85, Machinery: 84, Automobiles: 87, Others: 49/64-67/86/88-97.

Source: Trilateral Joint Research report by Development Research Center of China, National Institute for Research Advancement of Japan and Korea Institute for International Economic Policy of Korea,

[4] Claude Barfield, "The TPP: A model for 21st century trade agreement", East Asia Forum.

"Joint Report and Policy Recommendations on Sectoral Implications of a China-Japan-Korea FTA", Nov. 2004. Available online: http://www.nira.or.jp/past/newse/paper/joint4/report.html.

Secondly, China imports a large number of intermediated inputs from Japan and re-exported to Japan and all over the world after assembly. The following table 2 indicates that the proportion high-technology products (HTM) and IT products increased significantly during the last two decades, the similar relationship also exists between the developing countries and developed countries of Asia. So the regional content of value-added is high enough to ignore the impact of rules of origins to some extent.

Table 2 China's imports from and exports to Japan accounted for the proportion of Japan's total imports and exports by different technological content of manufacturing products.

	1990	1995	2000	2005	2006	2007	2008	2009
The share of Japan import from China								
HTM	**1.1**	**5.0**	**9.6**	**27.6**	**26.9**	**28.4**	**30.4**	**30.6**
MHM	2.7	7.2	13.5	23.0	25.2	26.5	28.1	28.8
MLM	2.9	8.3	11.0	18.7	17.6	17.3	17.2	19.2
LTM	9.5	21.1	31.5	39.4	41.7	42.5	41.0	43.5
IT	**1.4**	**5.8**	**11.0**	**35.5**	**35.4**	**37.4**	**40.6**	**43.4**
The share of Japan export to China								
HTM	**1.6**	**2.8**	**5.0**	**14.0**	**15.7**	**17.6**	**18.4**	**20.4**
MHM	1.7	5.0	5.7	11.5	12.3	12.9	13.4	18.1
MLM	4.3	7.1	8.7	15.2	15.6	15.5	16.7	16.1
LTM	4.7	13.7	17.5	23.5	24.2	23.1	23.0	24.3
IT	**1.6**	**3.0**	**5.2**	**14.1**	**16.3**	**18.3**	**18.9**	**21.2**

Note: HTM: Aircraft and spacecraft, office, accounting and computing machinery, medical, precision and optical instruments, etc; MHM: Electrical machinery and apparatus, motor vehicles, chemicals excluding pharmaceuticals, railroad equipment and transport equipment, machinery and equipment, etc; MLM: Building and repairing of ships and boats, rubber and plastics products, coke, refined petroleum products and nuclear fuel, etc; LTM: Wood, pulp, paper products, food products, beverages and tobacco, textile products, leather and footwear, etc.

Source: OECD STAN.

IV. Model structural and data description

The multiregional CGE model used in this paper is similar to models widely used to analyze the effect of trade and trade policies (Shoven and Whalley, 1984; 1992; Francois and Shiells, 1994). The model focuses on the real side of the world economy and incorporates considerable detail on sectoral output and trade flows, both bilateral and global. The model also links to a

macroeconomic model to generate macro scenarios. Given a macro scenario, this model may then be used to determine the implied trade flows and sectoral structural adjustments for each region in a recursive dynamic framework consistent with the macro scenarios. Under the assumptions for a likely path of future world economic growth, the CGE model may generate the pattern of production and trade from world economic adjustment to the economic shocks specified in the alternative scenario.

4.1 The sequential dynamic CGE model

The CGE simulation model used in this paper has two parts. The first part is a comparative-static CGE model that simulates changes within a given year. The second part of the CGE model provides the inter-temporal linkages and simulates the changes between years.

4.1.1 The comparative-static CGE model

The model focuses on the United States, China, and their top trade partners. Twenty-five regions and 41 production sectors in each region are specified to represent the world economy. China and Mexico have expanded processing zones, and these zones are modeled as separate economies.[5] Therefore, the total number of economies in the model is 27 (Table 3).

Table 3 Regions and sectors in the CGE model

Regions	Regions code	Sectors
1 Australia & New Zealand	AUSNZ	1 Crops
2 Brazil	BRA	2 Livestock
3 Canada	CAN	3 Forestry
4 Chinese Mainland (non-processed)	CHN	4 Fishing
5 Chinese Mainland (processed)	CHNP	5 Coal
6 EU12	EU12	6 Oil and gas
7 EU15	EU15	7 Minerals products n.e.c.
8 Chinese Hong Kong	HKG	8 Meat and dairy products
9 Indonesia	IDN	9 Other foods
10 India	IND	10 Beverages and tobacco products
11 Japan	JPN	11 Textiles
12 South Korea	KOR	12 Clothing apparel
13 Mexico (non-processed)	MEX	13 Leather products
14 Mexico (processed)	MEXP	14 Wood products
15 Malaysia	MYS	15 Paper products and publishing
16 Philippines	PHL	16 Petroleum and coal products
17 The rest of world	ROW	17 Chemical, rubber, and plastic products
18 The rest of Asia	ROA	18 Mineral products n.e.c.
19 The rest of high income countries	ROH	19 Ferrous metals
20 The rest of East Asia	REA	20 Metals n.e.c.
21 Russia	RUS	21 Metal products

[5] Only China and Mexico's processing trade zones are explicitly modeled because of data limitations. Nevertheless, including the processing zones in other developing countries in the model is easy should the data become available.

22 Singapore	SGP	22 Motor vehicles and parts
23 Thailand	THA	23 Transport equipment n.e.c.
24 Chinese Taiwan	TWN	24 Electronic equipment
25 USA	USA	25 Machinery and equipment n.e.c.
26 Vietnam	VNM	26 Manufactures n.e.c.
27 South Africa	ZAF	27 Electricity
		28 Gas manufacturing and distribution
		29 Water
		30 Construction
		31 Trade
		32 Transport n.e.c.
		33 Water transport
		34 Air transport
		35 Communication
		36 Financial services n.e.c.
		37 Insurance
		38 Business services n.e.c.
		39 Recreational and other services
		40 Public Administration, Defense, Education, Health
		41 Dwellings

Note: EU12 includes Bulgaria, the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia, and Slovakia. EU15 includes Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden, and the United Kingdom.

Each economy is specified with utility and production functions. It consists of 41 sectors that produce goods and services, a private household, and a government. Subject to transportation costs, each region engages in commodity and services trade with all other regions in the model. Commodity and service prices are determined by market clearing through international trade. All economic agents are price-takers in the model, and their demand for commodities and primary factor services is based on cost minimizing and utility maximizing behaviors subject to the production function and budget constraints. Producing sectors manufacture a single commodity. Intermediate and final demand users of commodities and services are assumed to differentiate a commodity and services by region of origin, such as the application of Armington specification (Armington, 1969). Our database enables us to implement the Armington specification at the producer and consumer levels, which are the source of imports determined at the agent level.

On the final demand side of the model, households purchase commodities/services, and they save part of their income, which consists of returns to primary factors and net tax collections. In each region, aggregate investment in new capital goods is represented by the output of a "capital goods" sector. Globally, the sum of household savings is equal to the sum of investment expenditures. The model assumes that welfare and household demand preferences are separable, enabling the expression of total utility as a function of sub-utilities, which in turn have deeper sub-groupings

within them. At the apex of the utility tree, regional welfare is derived from private household expenditures, government expenditures, and savings. Currently, no economic mechanism that links federal government expenditures in US regions exists. The simulations do not change the distribution of regional income across private and government expenditures and savings. This assumption is implemented by applying a Cobb-Douglas function to describe substitutions between the three components of welfare. Household demands for composite commodities are specified by Cobb-Douglas functions. Regarding the industrial sector demands, producing sectors demand two types of inputs in the model, namely, the primary factors and the intermediate inputs. The primary factor composite is a constant elasticity of substitution aggregate of land (where appropriate), labor, and capital. The elasticity of substitution between primary factors is industry specific. No substitution occurs between the primary factor composite and the intermediate inputs (i.e., a Leontief technology is assumed).

On the side of international trade, the main features of the model treatment of trade are the Armington assumptions discussed earlier and the determination of the sourcing of imports at the producer and consumer levels instead of at the national level. However, two aspects of the model affect the interregional and international linkages in the model. Both of these aspects are drawn from the Global Trade Analysis Project (GTAP) model (Hertel, 1997). First, a global sector demands services from each regional transportation service sector to provide a composite service used for shipping commodities across regions. In value terms, each region's relative contribution to the global transportation sector does not change because of the simulation performed. The shipping services are required in fixed proportions with the quantity of a particular commodity shipped along a particular route.

The second global sector mediates between regional savings and regional investment. This global sector has a portfolio of regional net investments that are offered to regional households to satisfy their demand for savings. Regarding the regional composition of net investment, the model assumes that a negative relationship exists between the (expected) regional rate of return on capital and the amount of investment undertaken in a region.

Each region has fixed endowments of land, skilled and unskilled labor, capital, and other natural resources. Labor services and services from existing capital stock are assumed to be intersectoral and perfectly mobile but region specific. This condition implies that all sectors in a region face the same market price for labor services and the same market price for capital services. Labor and capital are assumed to move freely between the export processing zone and the rest of the economy in China and Mexico.

4.1.2 Intertemporal linkages in the CGE model

The comparative-static model is used to simulate changes within a given year t. To simulate changes between years t and t+1, our simulation framework incorporates physical capital accumulation for the economy as a whole:

$K_{r,\,t+1} = (1 - D_r) \times K_{r,t} + I_{r,t}$,

where $K_{r,t}$ is the quantity of capital available for use in region r during year t, $I_{r,t}$ is the quantity of new capital created in region r during year t, and D_r is the rate of capital depreciation in economy r, which is treated as a parameter.

The level of new capital goods or investment Ir,t is determined by the comparative-static model. Under the assumption of static expectations, we generate a "baseline" that describes the evolution of the world economy in the absence of the change that we want to analyze. Our baseline runs from 2007 to 2020 and from the projections for land availability, labor, population, and GDP growth rates. Population and labor and land availability are exogenous variables in the CGE model. Therefore, these variables experience shocks each year according to the projections we use. However, GDP is an endogenous variable in the CGE model. To target GDP, we change the closure of the model and allow an economy-wide technology parameter to adjust accordingly.

The simulation of a shock that we want to analyze generates a "policy" line. The policy simulations include the baseline population, labor, and land shocks used to generate the baseline simulations, the shocks for the economy-wide technology parameter determined in the baseline simulations, and the shocks that want to analyze. For a particular variable, such as the total Chinese exports, the distance between the "policy" line and the "baseline" is the effect of the shock that we want to analyze. The policy shocks that we simulate in this paper occurred in 2011. Thus, the first year that the policy line deviates from the baseline is 2011.

4.2 Data used in the CGE model

The model focuses on the United States, China, and their top trade partners. Twenty-four fully endogenized regions and 41 production sectors in each region are specified to represent the world economy and calibrated on a world inter-country input-output table estimated for 2007 based on the GTAP database version 8 (Wang et al., 2010). The benchmark equilibrium serves as a "baseline" for counterfactual simulation analysis. Our baseline runs from 2007 to 2020 and incorporates Food and Agriculture Organization projections for land availability and International Monetary Fund projections for labor, population, and GDP growth rates. Projections for skilled and unskilled labor are developed from information provided by the International Labour Organization. Population and labor and land availability are exogenous variables in the CGE model.

V. Scenario Results

5.1 CJK-FTA

Table 4 the comparative static scenario result of CJK-FTA

% change	China	Japan	South Korea
Real GDP growth rate	0.13	0.02	0.21
Employment rate	0.04	0.01	0.13
The growth rate of real export		0.22	2.19
General export	0.46		

Processing export	0.24		
The growth rate of real import		0.62	3.2
General import	0.42		
Processing import	0.11		

Table 5 Recursive dynamic simulation (average between 2012-2016)

% change	China	Japan	South Korea
Employment rate	0.11	0.18	0.07
The growth rate of real export		0.17	2.06
General export	0.29		
Processing export	0.18		
The growth rate of real import		0.55	2.75
General import	0.31		
Processing import	0.1		
Real income	0.05	0.06	0.04

Table 6 the impact of CJK-FTA on Japan by sectors

Real export by product (% change)	2012	2013	2014	2015	2016
Crops	0.000	0.000	0.006	0.012	0.019
Forestry	0.000	0.022	0.021	0.021	0.021
Minerals nec	0.000	0.007	0.007	0.007	0.007
Meats_Dairy	**0.000**	**0.083**	**0.081**	**0.079**	**0.076**
Food products nec	**0.000**	**0.050**	**0.050**	**0.051**	**0.052**
Mineral products nec	**0.000**	**0.052**	**0.051**	**0.050**	**0.049**
Metals nec	**0.000**	**0.036**	**0.036**	**0.035**	**0.035**
Electronic equipment	**0.000**	**0.012**	**0.012**	**0.011**	**0.011**
Machinery and equipment nec	0.000	0.001	0.001	0.002	0.002

Table 6 the impact of CJK-FTA on China by sectors

Real export by product (% change)	2012	2013	2014	2015	2016
Food products nec	0.000	0.048	0.049	0.050	0.050
Beverages and tobacco products	**0.000**	**0.156**	**0.156**	**0.156**	**0.157**
Textiles	**-0.001**	**0.039**	**0.040**	**0.040**	**0.040**
Petroleum, coal products	**0.000**	**0.016**	**0.016**	**0.016**	**0.016**
Mineral products nec	-0.001	0.011	0.012	0.012	0.012
Metals nec	**-0.001**	**0.032**	**0.033**	**0.033**	**0.033**
Metal products	-0.001	0.006	0.007	0.007	0.007

Motor vehicles and parts	0.000	0.002	0.003	0.003	0.003

According to the scenario result, China is expected to gain more benefit from free trade zone, in fact, part of the gain from trade of China belongs to the Japanese multinational corporations, even it is accounted to the current account of China, the ownership or the property belongs to the Japanese companies, and it wouldn't be reflected in the capital account until it flow back to Japan. Based on Chinese 2007 non-competitive Input-Output table and the original property information of 43911 foreign invested corporations in China, we try to split the capital flow and logistics in Chinese processing exports. The roughly result shows that 39.3% of the exports property belongs the Japanese enterprises. And the number to the Korean is 14.7%. Because the estimation is based on 2007, so the proportion will be larger now for the rapid growth rate of trilateral FDI between CJK.

FTA can not only help to strengthen the industry linkages between three nations, but also to improve the integration of three markets and promote the regional capital flow. Different from the NAFTA, the rule of origin plays a limited role in the CJK-FTA. After considering the concept of ownership of benefits, the Japanese and Korean enterprises are expected to gain more in the increasing of Chinese international trade in the future. We expected the agreement will allow more in-depth specialization and brings efficiency gains to China, Japan and Korea and the CJK-FTA is a win-win-win strategy for all nations.

5.2 TPP with and without China

Table 7 the real growth rate of the major countries in TPP with China (2013, % change)

	指标	China	U.S	Japan	Malaysia	Vie man	Singapore	Australia and New Zealand
GDP	GDP growth rate	8.58	3.08	2	5.59	7.17	4.16	3.24
Consumption	Consumption by household	9.28	2.51	2.04	5.27	5.25	2.87	1.75
International trade	Real export	13.17	5.47	4.41	6.37	6.14	4.19	5.89
	Real import	12.47	7.74	9.66	7.44	9.31	3.85	2.96
Sectors	Agriculture	3.63	2.17	-1.74	3.01	1.31	1.56	1.92
	Manufacturing	13.5	4.28	3.31	19.51	21.18	4.52	2.55
	Service	9.75	1.54	0.46	4.24	14.68	3.82	2.26
Employment	Labor demand	6.38	0.9	0.53	4.86	11.39	1.69	1.06

Table 8 the real growth rate of the major countries in TPP without China (2013, % change)

		China	U.S	Japan	Malaysia	Vie man	Singapore	Australia

								and New Zealand
GDP	GDP growth rate	7.9	2.98	1.86	5.38	8.6	4.22	3.25
Consumption	Consumption by household	7.27	1.89	1.55	5.12	6.76	2.44	2.22
International trade	Real export	9.73	2.35	2.1	5.07	7.56	4.29	5.04
	Real import	6.89	5.47	6.21	5.61	10.7	3.99	2.95
Sectors	Agriculture	3.67	1.69	-1.27	3.07	1.95	1.53	2.24
	Manufacturing	11.06	1.96	2.65	10.14	28.89	4.73	2.43
	Service	9.99	1.52	0.47	3.9	13.43	3.91	2.39
Employment	Labor demand	4.39	0.84	0.44	4.19	13.75	1.7	1.13

Table 9 the different between TPP with and TPP without China

		China	U.S	Japan	Malaysia	Vie man	Singapore	Australia and New Zealand
GDP	GDP growth rate	0.68	0.10	0.14	0.21	-1.43	-0.06	-0.01
Consumption	Consumption by household	2.01	0.62	0.49	0.15	-1.51	0.43	-0.47
International trade	Real export	3.44	3.12	2.31	1.30	-1.42	-0.10	0.85
	Real import	5.58	2.27	3.45	1.83	-1.39	-0.14	0.01
Sectors	Agriculture	-0.04	0.48	-0.47	-0.06	-0.64	0.03	-0.32
	Manufacturing	2.44	2.32	0.66	9.37	-7.71	-0.21	0.12
	Service	-0.24	0.02	-0.01	0.34	1.25	-0.09	-0.13
Employment	Labor demand	1.99	0.06	0.09	0.67	-2.36	-0.01	-0.07

References

Armington, P.S., 1969, A Theory of Demand for Products Distinguished by Place of Production, *IMF Staff Paper*, Vol. 16, No. 1, pp, 159-178.

Aurelia George Mulgan, "TPP off Japan's trade agenda for the time being", East Asia Forum. Available online: http://www.eastasiaforum.org/2011/04/19/tpp-off-japans-trade-agenda-for-the-time-being/.

Claude Barfield, "The TPP: A model for 21st century trade agreement", East Asia Forum. Available online: http://www.eastasiaforum.org/2011/07/25/the-tpp-a-model-for-21st-century-trade-agreements/

Francois, J.F. and C.R. Shiells, 1994, *Modelling Trade Policy: Applied General Equilibrium Assessments of North American Free Trade*, Cambridge University Press, Cambridge.

Hertel, T.W., 1997, *Global Trade Analysis: Modeling and Application*, Cambridge University Press, Cambridge.

Richard Baldwin, "The WTO and Global Supply Chains," East Asia Forum. Available online: http://www.eastasiaforum.org/2013/02/24/the-wto-and-global-supply-chains/.

Shiro Armstrong, "The TPP, APEC and East Asian Trade Strategies", East Asia Forum. Available online : http://www.eastasiaforum.org/2011/11/14/the-tpp-apec-and-east-asian-trade-strategies/.

Shoven, John B., and Whalley John, 1984, Applied General Equilibrium Models of Taxation and International Trade: An Introduction and Survey. *Journal of Economic Literature*, Vol.22, No.3, pp. 1007-51.

——, 1992, *Applying General Equilibrium*, Cambridge University Press, Cambridge.

Urata, Shujiro and Kozo Kiyata, 2003, "The Impacts of East Asia FTA on Foreign Trade in East Asia," available online: https://www.gtap.agecon.purdue.edu/resources/download/.1588.pdf.

Marions Tsigas and Zhi Wang, 2010, "A General Equilibrium Analysis of the China-ASEAN Free Trade Agreement," available online: https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=3357.

Wang, Zhi, Marinos E.Tsigas, Jesse More, Xin Li and Daniel Xu, 2010, "A time series database for global trade, production and consumption linkage," Global Trade Analysis Project Resource No. 3391 [online; cited 15 April 2010]. Available online: https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=3391.