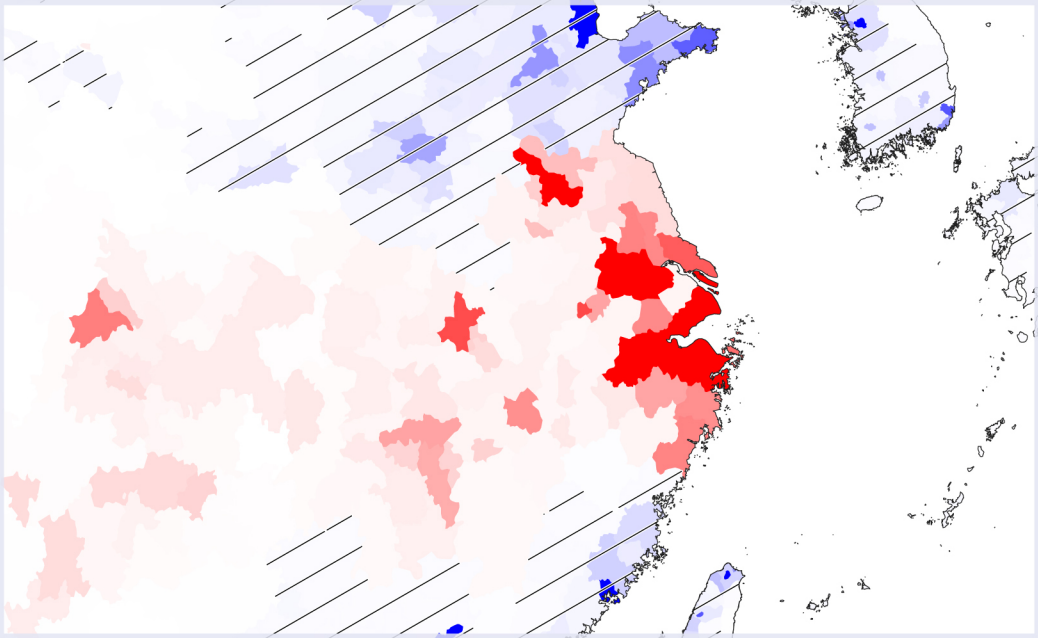
China (Shanghai) Pilot Free Trade Zone and the Future of Asia

Main Report



Joint Research:
Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO)
Shanghai Academy of Social Sciences (SASS)

March 2015

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Contents

Foreword

WANG Zhan
President

Shanghai Academy of Social Sciences

Construction of the China (Shanghai) Pilot Free Trade Zone (SHFTZ) is an important initiative taken by the Chinese Central Government to achieve a strategic upgrade to increase openness. It is designed to echo the new trend of economic globalization, establish an open economic system in line with top-class international standards, procure new advantages in international competition, build a new platform for cooperation and joint development with other countries, expand to make room for economic growth, and create an improved version of the Chinese economy. On the whole, China sincerely expects to take advantage of SHFTZ to explore whether it can be replicated nationwide and promoted as a method for future opening-up at a higher level. This is not intended to initiate a new special economic zone, as has been done in the past three decades, although the successful and effective experience of the special economic zone still holds.
Functionally, SHFTZ greatly emphasizes opening up of investment fields, including the introduction of foreign capital and overseas investment, and this is not limited to elimination of tariffs to promote trade in goods in bonded areas. SHFTZ attaches great importance to the development of the service sector and focuses attention on construction of Shanghai's trade functions, shipping, and multinational headquarters. SHFTZ should demonstrate the force of reform for opening up and symbolize exploration toward comprehensive innovation and opening up of the financial sector, rather than simply focusing on the introduction of foreign direct investment. Therefore, a pilot program for opening up and institutional reform, launched by SHFTZ, mirrors China's future strategic orientation toward reform and opening up.

I am very pleased to witness research efforts bearing fruit and expect close and extensive cooperation between IDE-JETRO and SASS!

Takashi SHIRAISHI
President

Institute of Developing Economies, Japan External Trade Organization

East Asian countries have been attracting the attention of the international economic community because of their continued economic growth. Needless to say, one of the engines to this locomotive is China. Currently, SHFTZ, which is aiming for a new round of reforms as well as being on its way to opening up, is receiving a lot of attention as new fuel for economic growth in China.

There is a compelling need for rigorous research on SHFTZ to answer the following question: What will the consequences from SHFTZ be on the Chinese economy, East Asian economies, and the future of Asia, and particularly in concert with an integrating Asia as well as changing trade and investment regimes? In 2014, IDE-JETRO and SASS launched a collaborative research project with the theme of "Shanghai Pilot Free Trade Zone and its economic effect." The aims of this project are two-fold: to clarify the implemented reforms and the current status of SHFTZ; and to analyze its impact on domestic economic interdependence and economic integration in East Asia. These aims are approached by simulation using the IDE-Geographical Simulation Model (IDE-GSM). IDE-GSM is a unique simulation model that can visualize the economic impacts of SHFTZ at the sub-national level (i.e., at the city/prefecture/region level) in East Asian economies.

It is our hope that this collaborative research will contribute to increased understanding of the state of SHFTZ as well as its economic influences within China and neighboring economies in Asia.

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Executive Summary

Since the China (Shanghai) Pilot Free Trade Zone (hereinafter referred to as "SHFTZ") officially opened on September 29, 2013, in accordance with the requirements of the CPC Central Committee and State Council, SHFTZ has enjoyed good progress as well as initially set up a basic institutional framework and begun to show the effects of the reforms (Table 1). Starting from four hot spots with a total area of less than 30 square kilometers, the Chinese Government sowed the seeds for a new round of reform and opening up.

Global Value Chain and Service Trade

On February 27, 2013, the United Nations Conference on Trade and Development (UNCTAD) issued its latest research report, *Global Value Chains and Development: Investment and Value-added Trade in Global Economy*. This report investigates the added value of international trade in global distribution and gives a new perspective for understanding the pattern of global value-added trade. From this report, three important conclusions can be drawn. First, trade within the global value chain, which is mainly dominated by multinational companies in developed countries, accounts for about 80% of global trade. Second, the existence of a global value chain leads to repeated "double counting" of current global trade data according to customs statistics. According to new data, approximately 28% of gross exports is the value added to products or services which are initially imported into the exporting country. Therefore, of the gross global exports of USD 19 trillion in 2010, double counting amounted to USD 5 trillion. Finally, the global value chain contains a large amount of service trade. Service trade currently accounts for only 20% of gross global exports according to customs statistics, but the service trade industry creates nearly half (46%) of the imported added-value of global exports because the manufacturing of products for export requires extensive services.

Table 1: The Progress of SHFTZ

	2013	2014	2015
Area	28.78km^2 ➢ Waigaoqiao Bonded Zone ➢ Waigaoqiao Bonded Logistics Zone ➢ Pudong Airport Free Trade Zone ➢ Yangshan Free Trade Port Area	120.72km^2 ➢ Lujiazui Financial District, Zhangjiang High-Tech Park and Jinqiao Development District are included	To be newly established: ➢ China (Guangdong) Free Trade Zone ➢ China (Tianjin) Free Trade Zone ➢ China (Fujian) Free Trade Zone
Negative List	190	139 ➢ 110 restrictions and 29 prohibitions	Planned to be less than 100
Institutional Innovation	➢ Introduce a "single window" system ➢ Establish a system for market supervision with social audits ➢ Improve the system for sharing information and comprehensive legal enforcement	➢ Establish a system for announcing the company's annual report and the names of poorly managed companies ➢ Improve the social credit system ➢ Improve the professional auditor system	➢ Start to replicate the reform measures of SHFTZ nationwide

Source: Authors.

Mega FTAs and the Role of SHFTZ

The emphasis in the negotiations for global trade and investment rules is changing and diversifying to reflect the need to redesign global production. The WTO Global Multilateral Trade System, which makes up the negotiated trade rules, is gradually being replaced by various bilateral, plurilateral and regional institutional arrangements for trade and investment, with equal emphasis on negotiation for trade rules and negotiation for investment rules. Among these agreements, the US-led Trans-Pacific Partnership Agreement (TPP) and Transatlantic Trade and Investment Partnership Agreement (TTIP) are the most prominent. The Sino-US Bilateral Investment Treaty (BIT) being negotiated between China and the United States may implement so-called "American-style high standards", and it may become a threshold that China must cross in order to change its role in international investment, promote the Chinese free trade zone strategy, and develop global trade and investment rules in the future. In the current global economic restructuring process, China, the world's second largest economy and growing, inevitably needs to play a pivotal role. There is an urgent need for SHFTZ, with its solid foundation, to advance with the pioneer spirit of "First Try, First Pilot" and acquire reform experience, adjust to the subjects' expectations for reform earnings, and reduce the reform risk.

Key Elements of SHFTZ

As China's Minister of Commerce Gao Hucheng has pointed out, the purpose and central task of SHFTZ it to pilot the next round of transformation of government functions, liberalization of investment review and approval, facilitation of investment and trade and further opening up. SHFTZ is also an experiment in the creation, replication and promotion of institutions and mechanisms for the next round of reform and opening up. Unlike traditional industrial parks and special economic zones, which rely on preferential policies, SHFTZ is designed to focus on system innovation and distribute the fruits of that system innovation and opening-up through policy adjustments and transformation of government functions.

The core feature of SHFTZ is system innovation, which highlights innovation in investment administration, trade regulation, finance and integrated supervision. First, it is necessary to further open up the investment field and administer foreign investment through a "negative list plus pre-establishment national treatment". Second, it is necessary to advance the transformation of the trade development, create a favorable regulatory environment, and innovate the regulatory system. Specifically, it is necessary to encourage multinational companies to set up regional headquarters in Shanghai. Third, it is necessary to further opening-up and innovate the financial sector, including RMB-denominated capital account convertibility, interest rate marketization and RMB cross-border use. Fourth, it is necessary to speed up the transformation of government functions. SHFTZ has implemented "in-process and ex post" administration and changed from "emphasizing review and approval and neglecting supervision" to "broad access and strict supervision".

Achievements of SHFTZ

At the end of September 2014, SHFTZ celebrated its first birthday. As announced at the information briefing session held by the China (Shanghai) Pilot Free Trade Zone Administration Committee, the overall economic operation of SHFTZ was good. As of September 15, 2014, SHFTZ was home to 12,288 new enterprises, thereby exceeding total number of enterprises in the original Shanghai Comprehensive Free Trade Zone over the past 20 years (8,996).

Further Reform of the Negative List

Currently, the work on the negative list continues, and the 2014 edition of the negative list shows significant progress. In accordance with national laws and

regulations, SHFTZ complied and issued the first negative list in 2013. It covered 1,069 sub-categories in 18 industry categories in the national economy, set out 190 special administration measures, and achieved openness of over 80%. By the end of June 2014, SHFTZ embraced 1,245 newly established foreign-capital enterprises, of these 1,136 enterprises were established through the filing and notification system (91.2%). Foreign-capital enterprises which are not listed in the negative list and can thus complete filing on the spot and thereby shorten the original average duration of eight days.

On this basis, SHFTZ has compiled and issued the 2014 Revised Edition of the Negative List, which has the following features compared with 2013 Edition of the Negative List. Reflecting the keynote of the Third Plenary Session of the 18th CPC Central Committee, the negative list focuses on First Try, First Pilot for commerce, trade, logistics, accounting, auditing, medical care, general manufacturing and other industries. In addition, the 190 special administration measures has been decreased to 139, and of the 51 measures removed, 14 substantially opened up or removed restrictions, 14 were identical restrictions applied to domestic investors and the other 23 were a result of consolidating the classifications.

Governmental Administration

The establishment of the mode of administering the negative list requires the relevant government authorities to shift from Prior Approval to In-process and Ex-post Supervision in terms as the administration for domestic and foreign-funded enterprises. In order to shift from an approval system to a filing and notification system, SHFTZ has innovated the commercial registration system, launched a registered capital subscription system and implemented other reforms, and it also referred to an international license system. A single window system has been implemented to achieve online and offline interaction as well as process optimization. Systems for anti-monopoly reviews, security reviews and publication of annual reports and a directory for enterprises with abnormal operations were developed.

Logistics and trade facilitation

SHFTZ can achieve an efficient, rapid flow between people and goods by simplifying regulatory procedures, reducing costs and implementing an administration mode of "being within the border of but outside the reach of customs", and thus, SHFTZ is the first special customs supervision zone to comply with international practices. SHFTZ is currently actively implementing "gradual and thorough deregulation in the front line, as well as safe and efficient control in the second line and a free flow of goods within the free trade zone". The so-called "front line" refers to the national border, and the "second line" refers to the dividing line into domestic markets, i.e., the spatial line between the free trade zone and the domestic market. In this regulatory mode, the front-line supervision focuses on only the supervision of people.

Impact of SHFTZ on the Economic Development of the Yangtze River Delta

It is noted that the establishment of SHFTZ is expected to have spillover effects on economic development in the Yangtze River Delta, afford new opportunities for development in other cities in the Yangtze River Delta and promote the reform, opening up, transformation and development of the Yangtze River Delta. As one of the frontrunners in opening up and one of the most economically developed regions in China, the Yangtze River Delta is an important zone in China's economic restructuring and development, but it also boasts an important position in the national economy. In fact, the economic output from the Yangtze River Delta accounts for nearly one-fourth of nationwide economic output.

In recent years, the Yangtze River Delta region has worked to make structural reforms. However, there remain major

structural contradictions. For example, the proportion of secondary industry dropped from the peak 52.6% in 2006 to 48.0% in 2013, which is still higher than that in developed countries. Throughout 2013, the development of key industries was characterized by low growth in traditional industries and strong development momentum in the advanced manufacturing industry, modern service industry and strategic emerging industries. Among the six pillar industries in the Shanghai-based manufacturing sector, the electronic information industry, high-end steel industry, and equipment manufacturing industry had negative growth. On the other hand, the service industry developed faster than the manufacturing industry, the information technology industry, finance industry and other modern services industries achieved double-digit growth, and the strategic emerging industries outperformed their performance in 2012 and achieved growth of 7% in 2013.

Four spillovers effects on the Economic Development of the Yangtze River Delta

In view of the impact on the economic development of the Yangtze River Delta, it is believed that four spillover effects have occurred: dynamic effect of reforms and opening up, demonstration effect of institutional innovation, platform effect of service development and linkage effect of regional cooperation.

From the perspective of the dynamic effect of reform and opening up, the establishment and development of SHFTZ effectively propelled a new round of opening up, investment management system innovation, financial system reform and innovation, trade regulatory system innovation and innovation of governmental administration functions across the Yangtze River Delta. First, the pioneering institutional innovations of SHFTZ has put pressure on the surrounding regions, thereby triggering momentum for reform, and second, the expectations for a dividend from the opening-up that has occurred in SHFTZ has prompted the surrounding regions to seize the opportunity and take the initiative for reform and opening up.

From the perspective of institutional innovation, SHFTZ is not simply an experiment conducted by Shanghai, but it is also an experiment of the Central Government to help China better respond to the changes and challenges in the international economy, trade and investment rules. SHFTZ is not only a pilot and demonstration area, but it also undertakes the important responsibility of achieving reforms and opening-up.

From the perspective of the platform effect of service development, SHFTZ provides a new environment for open, service-oriented economic development in the Yangtze River Delta, as well as builds a platform for external liaison and supply chain integration. On the other hand, it does have a "siphon effect" to some extent as it attracts enterprises running overseas businesses in other cities in the Yangtze River Delta to establish financial centers, operations centers and marketing centers and other function-based corporate headquarters within SHFTZ, and it exerts great pressure on the headquarters economy in other cities in the Yangtze River Delta.

From the perspective of the linkage effect through regional cooperation, SHFTZ is the backbone for the Yangtze River Delta to establish a higher level of open economy, which will enable a large-scale interconnected system with SHFTZ. Jiangsu, Zhejiang, Anhui and Shanghai have taken different positions in the regional division of work. Escalating cost of doing business in SHFTZ will result in the forced outward transfer of the manufacturing industry. Shanghai is a world-class economic center, financial center, trade center and shipping center that is oriented towards internationalization, and thus, some non-internationalized and non-high-end industries will be forced out of Shanghai, which is conducive for Jiangsu, Zhejiang and Anhui to undertake industrial transfer and promote a new round of industrial transfer within the Yangtze River Delta.

Simulation Analysis by IDE-GSM

The Geographical Simulation Model by the Institute of Developing Economies, JETRO (IDE-GSM) was applied to analyze the ripple effect of the reforms and experience from SHFTZ to other regions. It took into account the differences in national and regional GDPs between the Baseline scenario and an alternative scenario, and calculated the economic impacts of SHFTZ.

The Most Likely Scenario

First, we estimated the service barriers in other countries around the world and found that service barriers were much in China and other Asian countries compared to the barriers in the manufacturing sector and developed countries. Based on official documents and interviews with experts, we set the Most Likely scenario as follows where the Shanghai, Guangzhou, Tianjin and regions in the Yangtze River Economic Belt will gradually lower the service barriers.

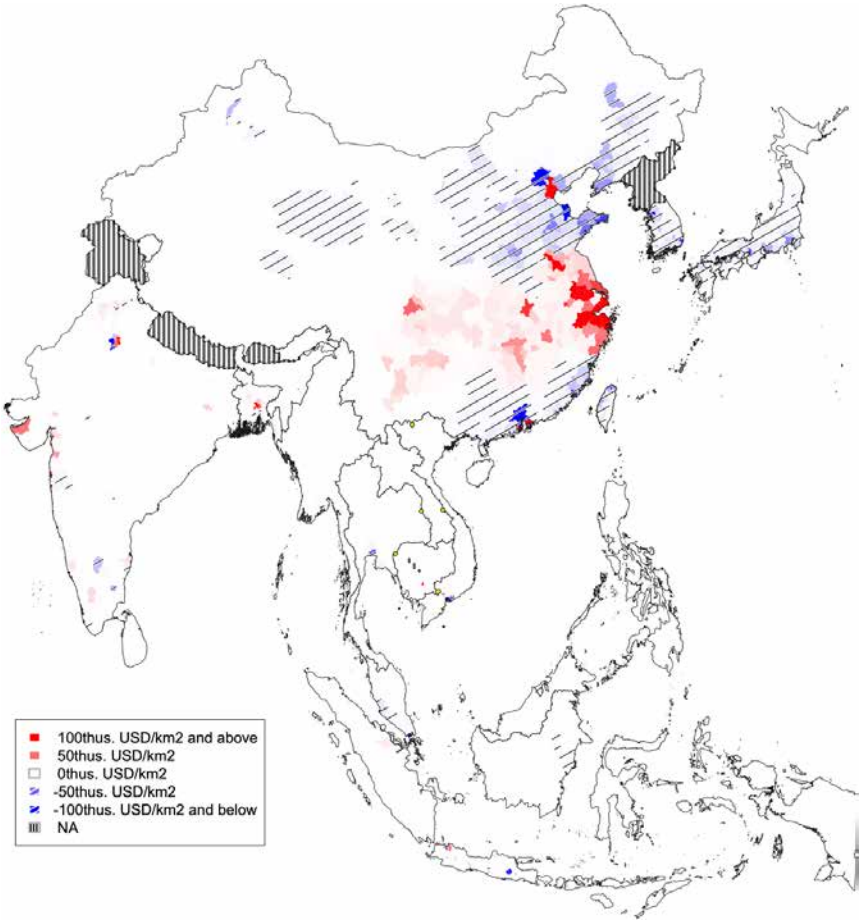
1. Shanghai City as a whole, as well as the areas in SHFTZ will lower the service barriers from 2014 to 2025 by half the level of difference in the barriers between China and Hong Kong. The NTBs to manufacturing goods will gradually decrease as well.
2. Guangzhou and Tianjin will lower the service barriers from 2016 to 2025 by half the level of difference in the barriers between China and Hong Kong. The NTBs to manufacturing goods will gradually decrease as well.
3. The regions in the Yangtze River Economic Belt will lower the service barriers from 2021 to 2025 by half the level of difference in the barriers between China and Hong Kong. The NTBs to manufacturing goods will gradually decrease as well.

The level of the barriers for the service sector in China is slightly higher than that in Thailand and slightly lower than that in Finland. The level of the barriers in Hong Kong is 84.5% of that in China. Thus, in the most likely scenario, we assumed the barriers for a city or region will drop by 7.75%, or in order terms, decrease from 34.5 to 31.8 in the index. Shanghai City, Guangzhou, Tianjin and the regions in the Yangtze River Economic Belt will lower the barriers to a level between that of Brazil and Greece. In addition to the reduction in the barriers in the service sector, we assumed the NTBs for the manufacturing sector will be reduced as well in order to take into account that services are used as an input to the manufacturing sector. We took the ratio of domestic service input against the output value for each industry from the input–output (IO) matrix for China in the ASIA Input–Output Matrix 2005 published by IDE-JETRO.

Figure 1 shows the economic impact of the Most Likely scenario on the regional GDP in 2030 compared with the Baseline scenario. The red regions are projected to experience positive impacts, and the blue regions will likely experience negative impacts. We used the criteria of "impact density", which is derived by dividing the economic impact by the area of the affected region. The more intense the red color (or blue color) of a region, the more positive (negative) the aggregate impact is in the region. The figure clearly shows the trade creation effect in those regions that lower the barriers and the trade diversion effect in those regions that do not. The red regions will increase their competitiveness through purchasing parts and components at relatively lower prices. This will enable consumers to benefit from lower prices for goods and services. These regions will see an inflow of firms and households from other regions, which will lead to increased competitiveness of the firms. The blue regions will face increasingly fierce price competition with red regions, lose some customers, and see an outflow of firms and households in comparison with the economic situation in the Baseline scenario.

The reforms in Shanghai City and other areas in China will boost the economic activities in the electronics and electric appliances sectors in other countries thanks to the formation of links. In contrast, we see a trade diversion effect in the service sectors with the outcome that regions which do not adopt

Figure 1: GRDP Differences, Most Likely Scenario vs. Baseline (2030, Impact Density)



Source: Calculated by IDE-GSM

reforms will see negative impacts. In particular, there are heavily blue regions in Japan and Korea, as well as large cities in other East Asian countries. The service sector has a relatively higher share of the economy in Japan, Korea, Malaysia, and Singapore, which results in the negative impacts on their GDPs.

Alternative Scenarios and Policy Implications from the Simulation

We also proposed several alternative policy scenarios with different conditions than those in the Most Likely scenario in order to study the implications of the policy.

De-regulation in Services Related to the Manufacturing Sector

First, in order amplify the impact of the policy, de-regulation in the service sector should be allowed to impact the manufacturing sector. We constructed a fictitious scenario, No Barrier Reduction in the Manufacturing Sector, in which none of the barriers in the manufacturing sector are lowered. The overall impact of that services-only scenario on the country will be only 31.7% of the impact under the Most Likely scenario. In other words, when the policy also facilitates barrier reduction in the manufacturing sector, the overall economic impacts are as much as triple in size.

Speed of Barrier Reduction

Second, the sooner the barriers are reduced, the greater the economic impact is. Thus, it is better to enact reforms *en bloc* rather than in a long sequence. If the reforms are completed within 2 years, the economic impact on China will be almost double that

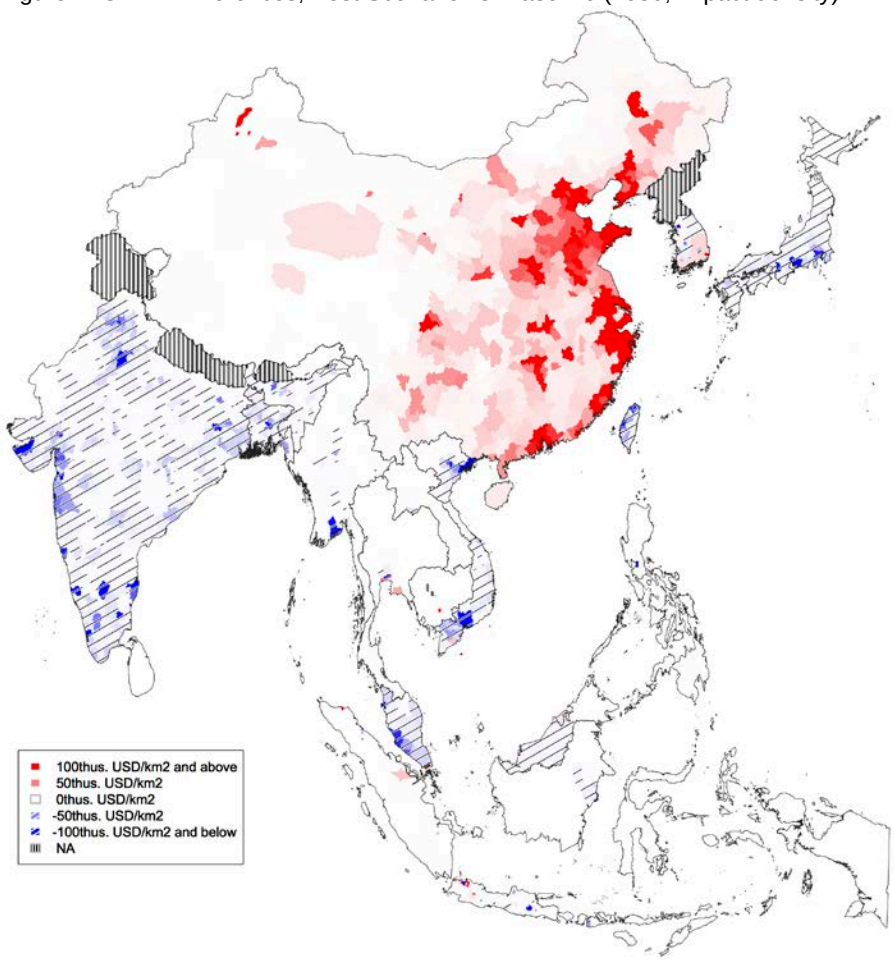
in the scenario where it takes 12 years to complete the same reforms.

Geographic Coverage of the De-regulation

Third, the reduction of barriers in one region but not in other regions results in a kind of trade diversion effect. Thus, for the country as a whole, reforms are better adopted ubiquitously. In the Most Likely scenario, we assume the reforms resulting from opening FTZs will apply to Guangzhou, Tianjin, and the Yangtze River Economic Belt. If the reforms do not apply to those regions, the economic impacts in China will be less. The overall impact on China will be only 22.4% of that under the Most Likely scenario if the reforms are not applied to areas other than Shanghai City. Moreover, the economic impact in China under a scenario which there is no expansion of the reforms beyond the current area of SHFTZ will be one-twentieth of that in the Most Likely scenario.

In fact, based on these finding, we present the Best scenario (Figure 2), where the reforms will spread across the whole country over the long-run. In this scenario, we assume that the other regions in China will also apply the reforms, and all cities and regions will reduce the barriers to the same level as that of Hong Kong. The impact on China will be about 8.16 times that of the Most Likely scenario. Figure 2 suggests that inclusive reform in which all regions apply the reforms will lead to inclusive growth where all regions in the country benefit from the reforms. This applies to other countries as well. Surrounding countries such as Japan, Korea, and the ASEAN countries should reduce the NTBs in their manufacturing sectors as well as the service barriers.

Figure 2: GRDP Differences, Best Scenario vs. Baseline (2030, impact density)



Source: Calculated by IDE-GSM

Chapter 1
Current Situations and Problems in Operation and Development of China (Shanghai) Pilot Free Trade Zone

Photo by Yasuo Onishi

1. SHFTZ Is a Milestone in Institutional Reform and Innovation

On August 22, 2013, the State Council officially approved the establishment of the China (Shanghai) Pilot Free Trade Zone (hereinafter, SHFTZ). Since then, Shanghai has taken a place at in the forefront of China's economic opening up once again. Construction of SHFTZ is an important initiative from the CPC Central Committee, which is displaying understanding of the overall domestic and international situation, and echoes trends in domestic and foreign development with a view to bolstering China's reform and opening-up under the new situations. This also affords a significant opportunity for Shanghai, allowing it to speed up its transformation and development. In the Pudong New Area, a hot spot of less than 30 square kilometers (Table 1), the Chinese Government is sowing the seeds for a new round of reform and opening-up.

SHFTZ officially commenced operation on September 29, 2013, and operates in accordance with the requirements of the CPC Central Committee and the State Council. Thanks to the active efforts of competent authorities and local governments, SHFTZ has been able to focus on system innovations, highlight compliance with international rules, undertake a series of reform measures, and implement a number of opening-up measures. Currently, SHFTZ is enjoying a good start to the construction process and smooth operation during the initial setup of the basic institutional framework. It is starting to demonstrate reform effects. At the same time, several deep-seated problems in the construction of SHFTZ have gradually become apparent, and attention to this is urgently needed.

Table 1: The Progress of SHFTZ

	2013	2014	2015
Area	28.78km^2 ➢ Waigaoqiao Bonded Zone ➢ Waigaoqiao Bonded Logistics Zone ➢ Pudong Airport Free Trade Zone ➢ Yangshan Free Trade Port Area	120.72km^2 ➢ Lujiazui Financial District, Zhangjiang High-Tech Park and Jinqiao Development District are included	To be newly established: ➢ China (Guangdong) Free Trade Zone ➢ China (Tianjin) Free Trade Zone ➢ China (Fujian) Free Trade Zone
Negative List	190	139 ➢ 110 restrictions and 29 prohibitions	Planned to be less than 100
Institutional Innovation	➢ Introduce a "Single window" system ➢ Establish a system for market supervision with social audits ➢ Improve the system for sharing information and comprehensive legal enforcement	➢ Establish a system for announcing the company's annual report and the names of poorly managed companies ➢ Improve the social credit system ➢ Improve the professional auditor system	➢ Start to replicate the reform measures of SHFTZ nationwide

Source: available information collected by authors

1.1. Construction Background and Goals of SHFTZ

On February 27, 2013, the United Nations Conference on Trade and Development (UNCTAD) issued the latest research report, *Global Value Chain and Development: Investment and Value-added Trade in Global Economy*. This report follows up on added value of international trade and its global distribution as well as giving a new perspective for understanding the pattern of global value-added trade. Three important conclusions are drawn from this report. First, trade within the global value chain, which is mainly dominated by multinationals of developed countries, accounts for about 80% of global trade. Second, the existence of global value chain leads to repeated "double counting" of current global trade data when customs statistics are used. According to the latest data, among gross exports, approximately 28% of added value is merely a part of a product or service that is present prior to exportation. Overall, among global gross exports of USD 19 trillion in 2010, double counting actually amounted to USD 5 trillion. Last, global value chains contain a large amount of service trade. Service trade currently accounts for only 20% of global gross exports (according to customs statistics), but service trade industry creates nearly half (46%) of imported added-value of global exports because manufacturing product exportation requires a lot of services. At present, the global production network, comprising multinationals of most of the developed countries, is marching toward provision of service import.

Behind this statistical analysis, there is a trend toward restructuring of the global production layout and the trade and investment rules system. These have appeared in recent years, especially since the global financial crisis). First, there is a trend in full-swing toward convergence of service and manufacturing; this is driven by intelligent manufacturing and service digitization and the consequent changes to the global production layout. Second, in order to serve the needs resulting from the changes in global production layout, the emphasis on negotiations of global trade and investment rules is shifting from the trade realm to the investment realm. The World Trade Organization (WTO)'s Global Multilateral Trade System, which incorporates negotiation for trade rules as a main part, is being gradually made obsolete by waning influence; that system is being supplanted by various types of bilateral, multilateral and regional institutional arrangements for trade and investment, with equal emphasis on negotiation for trade rules and negotiation for investment rules. Among them, the US-led Trans-Pacific Partnership Agreement (TPP) and Transatlantic Trade and Investment Partnership Agreement (TTIP) are the most compelling.

In the current global economic restructuring process, China, the world's second-largest economy, is on the fast track of rapid growth, and it is inevitable that China will play a pivotal role in the global economy. At present, negotiation of the Sino-US Bilateral Investment Treaty (BIT) is ongoing between China and the United States. The so-called "American-style high standards" for investment-market access may become a threshold China must cross in order to complete the shift of its role in international investment, promote the China-dominated free trade zone strategy, and have a say in the development of global trade and investment rules in the future. Meanwhile, China's economy is concurrently undergoing a

restructuring and transition period, experiencing growth slowdown and early-stimulus digestion, which is imposing strong downward pressures. Because China is currently unable to enact short-term strong stimulus policies in response to temporary economic fluctuations, it also needs to increase economic growth through reform and opening-up.

In this regard, as part of the trend of remodeling in the global economy during the current period, as well as over the long run, the reform of China's socialist market economic system must be further deepened. Such reform requires both top-level design and incisive breakthroughs. The Third Plenary Session of the 18th CPC Central Committee confirms that reform of the economic system is key to comprehensive deepening of reform so that the market can play a decisive role in the allocation of resources and the government can better play its role. This goal highlights not only the requirements for China to plunge into the global economy and adapt to new rules of international trade in a new round of opening-up but also the requirements inherent to optimization of factor configuration and access to reform dividends through comprehensive deepening of reform. However, it should be noted that the essence of this reform will be the adjustment of legacy interests. With the deepening of reform going forward, the risks from reform will become more unpredictable. There is an urgent need for SHFTZ, which can act as a solid foundation for advancement as promote the pioneer spirit of "First Try, First Pilot." This will allow the acquisition of reform experience, adjust the expectations of a variety of stakeholders for reform benefits, and reduce the risk of reform. Therefore, SHFTZ is actually shouldering an important load in helping China accelerate its transformation of government functions in the new era, explore innovations in administration, promote trade, facilitate investment, and blaze new trails in deepening of reform and expansion of opening-up. This is a significant strategic initiative taken by China.

1.2. Core Components in Construction of SHFTZ

Chinese Minister of Commerce GAO Hucheng has pointed out that "The purpose and central task of SHFTZ are pilots for transformation of government functions, liberalization of investment review and approval, facilitation of investment and trade and expansion of opening-up in the next round. SHFTZ is also an experimental field of creatable, replicable and promotable institutions and mechanisms for the next round of reform and opening-up."[1] Unlike traditional types of business/industrial parks, which rely on preferential policies, SHFTZ is designed to focus on system innovation, including distribution of systemic bonuses and opening-up bonuses through policy adjustment and transformation of government functions. In other words, SHFTZ will no longer be committed to establishing an independent and non-replicable policy relaxation, but will, rather, promote the spread and diffusion of system innovations. At the same

[1] GAO Hucheng.: "China (Shanghai) Pilot Free Trade Zone Is Not a Policy Depression", Caixin.com, March 7, 2014.

time, institutional reform and innovation will extend beyond the jurisdiction of SHFTZ. *Report on the Work of the Government*, delivered by Premier LI Keqiang at the Second Session of the 12th National People's Congress, states that "It is necessary to properly build and administer SHFTZ, establish replicable and promotable institutions and mechanisms, and carry out a number of new pilots."

Thus, it can be seen that the kernel of SHFTZ is system innovation, which highlights innovation in the systems for investment administration, trade regulation, financing, and integrated supervision. Specifically, the following are necessary.

First, it is necessary to expand opening-up in the investment realm and implement foreign investment administration as an approach of "negative list + pre-establishment national treatment." Unless expressly limited, it will be necessary to reduce or eliminate qualification requirements, equity ratio restrictions, business-scope restrictions, and other access restrictions for foreign investors, which will create a good market environment with equal access. At present, among newly-established foreign companies, about 92% of them are not named on the negative list, which is established under filing rules.

Second, it is necessary to promote transformation of trade development, create a favorable regulatory system, and innovate on regulations. Specifically, it is necessary to encourage multinationals to set up regional headquarters in Shanghai; to intensify reform pilots for an international trade settlement center, to offer innovation in financing and leasing businesses, futures bonded delivery, cross-border e-commerce services, and the like; and to promote the development of service outsourcing businesses. Under the principle of "deregulation in the front line and control in the second line," it is necessary to form open and transparent regulatory systems in areas such as customs supervision.

Third, it is necessary to advance opening-up and innovation in the financial sector, including RMB-denominated capital account convertibility, interest rate marketization, and RMB cross-border use. Meanwhile, SHFTZ has also established a financial regulatory coordination mechanism, which is dominated by national financial authorities stationed in Shanghai.[2] Nowadays, with a recent series of new rules promulgated by national financial authorities for policy implementation, SHFTZ is constantly innovating in financial products and services and is reaping fruit from financial innovation.

Fourth, it is necessary to speed up the transformation of government functions, establish an administrative system with the high standards of international trade and investment rules, and impel the government administration to change its focus from prior approval to in-process and ex

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[2] Source: Official Website of China (Shanghai) Pilot Free Trade Zone, http://www.ysftpa.gov.cn

post supervision. SHFTZ has adopted an in-process and ex post system of administration and is implementing changes from "emphasizing review and approval and neglecting supervision" to "broad access and strict supervision," which are major initiatives in transformation of government functions and innovation of governmental administration. As an example, for administration of investment access, SHFTZ has eliminated the examination and approval system, lowered the investment threshold for access, raised the level of investment facilitation, and improved the investment environment.

2. Overall Operation and Great Achievements of SHFTZ

2.1. SHFTZ Demonstrates Favorable Overall Operation and Harvests Plentiful Fruits from System Innovations

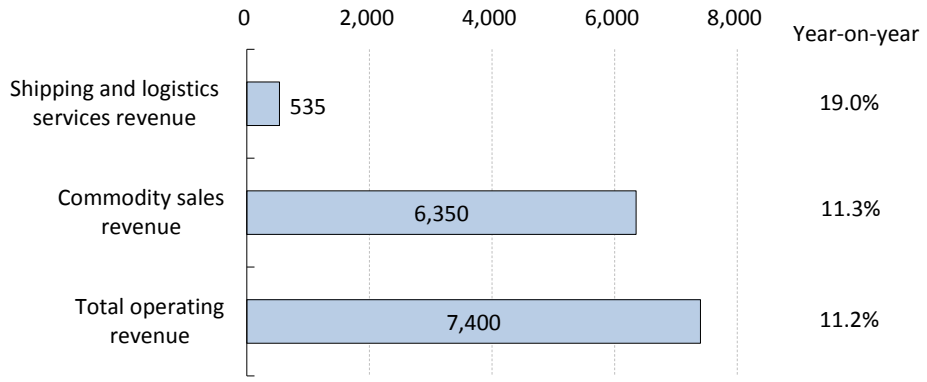
From January to June 2014, SHFTZ realized total operating revenue of 740 billion yuan, a year-on-year increase of 11.2%, including commodity sales revenue of 635 billion yuan (+11.3% year-on-year) and shipping and logistics services revenue of 53.5 billion yuan (+19.0% year-on-year).

At the end of September 2014, SHFTZ celebrated its first anniversary. As announced at an information briefing session of the China (Shanghai) Pilot Free Trade Zone Administration Committee, the overall economic operation of SHFTZ was in good condition. As shown in Figure 1, from January to June 2014, SHFTZ realized total operating revenue of 740 billion yuan (+11.2% year-on-year), including commodity sales revenue of 635 billion yuan (+11.3% year-on-year) and shipping and logistics services revenue of 53.5 billion yuan (+19.0% year-on-year).

As of September 15, 2014, SHFTZ was home to 12,288 new enterprises, which is higher than the total number of enterprises in the original Shanghai Comprehensive Free Trade Zone over the past 20 years (8,996 companies). New enterprises have registered capital totaling 345.908 billion yuan and average registered capital of 28.4098 million yuan. By industry, 6,675 (54.32%) new enterprises are mainly engaged in wholesale and retail; and 3,272 (26.63%) in leasing and business services. Financial enterprises have demonstrated unabated enthusiasm for incorporation. Cumulatively, 520 financial enterprises have been set up; these are specialized in currency and banking, financial information services, securities brokerage, capital investment services, and other segments. In addition, there are 28 new commercial factoring enterprises and 303 financial leasing enterprises. The agglomeration effect of SHFTZ on the

financing and leasing industry is gradually becoming apparent. [3]

Figure 1: Operating Revenue and Its Growth Rate in SHFTZ



Source: China (Shanghai) Pilot Free Trade Zone Administration Committee, from Information Briefing Session for the First Half of 2014, http://www.ysftpa.gov.cn, July 4, 2014.

In addition, SHFTZ also actively adjusts industrial planning and pattern planning; orients to international trade, financial services, shipping services, professional services, and high-end manufacturing industry; advances the pilot program for functional innovation and expansion, industrial transformation, and upgrading and other aspects; focuses on headquarters economies; expands trade functions, financial functions, and shipping functions; develops strategic emerging industries; and strives to create a synergistic mechanism to help Shanghai construct "Four Centers" (International Financial Center, International Trade Center, International Shipping Center, International Economic Center) and make itself expandable and servable.

According to the *Overall Program of China (Shanghai) Pilot Free Trade Zone* approved by the State Council, by the end of the first half of 2014, SHFTZ had begun institutional exploration on many aspects and achieved a number of things, which demonstrates the spillover effect of "being replicable and promotable." Specifically, the following are observed.[4]

By the end of September 2014, SHFTZ had undertaken institutional explorations of many aspects of operation and secured a number of achievements showing a spillover effect of "being replicable and promotable," as shown in Table 2.

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[3] "Pilot Throughout the Past Year Since SHFTZ Was Born", *Jiefang Daily*, September 26, 2014

[4] Source: "China (Shanghai) Pilot Free Trade Zone Administration Committee, Information Briefing Session for the First Half of 2014", http://www.ysftpa.gov.cn, July 4, 2014

Table 2: System Innovations of SHFTZ

System innovations	Specific Contents and Measures
Investment administration system	Strides were made in referring to international rules, highlighting the development and improvement of a negative list; implementing a foreign investor filing administration system and overseas investment administration system; and deepening reform of the commercial registration system.
Trade regulation system	Innovations were enacted in the regulatory system for "deregulation in the front line, safe and efficient control in the second line and free flow of goods across free trade zone"; a "single window" administration system was launched for international trade; and the establishment of a regulatory system for goods status classification was explored.
Financial system	As part of exercising macroeconomic prudence and controlling risk, the People's Bank of China, China Banking Regulatory Commission, China Securities Regulatory Commission, and China Insurance Regulatory Commission jointly rolled out 51 innovative initiatives intended to establish a financial institutional framework and regulatory mode founded on macroeconomic prudence during "deregulation in the front line and strict administration in the second line" in terms of a free trade account system, facilitation of investment, financing and foreign exchange, RMB cross-border use, interest rate marketization, and reform of foreign exchange administration as well as to conduct "stress tests" of China's financial reform. 87 licensed financial institutions and a group of financial service suppliers have settled in SHFTZ and started to specialize in a number of financial innovation businesses, which benefits the real economy and facilitates investment and trade. Meanwhile, the construction of a world-class financial market platform is underway in an orderly manner. Establishment of the Shanghai International Energy Trading Center and Shanghai International Gold Trading Center have been formally approved.
Governmental administration	This includes "broad access" innovations such as accelerating the transformation of government functions; shifting the focus from prior approval to in-process and ex post regulation; forming an in-process and ex post regulation system framework with six systems acting as a backbone; and strengthening process supervision and follow-up administration of market participants. In addition, there has been progress on establishing a security review system; establishing an anti-monopoly review system; improving the social credit system; establishing a system of annual public reports and system of a directory of enterprises with abnormal operation; improving information sharing and integrated law enforcement; and establishing a system for stakeholders in society to participate in market supervision.

Source: "Press Conference of Shanghai Municipal People's Government Makes Briefing on SHFTZ Operation over the Past year," September 27, 2014, http://www.china-shftz.gov.cn

2.2. Work on a Negative List Is Continuously Advancing, and 2014 Edition of Negative List Reflects Significant Progress

Issued by the State Council, the *Overall Program of China (Shanghai) Pilot Free Trade Zone* clearly states that "It is necessary to explore the establishment of a negative list approach to administration. It is necessary to use international rules as a reference, give pre-establishment national treatment to foreign investment, study and formulate the SHFTZ negative list to reduce inconsistency between national treatment and foreign

investment, and refashion foreign investment administration."

Under the practices of current global economic development, the authoritativeness of the (WTO) multilateral trading system is steadily eroding, whereas service trade and investment agreements are turning into crucial components of a new round of international trade negotiations and rule-making. At present, in accordance with bilateral and multilateral trade and investment treaties, national treatment for foreign investment access is mainly accomplished in one of two ways: 1) a "negative list" approach, which is advocated by developed countries, provides exception-based protections for specific protection industries, following the model of *nulla poena sine lege* ("no penalty without a law"); 2) a "positive list" approach, which is similar to the method specified in Article 16 of the *General Agreements on Trade and Services* (GATS). Unless specifically agreed by host country, foreign investment is not eligible for national treatment at the pre-establishment stage.

Administration of foreign investment access via a negative list has gradually become a new trend in the development of international investment rules. As of now, at least 77 countries have adopted this administration.[5] It is worth emphasizing that, in *Decisions of the Third Plenary Session of the 18th CPC Central Committee*, it was put forward that "it is necessary to explore implementation of administration by a pre-establishment negative list and pre-establishment national treatment for foreign investors." In addition, China has agreed to adopt the use of a negative list during substantive negotiation for the Sino-US Bilateral Investment Treaty (BIT), which implies that the development of a negative list at the national level will be on the agenda. Work related to the negative list for SHFTZ will also serve as a test case for the development of a national-level negative list, which should draw on "replicable and promotable" policy lessons for future adjustment of the national strategy.

In accordance with national laws and regulations, SHFTZ complied and issued the first negative list in 2013, which covered 1,069 subcategories among 18 industry categories in national economy, set out 190 special administrative measures, and achieved an openness of over 80%.[6] As China's first-ever negative list, the 2013 negative list of SHFTZ attracted great interest at home and abroad, and enjoyed wide praise from most groups of people. Its significance reflects mainly the following aspects.

First, it establishes administration by negative list. Verification and approval of foreign investment projects and review and approval of enterprise contracts and articles of association, which are not covered by the negative list rules, are subjected to filing administration. Interdepartmental filing information sharing, online publicity about filing results and filings,

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[5] Ministry of Commerce: "77 Countries Have Adopted Pre-establishment National Treatment and a Negative List", *People's Daily*, July 12, 2013

[6] Source: "Explanation Meeting Held for 2014 Negative List of China (Shanghai) Pilot Free Trade Zone" http://www.ysftpa.gov.cn, July 1, 2014

periodic verification of filing authorities, and other supporting structures are established. The method of administering foreign investment moves from positive list administration to negative list administration, which improves administrative transparency. Second, investment openness increases significantly. In particular, the *Overall Program of China (Shanghai) Pilot Free Trade Zone*, approved by the State Council, expressly puts forward 23 measures for 6 segments of the service sector, thereby further improving the extent of opening-up of SHFTZ to foreign investment. Third, facilitation of investment is significantly enhanced. In practice, the number of fields for which filing is allowed greatly exceeds the number of which review and approval is necessary. By the end of June 2014, SHFTZ had welcomed 1,245 newly established foreign-funded enterprises, including 1,136 (91.2%) enterprises established by means of filing. Foreign-funded enterprises not recorded in the negative list can complete filing on the spot, which is much faster than the original average duration of eight days.[7]

Since the foreign investment negative list was put into effect at SHFTZ, foreign investment has ushered in steady growth at SHFTZ. New foreign-funded enterprises increased by 29 in October 2013, and totaled 207 during June 2014 (as of June 28); that is, the average monthly number of new foreign-funded enterprises increased seven-fold. By the end of June 2014, a total of 1,245 new foreign-funded enterprises had sprung up since SHFTZ was formally unveiled, which was 8.6-fold over the same period. New registered capital exceeded USD 7.3 billion, which was four-fold over the same period.[8]

By accessing the investment service platform of SHFTZ, investors in new enterprises can independently check the negative list and complete filing formalities for items not covered by the negative list. In this way, the time needed for review and approval of original foreign investment is greatly shortened from eight working days, which greatly facilitates investment by foreign investors. New foreign investments have come from more than 60 countries and regions. The top sources were Hong Kong, the United States, Taiwan, Singapore, Japan, Canada, South Korea, Australia, the Virgin Islands and Germany, as shown in Figure 2. New foreign-funded enterprises are mainly engaged in commerce and trade services and professional services; these types of enterprises account for 56.6% and 33.8% of enterprises, respectively. With the constant improvement in financial services and cultural services in SHFTZ, foreign investments in the financial service industry and cultural service industry are also growing rapidly.[9]

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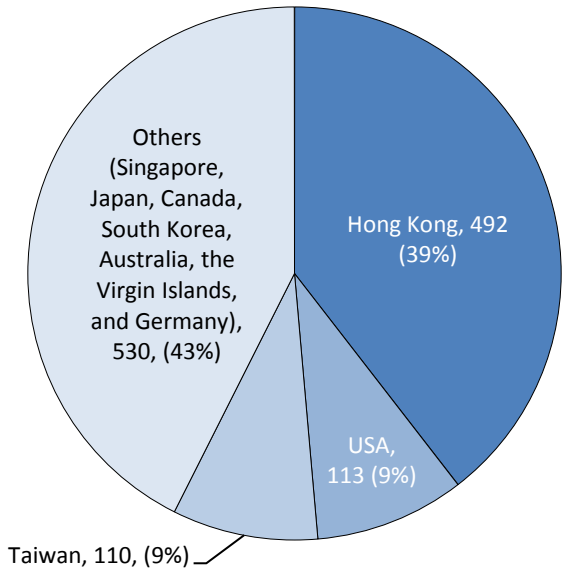
[7] Source: "Explanation Meeting Held for 2014 Negative List of China (Shanghai) Pilot Free Trade Zone" http://www.ysftpa.gov.cn, July 1, 2014

[8] Source: "Explanation Meeting Held for 2014 Negative List of China (Shanghai) Pilot Free Trade Zone" http://www.ysftpa.gov.cn, July 1, 2014

[9] Source: "Explanation Meeting Held for 2014 Negative List of China (Shanghai) Pilot Free Trade Zone" http://www.ysftpa.gov.cn, July 1, 2014

Figure 2: Countries (Regions), Numbers and Proportions of New Foreign-funded Enterprises in SHFTZ by the End of June 2014



Sources: "Explanation Meeting Held for 2014 Negative List of China (Shanghai) Pilot Free Trade Zone" http://www.ysftpa.gov.cn, July 1, 2014
"China (Shanghai) Pilot Free Trade Zone Administration Committee Information Briefing Session for the First Half of 2014" http://www.ysftpa.gov.cn, July 4, 2014

On this basis, SHFTZ has compiled and issued the 2014 revised edition of the negative list, which has the following differences from the 2013 edition of the negative list.

First, the opening-up level is further improved. In line with the keynote of the Third Plenary Session of the 18th CPC Central Committee, which focused on SHFTZ as a "First Try, First Pilot" for commerce, trade, logistics, accounting, auditing, medical care, general manufacturing, and other industries, and thanks to the support of relevant ministries and commissions, 31 measures of SHFTZ for further expanding opening-up have been developed. According to *Measures of China (Shanghai) Pilot Free Trade Zone for Further Expanding Opening Up*, approved by the State Council, these 31 measures comprise 14 measures for the service sector, 14 for manufacturing, 2 for mining, and 1 for construction. In terms of expanding opening-up of the service sector, 14 new measures were added to the 23 for expanding opening-up in the service sector in 2013; these highlight shipping, trade, and other leading industries in SHFTZ. In terms of expanding opening-up in manufacturing and mining industries, research and development are highlighted. In terms of expanding opening-up in the construction sector, foreign investment is welcomed for infrastructure construction. This will help SHFTZ seize the opportunity arising from a new international industrial landscape and play the role of an "experimental field" for promoting China's industrial development, transformation and upgrading, and for forging new advantages in international economic cooperation and competition.

Second, transparency is further raised from 2013. For administration measures without specific restrictions, any new restrictions are imposed as clearly as possible, and some restrictive measures are eliminated. From the 2013 negative list, which had 55 administration measures without specific restrictions, there has been a dramatic reduction, to 25 administration measures. Additionally, preconditions for some administration measures lacking specific restrictions were made clear. For example, preconditions for investment in direct selling were made clear: "investors shall have experience in direct selling activities outside China for at least three years, and paid-up registered capital shall be at least 80 million yuan." Preconditions for investment in basic telecommunications services were also made clear, with a clear rule that the proportion of foreign investment can be at most 49%.

Third, compliance with the international rules is further enhanced. The negative list of SHFTZ marks an important exploration milestone in China's independent opening-up. After an international comparative study and in-depth analysis, *Classification of National Economic Industries* continues to serve as classification criteria. Administration measures for fields related to resources, livelihood, and national security (such as agriculture, mining, financial services, telecommunications services, aviation services, and infrastructure), as well as traditional Chinese traditional industries (such as Chinese medicine, tea, liquor, and handicrafts) are maintained. Meanwhile, under the principle of pre-establishment national treatment, administrative measures that impose restrictions or prohibitions on both domestic investment and foreign investment are no longer included in the negative list. The measures are related mainly to the manufacturing sector, which has high energy consumption and emits high amounts of pollution; they include restrictions on investment in benzidine, paint, and paint production as well as limiting investment in smelting of aluminum, copper, lead, zinc, and other non-ferrous metals.

It should be stressed that administration by a negative list marks a fundamental change in the method of administering foreign investment, and this extends beyond the relevant provisions of China's foreign administration laws, administrative regulations, and documents of the State Council. Throughout 2013, the relevant provisions of 3 laws, 15 administrative regulations, and 3 documents from the State Council were temporarily adjusted and enforced at the national level, which provided strong legal protection. Further adjustment and enforcement of the relevant administrative regulations and some contents of the *Catalogue for the Guidance of Foreign Investment Industries* are required by the 2014 negative list of SHFTZ.[10] Currently, temporary adjustment and enforcement of administrative regulations and related documents accelerates various procedures.

[10] Source: "Explanation Meeting Held for 2014 Negative List of China (Shanghai) Pilot Free Trade Zone" http://www.ysftpa.gov.cn, July 1, 2014

2.3. Innovating in Governmental Administration and Changing from Prior Approval to In-process and Ex Post Supervision

Upon the establishment of administration via a negative list, it is necessary to follow the principle of the same treatment for domestic investment and foreign investment in fields not covered by the negative list, including implementing an approval system for foreign investment projects in addition to the filing system and changing from review and approval for articles of association of foreign-invested enterprises to a filing administration. This requires that relevant governmental authorities shift the requirements to from prior approval to in-process and ex post supervision in terms of administration for domestic and foreign-funded enterprises. This is not only strongly needed for administrative transparency and facilitation of governmental authorities but also necessitates that governmental authorities streamline administration and achieve decentralization.

Historically, Chinese governmental authorities have been immersed in the so-called "focusing on review and approval and neglecting regulation" as part of economic administration activities. "Focusing on review and approval" makes the administration prone to erect barriers to market access, while "neglecting regulation" may result in the absence of governmental supervision. Elimination or easing of requirements for prior approval does not mean governmental inaction in SHFTZ; rather, it requires that the government must take more effective actions. However, the structure and function of governmental actions shifts from "prior approval" regulation to "in-process and ex post supervision." In order to meet the requirements of the relevant systems as soon as possible, SHFTZ has explored many possibilities for the system.

First, as a step toward streamlining administration and achieving decentralization, the relevant national authorities have eliminated a number of administrative examination and approval items. The Shanghai Municipal People's Government has endowed the SHFTZ Administration Committee to make overall planning and administration decisions for SHFTZ, and has delegated powers to SHFTZ agencies to undertake administrative reviews and approvals and to handle administrative matters. Currently, the SHFTZ Administration Committee has undertaken more than 60 administrative review and approval items delegated by relevant authorities, and it will undertake a further batch of administrative review and approval items. The SHFTZ Administration Committee is exploring the establishment of an open, transparent, and predictable list of administrative powers, and is implementing standardized administration for review and approval. At the municipal level, using 113 eliminated administrative review and approval processes items as a base, the SHFTZ Administration Committee is preparing to eliminate more administrative review and approval items and reduce the administrative review and approval

processes of affairs that can be effectively guided by market mechanisms and handled by social organizations.[11]

Second, in terms of promoting a shift in enterprise administration from an approval system to a filing system, the following items are relevant.

(1) SHFTZ innovates the commercial registration system, launches a registered capital subscription system and other reforms, and refers to international license styles as a system for consolidating multiple business licensing styles into a single unified style. Since March 1, 2013, matters related to such registration reform have been promoted in the whole of China.[12] Next, under the key principle of compliance with the functional orientation of SHFTZ, temporary suspension of legal stipulations for some matters, mainly delegation of review and approval powers to Shanghai's administrative authorities at all levels, has been used, and relevant reform pilots have been launched to explore a system for "license with precedence over business certificate," as a means of simplification or elimination of preset review and approval items and other aspects of administration. SHFTZ will adjust to and enforce administrative regulations and decisions of the State Council in this regard.

(2) A "single window" system is implemented for enterprise access. "Duplicate handling by many departments" is replaced with "concentrated handling by a single department through one window" in this system. Online and offline interaction and process optimization are achieved as well as interdepartmental data sharing and online handling for some matters. Enterprises can expect to receive the relevant licenses and certificates within four working days, which is significantly cut from the original 29 working days.

(3) SHFTZ launches reform of foreign investment administration mode. Within the limits of authority for SHFTZ, foreign investment is handled by filing administration instead of by a review and approval system, so the SHFTZ Administration Committee can complete all related filing procedures within five working days. By the end of June 2014, SHFTZ had completed filing for 49 overseas investment projects (with foreign investment amounting to USD 1.27 billion). Currently, SHFTZ is busy with optimizing foreign investment administration processes, setting up a foreign investment service promotion platform, and rendering insurance, legal, consulting, accounting, information, financing, and other ancillary services.

Finally, in concert with reform towards the goal of an "in-process and ex post" supervision system, SHFTZ also attempts to establish many systems so as to strengthen process supervision and follow-up administration of market participants, doing so under the goal of broad access. These are

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[11] Source: Official Website of China (Shanghai) Pilot Free Trade Zone, http://www.ysftpa.gov.cn

[12] Source: Official Website of China (Shanghai) Pilot Free Trade Zone, http://www.ysftpa.gov.cn

described here.

(1) Establishment of an anti-monopoly review system. The emphasis of this system is on exploring and developing practices for the institutional arrangements of SHFTZ involved in antitrust review, particularly with respect to concentration of business operators, monopoly agreements, and abuse of dominant market position.

(2) Establishment of security review system. The emphasis is on establishing a working mechanism for SHFTZ to assist national authorities in safety reviews at the access stage of foreign-funded enterprises.

(3) Establishment of system of annual report publication and system of directory for enterprises with abnormal operation. The emphasis of these related systems is on supervising enterprises in a market-oriented and socially oriented manner. The annual inspection system is replaced by an annual public report system. Enterprises are obligated to submit annual reports to the industry and commerce authorities and to other competent authorities and then to make operational results available to the public. *Annual Report Publicity Measures of SHFTZ and Administrative Measures of SHFTZ for Enterprises with Abnormal Operation* came into effect on March 1, 2014. By the end of May 2014, the number of enterprises who had submitted annual reports was 5,504, among which 4,441 enterprises had submitted annual audit reports issued by accounting firms (2,371 enterprises were requested to submit an audit report, and 2,070 enterprises voluntarily submitted one).

(4) Improvement of social credit system. The emphasis here is on establishing a credit record information sharing and disclosure system, establishing relevant standards and work procedures, and improving the interdepartmental credit information sharing mechanism. Establishing a credit-linked reward and punishment mechanism across governmental departments and promoting the development of the credit services industry is an expected benefit.

(5) Improvement of information sharing and an integrated law enforcement system. The emphasis of this is the construction of the SHFTZ Information Sharing and Service Platform, which is intended to achieve collection, application, and comprehensive sharing of regulatory information among various competent authorities; to promote interdepartmental joint supervision; and to establish joint law enforcement, coordination, and cooperation mechanisms across governmental departments.

(6) Establishment of system for stakeholders in society to participate in market supervision. The emphasis is on guiding stakeholders through the system design, governmental purchase of services and development of industry standards; and playing the role of trade associations and professional services organizations in aspects such as industry access,

authentication, identification, development of standards.[13] Commercial dispute mediation and arbitration agencies are encouraged to play a role in this. The Shanghai International Arbitration Centre has set up the Arbitration Court of China (Shanghai) Pilot Free Trade Zone, which formulates and promulgates arbitration rules for SHFTZ.

2.4. Innovating Trade Supervision System and Improving Trade Facilitation

According to its regulatory status of "being within the border but outside customs," SHFTZ is currently active in implementing "gradual and thorough deregulation in the front line, safe and efficient control in the second line, and free flow of goods in the free trade zone." The so-called "front line" refers to the national border; "the second line" refers to the line dividing SHFTZ from the domestic market, that is, the spatial dividing line between the free trade zone and the domestic market. In this regulatory mode, front-line supervision will focus on supervision of people: port authorities will make necessary inspections and impose necessary quarantines, and authorities, especially customs authorities, will take a centralized, classification-based, and electronic regulatory approach rather than supervising by batch. In this way, SHFTZ can achieve an efficient, fast flow between people and goods. By means of simplifying regulatory procedures, reducing costs, and implementing administration as "within the border but outside customs," SHFTZ is the first special customs-supervision zone to comply with international practice. To this end, SHFTZ has launched many innovations in its trade regulatory system, thereby effectively improving trade facilitation at SHFTZ.

First, SHFTZ is innovating on its regulatory system by "gradual and thorough deregulation in the front line, safe and efficient control in the second line and free flow of goods in free trade zone." Shanghai Customs has adopted 18 reform measures, including "entering into the zone prior to customs declaration" by presenting a shipping bill, "separate collection, centralized submission and independent transportation," automatic review and release, independent tax declaration, network monitoring, optimization of inspection, and other facilitation measures. On the basis of results from an early pilot, implementation standards for 14 reform measures have been developed by customs, among which 7 implementation standards have been extended to all eligible enterprises that voluntarily choose them before May 1, 2014. The 7 other implementation standards will be spread and implemented before the end of June 2014. Inspection and quarantine authorities have introduced 23 reform measures, including 6 replicable and

[13] Reference: Notes on China (Shanghai) Pilot Free Trade Zone entitled "System Innovation and Spillover Effect of China (Shanghai) Pilot Free Trade Zone", lecture delivered by SHI Liangping (Research Professor of SASS), http://wenku.baidu.com/link?url=ou8-T_0ecIp4s4PdZeFYc_CvGPe2sNyKekccXK1MPGLFOPv87MaWtdWtMHqWaMssNXtQ1-65e8wT_ehrDMnZDnZAk9KM_Q9z5CDPzl1FNum

promotable innovative systems; these include pre-inspection, acceptance of third-party test results, global repair industry regulation, a negative list for administration of quarantine review and approval for animals and plants and their products, a system for managing risk from imported biological products, and a visa system for origin of goods in transit. At the same time, customs and inspection and quarantine authorities are working together to launch a pilot supervision program offering "one-off declaration, one-off inspection, and one-off release." These measures improve the efficiency of customs clearance so that the time needed for customs clearance of goods is reduced by two days on average.[14]

Second, SHFTZ sets up "single window" administration system for international trade. The key to reform of trade facilitation is filling the gap in effective communication between the departments in a vertically oriented administration and establishing interdepartmental cooperation for synergized and efficient administration. According to the 2005 definition of *Establishing a Single Window for International Trade* (Recommendation No. 33) of the United Nations Centre for Trade Facilitation and Electronic Business, "single window" refers to a system in which international traders and transporters submit standardized information and documents through a single platform in order to conform to the relevant laws and regulations and administrative requirements.

The setup of a single-window system effectively shifts the enforcement of law at a port to a system of one-off acceptance via a window, one-off handling, and one-off operation. This can actually simplify the reporting processes and reduce the complexity of declaration. Declaration via a single window eliminates the need for many personnel necessary to the multi-client and multi-document systems that have been used in the past. Second, a single-window system can effectively reduce the duplication of data entry for similar items, and can allow organizing declaration data needed by law enforcement authorities into a unified and standardized declaration data pool so that same or similar data items are entered only once. Third, a single window system allows seamless flow of information between enterprises and law enforcement. Enterprises can use the data collaboration interface of the single window to effectively integrate information resources on trade supply chains, reduce intermediate processing chains, and lower the error rate in associated data. Furthermore, enterprises can undergo all customs clearance procedures through this interface, which eliminates the need to make repeated visits to different law enforcement authorities, submit documents to multiple departments, or wait for review and approval results; this saves a lot of labor and time costs.

Currently, the establishment of an international trade single window at SHFTZ has become an important breakthrough in the reform for trade facilitation. In accordance with *Decisions of the Third Plenary Session of the 18th CPC Central Committee on "Information Exchange, Mutual Recognition*

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[14] Source: Official Website of China (Shanghai) Pilot Free Trade Zone, http://www.ysftpa.gov.cn

for Supervision and Mutual Aid for Law Enforcement among Port Administrators," the State General Administration of Customs and other authorities have launched a pilot for the construction of an international trade single window at Shanghai Yangshan Bonded Port. With support from the Shanghai E-port Platform, trade and transport enterprises obtain access through a single platform and can use it to submit formatted documents and electronic information in a way that is in line with the requirements of regulatory authorities. After that, regulatory authorities can provide feedback on processing status and results to applicants through the same platform. In this, regulatory authorities follow specified rules, share regulatory resources, and carry out joint supervision. On May 28, 2014, the first pilot project of the Shanghai international trade single window successfully passed an online test run. In the test, customs, inspection and quarantine, and border and maritime authorities jointly sent electronic release information about vessel departure to the single-window platform, and maritime authorities issued a permit for vessel departure from port on the basis of this electronic information. In this way, formalities and endorsements for vessel departure from port are integrated, which further upgrades the performance of port law enforcement.

Third, SHFTZ has undertaken an in-depth study of a goods status classification supervision system. Goods status covers bonded goods, non-bonded goods, and port goods. By means of "network supervision + storage location administration + real-time verification and endorsement" (as a mode for customs supervision), real-time control and dynamic verification of goods during "entry, exit, transfer, and storage" can be achieved at the same time as storage in the same warehouse. Currently, SHFTZ has developed a pilot supervision system for goods status classification and has designated pilot enterprises to participate.

2.5. Strengthening Financial System Innovation and Boosting Development of Real Economy

Financial innovation has an important part in the reforms at SHFTZ. SHFTZ focuses on system innovations in five areas: (1) establishment of a free trade account system; (2) promotion of facilitation of investment; (3) financing and foreign exchange; (4) RMB cross-border use; and (5) marketization pilot for interest rates and reform of foreign exchange administration. Meanwhile, the world-class financial market of SHFTZ is still its infancy. Shanghai International Energy Trading Center has been set up. Shanghai United Assets and Equity Exchange has established a service platform for asset trading in SHFTZ. Shanghai International Gold Trading Center has begun business registration. Preparatory work for Shanghai International Assets Trading Center is being expedited. China Foreign Exchange Trading System, China Financial Futures Exchange, Shanghai Clearing House, Shanghai Equity Exchange, and other trade organs will also roll out new or additional trading venues in SHFTZ. Currently, financial innovations of SHFTZ are visible mainly in the following.

The first is periodic introduction of detailed rules for implementation of innovation policies. In March 2014, the first cases for financial innovation at

SHFTZ were announced, which played a leading role in driving the development of the relevant businesses. To further increase the usefulness of policies, national financial authorities, as part of the pre-launch of the financial innovation system, have recently issued detailed rules for implementation of innovation policies. Among them, the Central Bank has issued *Detailed Rules for Implementation of Separate Accounting Business in China (Shanghai) Pilot Free Trade Zone* and *Detailed Rules for Prudent Administration of China (Shanghai) Pilot Free Trade Zone*. These rules also provide for inspecting and accepting a number of separable accounting systems for use with bank-free trade accounts. China Banking Regulatory Commission is rolling out three SHFTZ-specific supervision systems, specifying the access of entities and executives, providing business risk assessment guidelines and a system for monitoring banking statements, and formally issuing documents that explicitly allow four Chinese commercial banks qualified for offshore business to authorize their respective SHFTZ branches to run as offshore businesses. The contents of the detailed rules of the China Securities Regulatory Commission regarding capital market support for the construction of SHFTZ have been basically envisaged, and it is expected that these will be issued in the second half of 2014. The China Insurance Regulatory Commission has agreed to allow the Shanghai Institute of Marine Insurance to launch a pilot program to develop its own provisions. The China Insurance Regulatory Commission also eliminated the requirement for prior approval of Shanghai-based shipping insurance operations centers and re-insurance companies that want to establish SHFTZ branches, as well as prior approval of qualifications of senior executives of insurance branches at SHFTZ.

The second innovation is establishment of a free trade account system. With the promulgation and implementation of *Detailed Rules for Implementation of Separate Accounting Business in China (Shanghai) Pilot Free Trade Zone* and *Detailed Rules for Prudent Administration of China (Shanghai) Pilot Free Trade Zone*, some financial institutions have begun to open free trade accounts for qualified institutions and individuals. These accounts can be used to carry out fund transfers and trade-financing business. This highlights the service function that is part of the real economy.

For example, by utilizing policy advantages that follow from replacing the OFDI (Outward Foreign Direct Investment) Approval System with a filing system for SHFTZ-based enterprises, and thanks to support from the SHFTZ Administration Committee, Shanghai Automotive International Trade Co., Ltd. (a wholly owned subsidiary of SAIC Motor) successfully completed its own foreign investment project filing within a week. On June 18, 2014, the Shanghai branch of Bank of China International Trade signed a strategic cooperation agreement with Shanghai Automotive International Trade Co., Ltd, successfully opening the first institutional free trade account (FTE) at SHFTZ, transferred funds from the general settlement account of Shanghai Automotive International Trade Co., Ltd to the namesake FTE account, conducted financing operations through SHFTZ, locked in overseas market prices to immediately convert the funds into USD, and remitted these funds to commence investment projects in Chile. This system not only ensures operational efficiency but also sharply cuts enterprise costs.

The third innovation is new expansion of RMB cross-border business. The

RMB cross-border scope of use and innovation are newly expanded in SHFTZ. For example, suppose that an enterprise engaged in comprehensive development and operation in Waigaoqiao Free Trade Zone has a huge demand for funds. The Bank of Shanghai can take advantage of the Shanghai–Hong-Kong–Taiwan Bank Platform to serve this enterprise. As one method to do so, Shanghai Commercial and Savings Bank (Taiwan) invites Shanghai Commercial Bank (Hong Kong) and Bank of Shanghai (Hong Kong) Limited to set up an offshore consortium to jointly grant a loan of 30 million yuan to this enterprise (Waigaoqiao Free Trade Zone Development Co., Ltd). This loan is directly granted by the offshore consortium to this enterprise on the basis of publicly disclosed information, rather than relying on guarantee instruments provided by domestic banks. Bank of Shanghai maintains active contact and communication with foreign banks, provides materials and appropriate policy interpretations, and ultimately wins the approval for a review and approval department as a financing bank.

The fourth innovation is new initiatives for reform of foreign exchange administration. The Shanghai branch of the State Administration of Foreign Exchange issued *Detailed Rules for Implementation of Supporting Construction of China (Shanghai) Pilot Free Trade Zone with Foreign Exchange Administration*, which provides strong policy support for reform and innovation of foreign exchange administration in SHFTZ and provides a detailed operational path for moving forward. On April 11, 2014, the Shanghai branch of China Construction Bank successfully handled a willingness-based exchange capital settlement business for a foreign financial leasing company registered at SHFTZ, opened an RMB dedicated deposit account for settlement purposes, and realized a settlement amount of HKD 26 million. The pilot system for foreign exchange capital settlement of foreign-invested enterprises at SHFTZ is an important step in the process of enabling capital account convertibility, which empowers enterprises with autonomy and the right to choose for foreign exchange capital settlement so that enterprises can effectively avoid exchange rate risk.

3. Considerations on Several Issues Concerning Promoting the Construction of SHFTZ in the Next Phase

SHFTZ has conducted generally satisfying operations over the past year, and the operations epitomize the effectiveness of system innovations. At the same time, several deep-seated problems with SHFTZ operation have gradually become apparent. For this reason, theoretical research and discussion is urgently needed, and policies to resolve these problems should be developed as soon as possible.

In fact, China's previous major reform and opening-up policy measures were based on historical experience and resulted from a long theoretical preparation process. For example, Shanghai conducted more than two years of research prior to the development and opening of Pudong in the 1990s. China's accession to the WTO was backed by theoretical preparation over

more than 15 years. In contrast, there was a mere six months between Premier LI Keqiang's visit to the Waigaoqiao Free Trade Zone and proposal of the construction of SHFTZ on March 28, 2013 and the formal unveiling of SHFTZ on September 29. SHFTZ is serving a pilot-project function that other domestic free trade zones lack. Objectively, there is no preliminary theoretical found to this pilot project, which aimed at subsequent replication and promotion after success has been achieved.

In addition, the construction of SHFTZ during the previous phase was also beset by difficulties arising from lack of relevant international experience for reference. Although there are more than 1,200 free trade zones in the world, their natures and purposes are quite different from those of SHFTZ. For example, the reforms to adopt a negative list administration mode and promote financial system reform, launched in SHFTZ, are typically outside the business scope of free trade zones elsewhere. Thus, by virtue of this positioning of SHFTZ, there is no precedent to follow from the development of free trade zones in other countries.

Nowadays, various kinds of problems are surfacing in the development of SHFTZ as practice reveals them, which also serves as the rationale for more in-depth study and discussion. This paper is intended to analyze the following serious problems with the current practice and to further theoretical analysis and research.

3.1. Coordination Mechanism Should Be Established for SHFTZ Operation at National Level, and Many Problems of the Prevailing Administration Must Be Eradicated

As revealed by practical experience in governmental administration of SHFTZ over the past year, the operational mechanism of SHFTZ is burdened by three problems. First is the lack of legal support for SHFTZ operation. Legalization is a necessary requirement for SHFTZ development. SHFTZ is established primarily under the *Overall Program of China (Shanghai) Pilot Free Trade Zone* and *Administrative Measures for China (Shanghai) Pilot Free Trade Zone*. These two documents are, respectively, a policy document and a set of local government regulations; these are not strong legal documents in terms of effectiveness and legal foundation. Compared with foreign practice (legislation first, setup after), the idea of rule of law in such Chinese practice is obviously defective. Inevitably, due to lack of legal support, many administration and innovative measures set forth in the above documents lack the legitimacy, authority, stability, and solemnness of legislation. During innovation in administration, SHFTZ can effect no appropriate judicial procedures or other support mechanisms, which greatly hinders the practical effect of administrative actions.[15]

[15] TANG Jianfei: "Measures for Government Management Mode Innovation and Rule of

Second, as the supreme governing body of SHFTZ, the SHFTZ Administration Committee is merely an agency affiliated with the Shanghai Municipal People's Government. Compared with foreign free trade zones, the SHFTZ Administration Committee is at a disadvantage due to its significantly lower legal status and weak independence; this is not conducive to the future development of SHFTZ.[16] As a special economic zone with diverse trade and investment functions, SHFTZ is bound to be host to complex legal and administrative matters in practice, and so it must have the appropriate status and authority to deal with various problems and coordinate relationships with others inside and outside of SHFTZ.

Third, the existing administration system of SHFTZ still neither breaks the shackles of the traditional bonded zone administration system nor eradicates institutional shortcomings of traditional fragmentation and multiple administrations. The reforms needed for SHFTZ will also be difficult to achieve because this will impact sectional and group interests. In practice, business operations of SHFTZ cover transportation, telecommunications, commercial supplies, foreign trade, and many other industries. SHFTZ operations are also tied with customs and the Shanghai-based free trade zone administration. Lags in reforms of the administration system, departmental segmentation, fragmentation, and integration of governmental administration with enterprises all make adjustment more difficult. In addition, many long-standing historical problems, such as land problems, enterprise clearance problems, and power constraints on changes to rules, must be resolved without delay.

It is believed that a low level of rule of law is likely to become a bottleneck to further development of SHFTZ. Therefore, in order to further innovate in government administration, the construction of SHFTZ requires strengthening legislation, improving judicial administration, promoting law-based administration, and creating a consistent and favorable legal environment at the national level. Second, at the macro-administration level, China should contemplate establishing a specialized institution dedicated to unified supervision and guidance for SHFTZ. International experience provides evidence that China should establish such a coordination mechanism at the national level. This mechanism should not only have the ability to coordinate among competent authorities to jointly develop policies and systems for SHFTZ but also have the ability to coordinate with local governments to launch and implement SHFTZ-specific policies.

Law in China (Shanghai) Pilot Free Trade Zone", *International Trade*, 2014(4)

[16] LI Mosi, PENG Yu, SHEN Yuliang: "China (Shanghai) Pilot Free Trade Zone: Achieving Replicable and Promotable National Strategy", *International Trade*, 2013(12)

3.2. SHFTZ Should Be Constructed to Match Shanghai's Strategic Development Goals and Effectively Serve as "Vanguard of China's Reform and Opening-up and Pioneering of Scientific Development"

As a national strategy, construction of SHFTZ provides a great opportunity for Shanghai to achieve innovation-driven growth, transformation, and development. Currently, in the long-term development blueprint, Shanghai has vowed to emerge a "Four Centers," socialist, modern, international metropolis by 2020 and emerge as a global city with world-class resource allocation capability, strong international competitiveness, and great influence by 2040. Construction of SHFTZ should also synergize and enjoy common progress with the planned urban development of Shanghai.

From the perspective of the practice over the past year, system innovations at SHFTZ to fill inherent demand from Shanghai's development would mean that relevant tasks would be more effectively fulfilled. For example, recently, Amazon US has signed an agreement with the authorities of SHFTZ; Amazon US aims to open the Global Amazon Platform to Chinese consumers through SHFTZ. Logistics warehouses will be built in SHFTZ. After consumers place orders, commodities will be directly delivered from SHFTZ. Chinese consumers will pay only "tax on baggage and articles accompanying incoming passengers and personal postal articles" without having to bear other import-related taxes. These system innovations are undoubtedly significant progress in advancing the construction of Shanghai International Trade Center.

In fact, some experts point out that it will be necessary to allow different regions to develop their own programs and pilot zones according to their characteristics, which follows from the premise of nationwide unification and coordination of regional regulatory measures. This conclusion arises from taking into account huge regional differences with China and different policy needs for development.[17] The layout of these pilot zones will depend on the design of a national strategy, but the most important thing will be consideration of local conditions, including the geographic and economic structural characteristics of various regions and cities.

In the current program of SHFTZ, the Central Government clearly underscores the necessity to establish "replicable" and "promotable" policy measures. In this regard, it is believed that by analysis of the arrangement by the Central Government for Shanghai's role of "Vanguard of China's Reform and Opening-up and Pioneering of Scientific Development,"[18] the development of "replicable" and "promotable" policy experience at SHFTZ

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[17] Source: "Goals of China (Shanghai) Pilot Free Trade Zone: Replicable and Promotable," *China Policy Review*, 2013 (10)

[18] Source: "XI Jingping's Visit to Shanghai: Playing a Good Role of Vanguard of China's Reform and Opening Up and Pioneer of Scientific Development," Xinhuanet.com, May 25, 2014

should not only assist with current needs but should also improve future outlook, give full play to Shanghai's leading superiority in China's economic development, and serve as useful advanced experience in creating policy reserves for the future development of other parts of China. Thus, construction of SHFTZ and Shanghai's strategic development goals can be integrated so as to better satisfy the requirements inherent to a national goal of "replicable" and "promotable" policy measures.

3.3. Synergy Mechanism Should Be Established to Echo Negative List Work of SHFTZ with China's High-profile Economic and Trade Negotiations

The use of a negative list for administration of foreign investment market access in many countries typically comes into play in the form of agreements between countries, and the coverage of such lists is strictly limited. As for the current negative list of SHFTZ, it is an active liberalization measure applied only within a limited geographic area. From this limitation, first of all, it can be seen that the negative list is a regional initiative for liberalization, rather than a national commitment to outside world, and will have relatively limited economic effect and influence in the market. Its main purpose is to act as a testing ground for the national strategy, which is similar to Shanghai's opening-up measure of "First Try, First Pilot" prior to China's entry into the WTO. Second, given that current negotiation of BIT between China and the United States will usher in concessions during the negotiation phase for market liberalization, the negative list work at SHFTZ should also be synchronized and coordinated with China's negotiation strategy.

From the above analysis, we think that (1) in order to support China's negotiations, the coverage of the negative list that is planned in the next phase should focus mainly on opening-up and pilot programs in fields not covered or only lightly covered under the multilateral trading system and various FTA negotiations, and (2) attention should be given to combining Shanghai's own development needs with its strengths, with a view to putting forward valuable policy recommendations as references for national negotiations as soon as possible. For example, in view of Shanghai's current need for construction to become an international cultural metropolis, it is necessary to concentrate on surmounting difficulties in opening-up of culture and telecommunications by use of a negative list.

Second, negative list work at SHFTZ should place more emphasis on supporting future pilot programs and summarizing experiences, so as to accumulate replicable and promotable policy experience that will enable China to implement a negative list administration mode across the country in the future. Specifically, negative list administration mode is demands significant governmental work transparency and information disclosure, and these are also preconditions for implementation of such administration measures. In the near future, SHFTZ should intensify efforts to promote disclosure of policy information and increase the transparency of administrative measures, which will reinforce the foundation of relevant reforms. Specific arrangements for negative list administration mode in

major countries have resulted in some specifications that have been put into practice over the years. Relevant policies of SHFTZ should also keep pace with international standards. Finally, follow-up investigation and evaluation of practices related to the issued negative list, pre-establishment national treatment, ex post regulation and other administrative tasks should be also launched.

3.4. It Is Necessary to Set a Foothold in SHFTZ, Promote Financial Development, and Accomplish the Missions of Financial Reform and Opening-up

Because SHFTZ is a special customs supervision zone, financial development is not, objectively, a primary function of SHFTZ. In reality, however, great attention has been paid to financial reform and innovation in SHFTZ over the past year. In response to these circumstances, scholars think it necessary to correctly categorize SHFTZ so as to avoid false expectations in the field of financial development and generation of erroneous results.[19]

First, SHFTZ can promote financial development, but finance is unlikely to promote the development of SHFTZ. SHFTZ is a comprehensive and all-around reform pilot area; finance is just a part of the scope and will likely prove impossible to promote all-around financial development of SHFTZ when it is fully operational. The financial segment of SHFTZ is still rudimentary and has the purpose of driving the original non-marketized financial system toward marketization. Therefore, the financial system innovation of SHFTZ is committed mainly to pushing the existing financial system further toward marketization, rather than to facilitating and promoting the development of financial innovation products and businesses.

Second, the key to financial system innovation lies in reform, rather than opening-up. In view of recent work related to negative lists, breakthroughs made by SHFTZ in opening-up of the financial sector have been relatively limited. In fact, prudence in opening-up of the financial sector is also common in the international arena. For example, in *Template of the United States Bilateral Investment Treaties*, exceptional measures for financial services are separately set out with respect to opening-up of the financial sector.[20] At present, specific initiatives of SHFTZ for the financial sector are aimed mainly at market-oriented reform of the financial business, rather than further opening-up of financial markets, including encouragement for

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[19] When ZHANG Youwen (former Director and Research Professor of SASS Institute of World Economy) recently attended the 2014 Financial Reform in Promoting the Development of China (Shanghai) Pilot Free Trade Zone meeting, he analyzed his viewpoints on financial positioning of SHFTZ, with ten "Yes" and ten "No" positions.

[20] Source: CUI Fan, "Template of the United States Bilateral Investment Treaties in 2012 and Negotiation for Sino-US Bilateral Investment Treaty," *Journal of International Trade*, 2013 (2)

Chinese enterprises to "Go Global" and reform of foreign exchange administration system. The above-mentioned measures will also lay a solid foundation for China's participation in high-profile economic and trade negotiations and further propel opening-up of financial market.

Finally, the difficulty of financial market reform lies in financial risk prevention. Broadly, the pilot program for capital account convertibility is viewed as demanding on comprehensive conditions of SHFTZ, which will pose serious challenges to financial regulation. These challenges include the risk of independence from national monetary policy, channel design between offshore accounts and onshore accounts of institutions stationed in SHFTZ, management and guidance for the foreign capital pool after RMB capital account liberalization, avoidance of short-term inflows and outflows of "hot money," and so on. SHFTZ should also continue to improve its financial regulation and financial risk prevention mechanisms and insist on prevention and control of risks as an important baseline measure.

Chapter 2
Impacts of Construction of China (Shanghai) Pilot Free Trade Zone on Economic Development of the Yangtze River Delta

Photo by Yasuo Onishi

1. Overview of Economic Development of the Yangtze River Delta

Shanghai consistently plays a leading role in the economic development of the Yangtze River Delta, but the Yangtze River Delta is also an important economic hinterland of SHFTZ. The establishment of SHFTZ is bound to bring about spread and spillover effects for economic development of the Yangtze River Delta, afford new opportunities for the development of other cities in the Yangtze River Delta, and promote reform, opening-up, transformation, and development of the Yangtze River Delta. From the perspective of system innovation, the establishment and development of SHFTZ effectively induces a new round of opening-up, investment management system innovation, financial system reform and innovation, trade regulatory system innovation, and governmental administration function innovation throughout the Yangtze River Delta. From the perspective of service development, SHFTZ creates a new environment for open-type and service-oriented economic development of the Yangtze River Delta, and builds a platform for external liaison, block trading, and supply chain integration for the purpose of economic development of the Yangtze River Delta. From the perspective of regional cooperation, SHFTZ is both a backbone and a frame of reference on which the Yangtze River Delta can establish a higher level of open economy system. Such a system would form a large-scale interaction system for joint development in terms of regional synergy, regional division of labor, and industrial development.

As one of the forefronts of opening-up and one of the most economically developed regions in China, the Yangtze River Delta is an important forerunner zone and demonstration zone of China's economic restructuring and development. Additionally, it holds an important position in the national economy. The Yangtze River Delta refers, in the traditional sense, to the core of the Yangtze River Delta surrounded by Shanghai, southern Jiangsu, and northern Zhejiang, which have similar geographic, economic, social, and cultural features as well as close economic and social ties. *Guidelines of the State Council on Further Promoting Reform, Opening-up and Economic and Social Development of the Yangtze River Delta*, issued in 2008, expressly expands the scope of the Yangtze River Delta to Jiangsu Province, Zhejiang Province, and Shanghai City. According to *Regional Planning for Yangtze River Delta*, approved by the State Council in 2010, the Yangtze River Delta should strengthen cooperation with neighboring Anhui and other regions, and establish and improve a Yangtze River Delta Cooperation Mechanism. By the end of 2010, provincial and municipal governments of Shanghai, Jiangsu, Zhejiang, and Anhui had executed *Framework Agreement on Jointly Promoting Construction and Cooperation for Undertaking Industry Transfer and Demonstration Area of Wan River City Belt* with the intended effect that Anhui, Jiangsu, Zhejiang, and Shanghai had formally established a close and synergistic relationship and comprehensively entered into the economic development cycle in the Yangtze River Delta. Before the end of every year thereafter, the eight major leaders of Anhui, Jiangsu, Zhejiang, and Shanghai have gathered together and jointly discussed regional development and cooperation.

1.1. General Overview

The Yangtze River Delta consists of Shanghai, Jiangsu, Zhejiang, and Anhui; it occupies about 3.6% of national land area. By the end of 2013, the resident population accounted for 16.1% of national population, while the aggregated economic activity was nearly one-fourth of nationwide economic activity. As proved by the current level of economic development and the development stage, Shanghai, Jiangsu, and Zhejiang have become a relatively developed economy, ushered in economic transformation and upgrading, and can boast of the high overall level of development and similarity in development characteristics. In contrast, Anhui Province, in the central region, is on the fast track for economic lift-off and has development and operation characteristics different from those of Jiangsu, Zhejiang, and Shanghai, as shown in Table 1.

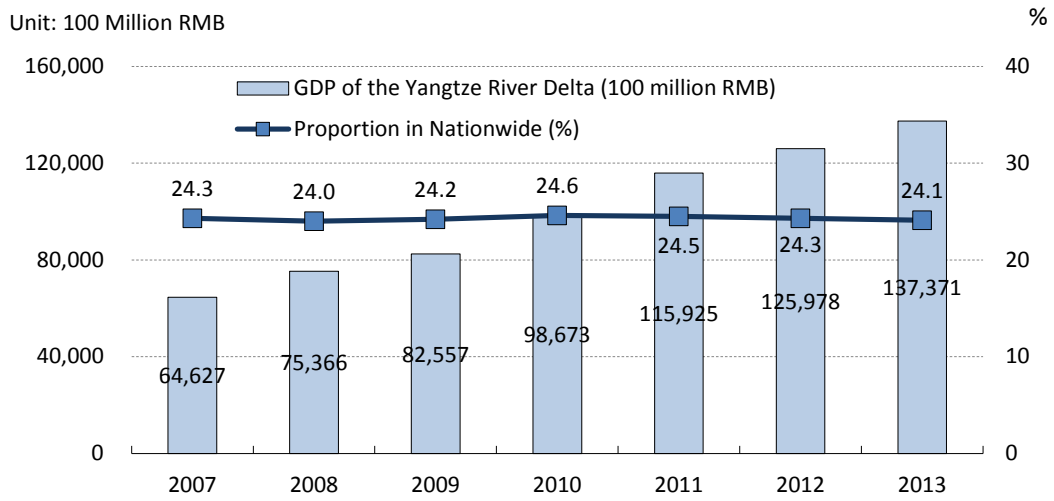
Table 1: Land Area, Resident Population, and Main Economic Indicators of the Yangtze River Delta in 2013

Region	Land area (10,000 sq. km)	Resident population	GDP (100 million RMB)	GDP per capita 10,000 (RMB/person)	GDP per unit of land area (100 million RMB/km²)
Shanghai	0.63	2,415.15	21,602.12	9.0	3.43
Jiangsu	10.26	7,939.49	59,161.8	7.5	0.58
Zhejiang	10.18	5,498	37,568	6.8	0.37
Anhui	13.94	6,029.8	19,038.9	3.2	0.14
Subtotal	35.01	21,882.44	137,370.82	6.3	0.39
Nationwide total	960.00	136,072	568,845	4.2	0.06
Proportion of nationwide total (%)	3.6	16.1	24.1	-	-

Source: Wang Zhen (Chief Editor), *2014 Report on Economic Development of the Yangtze River Delta*, Shanghai Academy of Social Sciences Publishing House, 2014. The same below.

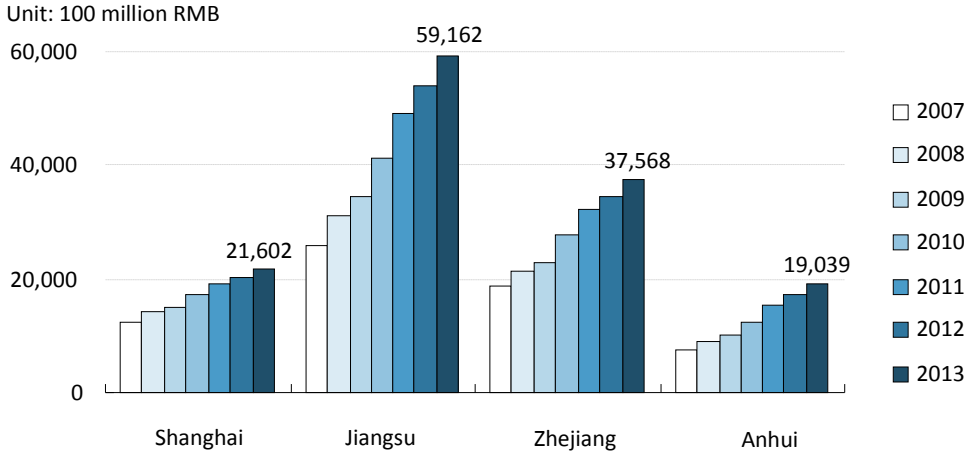
In 2013, the economic aggregate activity of the Yangtze River Delta set a new high, realizing an annual GDP of about 13.7 trillion yuan (more than twice that in 2007 and an absolute increase of more than 1.1 trillion yuan from 2012). The added value of the Yangtze River Delta accounted for 24.1% of the nationwide total in 2013, down 0.2% year-on-year. The Yangtze River Delta played a slightly weakened supporting role in the national economy, but it still unarguable accounted for much of the national economy. Meanwhile, changes in contribution to economic aggregate output also showed sharp regional differences. Among them, the added value from Shanghai and Zhejiang continued to decline slightly relative to the nationwide total, which was lower than that in 2012 and in 2007, before the financial crisis. The proportion of added value of Jiangsu and Anhui was higher than that in 2007, as shown in Figure 1.

Figure 1: GDP of the Yangtze River Delta and Changes in Proportion in Nationwide Total during 2007-2013



By comparison on the economic scale of the Yangtze River Delta: in 2013, Jiangsu still realized the highest economic aggregate activity at about 5.9 trillion yuan; Zhejiang ranked second at 3.8 trillion yuan; Shanghai ranked third at 2.2 trillion yuan; and Anhui saw the lowest economic aggregate at 1.9 trillion yuan, as shown in Figure 2.

Figure 2: Changes in GDP of Jiangsu, Zhejiang, Anhui, and Shanghai during 2007-2013



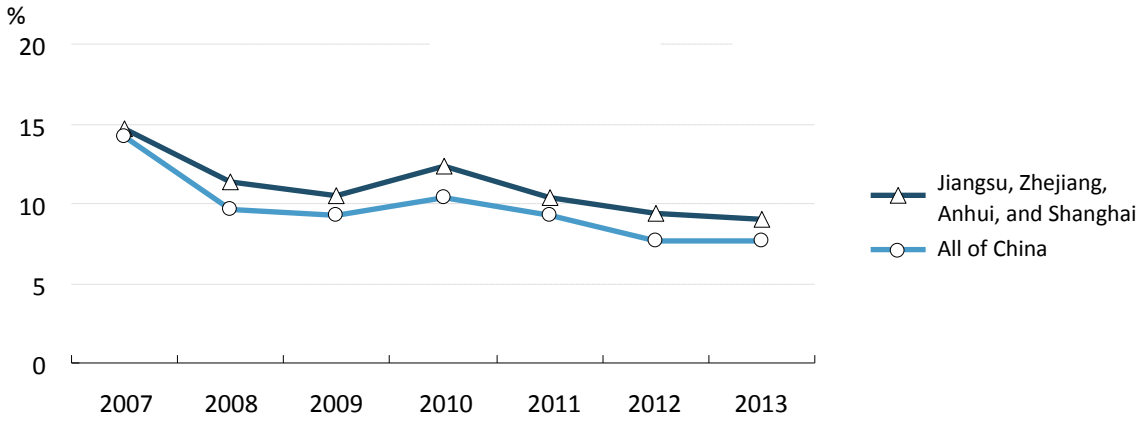
By comparison on per-capita economic indicators, Shanghai still holds a clear lead. Ranked by per-capita GDP of the Yangtze River Delta in 2013, Shanghai realized GDP per capita of 90,100 yuan, which was secondly only to Beijing among domestic provinces (autonomous regions and municipalities) and significantly higher than that of other parts of the Yangtze River Delta. Jiangsu and Zhejiang respectively realized per-capita GDP of 75,000 yuan and 68,000 yuan, which were among the highest from domestic provinces and regions. Anhui realized a per-capita GDP of about

32,000 yuan, which was still lower than the national average. On GDP normalized by land area, Shanghai holds a definitive lead. In 2013, Shanghai saw a GDP of 343 million yuan/square kilometer; Jiangsu saw GDP per unit of land area of 58 million yuan/square kilometer, which is obviously lower than that of Shanghai. Zhejiang and Anhui respectively saw 37 million yuan/square kilometer and 14 million yuan/square kilometer, which are relatively larger gaps compared with Shanghai.

1.2. Economic Growth

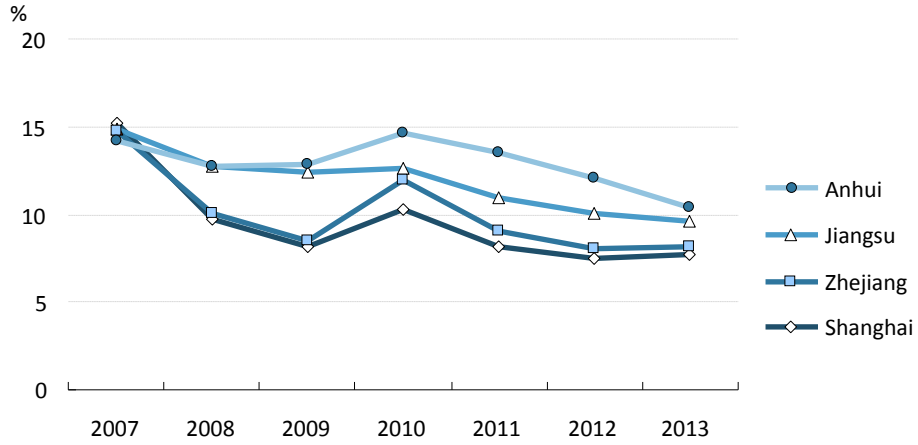
After double-digit growth over a long period, the economic growth of Jiangsu, Zhejiang, Anhui, and Shanghai has declined since 2011 (Figure 4). In 2013, the average economic growth rate of Jiangsu, Zhejiang, Anhui, and Shanghai was about 9% and hit a record low after dropping by0.4% year-on-year (Figure 3). The trajectory of economic growth in the Yangtze River Delta has been quite similar to the nationwide trend since the global financial crisis, and its average economic growth rate has been slightly higher than the nationwide rate.

Figure 3: Average Economic Growth Rate of Jiangsu, Zhejiang, Anhui, and Shanghai and Comparison with Nationwide Economic Growth Rate during 2007–2013



Regionally, in 2013, Shanghai and Zhejiang saw respective economic growth rates of 7.7% and 8.2%, while Jiangsu and Anhui saw respective economic growth rates of 9.6% and 10.4%. In comparison, before the global financial crisis, the highest economic growth took place in Shanghai, which has since slumped to the lowest growth since 2008. Anhui saw the lowest growth rate before the financial crisis but has risen to the highest rate since 2008. The economic growth rate of Jiangsu was slightly lower than that of Anhui, which fell below double digits in 2013. Zhejiang witnessed slightly faster economic growth than Shanghai did.

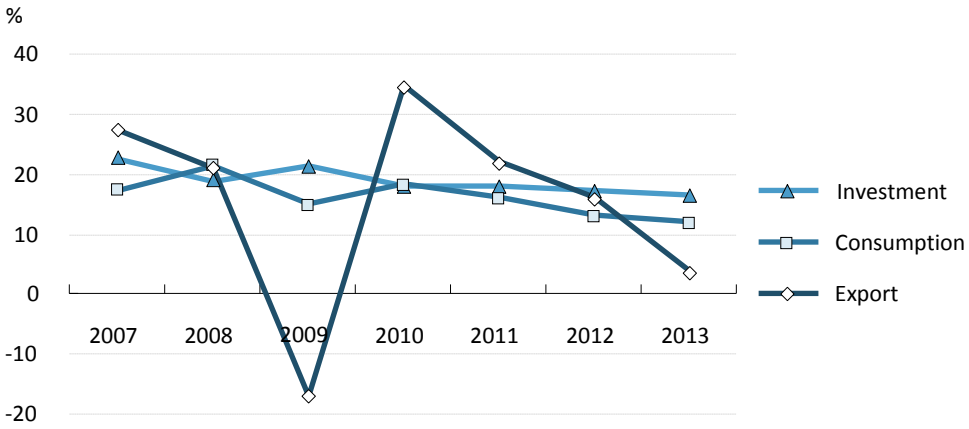
Figure 4: Changes in Economic Growth Rates of Jiangsu, Zhejiang, Anhui, and Shanghai during 2007–2013



The slowdown in economic growth can be attributed to three main factors. First, since the global financial crisis of 2008 and economic downturns in developed countries, the Yangtze River Delta, which is characterized by its high degree of economic extroversion, has suffered from significantly greater shocks than the central and western regions. Second, labor shortages and increases in labor costs have occurred in tandem, which has put strong pressure on labor-intensive processing industries. Furthermore, in order to implement the national control policies for energy saving and emissions reduction, many regions are exerting greater efforts toward elimination of energy hungry and polluting projects. A wave of industrial transfer has begun in which industry moves from Shanghai, southern Jiangsu, and southeast Zhejiang to other regions. Third, in terms of the cultivation and development of strategic emerging industries since 2008, excessive government intervention has inevitably led to excessive production capacity, which has failed to contribute toward new economic growth. Therefore, new drivers are needed for future steady economic development, which will be provided by huge domestic demand, independent technical innovation, booming innovation-based emerging industries, and energy unleashed by the market mechanism playing a bigger role.

Moreover, three driving forces of the economy (investment, domestic demand, and foreign demand) attenuated to varying degrees in the Yangtze River Delta. Investment was still the most important driving force, export changed substantially, and consumption was relatively stable and without a significant rise, as shown in Figure 5.

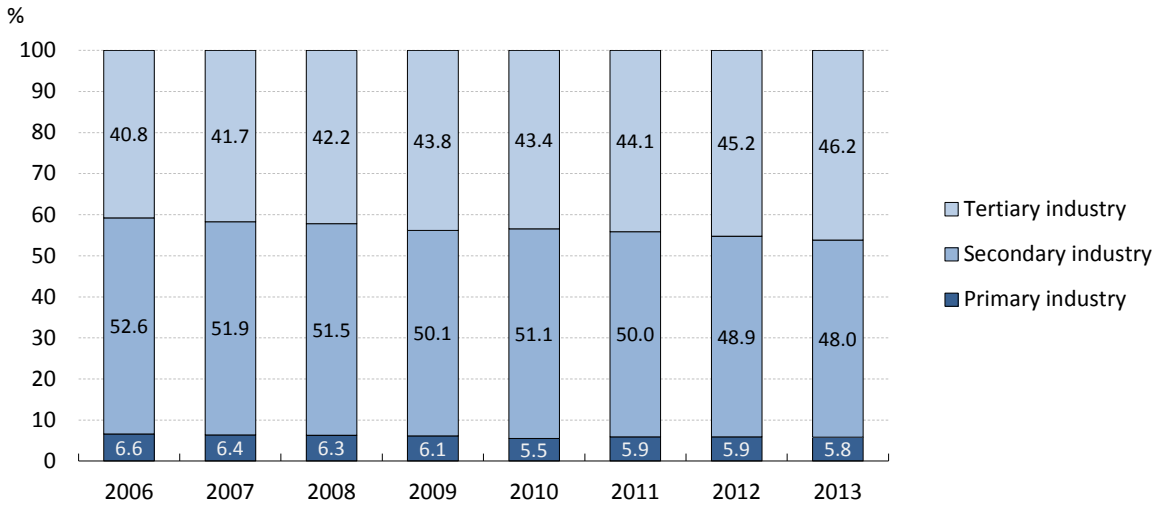
Figure 5: Changes in Growth Rates of Investment, Consumption, and Export in the Yangtze River Delta during 2007–2013



1.3. Structural Transformation

In recent years, the Yangtze River Delta has made efforts toward structural transformation. Changes in the external development environment and factor conditions, coupled with the structural rigidity, however, have meant that structural tensions are still severe. For example, the proportion of secondary industries relative to total industry dropped from the peak of 52.6% in 2006 to 48.0% in 2013 (Figure 6), which was still higher than that in developed countries. Resource-intensive and capital-intensive heavy industry and chemical industry still account for too high a proportion within secondary industries, with serious overcapacity problems. Supporting equipment for manufacturing, key components, and high-end raw materials, which are urgently needed for industrial transformation and upgrading, are mostly imported, whereas the capacity for independent innovation is still weak. New finance, new logistics, marketing, research and development, design, consulting, and other segments of modern producer-services sectors, which represent a new orientation to transformation and upgrading, have failed to seize a leading position in China.

Figure 6: Changes in Three Industrial Sectors of Yangtze River Delta during 2006–2013



By province, three industrial sectors of Yangtze River Delta were optimized and upgraded to varying degrees in 2013. Among the provinces, Shanghai enjoyed the fastest growing proportion of tertiary industries, up 1.8% year-on-year. Jiangsu saw an increase in the proportion of tertiary industry, by 1.2% year-on-year, while Zhejiang and Anhui saw respective increases of 0.9% and 0.3%, as shown in Table 2.

Table 2: Changes in Three Industrial Sectors of Yangtze River Delta during 2012–2013

Region	2012	2013
Shanghai	0.6 : 39.0 : 60.4	0.6 : 37.2: 62.2
Jiangsu	6.3 : 50.2 : 43.5	6.2: 49.2: 44.7
Zhejiang	4.8 : 50.0 : 45.2	4.8: 49.1: 46.1
Anhui	12.7 : 54.6 : 32.7	12.3: 54.6: 33.0

All parts of the Yangtze River Delta can make breakthroughs with reform and innovation of institutions and mechanisms in key areas and key fields, exert greater restructuring efforts, and achieve positive results.

Shanghai enjoys a major strategic opportunity in the form of SHFTZ, which is making smooth progress on construction. Pre-establishment national treatment, negative list administration mode, and investment facilitation reform programs have been introduced, a pilot for customs and inspection jointly supervised with quarantine administration has been launched, and a number of liberalization measures have been enacted in areas including banking services, financing, leasing, telecommunications, and other value-added realms. In the industrial sector, Shanghai is vigorously encouraging the use of new technologies, new business models, and new systems to promote industrial upgrading, and is increasing its efforts at promotion of the development of a modern service industry and strategic emerging industries. These are being supported by means of project carriers, technological innovations, and other measures. *Outline of Shanghai Zhangjiang Demonstration Area Development Planning* has begun to go into effect. Delegation of approval authority and reforms that affect a number of

supporting institutions and policies have already occurred.

Jiangsu is accelerating the pilot for the construction of an innovative province, which will focus on the high-tech industry and introduction and training of innovative and entrepreneurial talents, and has ranks first in terms of regional innovation capacity in China for five consecutive years. In terms of industrial development, Jiangsu is hewing to a pilot program for "replacing business tax with value-added tax" and other important policy opportunities as well as making more efforts to promote the development of a modern service industry. With a view to incubation of emerging industries, Jiangsu is additionally accelerating the implementation of program to promote ten strategic emerging industries.

Zhejiang is focusing on reform of its economic system, which has made breakthroughs with reforms of the review and approval system and is spearheading a new round of reform for the review and approval system, and speeding up the transformation of governmental functions. The objectives of this change are to release economic vitality, break the bottleneck of obstacles, and promote economic development. This will necessitate major initiatives such as substantially reducing the burden of specified annual review, approval, and audit matters; shortening the time and burden of review, approval, and audit procedures; granting provincial-level administrative review and approval authority to Zhoushan Archipelago New Area; supporting Jiaxing City by delegating review and approval authority to counties (prefectural cities and districts); and launching a pilot power list system in Fuyang City. Through the implementation of key science and technology projects and major technology research plans, Zhejiang is carrying out processes of "vacating the cage to change the bird" (eliminating obsolete measures to make way for new ones), "machines in exchange for talents" (reducing labor and increasing physical capital), "space in exchange for land" (focusing on use of space rather than amount of land), and "E-commerce in exchange for marketplace" (prioritizing e-commerce over a central market) This includes vigorous cultivation of famous masters, famous enterprises, and famous brands, and provides impetus for industrial restructuring and upgrading.

Anhui is actively engendering endogenous motivation by methods such as introducing many policies to promote economic restructuring (such as development of private enterprises and financial support); launching construction of Innovative Province; expanding the pilot for corporate equity and dividends incentive policies in the Hefei, Wuhu, and Bengbu Independent Innovation and Comprehensive Supporting Reform Pilot Zone; and strengthening support for scientific and technological talents and innovations. These methods serve to accelerate the development of strategic emerging industries, and facilitate obtaining the approval of the State for regional clustering toward developing a pilot for a new display and robotics industry, pushing forward comprehensive reform of the service sector, and giving more supports to promoting the development of the service sector.

Throughout 2013, development of key industries was characterized by low growth in traditional industries and strong development momentum in the advanced manufacturing industry, modern service industry, and strategic

emerging industries. Among six foundational industries of the Shanghai-based manufacturing sector, three—the electronic information industry, high-end steel industry, and equipment manufacturing industry—demonstrated negative growth; the service industry developed faster than the manufacturing industry; the information technology industry, finance industry, and other modern services industries achieved double-digit growth; strategic emerging industries outperformed that in 2012 and had a growth rate of 7% in 2013. In Jiangsu, the output value from the high-tech industry soared by 15%, accounting for a higher proportion of gross industrial output of at least a designated size than it did in 2012; sales revenue of emerging industries increased by 18%; and automotive, pharmaceuticals, special equipment, electrical machinery, equipment manufacturing, and other segments of advanced manufacturing industries achieved double-digit growth. In Zhejiang, tertiary industries grew slightly faster than second industries; the output value from the high-tech industry increased by 10.3%, accounting for a higher proportion of gross industrial output of at least a designated size than it did in 2012. In Anhui, added value from six leading industries increased by 13.3%; the output value from the high-tech industry increased by 15.7%; the output value from strategic emerging industries grew by 23.4%; and each of logistics, finance, information services, culture and creativity, tourism, and other segments of the modern service industry achieved double-digit growth.

2. Spillover Effects of SHFTZ to Economic Development of the Yangtze River Delta

According to economist Zhou Hanmin (Vice Chairman of Shanghai Municipal CPPCC Committee), SHFTZ has already generated seven spillover effects: (1) forming new content for 60 specific tasks and more than 300 key reform initiatives assigned by *Communique of the Third Plenary Session of the Eighteenth CPC Central Committee*; (2) pushing forward of substantive bilateral negotiations between China and the United States on investment agreements; (3) kicking off bilateral negotiations between China and the EU on investment agreements; (4) advancing a feasibility study for negotiations on *Central European Free Trade Agreement*; (5) making administration on the basis of a powers list an important part of national administrative reform; (6) establishing the first batch of replicable and promotable experiences in 2014; and (7) giving a reference dataset for further opening-up across other regions of China.[1] In view of the impacts on economic development of the Yangtze River Delta, it is believed that four spillovers effects are present: dynamic effects of reform and opening-up, demonstration effects of institutional innovation, platform effects of service development, and linkage effects of regional cooperation.

[1] *Pudong Times*, March 27, 2014

2.1. Dynamic Effects of Reform and Opening-up

As proved by the history of China's reform and opening-up and economic development trajectory in the past 35 years, pioneering opening-up of coastal areas plays a significant role in driving growth. By means of establishing special economic zone, kicking off development and opening-up of Pudong New Area, developing export processing, introducing foreign investment, acceding to the WTO, providing access to the domestic market, and a series of other major opening-up initiatives, China is enjoying favorable opening-up situations from specific situations to general ones and from the local level to the national level. In response to the new opening-up requirements for global integration and compliance with international standards, China is establishing an atmosphere of and dynamic mechanism for induced reform with opening-up, constantly promoting economic restructuring, and gradually building the socialist market economy system. Thanks to unswerving reform and opening-up over the past 35 years, China has developed into the world's second largest economy. In the new context of deepening of economic globalization, China's economic growth rate during the shift and structural adjustment, felt as growing pains, from a traditional export-oriented opening-up stance with dependence on the demographic dividend has come to an end. Future development should rely more on innovation-driven development and on reaping a reform dividend. Currently, a variety of new problems and new contradictions confront economic development. These include excess capacity, environmental pollution, and over-reliance on real estate; all of these are part of the traditional development and governmental administration mode. It is necessary to undertake more powerful and comprehensive reform initiatives to prevent a repeat of problems from extensive rapid development and seek for new long-term growth momentum. Deepening of reform thus becomes more and important and urgent. However, difficulties, too, multiply with reform. In other words, reform can easily fall into an abyss. Progress in reform requires tremendous driving force. A great many Chinese economists believe that this driving force must be opening-up, which exerts a pulling force on reform.

Decision of the CPC Central Committee on Several Significant Issues Concerning Comprehensive Deepening of Reform, approved by the Third Plenary Session of the Eighteenth CPC Central Committee, points out: "Under new situations of economic globalization, it is necessary to impel mutual promotion of internal and external opening up, better combine 'Bringing in' and 'Going Global', push forward the orderly and free flow of domestic and international factors, efficient allocation of resources and in-depth integration of markets, speed up forging new advantages for participating in and playing a leading role in international economic cooperation and competition, and promote reform with opening up". Establishment of SHFTZ is an important measure taken by China in exactly this direction to advance reform and opening-up under new situations. SHFTZ is taking on an important task, that is, exploring new paths and accumulating new experience for comprehensively deepening reform and expanding opening-up.

As revealed by the valuable practice of SHFTZ during the past year, SHFTZ has a significant dynamic effect on reform and opening-up across the

Yangtze River Delta. The effect is derived from two aspects. First, the pioneering institutional innovation of SHFTZ puts pressure on the surrounding regions, thereby triggering reform momentum. Active policy expectations and opportunity expectations attract a number of enterprises to transfer some of their resources or businesses into SHFTZ, which acts to siphon these from elsewhere. This brings pressure to investment attraction, retain enterprises, and retain tax sources. In order to address this challenge, pressure-driven Jiangsu, Zhejiang, and other parts of the Yangtze River Delta are aggressively mirroring construction of SHFTZ, following in the New Deal of SHFTZ for reform and opening-up at the fastest speed, and attempting to maintain a regional competitive advantage as stably as possible. Second, expectations for dividends from the opening-up of SHFTZ are spurring the surrounding regions to seize the opportunity and take the initiative for reform and opening-up. Opening-up of Pudong New Area in the 1990s led to opening-up of the entire Yangtze River Delta. Construction of SHFTZ, which is in full swing, also gives a strong signal throughout the Yangtze River Delta: whichever region is the first to open up can enjoy a head start on development. This is really a historic opportunity. Especially in the new situation of a slowdown in economic growth, striving for new impetus to development is a significant strategic issue that local governments are actively pondering. Great opportunity treads on the heels of active action.

Over the past year, all parts of the Yangtze River Delta have exerted greater efforts in concert with SHFTZ for reform and opening-up. For example, after SHFTZ was officially unveiled, Zhoushan City started extending trace administration and supervision system for business activities outside SHFTZ to their administrative district and striving for the establishment of a free trade zone in Zhoushan on the basis of the original comprehensive bonded zone. Hangzhou City has issued *Opinions Concerning Concerted Efforts of Hangzhou City for Development of China (Shanghai) Pilot Free Trade Zone*, which proposes paying close attention to developments of SHFTZ, accurately understanding reform priorities of SHFTZ, actively learning from the reform experience of SHFTZ, giving consideration to the actual situations of Hangzhou, identifying a breakthrough direction, and launching a "First Try, First Pilot" of its own. Suzhou City has issued *Opinions Concerning Concerted Efforts of Suzhou City for Development of China (Shanghai) Pilot Free Trade Zone and Deepening Institutional Innovation*, which proposes taking the initiative in interacting with Shanghai, playing a role in the spread of SHFTZ, helping Suzhou to comprehensively deepen reform from a new historical starting point, building a high-level platform for opening-up, and striving for the establishment of China (Suzhou) Pilot Free Trade Zone. Similarly to SHFTZ, Ningbo City has put forward six specific reform measures for developing open economy. These focus mainly on deepening reform of trade facilitation, creating the enticement mechanism for investment, improving promotion of overseas investment, upgrading mechanisms for development zones, establishing a mechanism for globalization, and promoting integrated development of domestic and foreign trade.

2.2. Demonstration Effect of Institutional Innovation

SHFTZ is not only a single "experimental field" in Shanghai, but also an

"experimental field" within the Central Government to help China better deal with changes and challenges in the international economy, clarify trade and investment rules, raise the level of opening-up, and advance reform and development by means of opening-up. In China, a free trade zone should be set up to satisfy fundamental requirements, specifically, "being replicable, being promotable and playing a leading role across the country." SHFTZ is not only acting as a test area and a demonstration area, but also undertaking the important responsibility of reform and opening-up as a pilot zone.

The construction program of SHFTZ reflects the direction of future development. Its key features are institutional reform, rather than weak linkage of preferential policies. Implementation of a "negative list" administration mode, reform of the business registration system, reform of customs clearance facilitation, and implementation of financial reform rules and single-window supervision for international trade will together achieve a demonstrable impact on the economic development of the Yangtze River Delta. All parts of the Yangtze River Delta are intending to launch forced institutional innovation; look afresh at a series of policies about finance, taxation, trade, and governmental administration; urge governments to redefine their own functions; accelerate the transformation of governmental functions; promote innovation on institutions and mechanisms on their own; improve the level of service-oriented government in power; and drive the development of an open economy. The Yangtze River Delta City Agglomeration, Jiangsu, Zhejiang, and Anhui have developed some solutions and measures, and have achieved some initial outcomes, as described below.

(1) Jiangsu

Jiangsu has issued *Impacts of Establishment of China (Shanghai) Pilot Free Trade Zone on Jiangsu and Coping Strategies*, which proposes to take full advantage of SHFTZ, expand the scope and service coverage of its influence, pursue development with relocation, special development, and joint development together with Shanghai in a reasonable way, sharpen the capabilities of the platform at the special customs supervision zone, promote trade facilitation, and drive an open economy dominated by export-orientation toward internal and external integration and development.

With Suzhou Industrial Park Integrated Free Trade Zone as the core, Jiangsu proposed to combine surrounding special customs supervision zones and is trying to establish a China (Jiangsu) Pilot Free Trade Zone. Two candidate solutions were proposed for early application. Solution 1 covered the entire southern Jiangsu area, including Nanjing and Suzhou; Solution 2 covered only Suzhou. Solution 1 takes the Suzhou Industrial Park Integrated Free Trade Zone as the core, combines the surrounding special customs supervision zones of southern Jiangsu, aims to establish a China (Jiangsu) Pilot Free Trade Zone, and would cover Suzhou, Wuxi, Changzhou, Zhenjiang, Nanjing, and many other cities of southern Jiangsu. Solution 2 takes Suzhou Industrial Park Integrated Free Trade Zone as the core, combines the surrounding special customs supervision zones, and intends to establish a China (Suzhou) Pilot Free Trade Zone. Eventually, Jiangsu chose Solution 2.

Nanjing Customs launched a research project in line with SHFTZ. This project follows the suite of practices at SHFTZ and develops 14 innovation systems for future step-by-step implementation. Jiangyin is actively transferring industrial functions from Shanghai. Dafeng, affiliated with Yancheng, has set up a liaison office in SHFTZ. Kunshan regards high-end manufacturing as the key field for "undertaking industrial transfer" and plans to set up an office in SHFTZ. On May 23, 2014, Jiangsu launched a pilot "list-style administration and rapid review and approval" program for foreign investment review and approval matters. By using this system, foreign investment projects that conform to regulations can be "accepted in real time and handled on the spot," with a handling time of at most three working days. Since June, Suzhou has kicked off a pilot program for fast-track review and approval services. Wuzhong District, Xiangcheng District, Wujiang City, Zhangjiagang City, Kunshan City, Taicang City, and other regions are witness to the resultant handling without delay, which has cut handling duration by 30–50% from the publicized duration.

Upon the implementation of the New Deal for customs clearance in SHFTZ, and particularly the successful pilot for bonded goods, the quick carryover mode of special customs supervision zones has greatly increased convenience for goods flowing between such zones. Standing adjacent to SHFTZ, Kunshan Integrated Bonded Zone and SHFTZ has huge demand for goods carryover. Kunshan Customs actively endeavored to obtain guidance from a senior official. As a result, in November 2013, the Processing Trade and Bonded Supervision Department of General Administration of Customs approved Wistron, Compal Information, and Compal Electronics (three companies in Kunshan Integrated Bonded Zone) and Intel Trade (Shanghai) Co., Ltd (a company in Shanghai Waigaoqiao Free Trade Zone) jointly carrying out a pilot program of bonded goods carryover between special customs supervision zones. For this, Kunshan Customs uses a centralized declaration system, rather than its previous separate declaration system. This is a spillover effect from SHFTZ to Kunshan City. By this move, Kunshan City has taken a lead in the New Deal of customs clearance in the whole Yangtze River Delta. At present, the direct transfer of documents and month-end centralized customs clearance is being implemented, which should cut customs declaration costs by 80% and time costs by 50%.

(2) Zhejiang

Zhejiang has launched a project of clarifying governmental authority and implemented a power list system. Jiaxing City has made strenuous efforts at industrial restructuring, established an industrial structure dominated by the modern service sector and a relatively complete industrial chain, and ensured that it holds a distinct advantage and is dominantly moving in the direction of sharing in spillover effects from SHFTZ.

Zhejiang plans to help Ningbo City and Zhoushan City jointly explore construction of a free trade zone and a free port, promote Zhoushan–Ningbo integrated construction, imitate the "New York–New Jersey" system, and develop Zhoushan–Ningbo into an important exchange and cooperation platform between China and central and eastern European countries. Related policies at Shanghai International Shipping Center and the fruits of pilot reform at SHFTZ are being replicated in Ningbo City and Zhoushan

City. Ningbo City and Zhoushan City have been permitted to launch a "First Try, First Pilot" program for integrating a free trade zone with construction of bulk commodity trading markets. In addition, permission for a China (Hangzhou) Online Pilot Free Trade Zone is also actively being sought.

Hangzhou City, in particular, has issued *Opinions Concerning Concerted Efforts of Hangzhou City for Development of China (Shanghai) Pilot Free Trade Zone*, which proposes to accelerate the transformation of government functions and minimize administrative intervention. On the basis of its own advantage, Hangzhou City proposes to utilize the advantages of cross-border e-commerce under a pilot program and explore the construction of an "Online Pilot Free Trade Zone." Meanwhile, Hangzhou will take the initiative in coming into line with SHFTZ, giving full play to the role of Hangzhou Xiaoshan International Airport as a hub, integrating special customs supervision zones, and applying for a Hangzhou Integrated Bonded Zone and a Hangzhou Free Trade Park (Port).

In early 2014, Jiashan County and Shanghai Waigaoqiao Free Trade Zone United Development Co., Ltd agreed to strategic cooperation for the purpose of establishing a Jiashan Project Cooperation Zone of SHFTZ in Jiashan County, which marks the first-ever cooperation between SHFTZ and a region. In this way, a "zero review and approval" negative list administration, other reforms to the investment system, and transformation of government functions have begun to be popularized. Both parties in the venture are working toward in-depth cooperation in terms of investment, industry, trade, banking, finance, reform, and administration. To quicken the pace to be in line with SHFTZ, Jiashan County is the first to put forward reform measures such as a shift from "fast review and approval" to "zero review and approval."

Ningbo City has officially applied for the establishment of a National Integrated Free Trade Zone. This would establish an urban internationalization promotion mechanism, accelerate following along with construction of SHFTZ, and fully undertake to benefit from aggregation and radiation effects of SHFTZ. Meanwhile, Ningbo City is keeps hold of its own characteristics and advantages while quickening the pace of opening-up. For example, in terms of the promotion of internal and external trade integration, Ningbo City plans to build an "E-commerce Industry City," develop cross-border trade e-commerce, and develop e-businesses in rural areas. In terms of deepening reform in trade facilitation, Ningbo City will actively carry facilitate cooperation between Customs and Entry–Exit Inspection and Quarantine in a pilot program for reform of "one-off declaration, one-off inspection, and one-off release," as well as comprehensively implementing territorial declaration, port clearance, and release of exports throughout the province. Additionally, Ningbo City has proposed six specific reform initiatives, such as deepening the reform of trade facilitation and improving foreign investment promotion mechanism. This specifically includes acceleration measures designed to be in line with construction of SHFTZ. In terms of deregulating foreign investment, Ningbo City is finding ways to launch pre-establishment national treatment and a negative list administration mode, among other things. Ningbo City has also unveiled an "upgraded" version of opening-up frontline, such as a free trade zone. At present, Ningbo City has officially applied for the establishment of a

National Integrated Bonded Zone, which will integrate the functions and policies of Ningbo Export Processing Zone and other special customs supervision zones and integrate the functions of bonded zone, export processing zone, bonded logistics zone, and port into a unified whole.

On January 8, 2014, Zhoushan Port Integrated Bonded Zone officially started operation. Zhoushan City has formally proposed exploring the establishment of a negative list administration mode for industries in the Zhoushan Archipelago New Area, and is pushing forward a plan to develop Zhoushan Port Integrated Bonded Zone to into Zhoushan Free Trade Port Zone. Meanwhile, pre-establishment national treatment, negative list administration mode, and system reform for "zero review and approval" and "zero charging" for enterprise investment projects are being launched.

(3) Anhui

Anhui, in particular, has issued a report analyzing the impacts of the construction of SHFTZ; this report points out that Anhui should keep a foothold on prosperity and development of the Yangtze River Delta Economic Circle and actively work out measures that can be integrated, referenced, and replicated to be in line with construction of SHFTZ. Anhui plans to establish an opening-up window in SHFTZ, carry out the transfer of Shanghai-based industries to designated places, promote an Anhui–Shanghai port interconnection, establish an interoperable network platform together with SHFTZ, and do its best to integrate into SHFTZ. Anhui will actively refer to reform and opening-up policies and institutional arrangements of SHFTZ, strive to narrow the gap between integrated bonded zones and export processing zones in Anhui and SHFTZ in terms of institutions and policies, and work hard to develop itself as an opening-up pilot hub in the central region of China.

Hefei City, Wuhu City, and Maanshan City intend to jointly apply for the establishment of Anhui (Hefei-Wuhu-Maanshan) Pilot Free Trade Zone, which would cover Hefei Integrated Bonded Zone, Hefei Export Processing Zone, Hefei Airport Economic Demonstration Zone, Wuhu Export Processing Zone, Hefei Port, Zhujiaqiao Port Area (Wuhu Port), Sanshan Port Area (Wuhu), and Zhengpu Port Area (Maanshan City), with a total area of about 40 square kilometers.

In addition, various districts and counties of Shanghai are actively undertaking to benefit from the spillover effect from SHFTZ and following suit on system innovations from SHFTZ. For example, Huangpu District is pioneering the use of a negative list and striving to create a more fair, open, and transparent market environment. Jing'an District has proposed speeding up the reform of the administrative review and approval system, exploring the use of a positive list for service, and boosting trade facilitation. Songjiang District has reduced the length of time needed for administrative review and approval of industrial projects by two-thirds.

2.3. Platform Effect of Service Development

(1) International liaison platform of the Yangtze River Delta

SHFTZ offers enterprises substantial preferential policies in terms of international operation, trade facilitation, and financial liberalization, which

induces a “siphon effect” to some extent, attracting enterprises running overseas business from other cities of the Yangtze River Delta to establish financial centers, operations centers, and marketing centers, and other function-based corporate headquarters at SHFTZ. This puts great pressure on the headquarters economy already present in other cities of the Yangtze River Delta. However, this facilitates the enterprises of the Yangtze River Delta in setting up SHFTZ headquarters and devoting themselves to international exchanges. Moreover, SHFTZ will treat the development of a headquarters economy as an important future direction, focus on the development of global business units as well as headquarters intended for management; operational control; investment; research and development; trade settlement; and procurement and sales. This will bring together regional headquarters (Asia-Pacific headquarters, China headquarters, and East China headquarters) of multinationals, headquarters of state-owned enterprises (the central level and local state-owned enterprises, etc.) and headquarters of private enterprises; taken together, this will create headquarters clusters for “Bringing in” and “Going Global.” The Yangtze River Delta will have a link with the whole world via these headquarters enterprises.

(2) Block trading platform of the Yangtze River Delta

The outlook for the future suggests that the platform economy will be an important development format not only for SHFTZ but also for the Yangtze River Delta. The industrial development planned for SHFTZ prioritizes platforms for (1) bulk commodity trading, (2) bonded display and trading, and (3) cross-border e-commerce. (1) For a bulk commodity trading platform, it is necessary to vigorously expand the international commodity trading platform, adhere to the principles of “gross control, rational distribution, and cautious approval,” establish a strict market management system, encourage the combination and establishment of the same type of trading platform, focus on upgrading pricing right and right to speak, highlight facilitation of the real economy, and gradually push this platform to become an international bulk commodity trading center, logistics center, information center, and pricing center. (2) For a bonded display and trading platform, it is necessary to vigorously develop various types of direct sale (distribution) platforms for professional bonded display trading and imported goods, such as high-end equipment, medical equipment, and other cultural products. (3) For a cross-border e-commerce platform, it is necessary to vigorously construct a cross-border e-commerce platform system that integrates cross-border logistics, cross-border payment and settlement, data processing, and other functions. Additionally, it is necessary to accelerate the introduction of cross-border e-commerce retailers and directly launch online sale and procurement for international markets. All of these will create favorable conditions for the Yangtze River Delta to take advantage of SHFTZ and specifically to benefit from bulk commodity trading, bonded display and trading, and cross-border e-commerce transactions.

(3) Supply chain integration platform of the Yangtze River Delta

SHFTZ is actually a supply chain integration platform that works along industry chains, supply chains, and service chain on all aspects; its development displays a clear smiling curve. Clustering of manufacturing

industries and import and export trade inevitably results in the concentration of various factor markets and also contributes to clustering of the logistics industry. Over the past year, SHFTZ has introduced and implemented 51 financial reform measures; it is home to 2,046 financial-related businesses and boasts a smooth cash flow. In total, more than 3.64 million pieces of data from 30 departments have been collected, which marks the initial realization of interconnection among systems for enterprise information, banking information, industry and commerce information, and customs information. With the SHFTZ supply chain platform, the Yangtze River Delta can coordinate inter-regional business flow, logistics flow, information flow, capital flow, and personnel flow. The construction of product supply chains and service supply chains will greatly drive the service economy development in the Yangtze River Delta.

2.4. Linkage Effect of Regional Cooperation

(1) Linkage of regional division of work

Economic cooperation in the Yangtze River Delta now enjoys a stable foundation. Jiangsu, Zhejiang, Anhui, and Shanghai have taken different positions in the regional division of work. The establishment of SHFTZ will lead to closer regional division of work, radiate through the Yangtze River Delta, refine regional division of work across the Yangtze River Delta, and lead to joint development. Due to the limited capacity of SHFTZ, affiliates of enterprises stationed in SHFTZ must be located at the periphery of the Yangtze River Delta. Jiangsu, Zhejiang, and Anhui have fostered some competitive industries. This makes it advisable to take advantage of low business costs in the area. Via windows and platforms of SHFTZ, it is possible to introduce advanced international talent, technology, markets, and other factors to these competitive industries, which will serve to transform and upgrade industrial development. It is expected that enterprises based in the Yangtze River Delta can lease offices in SHFTZ, follow international practices via this window, and take the initiative to seize the opportunity for development. Enterprises based in SHFTZ are expected to open offshore accounts and free trade accounts and to make use of overseas funds. Capital in Hangzhou Bay New Zone is also expected to be put into overseas investment via SHFTZ, which will facilitate residents investing larger sums in foreign exchange.

It is necessary to initiate measures such as complementary function advantages, transit across customs areas, and pushing forward of regional economic division of work and cooperation. Jiangsu, Zhejiang, and Anhui are taking advantage of the developed manufacturing industry, favorable financial environment and other advantages to spearhead setting up sub-regional financial centers at different places. Particularly Hangzhou, Ningbo, Nanjing, Suzhou, and other big cities are poised to hold a position that will allow them to be a “financial backend service base based in the Yangtze River Delta, opening to the outside world, and enjoying remarkable influence in China.” Their clustering clearly aims at functional modules and business units that can be operated separately from the direct business activities of financial institutions and provide services and support, primarily supporting services for the construction of Shanghai International Financial Center. At the initial stage, data document processing, call centers,

and other low-end businesses will be undertaken. In the medium and long run, medium-end and high-end businesses, such as electronic banking, product innovation, and R & D, will be launched with the aim of supporting Shanghai International Financial Center.

(2) Linkage of industrial development

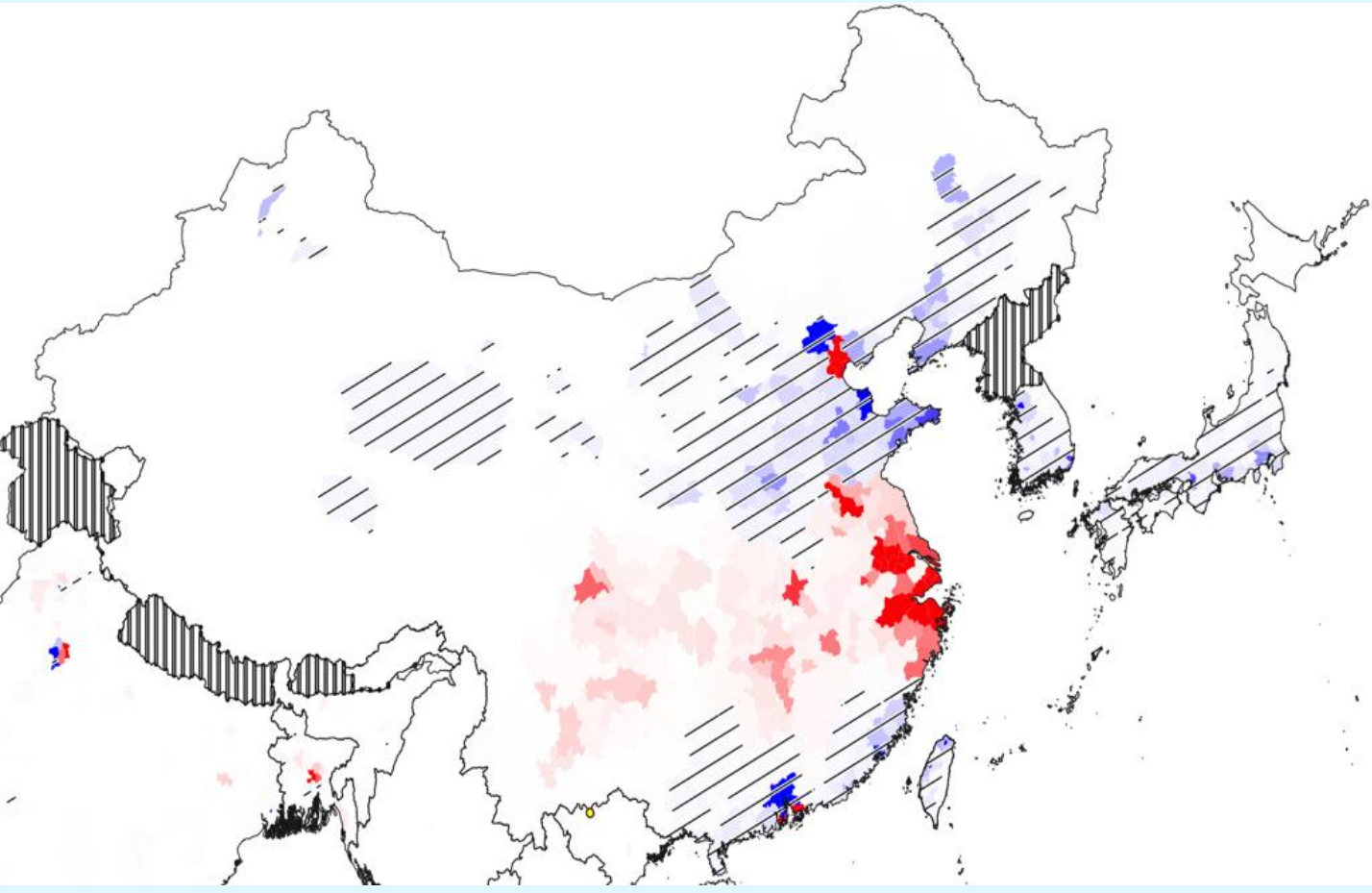
Linkage of industrial development across the Yangtze River Delta is expected to roll out in 11 key areas (transport, energy, information, technology, environmental protection, credit, social security, finance, foreign services, city cooperation, and industrial transfer). It is necessary to push forward with interregional business cooperation in the Yangtze River Delta, construct a regional customs clearance system, set up interregional business parks, achieve joint construction of an inspection and quarantine information platform for the pan-Yangtze River Delta, and render foreign services. It is additionally necessary to establish a financial long-term cooperation framework for Jiangsu, Zhejiang, Anhui, and Shanghai, innovate and expand financial cooperation (including new financial businesses), launch the construction of a regional credit system in the Yangtze River Delta, and carry out credit cooperation (including filing for regional credit service organizations).

In terms of industrial transfer and the spatial layout of industry chains, the respective strengths are reflected in complementation and linkage between the Yangtze River Delta and SHFTZ. Rising costs of doing business in SHFTZ have resulted in forced outward transfer of the manufacturing industry. The Yangtze River Delta has the ability to undertake such a transfer. The aggregation effect of SHFTZ raises the cost of enterprise development in Shanghai and imposes substantially greater pressures on the manufacturing industry in Shanghai in terms of survival and development. As a result, a forced outward transfer of the manufacturing industry is taking place. Multinational companies and conglomerates are headquartered in SHFTZ, but they locate manufacturing plants in regions with lower overall cost. In addition, the construction of SHFTZ allows enterprises in the Yangtze River Delta to greatly reduce costs for information search in the international market and greatly narrows the gap to the international market. The Yangtze River Delta is also becoming more accessible to international companies, which makes it easier for the Yangtze River Delta to obtain international talent resources, international capital resources, and international business resources.

In addition, Shanghai is focusing on a “Four Centers” plan (International Financial Center, International Trade Center, International Shipping Center, International Economic Center). Non-high-end industries will be transferred, and the Yangtze River Delta should become the hinterland of Shanghai’s economic development. SHFTZ is a primary piece of building the Four Centers in this regard, which will radiate effects to neighboring Jiangsu, Zhejiang, and Anhui and create positive spillover effects. A Shanghai-based world-class economic center, financial center, trade center and shipping center will be oriented to internationalization and high-end service. Some domestic and lower-end industries will have to be transferred out from Shanghai, which is a positive development for Jiangsu, Zhejiang, and Anhui as they undertake industrial transfer and promote a new round of industrial transfer within the Yangtze River Delta. SHFTZ will place more

emphasis on a headquarters economy and a service economy, which will attract headquarters and operations centers of Fortune 500 companies to settle there. Correspondingly, manufacturing sectors will expand and extend to the hinterlands. This will play an important role in promoting Jiangsu, Zhejiang, and Anhui as far as making more convenient and effective use of foreign investment and upgrading the competitiveness of the manufacturing sector. Shanghai's container throughput will also transfer to Nantong Port, Ningbo Port, Zhoushan Port, and other neighboring ports across the Yangtze River Delta.

Chapter 3
Economic Impacts of China (Shanghai) Pilot Free Trade Zone: Geographical Simulation Analysis by IDE-GSM



Source: Calculated by IDE-GSM

1. Introduction

East Asia has been attracting the attention of the international economic community because of the region's continued economic growth. This regional economic growth began during the reconstruction of Japan after the Second World War, and four Asian newly industrialized economies (Hong Kong, Taiwan, Korea and Singapore) have joined in the growth since the 1960s. The wave of economic development reached to the advanced ASEAN-4 countries (Malaysia, Thailand, Indonesia, and the Philippines) and high-growth in spectator countries began in the latter half of the 1980s. In the 1990s, China joined this East Asian wave of economic development, and more recent members of ASEAN are now at the forefront of this wave.

East Asia's highly heterogeneous development process, both from the viewpoints of time and geography, is a unique pattern of economic development. This pattern of economic development is sometimes called the "flying geese" model. In the model, income gaps are large not only between countries but also within each country. This is partly because of selective economic development policies for capital cities, Free Trade Zones (FTZs), and Special Economic Zones (SEZs) that have been established by the various governments. Thus, we need to analyze economic development at the sub-national level.

At the same time, economic development in East Asia has driven by foreign direct investment (FDI), and global production networks, which extend beyond national borders, have played a critical role in facilitating economic development. Since the 2000s, these networks have begun growing further as a result of bilateral and regional trade agreements. Thus, we need to analyze the economic development also at the super-national level.

To analyze economic development in East Asia more comprehensively, economic data and a model at the sub-national level covering East Asia are needed. Since 2007, the Institute of Developing Economies at the Japan External Trade Organization (IDE-JETRO) has been developing a geographical simulation model (called IDE-GSM)[1]. This model makes it possible to predict the type of physical or institutional integration that will favorably or adversely affect regions of interest at the sub-national level. By using the model, it is also possible to predict how policy measures to facilitate international transaction will affect trade traffic and along which routes; this allows identifying potential bottlenecks and so enables reaping the full benefits of economic integration.

IDE-GSM is one of the few economic models that can predict the economic effects of economic integration measures at the sub-national level for East Asia. The model expands upon a basic model of new economic geography (NEG) to incorporate numerous realistic features, such as multiple

[1] GSM has been developed with financial and manual contribution by Economic Research Institute for ASEAN and East Asia (ERIA) through our joint research.

industrial sectors with intermediate inputs, a multimodal transport selection model, and the existence of tariff and non-tariff barriers (NTBs) to international trade.

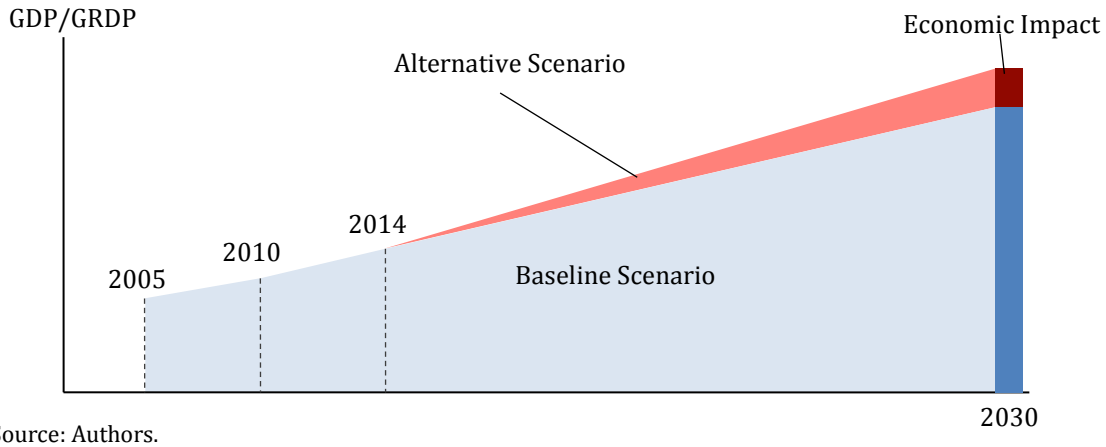
This chapter shows an application of IDE-GSM to SHFTZ and models expansion of the reforms derived and learned from the SHFTZ to other regions. We estimate the economic impacts of the reforms in various settings. In the second section, we introduce the *Baseline* scenario and the *Most Likely* scenario and show some results. Deeper analyses on economic impacts by country and by industry, as well as changes in traffic volume, are provided. In the third section, we compare several alternative scenarios with the Most Likely scenario, examining different degrees of implementation and geographical extension of pilot FTZs. The final section concludes the chapter and discusses some policy implications.

2. Most Likely Scenario

2.1. Baseline Scenario and Alternative Scenarios

We take the differences in national and regional GDPs between the Baseline scenario and an alternative scenario (Figure 1) to calculate the economic impacts of SHFTZ. The Baseline scenario assumes minimal additional infrastructure development after 2005. The alternative scenario assumes specific policy measures in 2014 and beyond. We compare the GDPs and GRDPs between the two scenarios, typically at 2030. If the GRDP of a region under the scenario with specific trade and transport facilitation measures (TTFMs) is higher (resp., lower) than that under the Baseline scenario, we regard this surplus (deficit) as a positive (negative) economic impact of the TTFMs.

Figure 1: Image Diagram: Difference between the Baseline and Alternative Scenarios



Source: Authors.

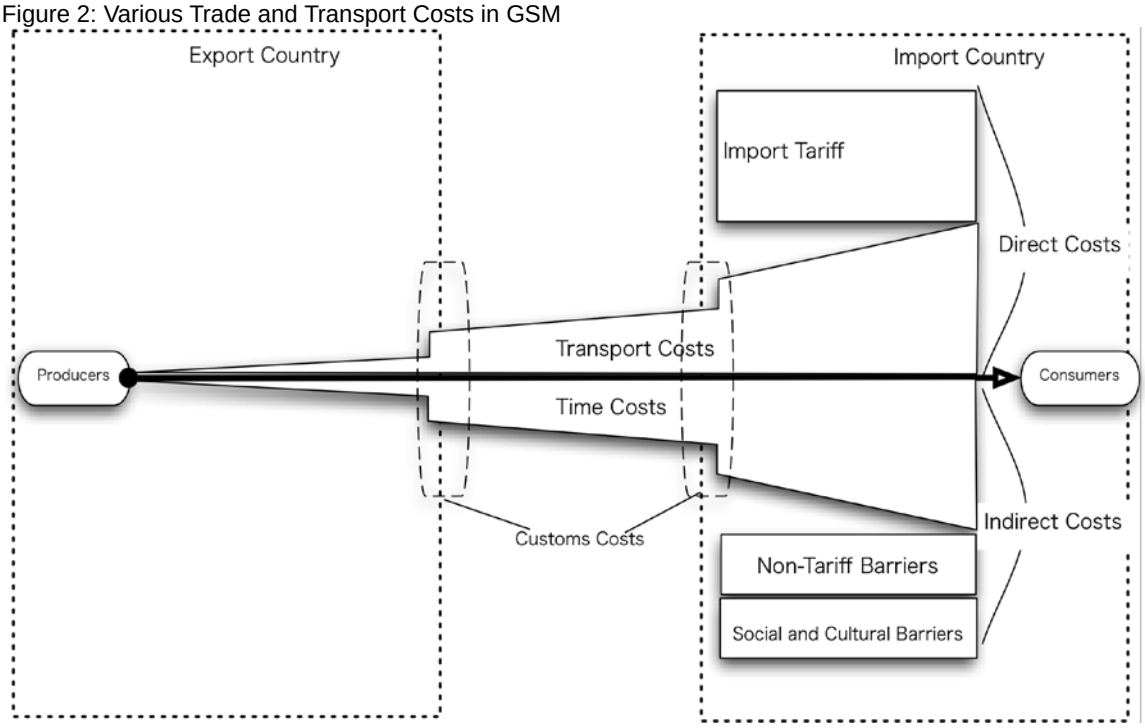
The following assumptions are made in all scenarios unless otherwise specified for a specific scenario.

- The national population of each country is assumed to increase at the rate forecast by the UN Population Division until the year 2030.
- Net migration of each country is zero.
- Tariffs, NTBs, and services barriers will change on the basis of FTAs and economic partnership agreements (EPAs) currently in effect.
- Each country has its own exogenous growth rate according to its technological parameters (see the Appendix).

It should be noted that even when a region experiences a negative economic impact from the TTFMs, this does not mean that the region is necessarily worse off than at present. Most of the regions in East Asia are expected to growth faster for a few decades, and negative economic impacts would offset a part of the gains from the expected economic growth.

In our simulation model, we include various factors of broadly defined transport costs, as shown in Figure 2. We calculate physical monetary costs for shipping and assume that firms will incur some time costs in addition to monetary costs. At national borders, international ports, and international airports, departing and incoming trucks, vessels, and airplanes are assumed to need additional time, and firms must pay some transaction costs. Import tariffs are levied at the time of import. In addition to those costs, we also estimate some “behind the border” costs, that is, we include NTBs and social and cultural barriers. These are essential if our model is to describe difficulties in trade, such as finding trade partners, studying export and import procedures, preparing and declaring documents before shipping starts, becoming accustomed with trade operations, and promoting the products and services to customers in other countries. We assume that the SHFTZ and expansion of FTZs will lower services barriers and NTBs in the manufacturing sector because the better financial and logistics environments provided by SHFTZ should benefit firms so that they export and import more; this improvement will occur through mitigating and lowering “behind the border” barriers in the service and manufacturing sectors.

Figure 2: Various Trade and Transport Costs in GSM



Source: Authors.

2.2. Most Likely Scenario

We set a Most Likely scenario as follows, using official documents and interviews with experts as the basis of assumptions.

1. Shanghai City as a whole, as well as the areas of SHFTZ, will lower services barriers from 2014 to 2025 by half the level of difference in barriers between China and Hong Kong. The NTBs to manufacturing goods will gradually decrease as well.

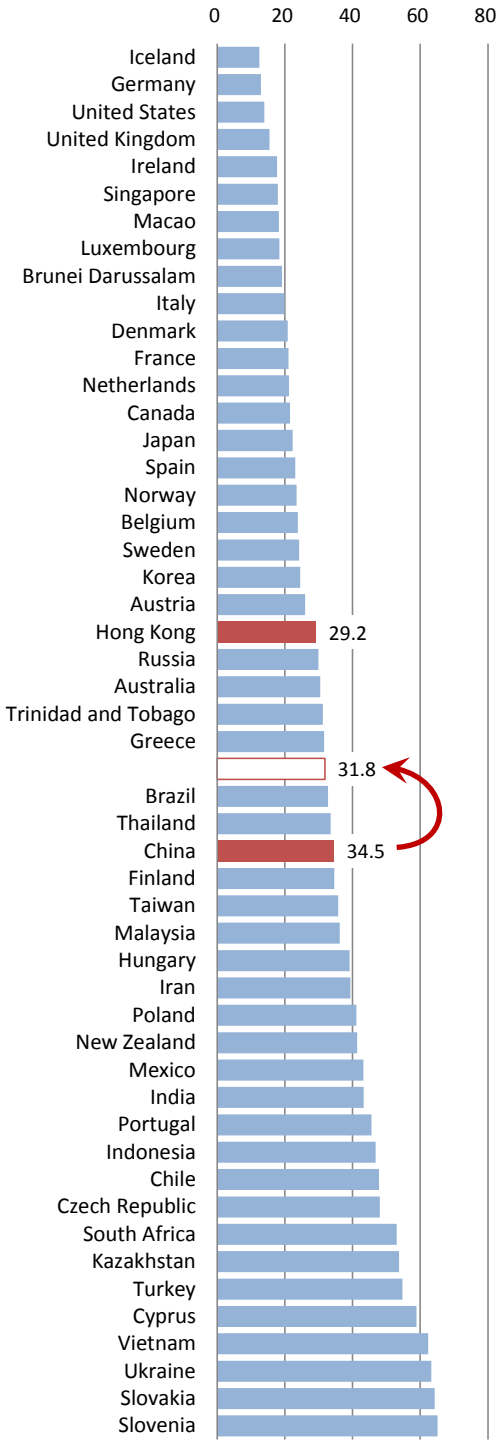
2. Guangzhou and Tianjin will lower services barriers from 2016 to 2025 by half the level of difference in barriers between China and Hong Kong. The NTBs to manufacturing goods will gradually decrease as well.

3. The regions in the Yangtze River Economic Belt[2] will lower services barriers from 2021 to 2025 by half the level of difference in barriers between China and Hong Kong. The NTBs to manufacturing goods will gradually decrease as well.

[2] Shanghai, Chongqing, Jiangsu, Hubei, Zhejiang, Sichuan, Yunnan, Guizhou, Hunan, Jiangxi, and Anhui Provinces.

Services barriers for selected countries, estimated for our project, are shown in Figure 3. The level of the barrier for China in the service sector is slightly higher than that in Thailand and slightly lower than that in Finland. The level of the barrier for Hong Kong is 84.5% of that for China. So, we reduce the barrier for a city or region by 7.75%, that is, from 34.5 to 31.8. In other words, Shanghai City, Guangzhou, Tianjin and the regions in the Yangtze River Economic Belt will lower the barrier to a level between that of Brazil and that of Greece. In addition to the reduction in barriers in the service sector, we reduce the NTBs for the manufacturing sectors as well in order to take into account that services are used as an input to the manufacturing sector. We take the ratio of domestic service input against the output value for each industry from the input–output (IO) matrix for China in the ASIA Input–Output Matrix 2005 published by IDE-JETRO. The specific values are 0.109 for the automotive industry, 0.148 for the electronics and electric appliances (E&E) industry, 0.144 for the textile/garment industry, 0.119 for the food processing industry, and 0.159 for the other manufacturing industries. In the simulation analyses, we reduce the NTBs for the automotive industry by 0.845% (0.109 × 0.155) in 12 years for Shanghai City, 10 years for Guangzhou, and 5 years in the Yangtze River Economic Belt.

Figure 3: Services Barriers in Selected Countries



Source: Authors.

2.3. Results of the Most Likely Scenario

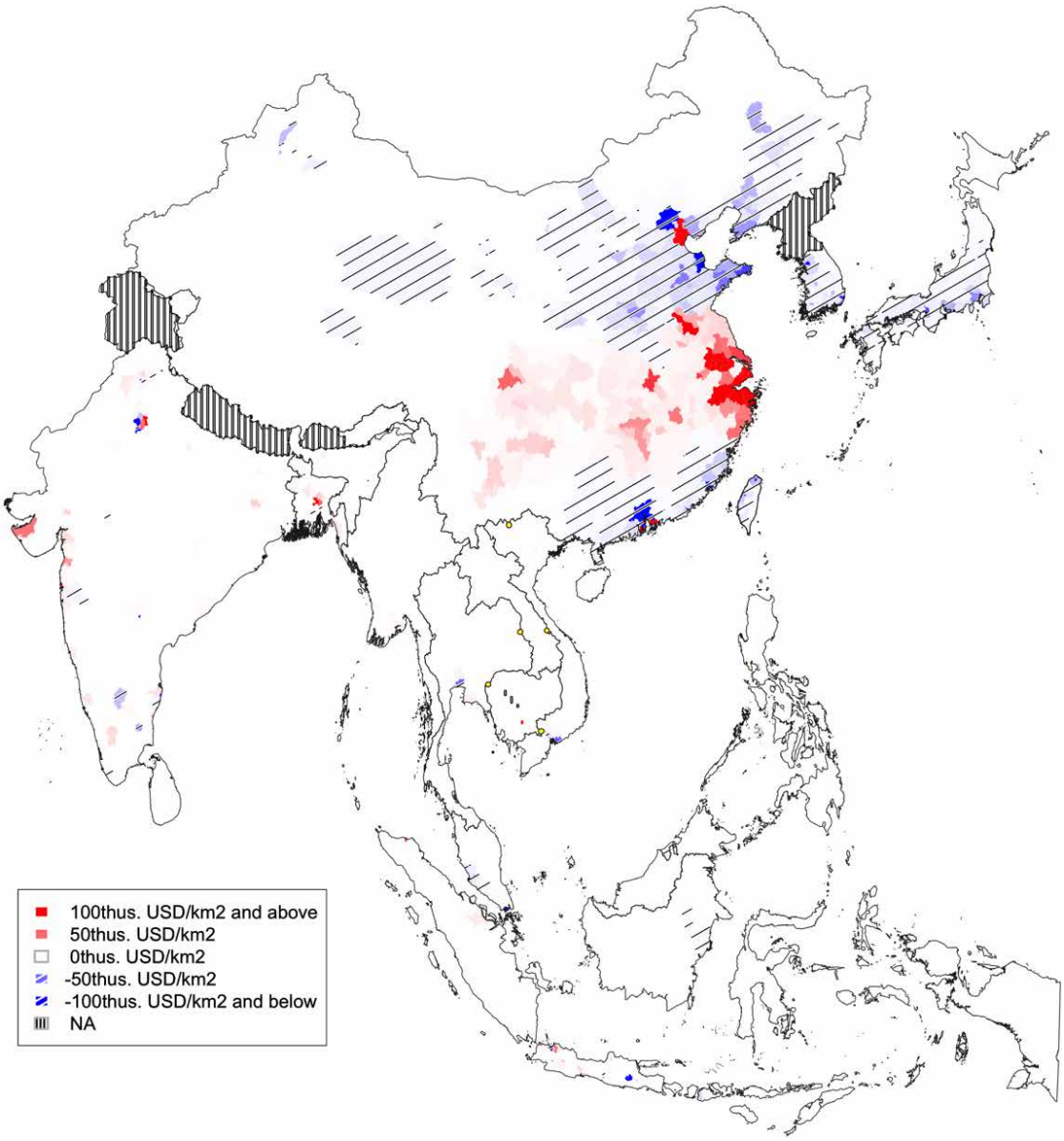
What will happen in the model when the barriers are lowered in one region? Directly, the exporters in other regions who export to the region with decreased barriers will increase sales. At the same time, consumers and producers in the region with decreased barriers will also benefit. Consumers will become able to buy imported goods and some services at a lower price than before the barrier reduction. At the same time, firms will be able to buy parts and components at lower prices and thus produce their goods at a lower price. This may increase the sales and revenues of the firm by allow more sales in the market. Increased sales and revenues can lead to higher profits, higher employment, and higher salaries for employees. Together with lower prices for the products, workers with higher salary can demand more goods and services. This will attract more firms and households from other regions, and so some of the firms and households will move into the region. The inflow will eventually increase the sales and profits of the firms and the salaries and consumption of the workers, where it will generate a ripple effect to attract more firms and households.

There are benefits and drawbacks for the other regions from the above process. First, as stated earlier, the firms can sell more of the products and services to the region, which lowers barriers. Firms and consumers in other regions will also benefit from purchasing products and services at a lower price from the region with reduced barriers. However, some firms and households may leave the other regions, and some firms may face fierce price competition with the firms in the region with the lowered barrier, which may lead to losing customers. In the international trade context, the latter potential negative impact corresponds to a trade diversion effect.

(1) Overall Impact on GDP/GRDP

Figure 4 shows the economic impact of the Most Likely scenario in 2030 on regional GDP, compared with the Baseline scenario in 2030.

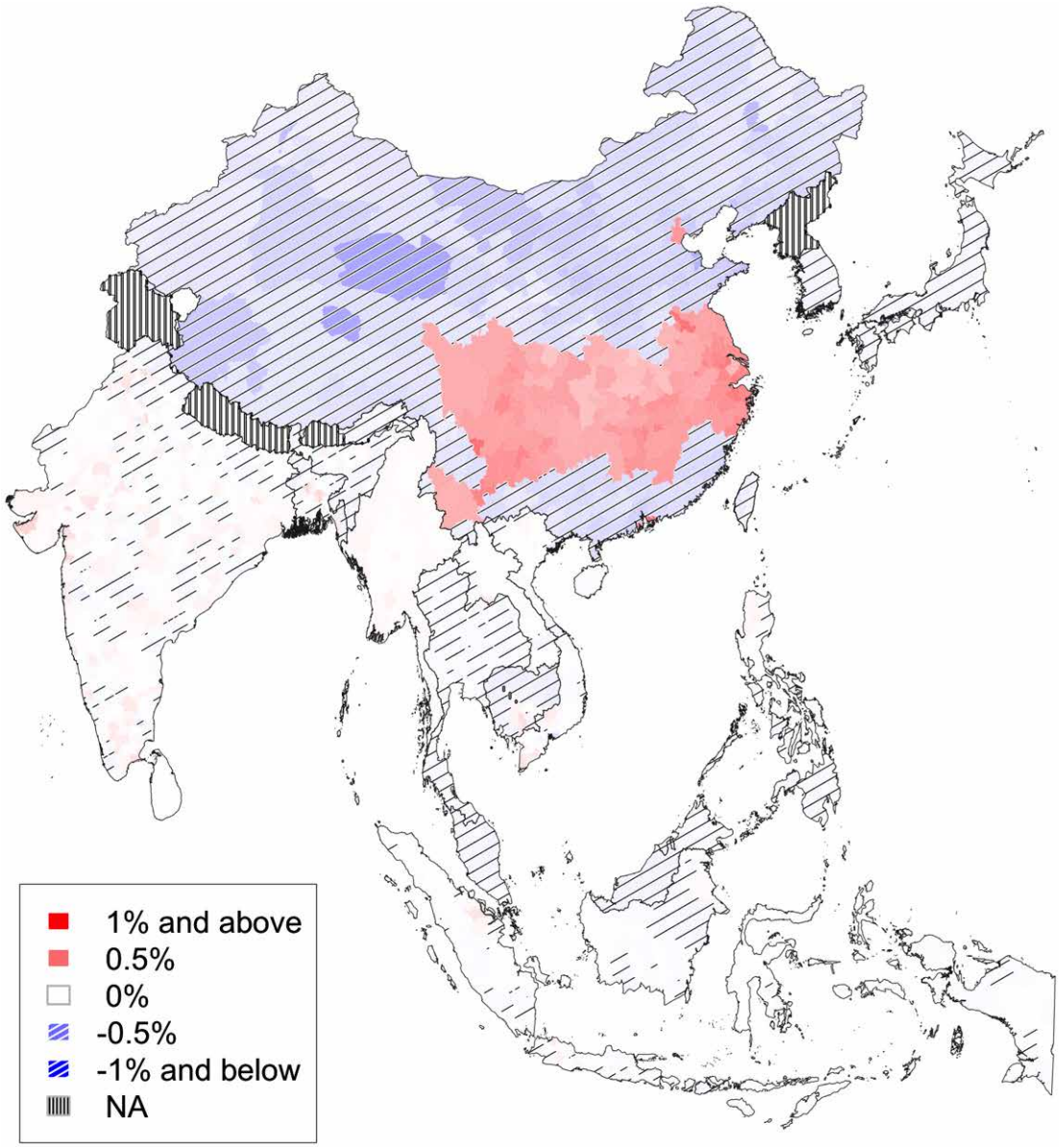
Figure 4: GRDP Differences, Most Likely Scenario vs. Baseline (2030, Impact Density)



Source: Calculated by IDE-GSM.

Red regions are projected to experience positive impacts and blue regions to experience negative impacts. We use a criterion of "impact density", which is derived by dividing an economic impact by the land size of the affected region. The more intense the red color (blue color) of a region, the more positive impacts (negative impacts) agglomerate in the region. Figure 5 illustrates the same economic impacts from the Most Likely scenario in 2030, but shows changes as percentages.

Figure 5: GRDP Differences, Most Likely Scenario vs. Baseline (2030, Percentage)



Source: Calculated by IDE-GSM.

Red regions will experience positive impacts and more intense red means the region experience a higher relative impact (in terms of percentage change). The figure clearly shows the trade creation effect in those regions that lower barriers and the trade diversion effect in those regions that do not. Red regions will increase competitiveness through purchasing parts and components at relatively lower prices. Consumers will benefit from lower prices in goods and services. They will see an inflow of firms and households from other regions, which will lead to higher competitiveness of the firms. Blue regions will face fiercer price competition with red regions, lose some customers, and see outflow of the firms and households in comparison with the economic situation in the Baseline scenario.

Table 1: GDP Changes in Selected Countries, Most Likely Scenario vs. Baseline (2030, Percentage)

Country	GDP Change	Country	GDP Change
China	0.11%	Malaysia	-0.02%
Brunei	-0.03%	Myanmar	0.01%
Cambodia	0.06%	Philippines	0.00%
Indonesia	-0.01%	Singapore	-0.03%
Japan	-0.02%	Taiwan	-0.04%
Korea	-0.03%	Thailand	-0.01%
Laos	0.02%	Vietnam	-0.02%

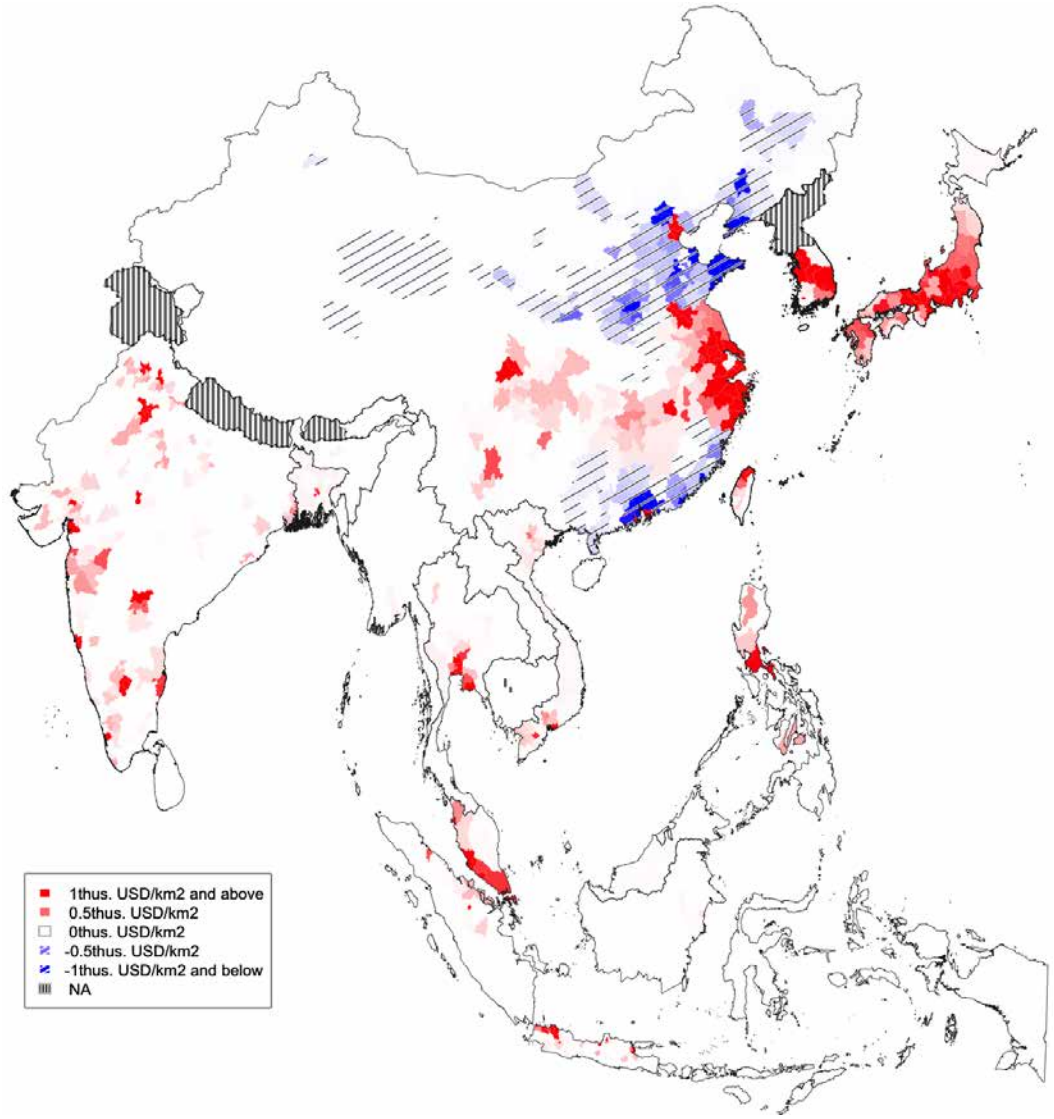
Source: Calculated by IDE-GSM.

Table 1 shows the economic impacts of the Most Likely scenario on East Asian countries, compared with the Baseline scenario in 2030. China as a whole will see an annualized 0.11% positive impact. Among East Asian countries, Cambodia, Laos, and Myanmar will see positive impacts while others will see some negative impacts.

(2) Economic Impacts on Specific Industries

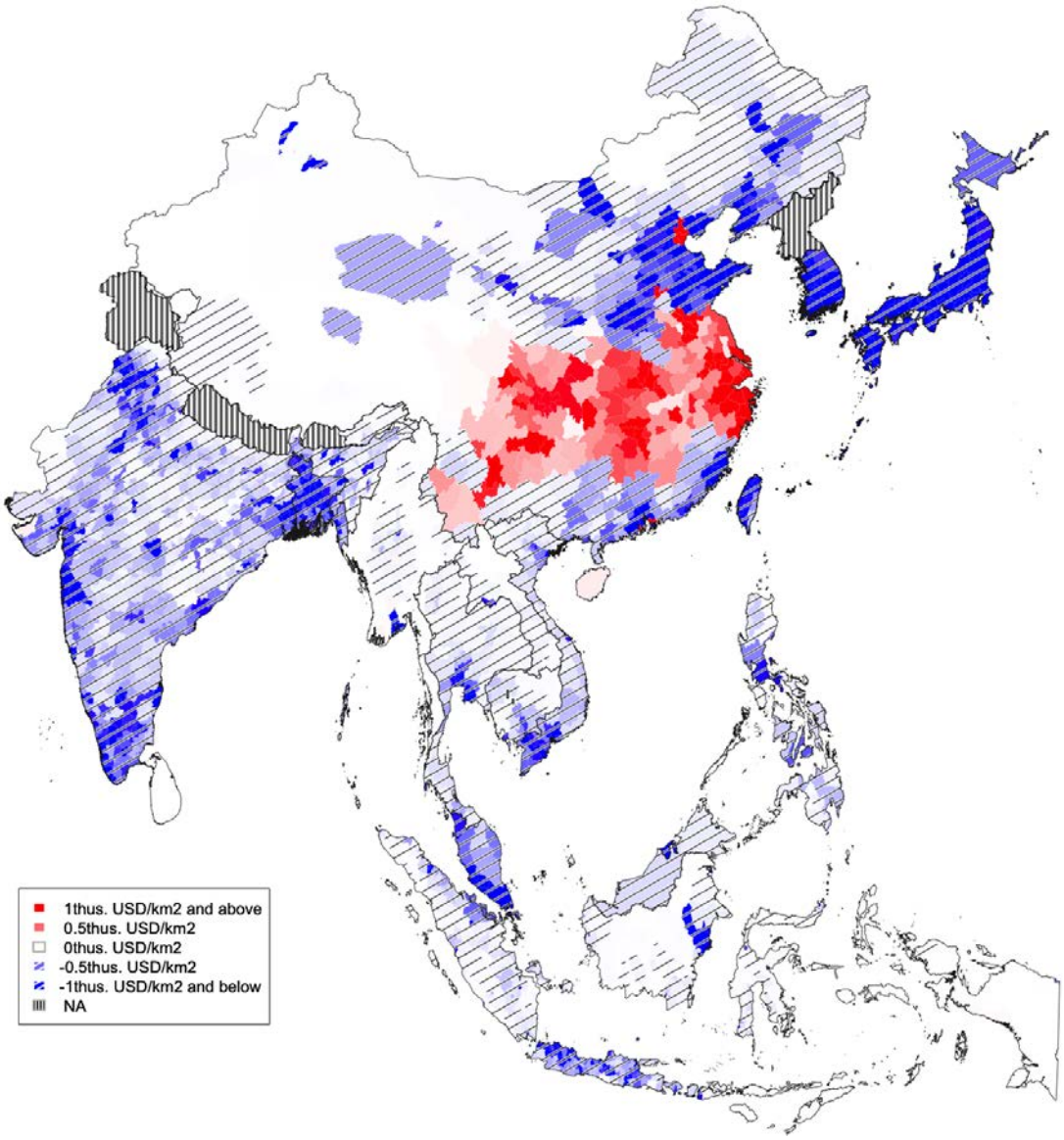
The figures showing economic impacts of specific industries explain the origins of the different impacts in East Asian countries. Figure 6 shows the economic impacts on the E&E sector, and Figure 7 presents the economic impacts on the service sector. Those two figures show different consequences for the FTZs in China. Existing E&E clusters in East Asia will see positive impacts under the Most Likely scenario, even though we have no additional assumptions for the other East Asian countries. This means that the reforms in Shanghai City and other areas in China boost economic activities in the E&E sectors of other countries. In contrast, we see a trade diversion effect in the service sectors with the outcome that regions that do not adopt reforms will see negative impacts. In particular, there are heavily blue regions in Japan and Korea, as well as large cities in other East Asian countries. This implies that the different results for GDP in East Asian countries come from the difference dependencies on the service industry. Japan, Korea, Malaysia, and Singapore have a relatively higher share for the service sector in their economies, which leads to the negative impacts on their GDPs.

Figure 6: Economic Impacts on E&E Sector, Most Likely Scenario vs. Baseline (2030, Impact Density)



Source: Calculated by IDE-GSM.

Figure 7: Economic Impacts on Service Sectors, Most Likely Scenario vs. Baseline (2030, Impact Density)

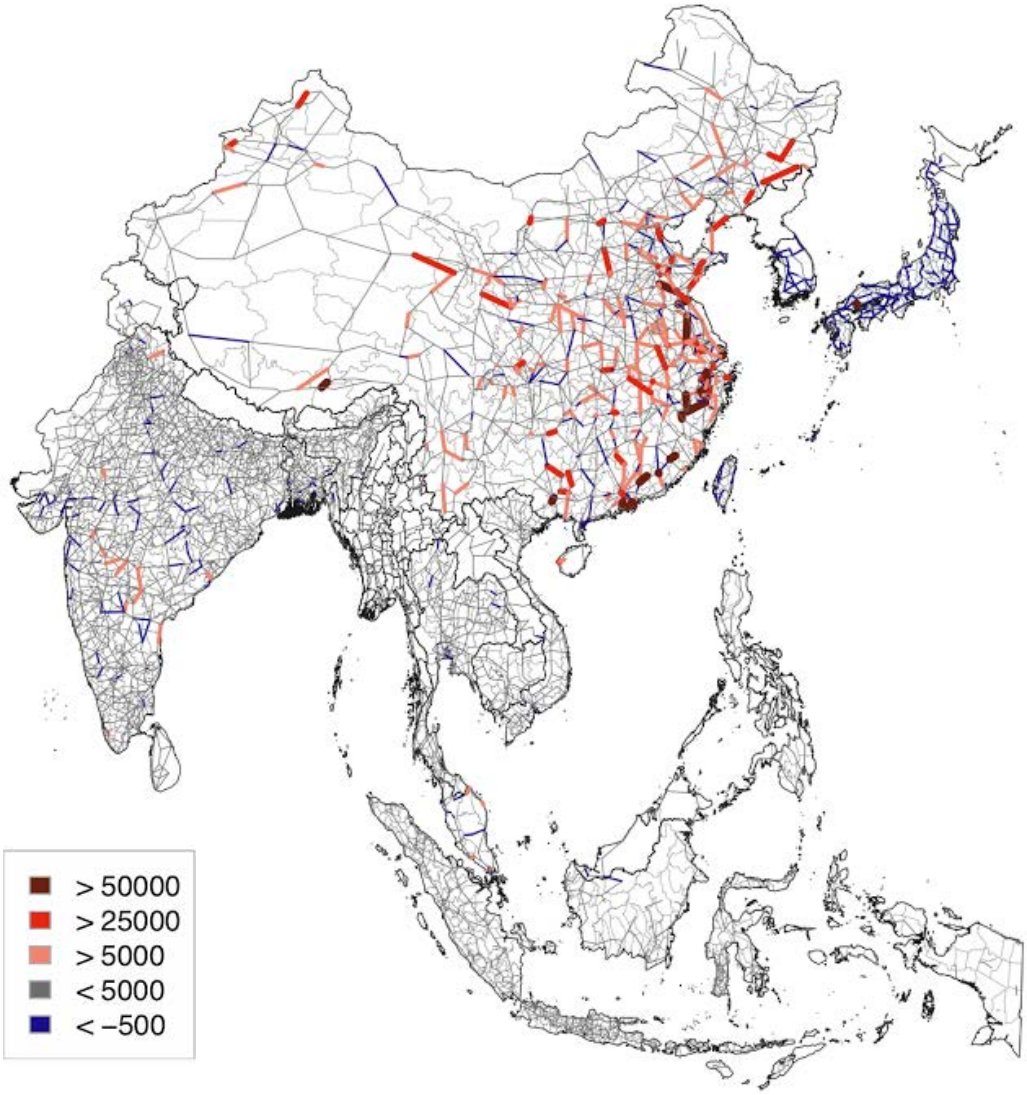


Source: Calculated by IDE-GSM.

(3) Change in Traffic Volumes

IDE-GSM can calculate the changes in traffic volume for specific routes. Figure 8 illustrates the changes in road traffic volume of the goods between the Baseline scenario and the Most Likely scenario, showing an index based on calculated traffic volume in the model. The red sections will see larger traffic volume under the Most Likely scenario and the blue sections will see reduced traffic demand in comparison with the traffic in the Baseline scenario. We observe a significant increase in traffic volumes near Hong Kong and other coastal areas of China. Most of Japan and Korea will see declining traffic demand under the Most Likely scenario. Table 2 is a list of the routes in China that will have the largest increases in road traffic demand. The road connecting Shenzhen and Hong Kong, roads in Guangzhou, and a road connecting the Port of Shanghai with Shanghai City will see a large increase in demand. This may exacerbate traffic problems, especially in city areas.

Figure 8: Changes in Traffic Volume, Most Likely Scenario vs. Baseline (2030, Index)



Source: Calculated by IDE-GSM.

Table 2: Changes in Road Traffic Volumes in China, Most Likely Scenario vs. Baseline (2030, Index and Percentage)

	Road Section	Index	Percentage
1	Shenzhen to Hong Kong	592,201	91.3%
2	Zhongshan to Port Zhongshan	555,420	9.3%
3	Zhongshan to Huangge	543,382	5.6%
4	Huangge to Humen	437,768	7.1%
5	Shenzhen to Humen	427,242	7.6%
6	Port Shanghai to Shanghai	411,744	4.7%
7	Longgang to Huizhou	123,641	1.7%
8	Huizhou to Ruhu	123,414	1.4%
9	Heyuan to Ruhu	123,398	1.6%
10	Shenzhen to Longgang	123,287	1.3%

Source: Calculated by IDE-GSM.

3. Alternative Policy Scenarios

In this section, we propose several alternative policy scenarios by assuming settings different from those in the Most Likely scenario to study policy implications of the results. Section 3.1 discusses a limited expansion of the FTZ areas. Section 3.2 emphasizes the importance of speed in lowering barriers. Section 3.3 presents evidence that lowering barriers in the manufacturing sector is an essential factor of higher economic growth. Sections 3.4 and 3.5 propose better scenarios.

3.1. Limited Expansion of the FTZ to Other Regions

In the Most Likely scenario we assume the reforms by opening FTZs will apply to Guangzhou, Tianjin, and the Yangtze River Economic Belt. If the reforms do not apply to those regions, the economic impacts on China will be smaller. Table 3 explains the scenarios in which the expansion of the FTZs and the reforms are limited. The scenario for *Limited Expansion (1)* assumes that the expansion is applied to Shanghai City only. The scenario for *Limited Expansion (2)* assumes that expansion will be delivered to Shanghai City, Guangzhou, and Tianjin, but not to other areas of the Yangtze River Economic Belt.

Table 3: Alternative Policy Scenarios: Limited Expansion of the FTZ

Limited Expansion (1)	Limited Expansion (2)	Most Likely
Shanghai City as a whole: By half the Hong Kong–China difference during 2014–2025 in both services and manufacturing	Shanghai City as a whole: By half the Hong Kong–China difference during 2014–2025 in both Services and Manufacturing	Shanghai City as a whole: By half the Hong Kong–China difference during 2014–2025 in both Services and Manufacturing
Guangzhou and Tianjin: ***No reduction***	Guangzhou and Tianjin: By half the Hong Kong–China difference during 2016–2025 in both Services and Manufacturing	Guangzhou and Tianjin: By half the Hong Kong–China difference during 2016–2025 in both Services and Manufacturing
Yangtze River Economic Belt: ***No reduction***	Yangtze River Economic Belt: ***No reduction***	Yangtze River Economic Belt: By half the Hong Kong–China difference during 2021–2025 in both Services and Manufacturing
Other regions: No reduction	Other regions: No reduction	Other regions: No reduction

Source: Authors.

Table 4: Economic Impact of Limited Expansion of the FTZ, Compared with the Baseline

		Population (thousand people)[3]	GDP, Manufacturing (million USD)	GDP, Services (million USD)	Real GDP (million USD)
Limited Expansion (1)	Shanghai	87	8,993	2,187	11,184
	Yangtze River Economic Belt[4]	68	8,030	1,962	9,987
	China	0	5,310	1,227	6,479
Limited Expansion (2)	Shanghai	77	8,616	1,956	10,575
	Yangtze River Economic Belt	37	6,724	1,387	8,096
	China	0	13,369	3,449	16,714
Most Likely	Shanghai	58	6,879	1,217	8,098
	Yangtze River Economic Belt	142	26,531	2,561	29,100
	China	0	27,268	1,785	28,915

Source: Calculated by IDE-GSM.

The results are summarized as Table 4. Each item is the difference from the corresponding item under the Baseline scenario. Even though limited expansion will have larger economic impacts than the actions assumed for the Baseline scenario, the overall impact on China will be only 22.4% of that under the Most Likely scenario if we do not apply the reforms to areas other than Shanghai City. Shanghai City itself will see an increase in number of households and amount of economic activity if we limit the reforms to Shanghai City because other areas will not be as attractive as they would be under the Most Likely scenario.

In particular, if there is no expansion of the reforms beyond the current area of the SHFTZ, the economic impact on China will become quite small. Table 5 compares No Expansion (an SHFTZ-only scenario) with the Limited Expansion (1) scenario, and Table 6 and Figure 9 present the results. In the No Expansion scenario we assume that only the SHFTZ area will see decreasing barriers and that other areas, including most parts of Shanghai City, will have no additional reforms from those assumed for the Baseline scenario. The economic impact on China under the No Expansion scenario will be one-twentieth that under the Most Likely scenario and about one-fourth that under the Limited Expansion (1) scenario. Those results clearly tell us that expansion of the reforms to other regions is key to enlarging the economic impact on the country.

3 The population of China is the same in all scenarios because we do not allow international labor migration in the model. In other words, households can move from one region to another within China but the total population size of China in 2030 is always the same.
4 Includes Shanghai City.

Table 5: Alternative Policy Scenario: SHFTZ Only

No Expansion (SHFTZ Only)	Limited Expansion (1)
SHFTZ area only: By half the Hong Kong–China difference ***during 2014–2015*** in both Services and Manufacturing ***No reduction for other parts of Shanghai City***	Shanghai City as a whole: By half the Hong Kong–China difference during 2014-2025 in both Services and Manufacturing
Guangzhou and Tianjin: No reduction	Guangzhou and Tianjin: No reduction
Yangtze River Economic Belt: No reduction	Yangtze River Economic Belt: No reduction
Other regions: No reduction	Other regions: No reduction

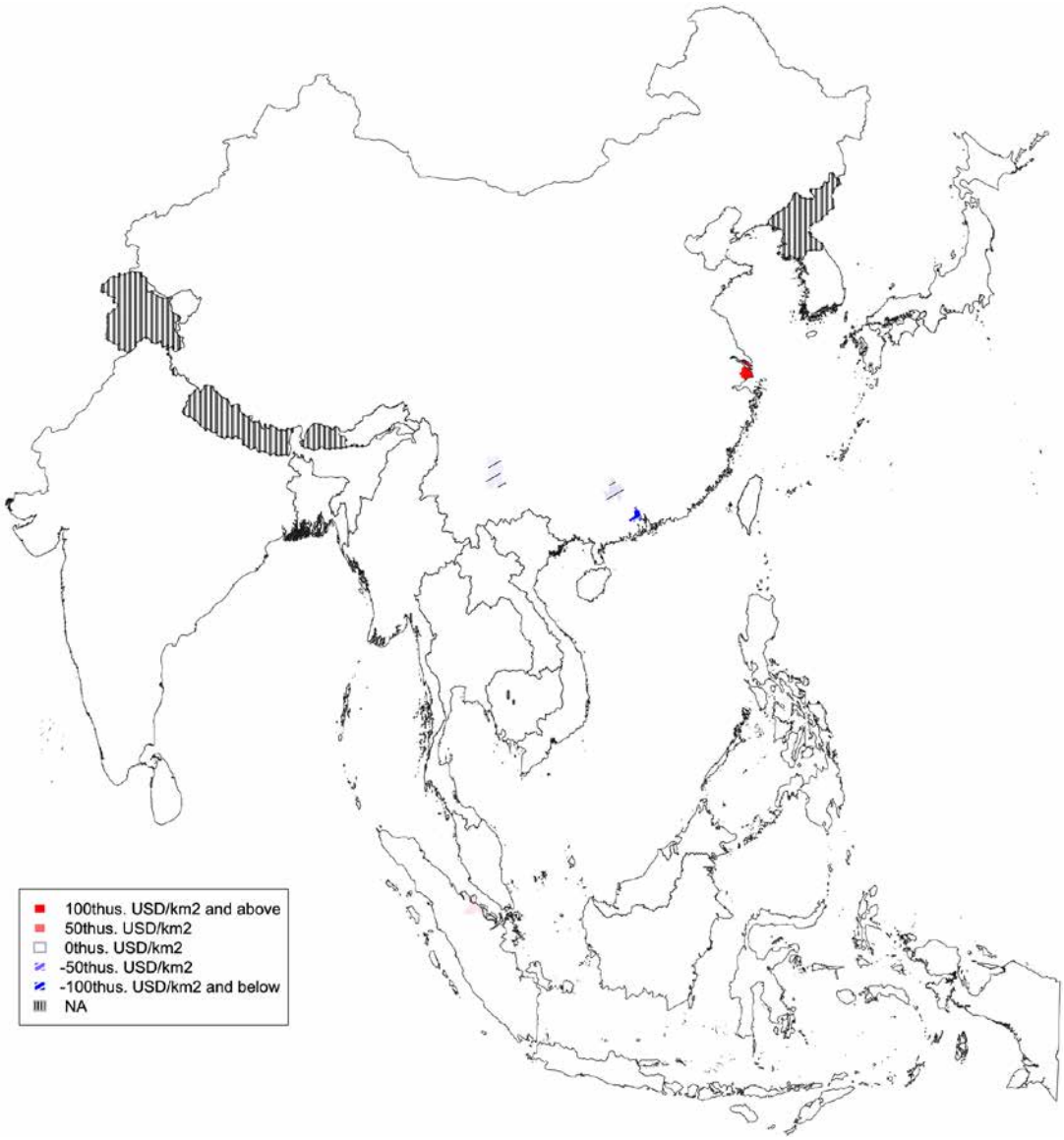
Source: Authors.

Table 6: Economic Impact of SHFTZ Only Scenario, Compared with the Baseline

		Population (thousand people)	GDP, Manufacturing (million USD)	GDP, Services (million USD)	Real GDP (million USD)
No Expansion (SHFTZ Only)	Shanghai	28	2,071	591	2,664
	Yangtze River Economic Belt	22	1,825	552	2,374
	China	0	1,132	386	1,491
Limited Expansion (1)	Shanghai	87	8,993	2,187	11,184
	Yangtze River Economic Belt	68	8,030	1,962	9,987
	China	0	5,310	1,227	6,479

Source: Calculated by IDE-GSM.

Figure 9: GRDP Differences, SHFTZ Only vs. Baseline (2030, Impact Density)



Source: Calculated by IDE-GSM.

3.2. Speed of Lowering Barriers

It is reasonable to think that swift reduction of the barriers will result in more benefit to the enacting country. Table 7 introduces two alternative scenarios with faster reduction of the barriers and compares the results in those scenarios with the results in the Limited Expansion (1) scenario. In the *Limited Expansion (1), 2 Years* scenario, Shanghai City as a whole will see reduction of the barriers in 2 years. In the *Limited Expansion (1), 7 Years* scenario, barriers in Shanghai City will be lowered in 7 years.

Table 7: Alternative Policy Scenarios: Rapid Reduction of the Barriers

Limited Expansion (1), 2 Years	Limited Expansion (1), 7 Years	Limited expansion (1)
Shanghai City as a whole: By half the Hong Kong–China distance ***during 2014–2015*** in both Services and Manufacturing	Shanghai City as a whole: By half the Hong Kong–China distance ***during 2014-2020*** in both Services and Manufacturing	Shanghai City as a whole: By half the Hong Kong–China distance during 2014–2025 in both Services and Manufacturing
Guangzhou and Tianjin: No reduction	Guangzhou and Tianjin: No reduction	Guangzhou and Tianjin: No reduction
Yangtze River Economic Belt: No reduction	Yangtze River Economic Belt: No reduction	Yangtze River Economic Belt: No reduction
Other regions: No reduction	Other regions: No reduction	Other regions: No reduction

Source: Authors.

Table 8: Economic Impact of Rapid Reduction, Compared with the Baseline

		Population (thousand people)	GDP, Manufacturing (million USD)	GDP, Services (million USD)	Real GDP (million USD)
Limited Expansion (1), 2 Years	Shanghai	276	19,290	5,949	25,251
	Yangtze River Economic Belt	217	16,958	5,540	22,467
	China	0	10,242	3,841	13,823
Limited Expansion (1), 7 Years	Shanghai	120	10,338	2,647	12,991
	Yangtze River Economic Belt	94	9,177	2,413	11,581
	China	0	5,854	1,567	7,329
Limited Expansion (1)	Shanghai	87	8,993	2,187	11,184
	Yangtze River Economic Belt	68	8,030	1,962	9,987
	China	0	5,310	1,227	6,479

Source: Calculated by IDE-GSM.

The results are listed in Table 8. As expected, faster reduction of the barriers will lead to higher economic impact on the country as well as on Shanghai City. If the reforms are completed within 2 years, the economic impact on China will be almost double that in the Limited Expansion (1) scenario, where it takes 12 years to complete the same reform.

3.3. No Barrier Reduction in Manufacturing Sector

We construct a fictitious scenario, *No Barrier Reduction in Manufacturing Sector*, in which there is no barrier lowering in the manufacturing sector, even though there are reforms in the services sector by implementation of FTZs. This scenario reveals the importance of providing better services to the manufacturing sector as an input to boost economic activities. Table 9 details the scenario with reforms in the service sector only, comparing results with those under the Most Likely scenario.

Table 10 shows the results. In the No Barrier Reduction in Manufacturing Sector scenario, China as a country will have a 4.15-fold the economic impact in the service sector than under the Most Likely scenario because some industries will shift from manufacturing to services in that scenario. However, the impact in the manufacturing sector of China will be one-twentieth that under the Most Likely scenario and so the overall impact of the services-only scenario on the country will be at only 31.7% of the impact under the Most Likely scenario. This result implies that providing better services, such as better logistics and better professional services, to the manufacturing sector will benefit the overall economy through reducing NTBs in the manufacturing sector.

Table 9: Alternative Policy Scenario: No Barrier Reduction in Manufacturing Sector

No Barrier Reduction in Manufacturing Sector	Most Likely
Shanghai City as a whole: By half the Hong Kong–China difference during 2014–2025 ***in Service sector only***	Shanghai City as a whole: By half the Hong Kong–China difference during 2014-2025 in both Services and Manufacturing
Guangzhou and Tianjin: By half the Hong Kong–China difference during 2016–2025 ***in Service sector only***	Guangzhou and Tianjin: By half the Hong Kong–China difference during 2016–2025 in both Services and Manufacturing
Yangtze River Economic Belt: By half the Hong Kong–China difference during 2021–2025 ***in Service sector only***	Yangtze River Economic Belt: By half the Hong Kong–China difference during 2021–2025 in both Services and Manufacturing
Other regions: No reduction	Other regions: No reduction

Source: Authors.

Table 10: Economic Impact of No Barrier Reduction in Manufacturing Sector, Compared with the Baseline

		Population (thousand people)	GDP, Manufacturing (million USD)	GDP, Services (million USD)	Real GDP (million USD)
No Barrier Reduction in Manufacturing Sector	Shanghai	16	225	1,786	2,011
	Yangtze River Economic Belt	30	665	4,960	5,629
	China	0	1,408	7,799	9,192
Most Likely	Shanghai	58	6,879	1,217	8,098
	Yangtze River Economic Belt	142	26,531	2,561	29,100
	China	0	27,268	1,785	28,915

Source: Calculated by IDE-GSM.

3.4. Deeper Liberalization

The degree of liberalization in the reforms critically changes the economic impacts. Table 11 compares a scenario with full liberalization, the *Deeper Liberalization* scenario, where the selected cities and regions will reduce the barrier to the same level as that of Hong Kong.

Table 11: Alternative Policy Scenario: Deeper Liberalization

Deeper Liberalization	Most Likely
Shanghai City as a whole: ***To Hong Kong level*** during 2014–2025 in both Services and Manufacturing	Shanghai City as a whole: By half the Hong Kong–China difference during 2014–2025 in both Services and Manufacturing
Guangzhou and Tianjin: ***To Hong Kong level*** during 2016–2025 in both Services and Manufacturing	Guangzhou and Tianjin: By half the Hong Kong–China difference during 2016–2025 in both Services and Manufacturing
Yangtze River Economic Belt: ***To Hong Kong level*** during 2021–2025 in both Services and Manufacturing	Yangtze River Economic Belt: By half the Hong Kong–China difference during 2021–2025 in both Services and Manufacturing
Other regions: No reduction	Other regions: No reduction

Source: Authors.

Table 12: Economic Impact of Deeper Liberalization, Compared with the Baseline

		Population (thousand people)	GDP, Manufacturing (million USD)	GDP, Services (million USD)	Real GDP (million USD)
Deeper Liberalization	Shanghai	120	14,154	2,919	17,078
	Yangtze River Economic Belt	303	56,136	6,605	62,760
	China	0	58,268	4,455	62,434
Most Likely	Shanghai	58	6,879	1,217	8,098
	Yangtze River Economic Belt	142	26,531	2,561	29,100
	China	0	27,268	1,785	28,915

Source: Calculated by IDE-GSM.

Deeper liberalization would benefit China as a country, as shown in Table 12. It should be noted that the economic impacts on Shanghai, the Yangtze River Delta, and China are more than double those in the Most Likely scenario. Specifically, this Deeper Liberalization scenario will bring 2.16 times the economic impact to the country relative to the Most Likely scenario.

3.5. The Best Scenario

Finally, we present the *Best* scenario, where the reforms will spread across the whole country over the long-run. In this scenario, we assume that the other part of China also apply the reforms, expanding the Deeper Liberalization scenario; details are listed in Table 13.

Table 13: Alternative Policy Scenario: Best Scenario

Best	Most Likely
Shanghai City as a whole: ***To Hong Kong level*** during 2014–2025 in both Services and Manufacturing	Shanghai City as a whole: By half the Hong Kong–China difference during 2014–2025 in both Services and Manufacturing
Guangzhou and Tianjin: ***To Hong Kong level*** during 2016–2025 in both Services and Manufacturing	Guangzhou and Tianjin: By half the Hong Kong–China difference during 2016–2025 in both Services and Manufacturing
Yangtze River Economic Belt: ***To Hong Kong level*** during 2021-2025 in both Services and Manufacturing	Yangtze River Economic Belt: By half the Hong Kong–China difference during 2021–2025 in both Services and Manufacturing
Other regions: ***To Hong Kong level during 2021–2025 in both Services and Manufacturing***	Other regions: No reduction

Source: Authors.

Tables 14 and 15 summarize the result of the Best scenario, and Figure 9 illustrates the impacts according to the impact density criteria. Reforming both the manufacturing and service sectors to the level of Hong Kong and applying the reforms to the whole country will have the largest impact on China. The impact on the country will be about 8.16 times that under the Most Likely scenario. Moreover, Shanghai City and Yangtze River Delta will also be better off than under the Deeper Liberalization scenario.

Figure 10 suggests to us that an inclusive reform, in which all regions apply the reforms, will lead to inclusive growth, where all regions in the country will benefit from the reforms.

Table 14: Economic Impact of Best Scenario, Compared with the Baseline

		Population (thousand people)	GDP, Manufacturing (million USD)	GDP, Services (million USD)	Real GDP (million USD)
Best	Shanghai	57	17,868	588	18,457
	Yangtze River Economic Belt	88	72,282	158	72,411
	China	0	226,697	9,598	236,005
Most Likely	Shanghai	58	6,879	1,217	8,098
	Yangtze River Economic Belt	142	26,531	2,561	29,100
	China	0	27,268	1,785	28,915

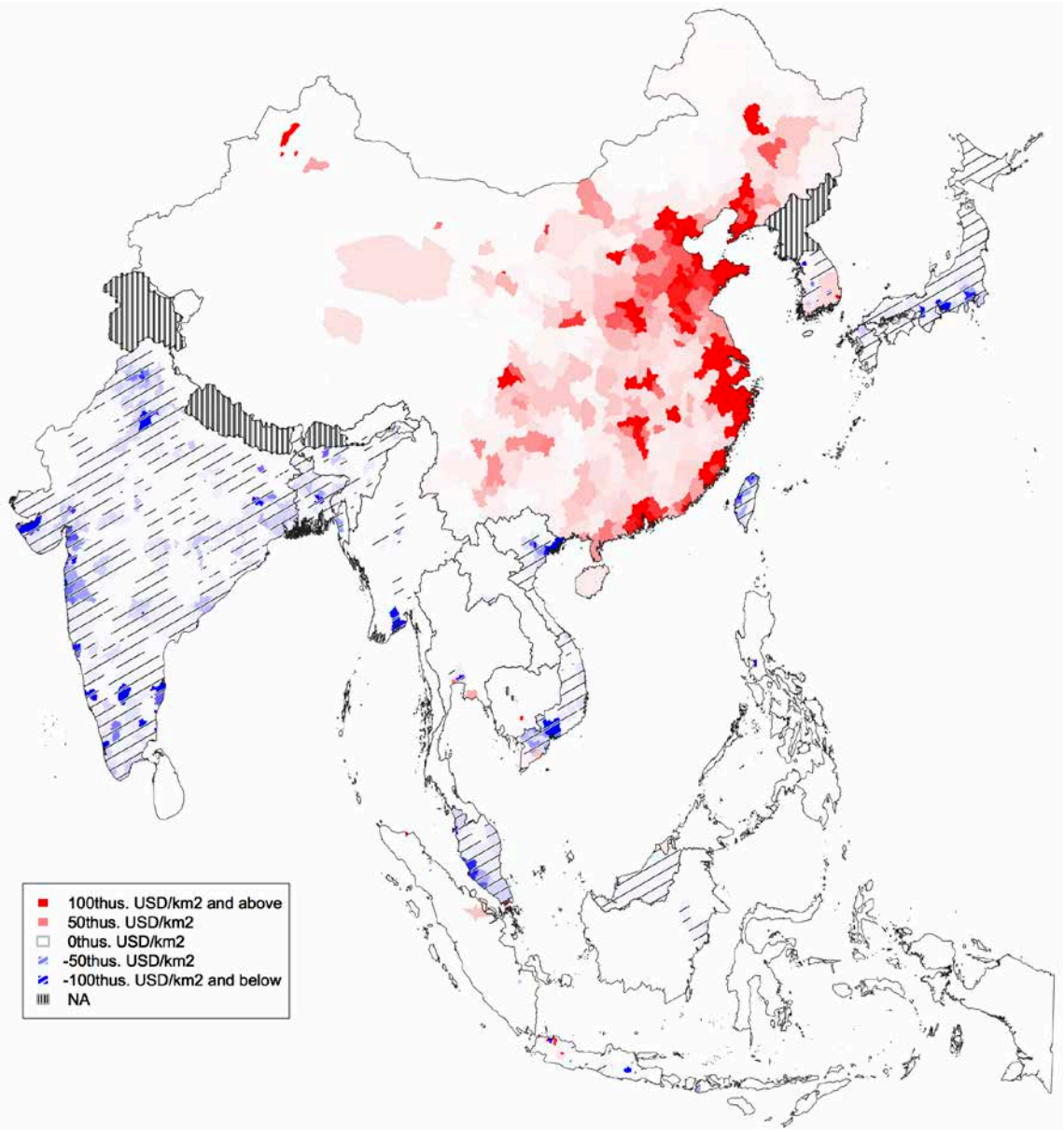
Source: Calculated by IDE-GSM.

Table 15: GDP Changes in Selected Countries, Best Scenario vs. Baseline (2030, Percentage)

Country	GDP Change	Country	GDP Change
China	0.91%	Malaysia	-0.33%
Brunei	0.21%	Myanmar	-0.16%
Cambodia	0.10%	Philippines	-0.06%
Indonesia	-0.05%	Singapore	0.24%
Japan	-0.06%	Taiwan	-0.17%
Korea	0.00%	Thailand	-0.01%
Laos	-0.27%	Vietnam	-2.85%

Source: Calculated by IDE-GSM.

Figure 10: GRDP Differences, Best Scenario vs. Baseline (2030, impact density)



Source: Calculated by IDE-GSM

4. Policy Implications

In this chapter, we showed the economic impacts of the SHFTZ, using the IDE-GSM to simulate various scenarios. The results showed that the economic impacts of NTB reduction change significantly according to the schedule, degree, and geographical extent of the policies.

From the analyses, we can describe some policy implications for the Pilot Free Trade Zone policy. First, in order for the policy to have a larger impact, de-regulation in services should be allowed to impact the manufacturing sector. When the impact of the de-regulation is limited to the service sector, the spillover effects are rather small. In contrast, when the policy also facilitates the manufacturing sector, the overall economic impacts are as much as triple the size.

Second, the sooner the reduction of the barrier is, the higher the economic impact is, and so it is better to enact reforms *en bloc* rather than in a long sequence.

Third, the reduction of the barriers in one region but not in other regions causes a kind of trade diversion effect (i.e., transactions between foreign countries and regions that have unreduced barriers diverge from the region with reduced barriers). Thus, for the country as a whole, reforms are better adopted ubiquitously. This applies to other countries as well. Surrounding countries such as Japan, Korea, and the ASEAN countries should reduce the NTBs in their manufacturing sectors as well as the services barriers.

Finally, when the economic impacts of NTB reductions spill over to the manufacturing sector, there may be an increase in traffic volumes through some major sea ports and airports. Thus, expansion of these transport hubs should be considered.

Appendix: The IDE-GSM System

This appendix shows an overview of IDE-GSM. Section 1 outlines the key concepts of new economic geography (NEG). Section 2 briefly explains the structure of IDE-GSM. Section 3 introduces several applications of IDE-GSM to analyze various trade and transport facilitation measures (TTFMs). The final section proposes a few issues in IDE-GSM and the future direction of development.

1. Key Concepts of New Economic Geography

1.1. Brief Survey of Literature

Since the beginning of the 1990s, spatial economics (i.e., NEG) has been studied extensively as a cutting-edge field of economics. NEG explicitly incorporates "space," which had been not been handled well by mainstream economics, into its theory and treats various geographic aspects of economic phenomena in the framework of general equilibrium. The dramatic increase in research on spatial economics in the last two decades coincided with the globalization and regional integration of the world economy, as represented by the formation of the European Union (the EU) and the signing of the North American Free Trade Agreement.

In East Asia, the evolution of *de facto* regional integration makes it apparent that traditional theories of international trade are not adequate to explain the actual trade and investment flows in this region. Spatial economics is indispensable for analyzing regional integration in East Asia because the economies of China and India, both of which have abundant, low-cost labor and a huge domestic market, requires a theory that incorporates the notion of increasing returns.

Although the theory of spatial economics has made huge progress since its establishment, empirical application of the theory has not flourished so far. In international economics, the “home market effect,” one of the important concepts of spatial economics, has been a focal point of empirical research and a great deal of effort has been made to prove the existence or nonexistence of this effect (Davis and Weinstein 1999; Hanson and Xiang 2004). Unfortunately, most of the studies that have been done lack actual “geographic factors” because they set “nation” as a unit of analysis.

Some realistic simulation models appeared in the 2000s, although these numerical simulations are rather narrow in scope (Fujita and Mori 2005, 396–397). In case of the EU, there are several efforts to simulate the effects of the infrastructure development. Teixeira (2006) applied a NEG-based simulation model to evaluate the transport policy in Portugal and concluded that the development of transport networks has not so far contributed to spatial equity in the region. Bosker et al. (2007) divided the EU into 194 “Nomenclature of Territorial Units for Statistics” (NUTS) II-level regions to see the effect of further integration of the EU by extension of Puga’s (1999)

model. The authors found that further integration leads to higher levels of agglomeration.

1.2. Key Concepts of NEG

Spatial economics explains the spread of economic activities within a general equilibrium framework. The main ingredients of the spatial economics are (1) increasing returns; (2) imperfect competition; (3) love of variety; and (4) endogenous agglomeration forces. With increasing returns in production activity, firms can enjoy externalities, as explained by A. Marshall (1890, 1920). Imperfect competition avoids the backyard capitalism implied in the spatial impossibility theorem. That is, imperfect competition (monopolistic competition) guarantees a demand for goods even if transport costs are incurred. Furthermore, love of variety implies that a large variety of consumption goods improves consumers' welfare as explained by Haig (1926), and a large variety of input improves firms' productivity. Such love of variety demands any goods produced in distant markets. With regard to endogenous agglomeration forces, economic activities agglomerate as a consequence of exogenous uneven distribution of resources or as a consequence of the economic activities themselves. We call the former "first nature" and the latter "second nature". Spatial economics focuses mainly on the second nature, although the following simulation models adopt both the first nature and second nature.

The distribution of economic activities is decided by the balance of *agglomeration forces* against *dispersion forces*. There are many types of agglomeration and dispersion forces. Therefore, the observed spatial configurations of economic activities have varieties. With exogenous shocks, the spatial structure is self-organized and the core–periphery structure evolves through structural changes.

The endogenous agglomeration forces induce circular causality. Circular causality is formed by market-access effects and cost-of-living effects. In terms of market-access effects, concentration (or an increase in demand by immigrants) enlarges the market. Suppliers locating in a large market can sell more since goods that are not transported between regions are cheaper. Obviously, this effect becomes weak when transport costs are low. More importantly, with an increasing-returns-to-scale production technology, the number of suppliers in a larger market increases relatively more than the expansion of the home market. As a result, the goods excess to local demand are exported.

The second force causing concentration is cost-of-living effects. The price index of goods becomes lower in a region where many suppliers gather. As goods are produced locally, the prices of a large share of such goods do not include transport costs. This allows prices of goods to remain low, which then induces more demand in the region.

This effect works better when transport costs are high and the mill price is low. The market-access effects and cost-of-living effects reinforce each other. Because the former lures supply and the latter attracts demand, these two effects form a causal cycle in which economic activities agglomerate in

a region. That is, an increase in either upstream or downstream firms encourages further increase in the other type of firms in the region, as explained by Hirschman (1958). For this same reason, an increase in either consumers or producers provides the incentive for the other to agglomerate in the region.

For the converse, Krugman (1991) treats market-crowding effects as a dispersion force. Because of the decrease in the general price index due to concentration, the price charged by specific firms becomes relatively high, resulting in lower demand for the goods. This effect becomes weaker as transport costs decrease.

Summing up these three effects, Krugman (1991) shows that the symmetric structure is maintained when transport costs are high enough, whereas core–periphery structure emerges when transport costs are low enough. In the formalization, transport costs between regions are exogenous factors and characterize all distance resistance. Mobile workers form a preference between regions on the basis of wage rates and prices in both regions. When transport costs are large enough, the dispersion force overcomes the agglomeration forces. Firms cannot afford to engage in severe price competition, even in a slightly larger market, because the profit from the distant market is small. Thus, economic activities disperse. Opposing this, once transport costs decrease enough, agglomeration forces surpass the dispersion force. Firms can enjoy large markets and low procurement cost, even with strong price competition, by locating in a large market. This is because the profits from distant market are large. Therefore, economic activities agglomerate in a region.

By introducing another dispersion force (such as land use and agricultural goods) with positive transport costs, economic activities may disperse even when the transport costs are extremely low.

Consequently, to uncover policy implications of specific circumstances, it may be necessary to consider more realistic settings. Furthermore, the interaction here can be easily followed in a situation where the economy consists of two or three regions; this is done in some of the literature. For an economy with more regions, the use of a computer in the study becomes more crucial.

2. IDE-GSM: An Overview

2.1. Objectives of IDE-GSM

Analysis using IDE-GSM has two major objectives. The first objective is to know the dynamics of the location of population and industries in East Asia over the long term. Although there are many analyses that forecast macroeconomic indicators in East Asia at the national level, there have been few analyses that use models to forecast economic development in East Asia at the sub-national level. In an era of regional economic integration, economic analysis at the national level is not fine-grained enough to provide useful information for regional economic cooperation.

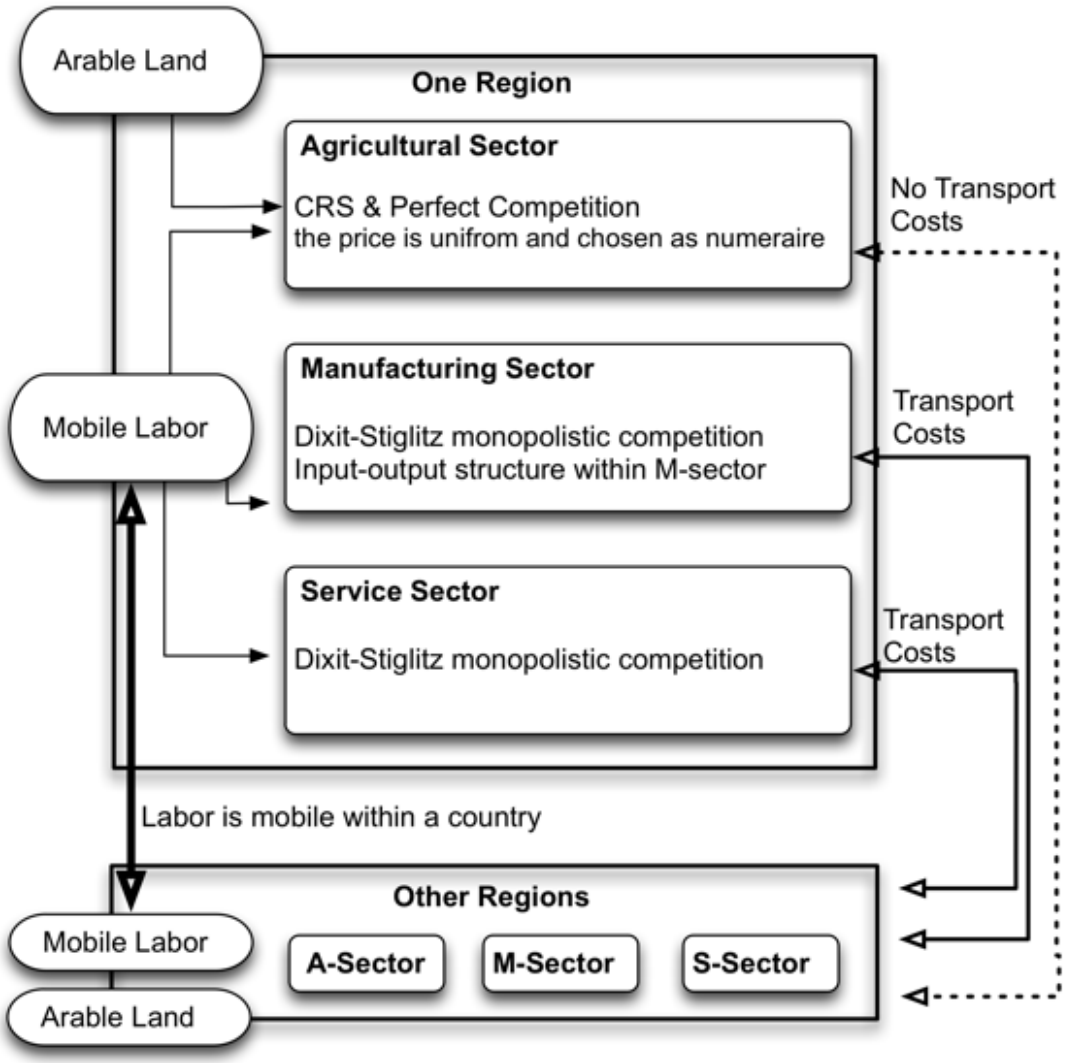
The second objective is to analyze the impacts of specific infrastructure projects on the regional economy at the sub-national level. It is difficult to prioritize various infrastructure development projects without the proper, objective evaluation tools. IDE-GSM was developed to provide an objective evaluation tool for policy recommendation in infrastructure development.

2.2. Model

Figure 11 presents a schematic description of the model. Our model is multi-regional and multi-sectoral. It features agriculture, five manufacturing sectors, and the service sector. Our model accommodates worker mobility within countries and between sectors. Although transport of agricultural goods is assumed to be costless, transport of manufactured goods and services are assumed to be of the iceberg type. The theoretical foundation follows Puga and Venables (1996), which captures multi-sector and country general equilibrium in NEG. Therefore, the explanation below pertains mainly to equations in equilibrium. However, it is noteworthy that our model differs from that in Puga and Venables (1996) by its specifications for the agricultural sector. Specifically, we have explicitly incorporated land size in agricultural production and keep the technology at constant returns to scale.[5]

[5] For detailed derivations, see Puga and Venables (1996) and Fujita et al. (1999).

Figure 11: Basic Structure of the Model in Simulation



Source: Authors.

2.3. Data

Data for IDE/GSM cover 18 countries/economies, totaling 1,715 regions at the end of FY2011. Primarily by using official statistics, we derive gross regional domestic product (GRDP) for the agriculture sector, five manufacturing sectors, and the service sector for 2005. The five manufacturing sectors are automotive (Auto), electronics and electric appliances (E&E), garment and textile (Textile), food processing (FoodProc) and other manufacturing (OtherMfg). The population and area of arable land for each region are compiled from multiple statistical sources. The administrative unit adopted in the simulation is one level below the national level for Cambodia, Japan, Korea, the Lao PDR, Malaysia, the Philippines, Taiwan, Thailand, and Vietnam. For Bangladesh, China, India, Indonesia, and Myanmar, the administrative unit is two levels below the

national level. Brunei Darussalam, Hong Kong, Macao, and Singapore are each treated as one unit. The U.S. and EU are each included as one unit. In this version of IDE-GSM, we introduce countries other than those in East Asia, although most lack a geographical dimension because we take the capital city to represent the respective country.

Specifically, our data sources include several types of censuses and surveys conducted in each country. Some unique data sources are featured. For Cambodia, we use estimates of provincial income and labor employed in primary, secondary, and tertiary industries from Cambodia's socioeconomic survey conducted between 2003 and 2005. Those estimates are provided by the Japan International Cooperation Agency. Provincial-level figures for the Lao PDR were obtained from unpublished annual provincial reports concerning implementation of their socioeconomic plan. For India, manufacturing GRDP for five sectors was compiled from the value added by industry as described in the India Annual Survey of Industries. Provincial data for Myanmar are from the Household Income and Expenditure Survey published by the country's Central Statistical Organization. Even using these sources, we cannot obtain separate GRDPs for five manufacturing sectors in some countries. In these cases, sector-level GRDP is derived by multiplying provincial-level GRDP of total manufacturing industry by the share of each sector's national GDP.

2.4. Parameters

Our transport cost comprises physical transport costs, time costs, tariff rates, and non-tariff barriers (collectively, TNTBs). Physical transport costs are a function of distance traveled, travel speed per hour, physical travel cost per kilometer, and holding cost for domestic/international transshipment at border crossings, stations, ports, and airports. Time costs depend on travel distance, travel speed per hour, time cost per hour, and holding time for domestic/international transshipment at border crossings, stations, ports, and airports. Travel speed per hour is provided in the next section. These parameters are derived from the Japan External Trade Organization's ASEAN Logistics Network Map 2008 and by estimating the model of the firm-level transport-mode choice with the "Establishment Survey on Innovation and Production Network" (ERIA) for 2008 and 2009, which includes manufacturers in Indonesia, the Philippines, Thailand, and Vietnam. From these parameters, we calculate the sum of physical transport and time costs for all possible routes between two regions. Employing the Floyd–Warshall algorithm for determining the optimal route and transport mode for each region and good, we obtain the sum of physical transport and time costs for each pairing of two regions by industry (Cormen et al., 2001).[6]

[6] The road network has been constructed not by direct distance among cities but by approximated road links on maps. This is a clear difference from equidistance analyses such as Stelder (2005). In this sense, our method resembles that used in Bosker et al. (2010), who conduct a simulation analysis for the EU with realistic non-equidistance.

The sum of TNTBs is estimated by employing the log odds ratio approach suggested by Head and Mayer (2000). Specifically, we estimate industry-level border barriers for each country. Our data source for the dependent variable (ratio of a country's imports to domestic consumption) is the Global Trade Analysis Project (GTAP) 8 database, which includes the necessary data for 2007. Our explanatory variables include the above-calculated sum of physical transport and time costs and the ratio of a country's per capita GDP to its domestic per capita GDP. We also introduce the ratio of geographical distance with a country to domestic distance, defined as two-thirds of the radius of the country. To control for the effect of cultural disparity on differences in imports and consumption, we introduce a border-sharing dummy, a linguistic commonality dummy, and a colonial relationship dummy. Data for per capita GDP are from the World Development Indicator (World Bank) data. Data for geographical distance and the three dummy variables are from the database compiled by the Centre d'Etudes Prospectives et d'Informations Internationales. With this methodology, we estimate industry-level TNTBs for 69 countries. TNTBs for the remaining sampled countries are obtained by prorating their TNTBs according to each country's per capita GDP. In evaluating these estimates for TNTBs, we need to know the elasticity of substitution, sources of which are explained below.

Next, we obtain non-tariff barriers by subtracting tariff rates from TNTB. Our data source for tariff rates is the World Integrated Trade Solution, particularly raw data from the Trade Analysis and Information System. For each trading pair, we aggregate the lowest tariff rates from among all available tariff schemes at the tariff-line level into single tariff rates for each industry by taking a simple average. Available tariff schemes include multilateral free trade agreements (FTAs) (e.g., ASEAN + 1 FTAs) and bilateral FTAs (e.g., China–Singapore FTA) alongside other schemes such as the Generalized System of Preferences. Moreover, we account somewhat for the gradual tariff elimination schedule in six ASEAN + 1 FTAs and the AFTA (ASEAN free trade area). For example, in the case of the ASEAN–Japan Comprehensive Economic Partnership (AJCEP), tariff rates among member countries began to gradually decline from 2008. Tariff rates in Japan and ASEAN forerunners as applied to members are, for simplicity, assumed to linearly decrease until they become final rates in 2018; for ASEAN latecomers, these decrease linearly to final rates in 2026. [7] "Final rates" takes into account the final rates set in each agreement. Namely, even if tariff rates for a product were not zero in 2009, they are set to zero in 2026 when they involve preferential products. We obtain information about whether each product finally attains zero rates in ASEAN + 1 FTAs from the FTA database developed in ERIA. We set final rates for all products in the case of AFTA at zero due to the lack of such information. As a result, we separately obtain (bilateral) tariff rates and (importer-specific) NTBs by

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Also, they show that theoretical implications obtainable from the equidistant two-region model can be demonstrated by the non-equidistant multiregional model, which is the same framework of our analysis.

[7] We do not insert the exact schedule of gradual tariff reductions due to the lack of ready-made information.

industry on a tariff-equivalent basis. Finally, our total transport costs are the product of the sum of physical transport and time costs and the sum of tariff rates and NTBs.

Another important parameter for transport cost is the "cumulation rule" in multilateral FTAs, particularly ASEAN + 1 FTAs and AFTA. There are several types of cumulation rules: bilateral, diagonal, and full (for details, see Augier et al., 2005). Some scholarly studies try to quantify the trade-creation effect of diagonal cumulation. Particularly in Hayakawa (2012), which examines Thai exports to Japan, the tariff equivalent of the diagonal cumulation rule in AJCEP is estimated at around 3%. From this estimate, we formalize the effect of the diagonal cumulation rule among ASEAN + 1 FTAs as 3% below NTBs in trading among members after each FTA's entry into force.

We adopt the elasticities of substitution for manufacturing sectors from Hummels (1999) and estimate it for services, setting the elasticities as 5.1 for FoodProc, 8.4 for Textile, 8.8 for E&E, 7.1 for Auto, 5.3 for OtherMfg, and 5.0 for services. Estimates for elasticity of services are obtained from the estimation of the usual gravity equation for services trade, with importer's GDP, exporter's GDP, importer's corporate tax, geographical distance between countries, a dummy for free trade agreements, a linguistic commonality dummy, and the colonial dummy as independent variables. The elasticity for services is obtained from the transformation of a coefficient for corporate tax because this directly changes the prices of services. For this estimation, we mainly employ data from "Organisation for Economic Co-operation and Development Statistics on International Trade in Services."

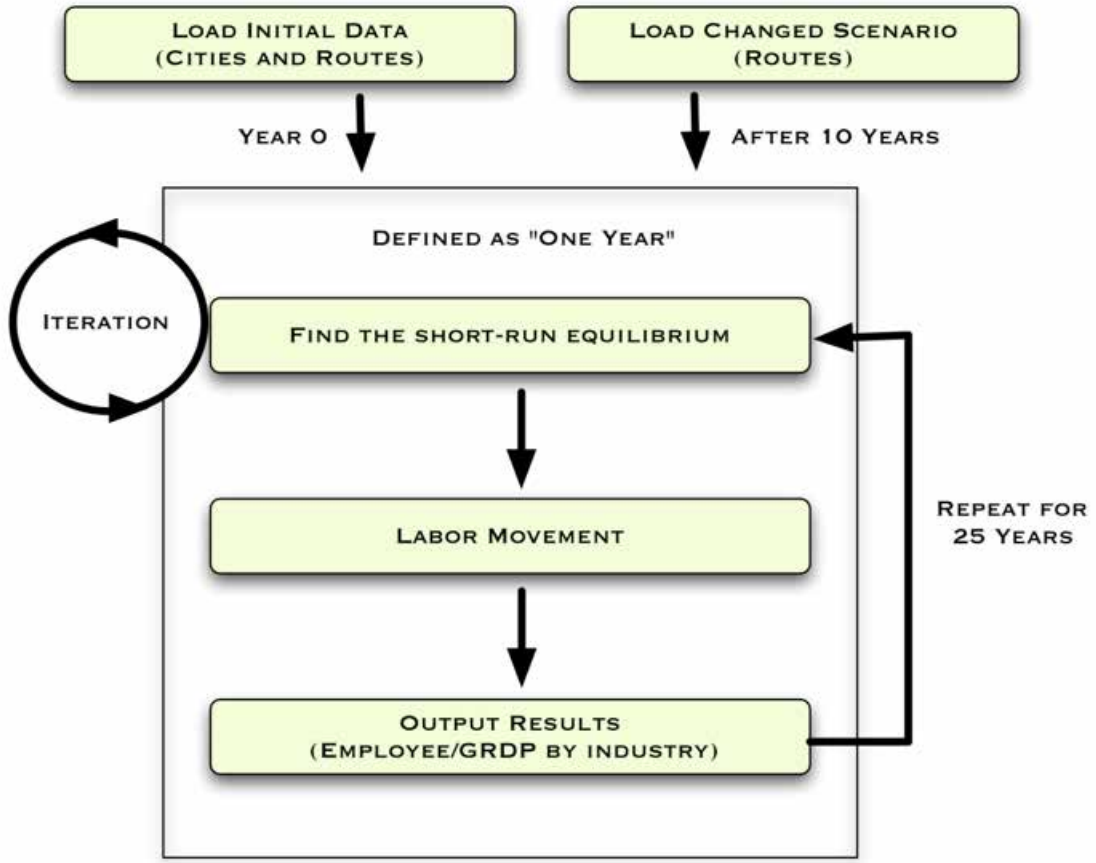
Values for the parameters β, μ, and ρ are obtained as follows. The consumption share of consumers by industry (μ) is uniformly determined for the entire region in the model. It would be more realistic to change the share by country or region, but we cannot do so because we lack sufficiently reliable consumption data. Therefore, the consumption share by industry is set to be identical to the industry's share of GDP for the entire region as follows: 0.0800 for agriculture, 0.0322 for FoodProc, 0.0243 for Textile, 0.0201 for E&E, 0.0232 for Auto, 0.1729 for OtherMfg, and 0.6470 for services. The single labor input share for each industry ($1 - \beta$) is uniformly applied for the entire region and the entire time period in the model. Although it may differ among countries or regions and across years, we use an "average" value, in this case that of Thailand as a country in the middle-stage of economic development, which is again taken from the Asian International Input–Output Table 2000 by the Institute of Developing Economies. As a result, the value of β is 0.367 for agriculture, 0.204 for FoodProc, 0.346 for Textile, 0.367 for E&E, 0.379 for Auto, 0.267 for OtherMfg, and 0 for services.

2.5. Simulation Procedures

This section explains our simulation procedures, which are depicted in Figure 12. First, for given distributions of employment and regional GDP by sector and region, short-run equilibrium is obtained. The nominal wages,

price indices, output and GDP by region are calculated at equilibrium.

Figure 12: Simulation Procedure



Source: Authors.

Observing the achieved equilibrium, workers migrate among regions. Workers migrate from the regions with lower real wages to the regions with higher real wages. Within a region, workers moves from lower wage industries to higher wage industries. One thing we need to note is that the process of this adjustment is gradual, and the real wages between regions and industries are not equalized immediately.

After the migration process, we obtain the new distribution of workers and economic activities. With this new distribution and predicted population growth, the next short-run equilibrium is obtained for the following year, and we observe the migration process again. These computations are iterated typically for 25 years, from 2005 to 2030.

2.6. Calculation of Economic Impacts

To calculate the economic impacts of specific TTFMs, we take the differences in GRDPs between a baseline scenario and a specific scenario with TTFMs. The baseline scenario assumes minimal additional

infrastructure development after 2005. In contrast, the alternative scenario contains specific TTFMs in 2015, for example, according to the information on the future implementation plans of TTFMs.
We compare the RGDPs between two scenarios, typically at 2030. If the RGDP of a region under the scenario with TTFMs is higher (resp., lower) than that under the baseline scenario, we regard this surplus (deficit) as the positive (negative) economic impacts from the TTFMs.

A notable merit of calculating the economic impacts by taking the difference between scenarios is the stability of the results. The nominal economic indices estimated by simulation depend on various parameters, but despite this the differences in those economic indices are quite stable across parameter values.

3. Scenario Creation

3.1. Baseline Scenario

The following assumptions are made for the baseline scenario:

- National population of each country is assumed to increase at the rate forecast by the UN Population Division until year 2030.
- Net migration of each country is zero.
- TNTBs will change on the basis of FTA/EPAs currently in effect.
- Each country has its own exogenous growth rate according to its technological parameters.

The final point should be described precisely. In IDE/ERIA-GSM, each industry in each city has a different productivity parameter, *A*. Parameter *A* models all of the following.

- Education and skill level
- Logistics infrastructure within the region
- Communications infrastructure within the region
- Electricity and water supply
- Firm equipment
- Utilization ratio and efficiency of infrastructure and equipment

We exogenously increase *A* for 18 countries or regions in East Asia, setting the rate of increase to the rate that replicates the actual economic growth in these countries since 2005. For other countries, we use a growth rate according to income status: advanced (A = 1%), middle-income (A = 3%), or low-income (A = 5%). Note that *A* is a broader measure than total factor productivity because our model omits capital as an input.

In the Baseline scenario, transport settings are unchanged throughout the simulation period 2005–2030, except for some minor updates in 2010 and 2015. For instance, the average speed of land traffic is set at 38.5 km/h.

However, the speed on roads through mountainous areas is set to half of that (19.25 km/h) and certain roads are set at 60 km/h—specifically, roads in Thailand outside traffic-congested metropolitan Bangkok, the road from the border of Thailand to Singapore through the west coast of Malaysia, and road Nos. 9 and 13 from Vientiane to Pakse in the Lao PDR. The average speed for sea traffic is set at 14.7 km/h between international class ports and at half that on other routes. Average air traffic speed is set at 800 km/h between primary airports of each country and at 400 km/h on other routes. Average railway traffic speed is set at 19.1 km/h.

3.2. TTFMs

We have various trade and transport costs in the model. By changing these costs, we can replicate the TTFMs in the model as follows.

- Upgrading of roads: Increase the average speed of cars for the upgraded roads.
- Customs facilitation: Reduce the time and money costs at the national borders.
- FTAs/RTAs: Reduce the import tariffs between member countries and also reduce the NTBs, taking into account the cumulation effect of FTAs/RTAs.
- Overall improvement of business environments: Reduce NTBs for a country.

3.3. SEZ/FTZ

In the model, each industry in each city has a different productivity parameter A. By increasing this parameter, we can simulate the impacts of setting up a special economic zone or free trade zone (SEZ/FTZ) for the city. We can also reduce the NTBs for the city, and this is another way to simulate the impacts of SEZ/FTZ.

3.4. Natural Disasters

We can reduce the productivity parameter A for selected cities. This is a way to simulate the impacts of natural disaster, such as earthquakes and floods in the model.

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