

Establishment of a New Spatial Agglomeration of an Open Economy: Theoretical Basis, Historical Practice and Feasible Pathways

Liu Hongkui and Liu Xiahui*

Chinese Academy of Social Sciences

Abstract: The new spatial agglomeration of an open economy should conform to the spatial agglomeration theory of the new economic geography and the characteristic conditions of the Chinese population, follow the historical practice and development trend of the spatial agglomeration of China's open economy for the past 40 years since reform and opening up, fit the transformation of the development status and goals of the Chinese economy, and fulfill the requirements of the new era brought about by the new trends of economic globalization. It is necessary to guide the open economy towards a proper clustering in the central and western regions and accelerate the regional opening up. Meanwhile, in order to promote the proper distribution of production factors and the coordinated development of an open economy, we should facilitate the spatial optimization distribution of production factors by employing the comparative regional advantages and endowments, thereby improving the international competitiveness of China's open economy.

Keywords: open economy, new spatial agglomeration, opening up, modernized economic system

* Liu Hongkui, Institute of Economics, Chinese Academy of Social Sciences; Liu Xiahui, Institute of Economics, Chinese Academy of Social Sciences.

Correspondence concerning this article should be addressed to Liu Hongkui, Institute of Economics, Chinese Academy of Social Sciences, Beijing. E-mail: lhyhnl@126.com

Over the four decades since the launch of reform and opening up, the efforts of opening up to the outside world have continued to advance awe-inspiring progress in different aspects. Between 1978 and 2017, China's total foreign trade surged from US\$20.64 billion to US\$4.1 trillion, equating to an average annual hike of 14.5%, and China's contribution to total global trade soared from 0.77% to approximately 10%, while status in global trade jumped from No. 30 to the first place. Since 2009 for nine consecutive years, China has maintained its grip on global trade as the largest exporter and second largest importer (Cai, 2018). In 2017, the total value of trade in services in China reached US\$695.68 billion, the second-highest in the world (Ministry of Commerce, 2018). In addition, according to data from *World Investment Report 2018*, China absorbed US\$136 billion in foreign investment in 2017, thereby becoming the second largest nation in terms of foreign capital influx (UNCTAD, 2018). Yet, from the perspective of regional spatial agglomeration, the open economy of China still exhibits a lack of balance and coordination, which has led to relatively vast differences in the levels of economic development in different regions. Between 1987 and 2005, foreign trade and absorption of foreign capital in China continually clustered in the eastern regions, while the central, western and northeastern parts of the country accounted for relatively small proportions of foreign trade and foreign capital absorption. Foreign trade and the injection of foreign capital are important drivers that propel regional economic expansion, which the eastern region has capitalized upon to fuel its rapid growth, with several provinces and cities having reached the levels of moderately developed nations. Yet the level of economic development in central and western China is still relatively backward. In the new era, in order to engender coordinated development in the various regions of China and to promote the high quality development of the Chinese economy, it is necessary to establish a spatial agglomeration of an open economy under a modernized economic system to foster the formation of a spatial agglomeration of a full-spectrum open economy with synergy over land and sea, coordination both at home and abroad, bilateral and mutual benefits between eastern and western China, and coordinated development between the different regions.

Theoretical Basis for the Establishment of a New Spatial Agglomeration of an Open Economy

New economic geography as developed by Paul Kurgman and others delves into the spatial agglomeration of an open economy from the point of view of economies of scale in spatial agglomerations, and explains the status quo of global economic spatial agglomerations. In general, the historical changes in China's open economic spatial agglomeration fit the basic theories of economics, especially spatial economics. Over the course of constructing a new spatial agglomeration of an open economy in the new era, we will need to adhere to these economic theories. However, it should be pointed out that China possesses population and economic geographic conditions unlike any other nation and therefore, over the span of creating a new spatial agglomeration of an open economy, it is necessary to combine the theories of spatial agglomeration with the unique circumstances of China.

Economies of Agglomeration, Economies of Scale, and Industrial Competitiveness

According to the basic theories in new economic geography, spatial agglomeration in economics is an inevitable law and prevalent phenomenon. New economic geographers believe that as long as there are increasing returns of scale in factors of production, and that transportation costs and transaction fees exist, then even if the economic development statuses of all regions were exactly the same at the initial stage, during the self-development process of these economies, economies of agglomeration would still emerge in accordance with geographic location advantages. Furthermore, where economic activities agglomerate is largely contingent upon geographic location. The agglomeration of economic activities brings about a raft of benefits. Gill and Kharas (2017) have put forth a rather succinct summary based on the three dimensions of sharing, matching and learning. From the perspective of production, spatial agglomeration in the economy is beneficial to reductions in transportation costs and transaction fees, while market expansions will also raise the diversity and accessibility of demands and supplies, and production factors could be better allocated. These are all conducive to maximizing the advantages of economies of scale, in turn lowering production costs, lifting labor production efficiency and fortifying the competitiveness of enterprises and industries in the region (Sun & Ming, 2018). Also, areas of agglomeration offer more job openings and learning opportunities.

Given the actual situations of nations, economic activities are all agglomerating in several regions and, spatially speaking, distribution is very uneven. Global economic activities are primarily gathered in developed nations and their neighboring states. Regions accounting for merely 1.5% of the Earth's land surface are accounting for half of the world's production activities (Lu, 2017). Global economic activities are chiefly concentrated in large cities and their surrounding areas, and this trait is even more prominent in developed countries (World Bank, 2009). Cairo, which occupies 0.5% of the territory of Egypt contributes to more than 50% of the nation's GDP. The three states in central and southern Brazil occupy 15% of the country's territory yet contribute more than 50% of the nation's total output. In terms of developed nations, 50% of the GDP of the United States come from the east and west coasts and a small number of cities in the southern part of the country. The majority of Japan's GDP originates from its three main metropolitan areas and similar situations can be found in the United Kingdom and France.

Open Economies, Transportation Costs and the Economies of Agglomeration

According to new economic geography, spatial agglomeration of economic activities against the backdrop of an open economy will further intensify, and economic activities will gravitate toward port areas. The reason why ports are magnets is that under the conditions of an open economy, a country's economic level is dependent upon international trade and the international economy, and since international trade predominantly occurs through maritime transportation, close proximity to ports can drastically reduce transportation time and costs. Therefore, foreign-oriented industries that rely on international markets generally assemble in coastal cities, consequently creating city clusters

that revolve around port cities. Advantages brought about by the economies of scale created through this sort of port area agglomeration contribute to elevating a country's international competitiveness. Once such an economic agglomeration development takes shape, it will continue to progress due to its first-mover advantage and momentum.

Since the launch of reform and opening up, and following the continual rise in the level of industrialization and the need to deepen participation in the global value chain, the open economy of China continues to agglomerate in the country's eastern seaboard, and the area's proportion of GDP and foreign trade continues to climb, which is a phenomenon that abides by the basic theory of new economic geography. First, all major Chinese ports are located on the country's east coast, and thus this region possesses natural geographic location advantages, so export-oriented industries are deployed in the eastern coastal region to realize a substantial decrease in transportation expenditures. Second, this phenomenon is advantageous to the maximization of economies of scale. From the onset of reform and opening up in the 1980s to the middle of the 1990s, China saw an increase in its level of openness, and a comprehensive manufacturing system materialized on the east coast and production factors from other regions agglomerated in the east, which bolstered the economies of scale in China, in turn raising the country's international competitiveness. Third, the eastern area is closer to the international markets. Main international markets involved in China's opening-up are Japan, Southeast Asian nations, the United States and Europe, and maritime shipping is the predominant mode of international trade. Therefore, proximity to a port means proximity to international markets, which is not only beneficial to carrying out international trade, but also easier to attract foreign direct investments. Fourth, in terms of historical development, the eastern region possesses better economic foundations, a commerce-oriented culture and more connections with foreign communities.

Boundaries of Agglomeration and China's Unique Economic Geography

Although spatial agglomeration in economic activities is a general law, it has boundaries. While agglomeration obtains positive effects such as economies of scale, at the same time there are also negative consequences such as the rise in production and living costs, driving up real estate prices, rents and commute times, and generating other issues like overcrowding, pollution and crime. When the marginal positive effects of agglomeration are equal to its marginal negative effects, then the boundary of an agglomeration is reached. The spread of express railway and other high-speed transportation technologies might expand the boundary of agglomeration in the future, but there will always be a boundary. Scholars assert that the sphere of influence of the Yangtze River Delta and Pearl River Delta areas is around 500 to 600 km, and the agglomeration zones inside these areas are also quite expansive. For nations or regions with a relatively small population, the existence of one or two such agglomeration zones is ample for hosting all economic activities. However, this is not the case for China due to its large territory and large population. Russia and Canada are two nations that have larger territories than China, but their populations are far smaller, and one or two such agglomeration zones are enough to accommodate the entire populace. The United States is about the

same size as China, but its population is not even a quarter of China's, so a few agglomeration zones along the American east and west coasts are adequate. However, China is home to nearly 1.4 billion people, and if everyone gathers in the eastern coastal region, there is no doubt that the economic agglomerations will exceed their boundaries, meaning that the negative effects of agglomeration will outweigh the positive effects, and thus these economic agglomerations will no longer be economical. Moreover, the carrying capacity of the natural environment of the eastern coastal region will also be gravely challenged. Therefore, the Chinese economy cannot imitate most other nations by agglomerating in just a few, or even several areas. Instead of continuing the clustering in the eastern coastal region, the Chinese economy should establish several regional agglomeration centers. What is more, not every economic agglomeration zone can expand to the size of the Yangtze River Delta or Pearl River Delta, and thus China might need an even greater number of economic agglomeration zones. In fact, due to the unique economic geography of China, as in natural regional divisions created by mountains and rivers, several independent economic regions have emerged over the course of Chinese history and the planning for future economic agglomerations should not neglect this fact. Considering these scenarios in the context of an open economy it would seem that planning for future agglomerations necessitates awareness of the general laws of agglomeration theories and that they be applied with Chinese characteristics.

The new spatial agglomeration of an open economy that China seeks should not be agglomerated in just a few regions, but rather agglomerated in a number of regions with a multi-tiered agglomeration structure, including national and regional level agglomerations. At the national level, agglomerations ought to revolve around the eastern coastal region, in particular the several major conurbations including the Beijing-Tianjin-Hebei region, Yangtze River Delta and Pearl River Delta. At the regional-level, important regional cities like Zhengzhou, Wuhan and Changsha could function as the centers for large or small agglomerations; while bigger cities in western China like Chengdu, Chongqing and Xi'an could function as the nexuses of medium-level agglomerations; the northeastern region should focus on Changchun and Dalian as the nuclei of agglomerations.

The eastern region, with a large open economy, should continue to expand into global markets, especially markets in the US, the EU and Japan in order to stimulate growth in the open economies of the central and western regions. The central part of China should focus on hosting production segments transferred from the eastern region in order to form a complementary partnership with the east, while foreign-oriented markets could also be independently fostered to a suitable degree. The western part of China is situated in the hinterland of the country, and the size of its open economy is rather small, but the various sub-regions are comparatively closer to countries along the Belt and Road such as Russia and the countries in Southeast Asia, Central Asia and West Asia, thus western China could underscore reinforcement of economic and trade relations with these states, as the size of markets of many of these nations matches well with the scale of the open economy of western China. Cities like Chengdu and Chongqing in western China are special in several aspects and are doubly gifted for connecting with the east coast of China and countries along the Belt and Road. Following

the operation of China Railway Express, the western part of China now also possesses feasibility and a comparative advantage for fortifying economic and trade relations with countries along the Silk Road Economic Belt, and has developed the ability to overcome shortcomings traditionally associated with maritime shipping-centric international trade.

Historical Practice in the Establishment of a New Spatial Agglomeration of an Open Economy

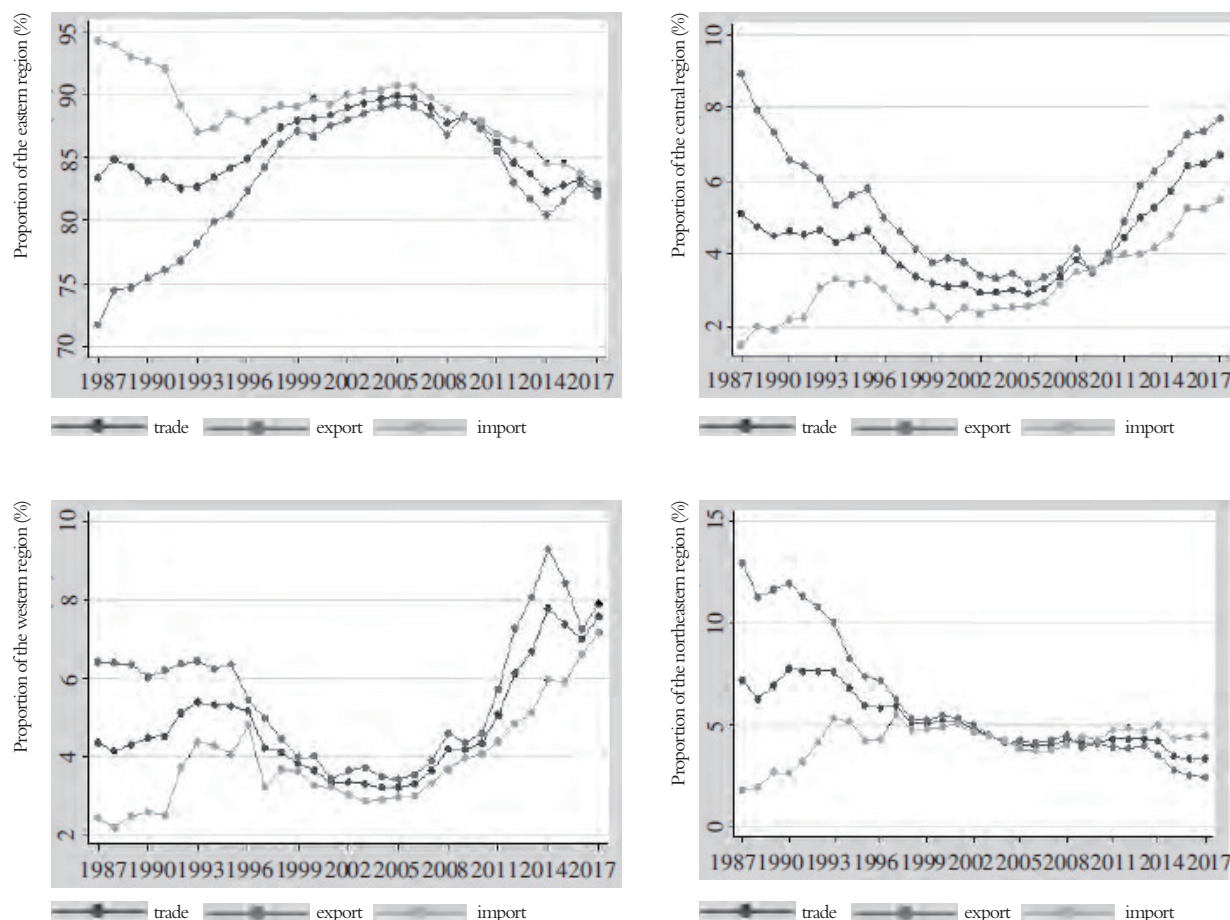
The new spatial agglomeration of an open economy in China must be founded on historical practice carried out since the launch of reform and opening up. We cannot neglect the actual situations and development trends of the spatial agglomeration of an open economy to plan for the spatial agglomeration of the future. As such, this paper organized and performed an analysis on data of China's imports, exports and foreign capital absorption since the launch of the reform and opening up.

Specifically, Figure 1 shows the changes in the proportions of China's four main regions (eastern, central, western and northeastern) in terms of the country's total trade, exports and imports between 1987 and 2017. Figure 2 shows the trends in the changes of the proportions of China's four main regions in terms of the country's foreign capital used between 1987 and 2015. Combining the features of the spatial agglomeration of the open economy in the four decades since the start of reform and opening up as illustrated in Figure 1 and Figure 2, and the course of reform of the Chinese foreign opening-up system, this paper divides this process into three stages. The first stage is between 1978 and 1986, and due to the limited statistical system during that time, the spatial agglomeration features of this era cannot be fully ascertained. The second stage is between 1987 and 2005, when Chinese international trade and foreign capital absorption agglomerated in the eastern region at an increasingly rapid pace and in high concentration. The third stage is from 2006 to the present, and in this period the eastern area's proportion of international trade and foreign capital absorption gradually lessened and economic activities begin to agglomerate to a certain degree in other regions in central and western China. The paper provides a detailed analysis of the features of these stages. One point worth noting is that the northeastern region's contribution to foreign trade continues to slide, reflecting the fact that the economy of northeastern China has been on a continual decline.

Unclear Foreign Trade Spatial Agglomeration Stage (1978-1986)

During the initial stage of reform and opening up, a highly centralized foreign trade business management system was in force in China, and all foreign trades within the nation were conducted under a "unified purchasing and unified sales" model by central state-owned foreign trade companies, and enterprises basically did not have any independent right to import or export. Therefore, the foreign trade spatial agglomeration in this period cannot truly reflect the regional differences in foreign trade development. Goods were only imported due to a shortage of supply, and exports were mostly

Figure 1. Spatial agglomeration of foreign trade of China's four main regions



Source: Calculated based on provincial level import and export data from the databank of China Economic Information Network.

determined by imports. Thus, foreign trade during that era was relatively small. Production and exports were decided by administrative orders and planning, thus foreign trade differences between the various regions were relatively small, and the levels of foreign trade development in the various regions were not only advanced but also quite balanced. Between 1978 and 1984, more than 80% of foreign trade in China was arranged by the central foreign trade system, with the rest falling under the jurisdiction of local governments, of which the absolute majority occurred in one of the four special economic zones, namely Shenzhen, Zhuhai, Shantou and Xiamen (Chinese Academy of International Trade and Economic Cooperation, 2008), because their foreign trade operation rights, foreign trade system reforms, introduction of foreign capital and processing trade were all at the nation's forefront. From the mid-1980s, a round of foreign trade reforms initiated a series of changes in the foreign trade sector, and while the level of foreign trade in different regions all saw rapid increases, gaps in foreign trade levels emerged between different regions. The Chinese foreign trade system experienced a raft of major reforms in 1984 and local government involvements in foreign trade drastically increased. By 1985 local exports accounted for 85.9% of the nation's total. However, foreign trade during this period

was basically a highly centralized foreign trade business model characterized by “unified purchasing and unified sales”, and the foreign opening-up spatial agglomeration was not apparent.

Highly Concentrated Eastern Region Agglomeration Stage (1987-2005)

Contract and liability systems have seen growing applications since 1987. Developments in Shanghai, Guangdong and other areas in the eastern regions that possess comparative advantages in geographic locations, economic foundations and policy support shifted into high gear. During this phase, China implemented opening-up policies to the outside world that gradually expanded from the coastal regions to the inland regions, with the eastern seaboard region being the first to set up special economic zones, open coastal cities, various types of development zones and special customs supervision areas. On top of the basis of open coastal cities, China founded a number of national-level economic and technology development zones, while the majority of development zones in the central and western regions were not established until after 1998. The Chinese central administration and various levels of local governments formulated a bevy of preferential policies for development zones to attract foreign capital, and a vast volume of foreign direct investments flooded into the eastern region, fueling the growth of foreign trade but also widening the rift in foreign trade development levels between eastern China and the central and western regions of the country. Therefore, starting from 1987 regional gaps in the open economy in China quickly expanded.

From Figure 1, it is easy to see that eastern China's proportions of exports and foreign capital in actual use continued to climb beginning in 1987. In terms of foreign trade, this trend sustained and reached its pinnacle in 2005, with the eastern shore claiming more than 90% of total foreign trade in China. In terms of foreign capital in actual use, this trend continued until around 2002, with the eastern region accounting for 80% of the total at its peak. At the same time, the proportions in exports and foreign capital in actual use contributed by the central and western regions and northeastern region continued to fall. In 2005, foreign trade in the central and western regions and the northeastern region made up less than 10% of China's total, which was out of balance in proportion to the population and landmass of these regions. Moreover, this paper also calculated total trade proportions occupied by the Beijing-Tianjin-Hebei region, Yangtze River Delta and Pearl River Delta areas, discovering that between 1987 and 1994 the Pearl River Delta accounted for a relatively large portion of the eastern region's trade, with Guangdong taking up 40% of the total. This is because Guangdong was the first to implement special foreign trade policies. Actually, in the period before 1984 when local contributions to foreign trade accounted for less than 18% of the total, Guangdong already accounted for over 15% (Chinese Academy of International Trade and Economic Cooperation, 2008).

This paper also found that the proportion of the Yangtze River Delta in foreign trade has continually risen since 1987, to the point of being the largest contributor to foreign trade today. Conversely, the foreign trade contribution from the Beijing-Tianjin-Hebei region continued to drop. This is because the economic development model of the Pearl River Delta is largely based on a foreign economic model closely associated with the regions of Hong Kong and Macao of China, and

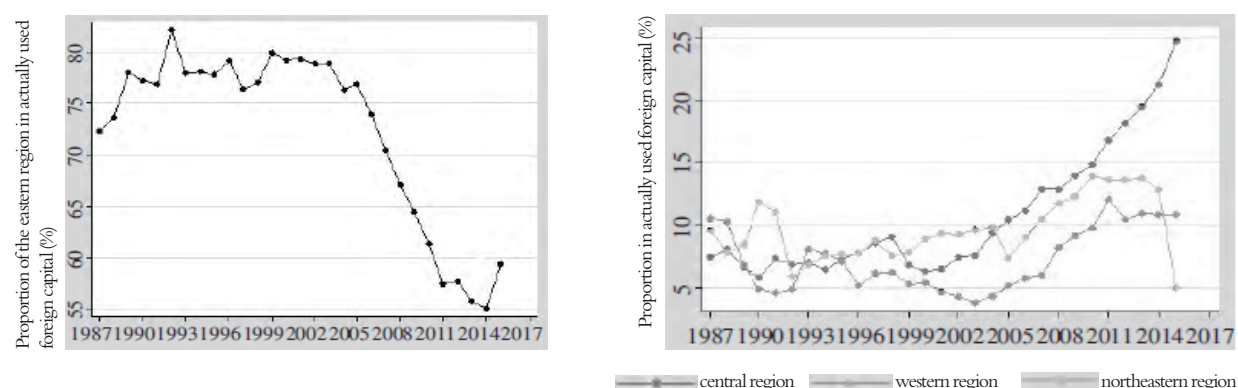
Southeast Asia, and direct participation in the global value chain cycle, so it got off to an early start. The Yangtze River Delta meanwhile adopted a diversified open economic development pathway that entailed participation in the division of labor in the global value chain via the absorption of foreign capital, but at the same time underscoring private companies and state-owned enterprises to capitalize on the domestic markets. Thus, foreign funding was used to emphatically foster processing trade while underscoring the growth of the private economy and regular trade. Therefore, the Yangtze River Delta has grown to be highly sufficient, in turn cultivating relatively strong impetus for further growth. Domestic capital plays a huge role in the Yangtze River Delta, but a comparatively much smaller role in the Pearl River Delta. Foreign trade in the Yangtze River Delta has depended on domestic enterprises since the beginning.

The Rational Central and Westward Agglomeration Stage (Since 2006)

The central and western regions of China are located in the country's hinterland and are relatively disadvantaged in terms of geographic location when compared with the eastern coastal areas. For quite an extensive duration after the beginning of reform and opening up, the transportation structure in China, including highways, aviation and railways, was poorly developed and together with prominent trade barriers between regions, resulted in daunting challenges for the central and western regions in advancing their foreign trade. These factors hindered foreign trade development in central and western China, leading to a continual decline in foreign trade and foreign capital absorption in the region before 2005.

The foreign opening-up level of central and western China has continued to deepen and improve since 2006, which is reflected in the continual rise of the region's proportions of foreign capital absorption and foreign trade. From Figure 1 it can be seen that foreign trade in the central and western regions of China continued to expand, their proportion basically returning to the initial phase of reform and opening up. Calculations also show that the six provinces of central China and

Figure 2 Actually used foreign capital spatial agglomeration of China's four main regions



Source: China Compendium of Statistics 1983–2008; data from 2009–2015 obtained from the statistical annals of various provinces.

the three representatives provinces and municipalities of western China (Sichuan, Chongqing and Shaanxi) have posted continual improvements in their proportions of foreign trade. With regard to actually used foreign capital, similar trends have also been observed (see Figure 2). There are several reasons for these developments, among them the continually improving transportation infrastructure and the continual optimization of business environments in central and western China, as well as the implementation of strategies such as “large-scale development of the western region” and “development of the central region” alongside an increase in beneficial policies targeting these regions. Advantages in land and labor costs in central and western China have led to an increase in foreign direct investments and foreign-funded projects and domestic investment projects expanding into or relocating to the inland areas, thus driving the growth in foreign trade in the central and western regions. For instance, *Provisions on Guiding the Direction of Foreign Investment* and *Catalogue of Industries for Guiding Foreign Investment* stipulated more advantageous beneficial policies for central and western China to encourage more foreign investment in those regions. Central and western China also benefitted from policies in other aspects such as reduced taxes and low interest loans, and sectors opened to foreign investments increased while requirements for the establishment of foreign-funded enterprises were eased to motivate foreign companies in eastern China to re-invest in the central and western regions.

New Era Demands in the Establishment of New Spatial Agglomerations for an Open Economy

Since the advent of the new era, many aspects of Chinese society have begun to change, requiring economic objectives to change as well. Thus, it is necessary to build a modernized economic system and a corresponding spatial agglomeration for the open economy. From the Sixth Plenary Session of the 11th CPC Central Committee to the 19th National Congress of the CPC, the principal contradiction in Chinese society was the inadequacy in meeting the ever-growing material and cultural needs of the people because of backward social production. During this period, the chief targets of the open economy in China were to expand the volume of foreign trade and to promote economic growth. After four decades of high-speed economic development, these targets have basically been achieved and new problems have emerged. The report to the 19th National Congress of the CPC points out, “As socialism with Chinese characteristics has entered a new era, the principal contradiction facing Chinese society has evolved. What we now face is the contradiction between unbalanced and inadequate development and the people’s ever-growing needs for a better life.” This means that for an extensive length in the future the economic development targets in China must be relevant to addressing the issues created by the unbalanced and imperfect development. Among them, the unbalanced spatial agglomeration of the open economy is a key factor hindering the balanced growth of the Chinese economy, and an area that demands constant improvement.

Changes in Stages of Economic Development Demand the Establishment of a New Spatial Agglomeration for the Open Economy

Changes in the conflicts of society are mainly manifested in changes in the stages and methods of economic development. During the initial stage of reform and opening up, China had already established a rather comprehensive industrial system, but the entire national economy was basically founded upon agricultural production and the proportion of industrial output was rather low. That was the time of transition from a traditional agricultural society to a modern industrial society. During this stage the top priorities were to create a basically comprehensive modernized industrial system and complete the accumulation of capital and technologies needed for modernization to improve the productive forces, especially industrial production capacity.

During this phase, due to the relatively prominent advantages developed nations had over China in terms of technology and available capital, the chief method for economic development in China was to foster an export-oriented economy to integrate into the global economic system, particularly the global industrial division of labor system. This was also beneficial to harnessing China's comparative advantage in labor, attracting foreign investments and learning the advanced technologies from developed nations, in turn completing the establishment of a modernized industrial system, the accumulation of capital and the upgrading of China's industries within a comparatively short span. In accordance with these objectives, the open economy of China mostly adopted a "bring in" mentality, and the primary goal was to enhance the efficiency of the open economy. Taking advantage of the country's advantage in population size, the manufacturing sector and processing trades were developed in the coastal region, and Chinese-foreign joint ventures were used to attract foreign direct investments and to assimilate into the lower-end links of the global value chain. This tactic encouraged the rapid development of state-owned and private manufacturing enterprises. There were many advantages for foreign-oriented manufacturing industries to agglomerate toward the eastern coastal region. First, international trade is predominantly facilitated via maritime shipping, and agglomeration along the east coast not only reduced transportation expenditures and other transaction costs, but also placed these foreign-oriented manufacturing industries closer to the consumers and markets for their products. Second, according to the basic economics principle, a certain degree of industrial agglomeration is conducive to augmenting production efficiency in the manufacturing sector because of economies of scale. These elements lifted the efficiency of the Chinese industries, raised attractiveness to foreign investment and boosted the rapid growth of foreign trade, in turn resulting in the creation of a modernized industrial system and the incredibly rapid growth of the Chinese economy. However, during this stage the newly opened economy of China focused on the pursuit of efficiency and rapid growth with little consideration to coordinated regional development.

Now, as the development of the Chinese economy enters a new normal, the high-speed growth of the past has slowed to medium high-speed growth. In terms of the present stage of development, China has ushered in a late period of industrialization and switched from high-speed development

to high-quality development. Thus, it is necessary to alter the method of development, optimize the economic structure and change to a new impetus for growth. From the perspective of foreign trade, China has had a firm grip on its present position as the world's largest exporter and also as the world's number two importer since 2009. Thus, further pursuit of trade quantity is neither feasible nor necessary and may even lead to incurring the wrath of other nations. Therefore, foreign trade needs to aim for quality and seek a better balance in structure. Feasible measures include improving the international competitiveness of China's trade in services and engendering a balanced growth of trade in services and goods, elevating China's position on the global value chain, improving the spatial agglomeration of foreign trade in China to better leverage the comparative advantages of the central and western regions, promoting coordinated development of the open economy in the different regions, taking a proactive approach to "go global" while maintaining the "bring in" mindset and continuously improving China's strategic deployments in the global economic geography.

Following the shift from high-speed growth to high-quality growth, it will be necessary to make adjustments to the strategic deployments and spatial agglomerations of foreign trade in China. In the past, China prioritized endeavors of opening up to the outside world along its eastern seaboard, but now it is necessary to emphasize a new spatial agglomeration for nationwide opening-up and the formation of an open structure with alliances over land and sea, coordination both at home and abroad, bilateral and mutual benefits between eastern and western regions, optimization of regional open agglomeration layouts and intensification of opening-up efforts in western China. China must now prioritize the establishment of a diversified yet balanced, safe yet highly efficient new system that is fully supportive of the creation of trade, investments, financing, production and service networks that spread across the globe and highlights the effectiveness of the Belt and Road Initiative in order to bolster the balance and completeness of the advancements of the Chinese economy. This ought to be the general stance of the open economy agglomeration for China in the future.

New Circumstances in Economic Globalization Demand the Establishment of a New Spatial Agglomeration for the Open Economy

In recent years, while the global economy has remained lukewarm, various forms of trade protectionisms have surfaced and different types of protectionist trade policies have been announced, worsening the external environment in relation to the open economy of China. In particular, the continual escalation of the U.S.-China trade war exacerbates the already bleak external environment of the open economy of China. Trade conflicts and higher tariffs will weaken the international competitiveness of Chinese products to some degree and slow the growth of foreign trade. "Going global" is also facing numerous obstacles. Objectively, this mandates China to increase its pace in the creation of new spatial agglomerations for its open economy in order to accomplish the following missions: First, augment the international competitiveness of export products in order to nullify the impacts of trade conflicts and higher tariffs on Chinese products. Through the optimized allocation of spatial agglomerations, production costs would be lowered, and product quality would be enhanced;

motivate the eastern region to focus on the cultivation of independent innovation capacity and the formation of leading advantages in the modern service industries, high-end manufacturing industries and scientific innovation industries; and encourage various areas of central and western China to develop traditional manufacturing industries to safeguard China's international competitiveness in that aspect. Second, coordinate with the Belt and Road Initiative to capitalize on windows of opportunity for expansion into new international markets. In light of the features of the geographic locations of central and western China, maximizing their functions in the new spatial agglomerations helps to strengthen economic and trade relations between China and other countries and regions along the Belt and Road (notably the "Silk Road Economic Belt") and to develop new international markets in order to neutralize the effects of trade conflicts.

Principles and Positioning for the Establishment of New Spatial Agglomerations for an Open Economy

The establishment of a new spatial agglomeration for an open economy needs to comply with the basic principles of spatial economics, follow the social development features of the times and national development strategy, and conform to the development patterns, status quo and trends of spatial agglomerations for an open economy in China.

Basic Principles

Follow socio-economic development patterns of the new era, promote the realization of the national development strategy and development requirements.

The report of the 19th National Congress of the CPC proposed to "implement coordinated regional development strategy". "Strengthen measures to reach a new stage in the large-scale development of the western region; deepen reform to accelerate the revitalization of old industrial bases in the northeast and other parts of the country; help the central region rise by tapping into local strengths; and support the eastern region in taking the lead in pursuing optimal development through innovation. To this end, we need to put in place new, effective mechanisms to ensure coordinated development of different regions." This means that in terms of spatial agglomerations, a modernized economic system mandates the balanced and thorough development of all regions across China and clear division of labor among these regions, mandates highly efficient allocation and movement of resources and production factors, and mandates a comparatively high degree of integration of the markets. Since spatial agglomeration is a crucial component of a modernized economic system's spatial agglomeration layout, the report to the 19th National Congress of the CPC further propounded, "We should pursue the Belt and Road Initiative as a priority, give equal emphasis to 'bringing in' and 'going global', follow the principle of achieving shared growth through discussion and collaboration, and increase openness and cooperation in building innovation capacity. With these efforts, we hope to make new ground in opening China further through links running eastward and westward, across

land and over sea.” The coordinated regional development and regional open agglomeration layout strategy explicated in the report of the 19th National Congress of the CPC is the principle that must be followed in China’s future endeavor of establishing a new spatial agglomeration for an open economy.

Comply with basic principles of spatial economics.

The spatial agglomeration of an open economy is essentially spatial economics under the backdrop of opening-up, and thus should be established in accordance with the basic principles of spatial economics (such as the new economic geography), for instance economies of agglomeration, dependency theory (“core-periphery” theory), and the flying geese paradigm (FGP) for relocation of industries, among other theories. We take the point of view of the economies of agglomeration to discuss the subject matter, and opine that the open economy of China must adhere to a rational degree of economies of agglomeration in order to elevate its international competitiveness. However, it should be explicitly pointed out that agglomeration here does not equate to the agglomeration of economic activities toward specific regions (such as the east coast) instead various regions across the country, with economic activities to agglomerate at certain cities or certain city clusters to utilize agglomeration to guide a coordinated regional development. It is important to clearly distinguish between the two concepts of “coordinated regional development” and “balanced regional development”, and the pursuit of the establishment of spatial agglomeration of an open economy is “coordinated regional development” not “balanced regional development”. The creation of such a system is not to configure all sorts of hidden dividing and demarcating frameworks to restrict the allocation of resources and production factors among regions, but to better direct a rational and highly efficient flow of resources and production factors between regions.

With regard to China, the crux of the matter is to critically examine the proportional relationships of the four major regions in the open economy. There is no need to drastically enlarge the proportions of the central and western regions as the goal should be a rational proportionate relationship between the central and western regions and the eastern region. This is because the eastern region has already fostered an enduring leadership position over the course of the formation of the open economy due to its advantages in geographic location, policies and human resources which, the central and western regions cannot unseat. Thus, what ought to be done is to study what are the suitable proportions of the central and western regions. Moreover, it is vital to recognize that driving the agglomeration toward the central and western regions does not equate to a balanced allocation of resources to all parts of central and western China, but instead the rational agglomeration toward several competitive central cities or city clusters in these regions. In particular, it is important to avoid the application of mandatory or administrative policies for the sake of balanced regional development, which would force industries to passively relocate toward the central and western regions. The outcome of such mandatory policies might not promote industrial relocation to central and western China, but instead the migration of related industries to foreign countries with lower costs. What the central and western regions need to do is to further improve transportation infrastructure facilities, enhance business climates, decrease corporate business costs take such measures to motivate industries to take an active

stance in relocation.

Considering China's population size, special economic geography and historical traditions

The spatial agglomeration for an open economy in China should adhere to a development model in which there are multiple points of agglomerations and each point spreads to stimulate a surrounding sphere of influence. This is because of the massive population, special economic geography and historical traditions of China which makes it pretty much impossible for just a handful of major metropolitan areas to completely drive the nation's open economy. The eastern region's proportion of the open economy has already exceeded its apex, and following changes in the economic development stage and development methods in the future, the eastern region's proportion of the open economy will decline but remain at a steadily high level. At the same time, the proportions of the central and western regions in the open economy will continue to rise. This requires suitable guidance for industries to transfer to central and western China and form several regional city clusters to take advantage of the economies of agglomeration.

Conforming to the Changing Trends of Spatial Agglomeration for an Open Economy in China

Historical trends in the open economy of China are filled with a plethora of economic mechanisms, reflecting patterns and features of socio-economic development and changes in the comparative advantages of the different regions. These historical trends are a reference and baseline for China's endeavor to establish a new spatial agglomeration of the open economy, and it is impossible to ignore these trends while attempting to dream up another spatial agglomeration. Based on these trends, the proportions of the central and western regions in the open economy will continue to climb, and what we need to do is provide rational guidance to foreign-oriented economy to agglomerate toward the central and western regions, while striving to prevent vicious competitions between various areas of central and western China.

Basic Positioning and Strategic Requirements

The fundamental purpose behind the establishment of a new spatial agglomeration is to capitalize on a rational agglomeration to direct a rational spatial allocation of the factors of production, maximize the comparative advantages of the various regions, and promote coordinated regional development in the various regions, to lift the international competitiveness of the open economy of China. Corresponding strategic requirements are to form a regional agglomeration development layout that can provide synergy over land and sea, coordination both at home and abroad, with bilateral and mutual benefits between eastern and western China. Specifically, the basic positioning of the new spatial agglomeration should include six aspects.

Continue to increase the openness of the central and western regions, and raise the proportions of central and western China in the open economy.

Since 2006, the proportions of central and western China in foreign trade and utilized foreign capital have consistently increased and the growth trends in recent years indicate that this expansion

will be most likely to continue for some time. The underlying logic behind this phenomenon is the continual reduction in institutional and non-institutional costs associated with the central and western regions' participation in the eastern region-led division of labor and direct involvement in the international division of labor. In terms of non-institutional costs, high-speed transportation technology is becoming increasingly prevalent in the central and western regions, information and communication infrastructure facilities have markedly improved, and central and western China have possessed comparative advantages in aspects such as land prices, labor costs and other resources including energy. In terms of institutional costs, the gap between the eastern region and the central and western regions has continued to shrink. Another case in point is the increasingly similar business environments, policy environments and policy benefits. There is hope that the western and central regions will occupy vital roles in foreign trade and foreign capital investments in the future. But it should be noted that comparing the populations, land areas and GDP proportions, at present the central and western regions have plenty of space for improvement in terms of their proportions in foreign trade and foreign capital investments, and their importance in the new spatial agglomeration could still be increased. In actual practice, to determine suitable foreign trade and foreign capital investment proportions to be attributed to the central and western regions, we should make an in-depth and quantified analysis to calculate referable ratios using indicators and parameters such as population, land area, GDP proportion, resource and environmental carrying capacity.

Of course, while the open economy partly agglomerates toward the central and western regions, the eastern region still enjoys geographic position advantages and first-mover advantages, as well as a leadership role in the open economy. Generally speaking, the open economy will further agglomerate in major national-level and regional-level city clusters. Main metropolitan areas are nexuses of enterprise headquarters and will mainly cater to modern service industries, while their surrounding suburbs and nearby medium-sized and smaller cities or satellite cities will chiefly function as manufacturing processing bases and agricultural produce processing bases. This type of agglomeration layout has more or less materialized in areas such as the Pearl River Delta and the Yangtze River Delta.

Form rational divisions of labor in an open economy between regions.

During the establishment of a new spatial agglomeration for an open economy, it is necessary to take into consideration the different comparative advantages of the different regions and form open economy bases with their own emphasis. Different areas of China are endowed with different resources and feature different starting points and starting times in their efforts of opening up to the outside world. Additionally, regional economic development levels have a substantial effect on the formation and expansion of the open economy. Therefore, there is no denying that the economies of different regions have their own unique attributes. It is necessary to base efforts upon national-level and regional-level city clusters as the bedrock, then promote divisions of labor and mutually complementary economic bases for the different regions. Also, within each region it is necessary to form a headquarters economy and a multi-centered production base and create two to three export

agglomeration zones in both the central and western regions. This will improve the geographical allocation of labor and funding and alleviate the overdevelopment of land and environmental pollution issues afflicting the eastern region.

Specifically, the eastern region should study how to establish a globally competitive open economic base, particularly for emerging strategic industries, modern service industries and scientific and technological innovation sectors. The new spatial agglomeration should possess relatively solid capabilities in withstanding external impacts such as trade conflicts and technology sanctions, capabilities that are founded on the cultivation of independent innovation capacity. It is necessary to build innovative economic agglomeration zones in the eastern region and gather high-caliber human resources and quality capital from both home and abroad, to enhance the independent innovation capability of China (An & Xiao, 2016). In the central region and certain parts of the western region, it is necessary to give play to labor and land price advantages and develop the labor-intensive industries that can be transferred from the eastern region. However, the industrialization model used early on by the east coast should not be replicated, instead it is necessary to create a value chain system in which there is a clear division of labor for production and complementary advantages and close-knit integrations between the east coast and the central and western regions. In border cities in western China, it is necessary to fully harness the economic advantages of ports of entry, and rely on the Belt and Road to develop more and deeper economic and trade ties with countries in areas including Central Asia, West Asia and Central and Eastern Europe. For the majority of western China, in light of local resources and environmental carrying capacities, heavy industries are often not suitable, so distinct industries ought to be fostered such as unique agriculture, forestry, animal husbandry and other related support industries, as well as tourism that focuses on natural sceneries, among other options.

Promote coordinated development among the economies of different regions.

The spatial agglomeration of a modernized economic system should be an agglomeration layout in which there is balanced and coordinated development in the economies of various regions, in particular the necessity to rely on measures of opening up to the outside world to hasten the economic expansion of the central and western regions. The report to the 19th National Congress of the CPC stipulated that the principal contradiction facing Chinese society has changed and is now the contradiction between unbalanced and inadequate development and the people's ever-growing needs for a better life. Moreover, the unbalance in regional development is one of the primary manifestations of the unbalanced development in China. The main culprit behind the lagging developments in the central and western regions is an inadequate degree of opening up to the outside world. Therefore, it is necessary to increase the level of opening up in central and western China. The eastern region is already quite open in this regard, and the central and western regions hold the most potential for deepening China's efforts of opening up to the outside world, and the key to improving both the breadth and depth of the open economy. It is necessary to expand the opening-up endeavors of central and western China, form rational opening-up divisions of labor between the eastern, central

and western regions, create “wild goose model” for domestic divisions of labor and domestic value chains, and encourage a significant number of industries to transfer to central and western China to stimulate the economic growth and raise the income levels of the people of the central and western regions. Such measures would also be conducive to better allocations and more efficient and orderly movements of resources and production factors within the country and increasing the proportions of resources and production factors allotted to the central and western regions.

Fully tap into the comparative advantages of the various regions, and augment China’s overall competitiveness in the international division of labor.

Since the launch of reform and opening up, the various regions of China have honed their own comparative advantages over their respective course of development. The eastern region was the first to develop, and some areas in this region have already reached the level of medium-developed nations, having accumulated vast quantities of quality production technologies, material capital and human capital. The central region has abundant medium- and low-level labor, relatively cheap land, comparatively close distances to the port cities on the east coast, and the time required to reach the eastern ports have been shortened substantially due to the spread of the high-speed railway network. The western region possesses comparative advantages in labor and land resources, and an additional, crucial advantage due to the region’s proximity to countries in areas along the Belt and Road such as Southeast Asia, Central Asia and West Asia. Thus, western China has an advantage in fostering cross-border trade. Different regions should take into full account their respective comparative advantages, devise corresponding foreign opening-up development strategies, and fortify their unique competitiveness in the international division of labor, to contribute to China’s overall competitiveness in the international division of labor.

First, action should be taken to heighten the quality and returns of the open economy of the eastern region, and create foreign opening-up high grounds such as the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Guangdong-Hong Kong-Macao Greater Bay Area and the Hainan Free Trade Port. Through the high-level opening-up efforts of these areas, integration of the high international standards and the absorption of high-quality capital and innovation factors from abroad, we can promote industrial upgrades, build centers for headquarters economies, innovative economies and new economies that can function as engines to propel high-quality development in the Chinese economy, and formulate China’s international competitiveness in high-end manufacturing and modern service industries.

Second, action should be taken to accelerate the central region’s level of opening up to the outside world and tap into the influential functions of key cities like Zhengzhou, Wuhan, Changsha and Hefei, to encourage a certain portion of medium- and low-level production factors and production steps to relocate to the central region, allay pressure on the resources and environment of the eastern region, stimulate the economic growth of central China, and improve the strategic depth of China’s efforts of opening up to the outside world. In the era of high-speed railways, the time needed to ship goods from central China to ports on the east coast is already quite short, so the central region could capitalize

on such advancements and further take the reins of labor-intensive manufacturing industries from eastern China and uphold the country's international competitiveness in manufacturing. Of course, the central region also needs to emphatically foster modernized and intensive agriculture to bolster the international competitiveness of Chinese agricultural produce in foreign trade.

Third, action should be taken to intensify opening-up efforts in western China and to harness the potentials of major cities and provincial capitals like Chongqing, Chengdu, Xi'an, Kunming and Urumqi. The western region of China is a crucial node for the Belt and Road Initiative, and the frontier for carrying out trade and investment interactions with states along the Silk Road Economic Belt. Thus, it is important to quickly magnify opening-up efforts in the region.

Engender the formation of numerous open economy agglomeration zones and city clusters to boost urbanization.

It is necessary to capitalize on the establishment of a spatial agglomeration for the open economy in the modernized economic system to engender the formation of numerous industrial agglomeration zones and city clusters to speed up the progress of urbanization in China. The establishment of new spatial agglomerations should be combined with urbanization endeavors and coordinated planning should be undertaken. Specifically, it is necessary to focus on national and regional central cities and form their respective industrial agglomeration zones and opening-up agglomeration zones that encompass even larger areas, then gather and stimulate people, production factors and resources to agglomerate in city clusters in order to promote urbanization and the creation of city clusters. At the national level it is necessary to revolve around the metropolitan areas of the Guangdong-Hong Kong-Macao Greater Bay Area, the Yangtze River Delta and the Beijing-Tianjin-Hebei region and create open economy agglomeration zones with their own unique qualities. At the local levels, one pathway is to utilize the various region's central cities as the nucleus for agglomerations.

Promote the creation of highly efficient mechanisms to facilitate the flow of resources and production factors between regions.

To drive the establishment of a new spatial agglomeration for an open economy necessitates a certain portion of people, resources and production factors to flow back to the central and western regions from eastern China, and also mandates rural populations to quickly increase their agglomerations in cities. At present, the eastern region has advantages in both per capita income and public services, while there is a myriad of policy restrictions with regard to household registration for rural populations and migrant workers in cities. These are all challenges that must be dealt with. Thus, the establishment of a new spatial agglomeration is a fantastic window of opportunity to strive for relative equilibrium in per capita income and public services in different regions and to effectively remove limitations in the movement of people between rural and urban areas and between regions. In terms of policy, it is necessary to deepen and heighten the household registration system's general support for reform efforts, improve household registration relocation policies, and effectively implement a new type of housing permit system. Also, it is necessary to explore solutions to the supply of education, medical care, senior care and other public services against the backdrop of

freedom of movement for the populace, to strike for a balance in public services between the regions. In addition, it is necessary to apply measures to eradicate local protectionism in order to raise the level of integration across the nation and take other relevant measures such as improvements in the construction of nationwide resource and production factor information platforms.

Feasible Pathways for the Establishment of a New Spatial Agglomeration for an Open Economy

In terms of overall direction, any pathway must be based upon current national strategies, policy orientations, transportation technologies, economic development features and other key factors that affect the spatial agglomeration of an open economy. From the perspectives of these factors, China possesses the conditions for establishing a new spatial agglomeration and the various levels of government need to bolster themselves in order to take full advantage of these conditions to promote the formation of this type of agglomeration design. Of course, with regard to specific thoughts on feasible pathways, it will be up to the policymakers to explore possibilities over the course of implementation and practice.

Take a Firm Grasp of Policy Opportunities Inherent in Coordinated Regional Development in China

At the beginning of reform and opening up, the predominant policy mentality in China was “wading across the river by feeling for the stones” and the raft of reform and opening-up policies and measures were first tried and tested in the eastern coastal regions. For instance, the strategic pathway of opening up to the outside world follows the course of special economic zone in open coastal cities and open coastal economic areas in inland regions. The first special economic zones are all situated along the eastern seaboard, and open coastal cities obviously were planned with the east coast in mind, while the various types of national-level development zones and special customs supervision zones are mostly located in the east. These sorts of benefits, in the form of opening-up policies, bestowed the eastern region with much more flexibility and freedom in policies than the central and western regions, translating into more advantages in aspects such as land development, taxation, foreign capital attraction, development of joint ventures and the development of the private economy, which enabled the eastern region to develop first because it was a policy test bed (Pei, 2008). However, at the present stage, China has entered a coordinated regional development phase and foreign policies of opening-up to the outside world for different regions are veering toward equality with the various regions possessing almost identical policy conditions. Following the proposal of strategies including “large-scale development of the western region”, “development of the central region”, and “revitalizing the northeast”, the central, western and northeastern regions now have even more advantages in areas such as land use, fiscal budgets for payments and tax benefits. Meanwhile, China is focusing on using pilot free trade zones as the means to further deepen policies of opening up to the outside world that

emphasize equal treatment for all regions. China has set up pilot free trade zones in the east including those in Shanghai, Tianjin, Fujian, Guangdong, Zhejiang and Hainan, as well as pilot free trade zones in the central, western and northeastern regions such as the ones in Henan, Hubei, Sichuan, Chongqing, Liaoning and Shaanxi, basically realizing full coverage across all regions.

How to capitalize on foreign opening-up policy opportunities is the key to raising the level of open economy agglomerations in the central and western regions. The central and western regions ought to generate more comparative advantages in aspects such as housing prices and rents, land prices and labor costs. The regions need to improve the transparency and legal enforcements of the business environment and create comfortable living and work environments. These improvements will be conducive to the transfer of low end foreign-oriented value chains from the eastern region towards the central and western regions, which in turn will propel the spatial agglomerations in the western and central regions to develop in a suitable way. Also, various areas in central and western China could, within the approved scope of the state administration, better attract foreign capital by implementing more transparent negative lists for foreign investment access and measures on pre-establishment national treatment.

Relying on the Belt and Road to Promote Progress and Strategic Opportunities Related to the Operation of the China Railway Express

Progress in the Belt and Road Initiative and operation of the China Railway Express opened new trade and transport conduits, new and expansive markets for the central and western regions of the country, and these regions need to thoroughly capitalize on these strategic opportunities to foster and form numerous agglomeration zones. Following the advancement of the Belt and Road, economic and trade relations between China and countries in Central and West Asia, Central and Eastern Europe, such as Russia, have become increasingly stronger. In recent years, the China Railway Express has expanded rapidly, as exemplified in the continual increase in operational routes and mileage, and types of cargoes carried. Since it was put into operation in 2011, the China Railway Express has recorded a total of over 6,000 departures, surpassing the 3,673 threshold in 2017 and reaching 2,490 departures in the first half of 2018. The network of 57 operational routes can now reach 35 cities in China and 34 foreign cities spread across a dozen European countries. The large number of China Railway Express departures and the extensive construction of terminals and overseas storage facilities not only blazed a new trail for land-based trade and transport, but also upended the traditional “investment-production-trade” economic cooperation model with the creation of the new “transportation and logistics-trade-production-transportation and logistics-trade-production” economic cycle and international division of labor structure (Pei, & Liu, 2018).

In terms of geographic location, the Belt and Road and China Railway Express have benefited the central and western regions by facilitating trade and investment interactions with nations on the Silk Road Economic Belt. At present, cities like Zhengzhou, Wuhan, Chongqing, Chengdu and Xi'an have all started to operate trains to and from states on the Silk Road Economic Belt, while ports of entry in

the west, such as Korgas, function as distribution hubs for cargo transported by the China Railway Express. The central and western regions could focus on these regional central and nodes cities on the China Railway Express network to establish their respective agglomerations and actively develop open economies that cater to countries along the Belt and Road. Such endeavors would immensely alter the current spatial agglomeration in China.

Take Full Advantage of Material Conditions Brought About by the Rapid Development and Popularization of High-speed Transportation Technology

According to theories in the new economic geography, the agglomeration of China's open economy toward the eastern coast was inevitable, but the boundaries of agglomeration will expand as transportation technology improves. For a long time since the initiation of reform and opening up, high-speed transport technology in China was non-existent and logistics costs were high. This led to the open economy being mostly clustered along the eastern shore, unable to rationally spread toward the central and western regions resulting in a relatively low resource allocation efficiency. However, in recent years, Chinese high-speed railway transportation, air transportation and highway networks have developed rapidly. For example, Chinese high-speed railway technology achieves breakthroughs one after another, with operational speeds steadily climbing to 300km/h in general, while some trains (such as "Fuxinghao") even traveling at more than 350km/h; high-speed railway mileage also continued to rise, and the operation network has seen consistent improvements. According to the annual work report of the central government in 2018, operational mileage of the Chinese high-speed railway reached 25,000km, accounting for 2/3 of the world's total, while highway mileage totals 136,000km and 46 new civil airports have been built. In the future, China will continue to construct even more small and medium-sized airports, open more flight routes, and air transport methods will become increasingly prevalent.

The popularization of high-speed transport technologies significantly lessens transport time and logistics costs, substantially enlarging the boundary of open economy agglomerations. The sphere of influence of ports and central cities on the eastern seaboard will drastically expand, which will increase the feasibility for the central region to take up industries transferred from the east. Scholars like Paul Kurgman actually pointed out long ago that the rise in transport speeds and the reduction of logistics costs will drive economic agglomerations to move from coastal areas toward inland regions (Fujita & Krugman, 2004). Therefore, cities in central and western China ought to fully maximize their efforts to grow their economies based on the material conditions brought about by the rapid development of high-speed transportation technologies, and attract relevant industries and human resources to relocate through methods such as enhancing business climates, raising compensation for talents, lowering costs of living and improving government management efficiency. Specifically, some cities in the central region could lean on high-speed railways to shorten their distance to key cities in the east and develop foreign-oriented manufacturing industries. Other key cities in the western region need to make better use of air transportation and develop modernized manufacturing

industries that are technologically sophisticated, small in size and do not have high demands in transport volumes. For instance, Chongqing has achieved notable feats in every aspect of computer manufacturing; Wuhan's Optics Valley of China has witnessed rapid growth in industries such as information technology; Xi'an is home to many outstanding institutions of higher education and human resources and is ripe for cultivating high-end manufacturing industries. All in all, against the backdrop of the rapid development of high-speed transportation technologies, the open economy of China possesses the material conditions to further optimize its spatial agglomeration layout. Through guiding a rational flow of industries and human resources, it is now possible to actualize a structure in which the eastern region functions as the agglomeration nexus for modern services and research and development while the central region functions as the agglomeration center for manufacturing, and the different parts of the western region develop their unique industries in accordance with local advantages, resources and circumstances.

Effectively Capitalize on an Era of Rapid Growth in Trade in Services

Following the explosive development of information and communication technologies, the tradability of services vastly increased and consequently trade in services soared. Looking at global figures, the proportion of trade in services of total trade climbed from 20% to 23.7% in the span between 2010 and 2017; as for China, trade in services in 2016 and 2017 respectively accounted for 15.1% and 14.5% of total trade. As the proportions of trade in services continue to increase it has become a focal point around the world and a linchpin for future development, and trade in services has come to occupy increasingly longer lengths in various types of regional trade agreements, which will in turn further galvanize the growth of trade in services (Yan, Xiao, & Ran, 2018). Of course, trade in services in China still accounts for only a small part of total trade compared with the worldwide average, especially when contrasted with developed nations. But on the flip side, this also indicates the massive potential for growth in trade in services in China.

Unlike traditional trade in goods, modern trade in services (such as accounting, consulting, finance and computer services). does not require physical transportation, and the delivery and payment for transactions are completed via information and communication technologies. This will lessen the relative importance of geographic location, and the eastern coastal region's comparative advantage will diminish further, while the central and western regions will embrace new opportunities in the new economy. Therefore, central and western China need to hasten studies on key factors that influence development of trade in services, take into consideration their respective comparative advantages and focus on several niche segments in trade in services, then create numerous trade in service agglomerations. An open economy with trade in services will rely more on human capital and talent agglomeration, and the central and western regions ought to take firm actions to develop trade in services, effectively utilize their own comparative advantages to attract more human resources, and emphatically develop modern service industries. The central and western regions might actually be more gifted and advantageous for some specific service industries. For instance, western China's

advantages in big data and cloud computing are characterized by massive power consumption and the requirement for a dry climate, as manifested in Guizhou's relatively prolific developments in big data and cloud computing.

REFERENCES

- An, Shuwei, & Xiao, Jincheng. (2016). Evolution of the logic behind new spaces in regional development. *Reform*, (8), 45-53.
- Cai, Yanhong. (2018, April 14). General administration of customs: China has never intentionally pursued a positive trade balance. *Legal Daily*.
- Chinese Academy of International Trade and Economic Cooperation. (2008). *Three decades of foreign trade in China*. Beijing: China Commerce and Trade Press.
- Fujita, M., & Krugman, P. (2004). When is the economy monocentric?: von thunen and chamberlin unified. *Regional Science and Urban Economics*, 25(4), 505-528.
- Gill, I. S., & Kharas, H. (2007). *An east asian renaissance: Ideas for economic growth*. International Bank for Reconstruction and Development/ World Bank.
- Lu, Ming. (2017). *The power of space: Geography, politics and urban development*. Shanghai: Gezhi Publishing House.
- Ministry of Commerce. (2018). *2018 report on development of trade in services in China*. Beijing: China Commerce and Trade Press.
- Pei, Changhong. (2008). Assessments on the evolutionary track and features of the establishment and development of open economy in China. *Reform*, (9), 15-25.
- Pei, Changhong, & Liu Hongkui. (2018). Economic analysis of Xi Jinping Thoughts on opening up to the outside world in the New Era. *Economic research journal*, (2), 4-19.
- Sun, Bowen, & Lei Ming. (2018). Market division, cost reduction and high-quality development: An analysis on developing a new economic geography model. *Reform*, (7), 53-63.
- UNCTAD. (2018). *World investment report 2018: Investment and new industrial policies*. New York and Geneva.
- World Bank. (2009). *World development report 2009: reshapes economic geography*. The World Bank, Washington, DC.
- Yan, Jiyuan, Xiao, Yu, & Ran, Yaohan. (2018). Promote the sustained, rapid and healthy development of trade in services in China. *Macroeconomic Management*, (10), 47-51.

(Translator: Arthur; Editor: Xiong Xianwei)

This paper has been translated and reprinted from *Reform*, No. 1, 2019, pp. 30–42.