

## 研究論文

# The Belt and Road Implementation and Effects of Logistics on Japan

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## Abstract

The “Belt and Road” initiative aims to promote the cooperation and development in local economy. By investing in infrastructure and optimizing trade structure, China makes its enterprises go global and brings in good foreign companies. Along the “Belt and Road” are mainly emerging economies and developing countries whose industrial structures are highly complementary. Therefore, the “Belt and Road” can be seen as one of the most promising economic belts in the world. However, we have to face the problems in culture, energy, interests and geopolitics while give lots of expectation on it. Even though conflict of interests between China and Japan in energy, power generation, high-speed rail and so on, exist in the areas covered by the “Belt and Road” such as Southeast Asia, Central Asia and South Asia, the Belt and Road provides more trading opportunities, and brings out the circulation of large amounts of cargoes. It creates a new traffic passage between Japan and Europe, which not only saves the run time and cost, but also benefits the development of local economy and the construction of East Asian Community.

**Key Words:** Silk Road Economic Belt, 21<sup>st</sup> Maritime Silk Road, international railway cooperation, Japan-Europe transportation, multilateral cooperation mechanism

## I . Introduction

Coming into being in the ancient China, Silk Road is a commercial route that links Asia, Africa and Europe. It can be

divided into Overland Silk Road and Maritime Silk Road by the mode of transport. Silk Road was originally used to transport merchandise produced by ancient China such as silk, china etc. Therefore, it is a main road for economic,

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governmental and cultural communications between the east and the west.

The strategic concept of the “Belt and Road” (hereinafter referred to as B&R) is composed of the Silk Road Economic Belt and the 21<sup>st</sup> Century Maritime Silk Road. It is not a real mechanism but an idea of development raised by the Chinese government. It borrows the name of the ancient Silk Road, and is aimed at developing the economic cooperative partnership with countries in the Asian-pacific region, the northern and eastern Africa and Europe. On the basis of mutual and multilateral cooperation mechanism between China and its related countries, this concept is designed to construct an effective platform for regional cooperation, thus creating a community of shared interests where political trust, economic integration and cultural tolerance exist.

## Ⅱ . The Interpretation and Routes

### 1. The Silk Road Economic Belt

#### (1) Territory within China

The Silk Road Economic Belt is a new economic

development region based upon the concept of the ancient Silk Road. It includes 9 provinces such as Shanxi, Gansu, Qinghai, Ningxia, Xinjiang, Chongqing, Sichuan, Yunnan, Guangxi, among which Xinjiang is regarded as the core region. The Silk Road Economic Belt, which connects to the Asia-Pacific economic circle in the east and the developed European economic circle in the west, is a vast territory with abundant mineral, energy and land resources, thus making it the strategic base of energy and resources in the 21<sup>st</sup> century. However, due to the inconvenience in transportation and comparatively poor natural environment, there is a huge gap between this region and the two circles nearby in the level of economic development, presenting a phenomenon with two sides high and the central low.

#### (2) The Scope of the Silk Road Economic Belt in the narrow region

The core section of the ancient Silk Road is the basis of the Silk Road Economic Belt. It includes China and the five countries in Central Asia, and is seen as the starting point of the economic belt. Compared with any other areas in the world, all the countries in this region except for China are

<Table 1> the basic data of countries in narrow region (2015)

| Country                     | GDP(100 million US \$) | Per Capita GDP (US \$) | National area (square kilometers) | population (million) | Population density (people in per square kilometer) | Main resources   |
|-----------------------------|------------------------|------------------------|-----------------------------------|----------------------|---|--|
| Kazakhstan                  | 203.14                 | 11879.53               | 2724900                           | 17.1                 | 6.275   | Oil, gas, coal, uranium, gold  |
| Kyrgyzstan                  | 7.37                   | 1249.15                | 199900                            | 5.9                  | 29.515  | Gold, antimony, copper, zinc, tungsten, copper, iron   |
| Tajikistan                  | 8.53                   | 991.86                 | 143100                            | 8.6                  | 60.098  | Uranium, lead, zinc, molybdenum, tungsten, antimony, strontium, gold, oil, gas, coal, rock salt, etc.      |
| Turkmenistan                | 44.66                  | 8270.37                | 491200                            | 5.4                  | 10.993  | Oil, gas, iodine, and other non-ferrous and rare metals  |
| Uzbekistan                  | 68.19                  | 2206.8                 | 447400                            | 30.9                 | 69.066  | Oil, gas, coal, uranium, copper, tungsten, non-metallic mineral resources                                  |
| 5 countries in Central Asia | 331.89                 | 4919.54                | 4006500                           | 67.9                 | 16.947  | -  |
| China                       | 11211.93               | 7977.75                | 9634057                           | 1405.4               | 145.878   | Coal, rare earth, tungsten, silicon, molybdenum, antimony, titanium, gypsum, magnesium, phosphate ore, etc |
| TOTAL                       | 11543.82               | 6448.65                | 13640557                          | 1473.3               | 108.009   |  |

inland countries starting relatively late in economic development and being weak in infrastructure. However, with large territory and rich mineral resources in petroleum, natural gas, coal and rare metals, these countries are full of potentials in economic development.

(3) The Scope of the Silk Road Economic Belt in the broad region

The orientation of the future construction of the Silk Road Economic Belt comprises five countries in Central Asia, 18 countries in Eurasia<sup>1</sup> and 28 countries in European Union (EU)<sup>2</sup>, with the China Land Bridge (CLB) at the core.

The countries in Central Asia and Eurasia cover a huge area of approximately one third of the world's land, while about half of the human-beings live in here, resulting in a high population density. There are rich natural resources. For example, oil reserves in Iran, Iraq, Russia and Kazakhstan are in the world top 10 respectively; The natural gas reserves in Iran, Russia and Turkmenistan are ranking the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> in the world separately, accounting for half of the total natural gas reserve in the world; The total coal reserve in Russia, China, India, Ukraine and Kazakhstan holds 47% of the world.

The territory of EU region is not vast but the population density there is high. Many developed countries which are in the leading positions in financial capacity, technological innovation, export of products and the scale of consumer market are concentrated in there. The greatest disadvantage there is the lack of resources, while resources are the very strength of countries in Central Asia and Western Asia. If the nations along the CLB could realize the complementarily in

resources, technology and markets, their sustainable development and overall strength must be enhanced.

2. The 21<sup>st</sup> Century Maritime Silk Road

The maritime silk road has been the essential bridge for the economic and cultural communication between the East and the West since it was opened in the Qin and Han dynasties (221 B.C. - 220 A.D.). The 21<sup>st</sup> Century Maritime Silk Road is a strategic conception raised by Xi Jinping in his visit to ASEAN in October, 2013. It emphasizes that the road that starts from the coastal harbors in China should get through the region of South China Sea into the areas of Indian Ocean and Southern Pacific Ocean, and finally extends to Europe. Fujian province is seen as the core region of the 21<sup>st</sup> Century Maritime Silk Road. Together with the ports in circum-Bohai region, Yangtze River Delta, the west coast of the Taiwan Straits and the Pearl River Delta, the littoral belt of China and varieties of islands, it connects the countries and regions along the Pacific Ocean and the Indian Ocean.

Through the boost in communication with the countries and areas along the road, the 21<sup>st</sup> Century Maritime Silk Road aims to construct market chains with economic plates such as ASEAN, South Asia, Western Asia, North Africa and Europe, and promote the strategic cooperation with countries and enterprises in the region of South China Sea, Pacific Ocean and Indian Ocean. ASEAN, located in the crossroad of the 21<sup>st</sup> Century Maritime Silk Road, is a necessary part of the road, but the gradually heated dispute over the management and development of the South China Sea has become a short board for China in the promotion of the 21<sup>st</sup> Century Maritime Silk

<Table 2> the basic data of countries in broad region (2015)

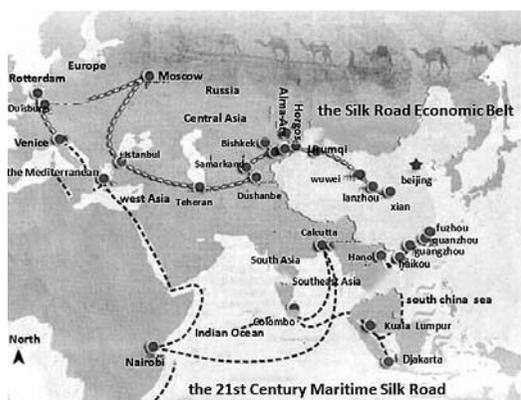
| country                     | GDP (100 million US dollars) | Per capita GDP (US dollars) | area (km <sup>2</sup> ) | Total population (10000 people) | Population density (people/km <sup>2</sup> ) |
|-----------------------------|------------------------------|-----------------------------|-------------------------|---------------------------------|--|
| 5 countries of Central Asia | 25688.41                     | 4982.60                     | 4006500                 | 6106.94                         | 15   |
| 18 countries of Eurasia     | 164526.32                    | 6768.72                     | 35512790                | 329270.54                       | 93   |
| 28 countries of EU          | 170369.08                    | 34148.29                    | 4459756                 | 42062.74                        | 94   |

Road.

### 3. The Basic Route of B&R

(1) B&R covers 53 countries, 94 cities in Central Asia, South Asia, Western Asia, Southeast Asia and the Central and Eastern Europe. The belt and the road meet at the Amsterdam, thus making the B&R a circle stretching 7000 km (Fig. 1). Along the region are mainly emerging economies and developing countries. With a total population of about 4.4 billion people and a total economic volume of approximately 21 trillion US dollars, holding 63% and 29% of the world separately, this region is one of the fastest growing regions in the world trade and cross-border investment.

<Fig. 1> the basic route of B&R



#### (2) The Subdivision of the Route of B&R

On the basis of the CLB, the Silk Road Economic Belt has two major passages. One is starting from Xian, and then crosses China's border in Xinjiang, entering the Alma-Ata in Kazakhstan. After passing through Western European countries such as the Republic of Belarus, Russia, Finland and Germany, it ends in the Rotterdam Port. The other passage is getting through the Central Asia and Western Asia to the Persian Gulf and the Mediterranean.

The 21<sup>st</sup> Century Maritime Silk Road starts in Fujian port

and also has two paths. One is from the coastal ports in China, crossing through the South China Sea into the Indian Ocean, via Hanoi, Kuala Lumpur, Jakarta, Colombo and Calcutta, and finally reaches Rotterdam. The Second starts from coastal ports in China, passing the South China Sea, and ends in the South Pacific.

## Ⅲ . The Significance and Dilemma of Implementation

### 1. The reasons for implementing B&R

#### (1) Domestic Causes

##### 1) The External Transfer of Excess Production Capacity

The excess production capacity causes serious problems to the operation of the economy. According to the calculation of IMF, the use efficiency of production capacity of all industries in China is less than 65%, while that of a robust and profitable industry is usually more than 85%. China is traditionally exporting to a simple and narrow variety of countries, with US, Europe and Japan taking the leading position of export and occupying a high percentage. However, these traditional export markets are relatively fully exploited, that is to say, there is a little space to any increments; therefore, the domestic overcapacity can hardly be cut down by them.

Under the circumstance that the domestic consumption is hard to accelerate and launch, it is a basic understanding to open up new export markets through B&R. The traditional European and American markets are slump while there are a lot of spaces for development in the undeveloped countries near the western China. Many third world countries also hope to get economic aids from China. Therefore, China helps these countries develop their economy, at the same time, they can assist China with the problems in overcapacity.

##### 2) High dependence on oil, gas and mineral resources of foreign countries

China is highly dependent on the oil and gas resources

and mineral resources of foreign countries. For instance, China's iron ore relies on Australia and Brazil, and oil on the Middle East. At present, these resources are mainly transported to China by marine transport; the channel is relatively single. The cooperation between China and other major resource countries is not thorough, and the financial cooperation is not effectively carried out. B&R brings a lot of new overland resource accesses to China, which is of great importance to the diversity of resource acquisition. For example, in the construction of oil and gas pipelines, the north-west, south-west and northeast of China and Sea are strategic channels for oil and gas transportation; the natural pipelines between China and Russia, China and Asia, and the oil and gas pipelines between China and Burma are to be built as a major project. The electric power channels in southwest of China and China-Russia will be deployed to build or upgrade.

3 ) The exploitation of China's strategic spaces and the issue of intensifying the national security

Coastal regions are home to China's industries and infrastructure, once struck by an external strike, China will lose the core facilities immediately. In the central and western regions which is of high strategic depth, particularly in the western region which is sparsely populated and less industrial, there is a huge potential for development in industry and infrastructure, and less threats in wartime. Through B&R, it will be further opened up, which is conducive to exploit the strategic space and intensify the national security.

4 ) The economic globalization needs the base of logistics globalization

Currently, with the economic globalization, we can purchase from all nations and sell to all nations. If China wants to "bring in" good foreign enterprises while make outstanding Chinese enterprises "go out", and sell the products made in China to foreign countries while buy the goods from foreign countries, logistics globalization is an indispensable basis.

(2) International Causes

1 ) The implementation of B&R can relieve the security stress from geopolitics, and provides a solid and reliable safety barrier for China and some regions in the world. The construction of B&R is beneficial to the survival and development of China's economy in the world and the construction of strategic logistics channels between China and its neighbors, by which mutual benefits and a win-win result can be achieved. It also helps vitalize the stock assets in society and create a favorable international environment of competition which is the top priority in China.

2 ) B&R breaks the traditional trading mode between western countries and China that relies mainly on commerce and trade. Along B&R are mostly emerging economies and developing countries whose economies are at rising stage, which gives a promising prospect for the mutually beneficial cooperation. B&R refers to the construction in connectivity and infrastructure. It can create new economic growth points, but also facilitate the development of related countries, and hence realize a win-win result.

2. The international foundation for the implementation of B&R

The cooperation mechanism is crucial to guarantee the implementation of B&R. China needs to strengthen the mutual and multilateral cooperation, carry out multilevel and multi-channel communication and negotiation, and establish joint and multilateral working system, thus making more countries and areas participate in the construction of B&R. The multilateral cooperation mechanisms that China takes part in are shown in Table 3.

On these basis, China will give full play to the related regional and sub-regional international forums in countries along B&R and will support the local government and nongovernmental organizations to tap the historical and cultural heritage; China will jointly organize activities on trade and cultural communication and investment in special

&lt;Table 3&gt; multilateral cooperative organizations and their significance in B&amp;R

| organizations                       | Date of foundation | members   | Significance of B&R   |
|-------------------------------------|--------------------|---|---|
| China-GCC                           | 1981. 05           | 6 countries of GCC, China   | Most members in GCC are located in the intersection of B&R. Vital in geography and trade.   |
| APEC                                | 1989. 11           | 21 members and 3 observers  | Large overlap between the APEC economies and B&R region. feeds each other.  |
| China-ASEAN "10+1"                  | 1991               | ASEAN, China  | an important partner in building the 21 <sup>st</sup> Century Maritime Silk Road.   |
| CICA                                | 1992. 10           | 26 members and 13 observers   | Strengthen mutual understanding and trust and complementary cooperation among Asian countries.  |
| GMS                                 | 1992               | China, Burma, Laos, Thailand, Kampuchea, Vietnam  | To Create a favorable political and social environment for the 21 <sup>st</sup> century maritime silk road.   |
| ASEM                                | 1995. 03           | 26 members including 10 Asian countries, 15 member states of the European Union, and European Commission. | A communication and cooperation channel for the economy and construction of B&R.  |
| CAREC                               | 1997               | China, the five countries of Central Asia, Afghanistan, Mongolia, Pakistan                                | The majority of landlocked countries in the Silk Road Economic Belt   |
| SCO                                 | 2001. 06           | 6 Members, 4 observers, 6 dialogue partner  | as a platform, provide impetus for the construction   |
| ACD                                 | 2002. 06           | 33 members including ASEAN, China, Japan, Russia, India, Pakistan, Afghanistan, etc.                      | It covers the majority of counties along B&R. Great potential in promoting cooperation in trade liberalization, infrastructure and energy pipeline. |
| China-Arab states Cooperation Forum | 2004. 01           | China and 22 members of Arabian Union   | It will turn the potential advantages of two sides into the common impetus for economic development.  |
| AIIB                                | 2014. 10           | 57 members  | an important platform in financial support  |

projects, so as to do joint researches on the implementation scheme and course of action.

### 3. Difficulties

#### (1) The misgiving and doubts from nearby countries

In fact, many countries treat the opening up of China with conflicting feelings. Generally, they are expecting and positive about the further opening up of China. On one hand, they want to get more capital, technological and free assistance from China and export products to China's large consumer market. On the other hand, they worry that the further opening up will cause higher dependence on China.

China is confronted with different kinds of misgivings and doubts, such as the doubts from ASEAN about the 21<sup>st</sup> Century Maritime Silk Road, Russia and Central Asian countries about the Silk Road Economic Belt, African countries about China's resource policies, etc.

#### (2) Impediment from major powers

As the main producing area of world natural resources, the region along B&R has long been the crucial strategic position that many powers fight for. The complicated religious and ethnic conflicts and turbulent regional situation there are to some extent reflecting the pitched battles among countries. Not only the powers in this region such as Russia and India,

but also the countries out of the region such as US, Japan and EU etc., are involved in the conflict. More or less, they all have their conception about regional development. Among them, India is particularly noticeable. When other countries declare their willingness of cooperation in B&R, Indian government is reluctant to show their friendly gesture in public. All of these demonstrate that each country has its own intention. Most developing countries expect to share the interests of foreign investment; Central Asian countries worry about the expansion of China; Russia worries that the strategy will compete with its Eurasia Union; India is anxious about losing its superiority in Indian Ocean, while United States is concerned about its decline in trading advantages. Consequently, yet no objection, their inactive cooperation makes china have to cope with the containment and division of some countries in the process of pursuing trading cooperation in the B&R strategy.

### (3) The South China Sea Issue

Due to the Dispute in South China Sea, the 21<sup>st</sup> Century Maritime Silk Road has not yet fully started. The obstructed maritime passage becomes the biggest challenge lay before China. The South China Sea issue involves China, Brunei, Malaysia, Vietnam, and Philippines. Basically, China hopes that the South China Sea problem will not affect the grand strategy of peaceful development, and attaches much importance to the relationship with ASEAN countries. However, as the 21<sup>st</sup> Century Maritime Silk Road further implemented, China cannot avoid facing the South China Sea problem. At present, the construction of the 21<sup>st</sup> Century Maritime Silk Road can only be conducted from far to near, that is, starting from the Indian Ocean and south Asian countries, China will give priority to advance the west line of the Maritime Silk Road. Once producing a demonstration effect, it will be built back, and gradually extends to the adjacent area of South China Sea. As a result, China bypasses the South China Sea in the construction of harbors such as

Bangladesh's Chittagong port, Pakistan's Gwadar port, Sri Lanka's Hambantota port, etc.

Nevertheless, viewing from the ultimate goal of B&R, the South China Sea is an issue that can't be avoided by China. But the construction of the 21<sup>st</sup> Century Maritime Silk Road is unlikely to bring about the aggravation in the South China Sea dispute. In contrary, it may bring an opportunity for the settlement of it, making it move toward multilateral cooperation and mutual benefits, and eventually turning the South China Sea problem from a short board of China-ASEAN relationship into a bond between them.

### (4) Discord in domestic institutions

1 )The cross-departmental coordination between nations is not enough.

In the progress of deepening all-round reforms and further opening up, different departments have various expectations and recognition on the new details and ideas of B &R. The difficulties in cross-departmental coordination between governments are realistic.

### 2 ) Urgent need for coordinated mechanism

When it comes to some new major strategic plans of a nation, if there are no direct coordination and specific deployment in national level, different governments and ministries may compete with each other in policy resources and leadership. Without their complementary supports, difficulties will appear in the coordination and implementation. Besides, the problem in internal coordination does exist not only among governments, but also between governments and non-governments.

## IV . Railway cooperation projects and domestic infrastructure

### 1. International railway cooperation projects

As Figure 1, the Silk Road Economic Belt is basically connected with neighboring countries and EU countries

through railway transport. Therefore, railway transportation plays an important role in it. China borders on Kazakhstan, Mongolia, Russia, North Korea, Vietnam, Laos and Myanmar. In recent years, as important carriers in the Silk Road Economic Belt, China and these countries have established many cooperation projects in railway construction (Table 4).

(1) China-Mongolia railway

In October 24, 2014, Mongolian state great Khural (parliament) passed a resolution that the newly constructed two railway lines would use the same standard of track in China and would be connected to China's border. The largest coal mine in Mongolia, Tarvin Tolgoi, the largest copper and gold mine Oyu Tolgoi and other resources such as oil are distributed along the two lines. The approval of this resolution benefits the construction of the cross-border railway of China and Mongolia.

(2) China-Laos railway project

In November 2015, China and Laos signed a China-Laos railway project in Beijing. The total investment in the project amounts to approximately 6 billion US dollars, which indicates that it officially steps into the implementation phase. The project is joint-invested by China and Laos in proportion of 7 to 3. This railway is designed as single-tracking, electrified, 418 km, 160 km/h, and will be finished in 2020.

(3) China-Vietnam railway project

In November 6, 2015, China Daily quoted a message from the Chinese embassy in Vietnam that China and Vietnam would cooperate in a railway project from Hanoi to Lao Cai, a border city of Vietnam, and it would connect the third largest city in Vietnam, Hai Phong. This railway project is nearly 281 km; and is invested about 4.4 billion US dollars. Besides, China will provide a loan of 250 million US dollars for urban railway item in Vietnam.

(4) China-Thailand railway project<sup>3</sup>

In December 2015, China and Thailand reached an agreement on China's participation in the railway project

which would be constructed running through Thailand from north to south. They will work together to construct a railway line which is Double-Tracking, 873 km, 180 km/h. This line will be reserved with a 250 km/h speed-up condition, and will run through Bangkok. Besides, it will use China's technology, standard and equipment.

In consideration of the loan rate, costs and other factors<sup>4</sup>, Thailand recently announced the burden of its own funds without seeking financial support from China. The original route also will be shortened to 250 km, less than a third of the previous one, and its end Korat is about 400 km far from the border of Thailand and Laos Nongkhai.

But in the long term, this is a pivotal project, because Thailand lies in the center of Southeast Asia. It is an important hub in the route in the 21<sup>st</sup> Century Maritime Silk Road.

(5) The China-Kyrgyzstan-Uzbekistan railway project

In 23<sup>rd</sup> of December, 2015, the Prime Minister in Kyrgyzstan spoke over the broadcast that the China-Kyrgyzstan-Uzbekistan railway project will be started. At present, this project is at a phase of negotiation, especially in the gauge of railway track. Once the railway begins operating, Kyrgyzstan will be an international transit transport country with an annual freight volume of 15-20 million tons. In the future, this railway is likely to stretch to Iran, which will be a channel of marine transport for Kyrgyzstan.

(6) China-Russia railway project

In June 18, 2015, China and Russia signed a survey and design contract for the high-speed railway project from Moscow to Kazan. The project is invested 300 billion ruble (around 4.65 billion US dollars), 770 km. The railway starts from Moscow and stretches to Kazan in Republic of Tatarstan. Running time will be shortened from 11 hs 30 mins to 3 hs 30 mins.

In the future, the railway will be extended to Beijing, thus creating a Eurasia high-speed traffic passage from Moscow to Beijing. Once the railway comes into service, the running time

from Beijing to Moscow will be reduced to 2 days from the original 6 days.

(7) The China-Kazakhstan international railway

There are two transit railways between China and Kazakhstan. One is opened up in 1991, from Dostyk

(Kazakhstan) to Alashankou (China), yet with limited transportation capability; the other one starts to operate in December, 2012, from Aarden Corey (Kazakhstan) to Khorgos (China), holding key to the economic growth.

< Table 4> cooperation projects of international railways

| Cooperation project | Agreement Date | Investment volume (US Dollar)                       | Length (km) | Speed (km/h) | Operation year |
|---------------------|----------------|---|-------------|--------------|----------------|
| China-Mongolia      | 2014. 10       | The Mongolia section is under construction          |             |              |                |
| China-Russia        | 2015. 6        | 4.65 billion  | 770         | -            | -              |
| China-Laos          | 2015. 11       | 6 billion   | 418         | 160          | 2020           |
| China-Vietnam       | 2015. 11       | 4.4 billion   | 381         | -            | -              |
| China-Thailand      | 2015. 12       | 14.2 billion  | 873         | 180          | deferred       |
| China-Kyrgyzstan    | 2015. 12       | starts in 2016, specific contents are in discussion |             |              |                |
| China-Kazakhstan    | 2005           | -   | 15          | -            | 2012. 12       |

2. Transportation capacity of China railway

In china, railway is a major infrastructure and of important position in China's integrated transportation system. China has a vast territory, a large population and unevenly-distributed resources, so the economical and rapid railway is widely used in many areas. As Table 5, in 2008, Length of Railways in Operation in China was 64000 km; in 2014 it was increased by 3014 km to 67000 km within 6 years.

Length of electrified railway is 25007 km in 2008, and rises up to 36851 km in 2014; the percentage of electrified railways also reaches 55%; Length of double-tracking is

26599 km in 2008, and increases to 32546 km in 2014, with the percentage of double-tracking reaching 48.6%. In 2014, the automatic blocking length is 35396 km.

As shown in Table 5, in 2014, China's density of railway network reaches 116.05 km/10000 km<sup>2</sup>, a 40% growth compared with the 82.73 km/10000 km<sup>2</sup> in 2008. However, it still falls far behind the 195 km/10000 km<sup>2</sup> of US, 533 km/10000 km<sup>2</sup> of Japan and 649 km/10000 km<sup>2</sup> of UK. In addition, China's railway network is distributed extremely unevenly. Because of the flat terrain, developed agriculture and industry, large population, the railway network is of large

<Table 5> Basic statistics on national railways in operation

| Item  | 2008         | 2010         | 2012          | 2014          |
|---|--------------|--------------|---------------|---------------|
| <b>Length of Railways in Operation</b> (km)                   | <b>63975</b> | <b>66239</b> | <b>66298</b>  | <b>66989</b>  |
| <b>Length of Electrified Railways</b> (km)                    | <b>25007</b> | <b>32717</b> | <b>35486</b>  | <b>36851</b>  |
| As Percentage of the Length of Railways in Operation (%)      | 39.1         | 49.4         | 53.5          | 55            |
| <b>Double-Tracking Length</b> (km)                            | <b>26599</b> | <b>29684</b> | <b>30661</b>  | <b>32546</b>  |
| As Percentage of the Length of Railways in Operation (%)      | 41.6         | 44.8         | 46.2          | 48.6          |
| <b>Automatic Blocking Length</b> (km)                         | <b>28100</b> | <b>37500</b> | <b>37300</b>  | <b>35396</b>  |
| <b>Semi-automatic Blocking Length</b> (km)                    | <b>37337</b> | <b>37468</b> | <b>33680</b>  | <b>30178</b>  |
| <b>density of railway network</b> (km/10000 km <sup>2</sup> ) | <b>82.73</b> | <b>94.66</b> | <b>101.31</b> | <b>116.05</b> |

Source: China Statistical Yearbook 2015

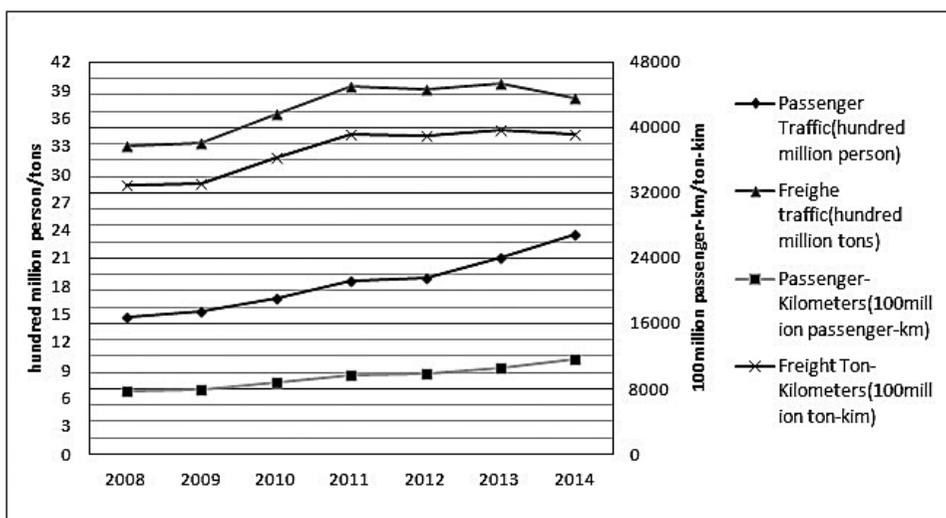
density in Eastern region; While the railway network in Western region is sparse due to its small population and rugged topography. Therefore, the current layout cannot meet the need of the freight transport and population mobility in the implementation of B&R.

The demand for railway transportation is huge in China because of its large population and territory. According to the statistics of China Railway Engineering Corporation in 2014, the income of freight traffic was higher than the income of passenger traffic with 39.683 billion US dollars to 32.733 billion US dollars. With the development of economy, the frequency in personnel and material transport, the national

land development, the increasing demand for energy and raw materials, the rising of transportation volume in food and commercial commodities, the railway freight volume and turnover has maintained a sustained growth.

However, the freight volume and turnover began to decrease slowly from 2011, and fell most obviously in 2014. As shown in Fig. 2, the railway freight volume in 2014 is 3.813 billion tons, decreased by 154 million tons compared with the 3.967 billion tons in 2013; the railway turnover volume reaches 27.5309 trillion tons-km, reduced by 164.3 billion tons-km as compared with the 2.91739 trillion tons-km in 2013.

< Fig. 2 > Railway passenger and freight transport volume and turnover volume



Source: China Statistical Yearbook 2015

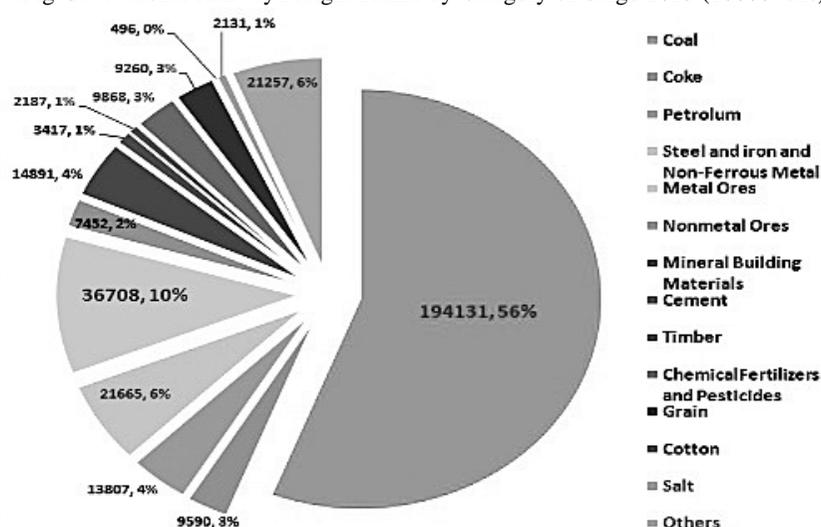
The causes of the decrease in freight transportation volume are as follow.

(1) Economic restructuring

In terms of the category of cargo, in the railway freight traffic volume of 2014, coal was 1.914 billion tons, accounting for a high percentage of 54% in the total traffic volume; coke was 95.9 million tons, holding 3%; raw materials such as steel, iron, nonmetal ores, metal ores, mineral building materials, cement and timber accounted for 23%; and the

petroleum took up 4%, the above energy and materials held 84% of the total volume. In the rest goods, chemical fertilizers and pesticides, grain, cotton and salt occupied 7%, while the total amount of electronic machinery, industrial products and commercial cargoes only accounted for 6%. The drop in freight volume was mainly caused by the fall in traffic volume of coal and steel. Since 2012, the traffic volume of coal has been reduced by 79.95 million tons, steel and iron, non-ferrous metals reduced by 31.14 million tons, and metal ores

<Fig. 3> National Railway Freight Traffic by Category of Cargo 2015 (10000 tons)



Source: China Statistical Yearbook 2015

reduced by 24.39 million tons.

(2) The increase of highway transportation mode

After 2009, China's road construction has been proceeding rapidly. In 2014, the length of highways was up to 4.3562 million km, 65 times of the railway length. The highway network reached 4537.7 km/10000 km<sup>2</sup>. With its high efficiency, convenience, strong adaptability and feasibility of "door to door" service, highway traffic has become a major way to transport commercial goods and container cargoes.

(3) The rigidity of railway system needs to be reformed

The railway freight reform has entered into the third year since it was officially launched in May, 2013. On one hand, the market awareness and service concept in railway system have been constantly reinforced; on the other hand, railway transport is expected to attract commercial goods while maintains the transport in crude oil and raw materials, etc. but in the short run, China's railway freight traffic is hard to pick up. In 2015, railway freight traffic volume continued to decline by 9.8%, the slump in railway freight market is anticipated to continue for a period of time. Affected by this, the railway wagon is at risk of a glut. China Railway

Engineering Corporation has sealed up some wagons and sharply reduced its purchase quantity. The production of railway wagon was 14056, dropped by 30% in 2015. The excess transport capacity is expected to shift with the implementation of B&R.

## V . The influence on Japan's Logistics

As previously mentioned, the implementation of B&R is bound to improve China's geopolitical influence on Central Asia and Southeast Asia. In reality, the existing international order determines the different reaction of countries on B&R initiative. The vested interests oppose while developing countries support, besides, there are some powers that remain cautious and a wait and see attitude, such as Japan.

Although China and Japan have a close economic relation, there are continuous discussions in Japan in how to cope with B&R initiative of China. Such reaction comes from the consideration of realistic benefits, but also from the anxiety caused by losing market opportunity, the constraints of realistic international relationship and the worries of being



smooth development of business activities. Furthermore, these routes change the tradition route of Japan-Europe transport which relies on the Pacific ports at eastern side in Japan. Therefore, the traffic efficiency is better achieved with the more balanced and reasonable distribution of logistics lines.

## VI . Conclusion

The investment of China in the countries along B&R is bound to produce competitions with Japanese companies who start to invest overseas from earlier on. In macroscopic view, with a growing economic influence, China will lead to the changes in East Asia and the worldwide. In political view, the double-channel in B&R the Silk Road Economic Belt and the 21<sup>st</sup> Century Maritime Silk Road combines the land with the ocean, as a result, the geopolitical layout of Asia is also changing.

At this stage the economic competition between China and Japan is becoming more and more obvious. Take the Indian market as an example. China frequently appears in the fields such as power generation and urban traffic, etc., and its price competitiveness poses a threat to Japanese enterprises. It has no doubt that B&R intensifies the competition between the two countries' enterprises in the infrastructure construction where high-technologies such as high-speed railways and power generation are needed.

Nevertheless, in microscopic view, B&R has a positive impact on the international logistics of China and Japan. Since the international maritime transport is experiencing a transformation, B&R has a promising prospect. The carry-out of freightage of Japan-Central Asia and Japan-Europe has tremendous advantages in cost and time. It also has great significance in the formation of Eurasian Economy Corridor and the new pattern of international traffic.

## Notes

- 1 China, Mongolia, Burma, Bangladesh, India, Pakistan, Afghanistan, Iran, Iraq, Syria, Jordan, Israel, Azerbaijan,
- 2 France, Germany, Italy, Belgium, the Netherlands, Luxembourg, United Kingdom, Ireland, Denmark, Greece,
- 3 Although Thailand and China don't border each other, the northeast end of the China-Thailand railway is connected with the China-Laos railway which is under construction.
- 4 China proposes a 2.5% interest rate, while Thailand hopes a 2% interest rate, because 2% interest rate is obtained by reference to China's participation in Indonesia high-speed rail project of Jakarta-Bandung. China estimated that the project would cost more than 500 billion baht (about 14.2 billion US dollars), while figures given by Thailand government was 400 billion baht (about 11.36 billion US dollars). The Transport Minister of Thailand said in the interview of "Straits Times" in Singapore that China-Thai railway cooperation project was an important connection between governments in this region, but also a commemoration of the 40<sup>th</sup> anniversary of the establishment of China-Thai diplomatic relations. "This is why we tell Chinese government that it is a friendship program, so do not make any profits." Thailand government wanted a friendship price in loan interest rate and cost. Disagreements were also reflected in the joint venture shareholding structure proposed by Thailand. The two sides had negotiated over the different plans of China's investment percentage (60% or 70%). In Thailand's view, as an essential part of B&R initiative, this project was supposed to be invested mostly by China. On one hand, Thailand required China to construct most investment; on the other hand, Thailand was not willing to remise the development right in the region along the railway.

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