

The Rise of the BRICS and its Development of the Service Trade

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Abstract

This paper compares the comparative advantages and trade patterns in the evolution of the service trade in BRICS in terms of international market share, Lafay index, and other indicators, revealing a pattern of these five countries competing in various service areas. The results reveal that the scale of the service trade in the BRICS countries has continuously expanded. Except for individual cases, the trade structures of the five BRICS countries give priority to, and have comparative advantages in terms of, the general labor force and natural resource intensive sector, while having comparative disadvantages in terms of capital and a technically crowded modern service sectors. The results of Lafay index analysis further indicate that at its present stage, the BRICS service trade as a whole can be still characterized as mainly inter-industry, although a trend of intra-industry trade appears to be gradually emerging.

This paper also proposes factors influencing BRICS' competitiveness in trade in services with Michael Porter's "diamond model" and then conducts a comparative analysis of the effect of these factors on the development of the five countries. According to the results, lack of advanced factors of production, underpowered domestic market demand, low market openness, and imbalanced goods and services trades synergies are the main causes of the weak competitiveness of the BRICS' service trade. Accordingly, possible solutions are provided, including enhancing the accumulation of advanced factors of production, expanding domestic market demand, improving market openness, and promoting good and service trade synergies.

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I. Foreword

1. Background of the Study

The world economy is set to witness major changes once again. In this new era, economic globalization is deepening and taking on the following four characteristics. The first characteristic is that of having two wheels, one spinning more rapidly than the other. Fueling increases of world trade, with the liberation of investment, is a multilateral trading system and more regional trade. The World Trade Organization's (WTO) 10-year Doha Round of Talks failed and ended in a deadlock; meanwhile, various regional trade arrangements are producing economic growth. This suggests that the wheel of regional trade, with its formation of geographic blocs, is spinning more rapidly than that of global or international trade.

The second characteristic of economic globalization is the emergence of two distinct markets: one promising and the other sluggish. The main feature of previous economic globalization is that advanced countries were markets for consumer goods and that developing countries were the producers of these goods. However, after the financial crisis of 2008, developed countries were caught in the predicament of having insufficient effective demand, while developing countries, especially emerging economies, began to manifest new market potentials.

The third characteristic of economic globalization is the appearance of two forces: one ascending and the other descending. In the past, advanced countries dominated the economic governance of the world economy. However, the global balance of power has shifted. New economies are emerging one after another, and advanced countries, which are gradually losing their control over the world economy, are now less willing to promote

economic globalization.

The fourth characteristic of economic globalization is the development of two industrial sectors, services and manufacturing, with the proportion of one rising and the other falling. The share of manufacturing had been quite large in the previous world trade structure. A major impact of economic globalization on the industrial structure is the convergence of manufacturing and services, resulting in the gradual rise of trade in services and relatively small gains for traditional manufacturing. Thus, the service-oriented development tendency of the world economy is becoming increasingly apparent.

As of the 1980s, the service sector has been rapidly developing and has become vital to world economic and trade activities. The world's total export of services increased from \$365 billion in 1980 to \$4,425.8 billion in 2012, turning the service sector into an important economic activity just after trade in goods and foreign direct investment (FDI). Moreover, because of the features of service sector, the focus of world market competition will also shift to a "trade" in services in the future. Consequently, the comparative advantages of trade in services will be significant to a country's prospects for trade and economic development.

In such a context, China has grown into a large manufacturer with over 30 years of effort. However, the US-originated global economic crisis in 2008 and the European debt crisis in 2011 suppressed the purchasing power of the two major trading partners of China to different extents, and these crises affected the Chinese economy, highly dependent on overseas markets. For China, adjusting its industrial structure and expanding domestic demand became the only choices to maintain steady economic development. Meantime, the transformation the trading patterns and the expansion of service exports reflected the consensus of China's society as it sought a new starting point for stable economic growth.

The United Nations Conference on Trade and Development (UNCTAD) classifies trade in services into 11 categories: transport, travel, communications, construction, insurance, financial services, computer and information, royalties and license fees, other business services, personal, and cultural and recreational services and government services. We can see that trade in services covers an extensive and promising scope of activities. Viewed from the angle of industrial upgrading, the development of the service sector also represents a specific manifestation of upgrading the industrial sector as well. This is part of the inevitable, a constant climb toward the high end of the industrial chain, specifically toward the upper stream of the value chain. Therefore, the development of the service sector not only stabilizes growth in trade but also raises the position of the Chinese industry in the global industrial value chain.

In the U. S., Goldman Sachs proposed, for the first time in 2001, the concept of the "BRICs," which includes Brazil, Russia, India, and China. After the entry of South Africa in December 2010, BRICs was formally renamed BRICS (and many commentators refer to the new bloc as "BRICSA.") The BRICS account for 29.7% of the territory and 42.4% of the

population of the world, boasting unique advantages in area, population, resources, markets, and others. Along with their accelerated economic growth, BRICS, as representatives of emerging economies and leaders of developing countries, played an important part in many international affairs, and their international status kept rising. In a Global Economic Report, published by America Goldman Sachs in 2003, it is estimated that the world economic pattern will be subjected to dramatic changes by 2050: China, U. S., India, Japan, Brazil, and Russia will become the six new major economies of the globe. We can see that the BRICS countries are playing a more important role in the world economy.

In recent years, the position and role of trade in services of BRICS economies in global services are gradually improving. In 2010, the total volume of trade in services of BRICS accounted for 11.1% of the world total, up 122% over 4.9% of 1999. Although BRICS registered rapid development of trade in services, their industrial sectors were less impressive. The growth in the total trade in services in these countries was still driven by tourism, transport, and other traditionally labor-intensive industries, while the international competitiveness of their finance, insurance, communications, and other emerging services lagged far behind the U. S. and other advanced western countries. Therefore, a general exploration into the current development of trade in services in BRICS and an in-depth analysis of structural competitiveness will be conducive to our understanding of the development patterns of trade in services. These countries and their differences will be of great strategic significance for China and other developing countries as they borrow experiences to gain comparative advantages in the service trade, to boost their overall development in the larger macro economy.

Because of features of the service industry (the modern service industry in particular) such as factor intensity attributes, income elasticity of demand, productivity increase ratios, and industrial relevancy, the modern service industry and trade in services are of vital importance to the economic development of a country. BRICS, as the largest emerging economic bloc of the world, is in an apparently inferior position in the service trade, which restricts economic growth, inhibits the upgrading of the industrial sector, and further diminishes the capacity to absorb more employment. Based on the above, it is therefore important for emerging economies to produce a systemic analysis of the comparative advantages and trade patterns of the service trade in the five BRICS countries.

2. A retrospective on domestic and foreign studies

Currently, there are many methods for measuring the competitive advantages in trade in services at home and abroad. Although many scholars approach the topic from different perspectives, they basically follow two routes: one is to assess service trade competitiveness based on factors affecting its development. After a study of the decisive factors of service exports, the western scholar Sapir (1984) concluded that traditional goods trade theory could explain service trade patterns; however, because the degree of fitting of

estimated results was low, trade in services still needed explanation. Lucas (1988) conducted an analysis of the competitiveness of trade in services from the aspect of human capital accumulation based on Arrow's learning-by-doing model¹. According to Lucas, the degree of human capital accumulation of a country, weak or strong, had a major impact on the comparative advantages of its service trade. Two Chinese scholars, Yin Feng and Chen Xian (2009), conducted an empirical analysis of the economic scale, income level, development level of service business, scale of goods trade, opening degree of service, and influence factors of international service trade in combination with data (1990–2005) of 14 major service traders including U. S., Canada, and China. Feng and Xian (2009) held that China's service industry had lagged behind for a long time, with a low opening level of service industry and a very small international market share; hence, the scale of service exports remained small compared to its economic strength. Zhuang Huiming, Huang Jianzhong et al. (2009) selected nine influence factors of service trade competitiveness and built an econometric model for assessing the competitiveness of the service trade of China. Shu Yan and Lin Longxin (2011) selected 15 indexes and studied the influence factors of service trade competitiveness of China using principal component analysis in combination with a regression model.

Based on an analysis of the service trade competitiveness of various countries, numerous scholars found the influence factors of service trade competitiveness and conducted quantitative analyses of these factors with empirical models. In summary, these factors mainly include the development levels of respective domestic service industries, human capital, degrees of openness, FDI, exchange rates, national incomes, the total trade in goods (it is also considered by scholars to be a dependent variable² due to the relevancy between trade in services and trade in goods), institutional and technical factors, including technical progress³, respective stages of economic development (the industrial structure), the strength of governmental policies, changes in trade patterns, and differences in the endowment of resources⁴. While studying the trade developments in BRICS, we cannot neglect the factor of trade policies interacting among them⁵.

The second route is to measure the competitiveness of service trade based on the import and export data of services (in combination with various indexes). This approach is a typical method of measurement. Common indexes mainly include the Trade Special Coefficient (TC), the Revealed Comparative Advantage Index (RCA), the Revealed Competitive Advantage Index (CA), and the Net Export Revealed Comparative Advantage Index. Two western scholars, Peterson & Barras (1987), conducted an empirical analysis of the service trades of many countries with an RCA index and discussed the relation between actual exports of services in sample countries and their RCA indexes⁶. Peterson (1988) conducted an empirical analysis of the competitive structure of tourism services in a number of economies with RCA indexes⁷. Hoekman (1995) utilized the RCA index to analyze the service trades in OECD members, developing countries, and small developing

countries (analyzed the service trades in OECD members, developing countries and small developing countries with RCA index) and found that many developing countries, as well as smaller developing countries, were becoming (or would become) professional service exporters. Hardwick (1998) conducted an analysis of the competitiveness of the EU insurance industry with the RCA index. According to the results, the U. K, France, and the Netherlands had the most competitive insurance, while the market shares of Spain, Italy, and Portugal indicated their ascending positions in the future⁸. Srinivasan (2004) found that among various goods exporters, the market share of China had been growing fast since 1978, leaving India far behind. Conversely, in terms of trade in services, India's IT export industry outstripped China's. India's growth was driven by the export of services supported by intelligence, while China's economic growth was driven by manufacturing products supported by cheap labor, leading to a sharp contrast between the two national models⁹. Yanrui Wu et al. (2006) also compared the bilateral trade between China and India with the Trade Specialization Index (TC) (Trade Specialization Index) and RCA indexes and concluded that China and India were in direct competitive relation with respect to manufacturing products, and that, furthermore, China could borrow the service development experience of India¹⁰. Allan and Philip (2005) conducted a quantitative analysis of trade in financial services of OECD countries in 2001 and found that intra-industry and inter-industry trade coexisted in all countries. Through RCA index analysis, Allan and Philip concluded that the most competitive countries were Belgium, Luxemburg, Italy, Switzerland, the U. S., and Greece. If the net export index were to be applied, the most competitive countries became Germany, Switzerland, the U. S. and U. K., Belgium, and Luxemburg.

Chinese scholars Ren Jianting and Liusu (2010), He Yadong (2010), Huang Yi (2012), He Jun (2013), and Liu Wen Qi, among others, conducted an evaluation and study of the international competitiveness of China's service trade as a whole and one specific branch with the above relevant indexes. Cheng Xinzhang and Tang Haiyan (2007) conducted research into the advantages of China's foreign trade from the perspective of an international division of labor with the Lafay index; however, the scholars did not address trade in services.

In conclusion, although the domestic and foreign scholars conducted substantial analysis of the service trade and competitiveness in BRICS economies and illustrated different views using different methods, there is a paucity of literature on trade in services in the BRICS economies, especially regarding inter-industry development characteristics and interactions. This study tries to explain the trade in services of BRICS as one emerging economy, revealing differences meriting our attention within one service branch in a particular country. This study also measures the overall competitiveness of the service trade of the BRICS bloc and the structural advantages of each component through the comparative method of the Lafay index.

II. Rise of BRICS and the Expansion of Foreign Trade

1. BRICS have become important engines and drivers of world economic growth

Over the past dozen years, the most profound impact brought about by rapid economic globalization is the emergence of large emerging economies. The so-called emerging economies started growing in 1960s, and the most typical cases were the “East Asian Tigers” and “Tiger Cub Economies.” However, the emerging economies were generally small in size at that time and were not sufficiently strong to wield great impact on the world economy and trade pattern dominated by advanced countries. In early 1990s, after the Cold War, economic globalization boosted by advanced countries was spreading fast, involving China, Russia, India, Brazil, and other large developing countries. After China’s entry into WTO in 2001, emerging economies started to rapidly gain strength and finally broke the global economic pattern dominated by advanced economies.

Since 2000, the economic scale of BRICS rapidly expanded, growing at a rate above the average of the world and the G7 (as shown in Figure 1). Based on the UNCTAD data of 2012, the GDP of China, India, Brazil, Russia, and South Africa stood at \$4,567.45 billion, \$1,375.38 billion, \$1,136.55 billion, \$979.4 billion, and \$305.54 billion, respectively, accounting for 15.5% of the whole world altogether, up 6.5% over 9.0% in 2000. Correspondingly, the G7’s share of global GDP declined from 62.5% in 2000 to 53.8% in 2012 (see Figure 2). Currently, the overall economic scale of the BRICS has outstripped Japan and reached 60% of the U. S. From 2000 to 2012, the real GDP of the world and advanced countries only increased by 1.4 and 1.2 times, respectively, while the total GDP of the BRICS increased by 2.3 times.

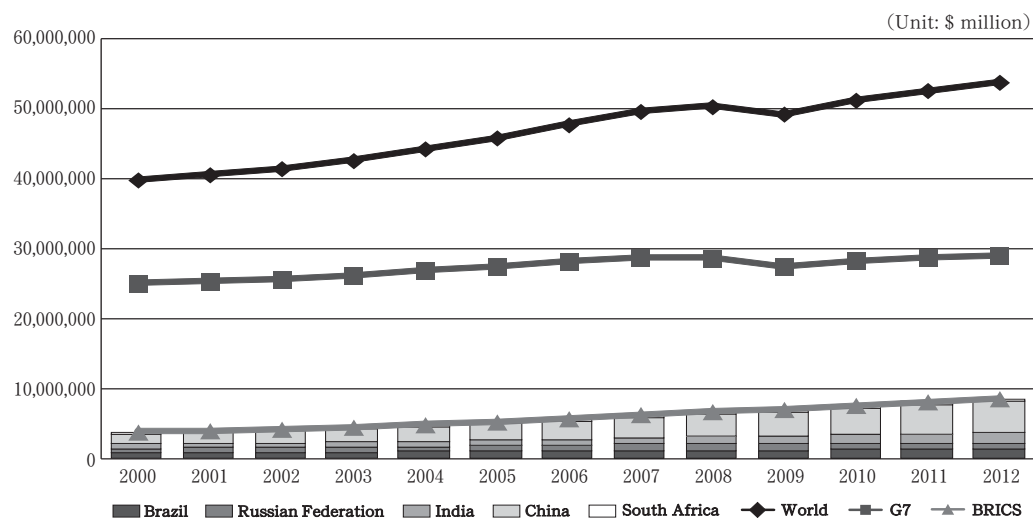


Figure 1 Transition of GDP of the World and Various Economies, 2000–2012

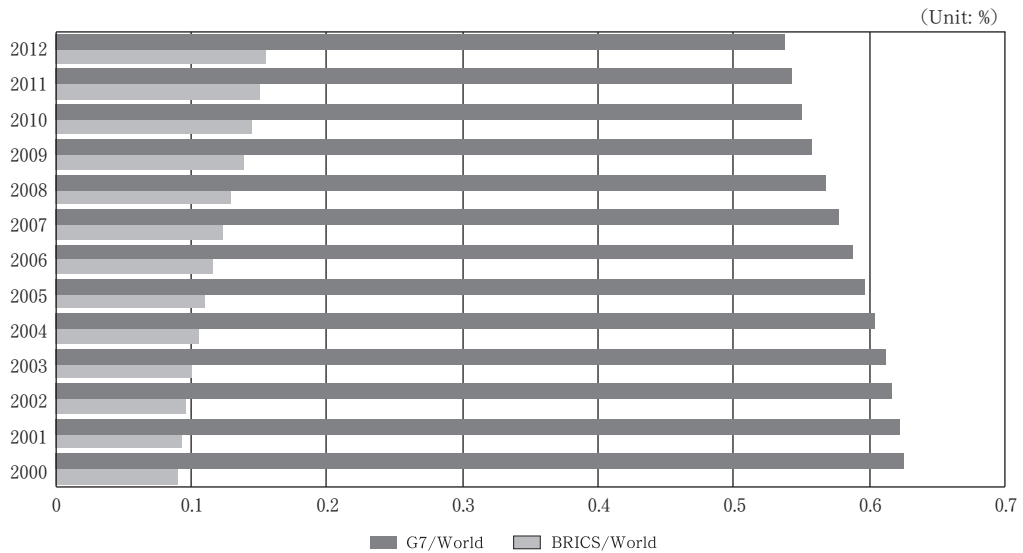


Figure 2 Transition of Various Economies' Share of Global GDP, 2000–2012

As the figure shows, compared with advanced countries experiencing relatively slow economic growth, the BRICS, as typical examples of emerging economies, manifested world-shocking economic growth after 2000, far above the average of the world and the G7 (see Figure 3). China had achieved both fast and sustainable economic development after it had adopted the reform and opening-up policy for over 30 years and created a historic miracle of annual average growth of nearly 10%. India also maintained fast economic growth these years. Russia was named “a rising giant,” and Brazil was also emerging from the economic stagnation and moving toward rapid economic development. In 2009, the world economy registered a negative growth of 2.1%, and China and India, two BRICS economies, were still achieving a fast growth rate of 9.2% and 8.2%, respectively, despite this

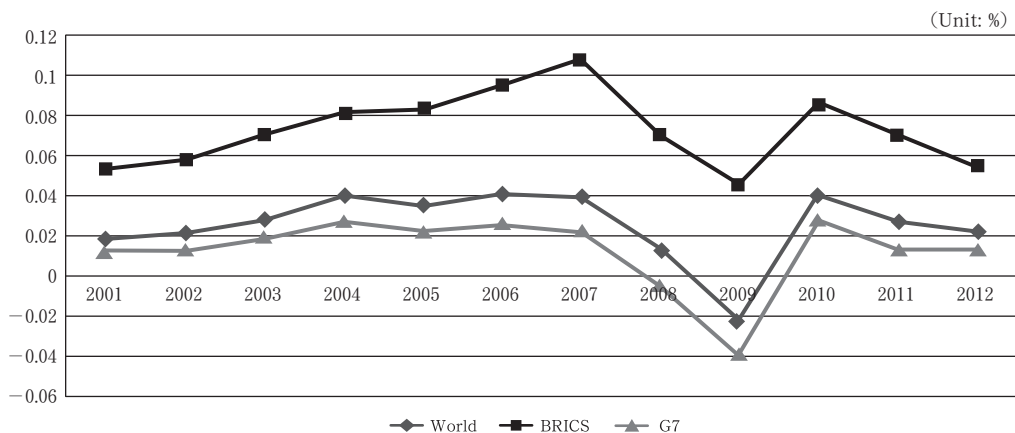


Figure 3 Transition of GDP Growth in the World and Various Economies, 2000–2012

negative global context. In the view of the global growth tendency, BRICS countries' economic strength was constantly improving, and the BRICS were becoming less dependent on advanced economies. Over the past decade, apart from the remarkable growth of China among the BRICS, India also maintained an annual growth rate of 6%-7% and even reached 9.8% in 2007, becoming one of the most attractive destinations of world investment along with U. S. and China. During the same period, Russia also recorded fast economic development and an annual GDP growth of more than 5%, re-establishing itself one of world's 10 major economies. Brazil's economic development was relatively sluggish; however, its economic growth still reached 7.5% in 2010. Finally, the South African economy also maintained rapid growth; however, it fell behind the world average after the onset of the world financial crisis. Therefore, China, India, Russia, and Brazil presented a distinct trend of growth in GDP as of 2002, while the economic scale of South Africa varied little across the same period.

In summary, over the past dozen years, the BRICS were developing at an accelerated rate, higher than the world average, with rising world shares of economic stock and economic value added (EVA). The BRICS had become important engines and drivers of world economic growth.

2. Trade Expansion in BRICS

Along with the rapid economic development, foreign trade levels of the BRICS countries were significantly rising. China became the second largest trading entity of the world in 2011. Also, China, India, Brazil, Russia, and South Africa began to adopt fairly open foreign trade policies in 1978, 1991, 1994, 1992, and 1993, respectively, bringing closer the relation between BRICS and the world economy. This had also become the important context of unprecedented upgrading of the world influence and expectation value of BRICS.

In terms of trade volume, BRICS only took up 6.6% of the world total in 2000, while this figure had risen to 15.9% in 2012. In contrast, the share of world trade of developed countries dropped from 47.4% in 2000 to 35.1% in 2012. However, if viewed from the trade scale, there were great differences among the individual BRICS economies. For example, in 2012, China's imports and exports of goods and services totaled \$4,272.63 billion, accounting for 9.5% of the world total, being 4.1 times, 4.3 times, 7.3 times, and 18.6 times greater than Russia, India, Brazil, and South Africa, respectively. Thus, on the whole, the trade scale of BRICS was trending toward constant growth. In addition, except for South Africa's relatively small share of world trade, the shares of the other four countries were apparently growing (as shown in Figure 4).

Meanwhile, although BRICS made certain breakthroughs in the quantum of world trade, the growth rate fluctuated widely. As shown in Figure 5, the changing tendency of growth in imports and exports was generally the same in BRICS during 2001 and 2012, and

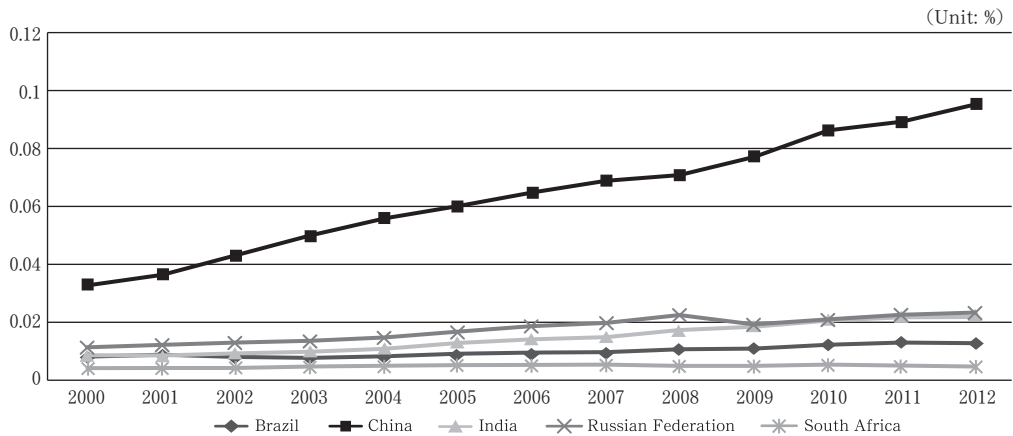


Figure 4 Transition of BRICS' Shares of World Trade, 2000-2012

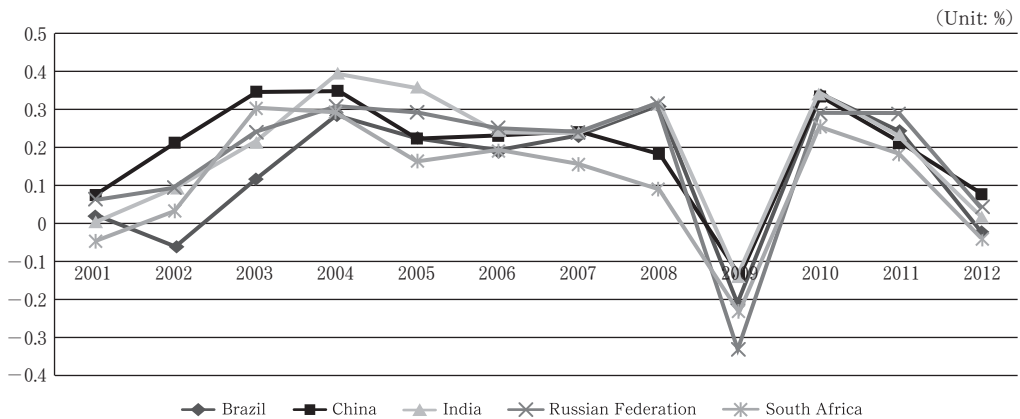


Figure 5 Transition of Growth in Imports and Exports in BRICS, 2000-2012

2009 saw a sharp decline and even negative growth due to the impact of the world financial crisis. Although foreign trade recovered and then gained momentum in all BRICS countries in 2010, a declining trend then appeared after that year.

To be more specific, China's growth in foreign trade fluctuated from 2001 to 2012 and reached a peak value of 35.5% in 2004, a result mainly attributed to the reduction of trade barriers and broader trade space before Chinese export-oriented enterprises after China's entry into WTO in 2001. India had been maintaining high growth in foreign trade, especially with the Rao government adopting the New Economic Policy in 2001 (except for the year 2009). Brazil's growth in total foreign trade fluctuated significantly. In the late 1990s, Brazil began to adjust its industrial structure and strengthen its export capability, resulting in the most sustained growth of trade since 2003. Russia's growth in trade volume was also unstable and vulnerable to world economic environment and domestic economic policies.

Therefore, generally speaking, BRICS' growth in foreign trade witnessed great fluctuations and decline following the economic crisis; however, these economies still manifested a distinct growth tendency after 2003.

Moreover, we can also validate the soaring development of foreign trade in BRICS from the perspective of exports. According to UNCTAD data, the exports of BRICS totaled \$3,670.74 billion in 2012, an increase of 5.6 times over that in 2000, while the G7 only saw an increase of 1.1 times in the same period. As far as each country is concerned, South Africa, Brazil, Russia, India, and China increased by 1.9 times, 3.4 times, 4.2 times, 6.2 times, and 7.1 times, during the same period, in contrast to 1 and 0.7 times for the U. S. and Japan, respectively. We can see that the growth in exports of BRICS was far greater than that of advanced countries led by the G7 during 2000 and 2012.

The expansion of exports also brought about considerable trade gains to BRICS. As per Figure 6, from 2000 to 2012, among the BRICS countries, China and Russia maintained long-term trade surplus, while India maintained a trade deficit. China, the workshop of the world, gained its huge trade surplus mainly from exporting large quantities of manufactured goods, with its trade surplus reaching \$230.23 billion in 2012. By contrast, the trade surplus of Russia was mainly from the rise of market price of natural resources and other primary products, with its surplus reaching \$148.8 billion in the same year. After the financial crisis in 2009, Brazil, the major world supplier of raw materials, recorded repeated trade deficits lasting to 2012, despite the past trade surpluses due to the downsized exports of raw materials and finished products and significant increases in petroleum imports.

In conclusion, ever since 2000, BRICS' foreign trade achieved different levels of development as a whole, without regard to the scale of trade, the growth of exports, or balances of trade. Speaking of the scale of trade, China possessed distinct advantages and became

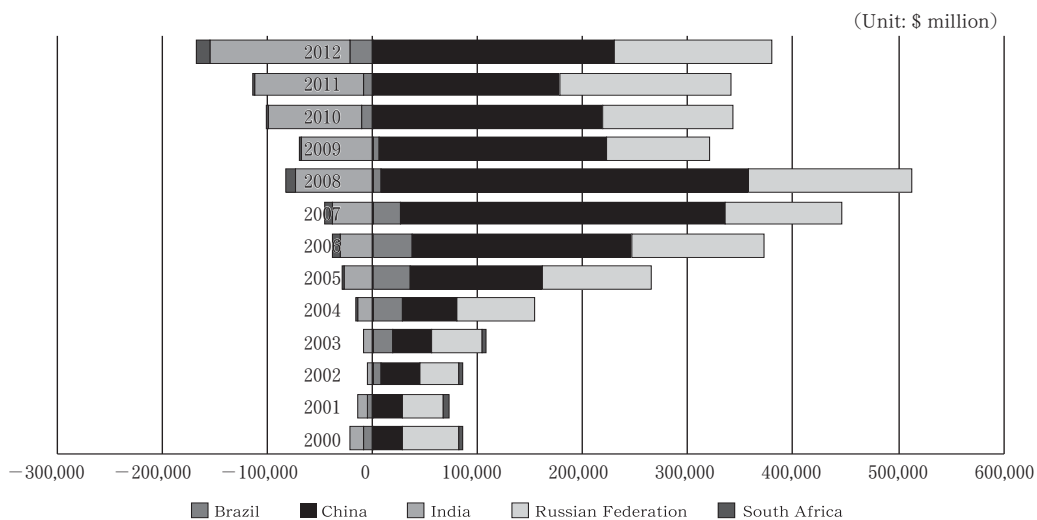


Figure 6 Transition of Imports-Exports Balance of BRICS, 2000-2012

the second largest trader and the largest exporter in the world in 2011. When it comes to growth in foreign trade, BRICS showed basically the same changes, with all of their economies remaining vulnerable to the influence of world economic environment and domestic trade policies. Hence, the BRICS economies demonstrated great fluctuations. Although BRICS maintained high growth in foreign trade as of 2003, including India and Russia with the highest growth, the growth in foreign trade showed a declining tendency in BRICS, especially after 2010 due to the impact of the world financial crisis. In terms of exports, all BRICS tended toward robust growth, with China posting the most outstanding statistics. Driven by robust exports, China and Russia still maintained long-term trade surpluses in terms of balance of trade. Trade development in BRICS shows that the dominance of the world economy is shifting from developed countries to emerging economies, and that new economies, led by BRICS, are still growing at a faster rate than advanced countries regardless of the deteriorated world economy. All these factors have laid a favorable foundation for BRICS to promote an economic transformation based on trade in services.

III. Servitization of the World Economy and BRICS Expansion of Trade in Services

1. Servitization of the World Economy

According to the research of Kuznets and other economists, as a society and its economy develops, and its national income rises, the industrial structure of a country or region will experience an initial shift from primary industries to secondary industries, followed by a shift to tertiary industries, after development has reached a certain level. Looking around the world, as economic globalization is accelerating, the service industry of the world is becoming more dependent on information, and the modern, international division of labor and collaboration is moving away from traditional manufacturing and toward productive services and other high-end processes. This is transforming the world economy, turning it into a service-oriented economy. The service industry is becoming an important engine driving economic growth, and it is a major source of sustainable development for the modern economy. Hence, the development level of the service industry has become an important symbol of economic modernization. In the 1980s, the world economy witnessed a transformation away from an “industrial economy” toward a “service economy,” and modern service became the major force stimulating economic development.

More specifically, the servitization of the world economy is mainly visible in the following ways:

(1) Servitization of the industrial structure

Concerning the structure of GDP in 2010, the ratio of the added value of the three industries of the world was 2.8:26.3:67.7, and in OECD members with high incomes, it was

1.3:23.8:74.9, leading to the tertiary industry establishing a dominant position in all countries.

Ever since 2000, the tertiary industry's share of GDP was on the rise in the world and maintained itself at about 70% starting from 2008. The tertiary industry accounted for nearly 80% of GDP in the U. S. and U. K., which are known as two highly advanced economies. Although a tendency toward the servitization of the economy was also observed in rapid-developing or emerging countries, there were great differences among them. Among the BRICS countries, the tertiary industry's share of GDP surpassed 65% in Brazil and South Africa, approaching the average level of the world. India and Russia fell behind Brazil and South Africa in this regard; however, their tertiary industry's share of GDP still went above 50%. While China displayed long-term rapid economic growth, its tertiary industry was developing at a rate below those of the other four countries, making up merely 40% of its GDP.

In driving economic growth, in 2010, the contribution of the tertiary industry to the growth of GDP was 64.1% in the U. S., 66.4% in the U. K., and 68.7% in Australia, all far greater than that of the secondary industry (37.3%, 34.6%, and 11.7%) in these countries, respectively. Among BRICS, in 2011, the contribution of the tertiary industry was as high as 79.3% and 74.1% in India and Brazil, respectively, both above the level of advanced countries such as the U. S. and U. K., while the contribution of the tertiary industry was relatively low in China and Russia, amounting to a mere 43.7% and 44.3%, respectively. This shows that the major force driving economic growth is no longer manufacturing but rather modern service, albeit only after economic development has reached a certain level. The servitization level of the industrial structure has become an important indicator for measuring economic development.

(2) Servitization of the value chain

The servitization of the value chain manifests an apparent industrial development tendency as well. In terms of the value chain, enterprises can be broken down into a series of strategically relevant activities, including five major activities: inbound logistics, operation, outbound logistics, marketing and sales, and service (Michael Porter, 1998). When economic development has reached a certain stage, the so-called new manufacturing enterprises start to emerge. Instead of merely providing tangible products, they compete to embed intangible services (installation and debugging, after-sale services, consulting and training, and secured financing) into tangible products in the way of service enhancement (David M. Gann, Ammon J Salter, 2000) and provide the so-called full products (Gao Xiaolan, Lin Lei, Wu Guisheng, 2008). In this regard, manufacturing and service industries no longer have clear boundaries, and the three industries, in particular the secondary and tertiary industries, are manifesting a tendency to converge.

(3) Servitization of the demand structure

The servitization of the demand structure also represents a major characteristic of economic servitization. When the level of economic development is low, consumers mainly demand tangible products to meet their daily needs. As consumers' consumption level rises, they will have higher demand, resulting in changes of the demand structure and gradual transition from demand for tangible products to demand for services. Kuznets (1955) interpreted the changes of the industrial structure with the changes of the demand structure¹¹. According to him, a higher income level drives the changes of the demand structure and leads to further changes of the industrial structure. Therefore, an internal logic relation can be considered as existing between the servitization of the demand structure and the servitization of the industrial structure.

(4) Servitization of foreign trade

As a result of the accelerated growth of the global service industry, international trade is also developing towards servitization. International exchange activities are no longer limited to "goods;" instead, finance, insurance, communication, transport, construction, and legal consultancy services are also treated as objects and factored into the trading scope. Viewed from the growth rate from 2001 to 2012, the scale of world service trade was expanding at a drastic speed similar to that of trade in goods, reaching a peak value of 20% in 2007. After experiencing negative growth in 2009, world trade in services and goods soon returned to their normal track; however, their growth slowed down. Even so, trade in services of the world still grew faster than trade in goods in 2012. We can see from the above that trade in services was gaining a larger share in international exchange activities these years, and its position was also improving.

The expansion of world trade in services is leading to an increasingly greater contribution of trade in services to the economic development in all countries. The ratio of global trade in services to GDP rose from 7.6% to 16.2% in 2000. Among them, the ratio of trade in services to GDP was growing in both advanced countries such as the G7 and in emerging countries such as the BRICS, especially after 2009, when the BRICS overtook the G7 in this respect. Taking the ratio of trade in services to GDP for 2012 for example, such a ratio reached 12.7% in the BRICS in contrast to 11.1% in the G7.

In the past, advanced countries were the main players in international trade in services. After 2000, trade in service was playing a more important role in the economic development in emerging countries. Among BRICS, the ratio of trade in services to GDP was the largest in India and reached nearly 20% in 2012, almost on par with the U. K., which represents the highest level in the G7. In addition, Russia showed the most drastic changes in the ratio of service trade to GDP, and this ratio soared from 4.6% in 2000 to 16.8% in 2012, up 12.2%. During 2000 and 2012, although China, Brazil, and South Africa saw increase in this ratio, the change was insignificant as a whole.

As shown in the above statistics, the world economy is becoming increasingly servitized, as economic gravity begins to shift to service industry in all countries, hence displaying a larger share of service in national GDPs.

2. Development of Trade in Services in BRICS

In recent years, trade in services has been rapidly developing in BRICS in general. As Figure 7 reveals, except in 2009, the total volume of trade in services increased year by year and rose from \$165.97 billion in 2000 to \$1,061.1 billion in 2012, a growth of 6.3 times within 12 years. China and India, two rising Asian economies, secured an important position in world trade in services in terms of both exports and imports of services. Among the BRICS, China had the largest scale of trade in services, and its total volume of trade increased from 66.46 billion in 2000 to \$472.63 billion in 2012, an increase of 6.1 times, accounting for 45% of the total of BRICS. The total volume of trade in services in India was \$35.87 billion in 2000 and increased to \$269.38 billion in 2012, an increase of 6.5 times, making India a country with the fastest growth in trade in services among BRICS.

Along with the expansion of the service trade, the ratio of BRICS' trade in services to the world total also rose from 5.8% in 2001 to 12.2% in 2012, an increase of 6.4%. In 2001–2012, the global market share of China rose from 2.2% in 2000 to 5.4% in 2012. The share of India, Russia, and Brazil in the world service market was also climbing, with only South Africa, without changes, representing an exception.

However, the development of trade in services fluctuated significantly regarding growth in the total trade in services in BRICS, exhibiting a downward tendency since world economic crisis. Starting from 2001, trade in services accelerated in BRICS and reached a peak value of 33.4% in 2004. From 2005 to 2009, the development of trade in services in BRICS slowed down and dropped to a minimum value of -9.3% in 2009. In 2010,

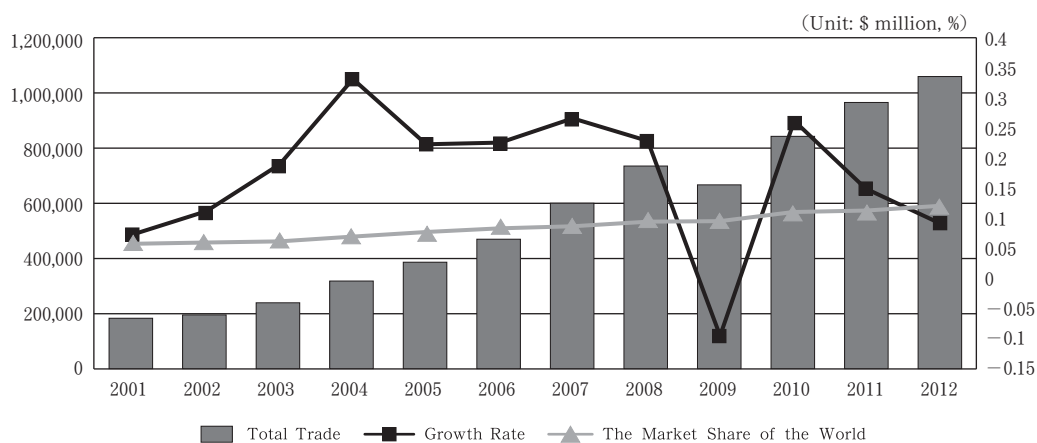


Figure 7 Transition of BRICS' Total Volume, Growth Rate, and Global Market Share of Trade in Services

because of the grave impact of the world financial crisis, although trade in services recovered soon in BRICS, and its growth returned to 26.2%, a decline in growth followed in the following two years, falling from 15.2% in 2011 to 9.4% in 2012.

According to UNCTAD data, from 1994 to 2011, trade in services of the world grew at an annual average speed of 8.2%, while the average growth rates of India, China, Russia, Brazil, and South Africa were 18.7%, 16.2%, 11.0%, 12.6%, and 8.3% respectively, all above the world average level. Entering the 21st century, the growth of trade in services in BRICS further gained speed, especially India and China whose growth reached 25% and 20%, respectively, as of 2002. With regard to imports and exports of services, from 1994 to 2011, India ranked No. 1 in growth in imports and exports of services, and its average growth hit 20.2% and 17.4%, respectively. China ranked No. 2, with its average growth in imports and exports being 17.1% and 15.2%, closely next to India. Russia and Brazil were slower than China and India in terms of growth rates. Russia, with a growth of about 10%, was slightly slower than Brazil, and South Africa witnessed the slowest growth on average, less than 9%.

Based on the above analysis, from 2000 to 2012, trade in services in BRICS was generally on the rise despite a slight year-by-year decrease of the service trade volume in all countries in 2009 due to the impact of the world financial crisis. Among them, the total volume of trade in services of China continually ranked first, followed in turn by India, Russia, Brazil, and South Africa, with a relatively small scale of trade in services. From the perspective of a growing trend of trade in services, the performance of India was the most striking, representing a tendency of catching up with and even outstripping China, a tendency tallying with its robust and rapid economic development during this time span. China, India, and Brazil followed in turn, with Russia alone registering a relatively slow growth in trade in services.

If viewed from imports and exports, from 2000 to 2012, the total exports of BRICS rose from \$71.42 billion to \$446.82 billion, an increase of 5.3 times. However, the added value of imports of service surpassed exports of service in BRICS in the same period, and BRICS imports soared from \$94.55 billion to \$614.27 billion, up 5.5 times.

The balance between total exports and imports or net exports can indicate the net income of a country or region from international trade. According to Figure 8, from 2000 to 2012, because of years of import surpluses, trade in services in BRICS, except in India, had been suffering deficits. The total service trade deficit in the BRICS bloc increased from \$23.13 billion in 2000 to \$167.45 billion in 2012. Moreover, starting from 2007, the service trade deficit had been increasing year by year in BRICS, at a rate above that of years preceding 2007.

To sum up, the development of trade in services in BRICS shared common problems such as late starts, weak foundations, and imperfect development conditions. As the world economic structure gradually improved and upgraded, trade in services weighed more

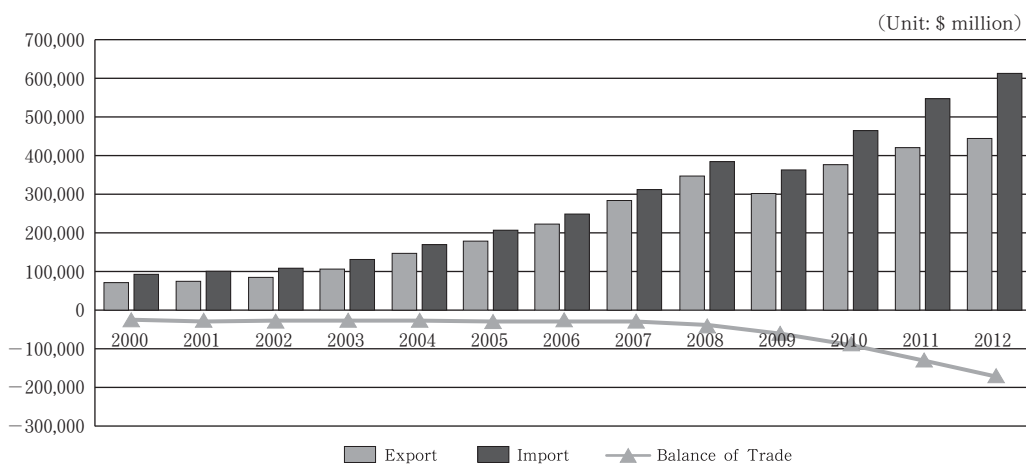


Figure 8 Transition of Imports and Exports of Trade in Services and Trade Balance in BRICS

heavily in each national economy. During this time frame, BRICS achieved marked results in the development of trade in services. More specifically, the growth of its trade scale annually accelerated, and its contribution to the global service trade constantly increased. However, among the BRICS economies, the scale of trade in services and growth rates manifested large gaps, with each country displaying its own characteristics.

IV. Analyzing BRICS' Service Export Structures and World Market Shares

Owing to the imbalanced economic development and differences in endowment in resources, service export structures widely differ among BRICS. Therefore, the most immediate indicator for measuring the trade service scale of different sectors is a “quantum.” A sector’s trade scale is directly expressed as the share of export of such services of a country in the world market, namely its world market share, which determines the position of such a country in the world market. Calculating the shares of different service products in the global market can enable both a macro command of the service trade structure of BRICS and a measurement of the status of different sectors of BRICS in the global service market.

Based on the above thinking, as Figure 9 shows, among BRICS, China had the largest share in the export market, reaching 4.3% in 2012, up 2.3% over 2.0% in 2000. India was in the second place. Its share in the export market rose from 1.1% to 3.1% during 2000 and 2012, demonstrating a soaring trend after 2003. Compared with China and India, Russia and Brazil experienced slower growth in their export market shares. Among BRICS, South Africa had the smallest market share of service products, further exhibiting a downward trend after 2003.

From the above analysis, from 2000 to 2012, the BRICS' trade in services maintained a

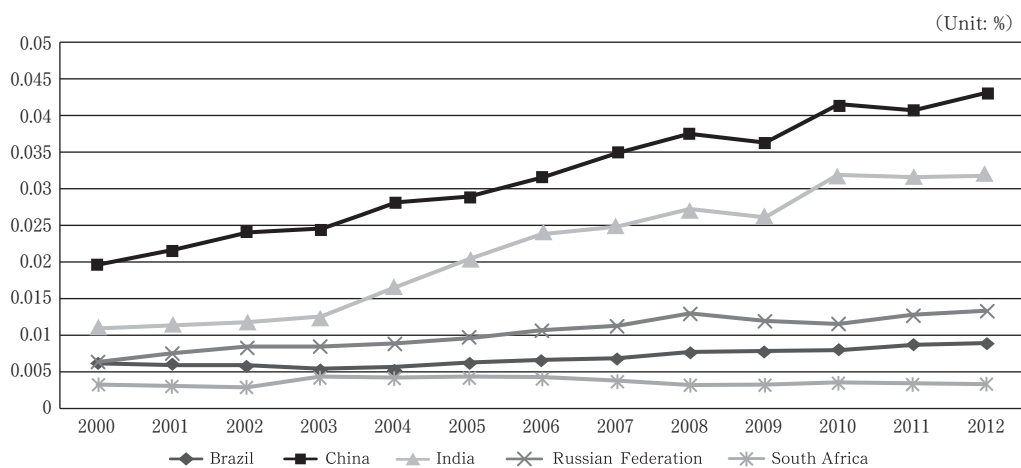


Figure 9 Transition of BRICS' Share in Global Service Exports

high growth on average on a whole, so did its world market share. BRICS had seized a large share in the world market of trade in services, and China, India, and Russia had developed competitive advantages in this trade.

Meanwhile, BRICS' share of trade in services in the world market was still quite small and lagged far behind developed countries. BRICS, as an integrated collective, had a standing in the world market in terms of service trade. However, if viewed from different sectors of different countries, the development of trade in services in BRICS was still characterized by an overall imbalance and individual differences.

1. Brazil's service export structure

After 2000, Brazil's export of services continued to increase and reached \$39.86 billion in 2012, 4.2 times greater than the figure in 2000, taking up 0.9% of the world total. Brazil's export of services largely fell into other business services, travel, and transport. In 2012, the exports of the above three sectors accounted for 83.6% of its total.

Regarding the world market share, as Figure 10 shows, Brazil, as the largest country in South America, had developed a certain export scale in government services. Its share of other business services was relatively large and reached 1.9% in 2012, and Brazil's export of finance, communications, transport, travel, and other services had also won a place in the world market. Its leading advantages in transport equipment and electronic goods had been transformed to trade in relevant services, while its world market share of computers, information service, and construction was quite small, lacking distinctive competitive advantages. This could be answered by Brazil's practical national conditions. Brazil banned the export of software and hardware in the 1980s to promote its domestic computer development, which hindered the development of its computer and information services. Only after this barrier was removed did Brazil achieve development in the computer and

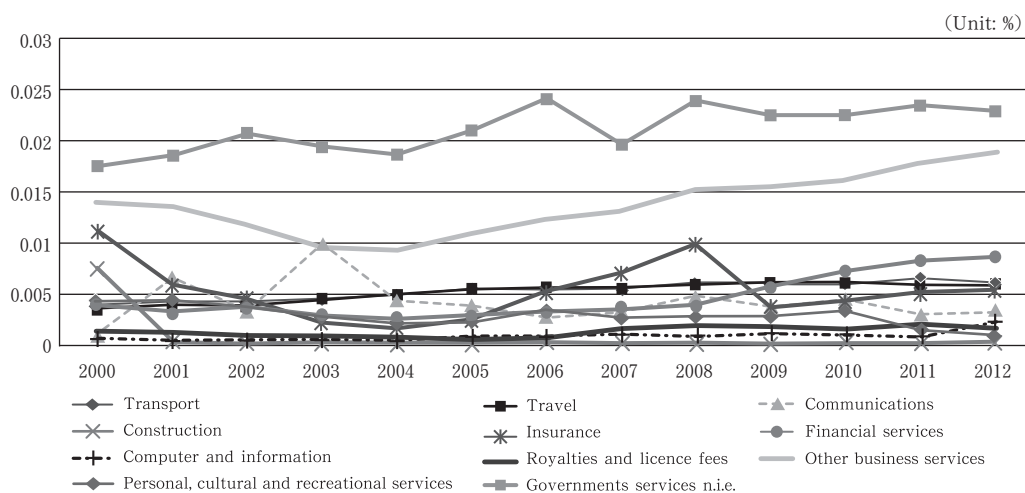


Figure 10 Transition of Brazil' Share in Global Service Exports

information sector.

2. India's service export structure

After 2000, India also registered continuous growth in its scale of service exports. In 2012, its exports reached \$141.21 billion, an increase of 7.5 times over 2000, accounting for 3.2% of the world total. Focusing on other business services, travel, and transport, India's export of services had its largest share in the computer and information sector. In 2012, the export of the above four sectors reached 90% of its total.

As shown in Figure 11, after 2000, India recorded accelerated growth of exports in the

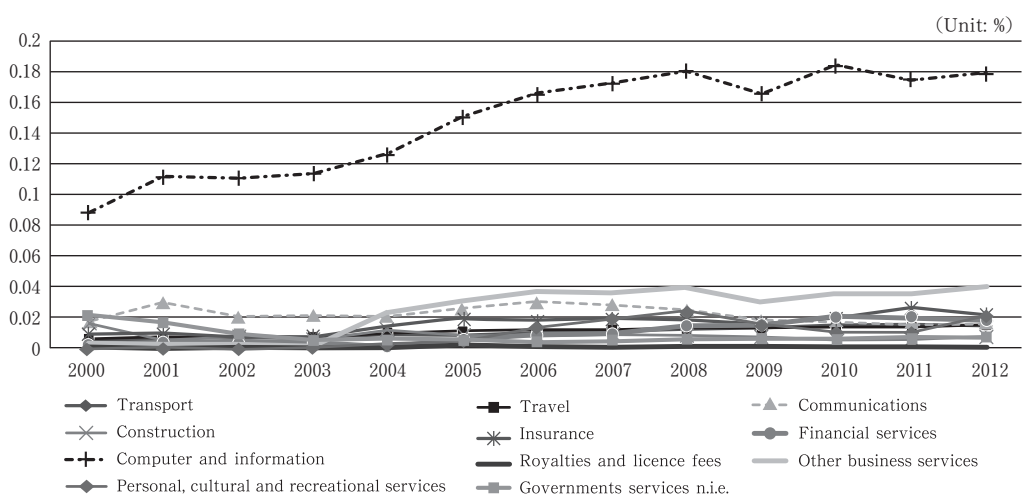


Figure 11 Transition of India' Share in Global Service Exports

computer and information sector and maintained a large world market share, reaching 18.0% in 2012, close to a peak value of 18.5% in 2010. In addition, after 2006, India's world market share of communications services, a long-standing advantageous sector, kept declining, falling to merely 1.5% in 2012, only half of the peak value in 2006. The reasons behind this include the emergence of fierce competition in the global information service market, with a continuous entry of emerging economies into this market. This led to ever-decreasing share of India in the world information service market. Meantime, India's shares, in the world market, of finance, culture, entertainment, and insurance services were on the rise in general, despite a decrease in recent years. This shows that India was incubating new economic activities and new growth points of the service trade, resulting from promotional measures, attracting foreign investment and building financial centers. India obtained a certain share of communications and travel in the world market; however, it had a weak export capacity in construction and royalties and license fees.

3. Russia's service export structure

After 2000, Russia's scale of service export expanded from \$9.76 billion in 2000 to \$59.17 billion in 2012, an increase of 5.1 times, and its share in the world market also rose from 0.6% to 1.3%. Similar to Brazil and India, Russia's export of services mainly fell into other business services, travel, and transport as well. In 2012, the export of the above three sectors took up nearly 80% of its total.

By comparing the world shares of different service sectors of Russia, we can see that Russia had a relatively larger market share in sectors with heavy industry basis, such as construction, transport, and communications, other than in capital-intensive and emerging sectors such as finance, insurance, computer, and information services. This reveals Russia's imbalanced service export structure, and it suggests that a larger share in sectors

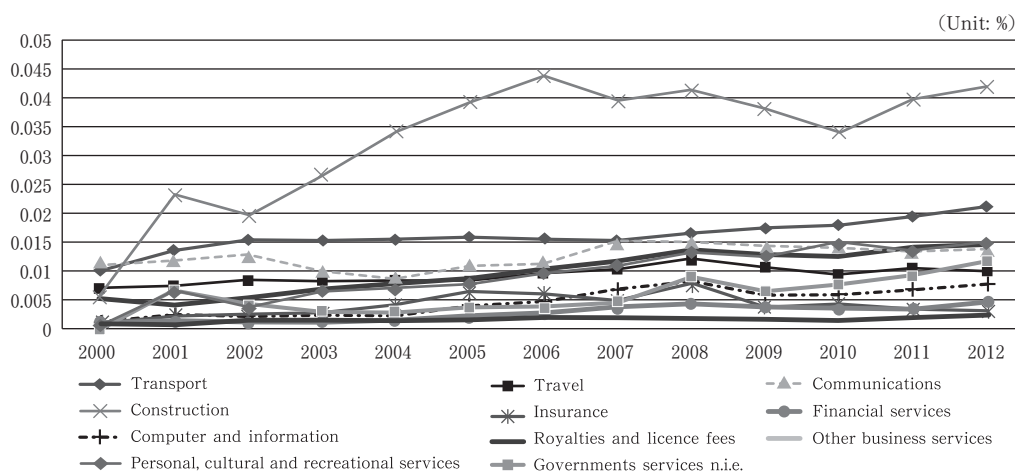


Figure 12 Transition of Russia' Share in Global Service Exports

without core technologies (such as construction and transport) is not favorable for the long-run development of trade in services. As the Russian economy developed and people's living standards improved, outbound travel grew in Russia; however, inbound travel failed to grow accordingly. The reasons include strained infrastructures, limited hospitality capabilities, insufficient national inputs for travel, high visa expenses, and bureaucratic entry procedures. Apart from these constraints, the domestic environment of Russia was also a major reason for restricting its travel market development.

4. South Africa's service export structure

Compared with that for Brazil, India, and Russia, the export of services was relatively small for South Africa, as well as its world market share. After 2000, the expansion of export of services in South Africa took on characteristics significantly different from those of the above three countries. South Africa increased its exports, but still maintained a relatively stable level of the world market share. From 2000 to 2012, the total export of services of South Africa rose from \$5.05 billion to \$15.15 billion, or the scale was tripped; however, its world market share stabilized at just 0.3%.

South Africa did acquire a large market share in travel, a characteristic sector. Boasting rich travel resources and a standardized travel market, South Africa was highly competitive in travel and had a large share of finance and insurance services in the world market, with great potential and promising market in these sectors. Its well-regulated banking sector attracted foreign banks and investors. South African banks took a lead in systems of e-banking, automatic pre-payments, taxation management, and anti-fraud measures. South African Airways became the largest commercial aviation corporation in Africa, and the freight-handling capacity of Oliver Tambo International Airport ranks as the first in Africa. These developments help explain South Africa's large share of transport

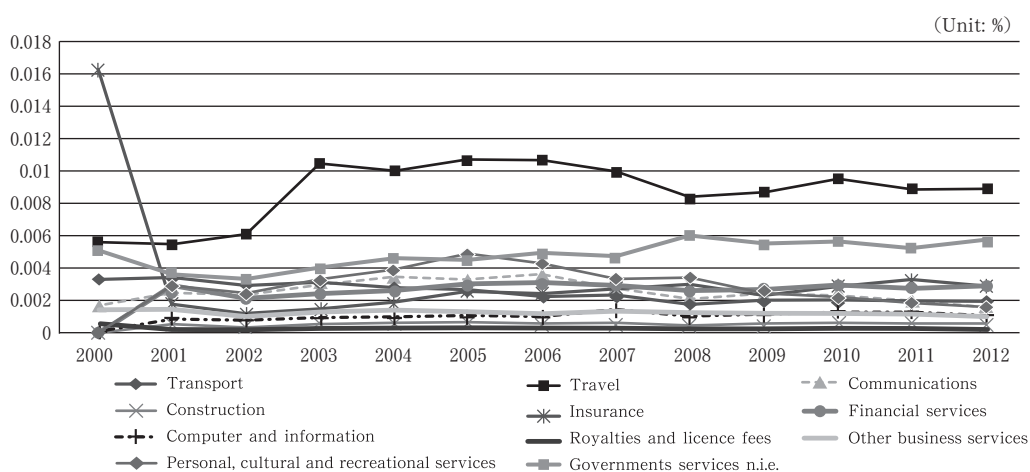


Figure 13 Transition of South Africa's Share in Global Service Exports

in the world market. However, South Africa has a smaller share of construction, royalties, and license fees in the world market, and as of yet, it has no export capacity in these sectors.

5. China's service export structure

China's exports of services dramatically expanded after 2000, and its exports reached \$191.43 billion in 2012, an increase of 5.3 times over 2000, falling below the figure of the same period for India. China's world market share of service exports rose from 2.0% in 2000 to 4.3% in 2012, representing the highest share among BRICS. Similar to other BRICS, China's exports of services concentrated in other business services, travel, and transport. In 2012, the exports of the above four sectors represented 80% of its total.

As we can see from Figure 14, China had a relatively large share of transport, travel, construction, and computer and information services in the world market, which was an important guarantee for consolidating its comprehensive advantage in trade in services. Furthermore, China also had a large market share of other business services, enabling a robust growing force for its trade in services. Meanwhile, although China showed a relatively strong competitiveness in traditional sectors, an imbalance was noticed between its sectors. For example, China's world share of finance, insurance, and royalties and license fees was constantly rising; however, the export of these services lacked apparent competitive advantages.

From a comparison of the global market shares of different service sectors of BRICS, we found that the export structure of BRICS displayed the following characteristics:

① BRICS showed a rapid growing trend in all service trade sectors, and its export structure was also in the process of accelerated adjustment. Simultaneously, the service exports of different sectors also went through changes along with the overall economic

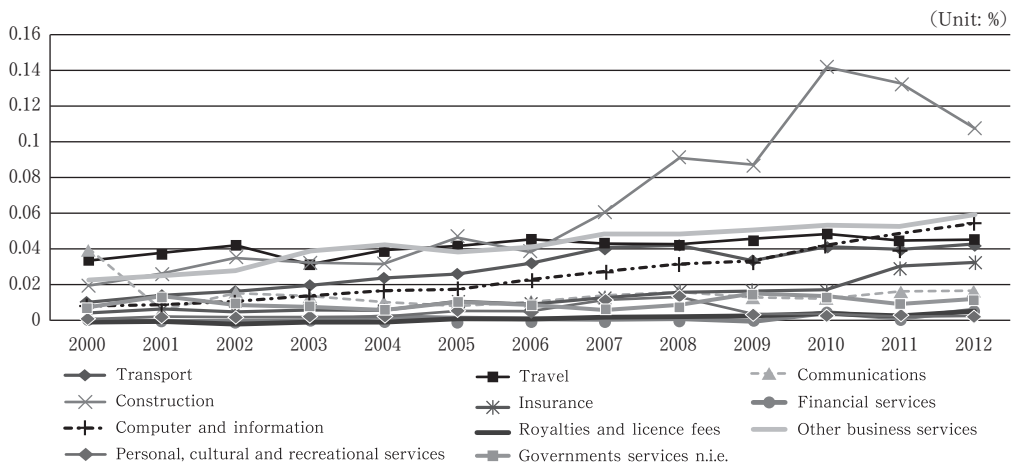


Figure 14 Transition of China's Share in Global Service Exports

development trend and wide fluctuations, which also validated economic transitivity.

② BRICS countries have different advantages in the field of service trade. India had developed initial advantages in the communications and computer and information sectors; China in construction and other business services; Russia in transport; and South Africa in travel. This can also illustrate that the competition within BRICS was not simply low-end competition but demonstrated diversity and complementary characteristics. Regarding trade in productive services, Russia's competitiveness was mainly found in transport, construction, and other traditional service sectors; and Brazil and South Africa were more competitive in modern productive services. Despite weak competitiveness in most knowledge/technology-intensive productive services, these countries presented favorable development trends and constant improvement in service trade structures as well as fast-growing competitiveness in some modern productive services.

③ Judged from the export tendencies of various service trade sectors, China and Russia's exports mostly included transport, travel and other traditional labor/resources-intensive sectors, a tendency contrary to the current world trend. Comparatively speaking, the exports of services of India and South Africa featured a fair distribution of computer, information, finance and insurance, all known as high value-added and knowledge/technology-intensive sectors, which was in conformity with the current development trend in the world.

④ As a large emerging economy, China did not manifest "qualitative" advantages in proportion to its increase in export of service, and the BRICS economies did not discover any sector with special advantages within them. Modern services, especially computer and information, finance, insurance, royalties and license fees, are found in the high value-added and emerging sectors, and the orientation of policies will produce a great impact on the exports of such services.

V. Measuring and Comparing International Competitiveness of Various Trade Service Industries within BRICS countries

Whereas the preceding pages investigated the trade volume of different service industries and their statuses in the international market, this chapter measures and compares the "quality" of the trade in services of BRICS, specifically their international competitiveness.

Balassa's RCA index is widely used in academia for measuring the international competitiveness of different industries, and its basic idea is to reveal a country's comparative trade advantage using exports. This index can accurately reflect the comparative advantages and changes of inter-industry trade as well as reveal changes in inter-industry trade pattern over time. Yet it provides very limited information on changes in intra-industry trade patterns. In the current context of constant growing intra-industry trade in services,

this blind spot necessitates conducting a further analysis of the comparative advantages and patterns of intra-industry trade in services. Therefore, this paper considers substituting Balassa's RCA index with the Lafay index. As the Lafay index comprises both export and import data, it can reflect the comparative advantages of different service trade industries as well as intra-industry trade flows of each industry in each country. A Lafay index is generally expressed as:

$$LFI_j = 100 \left(\frac{x_j - m_j}{x_j + m_j} - \frac{\sum_{j=1}^N (x_j - m_j)}{\sum_{j=1}^N (x_j + m_j)} \right) \frac{x_j + m_j}{\sum_{j=1}^N (x_j + m_j)} \quad (1)$$

Here, x_j stands for the world export of No. j service industry of a country, m_j for the imports of services of such industry, and N stands for the total number of service trade industries.

We can see from the Lafay index's structure that the term in the bracket is the extent of deviation of the trade competition index $\frac{x_j - m_j}{x_j + m_j}$ of service industry j from the cumula-

tive competition index $\frac{\sum_{j=1}^N (x_j - m_j)}{\sum_{j=1}^N (x_j + m_j)}$ of various service industries multiplied by the ratio

$\frac{x_j + m_j}{\sum_{j=1}^N (x_j + m_j)}$ of j industry's trade in services to the country's total. Therefore, a Lafay

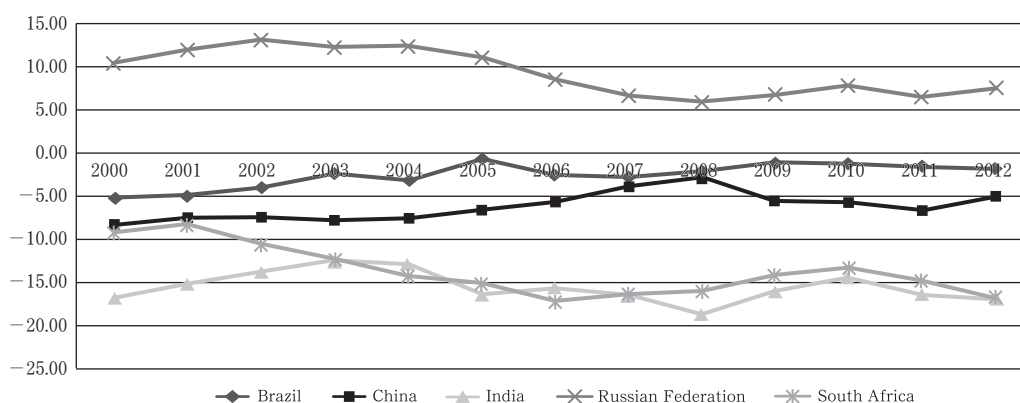
index gives expression to the international competitiveness of service trade industry j of each country, but summarizes the weight of industry j in the total trade in services. The higher the weight, the higher the absolute value of the Lafay index becomes. Another important property of the Lafay index is its ability to indicate the intra-industry trade level of service industry j of a specific country. A positive Lafay index shows that the said country possesses professional advantages in trading such services, and a higher Lafay index indicates a higher professional level for such service industry and greater contribution from it to the balance of trade in services. On the other hand, a negative Lafay index means that such a service industry is dependent on imports. In short, the closer the Lafay index comes to having a zero value, the higher the intra-industry trade level of the service industry, and the farther the deviation of the index from zero value, whether positive or negative, the lower the industry's intra-industry trade level. In addition, the structure of this index implies that the Lafay index of trade in services for a specific industry can be either positive or negative, but the sum total of Lafay indices of all service industries always equals zero in any year.

This chapter provides an analysis of 11 service industries of the BRICS, namely transport; travel; communications; construction; insurance; financial services; computers and information services; royalties and license fees; other business services; personal, cultural,

and recreational services; and government services based on UNCTAD data 2000–2012.

1. Transport services

Russia has long enjoyed strong competitiveness in the trade of transport services; its Lafay index had been positive for 13 years from 2000 to 2012, averaging as high as 9.3. Despite large fluctuations and a declining tendency in these years, this index value topped all service industries not just for Russia but for all BRICS as well. In addition, Russia's trade in transport services had experienced surpluses for all 13 years, with their value reaching U. S. \$2.59 billion in 2012. This shows that Russia's transport service industry has relatively strong export capacity and its intra-industry trade level is low, and the curve of the Lafay index's distance from 0 is plotted in Figure 15.



Source: UNCTAD Database.

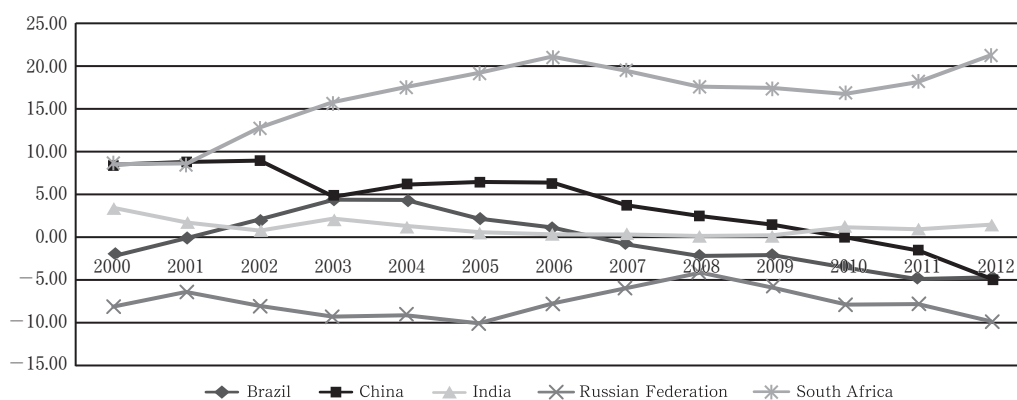
Figure 15 Transition of BRICS' Lafay indices for the transport services industry

Unlike Russia, during 2000–2012, the other four countries all recorded negative Lafay indices, which indicate their dependence on imports, their large trade deficits in services, and their apparent competitive weakness compared with Russia. After 2007, India's Lafay index was not only the lowest among BRICS but also the lowest out of all its service industries. This corroborates the observation that transport had become India's largest bottleneck in the development of its trade in services. As for South Africa, transport was also its disadvantageous industry, and its Lafay index had also been the lowest out of its service industries, mirroring its large trade deficit in transport services and its apparent competitive weakness. China's situation was similar to that of Brazil. After experiencing a rise before 2008, it was experiencing an overall decline.

2. Travel services

As shown in Figure 16, South Africa's Lafay index for travel was the highest among the BRICS countries. Regardless of a mild decline after 2006, the index quickly regained its

peak value of 21.4 in 2012, still the highest among all BRICS' service industries. This is also consistent with the analysis above that South Africa's travel industry has enjoyed an absolute advantage in trade in services. Boasting strong competitiveness in travel, South Africa's trade in travel services has generated surplus for years, reaching \$5.93 billion in 2012, a tenfold increase over the 2000 value. Figure 16 shows that the Lafay index's curve deviates far from the 0 value, reflecting the low intra-industry trade level.



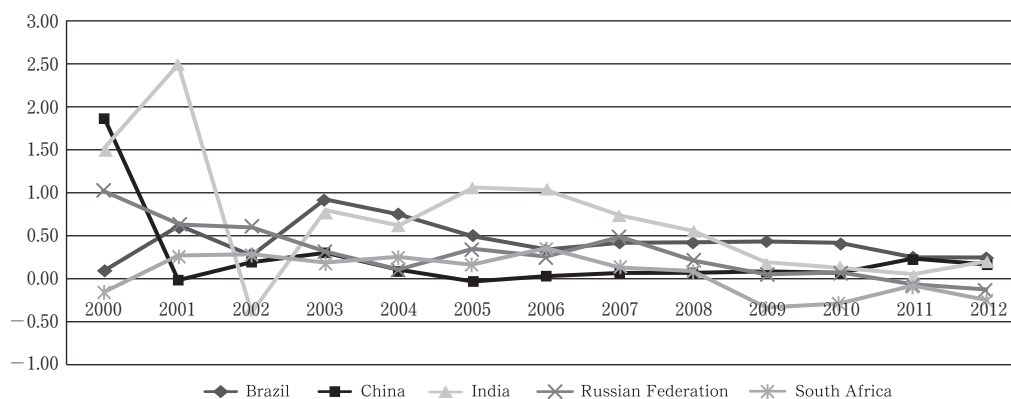
Source: UNCTAD Database.

Figure 16 Transition of BRICS' Lafay indices for the travel services industry

The Lafay index of China's travel service industry demonstrated a declining tendency during 2000–2012 and became negative particularly after 2009, indicating a change in China's travel industry from dependence on exports to dependence on imports, and a gradual lowering of its intra-industry trade level. In the same period, Brazil's Lafay index for its travel service industry experienced similar changes as China's, namely a gradual decline after 2004 and a change to negative after 2007. In contrast with China and Brazil, India experienced a rise in its Lafay index after 2008, as travel is a major export-oriented service industry. Among the BRICS, Russia's travel industry recorded the lowest Lafay index, which has been a large negative number. This shows that Russia's imperfect upstream and downstream chain of its travel industry resulted in its relatively low intra-industry trade level.

3. Communications services

The communications services industry, an emerging technology-intensive industry, is closely bound up with people's daily lives and plays an important role in manufacturing. However, BRICS did not demonstrate strong competitiveness in this field, with the Lafay index of the 5 countries generally dropping during 2000–2012 and basically staying at ± 0.5 especially after 2008. During that period, the Lafay indices of Brazil, China, and India basically remained positive. Of these three, Brazil registered the highest Lafay index since



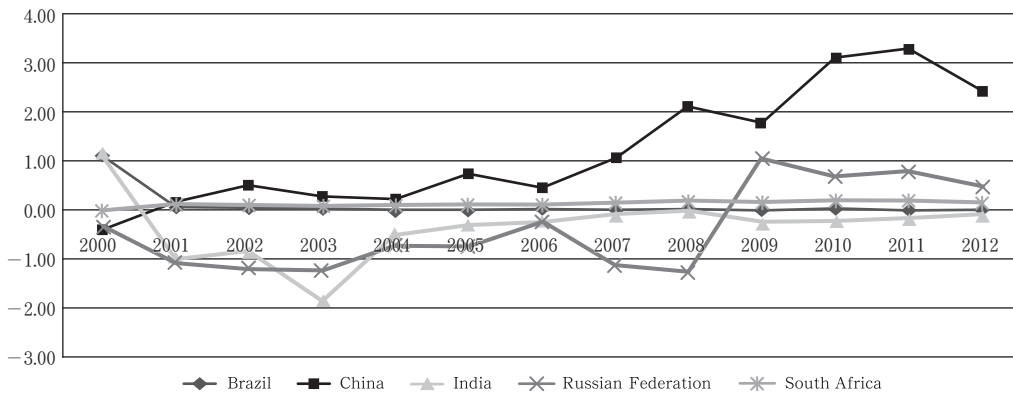
Source: UNCTAD Database.

Figure 17 Transition of BRICS' Lafay indices for the communications services industry

communications services, an important driving force of domestic development in trade in services, developed comparative advantages there. The Lafay index became negative in South Africa and Russia in 2009 and 2011, respectively. This reveals that BRICS had no apparent comparative advantage, but certain weakness in the trade in services in the communications sector, which was dominated by intra-industry trade.

4. Construction services

Based on the results shown in Figure 18, BRICS' overall competitiveness was low in the construction services industry, and the Lafay indices of all countries varied between -2 and $+3$, slightly better than the values for the communication service industry. Among the BRICS, China demonstrated strong competitiveness in this field. Its Lafay index continued to rise from 2000 to 2012, with the exception of small declines on several occasions, to reach a peak value of 3.3 in 2011, leaving the other four countries far behind. Meanwhile, China's strong international competitiveness in construction services resulted in a long-standing surplus, which reached \$8.63 billion in 2012, the highest among BRICS. We can see that the Lafay index curve depicted in Figure 18 deviates far from the 0 value, indicating that China's trade in construction services is dominated by intra-industry trade. Moreover, Russia experienced the largest swings to the Lafay indices in the field of construction services. Its index was negative before 2009 and while it became positive after this year, it never reached above $+1$. The construction service industry Lafay indices hovered around zero in India, Brazil, and South Africa. This trend reveals the industry's relatively small ratio of net or total value of imports and exports to the net or total of all service industries in these three countries, coupled with lack of apparent comparative advantages and dominance of intra-industry trade.



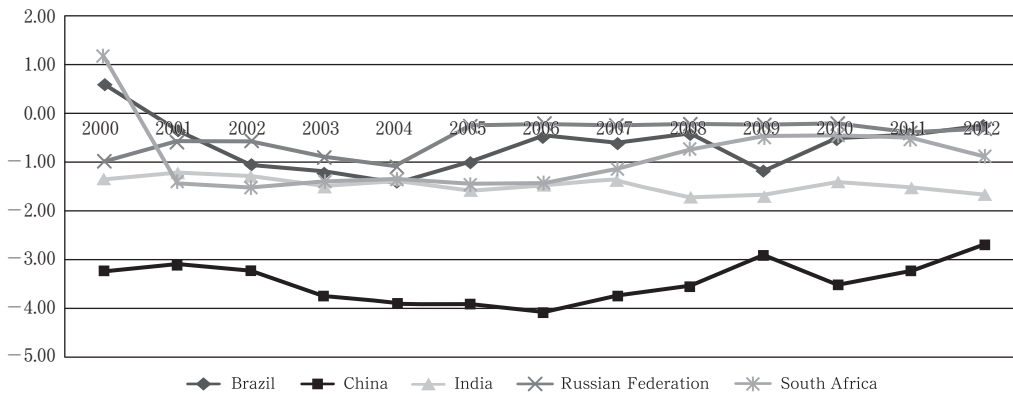
Source: UNCTAD Database.

Figure 18 Transition of BRICS' Lafay indices for the construction services industry

5. Insurance services

In keeping with developments in modern social productivity, new service industries have emerged and developed to meet people's ever-changing demands. The insurance services industry, one such emerging service industry, is marked by high human capital content, technical content, and added value. Because of its high economic value added (EVA), low dependency on resources, and low pollution to environment, emerging service industries have become the inevitable choice for countries seeking to achieve sustainable development.

Yet, as shown in Figure 19, the insurance service industry did not enjoy an advantage in BRICS, and their Lafax indices were all negative, indicating that their insurance indus-



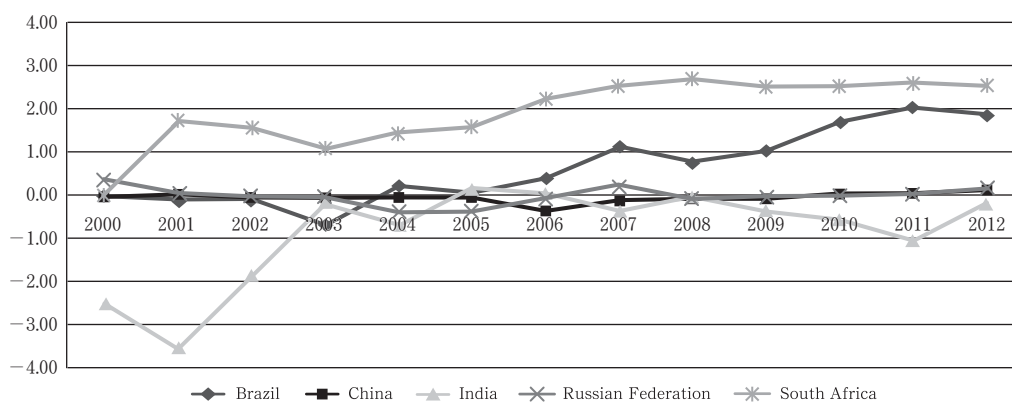
Source: UNCTAD Database.

Figure 19 Transition of BRICS' Lafax indices for the insurance services industry

tries did not possess competitive advantages, but were dependent on imports. Russia registered the highest Lafax index, but it merely reached an average of -0.5 during the 2000–2012 period. In the same period, the insurance industry Lafay indices for Brazil and South Africa fluctuated widely, with Brazil's competitiveness rising after 2009 but South Africa's declining after 2010. Unlike the above-mentioned three countries, India registered stable Lafay index (" -2 " to " -1 ") in this industry for all 13 years, experiencing insignificant changes. In all the BRICS, China's insurance industry Lafay index was the lowest, but even this showed a rise after 2006 to reached a peak value of -2.7 in 2012. This also validates that the insurance service industry is a disadvantaged service trade industry in China whose insurance services are mainly dependent on imports; hence, the sector's long-term trade deficit, which reached \$17.27 billion in 2012, the highest among the BRICS.

6. Financial services

As an emerging industry, the financial service industry is as important as insurance services in BRICS' economies. Among the BRICS, South Africa has a well-regulated banking sector and leads the world in e-banking, pre-pay, taxation, and anti-fraud systems. Over the past dozen years, many foreign banks and investors rushed to South Africa for business purposes, making its financial service industry its second largest industry, behind only travel with respect to trade in services. This can be evidenced by changes in its Lafay index. During 2001–2012, South Africa's Lafay index for its financial services industry was positive, rising to 2.6 from 1.8, the highest among the BRICS. Figure 20 also shows that the Lafay index of Brazil's financial services industry turned positive after 2004 and continued its upward trajectory, reaching 1.9 in 2012. Compared with South Africa and Brazil, Russia and China also recorded growing competitiveness in financial services, with their Lafay indices becoming positive in 2009 and 2010, respectively, and continuing to grow. This



Source: UNCTAD Database.

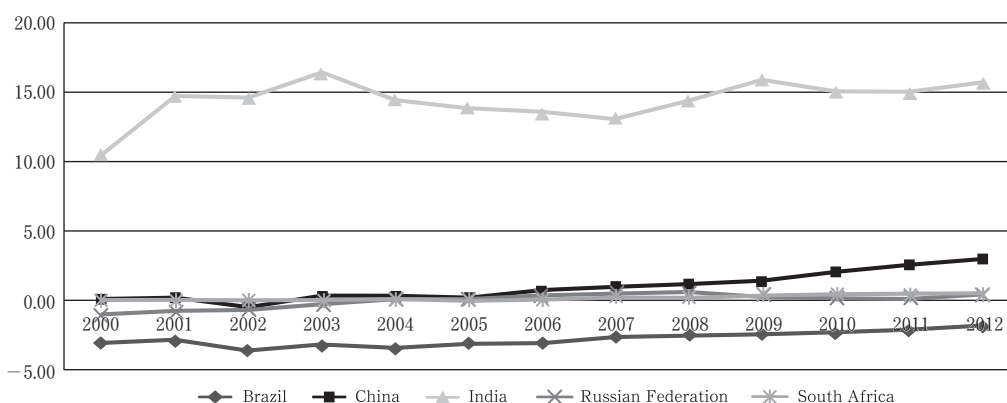
Figure 20 Transition of BRICS' Lafay indices for the financial services industry

indicates that China and Russia's competitiveness is growing in the financial services industry. Moreover, in the field of financial services, only India reported a negative Lafay index during these 13 years, but exhibited a mild rise after undergoing a continuous decline during 2008–2011. Overall, all BRICS countries are increasing their competitiveness in financial services, which is known as an emerging industry.

The above analysis reveals that South Africa and Brazil have apparent comparative advantages in the financial services industry, and their Lafay indices significantly deviated from 0, suggesting lower intra-industry trade levels and the dominance of inter-industry trade in both countries. The other three countries had relatively higher intra-industry trade levels.

7. Computer and Information Services

Computer and information services, an advantage industry for India, has manifested strong international competitiveness. India has grown into the world's largest software outsourcee and the world's second largest software exporter, next to only the U. S., and its IT industry had become its fastest growing industry over the past 10 years. As Figure 21 shows, its Lafay index rose to 15.8 in 2012 from 10.6 in 2000, up 5.2 percent. Furthermore, its Lafay index followed a tendency away from zero, indicating its very high inter-industry level of trade in computer and information services. From 2000 to 2012, India has enjoyed a surplus in its balance of trade in computer and information services, which reached a peak of \$44.83 billion in 2012. The computer and information services Lafay indices were also positive in China, Russia, and South Africa but very low, revealing these countries' weak comparative advantage in this sector. Among them, only China registered a continuous increase in its Lafay index as of 2003, achieving a rise to 3.0 in 2012 from 0.2 in 2003, up



Source: UNCTAD Database.

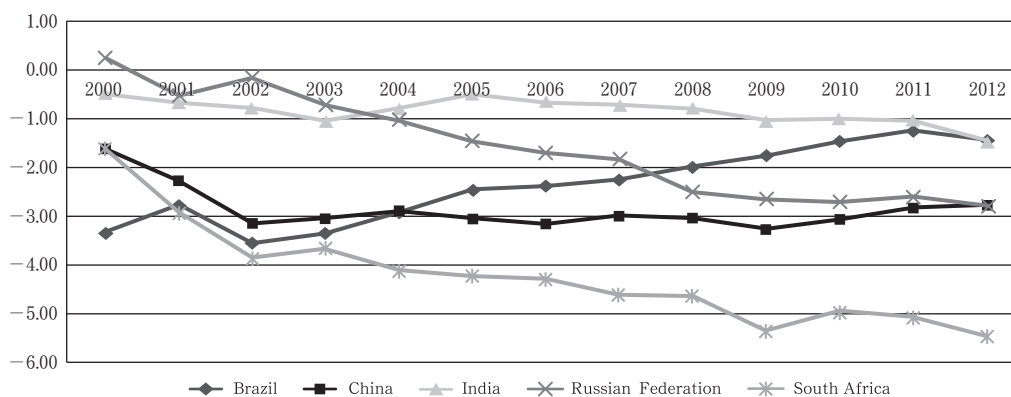
Figure 21 Transition of BRICS' Lafay indices for the computer and information services industry

2.8 percent. During 2000–2012, only Brazil registered a negative Lafay index for the period's duration, indicating that Brazil lacks comparative advantage in this sector and is dependent on imports.

8. Intellectual property service royalties and license fees

In the wake of the knowledge economy's rapid development, intellectual property services concerning royalties and license fees is becoming increasingly prominent in international trade. The field of intellectual property services has become an important part of international trade as well as gradually becoming an important source of competition in developed countries.

However, as Figure 22 shows, the 5 BRICS countries have recorded negative Lafay indices of intellectual property services concerning royalties and license fees since 2000. Though India has pushed ahead of the other four BRICS countries in this sector, its value has nonetheless hovered between -1 and 0 , as well as experienced an overall downturn since 2005. Out of the other four BRICS countries, after 2000, Russia saw a continuous decline in its Lafay index, in contrast to Brazil's continuous Lafay index increases. Unlike in Russia and Brazil, China's Lafay index edged up after 2009 though it remained basically between -3.5 and -2.5 after 2002. In this sector, South Africa's Lafay index was the lowest among the five countries and experienced a linear decrease after 2000.



Source: UNCTAD Database.

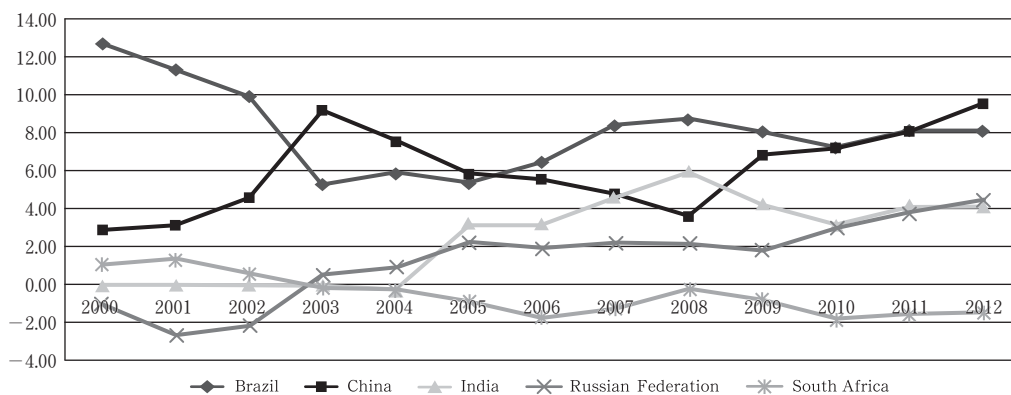
Figure 22 Transition of BRICS' Lafay indices for intellectual property services concerning royalties and license fees

According to the above analysis, BRICS are in an apparent inferior position in the sector of intellectual property services concerning royalties and license fee, and are mainly dependent on imports. This has a close bearing on the substantial investment in manufacturing in BRICS by developed countries, since the in-flow of investment in manufacturing will surely raise demands for intellectual property services concerning royalties and li-

cense fees, as evidenced by the trade deficit of BRICS in this sector. In 2012, BRICS reported a total trade deficit of \$32.46 billion in this sector. Still, BRICS' dependence on imports in this sector left them highly vulnerable to fluctuations in the world economy, as expressed by violent changes in their Lafay index curves. A Lafay index curve away from 0 indicates that BRICS' inter-industry trade as a relevant sector. For China and Brazil, though their Lafay indices for intellectual services concerning royalties and license fees were negative, a rising tendency could nevertheless be observed, suggesting their great potential in this sector. In particular, the development of royalties and license fees, an important knowledge/technology-intensive services industry, will surely drive coordinated development of other industries, thus helping promote improvements in the overall competitiveness of both countries in trade in services.

9. Other business services

In terms of trade in services, all BRICS manifested relatively high Lafay indices for other business services, indicating their stronger comparative advantage in this sector. In the meantime, BRICS countries fiercely competed in this sector, as it is an advantage service industry for them. In terms of Lafay index value, Brazil had the highest among the BRICS, averaging 8.1 during 2000–2012, a testimony to its apparent comparative advantage in this sector. Besides, its value away from 0 shows that this industry features a low intra-industry trade level, instead being predominantly an inter-industry trade. China ranked second among BRICS with an average Lafay index of 6.0 during 2000–2012. After 2008, China's Lafay index continuously rose to overtake that of Brazil, reaching 9.2 in 2012. During 2000–2012, Russia's Lafay index, despite being low, became positive and exhibited a continuous rise in 2003. In 2012, it outstripped India's to reach 4.5. Among the BRICS, India and South Africa witnessed wide fluctuations in their Lafay indices. India's Lafay



Source: UNCTAD Database.

Figure 23 Transition of BRICS' Lafay indices for other business services

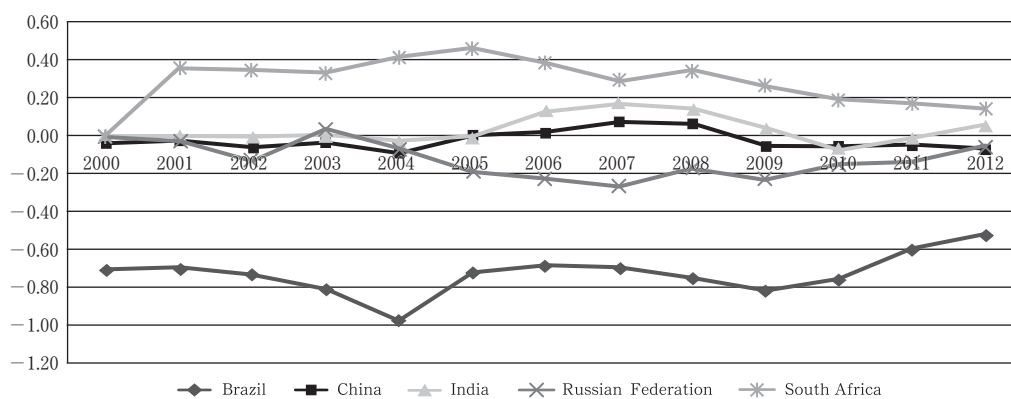
index showed a rising trend prior to 2008, then experienced a drop before edging up again as of 2011. South Africa's Lafay indices were basically all negative after 2003, exhibiting a distinct declining trend to reach their nadir value of -1.8 in 2010, before rising slightly again thereafter.

The above analysis reveals the imbalanced distribution within the BRICS of competitiveness in other business services. We found that both Brazil and China possessed certain comparative advantages, whereas South Africa lacked such competitive advantages. There is a strong relation between this and the development of manufacturing in these countries. Advanced manufacturing will surely lead to increases in various business activities including sales, and further push up exports, as evidenced by the experience of Brazil and China.

10. Cultural and recreational services

The cultural and recreational services industry is another area in which BRICS lack comparative advantages, as indicated by their Lafay index values. After 2001, only South Africa recorded all positive values (very low, all basically below $+0.5$), indicating its weak comparative advantage in this sector. China, India, and Russia registered even lower Lafay indices, all hovering around ± 0.2 . During 2000–2012, Brazil had all negative Lafay indices. However, along with economic development and ever-increasing demands for cultural products and services, the Lafay index of the cultural and recreational service industry, though very low, began to edge up in India, Russia, Brazil, and China.

However, the development of the cultural and recreational industry was constrained by many factors due to features such as strong industrial relevancy and driving effect. To be country-specific, South Africa is blessed with favorable geographical resources, an attractive natural landscape, rich varieties of wildlife, and an agreeable climate; it has



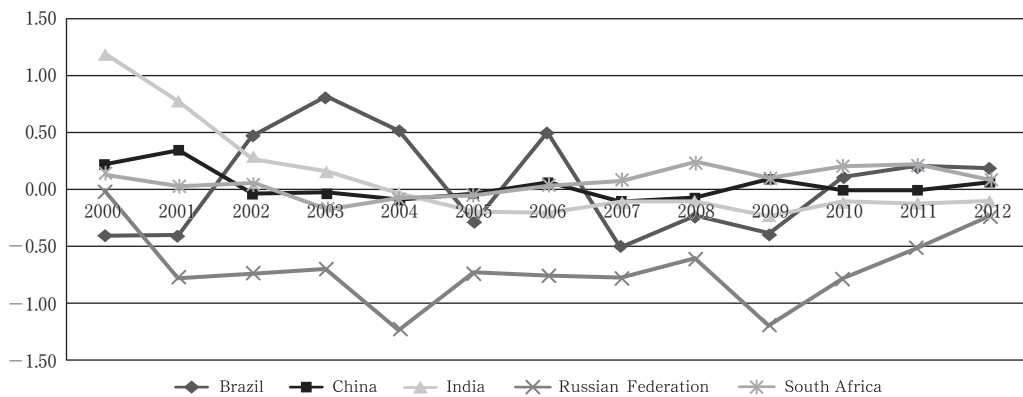
Source: UNCTAD Database.

Figure 24 Transition of BRICS' Lafay indices for of cultural and recreational services

become a popular travel destination for tourists worldwide. This has also provided a wider platform for South Africa's trade in characteristic cultural and recreational services. For example, South Africa's hosting of the 2010 FIFA World Cup gave further impetus to the development of its travel, cultural, and recreational industries. As a result, South Africa enjoys stronger comparative advantages in this field than the other BRICS. Furthermore, as shown in Figure 24, the Lafay curves of China, India, and Russia manifested tendencies of changes around 0, reflecting the fact that these countries' trade in cultural and recreational services is more characterized by intra-industry trade. On the other hand, South Africa and Brazil had higher inter-industry trade levels. In 2012, South Africa realized a trade surplus of \$40 million in this sector, in contrast to Brazil's \$990 million trade deficit.

11. Government services

Figure 25 shows that BRICS did not possess apparent comparative advantages in government services, with all recording low Lafay indices of between -1 and $+1$ during 2000–2012. Nevertheless, if we examine the Lafay index curve, we observe dramatic changes in the competitiveness in government services. Among the BRICS, China experienced a linear decrease from a peak value 0.4 in 2001. After becoming negative in 2002, it basically hovered between -1 and $+1$, reaching 0.1 in 2012. India's Lafay index changes basically followed the same pattern as China's. It recorded a linear decrease from a peak value of 1.2 in 2000, then stabilized between 0 and -0.2 after becoming negative in 2004; it remained at -0.1 in 2012. Unlike China and India, Brazil saw more volatile changes, with a maximum of $+0.8$ and a minimum of -0.5 , but showed a rise after 2009, reaching the highest recorded value among the BRICS of 0.2 in 2012. In contrast with Brazil's, South Africa's Lafay index, after experiencing a continuous rise from -0.17 in 2003 to $+0.3$ in 2008, underwent a general decline, with the exception of rises on several occasions, with the



Source: UNCTAD Database.

Figure 25 Transition of BRICS' Lafay indices for government services

value stabilizing at 0.1 in 2012. During 2001–2012, Russia recorded negative values for all its Lafax indices, a unique outcome among the BRICS. This outcome shows the distinct weakness of Russia in this sector. However, Russia's Lafay index began to climb after 2009, to reach a -0.1 peak value in 2012, close to India's level that year. Therefore, from an overall perspective, BRICS countries are in apparent inferior position in terms of government services and weak in competitiveness. In addition, with the exception of Russia, BRICS' trade in government services was characterized by dominance of intra-industry trade with a low inter-industry trade level.

By comparing the Lafay indices of BRICS' various service trade industries, we found the following characteristics of BRICS' competitiveness in trade in services:

Despite their rapid economic development during the years covered in our study, BRICS countries remain backwards in competitiveness in terms of development of different service trade industries when compared with countries having advanced services. Their competitiveness in trade in services continuously rose. All the BRICS countries, on the basis of keeping their own advantages, attached greater importance to supporting their inferior modern service industries, with views of closing the distance with advanced countries. In industry-specific terms, BRICS possessed comparative advantages in trade in traditional services such as travel, transport, construction, and other business services, but lacked competitiveness in insurance, intellectual property services concerning royalties and license fees, and cultural, recreational, and other modern services. Specifically, in terms of trade in services, China enjoys an advantage in the service sectors of construction and other business services; India has stronger competitiveness in computer and information services and intellectual property services concerning royalties and license fees; Russia is most competitive in transport; Brazil's enjoys the most competitive advantage in communications and insurance services; while South Africa's most competitively advantageous industries are travel, cultural and recreational services, and financial services.

In summary, an investigation of global market share for different service industries and the overall development scale of BRICS in trade in services, as well as a comparison of the export "volume" of services by each country revealed that BRICS' trade in services displayed fast development and steady growth in global share, and also showed uneven progresses. Roughly speaking, China had the largest volume of trade in services whereas India saw robust development in trade in services, becoming the two leaders among the BRICS; comparatively speaking, Brazil, Russia, and South Africa registered relatively sluggish development in trade in services.

In addition, BRICS' growth of exports also revealed great imbalances within individual industries, so their export structure continues to have scope for improvement. With some individual exceptions, BRICS countries featured larger shares of and trade surpluses in trade in labor- or resource-intensive traditional services (e.g., travel, other business service and transport), but smaller shares of and large deficits in trade in knowledge/technology

intensive modern services (e.g., finance, insurance, and royalties and license fees). In the context of the development of global trade in knowledge/technology intensive services, BRICS' share of trade in modern services still exhibits scope for improvement.

Though BRICS countries achieved growth in the volume of trade in services, their development was otherwise low in quality with weak overall competitiveness, to say nothing of many other problems. The Lafay index can express the "quality" of BRICS various service trade industries or their international competitiveness in terms of trade in such services. Thus, we can see that BRICS productive services were underdeveloped and unable to meet the demands of their economic and social development. The productive service industry is an important aspect of the modern service industry, which mainly provides producers with service products and labor, including finance, insurance, and computer and information services, characterized by "intermediate input," it can improve the output efficiency of different manufacturing processes. For a long time, BRICS' rapid economic development, especially in manufacturing, spurred greater domestic demand for finance, consulting, and computer and information services, but their domestic productive services were unable to meet the demands of their social development due to their relatively backward policy and management systems, lack of high-quality professionals, and less competitive service-oriented enterprises. Hence the majority of BRICS' deficit in trade in services stemmed from trade in productive services.

Therefore, BRICS are rapidly developing in terms of the total volume of trade in services, but their imbalanced internal industrial structures places their global competitiveness at a generally low level. Simultaneously, their service trade pattern is dominated by inter-industry trade, which will surely impact the stability and sustainability of their development in trade in services. Yet, a change by BRICS toward intra-industry trade in the sectors of finance, insurance, and royalties and license fees can be observed, which suggests the direction of BRICS future development and their potential in trade in services.

VI. Analysis of Reasons behind BRICS' Low Competitiveness in Trade in Services

During the 1980s, U. S. scholar Michael Porter proposed the theory of competitive advantages of nations. Applying the famous "Diamond Model," he posited a nation's industry's ability to compete globally reflected its characteristics in terms of four key attributes and two helper attributes. The four key attributes are factor conditions, demand conditions, related and supporting industries, and firm's strategy, structure and rivalries, while the helper attributes are government and opportunities.¹² The diamond model went on to find wide application in the analysis of domestic industrial competitiveness. In analyzing international competitiveness of trade in services, many scholars applied this method as well and achieved considerable results.

Past studies on nations' competitiveness in trade in services found that factors of production such as factor demands, especially inputs of advanced factors of production, played an increasingly larger role in promoting trade in services. They also found that the pushing effect of human capital (the most essential part of advanced factors) on trade in services is self-evident. In addition, a nation's expansion of service trade must be based on sufficient demand conditions, namely domestic demand. Domestic demand will facilitate the upgrading of product quality and scientific progress, lower service production costs and speed up the internationalization of the market, thereby continually improving international competitiveness. Furthermore, the openness of the service trade market, as an attribute indicating firm strategy and rivalries, can reflect a nation's degree international competitiveness, with the higher its openness, the higher the degree of involvement and international competitiveness. Finally, the development in trade in services largely depends on the development in trade in goods or associated industries. The two sectors are mutually reinforcing. Trade in goods will stimulate the rapid development in trade in services such as transport, communications, and warehousing.

Therefore, this paper proceeds with the above four basic attributes for exploring the BRICS common traits in terms of their development in trade in services and analyzing the major reasons behind BRICS' weak competitiveness in trade in services.

1. Human capital and BRICS' trade in services

In recent years, as all economic sectors have become both based upon and driven by knowledge, a labor force equipped with advanced technologies and the latest knowledge has become a decisive factor of production. Throughout global economic development, the constant optimization of industries in various countries, despite the notable technical progresses made in manufacturing or service sector, demands higher quality labor. Thus, as the service sector is a high-end industry featuring intensive labor, elements such as knowledge, science and technology, and professional high-end factors of production, including knowledge-based human resources and technology, are the determinants of a country's core competitiveness.

A nation's education level is the decisive factor for measuring the supply of its human capital, and the overall education level within the BRICS can be examined by HDI of UNDP and KEI of World Bank. As illustrated in Table 1, both Russia and Brazil ranked high in the tables of the above 2 indexes, but below advanced countries such as the U. S. and Japan, and even South Korea, while India ranked at the bottom. As a medium-income nation, China's HID ranked No. 101, but its education index fell below that of South Africa, the No. 123rd nation on the table of HID. In 2012, China was ranked below South Africa in both KEI and the education index. Such results match the competitive positions of China and South Africa in the service trades of different industries as revealed by their Lafay indices.

BRICS did not show strong capacity in supplying high-quality talent, hence their

Table 1 Human Development Index and Knowledge Economy Index of Major Countries Worldwide

Human Development Index (HDI) 2011								
	Very High Human Development			High Human Development		Medium Human Development		
	USA	JPN	KOR	RUS	BRA	CHN	ZAF	IND
RANK	4	12	15	66	84	101	123	134
HDI	0.910	0.901	0.897	0.755	0.718	0.687	0.619	0.547
Education	0.939	0.883	0.934	0.784	0.663	0.623	0.705	0.450
Income	0.869	0.827	0.808	0.713	0.662	0.618	0.652	0.508

The Ranking of the Knowledge Economy Index (KEI) 2012								
	USA	JPN	KOR	RUS	BRA	ZAF	CHN	IND
RANK	12	22	29	55	60	67	84	110
KEI	8.77	8.28	7.97	5.78	5.58	5.21	4.37	3.06
Education	8.70	8.43	9.09	6.79	5.61	4.87	3.93	2.26
Innovation	9.46	9.08	8.80	6.93	6.31	6.89	5.99	4.50

Data source: UNDP Human Development Report 2011 & World Bank (Compiled by National Bureau of Statistics of China, International Statistical Yearbook 2013 [M]. China Statistics Press, 2013: 366-373 & 390-393)

shortage of high-quality human capital. This trend of shortfall is continued by data from China. During the 11 years from 2000 to 2010, China's higher education enrollment showed an initial sharp rise followed by a more gradual increase to 26.0% in 2010 from 8.0% in 2000, an average annual rate of 12.6%. This is an increase of more than 2.3 times, far above that experienced by other BRICS countries. Yet, the overall development of higher education in China, the leader of BRICS countries, was less than satisfactory: Russia's higher education enrollment rate reached 55.4% as early as in 2000 and even reached 75.9% in 2009, leaving behind Japan, the U. K., and other advanced countries; in China, by contrast, the rate in 2010 was less than half of Russia's as well as Brazil's 37.3% in 2009, and even ranked below the average of medium-income nations. Examining trends in academic background structure, the proportion of people having education below primary level was very low in developed countries such as the U. S. and Japan. In 2009, OECD countries averaged 26.7% of people having only primary level education; the figures for the U. S. and Japan were 11.4% and 9.2%, respectively, but reached 31.1%¹³ in China. In 2011, OECD was 21.6% in China, lower than the 2009 average. The ratio of employees having received higher education reached 40% in developed countries (2009), while China only recorded 12.9% (2011).¹⁴

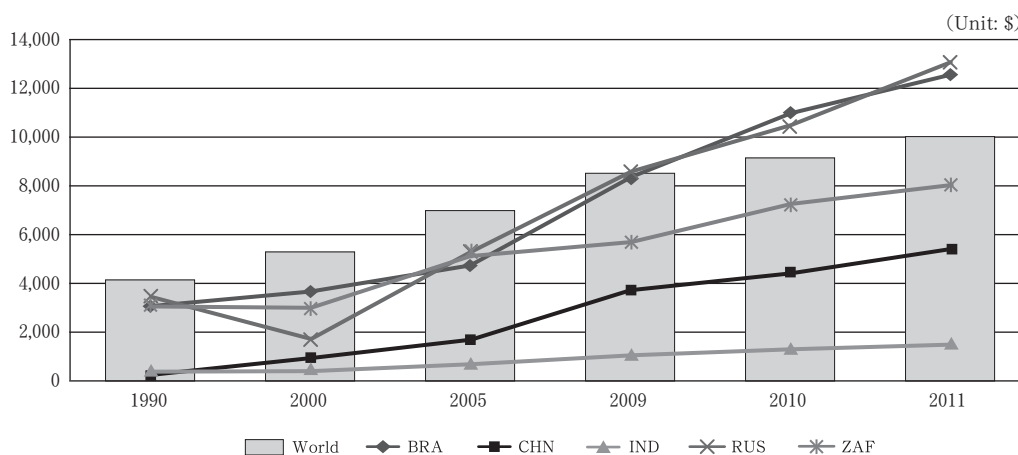
As indicated by the above analysis, the overall education level of BRICS countries continues to lag behind that of developed countries, with China and India especially falling further behind, reflecting the BRICS' very limited capacity in supplying top-quality human capital factors. Thus, as a factor of competitiveness in the service trade, the supply of high-quality talent has become a bottleneck in BRICS' development in trade in services.

2. Domestic demand and BRICS' trade in services

Domestic consumer demand for services reflects the purchasing power of the population's income. The higher the income level, the higher is the public's demands for services. In addition, in the opinion of Chinese scholars Chen Xiaofen (2012) and He Jun (2013), income level and an advantage in trade in services are positively correlated in terms of competitiveness in trade in services, namely the higher the income, the higher is the comparative advantage in trade in services.

Per capita GDP is usually used to measure changes in a nation's living standards. As shown in Figure 26, Russia and Brazil had the highest per capita GDP, above even the global average after 2009; China's per capita GDP rose to \$5,445 in 2011 from \$314 in 1990, a 16.3-fold increase. Such an increase was unique among BRICS as well, but was only above India in terms of absolute amount, ranking at fourth place. The rankings of income index in HID 2011 also revealed the same results (see Table 1 above). However, overall per capita GDP of BRICS continued to lag far behind that of developed countries. In 2011, the U. S. recorded a per capita GDP as high as \$48,442, a figure 3.7 and 3.8 times those of Russia and Brazil, respectively. Therefore, based on the above analysis, despite the BRICS' constant increases in income levels, large disparities among them remain, and their comprehensive level trails far behind those of developed countries.

Increases in per capita GDP indicate a rising income level for the nation as a whole. A higher income level also reflects improved domestic demand conditions within a nation, which is favorable for rises of domestic consumption levels. However, a study of the conditions of consumption indicates that the BRICS' consumption rate still requires improve-



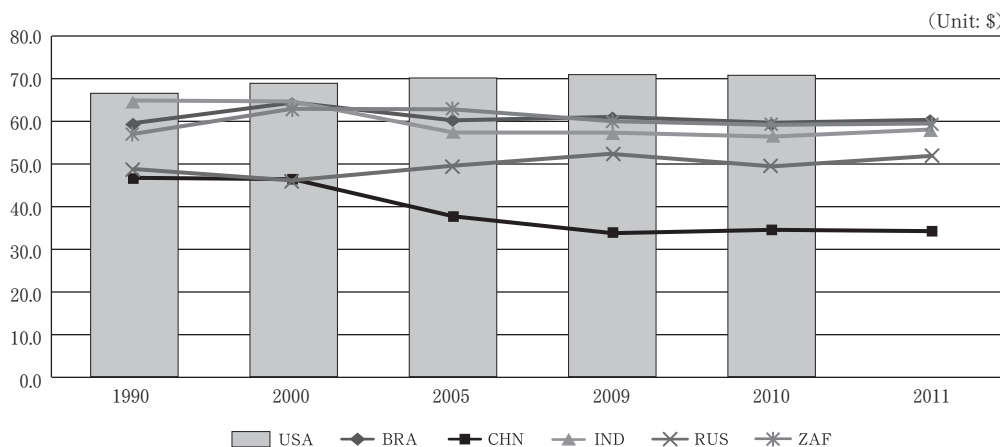
Data source: World Bank WDI Database (Compiled by National Bureau of Statistics of China, International Statistical Yearbook 2013 [M]. China Statistics Press, 2013: 29–32)

Figure 26 Transition of BRICS' Per Capita GDP

ment regardless their recent increases in income levels. China, in particular, faces a particularly pressing problem in this regard. Among BRICS, Brazil, South Africa, and India registered higher consumption rates, above that of South Korea, but still below 70% that of the U. S., with Brazil and South Africa at essentially the same level as Japan. China's consumption rate was the lowest among the BRICS and further took on a downturn between 2000 and 2009. Only after the adoption of a policy designed to expand domestic demand after 2009 did China's consumption rate stabilize, but it remained 20 percent below that of Russia in fourth place, let alone that of developed countries.

Generally, the lower income level in low-income nations can only sustain citizens' basic life needs, and citizens' propensity to consume and consumption rate are both high. For example, according to statistics of World Bank 2000–2007, household consumption rate of low-income nations averaged 75%, higher than the global average of 62%. In high-income nations, the household consumption rate is relatively higher, and consumer spending is a major factor driving economic growth. During 2000–2007, the average household consumption rate was 62% in high-income nations, equivalent to the world average level. This rate was 70% in the U. S., 65% in U. K., and 57% in Japan and Euro areas.

In medium-income nations, due to accelerated industrialization and urbanization, as well as increased investment in infrastructural construction, gross fixed assets capital formation takes up a large share of GDP, and the household consumption rate is both low and declining. For example, from 2000 to 2007, the household consumption rate averaged 58% in medium-income nations, not only falling below the world average level but also amounting to a decline of 5% within seven years. As Figure 27 indicates, during 2000–2012, Brazil's household consumption rate dropped to 60% from 64%; China's dropped to 35% from 47%; India's dropped to 58% from 65%; only Russia saw a mild rise in this period.



Data source: World Bank WDI Database (Compiled by National Bureau of Statistics of China, International Statistical Yearbook 2013 [M]. China Statistics Press, 2013: 47)

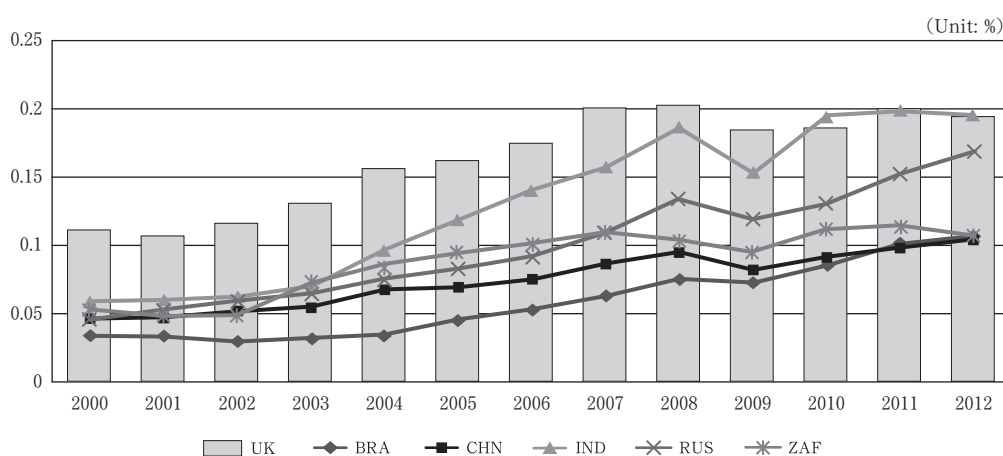
Figure 27 Comparison of Household Final Consumption Rate for BRICS and the U. S.

Furthermore, countries with substantial populations such as China and India, face numerous problems such as a widening income distribution gap, an imperfect social security system, education, housing, medical and other social factors, low domestic service development, and very limited choice in service products, all of which have restricted the population's consumption behavior to some extent.

Therefore, although BRICS harbor a substantial pool of consumers and are constantly improving their household income level, the problem of deterioration of demand conditions caused by insufficient consumer motivation has become one important factor inhibiting the development of the service sector and trade in services. When demand conditions deteriorate, enhancing and improving the competitiveness in trade in services is difficult.

3. Market openness and BRICS' trade in services

According to the IMF's definition, service openness refers to the percentage of a nation's (region's) total imports and exports of services in its GDP within a certain period, which shows the degree of a nation's (region's) involvement in the global trade in services as well as measures the dependence of its overall domestic economic growth upon the international service trade market. A nation having higher service openness is also more deeply integrated with the international service trade market, has stronger capacity in exporting service products, and faces better conditions for enhancing its international competitiveness in trade in services. Service openness is related to degree of liberalization trade in services. Liberation of the service trade promotes the specialization in domestic service sectors and the free flow of factors of production worldwide, which in turn integrates domestic service sectors into the international service trade's labor division system and enables acquisition of foreign factors of production such as human, technical, and



Source: UNCTAD Database.

Figure 28 Comparison of Service Openness of BRICS and the U. K.

management capital in the meantime. Professional level deepens along with the degree of service trade openness, with a higher professional level leading to standardization of technology and integration of services, and thus to further benefits of scale. As a result, the service industry enjoys lower production costs, higher labor productivity and global comparative advantage for its service products, all of which amount to improved international competitiveness in trade in services.

In terms of the BRICS, during 2000–2012, China’s service openness featured a tendency to slightly increase at a low level then a fall at a high level. Its openness rose gradually to 9.5% in 2008, followed by a mild fall over the next few years. Despite a middling rise in the 13 years of this study, when compared with other BRICS countries, China’s service openness remained at a low level when examined from absolute statistics: India, whose national conditions most resemble China’s, recorded a significant rise in its service trade openness in the same 13-year period. Its openness edged up to 6.9% in 2003 from 6.0% in 2000, and further rose to 18.7% in 2008, becoming a nation with service trade openness next to that of the U. K. South Africa’s curve of service trade openness can be divided into two phases: during 2000–2007, when the pattern formed a parabola showing a rise, a fall, then a rise again; and during 2008–2011, when it took on a trend of gradual decline, with its openness dropping from 9.5% in 2009 to the minimal value in the 13 years of this study, namely 8.5% in 2011. Despite these falls, it remained higher than in China. Meanwhile, Russia’s curve of openness is slowly rising, and while still at a low level, its overall level of openness still surpassed that of China.

We must highlight that a nation’s degree of service openness reflects factors such as its overall level of openness and degree of involvement in the global division of labor. According to the rankings given in the globalization index of major countries and regions world-

Table 2 Globalization and Economic Globalization Indices of Major Countries Worldwide

Globalization Index			Economic Globalization		
Rank	Country	GI	Rank	Country	GI
35	USA	74.88	64	ZAF	65.81
47	RUS	67.35	79	USA	60.83
53	ZAF	64.42	84	KOR	60.13
55	JPN	64.13	98	RUS	54.56
60	KOR	62.39	100	BRA	53.54
73	CHN	59.37	107	CHN	51.25
74	BRA	59.36	120	JPN	45.84
110	IND	51.88	129	IND	43.73

Data source: KOF Swiss Economic Institute (Compiled by National Bureau of Statistics of China, International Statistical Yearbook 2013 [M]. China Statistics Press, 2013: 374–379)

wide by KOF Swiss Economic Institute, the overall globalization levels of Russia and South Africa are higher, ranking No. 47 and No. 53, respectively, in the world, while China, Brazil, and India are at lower levels. Yet, from the perspective of economic globalization level, South Africa overtakes Russia and becomes the BRICS nation with the highest level of economic globalization, outranking even the U. S. and South Korea. Brazil, China, and India, all rank at a lower level, above 100. India is a unique case. Regardless of its higher service openness level, India remains at a low level of globalization and economic globalization, and its two indexes are found at the bottom of the table. This also explains why India is more competitive than other BRICS countries in certain service sectors, and validates the effect of market openness in raising industrial competitiveness.

We can see from the above analysis that BRICS' service openness continues to steadily rise to approach the levels of developed countries, but their overall openness still needs to increase. Only in a highly open nation will domestic service industries have more opportunities to become involved in international trade and find entries into international markets. As they improve and enhance their profiles in the international market, domestic service industries can achieve sustainable development and undertake more technical innovations on the basis of selectively assimilating and borrowing the experiences of foreign competitors.

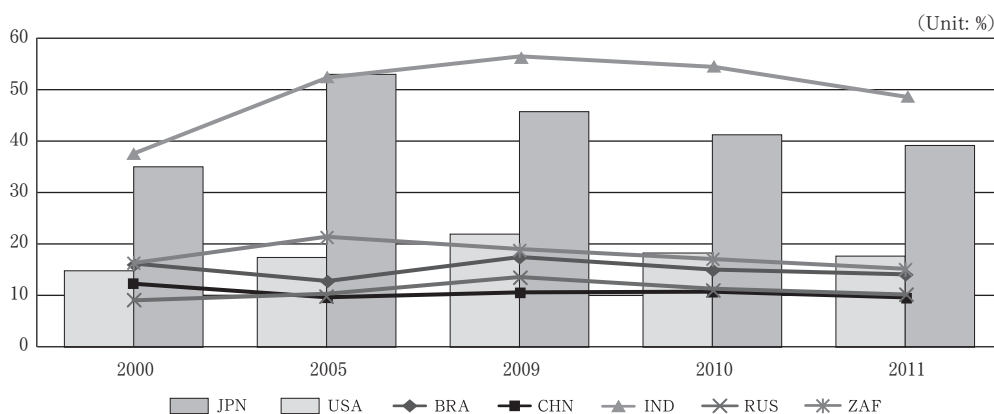
4. BRICS' trade in goods and trade in services

Manufacturing and services, two pillar industries of a nation's domestic economy, are both mutually reinforcing and restraining. In the initial states of development, when resources are relatively rare and limited, the development of manufacturing and services are substitutable; in the next stage of growth, the development of manufacturing and services are closely bound up and mutually supportive. Vigorous development of trade in goods will boost the development of trade in services in a synergistic manner and become the important driving force of development in trade in services.

In a past study, Chen Xian (2000) noted that the development of trade in goods would spur the development of trade in services, and the development of trade in services, especially productive services, originates from demand for services brought about by the expansion of trade in goods, known as a derivative effect of the core effect of trade in goods. Mazumdar (2005) built a theoretical model for analyzing the relevancy between exports of goods and services using the pricing principle of microeconomics. After using this model to conduct an empirical analysis, he came to the conclusion that trade in goods and trade in services are mutually reinforcing.

From the above analysis, we can observe that the driving role of trade in goods did not exert its full beneficial effect on BRICS' development in trade in services, and scope for improvement remains. As Figure 29 shows, among the BRICS (with the exception of India), the ratio of exports of services to exports of goods needs to increase. According to

the data, the ratio of exports of services to exports of goods reached 50% in the U. S., while among the BRICS, only India reached such a level. Furthermore, after 2005 when the U. S. experienced a mild decline in this value, India retained its 50% rate, thus outstripping the U. S. For the other four BRICS countries, the ratio of exports of services to exports of goods has basically hovered somewhere between 15% and 20% in Brazil and South Africa, equivalent to Japan's level; China and Russia, however, recorded a lower ratio fluctuating around 10%. Thus, BRICS achieved growth in "volume" of exports of goods, but did not obtain the full beneficial knock-on effect in terms of the driving force of their trade in services.

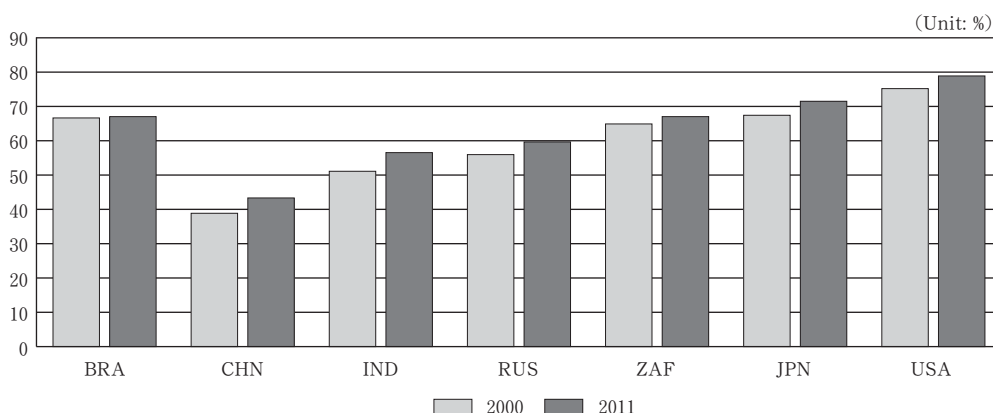


Source: UNCTAD Database.

Figure 29 Transition of Ratios of Trade in Services to Trade in Goods for Major Countries Worldwide

We shall also see that services nowadays are increasingly penetrating various procedures of the trade in goods. Accordingly, the development of trade in services will surely accelerate technical innovation and create favorable conditions to enable the trade in goods to develop. However, the added value of services, whether high or low, will also constrain the full exertion of the driving effect of trade in goods upon trade in services. Specifically, high-quality services will enhance the export capacity of services, thus allowing BRICS to increasingly benefit from exporting products related to such services and give free rein to the beneficial effect resulting from coordinated development of trade in services and goods.

In terms of the ratio of added value in services to GDP in 2001, Brazil and South Africa, out of the BRICS, had the highest level, that reached 67.1%, only 4.4% behind Japan, but 11.7% behind the U. S. Meanwhile, India, Russia and China recorded even lower values, at 22.4%, 19.5% and 35.5% below that of the U. S., respectively. China, therefore, has the most scope for improvement. This also reflects the fact that China's development in services lags a certain distance behind both developed and other BRICS countries, and its low



Data source: World Bank WDI Database (Compiled by National Bureau of Statistics of China, International Statistical Yearbook 2013 [M]. China Statistics Press, 2013: 94)

Figure 30 Transition of Ratio of Added Value of Services to GDP for Major Countries Worldwide

innovation capabilities.

To sum up, using framework developed in the “diamond model” theory, this paper conducted an analysis and comparison of factor conditions, demand conditions, related and supporting industries, and firm strategies and rivalries influencing BRICS’ competitiveness in trade in services through ratings such as the human development index and knowledge economic index, per capita GDP, market openness, ratio of exports of services to exports of goods, and other relevant indexes. We find that the lack of high-quality labor capital, deterioration of demand conditions, insufficient market openness, and poor coordination between trade in services and trade in goods explain BRICS’ weak competitiveness in trade in services compared with that of developed countries.

VII. Basic Methods to Improve BRICS’ Competitiveness in Trade in Services

As seen from the above analyses, although the BRICS are recording rapid increases in their volumes of service trade, they are still marked by weak overall competitiveness, great disparities between various industries, and especially, lagging modern services. Therefore, the questions of how to improve the structure of the service trade and boost competitiveness in trade in services have become important topics for all emerging economies, including the BRICS.

1. Increase accumulation of advanced factors of production

In recent years, as the scientific revolution picks up pace, knowledge is gradually becoming an independent factor of production alongside capital, labor, and land. In the 1980s, New Growth Theory, as espoused by leading proponent Paul Romer, became popular

among western economics circles. It introduced knowledge (including technology) into the production function as an endogenous variable and offered a full-scale correction to neoclassical theory. This shows that the role of knowledge in economic growth has been greatly enhanced, so the economic and industrial structures of all countries are manifesting a growing tendency toward dematerialization. This finds the best expression in the fact that modern services, characterized by intensive use of knowledge and information, have become mainstays of developed countries' economies. Over the past decade, the contribution rate of modern services to GDP has reached 50% in advanced countries, and the number of employees absorbed in these industries has risen to nearly 50% of the total number of employees.¹⁵

In the context of the knowledge economy, scientific development has greatly extended the domain and scope of the traditional service trade, making services significantly more "tradable." Knowledge-intensive modern service industries, as indispensable parts of extended manufacturing production, is becoming a key manufacturing input for improving labor productivity and competitiveness of goods. Furthermore, it is becoming even more of a basic factor in manufacturing for achieving product differentiation and determining products' added value. Hence, the modern service industry, as an infrastructural sector of a national economy, has become an independent decisive factor of strategic significance to a nation's long-run social productivity development as well as to the comprehensive enhancement of an industry's international competitiveness. The substantial penetration of modern services is the concentrated reflection of accelerated international technology transfers and a deepened social division of labor, and as such, is a prominent symbol that the international service industry is rapidly changing from the subjective results of global economic growth to the premise of world trade expansion.

Against such a background, development of advanced factors of production is very important for enhancing BRICS' international competitiveness in trade in services as they face severe shortage of such advanced factors. Previously, production costs in the traditional sense were not counted as a comparative advantage for modern services, only knowledge, technology, management, and accumulation of currency capital can translate into comparative advantages for the service industry. Human capital is one of the most important advanced factors of production, and the rapidly developing international service trade sector is placing increasingly higher demands on employees. For this reason, BRICS countries need to train knowledgeable talent at a faster speed, and develop human capital in the service trade sector. To begin with, they must increase their investment in education; next, they need to build a sound mechanism for training talent; and finally, they can introduce quality talents.

2. Expand domestic market demand

Where there is demand, there is a market. Consumer demand is vital for BRICS to

improve their competitiveness in trade in services. The long-term biggest problem militating against economic development of emerging countries is insufficient domestic consumer demand. To solve this problem, citizens' disposable income must be increased. A first step is to adjust the primary distribution pattern, starting with increasing the share of labor income. Before BRICS' economies reached their current levels, the labor factor had long been suppressed by supplies, economic structure, and other factors, while their income share was far below that of other factors such as capital. To change such pattern of primary distribution, its focus must shift from efficiency alone to both fairness and efficiency. Second, the social security system should be reformed to serve as the cut-in point and an adjusted re-distribution mechanism. In China, for example, the national income distribution pattern these two years (i.e., 2008 and 2009) features the crowding-out of residents department from government, [Remark 10] but individuals and enterprises are overburdened by the required social security fees. A World Bank report highlighted that the average tax rate of Chinese laborers (including personal income tax and social security) was 45% in 2008, almost the highest in the world, nearly twice the rate in the U. S. and other countries. Therefore, individuals and enterprises should be moderately disburdened from social security payments, the government should assume more responsibilities, and citizen's disposable income should be boosted. Furthermore, BRICS shall improve their ratios of medium-income population and increase the income of low-income people, so as to narrow the widening income gap and drive up society's average consumption tendency. Moreover, they should gradually narrow the income gap between industries and residents of various ranks by refining the tax adjustment mechanism.

In the service sector, as service products are intangible, consumers are always reluctant to consume services and have stronger awareness of risks (e.g., the risk of purchasing an intangible product is higher), so their initial demands may be repressed. By regulating domestic consumption, the government can provide a favorable consumption environment for consumers and make them confident in undertaking consumption activity. Service-oriented enterprises need to focus on providing suitable and quality service products that satisfy consumers so as to drive demand. As the BRICS transforming from economies driven by large-scale manufacturing to large-scale consumption, diversified consumption patterns should be encouraged; their citizens' consumption structures should change from the "living type" to the "development type"; and mode of consumption should evolve from "self-accumulation mode" to "consumer credit mode." Viewed from BRICS' current economic level, though they are transforming themselves from large-scale manufacturers to large-scale consumers, they still have a long way to go. Hence, they still need to further deepen their systemic reforms and mechanisms, as well as boost their economic growth while still ensuring its sustainability.

3. Expand market openness

To improve their competitiveness in trade in services, BRICS must improve their levels of market freedom, reduce market access barriers, and maintain their service market activity in a competitive environment. At present, many service sectors in BRICS' economies remain government monopolies, and thus are characterized by low efficiency and lack of vitality. Therefore, monopolies must be disbanded, a sound environment for market competition developed, market-oriented levers implemented to achieve market selection, free flow of factors of service enabled service standards increased, all in an effort to integrate domestic and global service markets. Domestic and foreign experiences both indicate that openness in a service industry can yield stronger overflows and competition effect than openness on manufacturing, and such openness is irreplaceable for promoting the service sector's competitiveness.

Though the driving effect of services upon economic development is not in doubt, no country in the world has opened its service sector in one step, neither has one totally opened all its service industries. In the BRICS, only few traditional labor-intensive industries can be considered reasonably open, the remaining majority has not yet been allowed sufficient freedom for their stimulating effect on economic development to have a noticeable impact. Therefore, the BRICS countries need to follow the tendency of trade liberation and expand their openness of trade in services.

Specific measures for implementation are as follows: above all, they should, prior to opening their service trade markets, improve the management of the service sector and systems to ensure the continuity of such openness, such as enacting relevant laws and regulations. Then they should open different service sectors to different extents: (1) They should actively open traditional services, keep the existing advantages of trade in traditional services, and endeavor to expand exports of labor-intensive services. BRICS should seek to improve their international competitiveness in traditional services, strengthen their marketing tools for these traditional services, and give full rein to their driving effect on the economy. In addition, they should expand the openness of other advantageous industries having international competitiveness, actively involve themselves in international competition, and improve their profiles in international markets; (2) They should open hierarchically some knowledge- and capital-intensive service industries centering on emerging technologies with different emphases, increase their support to them, and moderately lower market access restrictions. In addition, they should learn from foreign experience and world advanced standards, stimulate the development of services in various countries, upgrade their ability to compete and their management mechanism for the industry, and improve their capability to respond to market challenges in a flexible manner. However, as BRICS are in an economic transition period, they must follow the moderate openness principle to safeguard their economic security. As the service industry will

drive substantial flows of capital, technologies, and information, and will affect the stability of the domestic market, opening it too fast will seriously threaten the overall economy, so a flexible and responsive approach is needed; (3) They should continue to expand the openness of emerging service sectors, which will have a sizeable influence on the development and competitiveness of these industries. They should break the monopoly of these industries and facilitate the economic transformation and optimization of industrial structures.

4. Give play to the synergistic effect between trade in goods and trade in services

A nation's capacity in providing service products to the global market is the basis for its service industry to achieve added value. Enhanced capacity in providing service products will exert an active pushing effect on increased specialization in the division of labor, and improve both production efficiency and development of capital-intensive services, thus improving the competitiveness of trade in services. Accelerated development of trade in services will spur the coordinated development of primary, secondary, and tertiary industries, as well as trade in services and goods. In addition, this approach can have the reverse effect of propelling the expansion of the service trade and improve competitiveness with the scale effect from exports of goods. In return, trade in high value-added services will help improve the technical level of the goods trade and extend the value chain. In this way, trade in goods can then better play its driving role and allow free rein to the synergistic effect between trade in goods and trade in services. However, BRICS' trade in goods and trade in services, no matter the volume or quality, show great disparities and extreme imbalances.

BRICS countries have the opportunity to learn from the experiences of developed countries in boosting trade in services with trade in goods and strengthening support services relating to finished export-oriented products. Such borrowing of foreign expertise can allow BRICS to seize a greater share of the world market and extend the manufacturing's value chain. By exporting products with higher technical content, they can develop more services and use their advantages in trade in goods to drive the development of their trade in services. With regard to this, they should begin with vigorous development of high value-added modern services relating to R & D of upstream goods and marketing of downstream goods, give full scope to their advantages in trade in goods, and improve their competitiveness in manufacturing. This will greatly boost BRICS' international competitiveness in trade in services, facilitate the construction of a mechanism to link trade in goods and trade in services, and achieve better synergy effects between service-oriented and manufacturing enterprises, and between trade in goods and trade in services.

BRICS countries should also take steps to strengthen the building of a productive service trade department to better improve competitiveness in trade in goods. A productive service industry, as the intermediate input of industrial production, has become a

specific decisive factor of strategic significance in international competition. Higher productive service efficiency can lower trading expenses and consequently lower labor division costs and deepen labor division, which can further advance industrial development. More than anything else, a knowledge-intensive productive service industry is becoming a key input enabling enterprises to improve labor productivity and competitiveness in goods, and is even more a basic factor to allow enterprises to achieve product differentiation and determine products' value-added. For example, services having close links with international trade in goods, such as transport, finance, and insurance, can all be regarded as supporting industries of trade in goods. These services not only provide services for trade in goods but also play a vital role in raising the international competitiveness of such trade.

On such a basis, BRICS should follow the development idea of driving trade in services via trade in goods and stimulating development of trade in goods with trade in services, thus giving full scope to the synergic effects between them. For its part, government shall make scientific planning and rational layout of the planned proportion of primary, secondary and tertiary industries as well as promote the active upgrading and adjustment of domestic industrial structure through preferential policies and measures concerning industry, taxation, and rewards. Second, BRICS' government shall guide and encourage enterprises to make technical progresses, work hard to improve enterprises' self-innovation capacity, undertake incremental changes to their long-standing occupation of low-end of the value chain, and take this opportunity to boost the development of the emerging service industry.

VIII. Conclusion

This paper first compares BRICS' service trade structure and competitiveness then analyzes the major factors influencing their competitiveness in trade in services on the above basis. Accordingly, it then proposes basic methods for improving BRICS' competitiveness in trade in services. Overall, although BRICS are expanding the volume of their trade in services, their international competitiveness remains weak. Moreover, BRICS' structure of service trade continues to be dominated by labor-intensive services, with a few countries and services as exceptions, and the development of knowledge and technology-intensive modern services remains far behind. From this perspective, BRICS' development of trade in services lags by a substantial amount behind that of developed countries. Even so, along with their economic rise, their expenditures in trade in services will require a large-scale rise. Furthermore, the service markets within BRICS, who are also known as emerging countries, are in the transition period from basic livelihood type to service enjoyment type, and as their evolution continues, will give rise to greater and newer service demands and business opportunities in the future. At present, the openness of BRICS'

service markets remains lower than general goods market, and service sectors continue to be largely monopolized. Therefore, more openness is warranted to promote the reform of various domestic systems, so as to guarantee constant improvement in industrial structures and sustainable economic development.

Notes

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