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China and India: Trends in trade over the last decade

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Abstract: This paper analyzes and compares the trade pattern of China and India since 2000 and reviews the results in the context of the respective national development strategies. Our findings include: (1) Both countries have high openness ratios positively associated with growing labor productivity over the years; (2) China's world export share continues to increase, while India maintains a stable but significantly smaller world export share; (3) China's exports have been more complex and sophisticated than India's, although the gap is narrowing; (4) India exports a large share of technology-related products; however, this proportion is still smaller than that of China when processing trade is considered; and (5) processing trade plays a dominant role in China's exports, but is much less important for India. We examine the industrial policies of these two countries and posit that the key reason behind the different trade behavior of these two countries is India's later adoption of an outward-promotion policy. We review the establishment of special economic zones by China resulting from its accession to the WTO and review the evolution of tariff reductions and trade facilities of the two countries.

Keywords: Trade pattern, Trade openness, Export sophistication, Revealed comparative advantage, Export policy development, Trade facilitation

JEL Codes: F10, F11, F12

1 Introduction

China and India are the two largest developing countries in the world and are currently the most important emerging giants in the world economy. Since 2000, China has maintained a consistent economic growth rate of around 10% compared with India's 7%. Today, China accounts for 10% of all global exports, and it has become the largest exporter in the world. In contrast, India's international trade share is smaller than that of China at 1% of world exports. Nevertheless, India's exports have grown rapidly in the past decade.

The present situation raises the interesting question of why China and India have different export performances. Historically, the two countries share many common characteristics. They have the largest populations in the world: 1.3 billion in China and 1.1 billion in India. They gained their political independence in the mid-twentieth century. They initially adopted the heavy industry-oriented development strategy and followed, to some extent, the central planning economy. They began to move toward trade liberalization in the 1980s and reduced their reliance on an import substitution development strategy.

This paper addresses two questions. First, what are the main differences in trade performance between China and India? Second, what economic factors can explain the differences between two countries' trade performance? Our approach adopts a comparative and analytic framework grounded in microeconometrics. We also argue that the most fundamental reason to explain the difference in trade performance is due to the adoption of different development strategies. Since takeoff, China adopted an export-led development strategy which is consistent with its comparative advantage driven by the country's factor endowments. In contrast, India pursued an alternative plan.

To analyze trade performance in the two countries, we begin with an examination of trade patterns by comparing the openness ratio and trade balance. It appears that, although both countries have high openness ratios, they have different trade balances. China has a large trade surplus, whereas India has a large trade deficit.

We then investigate their level of export sophistication. Our calculations suggest that China exports more complicated and sophisticated products than India does. This difference can be traced further to the importance of high-technology exports in each country. China exports more high-technology products to the rest of the world in terms of value and relative export market

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share. This situation reflects the importance of processing trade rather than ordinary trade.[1]

Section 3 explores the channels for export growth. Productivity growth has played a significant role in trade growth for China and India over the years. Moreover, exports are skewed toward industries with a strong comparative advantage. We then compare labor productivity growth and revealed comparative advantage over time.

Lastly, in Section 4 we explore the sources of trade difference from the policy perspective. We argue that the key difference in trade performance is India's late adoption of the outward-oriented policy. India began to move away from import protection policy and toward the export-promotion policy only in the 1990s. We then scrutinize the setup of special economic zones (SEZs), accession to the WTO, evolution of tariff reductions, and state of trade facilitation.

2 Trade pattern of China and India

2.1 Trade openness

Trade openness ratio is defined as the sum of merchandised imports and exports divided by GDP. In Figure 1, China's trade openness ratio was 44% in 2000, the year prior to its joining the WTO. After becoming the 143rd member of the WTO in 2001, China's foreign trade increased dramatically. Its trade openness ratio peaked at 72% in 2007 but the global financial crisis eroded the openness ratio to 65% in 2008.

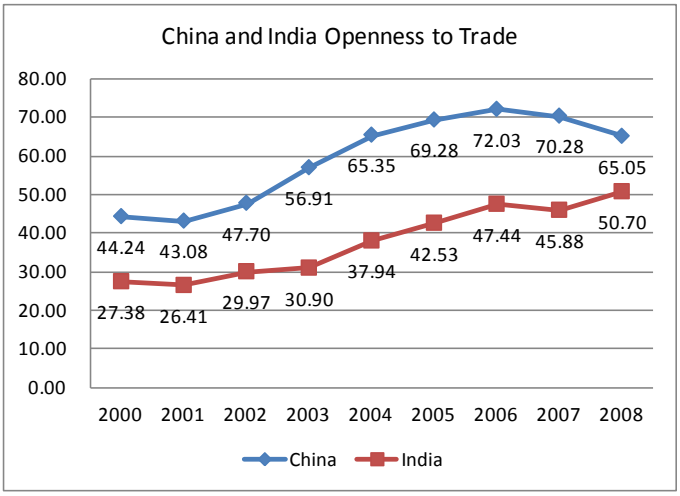

Figure 1: Figure 1: China and India's openness ratios. Sources: World Development Indicator (WDI), the World Bank.

[1] Processing trade is the process by which a domestic firm initially obtains raw materials or intermediate inputs from abroad, and after local processing, exports the value-added final goods.

In 2000, India's openness ratio was about 27%, twice as large as that a decade ago (i.e., 13% in 1990), but only 62% of the value for China. As a result of aggressive trade liberalization after 2000, India's openness ratio had risen to 50.7% in 2008, or 78% of the ratio for China.

The increasing openness ratio for India should not obscure the difference in scale of the absolute level of trade. In 2008, India's exports reached a record of $179 billion, or about 12% of China's exports which in aggregate reported a record $1.43 trillion. Figure 2 traces world export share from 2000 for the two countries. Although India's exports jumped from $44 billion in 2001 to $179 billion in 2008, a fourfold increase within a decade, its world export share remained stable at 1%. In contrast, China's export share of 4% in 2000 increased to 9% in 2008. As a result of the shrinkage in world exports by some 20% in the 2008–2009 period, China's export share reached 10% in 2010.

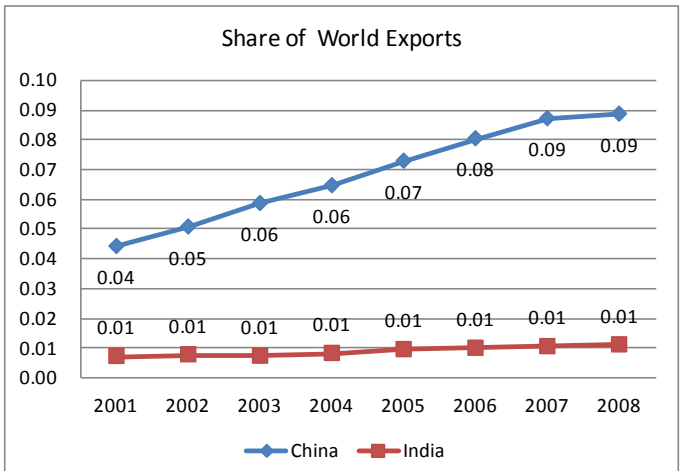

Figure 2: China and India's Share of World Exports (2000–07). Source: WDI.

Figure 3 plots the ratio of current account balance between 2000 and 2008 for China and India. China maintains an economically significant trade surplus. The ratio of exports to GDP was 23.3% in 2000, versus its 20.9% ratio of imports to GDP, or a trade surplus ratio of 2.41%. By 2008, this ratio had expanded to 8%, despite RMB appreciation which began in 2005.

In contrast, India produced increasingly large trade deficits throughout this period, resulting in a trade deficit ratio that was less than 1% in 2000 increasing fivefold to 5.35% in 2008.

2.2 Export sophistication

In addition to the magnitude of exports, and the proportion of exports by value to the underlying economy, the sophistication of exported goods is relevant to understanding the pattern of trade of these two countries.

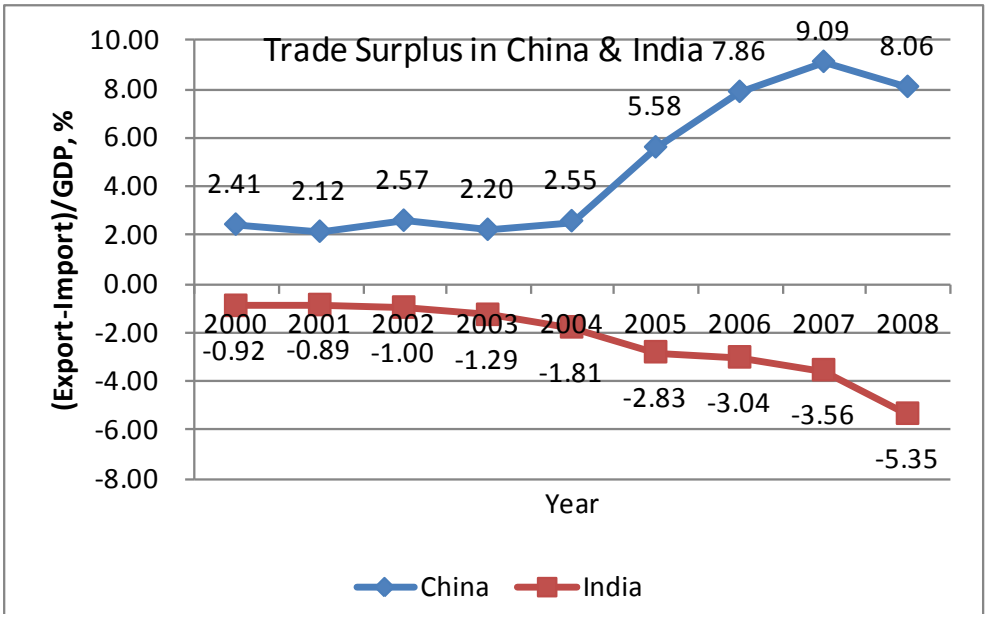

Figure 3: Trade Surplus Ratio in China and India. Source: WDI.

We adopt the EXPY methodology following Hausmann et al. (2006), Hidalgo et al. (2007), and Yu (2011b) to measure the export sophistication level. The idea is to construct an index to measure a country's product-weighted productivity. It includes two basic steps.

The first step is to construct a product-income index (i.e., the so-called PRODY index) by incorporating the country's per-capita GDP into its export index. In particular, the revealed comparative advantage for each industry is used as the weighting. The PRODY index is constructed as follows:

$$\text{PRODY}_j = \sum_c \frac{(EX_{jc}/EX_c)}{\sum_c (EX_{jc}/EX_c)} Y_c \qquad (1)$$

The numerator term EX_{jc}/EX_c is the export share of industry j over total exports of country c. The denominator of the weight, $\sum_c (EX_{jc}/EX_c)$, sums up the export share of industry j across all exporting countries in the world. Y_c is the per-capita GDP in country c. In this way, the PRODY index can be used to avoid sectoral distortion caused by the country's income level.

The second step is to have an index measure the country's export-income level (i.e., the so-called EXPY index). Note that the product-income index is variant by industry. As the products exported by a country may come from different industries, we consider the following index:

$$\text{EXPY}_c = \sum_j \left(\frac{EX_{jc}}{EX_c} \right) \text{PRODY}_j \qquad (2)$$

The export share of industry j to total exports in country c is used as weight to capture the importance of a particular industry.

Table 1: Comparison of export sophistication indicators.

Year	China	India	Rest of the World		
			Mean	Min.	Max.
2000	10 447	8118	8104	2271	13 537
2005	11 591	9283	8641	2691	20 277
2008	11 703	10 256	9577	4252	14 534

Source: COMTRADE and WDI, authors' calculations.

With these two indicators on hand, we can now compile the relevant data and calculate. As in Yu (2011b), we rely on two large datasets. The export data are from the Commodity Trade Statistics Database (COMTRADE) maintained by the United Nations, and the per capita Gross National Income (GNI) data are from the World Development Indicator (WDI) of the World Bank. We also adopt purchasing power parity-adjusted data to measure GNI, following Hausmann et al. (2006). The trade data covers the period of 2000 to 2008 at the SITC four-digit level. Overall, we obtain the export sophistication index of 105 countries from 2000 to 2008.[2]

Table 1 reports the export sophistication indicators for China, India, and the rest of the world in 2000, 2005 and 2008. China and India have larger EXPY indices than the mean for the rest of the world. The last two columns also present the export sophistication index dispersion which ranges from 4252 to 14 534 (Switzerland).

[2] The detailed technique of merging the two data sets is described in Yu (2011).

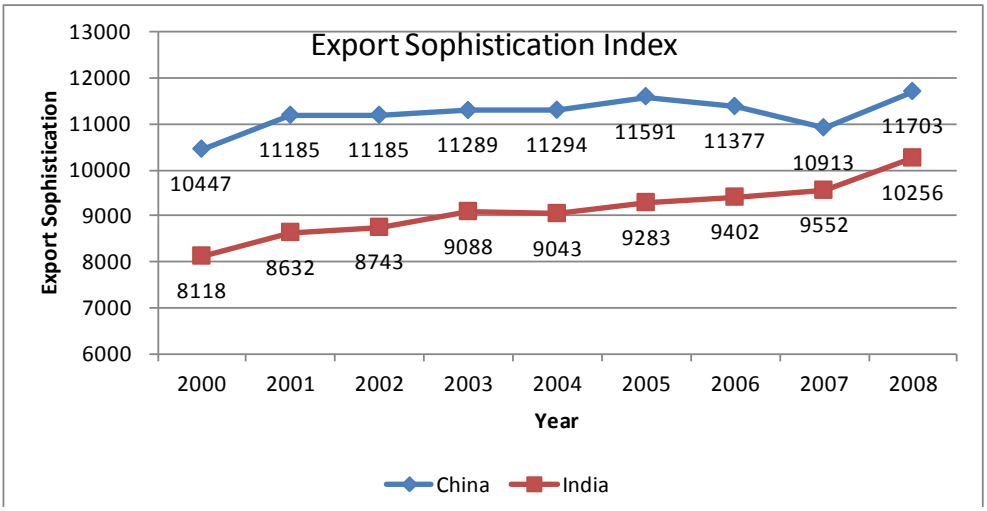

Figure 4: Export Sophistication Index for China and India (2000–2008). Sources: COMTRADE and WDI, authors' calculations.

Table 3 shows that China had a higher export sophistication index than did India in these years, but this difference is diminishing as can be seen in Figure 4. The narrowing gap between China and India is similar to the decreasing lead that China has had in the Trade Openness Ratio discussed above in 2.1.

2.3 Ordinary trade versus processing trade

As discussed by Yu (2010b), processing trade involves a domestic firm obtaining raw materials or intermediate inputs abroad, processing these domestically, and exporting the value-added final goods. Processing trade is a common trade pattern for developing Asian countries such as China and Malaysia. In particular, processing exports currently account for more than 50% of total exports in China (Yu, 2011a). As shown in Figure 7, China's processing trade has outweighed ordinary trade since 1993, with the processing trade ratio reaching as high as 60% in 1998.

A direct comparison with India is not possible as such data on processing exports in India are unavailable. An alternative approach is to utilize China's customs data to classify China's imports from India by regime types (i.e., processing trade or ordinary trade). The following analysis is based on transaction trade data from 2000 to 2006 only, the only years published at this time.

Figure 8 shows that most of the imports from India to China are by ordinary trade. In particular, processing exports and ordinary exports from India to China are roughly equal. However, the proportion of processing exports declined to 34% in 2002 dropped to 22% in 2005 and returned to 34% in 2006. Under the assumption that the proportion of China-India ordinary versus processing trade to Indian trade data as a whole, we would conclude that the importance of processing trade to ordinary trade is significantly less than in China.

3 Channels of exports growth

There are at least two drivers of China and India's high export growth since 2000. The first is industrial productivity growth, and the second is disproportionately weighted export growth from industries enjoying a strong comparative advantage in the global economy.

3.1 Productivity growth

Economists usually rely on two different ways to measure productivity: labor productivity and total factor productivity (TFP). Admittedly, TFP is more systematic because it considers a variety of factor inputs, such as labor, capital, and intermediate materials. As firms in different industries may exhibit heterogeneity of productivity, current trade economists usually work on firm-level production data to understand a firm's TFP. Related works on firm-level productivity for China, among others, include Yu (2010b), Feenstra et al., (2011), and Brandt et al. (2011). Similarly, several works have been published on firm-level productivity for India such as Goldberg et al. (2011); Hsieh-Klenow (2009) studies the two countries. Unfortunately, we are not able to access to India's firm-level production data, and thus we cannot calculate the TFP for India. However, this is not a problem, as our main objective is to explore the evolution of productivity but not the heterogeneity across industries/firms. Therefore, we use labor productivity to measure the sectoral performance of both countries.

Figure 9 plots the labor productivity of China and India between 2000 and 2008. Sectoral labor productivity is measured by industrial output divided by the number of employees in the sector. We come up with two findings. First, while both countries experience productivity growth, the productivity growth

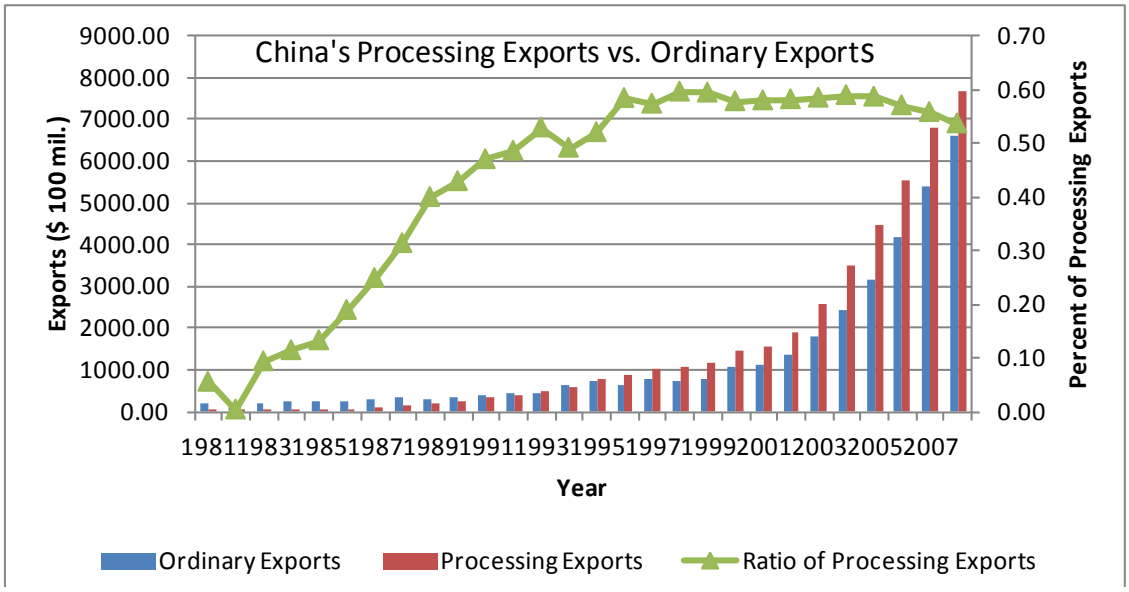

Figure 5: China's Processing Trade and Ordinary Trade (1981–2008). Sources: China' Statistical Year (2009).

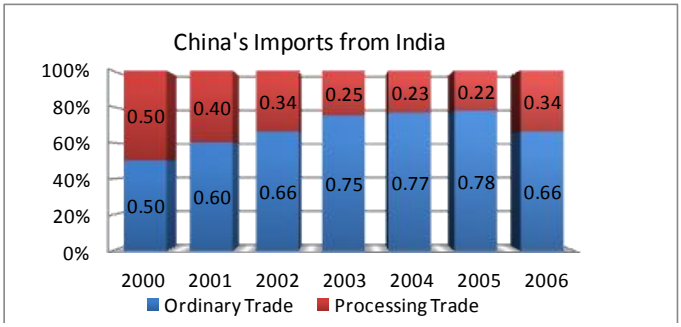

Figure 6: Imports from India to China by regime type. Sources: China's Customs Data (2000–2006).

rate of China is significantly larger than that of India. China's aggregated average industrial labor productivity grew from $39K in 2000 to $156K thousand in 2008, increasing fourfold during the period. In contrast, the figure for India increased from $9.,K in 2000 to around $30K in 2008, registering a triple increase during the period. Second, in terms of the economic magnitude, China's average industrial labor productivity was about four times larger than that of India in 2000, but it expanded to five times in 2008. Nevertheless, the productivity levels and their associated growth rates in China and India are broadly consistent with their export performance.

3.2 Revealed comparative advantage

Figure 9 suggests that growing exports are accompanied by growing productivity over time. However, do the exports of the two countries skew toward sectors with a strong comparative advantage?

To measure a country's comparative advantage, we adopt the industrial revealed comparative advantage (RCA) index, defined as an industry-country export share to the industry-world exports over a county's export share to the global exports. Specifically, let EX_{jc} denote country c's exports in industry j and EX_c represent country c's total exports. Country c's RCA in industry j can be denoted as

$$\text{RCA}_{jc} = \frac{\frac{EX_{jc}}{\sum_c EX_{jc}}}{\frac{EX_c}{\sum_c EX_c}}. \quad (3)$$

Note that if the index of an industry is higher than one, then it has a comparative advantage against the rest of the world. Based on this formula, we calculate the RCA index for each ACI country by industry and by year. Technically, by adopting the highly disaggregated trade data, we can calculate the RCA index by industry up to the Harmonized System (HS) six-digit level. To save space, Table 4 only reports the RCA indices at the HS one-digit level for 2000 and 2006.

The results shown in Table 4 have interesting implications. In 2000, China had a strong comparative advantage on the following sectors: textiles and apparel (RCA of 2.91), chemicals and plastics (1.35), leather, woods, and papers (1.30), metal (1.24), and foodstuff and beverages (1.09). Today, China maintains its comparative advantage on textiles and apparel, although its RCA decreased from 2.91 to 1.90. All the other industries with a comparative advantage, such as chemicals and plastics, metal, leather, woods, and papers, and foodstuff and beverages, are now at a disadvantage. This finding suggests that other labor-abundant

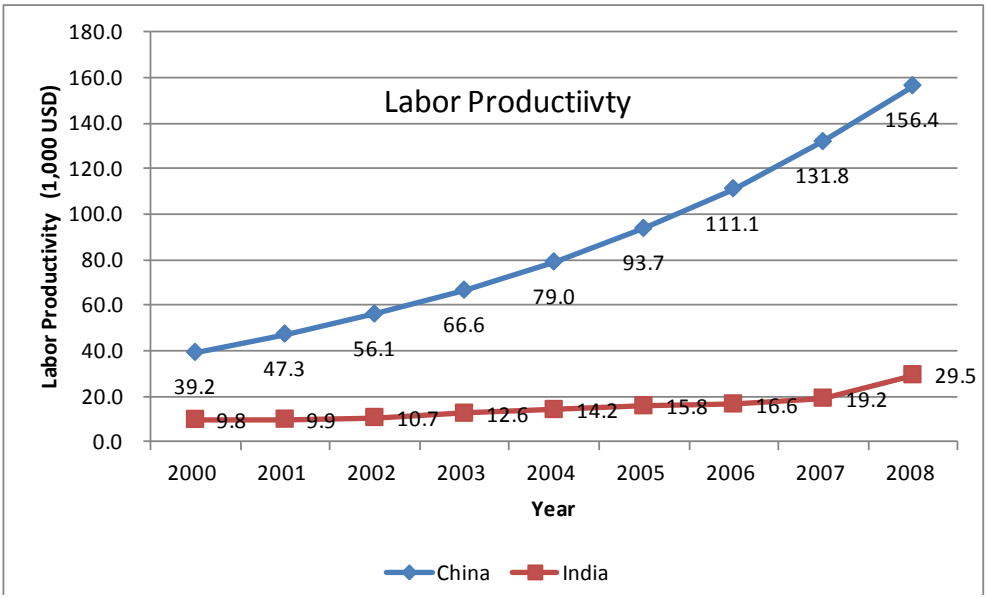

Figure 7: Labor Productivity in China and India (2000–2008).

countries, such as Indonesia and Vietnam, may be better positioned to compete against China in certain industrial sectors.

However, China now has a significant comparative advantage on machinery and transport equipment, making it different from the production and trade patterns of most developing countries (Rodrik, 2008). To understand better the dynamic evolution of China's comparative advantage in each industry, Table 5 reports the RCA index by industry and by year in the last decade.

In contrast, India in 2000 had a significant comparative advantage in industries such as metal (2.89), tobacco and mineral (2.69), and foodstuff and beverages (1.40). Today, it still has a comparative advantage on these industries, except for foodstuff and beverages. However, its competitiveness has weakened in the last decade partly because of the strong competition from China and other ASEAN countries (Yu, 2011a). Table 6 reports India's RCA index by industry and by year to capture the dynamic change over time.

Briefly, both China and India experience fast labor productivity growth in the new century, which is positively associated with their fast export growth. Differences in comparative advantage of each industry also helps us understand heterogeneous export performances across industries.

4 Policy settings

The differences in the export performances of China and India are very interesting because the two countries share a variety of common social and economic characteristics. They both gained political independence in the middle of the twentieth century. They both adopted the heavy industry-oriented development and even launched their first Five-year Plan in the same decade (see Lin et al (2004), Lin (2009) and Panagariya (2008) for a thorough discussion). Lastly, both countries are labor abundant, with 1.3 billion people in China and 1.1 billion people in India. However, what differences in their policy settings could account for their divergent export performance? In this section, we try to answer such questions by examining the different policy settings in each country.

4.1 Import substitution versus export-oriented development strategy

Perhaps China and India's trade difference is mainly caused by the differences in their development strategies. Since the 1980s, China had already adopted the export-oriented development strategy in accordance with its abundance in labor. In contrast, India began to switch from the inward-oriented controlled regime to the outward-oriented regime only in the early 1990s. The late adoption of an export-oriented development strategy partially results in India's relatively lower export volume today.

As discussed by Lin (2003), Lin-Yu (2008), and Yao-Yu (2009), after gaining its political independence, China initially adopted a heavy industry-oriented development strategy. Given that China lacked sufficient capital to finance heavy industries, it had to overvalue its currency and adopt the import substitution strategy by setting high import tariffs for foreign products in accordance with the idea of infant industry protection. In this way, the Chinese's economy became isolated from the world economy. As a result, the openness ratio (export plus import over GDP) was

Table 2: The Relative Comparative Advantage (RCA) index in China and India.

		China		India	
Code	Description	2000	2006	2000	2006
0	Animals & Vegetable	0.383	0.284	0.359	0.383
1	Foodstuff & Beverages	1.090	0.894	1.403	0.794
2	Tobacco & Mineral	0.991	0.999	2.699	2.067
3	Chemical & Plastics	1.356	0.877	0.593	0.585
4	Leather, Woods, & Papers	1.307	0.945	0.664	0.586
5	Textiles & Apparel	2.918	1.905	0.991	0.958
6	Footwear & Glass	0.287	0.170	0.097	0.120
7	Metals	1.240	0.867	2.891	1.995
8	Machinery & Transport Equipment	0.992	1.231	0.376	0.637
9	Miscellaneous Manufactured	0.522	0.829	0.380	0.346

Source: COMTRADE, compiled by the authors.

Table 3: The RCA index for China at HS 1-digit level.

Year	0	1	2	3	4	5	6	7	8	9
2000	0.383	1.090	0.991	1.356	1.307	2.918	0.287	1.240	0.992	0.522
2001	0.364	0.977	0.872	1.218	1.201	2.637	0.265	1.259	1.085	0.604
2002	0.334	0.825	0.866	1.111	1.104	2.351	0.224	1.254	1.152	0.625
2003	0.304	0.991	0.864	0.936	0.985	2.037	0.194	1.300	1.195	0.721
2004	0.285	1.151	1.001	0.879	0.915	1.947	0.180	1.067	1.170	0.818
2005	0.283	0.991	0.976	0.894	0.898	1.866	0.170	1.017	1.170	0.966
2006	0.284	0.894	0.999	0.877	0.945	1.905	0.170	0.867	1.231	0.829
2007	0.285	1.094	1.086	0.844	0.910	1.744	0.156	0.886	1.176	0.900
2008	0.290	1.254	1.160	0.802	0.950	1.512	0.165	0.780	1.149	0.886

Source: COMTRADE, compiled by the authors.

Table 4: The RCA index for India at HS 1-digit level.

Year	0	1	2	3	4	5	6	7	8	9
2000	0.359	1.403	2.699	0.593	0.664	0.991	0.097	2.891	0.376	0.380
2001	0.549	1.383	2.384	0.597	0.750	1.188	0.103	3.144	0.403	0.469
2003	0.503	1.502	2.279	0.523	0.661	1.276	0.095	2.831	0.540	0.356
2004	0.421	1.241	2.240	0.500	0.670	1.043	0.111	2.727	0.538	0.302
2005	0.389	0.952	2.009	0.552	0.595	1.066	0.110	2.618	0.549	0.368
2006	0.383	0.794	2.067	0.585	0.586	0.958	0.120	1.995	0.637	0.346

Source: COMTRADE, compiled by the authors.

only 10% in the early 1970s, with around 5% of the export–GDP ratio and another 5% of the import–GDP ratio.

In 1979, China began its "open-door" policy, which is essentially an export-led development strategy. Given that China is a labor-abundant country, China's government adopted a variety of policies to foster exports in the last three decades. These policies are summarized as follows: (1) setting up of SEZs and export processing zones (EPZs), (2) encouraging processing trade, (3) joining the WTO, and (4) aggressively liberalizing trade.

Conversely, trade liberalization and export promotion in India can be considered a long march. According to Bhagwati-Srinivasan (1975) and Panagaya (2008), India's economic growth after its political independence can be divided into four periods. The first period is the take-off phase from 1951 to 1965, in which the average economic growth was up to 4.1%. However, from 1965 to 1980, India suffered from the economic stagnation of central planning, with a 3.2% annual growth rate. In the 1980s, India experienced an economic liberalization revival, with an annual growth rate of around 5%. After 1990, India experienced a remarkable economic growth and enjoyed an annual growth rate of 6.3%.

In its take-off period, India adopted a relatively liberal policy in foreign investment. However, the effect of such liberal policy is only minimal because only a few countries wanted to invest in India partly owing to historical reasons. Nevertheless, its fundamental economic policy was import substitution. India's government also began to restrict firms' export to foreign countries.

In the mid-1960s, India began to stimulate exports by devaluing the rupee against the US dollar and then against the sterling after 1973. However, the effort of export promotion was limited because it was greatly offset by the simultaneous rise in export taxes and decrease in export subsidies. As a result, India was still a closed economy in 1980, with a 4.7% export–GDP ratio and an 8.7% import–GDP ratio.

In the early 1980s, India maintained its import substitution policy. However, the government began to abandon this strategy and move slowly toward trade liberalization. Commodities were classified into four categories, namely, permissible, limited permissible, restricted, and banned goods, with an ascending order of the severity of import restriction. Goods classified under the Open-General-Licensing could be imported without restrictions. In contrast, many exports were still subject to restriction. Only exports with high value-added products were encouraged. As a result, India's exports increased very slowly. Its export–GDP ratio only reached 5.7% at the end of the 1980s.

In contrast, since 1990, India has actively pursued trade liberalization and an export-oriented development strategy by cutting its import tariffs, removing various export restrictions, and further devaluing the rupee.

4.2 Establishment of Special Economic Zones (SEZs) and Export Processing Zones (EPZs)

The setting up of SEZs and EPZs in China occurred in three waves. In the first wave in 1980, the four coastal cities in Guangdong and Fujian provinces (i.e., Shenzhen, Zhuhai, and Shantou in Guangdong and Xiamen in Fujian) were chosen as the so-called SEZ.These four cities were selected because they are close to Hong Kong and Macao and have strong social bonds with Eastern South Asia. For example, people in Shantou and Xiamen have had a long trading tradition with Eastern South Asia. In the SEZs, imports are completely duty free. Moreover, foreign investment within the zones can enjoy additional advantages such as lower income taxes. In addition, firms located in the SEZs enjoy greater administrative flexibility and easier access to the foreign market. Such policies turned out to be very successful: currently, Shenzhen has developed from a small and poor village into one of the two regional financial centers in China.

In 1984, in the second wave, China permitted 14 coastal cities to become "open cities" enjoying similar privileges as those of the four SEZs. Shortly thereafter, China established two more SEZs, namely, Pudong SEZ and Hainan Island SEZ. Furthermore, China set the Pearl River Delta and the Yanzi River Delta as economic development areas and opened four northern ports to trade with Mongolia, Russia, and North Korea in 1991.

The third wave of trade liberalization occurred in 1991-1992 as China expanded its open-door policy to central and western China through the forming economic development zones and high-tech development zones. Finally, in 2000, China began to set up EPZs in the eastern coastal cities to promote exports. Currently, China has 39 EPZs. As mentioned by Naughton (2006), there were around 160 economic development zones by the end of 2003.

Although India started earlier than China, its development of SEZs lags China in terms of number and pace of establishment. In 1965, India already launched its first EPZ, the Kandla EPZ in Gujarat, and then set up five more EPZs in the 1970s and 1980s. Similarly, India also established bonded zones or export-oriented units in 1981. However, because of regulatory controls and heavy duties, such export-promoting zones have been only partially effective.

These free-trade zones seem to have a much better shape in the new century. First, the eight original EPZs were converted into SEZs in 2001. After the launch of the SEZ Act in 2005, the number of SEZs dramatically increased. There were only 11 functioning SEZs by the end of 2006. Currently, the Indian government has approved more than 200 SEZs. The emerging SEZs partially explain the remarkable increase of India's international trade growth.

Table 5: Number of Special Economic Areas in China and India (through 2006).

Types of Special Economics Areas	China	India
Special Economic Zones (SEZ)	6	11
Export Processing Zones (EPZ)	39	8
Economic & Technology Development Zones (ETDZ)	54	—
High-technology Development Zone (HTDZ)	53	—
Bonded Zones/ Export-Oriented Units (EOU)	15	1

Source: Naughton (2005) and Panagariya (2008), compiled by the authors.

4.3 Role of processing trade

As discussed in Section 2, processing trade is crucial in China's foreign trade. There are two important types of processing trade in China: processing assembly and processing with intermediate inputs. The former was prevalent in the 1980s, and the latter became more popular after 1990. There are two key differences between these two types of processing trade.

First, processing with assembly does not require firms to pay for the processing materials. Processing assembly indicates that Chinese firms import raw materials, parts or components without taking title, perform the required work, and forward the value-added finished goods back to the same company or affiliated enterprise. In this way, the processing assembly firm receives payment for the assembly work without investing in 'work-in-process'. In contrast, processing with inputs indicates that a firm imports and pays for raw material or intermediate inputs and then sells and exports its valued-added final product. The source and destination country can be different in this case.

Second, there is no duty assessed on processing assembly. However, firms involved in processing with inputs must initially pay the import duty for which, after final export, they can obtain a full rebate.

Despite such differences, both types of processing trades are important in China's export growth. Historically, China has been relatively labor abundant and capital scarce. Therefore, the marginal productivity of labor has been relatively low. With the combination of China's low-cost labor and low-cost foreign capital and intermediate inputs, manufacturing in China is economically highly efficient. This structure of China's export manufacturing sector has enabled dramatic growth. In contrast, processing trade is relatively insignificant in India.

4.4 Accession to the WTO

Membership in the WTO also plays an important role in China's trade growth. Similar to India, China was a founding member of GATT, the predecessor to the WTO, when it was formed in 1948. However, China lost its membership after gaining its political independence in 1949. After 1986, China applied to join the GATT again. However, accession to the WTO was a difficult journey. After many rounds of negotiation, China eventually gained its membership to the WTO as the 143rd member. Why was it hard for China to gain access to the GATT/WTO? As discussed in Wong and Yu (2008), in addition to China's economic size and number of the existing working members in the WTO, China's political regime negatively affected its accession to the WTO.

After China's accession to the WTO, China's trade, including both processing and ordinary trade, increased very fast. As shown in Figure 2, China's share of exports to world exports doubled from 4% in 2001 to 8% in 2008.

As one of the four democratic regimes in the developing countries, India was also a founding member of the GATT in 1947. However, because of its inward-oriented development strategy, India was not a major participant in global trade, relative to its economic size, for almost half a century.

However, this does not mean that the WTO was useless in fostering India's trade liberalization. Indeed, many consumption goods were still licensed in 2000, which caused general discontent among its trading partners. After the dispute settlement panel of the WTO made a judgment against India, India began to liberalize its import market by reducing its import licenses.

4.5 Tariff reductions

As an important means of trade liberalization, tariff reductions are economically significant for both China and India, although to different degrees.

When China claimed to establish the "market economy" in 1992, its un-weighted simple tariff was as high as 42%. However, from 1997, China reduced its import tariffs aggressively The simple average tariffs in China fell from 35% in 1994 to around 17% in 1997, in part to facilitate its entry into WTO. In 1994, the eighth Uruguay round of the GATT negotiation successfully agreed to cut the tariffs by 40% for its member countries. Although China was not yet a formal member of the GATT at that time, China's government decided to adopt a more liberalized policy by cutting its tariffs following the criteria set for the GATT members.

Import tariffs were even higher in India. In 1986, the simple average tariff in India was 137.6%, and the tariff lines for around one-tenth of the products were as high as 200% (Pursell, 1992). Ironically, India's import tariffs were even higher in the early 1990s than those in the 1980s. In particular, in 1990, although India's simple average tariff was 113%, there was an upper bound of 355%. Its import-weighted tariffs were 87% . The reversal of the tariff increase was caused by the switch from non-tariff-barriers, such as import quota rents, to tariff revenue. Before

the 1990s, India maintained heavy import protection through import quotas.

India began to cut its tariff aggressively in the late 1990s. The top tariff rates decreased by 85% in 1995 and then by 50% in 1996. As shown in Figure 10, India's simple average tariff was 33% in 2000, 28% in 2002 and 12% in 2006. By 2008, India's tariffs were as low as those of China.

After China's entry to the WTO in 2001, it immediately cut its import tariffs from 16.3% to 14.6%.. In 2008, in accordance with its commitment to the WTO, China cut its tariffs to around 9.15%. which remained at a similar level to the developing countries set by the WTO.

4.6 Trade facilitation and economic climate

Differences in trade facilitation between China and India are also key factors in understanding the trade performances of the two countries. Generally, trade facilitation includes the extent of domestic infrastructure, time spent to import and export, trade barriers, and labor and environmental standards. In this sense, trade facilitation is a measure of ease of conducting business in a country similar to that utilized by the World Bank. To make an international comparison, we borrow the World Bank's indicator of "conducting business" as a measure of trade facilitation.

Table 8 lists six indicators of ease of conducting business: starting a business, enforcing a contract, dealing with licenses, obtaining electricity, closing a business, and trade barriers. Each category can also be broken down into several sub-categories. The last two columns report the scores of each sub-category.

Conducting international trade is easier in China than in India in terms of cost to export/import, number of documents required, and time to import. However, in China, two additional weeks are required to export compared to India. China is more accommodating to businesses due to superior infrastructure, including the availability of reliable electric power, as show in Table 8.

For starting and closing a business, China is generally more efficient than India. This fact is also true in contract enforcement except for licenses. Although the number of procedures to obtain a license is similar in the two countries, China requires more time, though the cost is lower. As a whole, based on the World Bank measurements, China is more efficient in conducting business than India.

5 Conclusion

In this paper, we have compared the trading patterns of China and India over the last decade using measurements including the trade openness ratio, world export share, trade surplus ratio, and export sophistication index. In addition, we have examined the relative importance of processing trade to each country. In the absence of comparable data to enable TFP comparisons between China and India, we reviewed their labor productivity growth rate instead. Revealed comparative advantage index measurements using HS data provides further contrasting information about the two economies.

Finally, the differences in the development strategy of the two countries as they evolved over time is analyzed. Although China and India share generally similar historical economic development paths, China adopted an export-oriented strategy in 1979. India adopted the export-promotion development strategy more than a decade later. One result of this timing difference in policy enactment is India's smaller base of exports today, both relative to the size of its economy and to the world export market. Moreover, India has consistently run a trade deficit in the past decade, which shows some signs of increasing.

This paper also highlights two other contributors to China's relatively stronger trade position today: first, the greater ease of conducting business in China versus India, as measured by the World Bank, and second, the significantly greater improvement in labor productivity within China as against India. These trend lines over the past decade appear to correlate strongly with the export performance as a whole of these two countries.

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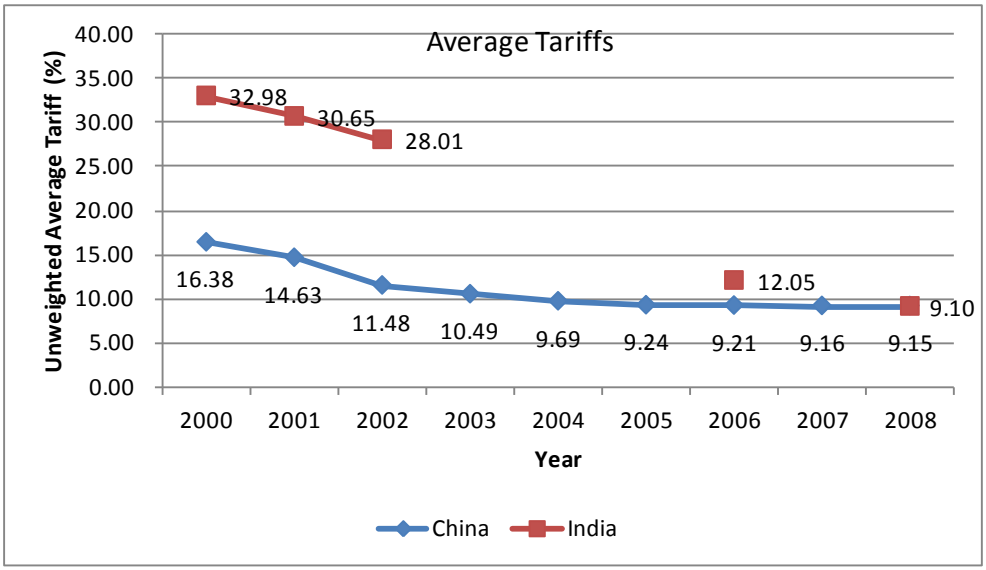

Figure 8: Simple average tariffs for China and India (2000–2008). Sources: TRAINS, the World Bank. India's tariffs data in 2003–2005 and 2007 are not reported.

Table 6: Economic climate in China and India.

Category		China	India
Starting a business	Number of procedures to start a business	14	12
	Time to start a business(days)	38	29
	Cost to start a business	4.5	56.5
	Paid-in Min. Capital (% of income per capita)	118.3	188.8
	Time to get a license(days)	336	195
	Cost to get a license	523.4	2143.7
Enforcing a contract	Number of procedures to enforce a contract	34	46
	Time to enforce a contract(days)	406	1420
	Cost to enforce a contract	11.1	39.6
Dealing with license	Number of procedures to get a license	37	37
	Time to get a license(days)	336	195
	Cost to get a license	523.4	2143.7
Getting electricity	Recovery rate (cents on the dollar)	36.4	16.3
	Time to close a business(year)	1.7	7
Closing a business	Cost to close a business	22	9
Trade barriers	Documents to export (number)	7	8
	Time to export (days)	21	17
	Cost to export (US$ per container)	500	1055
	Documents to import (number)	5	9
	Time to import (days)	24	20
	Cost to import (US$ per container)	545	1025

Source: The World Bank.

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