Globalization and Inequality in China

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1. Introduction

Since 1870s, there have been three waves¹⁾ of globalization in the world. Globalization encompasses declining barriers to trade, migration, capital flows, foreign direct investment (FDI), and technological transfers. The first wave of global integration, from 1870 to 1914, was triggered by a combination of decreasing transportation costs, such as the switch from sail to steamships, and reductions in tariff barriers, pioneered by the Anglo-French agreement. From 1945 to 1980, there was the second wave of globalization in the world. During this period, barriers of trading manufactured goods between developed countries had been eliminated, but as for developing countries, the only barrier being lowered was the barrier of trading primary commodities. The third wave of globalization, which emerged around the year of 1980, was distinctive. During this period, emerging economies including China gained access to global market.

Along with the appearance of the third wave of globalization, the fact that China has already broken into the global market is being demonstrated in many aspects. For instance, since 1980, FDI, foreign trade, average tariff rates and capital controls have changed a lot. FDI has increased by about 90 times, from USD 0.92 billion in 1983 to USD 83.5 billion in 2007^{2} ; the scale of foreign trade has increased by 247 times, from 57 billion Yuan in 1980 to 14097 billion Yuan in 2006^{3} ; and the average tariff rate has fallen year by year. Because of this the GDP in China and

per capita income have soared.

However on the other hand, the globalization did not benefit everyone evenly in China. Recently the income distribution problem has drawn a lot of attention from Chinese scholars. For instance, According to the view of Guan Yanli and Zhang Xining⁴⁾, the globalization has seen a rapid progress, and the world total trade volume increases largely year by year. The huge amount of international trade influences the factor price, and employment effect and technological progress as well as other functional mechanisms impose complex influence on the distribution of residents' incomes. All of these lead to widened income gaps among residents. Wan Guanghua, Lu Ming and Chen Zhao⁵⁾ estimate an income generating function, incorporating trade and FDI variables, and apply the newly developed Shapley values decomposition technique to quantify the contributions of globalization, along with other variables, to regional inequality. It is found that (a) globalization constitutes a positive and substantial share to regional inequality and the share grows over time; (b) domestic capital, however, emerges as the largest contributor to regional inequality; (c) economic reform characterized by privatization exerts an increasingly significant impact on regional inequality; and (d) the relative contributions of education, location, urbanization and the dependency ratio to regional inequality have been declining. Hu Zhaoling⁶⁾ points out that the theoretical analysis and experiential evidences show that there is no definite relation between economic globalization and income inequality. Economic globalization is not only the factor affecting the income inequality, but the different aspects of the economic globalization can bring different influences on different countries even and different segments of residents in a country in terms of income. Overall, the economic globalization can narrow the income gaps among countries to some extent, while it produces both positive and negative impacts on the income distribution in a country; whether a country can benefit from the globalization depends on how deeply it participates in the globalization. Is there any link between this distribution problem in China and the globalization?

The purpose of this paper is to analyze the trends of international economic integration and income inequality in China, as well as the relationship between them. Through reviewing the survey⁷ that conducted by the Chinese government, the author in the first part presents the trends of the international trade, FDI and the technology progress. In the second part, the Gini index is used to demonstrate the income distribution within China and to analyze the different kinds of inequality. Moreover this paper tries to find the links between the globalization and the inequality in China. Finally, based on the analysis provided by this paper, there are some advices for the Chinese government.

2. Globalization in China

Globalization refers to the world's economic activity beyond national borders through trade, capital flows, technology transfer and provision of services to form an organic economy as a whole interdependently and interrelated on a global scale. The globalization in China is a process of the dramatic increase of foreign trade and FDI, especially in the recent two decades. The foreign trade and FDI play an important part in the economic development of China; dependence degree on foreign trade is growing unceasingly. Since 1978, as a result of reform and opening in China, the total value of imports and exports has rocketed up. **Fig.1** below shows the detail. Especially after 1989, the degree of dependence on foreign trade has raised from 24.6% in 1989 to 63.86% in 2007. Simultaneously, the FDI in China has also increased significantly. According to the **Fig.2** below, the FDI has risen from 47,072 million dollars in 2000 up to 85,506 million dollars in 2005. The increase of foreign trade and FDI reveals that China has become more and more involved in the global economy. In another word, Chinese economy has become more and more globalized.



Fig.1 the total value of imports and exports in China (hundred million dollar)

Source:China Economic Information Network (http://202.113.20.216:90/scorpio/aspx/main. aspx?width=1014&height=674)



Fig.2 FDI in China (million dollars)

Source: China Economic Information Network (http://202.113.20.216:90/scorpio/aspx/main.aspx?wi dth=1014&height=674)

In addition, along with the foreign capital inflow, the multinationals start to enter China, which has accelerated the technology development and the industrial upgrading in modern China. Till now, about 450 multinationals of the fortune 500 have invested or established business entities in China.⁸⁾ Thus from multinational investment, China has not only received large amount of funds or capital for economic development but also absorbed advanced technology from those developed countries⁹⁾ which will accelerate the technology development and the industrial upgrading in modern China.

3. Inequality—Gini Index

Although along with the globalization, the economy of China has increased at an unbelievable rate and the living standards of Chinese have been improved significantly. However, the globalization did not benefit everyone evenly in China. The income distribution problem is rising. Brought about by the globalization, under the pressure of international economic competition, polarization in China has become more significant, the level of social welfare declined, the income gap between regions, between urban and rural areas widened either. The Gini coefficient is often used as a measure of inequality of income distribution. A low Gini coefficient indicates more equal income distribution, while a high Gini coefficient indicates more unequal distribution. Therefore according to the **Fig.3** it is proved that the inequality of income distribution in China is in an expanding trend in recent 10 years. Gini coefficient soared up to 0.417 in 2000, surpassing 0.397 in 1999, and kept increasing ever since. It reached its peak at 0.496 in 2006.



Fig.3 Gini Coefficient in China

Source:The Official Website for the National Statistical Bureau of P.R.China (http://www.stats.gov. cn/tjshujia/zggqgl/t20070411_402398097.htm)

Particularly, the inequality in China can be reflected from three major respects: the rural-urban inequality, the interprovincial inequality and the inter-industrial inequality¹⁰). Each of rural-urban inequality, inter-industrial inequality and inter-provincial inequality is relative to other two factors. To some extent, there is something uniform among them because of the overlapping of. For example, rural-urban inequality contains provincial inequality, and it is also partly duplicated with provincial inequality. However, this does not affect each inequality. Rural-urban income difference reflects the rural-urban inequality; inter-industrial income difference reflects the inter-industrial inequality; inter-provincial income difference reflects the inter-industrial inequality; inter-provincial income difference reflects the inter-industrial inequality problem. Each of them includes and reflects income inequality problems on different aspects. Here the inequities were measured by the ratio of different labor wages.

- (1) The inter-provincial inequality. It is also called the regional inequality within China, which was account by the ratio of different regions' labor wages. Since the end of 1970s, along with the globalization, this type of inequality has presented an expanding trend in different regions. For instance, the ratio of income per capita in east area to that in west area was 1.26 in 1990 and turned into 1.39 in 1999¹¹.
- (2) The inter-industrial inequality¹²⁾. Along with the capital inflow and the technological transferring, the wages of workers in different sectors have been increased a lot. However, the rate and extent of wage increasing are different. Since the end of 1970s, the relative wages of workers in various industries has been changed significantly. As a whole, the income inequality among different industries has been expanded¹³⁾.

(3) The rural-urban inequality. Since the end of the 1970s, the development of the rural-urban inequality in China is shaped like a "U" line, which decreased in the period of 1978 to 1985 and increased again from 1986. It is showed in the **Table 1** below¹⁴.

Year	Wage of rural labor (Yuan)	Wage of urban labor (Yuan)	Ratio
1978	133.6	343.4	2.57
1980	191.3	477.6	2.50
1985	397.6	739.1	1.86
1990	686.3	1510.2	2.20
1995	1577.7	4283.0	2.72
2000	2253.4	6280.0	2.79
2001	2366.4	6859.6	2.80
2002	2475.6	7702.8	3.11

Table 1. Wage of labor in rural and urban areas (1978-2002)

Note: the ratio = wage of urban labor / wage of rural labor.

Source: China Statistical Yearbook, Beijing, China Statistics Press, 2003,p.344.

4. Globalization and inequality

1) Foreign trade, FDI and inequality

The globalization in China was mostly reflected by the increase of foreign trade and FDI in the recent 20 years. The following parts aim to investigate the relationship between the total value of imports and exports, FDI and the income per capita in China and to summarize the trends of them along with the globalization by empirical evidence.

DATA

This paper constructs the regression analysis model using the data of 31 provinces in the mainland of China from 1995 to 2004¹⁵), in which "import and export per capita in different provinces (USD)" and "FDI per capita in different provinces" are considered as independent variables, while the dependent variable is "per capita income in different provinces (Yuan)" ¹⁶. Moreover, the data of Chongqing in 1995 and 1996 are included in those of Sichuan province because of the regionalism.

RESULT

 Regression analysis of FDI per capita and income per capita on yearly basis, which is designated for the purpose of examining the effect of FDI on income in China.

Table.2 The coefficients of FD	per capita on per	capita income
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Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Coefficient	16.9	15.6	16.7	23.5	33.1	45.6	41.4	42.9	48.9

Note: the greater the coefficient, the stronger the relativity between FDI per capita and income per capita, and vice versa.

 $Source: China \ Economic \ Information \ Network \ (http://202.113.20.216:90/scorpio/aspx/main.aspx?width=1014\&height=674)$

Based on the empirical analysis of the yearly FDI per capita and income per capita in different provinces, the coefficients of average FDI increased sharply from 16.9 in 1995 to 48.9 in 2003. It meant that in 1995 as FDI per capita increased by 1 US dollar, per capita income would increase by 16. 9 Yuan. In 2003, as FDI per capita increased by 1 US dollar, per capita income would increase by 48.9 Yuan correspondingly.

• Regression analysis of import and export per capita and income per capita on yearly basis, which is designated for the purpose of examining the effect of import and export on income in China

Table. 3 The coefficients of import and export per capita on income per capita										
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Coefficient	1.6	2.2	2.4	2.8	2.9	2.7	2.9	2.82	2.43	

Note: the greater the coefficient, the stronger the relativity between import and export per capita and income per capita, and vice versa anti.

Source: China Economic Information Network (http://202.113.20.216:90/scorpio/aspx/main.aspx?width=1014& height=674)

Based on the empirical analysis of import and export per capita and per capita income in different province, the coefficients of import and export per capita increased sharply from 1.6 in 1995 to 2.9 in 2001. It meant that in 1995 as import and export per capita increased by 1 US dollar, the per capita income would increase 1.6 by Yuan. In 2001, as import and export per capita increased by 1 US dollar, per capita income would increase by 2.9 Yuan correspondingly.

The above regression analyses prove that both the FDI and the volume of import and export in China have great impacts on income. Moreover the effect is increasing gradually year by year. Therefore the distribution of FDI and import and export results in the growing income disparity in China.

Distribution between rural and urban areas

Since the very beginning of the reform and opening in China, the percentage of the FDI put into the agricultural sector out of the total FDI value has remained low. From 1979 to 1984, the percentage leveled off around 8.62% and dropped to 5.01% in 1986. However, the value of FDI in the agricultural sector has increased since 1994, in company with the significant increase of the total value of FDI. The percentage in the total value maintained 2%-5% throughout the recent years¹⁷⁾. This phenomenon showed that although the total amount of FDI in China was growing,

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the foreign investment in agriculture industry is facing a decline. It meant that there were more FDI flowing into the urban areas than the rural areas in China. The highly concentrated FDI in urban areas resulted in a distribution investment among the rural areas in a very low level, which is against the economic development of rural areas. Under such circumstances, foreign direct investment is not only unhelpful to narrow down the gap between urban and rural areas, but makes the problem even worse. The ratio of urban and rural labor wage¹⁸⁾ is 3.11, which was only 2.57 in 1978.

• Distribution of FDI over different provinces

Besides the result of the regression analyses, the distribution of foreign trade and FDI among different provinces led to the inter-provincial inequality. Along with the globalization, the imbalance of China's economic growth is getting worse and worse.

FDI in the provinces of the middle, the west and the east of China are obvious unbalanced and concentrated mostly in the east of China. For instance, in 2001, FDI of 13 provinces in the east area was 41 billion US dollars, as 88.5% of the total FDI in China, while FDI of 8 provinces in middle and 10 provinces in west part are 3.9 billion US dollars (8.4%) and 1.4 billion US dollars (3.1%) respectively. According to the data above, the ratio of FDI in the east, the middle and the west was 29 : 3 : 1(takes western part as 1). (Figure 4)





Source: China Economic Information Network (http://202.113.20.216:90/scorpio/aspx/main. aspx?width=1014&height=674)

Distribution of FDI among different industries

The distribution of foreign trade and FDI among different industries results in the inter-

industrial inequality. According to the data of National Bureau of Statistics of China, the FDI in China was about 6.87759 billion US dollars in 2001, most of which flowed into the manufacturing services (65.9%), real estate services (11%), social services (5.54%) and the production and supply of electric power, steam and hot water (4.85%).¹⁹⁾ The foreign-invested enterprises, which are closely related to FDI, also mainly are concentrated on the manufacturing industry, social services industry, wholesale, retail, trade, and catering services and real estate industry. Therefore the industries which get more FDI expanded and developed faster than the others, and the labor who works in those FDI concentrated industries earns more. For instance, much FDI flows to the commercial, real estate, finance and insurance industry, thus workers in these industries earn more and the wages grow faster; on the other side, little foreign capital invested in infrastructure department, such as transportation and geological exploration department, and department of education, science, sanitation and culture, which causes the slower development and lower wages.²⁰⁾ Therefore the inequality gap among different industries has been enlarged.

In summary, the growth of foreign trade and FDI has accelerated China's economic growth. However, at the same time, it also brought about negative effect on the income distribution. In addition, the inequality within China has been increased gradually since China entered the global economy. These evidences highly support a fact-finding that globalization is one of the factors to promote China's inter-provincial inequality, rural-urban inequality and the inter-industrial inequality.

2) Technology import and inequality

The FDI and the foreigners have not only brought the rich capital from developed countries but also introduced new technology into China. The amount of technology importing expanded at a rapid speed from 909.1 billion (USD) in 2001 up to 19,771 billion (USD) in 2006. European Union, U.S. and Japan were always the three largest technology exporters for China. And the destinations of technology import were just converged at the east area, which covered more than 70 percent of the total technology import contracts²¹. According to the most up-to-date statistics from the Department of Commerce, 9,537 pieces of technology importing contracts have been registered from January to November of 2007 in China²². The total value of the contracts amounted to 20,350 million dollars, which increased by 30% compared with that of the same period of last year. Among them, the technological fee was 13,200 million dollars, accounting for 64.9% of the total amount of the contracts. The total value of the contracts of the technology import this year exceeded the amount of the last year, and surpasses 200 billion US dollars for the first time.

European Union was the largest technology exporter to China from January to November of 2007, the total value of contracts was 8,170 million dollars, which increased by 22.6% yearon-year. Japan and the U.S. ranked second and third respectively, the contract value was 4,830 million dollars and 3,810 million dollars, raised by 23.7% and 18.7% correspondingly.

Traditionally, technical change is viewed as factor-neutral (Slow, 1956)²³). However, in China the noticeable rapid rise in the relative wage of skilled workers in conjunction with an upward trend in their relative demand means that the recent technological change has been skill-biased.²⁴) Skill-biased technical change is a shift in the production technology that favors skilled (e.g., more educated, more able, more experienced) over unskilled labor by increasing its relative productivity and, therefore, its relative demand. From the above analysis, it is easy to come to the conclusion that skill-biased technical progress is favorable for the skill labor, especially under the circumstance that China is in full power adopting new technologies to promote economic development.

Based on the analysis above, we know the type of the technologies which are imported into China and the character of them. From now on, this paper tries to analyze the impact of skillbiased technology import on the income distribution within China.

How technological advance influences income differentials depends largely on the type of the technological advance. As mentioned in the foregoing part, the technological advance in China is mainly achieved by introducing technologies from developed countries, so the technological advance in China mostly involves skilled-biased technologies, which furthers the income differentials of Chinese residents. The main reason for this is that China is currently still in her early stage of economic development; although having a large population and a considerable number of surplus labor, China is still in lack of skilled labor. In this situation, the introduction of skilled-biased technologies leads to the following consequences. First, learning and using new technologies is a challenge which requires a large number of skilled labor. Second, the technological advance (in terms of computer science, automatic production line, etc.) in developed countries in recent years has reduced the demand for low-skilled labor of the enterprises. When the technologies are transferred to developing countries, the same effect will occur. Third, as the opening-up progresses, developing countries are able to obtain foreign technologies more easily, which enable them to provide more technology-intensive products in the international competitions, therefore, the demand for skilled labor increases. All the above factors greatly contribute to the widening of the income differentials in China.

To sum up, the skill-biased technology import, which is a part of the globalization, also expands the inequality especially between the skilled and unskilled labor in China.

5. Conclusion

By researching and analyzing data over the past 40 years of China, this paper had documented a positive association between globalization and inequality. The distribution of the foreign trade and FDI, which has grown significantly along with the globalization, has a negative impact on the income distribution at least within a certain period of time, although it accelerates China's economic growth. Obviously, the globalization is a main factor for China's inter-provincial inequality, rural-urban inequality and the inter-industrial inequality. On the other hand, the skill biased technology progress or FDI also expands the inequality especially between the skilled and unskilled labor in China.

According to the analyses above, here are some advices for the government. If the government endeavors to reduce the inequality, it should increase the FDI and the foreign trade flowing into the middle and the west of China. Also, the quality of the unskilled labor should be enhanced by education or vocational training, so that it's easier to adapt new technologies so as to avoid the structural unemployment. Through these policies the inequality will be reduced.

Notes

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- 7) China Statistical Yearbook, Beijing, China Statistics Press, 1989-2008.
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- 10) Han Keqiang, "Globalization, inequality and the choices of social policy in China," *Dongyue Tribune*, 2007(3), pp.17-24.
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stage of China, so that the paper would discuss it distinctively.

- 13) China Statistical Yearbook, Beijing, China Statistics Press, 1989-2008.
- 14) China Statistical Yearbook, Beijing, China Statistics Press, 2003, p. 344.
- 15) Because the mainland of China was still transforming from the planned economy to the market economy, and the statistic data was unavailable to compare, therefore this paper omits the date during that period. On the other side, the trend discussed in the part 4 after 2004 was not as significant as before, so that this paper just focused on the particular period.
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Key Word: Globalization Inequality FDI Foreign Trade Technology Import

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