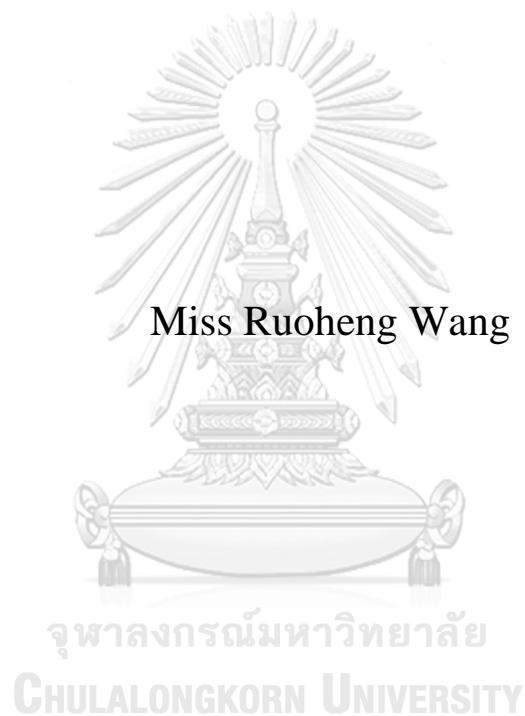


The Relationship between FDI and Employment in China's Manufacturing Industry



A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Arts in International Economics and Finance
Field of Study of International Economics
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ความสัมพันธ์ระหว่างการลงทุนโดยตรงจากต่างประเทศและการจ้างงานในภาคอุตสาหกรรม
ผลิตของประเทศไทย



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต
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หัวข้อ : ความสัมพันธ์ระหว่างการลงทุนโดยตรงจากต่างประเทศและการจ้างงานในภาคอุตสาหกรรมการผลิตของประเทศไทย. (The Relationship between FDI and Employment in China's Manufacturing Industry) อ.ที่ปรึกษาหลัก : ผศ.เจสสิกา เวชบรรยรัตน์ดร.

ประเทศจีนประสบความสำเร็จในด้านเศรษฐกิจที่เติบโตอย่างรวดเร็วภายหลังการปฏิรูปและการเปิดประเทศจนมีขนาดเศรษฐกิจใหญ่เป็นอันดับสองรองจากสหรัฐอเมริกาในขณะเดียวกันจีนเริ่มดึงดูดการลงทุนโดยตรงจากต่างประเทศทำให้ปริมาณการลงทุนโดยตรงจากต่างประเทศมีขนาดเพิ่มขึ้นเรื่อย ๆ เห็นได้ชัดว่าการลงทุนโดยตรงจากต่างประเทศมีบทบาทสำคัญในการส่งเสริมการเติบโตทางเศรษฐกิจของจีน แต่ประเทศจีนเป็นประเทศที่มีประชากรจำนวนมาก ปัญหาการจ้างงานเป็นปัญหาที่ตรงและเป็นจริงมากที่สุด แม้ว่าปริมาณการจ้างงานโดยรวมในประเทศจีนจะเพิ่มขึ้นแต่ความเร็วของการเติบโตของการจ้างงานในอุตสาหกรรมผลิตนั้นต่ำมาก ซึ่งเป็นอุตสาหกรรมหลักของประเทศ

ดังนั้นจึงมีการคาดการณ์ว่านักลงทุนต่างชาติจะไม่เพียงแต่นำเทคโนโลยีใหม่และเงินทุนเข้ามาซึ่งจะมีส่วนช่วยเร่งการเปลี่ยนแปลงทางโครงสร้าง แต่ยังรักษาระดับการจ้างงานได้อีกด้วย เป้าหมายของการศึกษานี้คือการวิเคราะห์ความสัมพันธ์ระหว่างการลงทุนโดยตรงจากต่างประเทศและการจ้างงานในอุตสาหกรรมการผลิตของจีนงานวิจัยนี้สำรวจบทบาทของผลกระทบค่าความต่างของการลงทุนโดยตรงจากต่างประเทศในอุตสาหกรรมที่ใช้เทคโนโลยีขั้นต่ำและในอุตสาหกรรมที่ใช้เทคโนโลยีขั้นสูง การวิเคราะห์นี้ดำเนินการโดยใช้แบบจำลองการถดถอยแบบการประมาณค่าด้วยวิธีกำลังสองน้อยที่สุดสำหรับข้อมูลแบบผสมระหว่างปี 2542 ถึง 2558

งานวิจัยนี้ยังศึกษาวิเคราะห์ความสัมพันธ์ระหว่างการลงทุนโดยตรงจากต่างประเทศและการจ้างงานในอุตสาหกรรมผลิตของจีนผ่านกรณีศึกษา บริษัท ผลการศึกษาพบว่ามีความสัมพันธ์เชิงบวกอย่างมีนัยสำคัญระหว่างการลงทุนโดยตรงจากต่างประเทศกับการจ้างงานในอุตสาหกรรมผลิตทั้งหมดของจีน และการลงทุนโดยตรงจากต่างประเทศมีผลกระทบต่ออุตสาหกรรมที่ใช้เทคโนโลยีขั้นสูงมากกว่าต่ออุตสาหกรรมผลิตที่ใช้เทคโนโลยีขั้นต่ำ แต่ในกรณีบริษัทผลกระทบของการลงทุนโดยตรงจากต่างประเทศต่อการจ้างงานในอุตสาหกรรมผลิตเทคโนโลยีขั้นสูงและเทคโนโลยีขั้นต่ำนั้นไม่แตกต่างกันมาก

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China has achieved rapid economic growth after reforming and opening up, becoming the second largest economy after the United States. At the same time, China began to attract foreign direct investment, and the scale of foreign direct investment has been becoming larger and larger. It's obvious that FDI has played a crucial role in promoting China's economic growth. But China is a country with a big population, the employment problem is the most direct and realistic problem. Although overall employment is increasing in China, the speed of employment growth in the manufacturing industry is very low. After all, the manufacturing industry is the main industry in China. So, there has been an expectation that foreign investors would bring not only new technology and capital, which would accelerate structural changes, but would also maintain employment. The topic of this paper is to analyze the relationship between FDI and employment in China's manufacturing industry. In particular, this study explores the role differential effect of FDI in low-tech and high-tech manufacturing industries. This analysis was conducted using OLS regression models estimated for panel data between 1999 to 2015. And this paper also explores the real relationship between FDI and employment in the manufacturing industry of China through four company cases.

The result shows that there is a significant positive relationship between FDI and employment for the entire manufacturing industry of China, and FDI has a greater effect on high-tech manufacturing industries than low-tech manufacturing industries. But in the company cases, the effect of FDI on employment in high-tech and low-tech manufacturing industry are not much different.

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CHAPTER I: INTRODUCTION

1.1 Background and Significance of the Problem

1.1.1 Background of China's FDI since reform and opening up

Since the reform and opening up, China has continuously increased the intensity of attracting foreign investment and developed an export-oriented economy. In September of 1979, China's first foreign direct investment agreement was signed. As a result of this agreement, Beijing Aviation Food Co., Ltd., a Sino-Hong Kong joint-stock, was established in September 1980, which opened the prelude of using foreign direct investment. President Deng Xiaoping made his Southern Tour and determined the direction of China's development of the market economy in 1992, so that foreign investment has started to increase rapidly from this year. In 2001, China joined the WTO and gradually integrated into the world economic system, and FDI grew rapidly after this year. This phenomenon also is shown in Figure 1. From the reform and opening up till now, FDI has been growing continuously, except 2008 which is the year of Asian financial crisis.

1.1.2 Sources of FDI inflow in China

FDI was mainly come from Hong Kong in the 1980s. Since the 1990s with the exceptions of Hong Kong, Taiwan and Singapore, FDI from other developed countries has increased, in countries such as the United States, Japan, and Europe¹. Table 1

¹ Report on Foreign Investment in China 2017:
<http://images.mofcom.gov.cn/wzs/201804/20180416161221341.pdf>

indicates that from 2010 to 2015, Hong Kong remains the top source of FDI, followed by Singapore, France, Japan, Britain, Germany, the United States and so on.

Table 1: The Proportion of Cross-border Merger and acquisition Transaction Volume from Main Source in 2010-2015

(unit:%)

Year	2010	2011	2012	2013	2014	2015
Hong Kong	54.8	71	72	56	75.3	71.9
Singapore	12.5	9.8	4.6	17	6.3	6.7
Japan	2.7	1.5	2.5	4.8	1.7	0.3
Germany	0.1	0.9	1.3	6.6	4.5	2.2
France	12.3	3.3	1	1	0.2	1.5
Britain	0.9	0.9	0.2	0.6	0.7	0.5
U.S.A	0.7	0.6	1.3	0.4	0.6	0.2

Source: Foreign Investment Statistics of the Ministry of Commerce of China in 2018

1.1.3 Background of China's policies toward FDI

In order to attract foreign investment, China began to develop the legal system of the market economy since the year of 1979. In July of this year, the first law on the absorption of foreign investment was promulgated, namely the "Law of the People's Republic of China on Sino-Foreign Equity Joint Ventures", which provided a legal basis for foreign investment. In 1980, China established the first Economic Special Area--Shenzhen Special Economic Area. The government implemented tariff reduction and exemption policies, and carried out relatively free trade management in this Special Economic Area, which led to some increases in FDI. In 2001, China joined in the WTO, and a series of laws and regulations were formulated. The main way to attract foreign

investment was to introduce tax incentives. The tax incentives was an important reason why there was a the rapid increase in FDI after 2001. Some specific tax incentives were mentioned in Report on Foreign Investment in China 2016 and listed as below²:

- (1) Foreign-invested enterprises are divided into different tax incentives according to investment projects and areas, with the minimum tax rate is 15%.
- (2) As for the reinvest profits from foreign investors, the government can refund 40% of the income tax.
- (3) As for productive foreign investment enterprises with a business period more than 10 years, starting from the year of profit-making, the first two years will be exempt from corporate income tax, and the third year will be levied half of the corporate income tax.
- (4) As for the high-tech foreign investment enterprises, starting from the year of profit-making, the first three years will be exempt from corporate income tax, and the sixth year will be levied half of the corporate income tax.

These policies played a noticeable role in attracting foreign investment and introducing foreign advanced technology in the early stage of reform and opening up. However, with the continuous deepening of China's reform and opening up, these policies were increasingly incompatible with the requirements of fair competition in the market economy, and the tax incentives also resulted in a lot of losses to China's tax revenues. Yu (2013) mentioned that government canceled special tax incentives for foreign investment enterprises in 2010, such as city maintenance and construction tax,

² Report on Foreign Investment in China 2016:

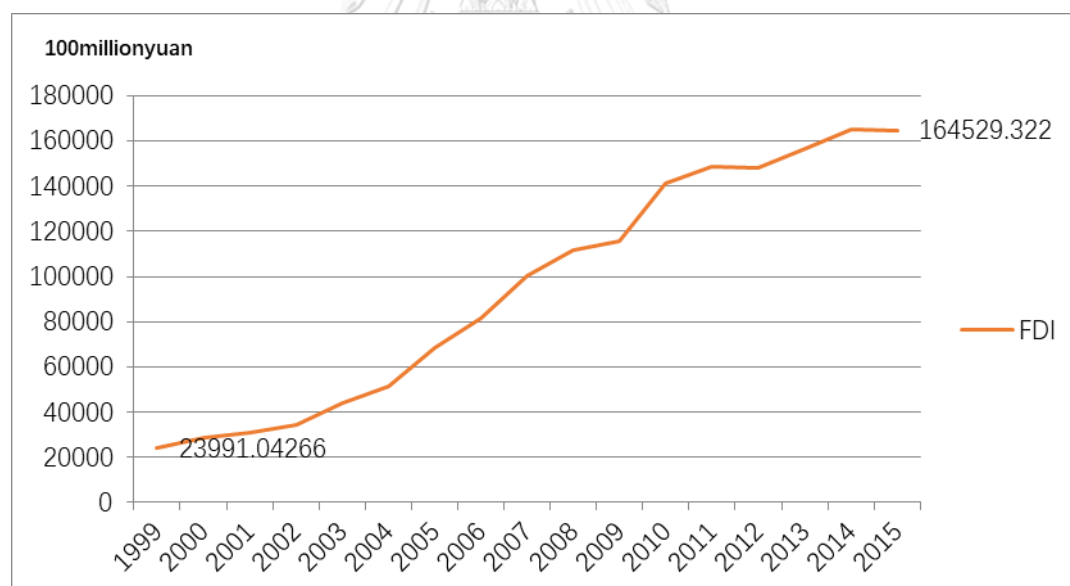
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this decision means the special tax incentives policy for foreign investment was over. This is also a reason why the growth rate of FDI began to decline since 2010. However, the tax incentives policy is still retained in the investment promotion policies of some regional governments and some industries.

1.1.4 Significance of the Problem

In the recent years, the scale of foreign direct investment in China has shown an overall growth trend. Manufacturing has relatively high foreign investment inflows, because of the economic strategy of giving priority to the development of industry in China.

Figure 1: FDI in the Manufacturing Industry of China from 1999 to 2015

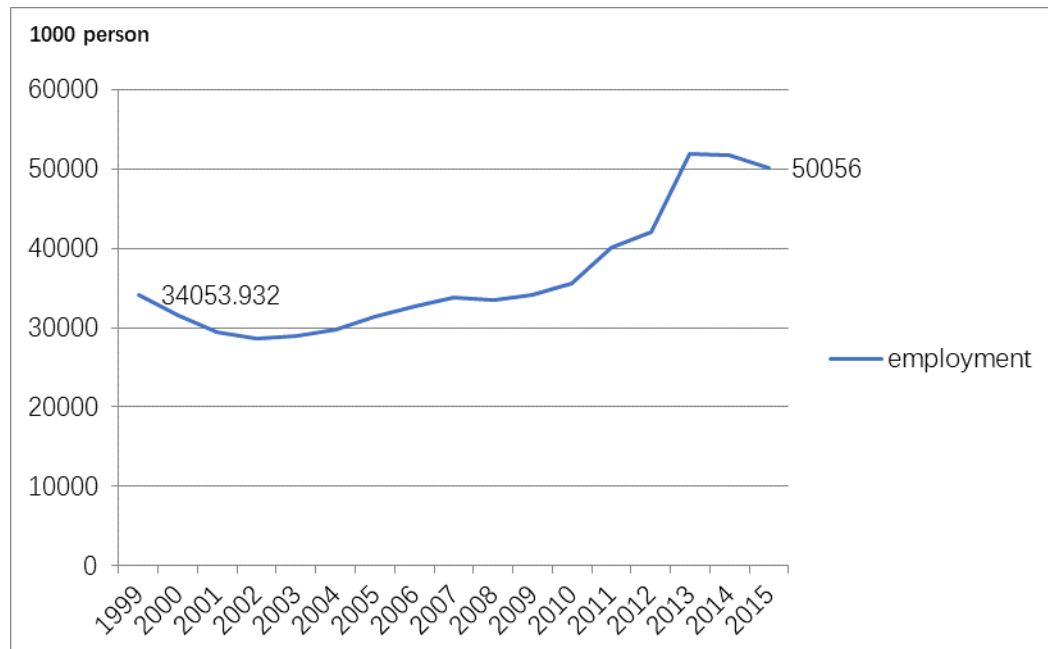


Source: China Statistical Yearbook (2018)

According to the data of the China Statistical Yearbook, China attracted real FDI 16,453 billion Yuan in the manufacturing industry by the end of 2015 (Figure 1), FDI represents an opportunity to stimulate the economy. China is a country with a large population. Although overall employment is increasing in China, the speed of

employment growth in manufacturing is actually very slow.

Figure 2: Employment in the Manufacturing Industry of China from 1999 to 2015



Source: China Statistical Yearbook (2018)

There are 34,054 thousand people in 1999 and by 2015 the employment is only 50,056 thousand people (Figure 2). Given the need for employment generation, the effect of FDI on employment has attracted much attention, especially in the manufacturing industry. Therefore, this paper focuses on the relationship between FDI and employment in the manufacturing industry of China.

1.2 Objectives

1. To describe FDI's condition in the Chinese manufacturing industry from 1999 to 2015.
2. To test the relationship between FDI and employment in the Chinese manufacturing industries by using ordinary least squares (OLS) approach.

3. To compare the effect of FDI on the employment of the Chinese manufacturing industry with different technology levels.

4. To draw policy implications from the study results.

1.3 Scope

This paper covers all 26 manufacturing industry data of China. The time scope will be 1999 to 2015, including 17-time objects. The data comes from the China Statistical Yearbook, China Labor Statistical Yearbook, and China Statistical yearbook on Science and Technology. In fact, since 1979, there has been FDI; however, the detailed data on FDI in the manufacturing industry has only been available since 1999, and 2001 is also a big turning point for FDI. So, in the end, this paper chooses to start research from 1999. Variables consist of two parts: the first part is the dependent variable, which is employment, and the second part is independent variables, including FDI, DC (domestic investment capital), wage, research and development (R&D).

As for company cases part, this paper analyses the employment of four companies, which are Shuanghui, Bright Dairy, Supor, and Vatti. The time scope will be 2002 to 2017, and the data mainly come from the annual reports of four companies.

1.4 Statements of Hypotheses

1.4.1 There will be a positive relationship between FDI and employment in the Chinese manufacturing industry.

According to the Eclectic Paradigm of International Production theory, which is also known as the OLI-Model or OLI-Framework. Labor is one of the advantages of the host country that attracts FDI, if the host does really have the labor advantage, the

multinational corporation will make full use of the labor source in the host country, which leads to an increase in employment of host country. Thus, there is an expected positive relationship between FDI and employment.

1.4.2 FDI has a greater effect on the high-tech manufacturing industry than the low-tech manufacturing industry.

This hypothesis is based on the previous work by Zhang (2017,p55) which mentions “The effect of foreign direct investment in manufacturing on employment is stable. There is always a significant positive effect of FDI on employment in the advanced manufacturing industry and traditional manufacturing industry, and the effect of the advanced manufacturing industry is stronger than that of the traditional manufacturing industry.”

As we know, the advanced manufacturing industry is more like the high-tech manufacturing industry, while the traditional manufacturing industry is more like the low-tech manufacturing industry. Therefore, my hypotheses is that FDI has a greater effect on the high-tech manufacturing industry than the low-tech manufacturing industry.

1.5 Contributions of this paper

This paper will describe FDI’s condition in Chinese manufacturing from 1999 to 2015, including 26 manufacturing industries, and test the relationship between FDI and employment by using OLS approach. Except theoretical and regression analysis, there is also empirical analysis with four company cases in this paper, which will help to reveal the relationship between FDI and employment at a more detailed micro level. In

addition, currently there are many papers that have analyzed the effects of FDI on employment in different countries or different industries, but few papers mentioned the different effect of FDI on employment in companies producing high-tech and low-tech products. Hence this paper will analyze this question in detail. So, this is one of the novelties in this paper. What's more, this paper will also describe China's policies toward FDI. In the end, some recommendations are aimed to help Chinese government to attract more foreign direct investment are proposed by combining the results of this paper with contemporary policies.



CHAPTER II: LITERATURE REVIEW

2.1 Conceptual Framework and Theories

2.1.1 What is FDI?

Foreign direct investment refers to “the external output of capital whose main purpose is to obtain profit by controlling partial ownership and direct participation in business management in one country by an entity based in another country” (Lexicon, 2014). FDI has many forms, including “mergers and acquisitions, building new facilities, reinvesting profits earned from overseas operations and intercompany loans” (Hannon & Reddy, 2012). FDI differs from portfolio investment, Portfolio investment covers transactions in equity securities and debt securities.

2.1.2 Theories on the effect of FDI on employment.

There is an important theory about FDI, which is called The Eclectic Paradigm of International Production. This theory is a theory in economics and is also known as the OLI-Model or OLI-Framework. It is a further development of the internalization theory by Dunning (2015). The cores of this theory are an ownership-specific advantage, internalization-specific advantage, and location-specific advantage, which explained the determining factors of FDI.

The location-specific advantages refer to the degree of favorableness of a foreign market on the production and operation of the enterprise relative to the home market in the market environment. That is to say, they are the advantages of the host country in the investment environment, which includes local foreign investment policies, economic development level, market size, resource endowments, labor, and so on. As

we can see the labor is one of the advantages of the host country, the manufacturing industry is an industry that needs many labors, if the host country does really have the labor advantage, the Multinational enterprises will make full use the labor, which most of the labor position will exist in the manufacturing industry. So, it is possible that FDI will encourage employment in the manufacturing industry of the host country.

2.1.3 Employment and other economic factors

2.1.3.1 Employment and FDI

According to the Eclectic Paradigm of International Production theory, labor is one of the advantages of the host country that attracts FDI, if the host does really have the labor advantage, the multinational corporation will make full use of the labor source in the host country, which brings an increase in employment of host country. Therefore, there is a positive relationship between FDI and employment.

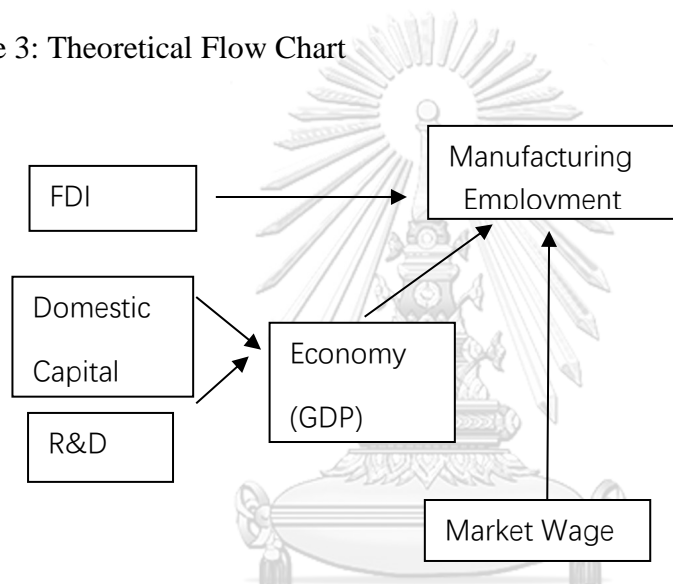
2.1.3.2 Employment and DC(domestic investment capital), R&D

According to the AK model of endogenous growth theory, $Y = AK$ A represents technology level, K represents capital. When A or K increase the Y increase too, which means technology and capital inflow can improve economic growth. Domestic investment is a kind of capital inflow, R&D reflect the technology level. In other words, when domestic investment capital and the expenditure of R&D increase, the economy will grow too. According to Okun's law, with the growth of the economy (GDP), employment will increase so that there are positive relationships between employment and DC, R&D.

2.1.3.3 Employment and wage

According to the law of demand, the quantity demand falls as price rises, other conditions do not change. When wage rise, which means the price of labor rises, the quantity of labor demand will fall. Then, the employment will decrease, there is a negative relationship between wage and employment, this relationship comes from the effect of wage on the labor demand side.

Figure 3: Theoretical Flow Chart



The conceptual framework above relates FDI to employment. In this framework, “FDI” is an independent variable, “manufacturing employment” is a dependent variable. Control variables are domestic capital, R&D, and market wage. Domestic capital and R&D influence employment through GDP, the change of wage will influence the labor supply and demand, then market wage has an effect on employment.

2.2 Review of Literature

According to the Eclectic Paradigm of International Production theory and some empirical data, FDI does really affect employment, but whether it is a positive or

negative effect depends on the country-specific situation. For empirical studies, there are several researchers release analyses as follows:

Waldkirch (2009) analyzed whether FDI has contributed to employment generation in Mexico's non-maquiladora manufacturing sector or not. This paper estimated dynamic labor demand functions for blue-collar and white-collar workers, including FDI and its interaction with major industry features. This paper also examined whether the impact of FDI varies with technology, capital intensity and export orientation. The data discriminate between production and non-production (or blue-collar and white-collar) workers and their respective wages. Therefore, the total employment equation is composed of blue-collar and white-collar wages, the export orientation of industries is measured by the proportion of sales in foreign markets to total net sales. Then examined whether there is a differential impact of FDI on the two kinds of employment by running regression with blue-collar and white-collar employment separately.

The result is that there is a positive relationship between FDI and employment in manufacturing of Mexico, and this result applies to both white-collar and blue-collar employment. In more capital-intensive industries, FDI only has a positive impact on blue-collar workers instead of white-collar workers. And the employment growth impact of FDI is greater in export-oriented industries. Nunnenkamp and Bremont (2007) also get a similar result in FDI in the paper "Mexico: An empirical assessment of employment effects".

Abor and Harvey (2008) investigated the effect of FDI on employment creation and wage in Ghana and used simultaneous panel regression model. This paper relied on

the data set of the Regional Enterprise Development Project (RPED), including information of manufacturing in Ghana from 1992 to 2002. Finally, the paper found that FDI had a significant positive impact on employment levels in Ghana. FDI affected employment quantitatively, but not necessarily qualitatively.

Karlsson, Lundin, Sjöholm, and He (2007) examined the effect of FDI on job creation in the manufacturing sector of China, this paper used a large number of manufacturing enterprises from 1998 to 2004, and used two estimates, namely Heckman two-step estimation and OLS estimation. On the basis of empirical research, this paper concluded that FDI had a positive effect on employment of China's manufacturing industry by entering the international market and other corporate features conducive to employment growth, as well as the positive impact on the employment of private enterprises.

Wei (2013) would like to get the relationship between FDI and employment in China, thus this paper explored longitudinal macroeconomic data to analyze the impact of FDI on job creation in China. This paper used OLS method to estimate the relationship, the time period is 1985 to 2011. The result showed that there was insignificant positive relationship between FDI and employment in the entire Chinese national economy, but the relationship between FDI and employment was different in different sectors. There was a remarkable positive relationship between FDI and employment in the primary sector. There was a insignificant relationship between FDI and employment, although GDP had a significant positive impact on employment in the secondary sector. In the tertiary industry, FDI had a negative impact on employment, while GDP had a nearly significant positive impact. Obviously, the relationship between employment and FDI was ambiguous.

Chen (2012) explored the relationship between employment and FDI in China and compared the impact of FDI on employment in 8 sectors. This paper used two methods which were Scatter Plot and GMM. Generally, the result showed that there was a positive relationship between employment and FDI. Specifically, FDI played a negative role on employment in Agriculture, Forestry, Animal husbandry, and Fishing. However, FDI had a positive impact on employment in the rest three industries, Finance, Mining, and Real estate respectively. Thus, there were different impacts on different sectors.

Fu and Balasubramanyam (2005) tested the impact of FDI on employment within the host economy in China. According to the entry mode chosen by MNE, the type of subsidiary company and the nationality of parent company established in regional economy, the impacts will be different. This paper used the two-step GMM method to get the result. It showed that subsidiaries with more value-added functions had a positive impact on employment, which means the employment increased with more FDI.

Matthew and Johnson (2014) used OLS method and unit root test to explore the impact of FDI on employment in Nigeria. Finally, this paper found that FDI had a positive impact on employment rate in Nigeria. What's more, the policy implications of these findings were obvious. Above every other thing, the government should pay more attention to the attractiveness of FDI to Nigeria for the sake of minimizing the high unemployment rate in Nigeria's economy.

By using a dynamic labor demand model applied for a panel of 20 Central and Eastern European Countries from 1995 to 2012, Jude and Silaghi (2016) examined the role of FDI as a determinant of employment. The results indicated that a kind of creative

destruction was caused by FDI. Jude found an interesting phenomenon only in EU countries, which was, the introduction of labor-saving techniques brought an initial negative effect on employment, however, it finally converged toward a positive long-run effect when the foreign affiliates progressively vertically integrated into the local economy. In the end, this paper just gave partial support to the worries that FDI might replace jobs.

Jenkins (2006) explored the impact of FDI on employment in Viet Nam by using OLS model. During the period of 1990s, Viet Nam had got a fast increasing of FDI, and the foreign affiliates had become a significant role in the industrial output and exports when it came to the early 21st century. However, the direct employment brought by FDI seems very limited, the indirect influences also even had been almost negative, due to the limited linkages created by the foreign investors and the “crowding out” phenomenon of domestic investment.

Ernst (2005) explored whether FDI can affect the employment of Latin American countries, which are Mexico, Argentina, and Brazil respectively. The result showed that since the 1980s, Latin American countries' FDI grew rapidly, but it did not bring significant influences to employment. The reason was that FDI mainly entered existing companies in the form of privatization and merging. FDI had brought modernization and the pursuit of economic benefits, which had led to a large number of unemployment in Argentina and Brazil. Whereas in Mexico, a large of FDI in manufacturing caused fast employment growth during the period of 1990s, which came from the maquiladora industry. The paper also indicated that FDI was not a panacea for economic increase and job creation. A productive and stable investment inflow was the key factor to create employment and achieve the sustainable economic development.

Jan Mišun (2002) estimated whether FDI crowds in or crowds out domestic investment in three European countries, which were the Czech Republic, Poland, and Hungary. This paper found that a crowding-out effect had been strong in Poland while a crowding-in effect had been relatively strong in Czech Republic and Hungary. It was obvious that when there was a crowding-in, the domestic investment would increase and GDP increase too, more employment thus would be created. Hence, FDI showed a positive impact on employment. But if there was a crowding-out, like Poland, FDI would affect employment negatively. This was the reason why the domestic capital also played a noticeable role in job creation.

Massoud (2008) analyzed the direct effects of FDI inflows to Egypt from 1974 to 2005. This paper used TOLS method and added interaction, and the results showed the effect of FDI on the demand for labor. Specifically, the aggregate FDI played an insignificant role on labor demand, however, it had a negative impact when interacting with the size of the technology gap. This paper indicated that FDI should be explored at the most disaggregated possible level and that the ambiguous influence that some kinds of FDI had on growth was caused by contradicting effects on channels of growth.

There have been many papers studying the relationship between FDI and employment in many different countries, including China, European countries, and etc. Some scholars analyzed the FDI in manufacturing industries, and other different sectors as well. However, currently few papers have studied the different effects of FDI on employment in different technical level manufacturing industries of China. What's more, most papers just used the statistical method to explore this relationship between FDI and employment, however this paper not only runs regression but also applies

company cases in order to analyze the effects of FDI on employment in the manufacturing industry of China.



CHAPTER III: METHODOLOGY

3.1 Methods

This analysis is conducted by using ordinary least squares (OLS) regression models estimated in Stata, for panel data between 1999 to 2015. There are 5 variables in this paper, which are FDI (independent variable of interest), employment (dependent variable), and control variables: R&D, DC (domestic investment capital), and wage respectively. The reasons why these variables are included in the analysis is as follows.

3.1.1 Employment and FDI

According to the Eclectic Paradigm of International Production theory, labor is one of the advantages of the host country that attract FDI, if the host does really have the labor advantage, the multinational corporation will make full use the labor source of the host country, which brings increase in employment of host country. So, there is a positive relationship between FDI and employment.

3.1.2 Employment and DC (domestic investment capital), R&D

According to the AK model of endogenous growth theory, $Y = AK$ (1) A represent technology level, K represents capital. When A or K increase the Y increase too, which means technology and capital inflow can improve economic growth. Domestic investment is a kind of capital Inflow, R&D reflects the technology level. In other words, when domestic investment capital and the expenditure of R&D increase, the economy will grow too. According to Okun's law, with the growth of the economy (GDP), employment will increase so that there are positive relationships between employment and DC, R&D.

3.1.3 Employment and wage

According to the law of demand, which is the quantity demand falls as price rises, other conditions do not change. when wage rise, which means the price of labor rises, the quantity of labor demand will fall. Then, the employment will decrease, there is a negative relationship between wage and employment, this relationship comes from the effect of wage on the labor demand side.

Basic model:

$\ln EMP_{it}$: natural log of employment in industry i at time t

$\ln FDI_{it}$: natural log of foreign direct investment 2010 yuan in industry i at time t

$\ln DC_{it}$: natural log of domestic investment capital 2010 yuan in industry i at time t

$\ln W_{it}$: natural log of average wage 2010 yuan in industry i at time t

$\ln R\&D_{it}$: natural log of expenditure of R&D 2010 yuan in industry i at time t

λ_t : time-specific effect common to all industries.

μ_i : industry fixed effect

ε : error term

$$\ln EMP_{it} = \alpha + \beta_1 \ln FDI_{it} + \beta_2 \ln DC_{it} + \beta_3 \ln W_{it} + \beta_4 \ln R\&D_{it} + \lambda_t + \mu_i + \varepsilon_{it} \quad (1)$$

The basic model is used to detect the effect of the whole manufacturing industry. The dummy variable D_h is then added to detect the effect of the high-tech and the low-tech manufacturing industry separately with the model as follows:

$$\ln EMP_{it} = \alpha + \beta_1 \ln FDI_{it} + \beta_2 \ln DC_{it} + \beta_3 \ln W_{it} + \beta_4 \ln R\&D_{it} + \beta_5 D_h \ln FDI_{it} + \lambda_t + \mu_i + \varepsilon_{it} \quad (2)$$

D_h : dummy variable to measure the technique (an industry belongs to high-tech or low-tech determined by the classification of manufacturing industry by OECD, which

classified according to the intensity of R&D and the technical level.) The classification of the manufacturing industry will be shown in Table 2. Xu (2012) has used this method also, so this paper will use the same method. When $D_h=1$, the dummyming variable represents a high-tech industry; when $D_h=0$, the dummy variable represents a low-tech industry.



Table 2: Classification of Manufacturing Industry (high-tech and low-tech)

Number	Low-tech Industry	High-tech Industry
1	Processing of Food from Agricultural Products	Manufacture of Raw Chemical Materials and Chemical Products
2	Manufacture of Foods	Manufacture of Medicines
3	Manufacture of Liquor, Beverages and Refined Tea	Manufacture of Chemical Fibers
4	Manufacture of Textile	Manufacture of General Purpose Machinery
5	Manufacture of Textile, Wearing Apparel and Accessories	Manufacturer of Special Purpose Machinery
6	Manufacture of Leather, Fur, Feather, and Related Products and Footwear	Manufacture of Transport Equipment
7	Processing of Timber, Manufacture of Wood, Bamboo, Rattan, Palm and Straw Products	Manufacture of Electrical Machinery and Apparatus
8	Manufacture of Furniture	Manufacture of Computers, Communication and Other Electronic Equipment
9	Manufacture of Paper and Paper Products	Manufacture of Measuring Instruments and Machinery
10	Printing and Reproduction of Recording Media	
11	Manufacture of Articles for Culture, Education, Arts, and Crafts, Sport and Entertainment Activities	
12	Processing of Petroleum, Coking, and Processing of Nuclear Fuel	
13	Manufacture of Rubber and Plastics Products	
14	Manufacture of Non-metallic Mineral Products	
15	Smelting and Pressing of Ferrous Metals	
16	Smelting and Pressing of Non-ferrous Metals	
17	Manufacture of Metal Products	

This paper will use the dummy variable D_h to divide the data into two parts when $D_h=1$, the dummy variable represents the high-tech industry, when $D_h=0$, the dummy variable represents the low-tech industry. For the high-tech industries, the marginal effect of FDI on employment is $\beta_1+\beta_5$. For low-tech industry, the marginal effect of FDI on employment is β_1 . If the marginal effect of FDI on the two kinds of industries is different, and it is reflected by β_5 .

The reason to add $\beta_5 D_h \ln FDI_{it}$ to the equation and not just $\beta_5 D_h$ is that after adding $\beta_5 D_h \ln FDI_{it}$ the slope of this equation changed. Next, this paper will use the basic model run regressions with the high-tech industry data and low-tech industry data separately, then analyze the different effect of FDI on employment in detail.

Finally, this paper will use some company cases to test the result and give empirical examples.

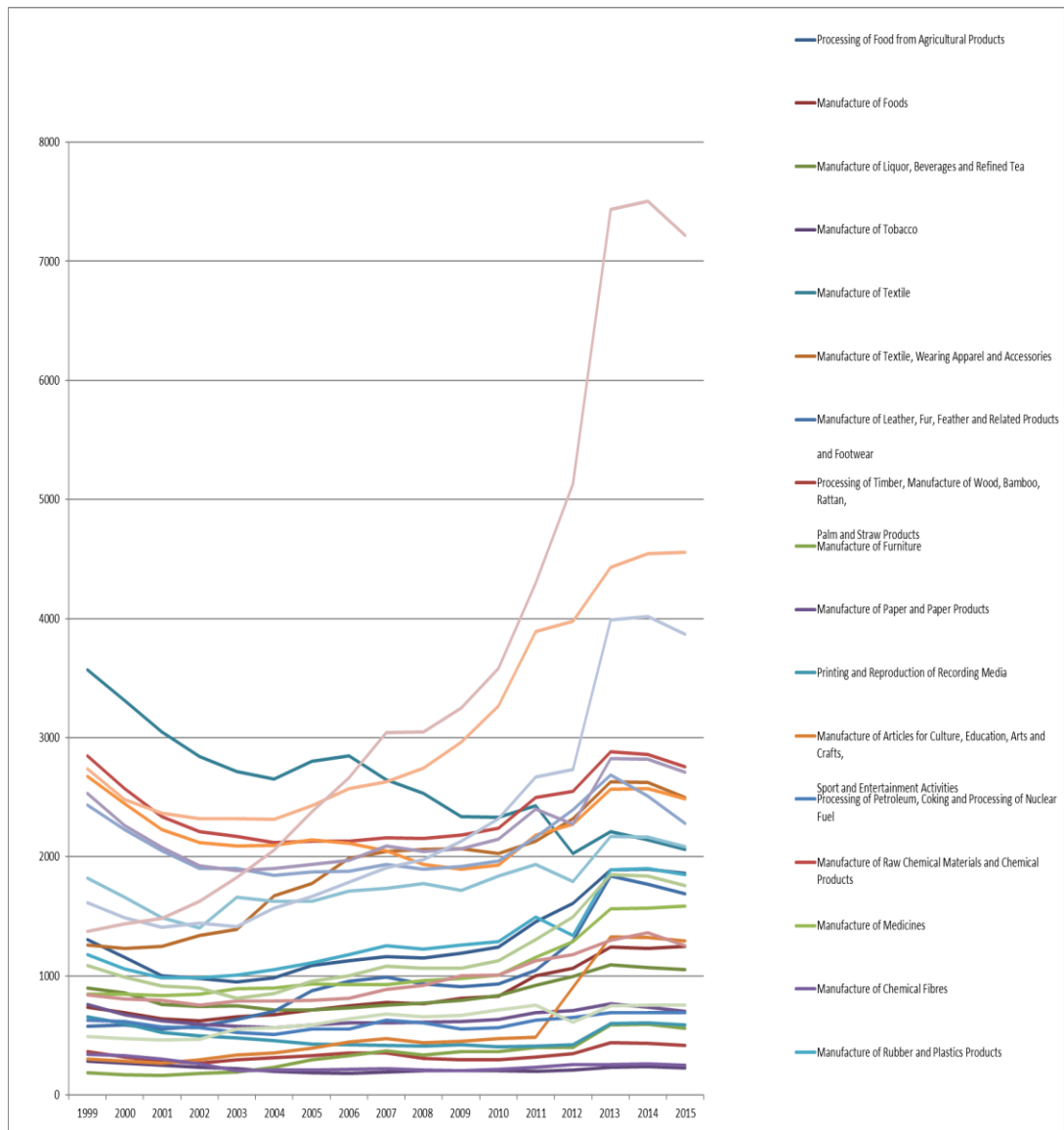
3.2 Data Measurement and Source

This paper uses five variables to measure the effect of FDI on employment in China's manufacturing industry and collects data from 1999 until 2015. All of the data including employment, FDI, DC (domestic investment capital), wage, R&D, and D_h (dummy variable) come from China Statistical Yearbook, China Labor Statistical Yearbook and China Statistical Yearbook on Science and Technology of every year. The summary data measurement and source as following in Table 3, Figure 4, and Figure 5.

Table 3: Variable Measurement

Variables	Measurement of variable	Data source	Obs.	Mean	Std. Dev.
Employment	Number of employments at year-end (ten thousand people)	China labor statistical yearbook	442	1400.847	1038.669
FDI	Amount of FDI at year-end (100 million yuan)	China statistical yearbook	442	3654.993	4756.248
DC	Total investment in fixed asset minus FDI at year-end (100 million yuan)	China statistical yearbook	442	2123.932	2880.228
Wage	The average wage of industry (yuan)	China labor statistical yearbook	442	24603.95	12412.14
R&D	R&D expenditure of the host country's industry (10 thousand yuan)	China statistical yearbook on science and technology	442	1352642	2089530
D _h	Dummy variable (high-tech, low-tech)	China statistical yearbook	442	0.3461538	0.476282

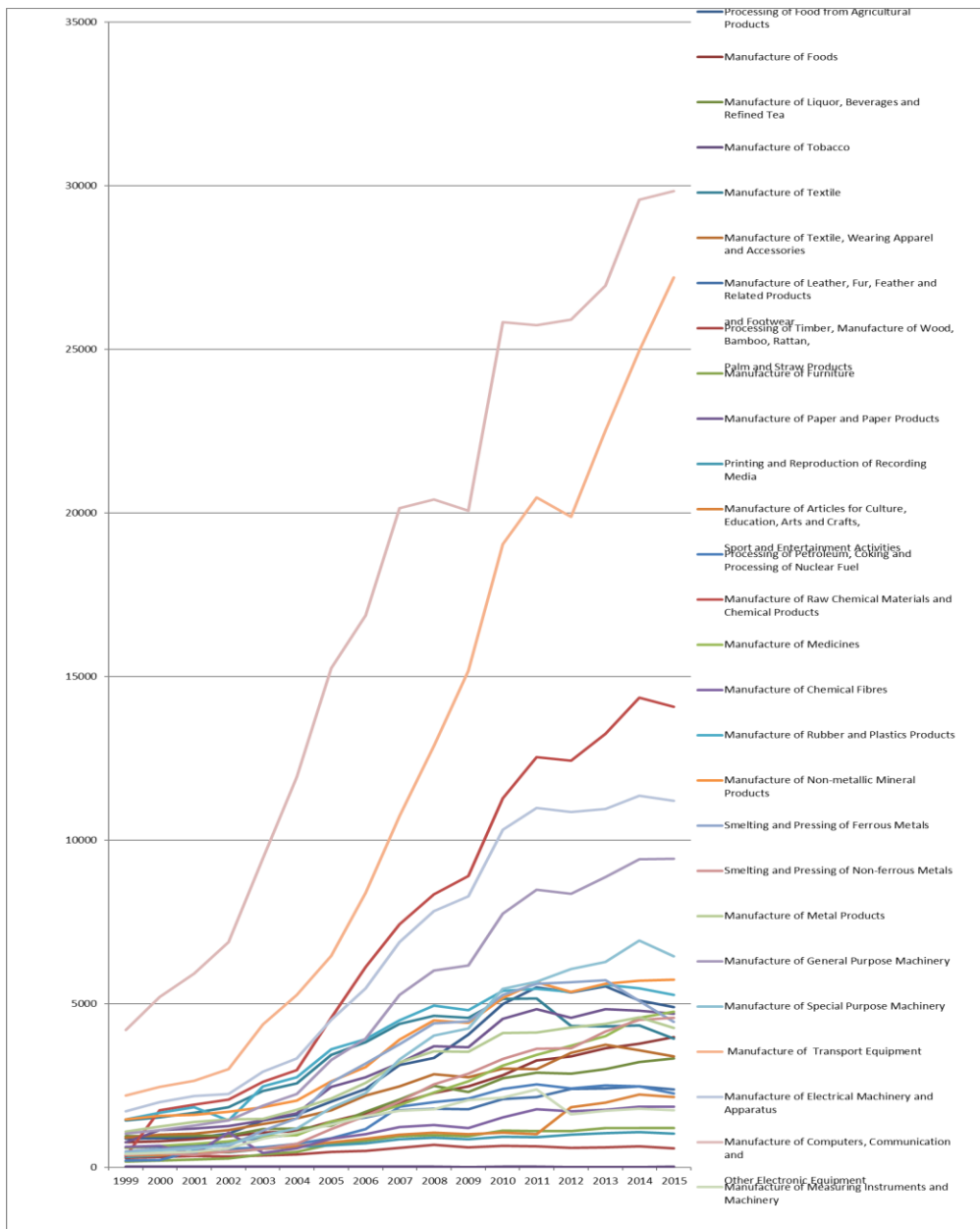
Figure 4: Graph of Employment in Each Industry over Time



Source: China Labor Statistical Yearbook (2018)

We can see from the Figure 4 that the industry with the fastest growth in employment is the Manufacture of Computers, Communication, and Other Electronic Equipment, and next is the Manufacture of Transport Equipment, and the industry with the least employment is the Manufacture of Chemical Fibres.

Figure 5: Graph of FDI in Each Industry over Time.



Source: China Statistical Yearbook (2018)

Figure 5 indicates that the industry with the fastest growth in FDI is Manufacture of Computers, Communication, and Other Electronic Equipment, the next is Manufacture of Transport Equipment, and the industry with the least FDI is Processing of Timber, Manufacture of Wood, Bamboo, Rattan. It is obvious that the trend of employment and FDI is consistent.

CHAPTER IV: RESULTS

4.1 Analysis Results

This paper uses OLS regression in Stata to explore the relationship between FDI and employment of manufacturing industry in China. For the sake of ensuring the accuracy and pertinence of the results, this paper takes time-specific effects and industry fixed effects into consideration.



4.1.1 The Results for the whole manufacturing industry of China

Table 4: Ordinary Least-squares Result for the Whole Chinese Manufacturing Industry

Variables	Results
lnFDI	0.135*** (0.324)
lnDC	0.189*** (0.025)
lnW	-1.397*** (0.118)
lnR&D	0.192*** (0.025)
Constant	15.669*** (0.999)
Time-effect Control	Yes
Industry-effect Control	Yes
Observations	442
Adjusted R-squared	0.9613

Notes: *** p<0.01 ** p<0.05 * p<0.1

Table 4 shows that there is a positive relationship between FDI and employment for the whole manufacturing industry of China, and it is also significant due to the p-value less than 0.01. When FDI increases 1%, the employment of the whole manufacturing industry will increase 0.135%, therefore, FDI does play a significant and positive role in increasing employment of manufacturing industry in China. According to the Eclectic Paradigm of International Production theory, a location-specific advantage is one of the

advantages of the host country that attracts FDI. The location-specific advantages refer to the degree of favorableness of a foreign market on the production and operation of the enterprise relative to the home market in the market environment, of course, it includes local foreign investment policies and labor. The Chinese government has carried out many preferential policies to attract foreign investment as mentioned before, and China also has a labor advantage. The manufacturing industry is an industry that needs many works. Thus multinational corporations will make full use of labor sources in China, which brings an increase in employment in manufacturing in China. This is the reason why FDI has a positive impact on employment in the Chinese manufacturing industry.

There is a positive relationship between employment and domestic investment capital and R&D. When domestic investment capital increases 1%, the employment in the whole manufacturing industry will increase 0.189%. When R&D increase 1%, the employment of whole manufacturing industry will increase 0.192%. It's obvious that domestic investment capital and R&D are indispensable factors for increasing employment. This result is consistent with the AK model of endogenous growth theory; when domestic investment capital and the expenditure of R&D increase, the economy will grow and lead to more employment. As expected, the wage has a negative effect on employment. When wages increase by 1%, employment will decrease by 1.397%. The reason can be that when wages rise, which means the price of labor rises, the quantity of labor demand will fall and employment will decrease. This relationship comes from the effect of wages on the labor demand side.

4.1.2 The Results for the different technical level manufacturing industry of China

Table 5: Ordinary Least-squares Result for High-tech and Low-tech Manufacturing Industry. (after adding interaction $\beta_5 D_h \ln FDI_{it}$)

Variables	Results
$\ln FDI$	0.078** (0.038)
$\ln DC$	0.194*** (0.025)
$\ln W$	-1.449*** (0.118)
$\ln R\&D$	0.205*** (0.118)
$D_h \# \ln FDI$	0.063* (0.023)
Constant	16.378*** (1.025)
Time-effect Control	Yes
Industry-effect Control	Yes
Observations	442
Adjusted R-squared	0.9619

Notes: *** $p < 0.01$ ** $p < 0.05$ * $p < 0.1$

Table 5 shows that the relationship between employment and FDI, domestic investment capital, wage, R&D not change, which means the result is, to some degree, respectively stable. The coefficient of interaction is positive, which means FDI has a greater effect on the high-tech manufacturing industry than the low-tech manufacturing industry, because $D_h=1$ represents a high-tech manufacturing industry. The reason is the case is because FDI in high-tech manufacturing industry trend to be “green field”

investment. This phenomenon has greatly stimulated the employment of high-tech manufacturing industries directly. Zhang (2017) said that foreign direct investment enterprises can create employment through vertical association with domestic manufacturing enterprises. Because the high-tech manufacturing industry has a broader forward-backward relevance effect relative to the low-tech manufacturing industry, the entry of foreign direct investment can create more jobs for its suppliers, sellers, and service agents. For example, Manufacture of Computers, Communication and Other Electronic Equipment, Manufacture of Electrical Machinery and Apparatus and so on, represents a kind of indirect employment effect. Therefore, under the combined effect of direct employment effects and indirect employment effects of foreign direct investment, there is more employment increase in the high-tech manufacturing industry than the low-tech manufacturing industry.

In order to further analyze the different impact of FDI on employment in the different manufacturing industry with different technical-level, this paper will run a regression with high-tech industries data and low-tech industries data separately.

4.1.3 Comparison of result in the high-tech and low-tech manufacturing industry

Table 6: Ordinary Least-squares Result for the High-tech and Low-tech Manufacturing Industry Separately

Variables	High-tech	Low-tech
lnFDI	0.312*** (0.064)	0.121** (0.042)
lnDC	0.090** (0.044)	0.299*** (0.029)
lnW	-2.604*** (0.258)	-1.112*** (0.137)
lnR&D	0.604*** (0.093)	0.161*** (0.022)
Constant	20.424*** (1.951)	13.186*** (1.262)
Time-effect Control	Yes	Yes
Industry-effect Control	Yes	Yes
Observations	153	289
Adjusted R-squared	0.9698	0.9594

Notes: *** p<0.01 ** p<0.05 * p<0.1

According to the results of table 6 can know that the relationship between employment and FDI, domestic investment capital, wage, and R&D not change, even though the regressions are run with high-tech industries data and low-tech industries data separately. However, the extent of the effect has changed, for the low-tech manufacturing industry, when FDI increases 1%, the employment increases 0.121%. The magnitude of the coefficient on FDI for high-tech manufacturing is 0.312,

which means FDI has a greater effect on the high-tech manufacturing industry than the low-tech manufacturing industry. This result is consistent with the previous analysis as well. The effects of wage and R&D on employment in high-tech industries is greater than that in the low-tech industries also, which means the same investment in R&D generates more employment in the high-tech manufacturing industries than in low-tech manufacturing industry. However, for the same increase in the wage, the decline of labor in the high-tech manufacturing industry is more responsive in low-tech manufacturing.

The effect of domestic investment capital on employment in low-tech industries is stronger than in high-tech industries. When domestic investment capital increases by 1%, the employment will increase by 0.090% in the high-tech industries, but the employment will increase by 0.299% in the low-tech industries. This result tells that domestic investment capital is an effective factor to maintain employment in the low-tech industries. Jan Mišun (2002) explores whether foreign direct investment crowds in or crowds out domestic investment in the Czech Republic and Poland. Analysis shows that a crowding-in effect has been relatively strong in Hungary and in the Czech Republic. This paper shows that the domestic capital will increase with the increase of foreign direct investment, and the employment will increase with increasing domestic capital. This also indirectly shows that FDI can promote employment

4.2 Empirical Result: Company Cases

There are four companies in this paper, which are Henan Shuanghui Investment&Development, Bright Dairy Co., Ltd., Zhejiang Supor Co., Ltd, and Zhongshan Vatii Gas Appliance Stock Co., Ltd. There are three reasons why this paper chooses those four companies.

First of all, the aim of this paper is to explore the relationship between FDI and employment, so this paper has to choose companies with FDI. What's more, in order to get the company data, it is a good idea to choose listed companies. Then the Shuanghui and Supor are chosen because both of them are acquired by foreign companies. Shuanghui was acquired by Goldman Sachs in 2006, while Supor was merged by France SEB in 2007.

Secondly, the reason why this paper chooses Shuanghui instead of other similar companies is that Shuanghui is China's largest meat processing base which has built processing bases in 18 provinces in China. It is representative of the food processing industry and has large FDI flows. Goldman Sachs acquired Shuanghui company with 2.01 billion yuan, which is a big amount when compared with the rest of the similar companies. As for Supor, in the field of small kitchen appliances, Supor is the largest R&D manufacturer in China and the second largest in the world. Meanwhile, Supor is the leading brand of small kitchen appliances in China and Supor is a typical representative of cookware manufacturing. France SEB company acquired Supor with 321 million Eurodollar, thus making Supor to be a company with significant FDI inflows.

Thirdly, this paper will examine whether FDI has an effect on employment, hence the comparison between companies with FDI and companies without FDI should be conducted. Meanwhile, the companies without FDI should be from the same industry of Shuanghui or Supor. Therefore, Bright Dairy, the leading enterprise of milk production, is selected for comparing with Shuanghui, while Vatti, a famous manufacturer of kitchen appliances, is chosen for Supor.

Those four companies are divided into two groups. The first group is Shuanghui and Bright Dairy, and the second group is Supor and Vatti. Shuanghui is a company focusing on meat processing, which belongs to the Processing of Food from Agricultural Products. According to the classification of manufacturing industry by OECD which mainly based on the intensity of R&D and the technical level, table 2 shows that Processing of Food from Agricultural Products is a kind of low-tech manufacturing industry, which means Shuanghui belongs to the low-tech manufacturing industry.

Supor is a company that mainly manufactures cookware products, which belongs to the Manufacture of Electrical Machinery and Apparatus. From table 2, we can see that Manufacture of Electrical Machinery and Apparatus is a kind of high-tech manufacturing industry, which means Supor is a representative of the high-tech manufacturing industry. By comparing the employment data of Supor and Shuanghui, the different effect of FDI on employment in the high-tech manufacturing industry and low-tech manufacturing industry will be examined. The employment data of the four companies will be shown in Table 7 and Figure 6.

4.2.1 Companies overview and employment

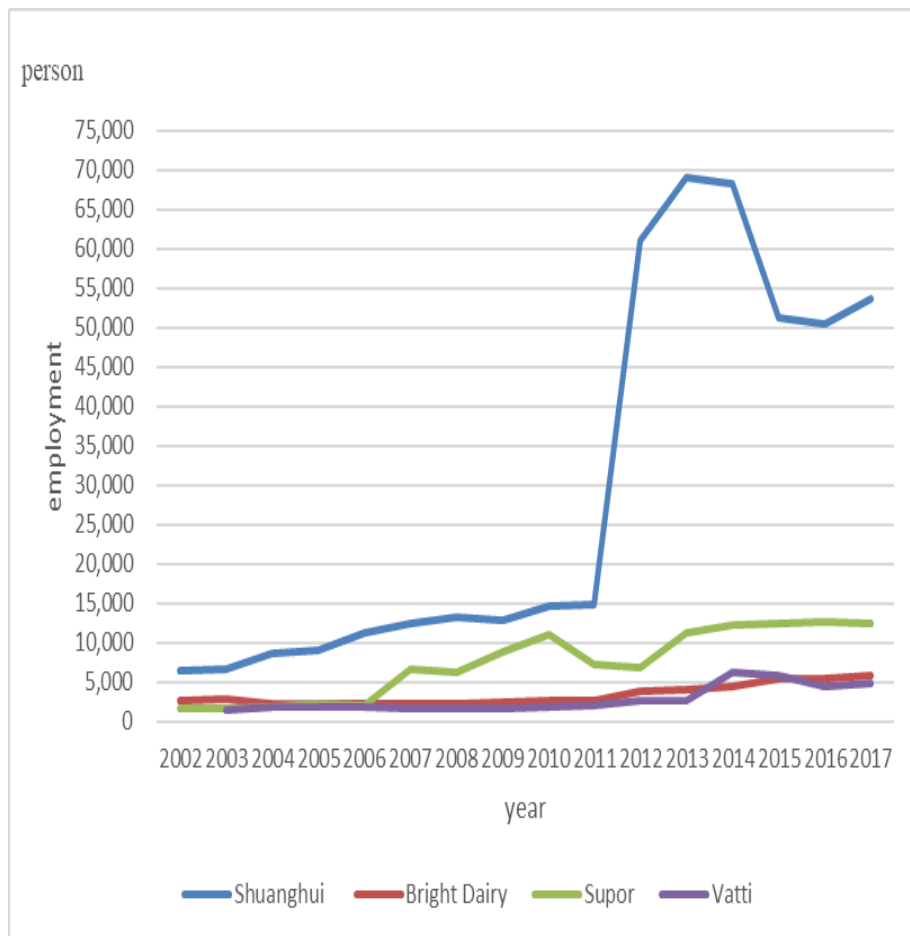
Table 7: Employment and Employment Growth Rate of Four Companies unit (employment: person; growth rate: %)

Year	Shuanghui		Bright Dairy		Supor		Vatti	
	Employment	Growth rate %	Employment	Growth rate %	Employment	Growth rate %	Employment	Growth rate %
2002	6457		2677		1552			
2003	6687	3.56	2838	6.01	1692	9.02	1339	
2004	8538	27.68	2165	23.71	1869	10.46	1866	39.36
2005	8962	4.97	2217	2.40	2208	18.14	1797	-3.70
2006	11144	24.35	2262	2.03	2037	-7.74	1827	1.67
2007	12428	11.52	2278	0.71	6530	220.57	1616	-11.55
2008	13141	5.74	2298	0.88	6231	-4.58	1671	3.40
2009	12753	-2.95	2313	0.65	8899	42.82	1585	-5.15
2010	14571	14.26	2686	16.13	10963	23.19	1752	10.54
2011	14739	1.15	2594	-3.43	7297	-33.44	2063	17.75
2012	61050	314.21	3775	45.53	6782	-7.06	2623	27.14
2013	68986	13.00	4080	8.08	11293	66.51	2623	0.00
2014	68159	-1.20	4459	9.29	12267	8.62	6144	134.24
2015	51227	-24.84	5372	20.48	12503	1.92	5861	-4.61
2016	50431	-1.55	5345	-0.50	12719	1.73	4406	-24.83
2017	53548	6.18	5860	9.64	12362	-2.81	4879	10.74

Source: annual reports of four companies (2002-2017)

Note: Yellow boxes represent the year of acquisition

Figure 6: Employment of Four Companies



Source: annual reports of four companies (2002-2017)

4.2.1.1 Overview of Henan Shuanghui Investment & Development

Henan Shuanghui Investment & Development Co., Ltd is a meat processing company, which was established jointly by Shuanghui Group and other shareholders in 1994. Now Shuanghui Group is the largest shareholder of Shuanghui Investment & Development, and Shuanghui Investment & Development was listed in 1998.³ The scale of Shuanghui Investment & Development has been expanding and the number of employees has been increasing, especially after being acquired by Goldman

³ Shuanghui Official website¹: <http://www.shuanghui.net/html/category/about/qyjs>

Sachs in 2006. Figure 6 indicates that employment in 2006 increased significantly. It is obvious that the employment reached a higher level in 2012, because Shuanghui Investment&Development reorganized its assets and took over five companies in this year, and employment continued to increase in 2013. Shuanghui International Holdings Limited, which is the major shareholder of Shuanghui Investment&Development, acquired Smithfield Group, the world's largest pig breeding enterprise in 2013. The scale of Shuanghui Investment&Development therefore expanded again, then the employment reached its highest peak in 2013. The Figure 6 shows that the employment began to decrease in 2015. This is due to the structural adjustment of Shuanghui Investment&Development's products and the elimination of low-end products, as well as the delay of some projects. (Shuanghui Annual Report, 2002-2017)

4.2.1.2 Strategy of Henan Shuanghui Investment&Development

Shuanghui Investment&Development's business is mainly in livestock, poultry slaughter, and meat processing. The meat processing industry has become an emergent industry since the establishment of China; Shuanghui Investment&Development is one of the largest food companies in China. The company desired to grow larger and stronger, and even become a Top 500 Company in the World, but the company did not have enough funds. This is one of the reasons why the company wanted to be acquired. Li (2011) said that another reason is a competitive threat from Yurun Group, which successfully raised more than 2 billion HK\$ from the Hong Kong capital market. The foreign investors, Goldman Sachs Group, is an American multinational investment bank and financial services company headquartered in New York City. It offers services in investment management, securities, and securities underwriting. This company

wanted to acquire Shuanghui Investment&Development, because the company wanted to diversify its operations and enter the Chinese market. Before acquiring Shuanghui Investment&Development, it already acquired another three Chinese companies, among which one company produces aluminum products, one company produces glassware, and one company produces air conditioners. Of course, stable profits are also important reasons for attracting the Goldman Sachs Group, After all, Shuanghui Investment&Development is in the leading position in its industry. Li (2011) analyzed another reason is to integrate China's meat processing industry in order to achieve monopoly profits because Goldman Sachs Group has become a shareholder of Yurun Group before that. Finally, with all the above reasons, Goldman Sachs Group successfully acquired Shuanghui Investment&Development in 2006. Shuanghui Investment&Development continued to expand its scale. Wuhan Shuanghui Food Co., Ltd. went into operation in October 2006, Wangkui Shuanghui Beidahuang Food Co., Ltd. put into production in April 2008, Harbin Beidahuang Shuanghui Food Co., Ltd. put into operation in July 2008, Huaian Shuanghui Food Co., Ltd. went into operation in June 2009, and so on.⁴ Sales continued to increase with the expanding, and the number of employments also increased after was acquired by Goldman Sachs Group. (Shuanghui Annual Report, 2002-2017)

Shuanghui Investment&Development made a major strategic adjustment until 2012. Shuanghui Group and Rotary Vortex Limited (a company holds 25% shares of Shuanghui Investment&Development, and 100% shares of Shuanghui Group) and

⁴ Shuanghui Official website² : <http://www.shuanghui.net/html/category/about/fzlc>

Shuanghui Group injected the equity of the meat-based companies and the closely matched industrial companies into Shuanghui Investment & Development, so in this year Shuanghui Investment & Development took over five companies. (Shuanghui Annual Report,2012)

Xi (2016) explained that this strategy was to solve the inter-bank competition from the history of Shuanghui Investment&Development and Shuanghui Group. Shuanghui International Holdings Limited is a Hong Kong-based holding company, which has a lot of global businesses including food, logistics, and flavoring products. Shuanghui International and its subsidiaries are the major shareholders of China's largest meat processing enterprise, Henan Shuanghui Investment&Development. This company acquired Smithfield Group, the world's largest pig breeding enterprise in 2013.⁵ As we know, when the company develops to a certain scale, it will formulate strategies to open up foreign markets, participate in the internationalization process of global market competition. Shuanghui International Holdings Limited's strategy is to acquire a foreign company, with the goal of seeking foreign production technology and high-quality raw materials, increasing the global market share of products and expanding profit space. In addition, the government's support is also an important reason. With the completion of the merger, the employment of Shuanghui Investment&Development also increased. (Shuanghui Annual Report)

⁵ Netease News 2013: <http://news.163.com/13/0927/15/99PQLVM900014AEE.html>

4.2.1.3 Bright Dairy

Bright Dairy was established in 1996, and it is one of the largest dairy product enterprises in China. At the beginning, it developed slowly. But since 2010, the speed of development has accelerated and the scale of employment has also increased. There are two important events behind this increasing: first is Bright Dairy acquired New Zealand Synlait Milk Co., Ltd in 2010. This event laid a good foundation for company expansion. Second is Synlait Milk was listed in New Zealand, and the East China Central Factory Project has been completed and put into operation, becoming the largest dairy monomer factory in the world in 2013.⁶ (Bright Dairy Annual Report, 2002-2017)

4.2.1.4 Strategy of Bright Dairy

Bright Dairy was listed in Shanghai stock market in 2002, with dairy products as the main income. At that time, fresh milk was its main advantage, but because Bright Dairy did not pay attention to normal temperature milk, the development of Bright Dairy was not very fast. In 2007, Bright Dairy put forward a new development strategy: focusing on dairy products, keeping ahead fresh milk, strengthening normal temperature milk, and making a breakthrough in milk powder. Under the pressure of a milk shortage, the rising price of milk, and competition from the dairy industry, Bright Dairy started to acquire the foreign enterprise Synlait Milk, and completed this acquisition in 2010. The number of employees has also increased significantly.⁷

In 2011, Bright Dairy's revenue exceeded 10 billion yuan for the first time. Since

⁶ Bright Dairy Official Website¹: <http://www.brightdairy.com/About/Introduce>

⁷ Bright Dairy Official website²: <http://www.brightdairy.com/About/IndustryChain>

then, Bright Dairy has paid more and more attention to technology and hardware facilities. In 2013, Bright Dairy completed the East China Central Factory Project and put it into operation, thus making it the largest dairy monomer factory in the world. In 2014, Bright Dairy opened a new chapter in patent bacterial strain research. The scale of Bright Dairy continued to expand and employment continued to increase. (Bright Dairy Annual Report, 2011-2017)

4.2.1.5 Zhejiang Supor

Supor, founded in 1994, has become China's largest and second largest R&D manufacturer in the world in the field of small kitchen appliance. Since 2007, the scale of Supor began to expand and the employment increased too, because Supor was acquired by the French company SEB Group in this year, Supor, hence, got more capital and technology.⁸ But figure 7 shows that employment decreed from 2011 to 2012. The reason might be that Supor fell into quality and safety trouble in 2012. Law enforcement officials said there were 81 models of stainless-steel cookers that were substandard.⁹ As a result of this event, Supor's sales declined and employment began to decrease. But the employment increased again in 2013. Supor launched the IH rice cooker in this year and the quality and safety trouble also was solved too. Supor has recovered and continues to grow rapidly.¹⁰

⁸ Supor Official website¹: <https://www.supor.com.cn/Culture/Investor/?cid=141&page=48>

⁹ Sina News 2012: <http://news.sina.com.cn/s/2012-03-05/165424062774.shtml>

¹⁰ Supor Official website²: <https://www.supor.com.cn/Culture/History>

4.2.1.6 Strategy of Zhejiang Supor

Zhejiang Supor listed in Shenzhen stock market in the year of 2004 and has been devoting itself to researching and producing cookware. Supor has been adopting a steady management strategy, and maintaining a relative balance between the expanding of scale and fixed investment. Supor developed pretty well since it was founded. In 2007, because of the shortage of funds caused by rapid development, Supor had a new strategy, which was to search for foreign investment. Zheng (2015) also found another reason was that Supor lacked technical skills, when the high-end cookware with real high-technology mostly came from France and America. As for the French company SEB side, this company wanted to open the China market. Because the costs of manufacture in Europe were too expensive, the company needed some relatively cheaper labor in China. Deng (2006) said consolidated financial statements was another purpose of the SEB company because SEB's business had stopped growing or slowed down. Finally, SEB acquired Supor in 2007. (Supor Annual Report, 2002-2017).

After getting more capital and technology, Supor began to innovate more new products and expand the company scale. The company made an innovation on the iron work to have non-coating antirust prosperity in 2007, launched the TSP wok and pan with the TSP technology and patents from SEB in 2009, launched the first IH with level 1 energy consumption in China in 2010, and so on.¹¹ What's more, the Vietnam base was put into operation in 2008, and the brand of Supor entered the Southeast Asian market. The Shaoxing base was put into operation in 2009. The second phase of Wuhan Base was put into operation in 2011, becoming the largest cooker manufacturing base

¹¹ Supor Official website² : <https://www.supor.com.cn/Culture/History>

in Asia (Supor Annual Report, 2007 – 2011). The speed of development has accelerated, and the number of workers has increased a lot after being acquired by SEB. But Supor fell into the quality and safety trouble in 2011, leading to a decline in sales and employment. Fortunately, Supor proved that the cookware has no quality and safety problems in 2012. After that, Supor paid more attention to quality and safety, as well as technology. Finally, Supor launched the innovative rice cooker with spheric inner pot in 2013.

4.2.1.7 Zhongshan Vatti

Vatti, founded in 1992, is engaged in the production and sale of gas appliances, kitchenware, and household appliances. Although Vatti's development was not fast, it was very stable. Vatti launched new products, thus the scale has been further expanded in 2014. Therefore, the number of workers has increased more in this year. (Vatti Annual Report, 2002-2017).¹²

4.2.1.8 Strategy of Zhongshan Vatti

Zhongshan Vatti was listed in Shenzhen stock market in 2004, it has been focusing on the field of kitchen and electrical appliances since its establishment, and always regard product innovation as the core of the enterprise strategy. In 2002, Vatti built Asia's largest stove production base in Zhongshan city. Vatti also paid attention to talent training. In 2003, Vatti set up Vatti College and established a base for talent training. Vatti also tried a brand strategy. In 2006, Vatti won the exclusive qualification of gas

¹² Vatti Official website: <http://www.vatti.com.cn/about#p3>

supplier for the Beijing 2008 Olympic Games. In 2008, the Olympic torch made by Vatti has become a display of Vatti's brand.

Through the propaganda of the Olympic Games, Vatti made China and even the world know it. However, because of the impact of the financial crisis, Vatti's business was not very good this year. Until 2014, Vatti developed some new products and expanded its scale; the sales and employment also increased together.¹³

In sum, the above are the links between employment changes and major events of companies.

4.2.2 Comparison of employment between companies with FDI and no FDI.

Table 8: The Employment Growth Rate of Four Companies over the Years

Company	Employment growth rate	Period
Shuanghui	7.29	2002-2017
Bright Dairy	1.19	2002-2017
Supor	6.97	2002-2017
Vatti	2.64	2002-2017

Figure 6 shows that, after the acquisition of Shuanghui Investment&Development in 2006, the employment grew gradually, and reached the highest peak in 2013, because Shuanghui International Holdings Limited acquired Smithfield Group in this year. However, employment growth in Bright Dairy has been relatively slow, although it has

¹³ Vatti Official website²: <http://www.vatti.com.cn/about#p5>

been growing. This phenomenon is indicated in table 8 as well, the employment growth rate of Shuanghui is 7.29 from 2002 to 2017, while the growth rate of Bright Dairy just is 1.19. By comparing the data of Shuanghui and Bright Dairy, the result shows that employment growth of companies with FDI is relatively faster than companies without FDI.

Figure 6 indicates that the employment of Supor has always been larger than Vatti, and after Supor was merged in 2007, the employment has remained high since then, and its employment growth has been faster than before. What's more, the table 8 also shows that the employment growth rate of Supor is 6.97%, but the growth rate of Vatti is 2.64%. The overall employment growth rate of Supor is faster than Vatti. This phenomenon is consistent with the previous results: there is a positive relationship between FDI and employment.

4.2.3 Comparison of employment between high-tech companies and low-tech companies

Supor is a representative company of high-tech manufacturing industry, while Shuanghui is a representative company of low-tech manufacturing industry. Figure 6 shows the employment of Shuanghui is always bigger than Supor, because the scale of Shuanghui is bigger than Supor, and the base number of employment also is bigger than Supor. But Table 8 shows that the growth rates of Shuanghui and Supor are not much different. This phenomenon is not consistent with the previous result of this paper and the paper written by Zhang (2017), but this phenomenon can be explained. Because Shuanghui and Supor are only two companies in the manufacturing industry with FDI, which cannot fully represent the entire industry.

4.2.4 Summary of the case studies.

From four companies we can see that, there is employment growth in both companies with FDI and companies without FDI, because there is not only FDI, but also domestic capital investment. However, generally speaking, the employment increase in companies with FDI is more than the employment increase in companies without FDI.

There are some reasons for this phenomenon. Firstly, FDI will bring much more money than domestic capital investment. For example, Goldman Sachs acquired Shuanghui with 2.01 billion yuan; this is a big number for some companies without FDI, such as Bright Dairy. And French company SEB acquired Supor with 321 million Eurodollars. It need be difficult for Vatti to raise so much money in the domestic investment market. Secondly, FDI will bring some important core technologies. For example, Supor knew that the high-end cookware with real high-technology mostly came from French and American brands, thus, a good way to get the technology is to be acquired. After being acquired by SEB, Supor innovated many new products and expanded its scale with money and technology. Thirdly, FDI will bring the international market. For instance, the company SEB that acquired Supor, founded in 1857, listed in 1975 in Paris, it is the world's largest manufacturer of small household appliances and cookware. The company's business covers more than 50 countries and regions around the world. Thus, SEB offers a good channel for Supor to enter the international market. By contrast, it will be harder for Vatti to open the international market without the international source.

There is also another reason. Bright Dairy made lots of investments, including acquiring the foreign enterprise, Synlait Milk, and completed the East China Central Factory Project. It's obvious that the investment of Bright Dairy is not small, but the purpose of acquiring Synlait Milk is just for milk source, not really for the foreign markets. As a result, this investment will not bring much employment. What's more, comparing with Shuanghui, the base scale and technology of Bright Dairy are also weaker than Shuanghui. This is the reason why the growth rate of employment in Bright Dairy from 2002 to 2017 is slower than the growth rate of employment in Shuanghui.

These are the reasons why the employment growth rate of companies with FDI is higher than that of companies without FDI in the empirical cases.



CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study explored the relationship between FDI and employment in China's manufacturing industry by the OLS method, which includes five variables, namely FDI (foreign direct investment), DC (domestic investment capital), employment, wage, and R&D. Meanwhile, panel data are applied for the sake of testing the result, including 26 industries and 17-time objects from 1999 to 2015.

Firstly, this paper runs a regression with the whole manufacturing industry data to test the relationship between FDI and employment in the whole manufacturing. The regression result indicates that there is a significant positive relationship between FDI and employment. In addition, domestic investment capital and R&D also have a positive effect on employment, but the employment will decrease when average wage increases. For the sake of exploring the different effect of FDI on employment in manufacturing industries of different technology levels, this paper divides the manufacturing industries into high-tech and low-tech manufacturing industries through adding the dummy variable. Then, the result shows that FDI has a positive effect on employment in both high-tech and low-tech manufacturing, but its effect in the high-tech manufacturing industries is greater than that in the low-tech ones.

Next, this paper runs a regression with the high-tech and low-tech industries data separately in order to explore the different effect of FDI on employment in the high-tech and low-tech manufacturing industries. This regression analysis also can test the stability of the previous results. The regression result shows the same findings, which is FDI has a greater effect on employment in high-tech manufacturing industries than

that in low-tech ones. The reasons might come from two aspects, the first one is that multinational enterprises may invest more in high-tech manufacturing industries after all the labor advantage of China is not stronger than the Southeast Asian countries. And another reason is multinational enterprises can create employment through vertical association with domestic manufacturing enterprises.

Finally, an empirical study is conducted. Four related companies are selected as the samples, which are Shuanghui (company with FDI, and belongs to low-tech manufacturing industries), Bright Dairy (company without FDI, and belongs to low-tech manufacturing industries), Supor (company with FDI, and belongs to high-tech manufacturing industries), and Vatti (company without FDI, and belongs to high-tech manufacturing industries). The realistic effect of FDI on employment will be observed by comparing the employment condition of these four companies. FDI has a positive effect on employment in manufacturing industry, but the effect of FDI on employment in high-tech and low-tech manufacturing industry are not much different. However, these companies are only four of many companies, cannot represent the situation of all companies, but we can say it is indeed a very strong trend.

To sum up, there is a positive relationship between FDI and employment in Chinese manufacturing industries. What's more, FDI has a greater effect on the high-tech manufacturing industry than that in the low-tech manufacturing industry. But in the company case, the effect of FDI on employment in high-tech and low-tech manufacturing industry are not much different.

5.2 Recommendations

From the OLS results, there are some recommendations for economic policy in China.

The result shows that FDI has a significant positive effect on the employment of the Chinese manufacturing industry, therefore, the Chinese government should keep attracting more FDI to China, particularly the manufacturing industry. As mentioned before, the tax incentive policy is still retained in the investment promotion of some local governments and some industries, it is a good idea for the Chinese government to keep the tax incentives policy in manufacturing industry from the results of this paper.

The results also indicate that FDI has a different effect on the different technical level industry, so the Chinese government should abandon the general preferential method for foreign investment and implement differentiated preferential policies. The OLS result also shows that FDI has a greater effect on employment in the high-tech manufacturing industry than that in the low-tech industry. Therefore, China government can focus on attracting relatively more FDI to high-tech manufacturing industries and encourage foreign investor to enter the high-tech manufacturing industries.

The OLS result tells that both of domestic investment capital and R&D have a positive effect on employment, which means domestic investment capital and R&D are the effective factors to maintain employment in the Chinese manufacturing industry. Therefore, the Chinese government should pay more attention to the domestic investment capital and increase investment of R&D.

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