

# PROFIT TRANSFERRING OF MULTINATIONAL ENTERPRISES IN THE CHINESE INDUSTRY BY TRANSFER PRICING

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## Abstract

Decentralized enterprises, such as multinational enterprises (MNEs), adopt transfer prices to coordinate the strategies of the operating functional divisions and marketing divisions in a multinational environment. This paper analyzes the existence of profit transfer through transfer pricing among MNEs in China, and employs quantitative analysis to evaluate the amount of profit that is transferred by this mechanism in the Chinese industry. The contradiction between MNEs' abundant advantages of operating in China and their abnormal low profit margins indicate the existence of profit transfer behavior. The quantitative analysis shows that in the industry, there is more than 300 billion yuan, one fifth of their net profit, transferred yearly outside China and causes 4.9% decline of the total net profit of the Chinese industry from 2012 to 2015.

**Keywords:** transfer pricing, transferring profit, China, multinational enterprises.

**JEL code:** B0, B23

## 1. Introduction

The term, transfer pricing, refers to the prices of products or services that are transferred among

two divisions in a multinational enterprise (MNE). The influences of it can be shown directly on the cost of the buying division and the sales revenue of the selling division in a MNE. It allows the profit from one division in a high tax rate country to flow to the division in a low tax rate country (Wiederhold, 2013). This mechanism enables the maximizing firm-wide profit because it could reduce the overall tax expenses of the multinational enterprise. Many firms today adopt decentralized management structure because of the complexity of the firm in which separate profit centers take responsibilities of different functions necessary for the firm. Each profit center aims to maximize the profit. Transfer pricing is a basic way to coordinate the decisions of the profit centers and to maximize the firm's profit, when profit centers participate in exchange of goods and services. (Erickson 2012).

Multinational enterprises contribute to more than 60% of the world's trade. Therefore, the importance and influence of transfer pricing are significant in modern economy. More than 60 government tax departments enforce regulations on transfer price and the majority of them adopt "arm's length principles" (OECD, 2003). This rule could be explained as that a transfer price should be the same as if the two involved firms were actually independent, not profit centers of the same firm structure (Gao and Zhao, 2015).

In China, the economy has experienced a booming period among the last decades. The Chinese market has been the most attractive place for foreign investors. Many of the World's top 500 companies enter into the Chinese market through independent investment, joint ventures and cooperates. They bring in large amount of funds, technology, and help create more job opportunities in China. Nevertheless, their profit transfer actions make great damage to the tax revenues of Chinese government, and the most common method is using transfer pricing. Wang (2008) indicates that, on average, deficiency of foreign-funded companies is 51.06% from 2000-2005. However, this fact does not stop MNEs' enthusiasm of entering into the Chinese market. Profit transfer may explain this phenomenon, and this paper proves that MNEs in China exert transfer pricing mechanism to transfer their profit out of China. In addition, this paper adopts the quantitative analysis method to roughly measure the total amount of profit transferred in the Chinese industry. The result shows that MNEs in the Chinese industry transferred more than 300 billion yuan which is one fifth of total net profit out of China.

## 2. Literature Review

The concept of transfer pricing is first mentioned by Coase (1937) in '*The nature of firm*'. He proposes that firms are the substitutes of the market. Trading and reducing the expenses of trading are the natural characters of them. Hirshleifer (1956) offers a rigid treatment of the

problem of transfer pricing in the seminal paper. He tries to find the determination for transfer pricing that maximizes the aggregate firm profit while including maximizing the separate profit of individual internal profit center. After Hirshleifer (1956), there are many follow-up studies. A linear programming decomposition process which could determine transfer pricing is proposed by Baumol and Fabian (1964). Hass (1968) provides a quadratic programming decomposition and recent studies exert game theory to research the problem. Horst (1971) also proposes the existence of transfer pricing. When multinational enterprises are faced with different tax rates in different countries, they will manipulate the price of transaction within the company to transfer the profit from high tax rate countries to low tax rate countries. In addition, with the increasing of tax rate in the high tax rate country, the intention of transferring profit by transfer pricing gets stronger. Wu and Sharp (1979) indicate that transfer pricing has different standards in different industries. The tax policy, tariff and maximizing firm-wide profit are the crucial determinants. Eccles (1985) mentions that the objective of determining transfer price should be to find prices that accomplish international firm's goals and make sure that performance measurements are fair for all of the firm's profit centers.

Transfer pricing has become a popular research topic in the later 1990s. O'Connor (1997) indicates that the cause of getting various transfer prices stems from the conflict between the general objective of multinational enterprises and internal goals. Vaysman (1998) asserts that companies could make bargaining infrastructures and compensation schemes. As a result, negotiated transfer pricing structure makes it possible to accomplish the upper bound on acceptable obtainable profits. A strategic model of cost-based transfer prices in duopoly with two firms which has multiproduct structure is addressed by Alles and Datar (1998). Pfeiffer (1999) uses a dynamic lot-size model to analyze transfer pricing. Gjerdrum et al. (2002) adopt a mixed integer non-linear programming model with Nash bargaining solution to examine transfer pricing in a two-enterprise supply chain. Rosenthal (2008) examines the influence of transfer price in a vertically integrated supply chain.

A number of researches are concerned with the relationship of transfer pricing and multinational enterprises. Burns (1980) provides information on the variables that have influences on transfer pricing decisions in multinational enterprises. Reese Henneberry and Russell (1989) identify the practices and problems of transfer pricing and review the influences and objectives which affect transfer pricing within multinational agribusiness firms. Cools, Emmanuel and Jorissen (2008) consider the influence of transfer pricing tax compliance on management control system design and adoption within one MNE. Erickson (2011) sets models that make marketing-operates interface within a company as a differential game, considering the differing and often conflicting objectives of the two functional areas. Gao and Zhao models the determinants that

influence optimal transfer pricing which could maximize the entire profit of a multinational enterprise. Rossing, Cools and Rohde (2017) provide examples of crucial principles of transfer pricing and conduct a case study that applies OECD Guidelines in practice to multinational transfers within a fictional MNE.

### **3. Materials and Methods**

#### **3.1 Transfer pricing in multinational enterprises in China**

The transfer prices between different divisions inside multinational enterprises are top business secrets which will not be disclosed easily and it is difficult to acquire research data. Therefore, this paper analyzes the abnormal low profit margin of MNEs considering their distinctive advantages of operating in China. MNEs have many advantages, such as advanced technology, support from government policy and adequate experiences. However, their profit margins remain at a low level, even under that of domestic-funded companies. Considering this contradiction and possible reasons, this paper infers indirectly that a part of the profit of MNEs is transferred out of China through transfer pricing.

##### **3.1.1 Competitive advantages and preference policies**

Most foreign-invested companies in China have reliable parent companies. These parent companies have already achieved great success globally. Having been operated in the global environment for a long period of time, they usually have rich experience and good sense of competition. On the other hand, the Chinese government offers many preference policies to attract foreign investment. Jiang (1998) denotes that after China opened its door to foreign direct investment in the late 1970s, the country's preference policies to them grew in complexity and proliferation.

##### **3.1.2 Technology advantages**

One main reason for Chinese government to introduce foreign investment is to acquire advanced technology. As a developing nation, China has low level of technology capacity in manufacturing and production which is behind developed nations.

Table.1 High technology product ratio in different companies

Firm types	R&D Expense/revenue	Sales of new product/revenue	Sales of high technology products/revenue
Chinese Industry enterprise	0.4	5.2	3.2
Joint venture	0.8	9.1	4.4
Chinese foreign cooperative enterprises;	0.1	1.4	0.8
wholly invested foreign enterprise	0.03	0.1	3.8
Large state-owned enterprises	1.2	7.6	2.5
Medium-sized state-owned enterprises	1.6	6.6	1.4

This table refers the *Transfer Pricing Analysis of Chinese-Foreign Joint Venture* (Sun, 2008)

According to the above table, the sales of high technology products/revenue ratio is normally considered as the standard for technology capacity. Joint venture has the highest ratio, 4.4%, while state-owned companies only have 1.4% and 2.5% respectively. The data provides a direct view of technology advantages of foreign-invested enterprise.

### 3.2 Data collection

This paper adopts the quantitative analysis model in “*Transfer Pricing Analysis of Chinese-Foreign Joint Venture*” (Sun, 2008) and makes some improvements to the model. The total amount of profit in the Chinese industry transferred by transfer pricing mechanism is estimated roughly according to the data from “*China Statistical Yearbook*”. Because the difference between industries is hard to measure and calculate, this paper only uses the data in one industry.

### 3.3 Quantitative Analysis

#### 3.3.1 Analysis method

This paper uses the profits and the differences of tax index between foreign-invested firms and Chinese firms to estimate the amount of profit transferred by transfer pricing mechanism in foreign-invested firms in the Chinese industry.

Here are some assumptions:

- (1) Joint ventures and Chinese firms have the same operating, technological and marketing abilities, therefore the profit margins should be the same;
- (2) Joint ventures and Chinese firms have the same profit transferring ability when purchasing equipment, raw material and exporting products;
- (3) Chinese firms do not have issues of transfer pricing, which means the selling price is fair and independent;
- (4) The situation of reinvestment and duty-free of joint ventures is not considered;
- (5) The effect of operating period on profit is not considered.

Suppose that joint ventures and Chinese firms have the same profit margin. Therefore, the part under normal profit margin could be considered as the profit ‘written-off’ by transfer pricing. It could be applied either by importing equipment and raw materials at higher prices or export products at lower prices to related foreign firms.

Multinational enterprises rely heavily on exporting and importing, and they could transfer profits on both exporting and importing. Therefore, according to assumption (3), it is reasonable to use the transferred profit by exporting to estimate the transferred profit by importing. Besides, Multinational enterprises enjoy lower sales tax & extra charges and business income tax. If there are no tax preferences, these two parts should be reflected in profit. The transferred profit could be estimated by the following formula:

$$W=2A+B+C$$

W - the transferred profit;

A - the difference of sales profit: the difference between MNE's actual sales profit and reference standard;

B - the difference of sales tax and extra charges: the difference between MNE's actual business tax & extra charges and reference standard;

C - the difference of business income tax: the difference between MNE's actual business income tax and reference standard.

In this case, A, the sales profit, is normally considered as the profit after deduction of business tax & extra charges and cost of operating. If the sales profit has already excluded the sales tax & extra charges, the calculation of sales tax & extra charges in B will be repeated. On the other hand, the most common way of transfer pricing is importing high-price raw materials and equipment and exporting low-price products. It will have no big influence on the expense. Considering these factors, this paper uses sales revenue deducting cost of goods sold to calculate the gross profit to replace A in order to get better results.

W - the transferred profit

A - the difference of gross profit: the difference between MNE's actual gross profit and reference standards

B - the difference of sales tax and extra charges: the difference between MNE's actual business tax & extra charges and reference standards

C - the difference of business income tax: the difference between MNE's actual business income tax and reference standards

### **3.3.2 Data process procedure**

According to the “*China Statistical Yearbook*”, the sales revenue, cost of goods sold, business tax & extra charges, profit of domestic-owned enterprises (state owned enterprises and private enterprises) and foreign-invested enterprises are collected and the calculation, and estimations are based on it.

First, this paper calculates the gross profit and gross profit margin of two different types of companies. The gross profit margin of domestic-funded enterprises is considered as the standard gross profit margin with no transferring profits. This standard is used to calculate the transferred profit by foreign-invested enterprises.

Table 2. Financial statements of domestic-owned enterprise (100 million yuan)

Financial statements of domestic-owned enterprise				
	2012	2013	2014	2015
Revenue				
State-owned	245076	257817	262692	241669
Private	285621	342003	372175	386394
Total	530697	599820	634867	628063
Cost of goods sold				
State-owned	202600	213204	217409	199927
Private	243192	293764	322482	334569
Total	445792	506968	539891	534496
Gross profit	84905	92852	94976	93567
Gross profit margin	0.159988	0.1548	0.1496	0.148977

Table 3. Financial statements of foreign-invested enterprises (100 million yuan)

Financial statements of foreign-invested enterprises				
	2012	2013	2014	2015
Revenue	221949	242964	252630	245698
Cost of goods sold	189558	207256	215004	208267
Gross profit	32391	35708	37626	37431
Gross profit Margin	0.145939	0.146968	0.148937	0.152346



Table 4. Difference in gross profit of foreign-invested enterprises (100 million yuan)

Difference in gross profit of foreign-invested enterprises				
	2012	2013	2014	2015
Standard Gross profit margin	0.159988	0.1548	0.1496	0.148977
Estimate Gross profit of foreign-invested enterprises under standard margin	35509.11	37610.77	37793.41	36603.37
Actual Gross profit of foreign-invested enterprises	32391	35708	37626	37431
Difference of gross profit	3118.113	1902.772	167.4069	-827.626

The difference of business tax & extra charges

In this paper, the tax rate of domestic- funded enterprises is considered as the standard rate with no transferring profit. The difference between the rate of foreign-invested enterprises and standard rate could be calculated, and it is considered as a part of the transferred profit.

Table 5. Difference of business tax & extra charges (100 million yuan)

	2012	2013	2014	2015
Business tax & extra charges :				
Domestic-funded enterprises	8331.16	9074.11	9422.53	8996.72
State-owned	6200.42	6522.77	6646.11	6114.23
Private	2130.73	2551.34	2776.43	2882.50
Foreign-invested enterprises	2146.90	2477.55	2653.89	2787.89
Business tax & extra charges rate				
Domestic-funded enterprises	0.0157	0.0151	0.0148	0.0143
Difference of business tax & extra charges	1337.37	1198.02	1095.58	731.63

Foreign-invested enterprises used to enjoy a great number of favorable policies in business income tax. It enables them to actually pay much less business income tax than domestic-funded enterprises. However, in 2008, Chinese government adopted a new business income tax policy which makes business income tax rates at the same level for both domestic-funded enterprises and foreign-invested enterprises. This policy makes the difference on business income tax for both type of companies become 0, so the difference of business income tax is roughly regarded as 0, where  $C=0$ .

#### 4. Results

The advantages of foreign-invested enterprises in different areas should have made them to earn higher profit margin. However, the calculations (in table 3 and 4) show that, the gross profit margin of foreign-invested enterprises is under the gross profit margin of domestic-funded enterprises from 2012 to 2014. It is reasonable to infer that the profit transfer action through transfer pricing exists among foreign-invested enterprises in China. In 2015, the situation changed. The gross profit margin of foreign-invested enterprises exceeded that of the Chinese firms and their accounting data begins to reflect foreign-invested enterprises' advantages when operating in China. It is hard to determine whether the profit margin in 2015 truly reflect their profitability under fair trade or there is still little amount of profit transferred out. However, the fact that this problem is getting better is undeniable.

Using the formula  $W=2A+B+C$ , the approximate amount of profit transferred by multinational enterprises could be calculated. The result is shown in the table below.

Table 6. Transferred profit (100 million yuan)

	2012	2013	2014	2015	Average
transferred profit	7573.60	5003.57	1430.390	-923.63	3270.98

According to the quantitative analysis, this paper finds that from 2012-2015, foreign-invested corporations have transferred 327 billion yuan of profit on average. According to the *China Statistical Yearbook*, the average net profit of MNEs in the Chinese industry is 1556 billion yuan, which means that MNEs transferred 21% of their total net profit each year. Considering the total net profit of Chinese industry, 6618 billion yuan on average, the profit transferring causes 4.9% decline of the total net profit of the Chinese industry. The *China Statistical*

*Yearbook* also denotes that the industry contributes 38.7%, 37.4%, 36.3% and 34.3% of national GDP respectively from 2012 to 2015. The Chinese industry is the largest part of the Gross Domestic Product. This paper's analysis on the Chinese industry could reflect a significant and magnanimous part of profit transferred by foreign-invested corporations. It is obvious that the yearly amounts of profit transferred outside China each shows a decreasing trend. This fact denotes that the condition of transfer pricing is getting better among MNEs in the Chinese industry. They kept more profit within China and the Chinese government had more tax revenue.

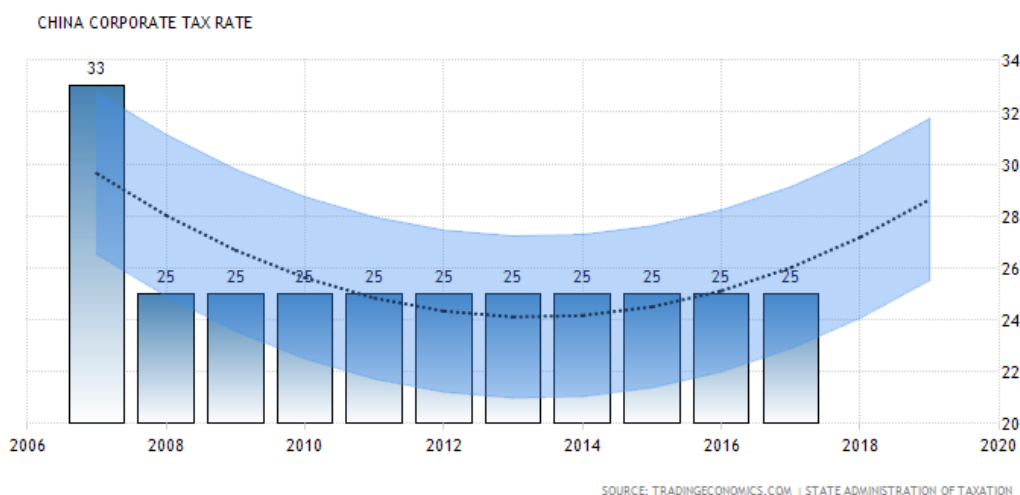


Figure.1 Forecasted China corporate tax rate

Note: Trading Economics (2007) China corporate Tax Rate. Retrieved from

<https://tradingeconomics.com/china/corporate-tax-rate>.

Figure 1 shows the corporate tax rate of China from 2007 to 2017 and gives a forecasted trend of the future tax rate. After the publication of new tax policy in 2008, Chinese corporate tax rate remained stable at 25% until 2017. However, the tax rate may increase in the future based on the estimation (Trading Economics, 2017). Horst (1971) proposes that the increase of tax rate in the high tax rate country lead to the stronger intention of transferring profit by transfer pricing. For this reason, the problem of transfer pricing in multinational enterprises might become more severe in the future.

## 5. Conclusions

To sum up, this paper discusses the existence of transfer profit by using transfer pricing in multinational enterprises in China is discussed. Foreign-invested companies have different types of advantages which could bring them extra profit. However, their average profit margin

is under that of domestic-funded companies in the industry of China. For this reason, this paper infers that the profit transfer procedure exists in foreign-invested companies. On the next section, this paper exerts the quantitative analysis to estimate the total profit transferred in the Chinese industry. The result shows that, MNEs transferred 21% of their total net profit each year which leads to 4.9% decline of the total net profit of the Chinese industry. It offers a direct view of significance of the influence of transfer pricing in the Chinese industry. This profit transfer procedure brings negative influences to the Chinese economy and disobeys the rule of fair trade. However, the result indicates that the Chinese taxation system is becoming more efficient and powerful in recent years. The quantitative analysis indicates that the total amount of profit transferred outside of Chinese industry shows a decreasing trend, and the gross profit margin of foreign-invested companies exceeded domestic-funded enterprises for the first time in 2015. This fact reflects that the problem of transfer pricing is getting better under the efficient regulation of the Chinese government. However, with the possible increase of corporate tax in the future, the problem might become severe again.

This paper also has several limitations. The factors that influence transfer pricing varies in different industries. Due to insufficiency of data, this paper only analyzes the industry in China. Therefore, the analysis does not reflect the overall conditions of the problem of transferring profit in China, only large part of it. Another limitation is that using domestic-funded enterprise as the standard of fair trade to analyze transfer pricing may be inaccurate because some domestic-funded enterprises have other methods to transfer profit, such as manipulation accounting terms.

This paper provides several directions for future studies. The research on the crucial determinants of transfer pricing of MNEs in China is one good direction. Another task is to investigate the problem of transfer pricing in other industries and to find out efficient and practical methods to regulate transfer pricing in MNEs in China in the future.

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