The Research on Transfer Pricing: A Method of Tax Avoidance and Profit Maximization for Multinationals— Taking WR Corporation for Instance

Xuejun Lin[1], Huijuan Zheng[2], Xiaoqing Tang[3] & Lu Lu[3]

[1] International Business School, Jinan University, Zhuhai, China

[2] School of Public Finance & Taxation, Guangdong University of Finance & Economics, Guangzhou, China

[3] School of Translation Studies, Jinan University, Zhuhai, China

Correspondence: Xuejun Lin, International Business School, Jinan University, Zhuhai, China, Zip Code: 519000. Tel: 86-135-0301-1999.

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Abstract

Transfer price is the internal price set by multinational enterprises basing on financial strategies. By means of transfer pricing, multinationals can achieve various goals such as avoiding tax, exchange-rate risk, political risk and governments' regulation on foreign exchange. It is also beneficial for them to reduce cost, allocate funds, maximize profits and manage their subsidiaries. Loopholes in the laws enable WR Corporation, a famous multinational company, to employ transfer price to avoid tax. It demonstrates that multinational enterprises can also employ transfer price to legally and reasonably reduce transaction cost, optimize resource allocation, and therefore avoid tax.

Keywords: Multinational enterprises, Transfer pricing, Tax avoidance

1. Introduction

Transfer price, also known as administered price, is set by multinationals for internal transactions (J.F. Liu & S.Y. Liu, 2014). Nowadays, transfer pricing has become a hot topic in the studies of accounting and international taxation because interests of multinational enterprises (MNEs) and tax revenue of different countries are involved. After surveying 850 MNEs in 24 countries, Ernst & Young, one of the big four accounting firms, released the report *Precision under pressure: Global transfer pricing survey 2007–2008* (Ernst & Young, 2008). It reveals that in the view of about 40 percent of the surveyed MNEs, transfer pricing far outweighs other tax issues. In the survey, which also predicts the prospective market situation for the next two years, 74 percent parent companies of the surveyed MNEs and 81 percent subsidiaries firmly believe that transfer pricing is extremely important for their operation. On the other hand, governments worldwide are strengthening the regulation on transfer pricing of MNEs so as to avoid losses of tax revenue. The statistics from Deloitte & Touche shows that by 2007, 46 countries in the world have established the tax system on transfer pricing. As is reflected from the data above, transfer pricing has been widely used by MNEs and attention has been paid on it by various governments.

In the United States, due to the tax loopholes and tax abatement, hardly any company would pay the corporate income tax at the standard rate of 35 percent. Citizens for Tax Justice (CTJ) and Institute on Taxation and Economic Policy (ITEP) released a report in 2011. It shows that among the surveyed U.S. enterprises of the Fortune 500 companies, 280 of them only paid averagely at the tax rate of 18.5 percent on their corporate income to the U.S. Government. The figure in the period from 2009 to 2010 is even lower, only 17.3 percent. Moreover, 78 of these 280 enterprises did not pay any corporate income tax from 2008 to 2010 (CTJ & ITEP, 2015). In 2011, the effective tax rates (ETR) of Google, Apple and IBM are respectively 21 percent, 24 percent and 25 percent. The ETR of WR is lower than theirs—only 17.5 percent (Browning, 2015). Government Accountability Office (GAO) noticed that 24 percent of the U.S. enterprises and 35 percent of the foreign enterprises paid no tax in the period from 1998 to 2005, which was all due to the overuse of transfer pricing and tax havens. In 2007, GAO found that 83 among the 100 U.S. public companies had set up branches in tax havens. Multinationals transfer their income to the foreign countries where has lower tax rates and the conduct seriously erodes U.S tax base. Senate Permanent Subcommittee on

Investigations Committee on Homeland Security and Governmental Affairs (HSGAC) conducted a survey, showing that by March 31st, 2012, the surveyed U.S. domestic MNEs, among each with over 5 billion U.S dollars foreign income, have kept most of their revenues abroad. For example, one of them, Johnson & Johnson and Hewlett-Packard, has kept nearly 100 percent of its revenues abroad. WR has also kept 89 percent of its earnings abroad. It is estimated that U.S. domestic MNEs have more than 1.7 trillion U.S dollars of undistributed income and keep at least 60 percent of their earnings abroad (Levin & Cobum, 2012).

In Australia, there are large outflows and influxes of funds. For instance, from 2005 to 2006, there were totally about 8.3 billion Australian dollars (AUD) flowing into Australia from tax havens and 4.9 billion AUD flowing out to tax havens. In comparison, according to the statistics from Australian Taxation Office (ATO), in 2002, the funds flowing into Australia were only 3.5 billion AUD and those flowing out to tax havens were only 2.2 billion AUD. Besides, ATO also found that some Australian corporations avoided tax by trading at a price lower than other corporations' in the same industry. After auditing, ATO ordered these corporations to pay 300 million AUD corporate taxes they have evaded. Between 2001 and 2006, through auditing transfer prices, ATO collected 1.33 billion AUD tax, avoiding the loss of 1.25 billion AUD. The case indicates that it is common for MNEs to set transfer price for the purpose of avoiding tax (Australian Taxation Office, 2010).

Tax avoidance of MNEs has been shaped into the culture of the corporate world (Braithwaite, 2005; Desai,Foley, & Hines, 2006; Rego, 2003;Slemrod, 2001). Multinationals employ loopholes in tax laws to reduce tax burdens (Braithwaite, 2005; Killaly, 2009). This paper focuses on researching how MNEs legally avoid tax, transfer their funds, and therefore gain more profits.

The paper takes WR as an example, analyzing its methods in tax avoidance. In the end, the paper also discusses the strategies of transfer pricing, which can be used by MNEs to improve their management.

The first part of this paper is an introduction. The second part summarizes the theories of Transaction Cost Economics and Resource-based view, which are the basis of transfer pricing. The third part of the paper is the case study of WR who employs transfer price to avoid tax. The fourth part researches the factors being considered by MNEs when setting transfer prices and the fifth part offers some strategies of transfer pricing to MNEs. The last part of this paper is discussion and conclusion.

2. Literature Review

Slemrod (2001) claims that MNEs can reduce their corporate taxes by using a series of interconnected methods. An enterprise may abate its tax through employing the differences of tax rates in different areas. Rego (2003) carried out a research on tax planning of U.S. multinationals, proving Slemrod's (2001) views. The research presents evidence that MNEs take advantage of their overseas business to lower their effective tax rate. It also points out that economies of scale is likely to exist in tax planning. Some multinationals take transfer pricing as the strategies for cross-border arbitrage, making use of the differences in the tax laws among countries to obtain tax benefits (such as tax reduction or free of tax) (Ring, 2002). Transaction Cost Economics and Resource-based view can explain why MNEs take measures to avoid tax.

2.1 Transaction Cost Economics (TCE)

There are two important factors that TCE focuses on. Firstly, in transaction there are costs and risks when the contract is being performed. Transaction is a process in which information is exchanged and then decisions are made. It includes the procedures such as searching for partners, negotiating, drafting contracts, implementation, monitoring and dispute resolution. Secondly, the other important factor TCE focuses on is opportunistic behavior. Transaction is done for self-interest, which probably leads to cheating, lying, violating agreements in a cunning way as well as treating trading partners unequally. Moreover, in transaction if one firm is more powerful and influential than the other one, the unfairness between the two sides will become more acute. The opportunistic risks mentioned above are usually called relational risks (Anderson & Dekker, 2009; Das & Teng, 2001), which will increase a firm's costs of monitoring —for monitoring partners' activities, safeguarding the firm's own assets, and assuring that partners do not engage in opportunistic behavior in the transaction (Grover & Malhotra, 2003).

The transfer pricing of MNEs is the internalization of external price. In this process, the MNEs replace the external open market with internal market and replace the external administration mechanism with the internal one in order to cut the costs of transactions. According to the Internalization Theory, the market for the intermediate product, including knowledge, information, technology and management, is incomplete. Because of the incompletion, it may cause time-lags and extra costs and as a result firms cannot ensure their profit in transactions. Therefore, if internalizing the buyer-seller relationship into producing activities, firms can avoid time-lags, bargain and consumer

uncertainty. Also, it will minimize the influence of government intervention (Qin & Wu, 2011).

In order to obtain the maximal tax revenue, governments always supervise the transaction of MNEs to find whether the transaction price is reasonable and if there are opportunistic behaviors. In this way, the governments can estimate the tax that MNEs should pay. In general, transaction price can be set basing on transaction or profit. The transaction-based method usually targets at the transactions of tangible goods. It focuses on the comparable uncontrolled price (CUP), which is also called market price, resale price or cost-plus price. When transaction price is set basing on profit, there are comparable profits method (CPM, accepted by the IRS), transactional net margin method (TNMM, accepted in OECD-based countries) and profit split method. Besides, if the two methods described above cannot yield an arm's-length result, there are some other unspecified methods, which can be applied in the transactions of intangible goods and services (Borkowski, 2010).

2.2Resource-based View (RBV)

Compared with TCE, RBV focuses more on the cooperation within the entities (Anderson & Dekker, 2009). Resources need to be allocated within the entities according to their corporate strategies. Different corporate strategies contribute to various resources allocation (Barney & Grant, 1991). RBV regards that the enterprise is a special organization with a set of tangible and intangible resources (Wernerfelt, 1984). Resources are those that are valuable, rare, irreplaceable and impossible to replicate. They form the competitive advantage of an enterprise (Barney, 1991; Dyer & Singh, 1998; Holweg & Pil, 2008; Hoyt & Hug, 2000; Lambert, Stock, & Elram, 1998; Wade & Hulland, 2004). Through the allocation of resources and the improvement of managerial skills, enterprises are likely to obtain more profit and be in an advantageous position (Barney, 1991; Das & Teng, 2000; Dietrickx & Cool, 1989; Reed & Defilippi, 1990; Rumelt, 1984). Enterprises will gain profit if they can create value by allocating their resources and by vertically integrating the different divisions of intra-organizational value chain (Cecchini et al., 2013).

Thus, in the RBV theory, through vertically integrating value chains (or alliances), enterprises can take advantage of the scarce and inimitable resources to maximize their profits (Combs & Ketchen, 1999; Das & Teng, 2000; Fayard, Lee, Leitch, & Kettinger, 2012). Spanning-bounder resources of an enterprise cover physical and financial assets, managerial knowledge, human capital, technology and patents, channels for spreading knowledge, and social networks (Anderson, 1990; Das & Teng, 1998; Dyer & Singh, 1998; Fayard et al., 2012; Holweg & Pil, 2008; Ireland, Hitt, & Vaidyanath, 2002; Wade & Hulland, 2004). And they also include management, control and coordination of information flows and supply chain (Dekker, 2004; Dyer & Singh, 1998; Gulati & Singh, 1998; Ireland et al., 2002). In general, RBV suggests that an organization can create value by aggregating, sharing, exchanging valuable resources and improving the business procedures.

Moreover, MNEs can employ international markets to allocate assets reasonably, restructure manufacturing facilities, and manipulate transfer prices (Dunning & Rugman, 1985). For example, MNEs can set their producing activities in those areas with abundant natural or human resources and maximize their profits by adopting advanced technology, establishing a more efficient distribution system, and setting transfer pricing to reduce costs, tax and risk (Cecchini et al., 2013) . Basing on this theory and their value chains (which include producing, marketing, financing, research and development (R&D)), MNEs are likely to form a transnational network structure, which can be vertically or horizontally integrated. As a result, a large numbers of in-company transactions will emerge in the international market. The in-company transactions, which are done between the parent company and the subsidiary, or between subsidiaries, or between affiliated companies, are instrumental in optimizing the allocation of MNEs' global assets. It can also help multinationals to raise efficiency, lower costs, improve marketing and maximize profits. Transfer pricing is a powerful way to transfer assets and optimize allocation.

In conclusion, RBV underlines that MNEs should not only maximize their value by employing resources effectively but also manage their value chains through various strategies, while TCE focuses on minimizing the costs and risks in transactions.

3. The Case Study of WR Corporation

3.1 The Organization and Operation of WR Corporation

To enhance its international competitiveness and reduce tax, since 1990s, WR has gradually set up operation centers around the world to do international business. And the main channels to sell its products and services are Original Equipment Manufacture (OEM), distributors, dealers, and online sales. OEM is to authorize the computer producers to pre-install the Windows operating system on personal computers. This business is mainly managed by the operation centers in the regions such as Reno and Nevada. And the revenue gained from the business will be listed in

the U.S. declaration form of merged corporate income tax. The non-OEM business, such as retail, is in the charge of the operation centers in Ireland, Singapore and Puerto Rico (Cui & He, 2015).

The operation center in Dublin takes charge of the production and sale in Europe, the Middle East and Africa. It includes several entities in Ireland. The first one is WR Round Island One (WRIO), which is operated in Ireland while its headquarter is located in Bermuda. It is a foreign-based company wholly owned by WR. WRIO founded WR Operations Puerto Rico (WOPR), the other foreign-based corporation completely controlled by WR. WOPR pays for factories constructions and undertakes the obligation in the cost contribution agreement signed with WR. The second entity is WR Ireland Research (WIR), which is a foreign disregarded entity controlled by WRIO. WIR plays a key role in the operation center of Ireland. According to the cost contribution agreement signed with WR, WIR shares WR's 30 percent of the R&D costs. In return, it is entitled to sell WR's products in Europe, the Middle East and Africa. However, WIR does not directly produce or sell products. It delegates the economic rights to its wholly-owned subsidiary—WR Ireland Operations Limited (WIOL). Most of the intangible R&D activities, whose cost is shared by WIR, are carried out in the WR Corporation in USA and WIR only takes less than 1 percent of WR's R&D workload. WIOL is a foreign disregarded entity wholly owned by WIR and its main business is to produce the copies of WR then sell them to 120 foreign distributors in Europe, the Middle East and Africa. These distributors sell them to customers.

The operation center in Singapore mainly takes charge of WR's business in Japan, India, China and Asia-Pacific. It is also composed of many entities. One of them is WR Singapore Holdings Pte. Ltd. (WSHPL), which is wholly owned by the WR Corporation in USA. WSHPL offers funds to WR Asia Island Limited (WAIL) which shares the R&D costs of WR. WAIL is located in Bermuda and is a disregarded entity controlled by WSHPL. According to the cost contribution agreement with WR in 2004, WAIL should share 10 percent of WR's R&D costs and in return, it is entitled to sell WR's products in Asia. However, it is only a shell company, which does not develop products nor have any employees. WAIL mainly takes part in the sharing of R&D costs and it delegates its economic rights of intellectual property to WR Operations Pte. Ltd. (WOPL). WOPL is also a foreign disregarded entity wholly owned by WSHPL. It produces the copies of WR and sells them to distributors in Asia. These distributors sell them to customers.

Operation centers in Puerto Rico are mainly managed by WOPR, which signed the cost contribution agreement with the WR Corporation in USA in 2006. WOPR is entitled to sell WR's products in the USA and other countries in the Americas. It has paid for the Buy-in Payment for 9 or 10 years to compensate the value of existing intellectual property rights of WR. WOPR, basing on the proportion which its sales account for in the WR's global sales, shares about 25 percent of the WR's R&D cost. Besides, according to the distribution agreement with WR Licensing, GP (WLGP), a subsidiary of the WR Corporation in USA, WOPR can produce digital and physical copies of WR's products then sell them to WLGP. WLGP sells them to the consumers in USA. While WOPR must transfer 47.27 percent of its sales in USA to the operation center in Puerto Rico.

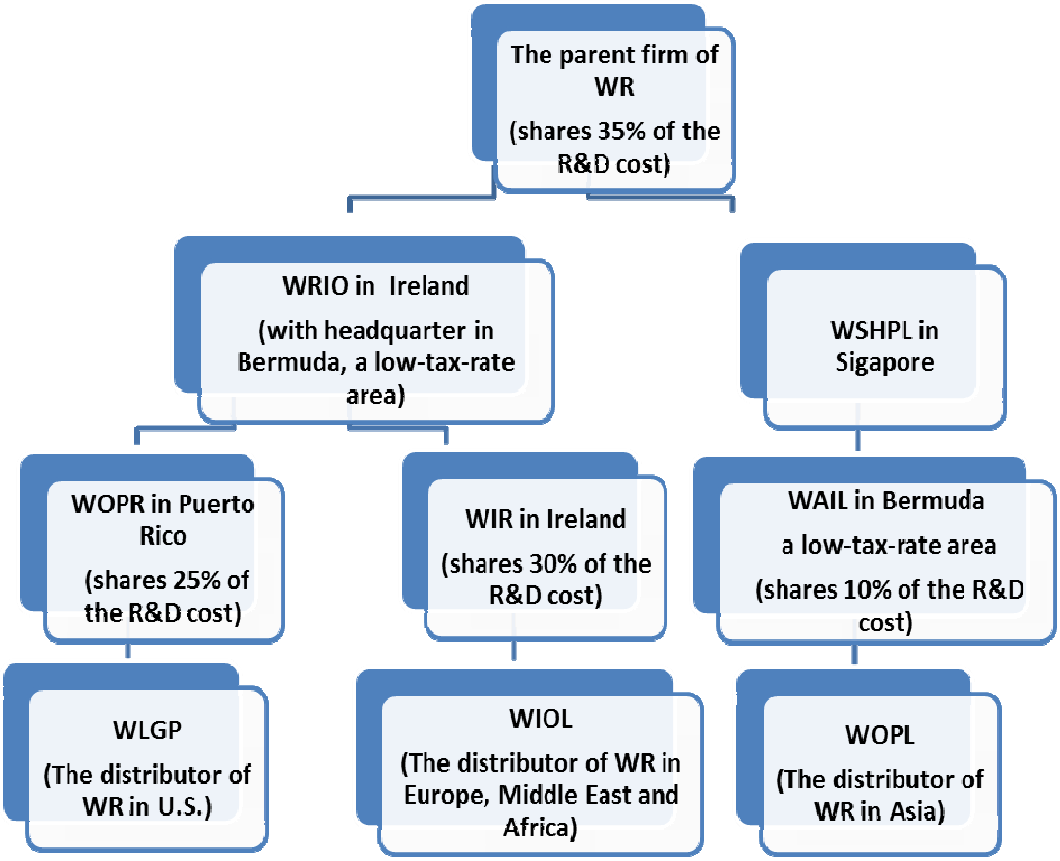

Figure 1. The organization and operation of WR

3.2 Tax Avoidance of WR

From the figure 1, it can be known that WR has set up numbers of affiliated companies to control the market, to share R&D costs, and to avoid tax, so that the objectives of lowering the total cost and increasing profits can be achieved.

According to *Internal Revenue Code (IRC), section 367, article d*, if a U.S. parent company transfers the intangible assets to the foreign subsidiary to get the stock right, the transaction will be regarded as the sale of intangible assets and the company should pay tax on the next-20-years royalties of the intangible assets (Zhou, 2015). In order to avoid tax, domestic MNEs in USA usually transfer the intangible assets by signing cost contribution agreement with their subsidiaries. So does WR. WR signed a cost contribution agreement (CCA) with its operation centers. The WR's R&D cost that each entity should share is based on the proportion the entity's revenue accounts for in WR's total revenue. And entities, in return, are entitled to sell WR's products in their regions. In the R&D cost sharing, WIR shares about 30 percent; WAIL shares about 10 percent; WOPR shares about 25 percent; and the WR Corporation in USA shares the remaining 35 percent. Since the entities who share the cost are regarded as the owners of the intangible R&D products, in this way, WR can transfer its intangible R&D assets along with the benefit brought by them abroad. For example, in the operation centers in Ireland and Singapore, entities do not directly engage in producing and selling. They delegate the economic rights of intellectual property to the foreign affiliated companies with lower grade. These companies produce and sell WR's products to distributors and the latter sell them to customers. Since the royalties of intellectual property rights, which the foreign affiliated companies pay to the subsidiaries, are not regarded as the earnings as that in *Internal Revenue Code*, *Part F*, MNEs can avoid being taxed on these earnings. For instance, basing on the CCA, WOPR in the operation center of Puerto Rico is entitled to sell WR's products in the Americas. However, according to the distribution agreement between WOPR and WLGP, WR will buy parts of the distribution rights in USA back for the U.S. subsidiaries. The reason why WR does so is that according to the distribution agreement, WLGP should transfer 47.27 percent of its sales in USA to the operation centers in Puerto Rico. Hence WR can avoid paying tax on the U.S. sales to the U.S. government and it only pays tax

at the rate of 1.02 percent to Puerto Rico.

Figure 2 describes the transfer pricing agreement between the WR Corporation in USA and the operation centers in Singapore, Ireland and Puerto Rico. According to the CCA, in 2011, the headquarter of WR received 4 billion U.S. dollars, of which 1.2 billion was paid by WAIL in Singapore and the remaining 2.8 billion was paid by WIR in Puerto Rico. However, these two operation centers obtained total 12 billion royalties of intellectual property rights from the lower-grade foreign affiliated companies. It means that the headquarter of WR in USA transferred 8 billion U.S. dollars profits to the oversea low-tax-rate areas. Moreover, in 2011, the operation center in Puerto Rico obtained 6.3 billion U.S. dollars from WLGP and according to the CCA, WOPR in Puerto Rico paid 1.9 billion U.S. dollars to the headquarter of WR. The remaining 4.4 billion was left in Puerto Rico, a low-tax-rate area. A three-year investigation, which was done by the Permanent Subcommittee on Investigations Committee on Homeland Security and Governmental Affairs, reflected that WR avoided the tax of more than 4.5 billion U.S. dollars through the transfer pricing agreement (Levin & Cobum, 2012).

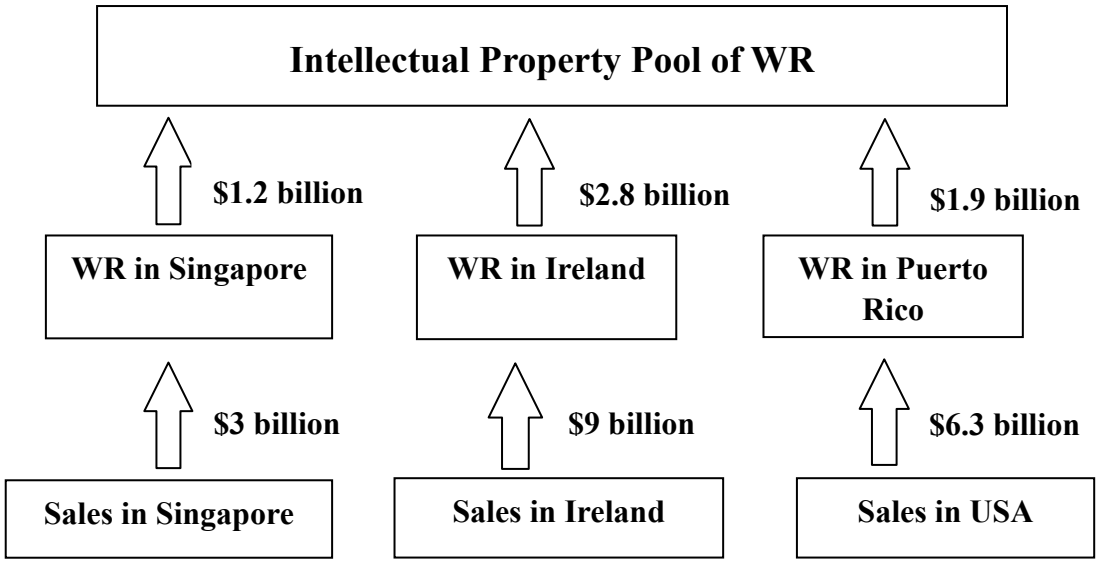

Figure 2. WR's payment of intellectual property rights in 2011

In conclusion, as is shown in the Figure 2, WR benefits a lot from transfer pricing. In 2011, WR obtained 69.943 billion U.S. dollars from sales and 28.071 billion U.S. dollars profits before tax (PBT). The WR's global effective tax rate was 17.5 percent. In 2011, the operation centers in Singapore, Ireland and Puerto Rico totally gained 15.407 billion U.S. dollars PBT, which accounted for 55 percent of WR's global PBT. However, the effective tax rate of these operation centers was only 3.16 percent (Shay, 2012).

3.3 Analysis of WR's Tax Avoidance

MNEs are supposed to take legal measures to avoid tax. The U.S. legal system is a developed one and the laws are strictly enforced, while they cannot supervise every transaction on the market, especially those of intellectual property rights due to the difficulties of pricing. Therefore, transfer pricing has become a tool that MNEs can exploit. The cost contribution agreement of WR is restricted by the Independent Trade Principle, which is anti-tax avoidance. The Independent Trade Principle refers that a legal cost contribution agreement should conform to the principle. Hence in the CCA, the proportion of cost shared by each participant should be consistent with that of their prospective earnings. Prospective sales (or turnover), usage, production (or sales) and the number of employees are taken into consideration when predicting the prospective earnings (OECD, 2015). However, because it takes time for MNEs to obtain profits from the implementation of the CCA, MNEs may meet difficulties when predict the prospective earnings. In order to predict the prospective earnings of each participant in the CCA, WR assesses how much one's sales accounts for in the global turnover. Since the difficulty of accurately calculating R&D costs and predicting prospective earnings, there is a possibility of employing transfer pricing to transfer profits.

Although the U.S. Treasury Department introduced the system of cost contribution in the early 1990s, the Independent Trade Principle has not been completely applied to the transfer of intangible assets in USA yet (Ding,

2015). That means if a parent company in USA agrees to share the R&D cost with its foreign subsidiary at a ratio of 40:60 and in return, the subsidiary will be entitled to obtain 60 percent of the profits gained from the intangible assets no matter where the R&D are conducted (Ding, 2015). For example, more than 85 percent of the WR's R&D on intellectual property is carried out in USA, but the WR Corporation in USA only shares about 35 percent of the costs. Although WIR, the entity of the operation center in Ireland and the main participant in the CCA, only conducts less than 1 percent of the WR's R&D workload, it shares 30 percent of the R&D costs and obtains the corresponding economies rights. WAIL, the entity of the operation center in Singapore and also the main participant in the CCA, shares 10 percent of WR's R&D costs and obtains the corresponding economies rights, while it does not carry out any R&D.

It is a tax deferred problem that WR transfers its sales to the subsidiaries in Puerto Rico. In the *Internal Revenue Code, Income Tax, chapter 1, sub-chapter N, section 3, part F*, the tax system of foreign affiliated companies is stipulated. The law is designed to regulate the foreign affiliated companies of U.S. MNEs, who want to hoard oversea earnings in the foreign tax havens to avoid tax. It also protects the U.S. tax base from being eroded. According to *Internal Revenue Code, part F,* the passive income paid from one independent legal entity to the other one will be levied tax immediately without any deferral. For instance, if an U.S. enterprise obtains the royalties of privilege from the foreign subsidiary, the earnings will be regarded as those of *part F* and be levied tax immediately (Liao, 2008). The passive income, such as the royalties of privilege, will not be levied tax on the condition that it is paid by a disregarded entity, which is defined according to the the Check-the-Box Rules and the Look-through Rules in the *Internal Revenue Code*, or is paid between two disregarded entities. The Check-the-Box Rules refer that in tax payment, some taxpayers can choose which kind of entities their companies are, the limited liability company, the partnership, the single proprietorship, the branch office or the disregarded entity (Liao, 2008).

The Check-the-Box Rules and the Look-through Rules weaken the effect of *Internal Revenue Code, part F* on anti-tax deferral. For example, an U.S. MNE can found a foreign affiliated subsidiary A in a tax haven and guides it to obtain passive incomes, such as royalties of privilege, from a lower-grade foreign affiliated company B. When paying taxes to the USA government, the MNE can choose B as a disregarded entity. Hence the passive income, which is paid by the lower-grade B to A, will not be considered as the payment between two independent entities nor the earnings of *part F*. Step back to the case study of WR. WIOL and WIR are two disregarded entities wholly owned by WRIO. WAIL and WOLP are two disregarded entities wholly owned by WSHPL. In 2011, according to the CCA, WIR paid 2.8 billion U.S. dollars to the WR Corporation in USA and then entitled its rights to WIOL, receiving 9 billion U.S. dollars from WIOL as royalties. Similarly, WAIL paid 1.2 billion U.S. dollars to the WR Corporation in USA and then entitled its rights to WOPL, receiving the royalties of 3 billion U.S. dollars from WOPL. The payment between WIR and WIOL and between WAIL and WOPL are not regarded as that between two independent entities, which means that WR does not need to pay tax on the royalties since which are not the earnings of *part F*.

As the analysis shown above, WR takes full advantage of its organization structure to run global business, allocate the resources, reduce its cost and therefore increase the profits.

4. Factors that MNEs Consider When Setting Transfer Prices

Transfer pricing is significant to MNEs. Take the transfer of MNEs' tangible assets as example, the following parts deal with the factors that MNEs consider when they set transfer prices (Qin & Wu, 2011).

Suppose a MNE has two branches in two countries. Branch Ⅰ produces primary products and exports them to branch Ⅱ. Branch Ⅱ processes them and gets profits from selling the final products. The following table reflects the profits and losses of the two branches (and in order to simplify the situation, export tariffs of branch Ⅰ is not taken into consideration):

Table 1. Profits and Losses of the Two Branches

	Sales Revenue	Variable Cost	Fixed Cost	Import Tariffs	Profit Before Tax (PBT)	Income Tax Rate	After-tax Profits
Branch Ⅰ	QP_t	$Q\ C_1$	F_1	0	$(P_t- C_1)Q- F_1$	T_1	$[(P_t- C_1)Q- F_1] (1- T_1)$
Branch Ⅱ	QP	$Q(P_t+ C_2)$	F_2	QP_tR	$(P-P_t- C_2)Q- F_2-QP_tR$	T_2	$[(P-P_t-C_2)Q- F_2-QP_tR](1- T_2)$

Where:

Q = trading volume

P_t = transfer price of unit product

P = selling price

C_1 = unit cost of the branch Ⅰ

C_2 = unit cost of the branch Ⅱ

F_1 = fix cost of the branch Ⅰ

F_2 = fix cost of the branch Ⅱ

R = ad valorem tariff rate

T_1 = income tax rate in the country where the branch Ⅰ is located

T_2 = income tax rate in the country where the branch Ⅱ is located

According to the Table 1, the profit of the MNE is

$$\Pi = [(P_t-C_1)\,Q-F_1](1-T_1)+[(P-P_t-C_2)Q-F_2-QP_tR](1-T_2)$$

Set P_t as the independent variable of Π , then

$$\Pi_1=Q(T_2-T_1+RT_2-R)P_t-(1-T_1)(QC_1+F_1)+(1-T_2)[QP-QC_2-F_2] \quad ①$$

Besides, transfer price will influence the gain or loss of the two branches. Once the branches suffer a loss, they do not need to pay income tax. Then the profit function will change as the following:

(1) If branch Ⅰ suffers a loss because of a low transfer price,

$$PBT = (P_t-C_1)Q-F_1\leq 0$$

Now T_1=0. After-tax profits will be

$$\Pi= [(P_t-C_1)\,Q-F_1] + [(P-P_t-C_2)\,Q-F_2-QP_tR]\,(1-T_2)$$

Total profits will be

$$\Pi_2= Q(T_2+RT_2-R)P_t+(1-T_2)(QP-QC_2-F_2)-(QC_1+F_1) \quad ②$$

(2) If branch Ⅱ suffers a loss because of a high transfer price,

$$PBT = (P-P_t-C_2)Q-F_2-QP_tR\leq 0$$

After-tax profits will be

$$\Pi_3=-Q(T_1+R)P_t+Q(P-C_2)-F_2-(1-T_1)(QC_1+F_1) \quad ③$$

From ①, ② and ③, we can get formulas of Π and P_t

$$\Pi=\begin{cases} Q(T_2+RT_2-R)P_t+(1-T_2)(QP-QC_2-F_2)-(QC_1+F_1), & P_t\leq C_1+F_1/Q \\ \Pi_1=Q(T_2-T_1+RT_2-R)P_t-(1-T_1)(QC_1+F_1)+(1-T_2)[QP-QC_2-F_2], & \text{when } C_1+F_1/Q<P_t<[(P-C_2)Q-F_2]/Q(1+R) \\ -Q(T_1+R)P_t+Q(P-C_2)-F_2-(1-T_1)(QC_1+F_1), & \text{when } P_t\geq[(P-C_2)Q-F_2]/Q(1+R) \end{cases}$$

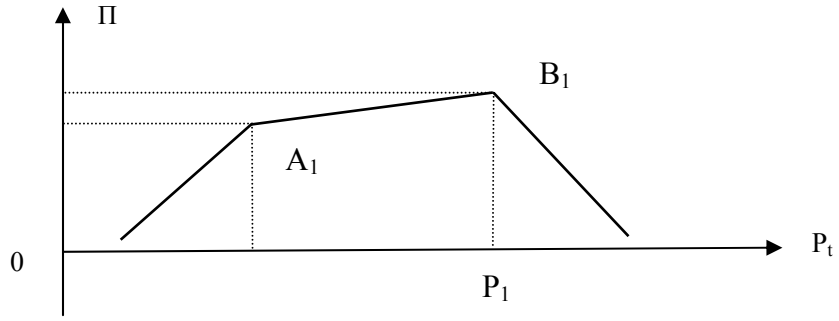

Figure 3a. The formula of MNEs' transfer price and total profits

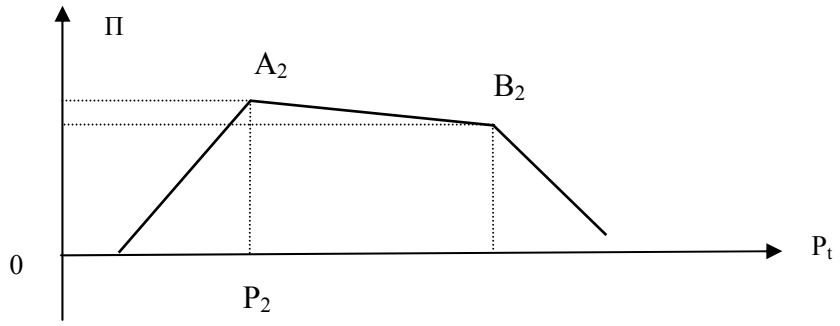

Figure 3b. The formula of MNEs' transfer price and total profits

According to the Figure 3, when all factors, except P_t, are fixed, the formulas of MNEs' transfer price and total profits consist of three segments. The slope of each segment is associated with the coefficients of P_t. When the slope of the middle segment is greater or smaller than 0, the relations of MNEs' transfer prices and total profits are respectively shown as Figure 3a and Figure 3b.

In the Figure 3a, the slope of segment A_1B_1 is greater than 0. That is

T_2-T_1+RT_2-R ＞0

So, we can draw

T_2 ＞(T_1+R)/(1+R)

In this case, the maximum value of the total profits occurs at point B_1, when

P_t=P_1 = [(P-C_2) Q-F_2] / Q (1 + R).

In the Figure 3b, the slope of segment A_2B_2 is less than 0. That is:

T_2-T_1+RT_2-R ＜0

Therefore, we can draw:

T_2 ＜(T_1+R)/(1+R)

In this case, the maximum value of the total profits occurs at point A_2, when

P_t=P_2=C_1+F_1 /Q

In conclusion, when setting the transfer prices, the MNE should consider the difference of the income tax rates between the two countries where the two branches are located. The relations between income tax rates and tariff should be taken into consideration as well. When T_2 is high enough, the MNE should set transfer price of P_1 as well. Profits should be transferred to branch I, which is located in a low-tax-rate area. Whereas, whenT2 is low, the MNE should set transfer price of P_2. And profits should be transferred to branch Ⅱ so as to maximize profits.

In addition to the difference of the tax rates, MNEs should consider the relations of costs, production and P_t. MNEs should set price P_t appropriately in order to achieve profit maximization.

5. Strategies of Transfer Pricing

In addition to the avoidance of tax, employing transfer price also helps MNEs to avoid the risk of politics and exchange rate, avoid the regulation on foreign exchange, reduce cost and allocate funds. It is also instrumental in the management of subsidiaries and profit maximization. The strategies of transfer pricing are as follows.

(1) Setting transfer price basing on commodities

For multinationals, the price of commodities accounts for a large proportion in the transfer price. Corporations set the transfer price of commodities higher or lower than the market price so as to transfer profits, allocate funds, avoid tax and etc (Qin & Wu, 2011).

It is supposed that A is the parent company of a MNE and B is its subsidiary. As is shown in the Figure 4, A, located

in the area with a high tax rate, sells commodities at a low transfer price to its subsidiary B, which is located in a low-tax-rate area. Then B can choose to sell them on the external market immediately; or B can sell these commodities to A again and A will purchase at a higher transfer price and later sell them all on the external market. During this process, in which commodities are sold by A to B at a low price then are bought back by A at a higher price, profits are redistributed between the parent company A and its subsidiary B, transferring from the previous to the latter. Finally, since the profit of the parent company is decreased and the subsidiary B is in the area with a low tax rate, the tax that this multinational should pay is reduced.

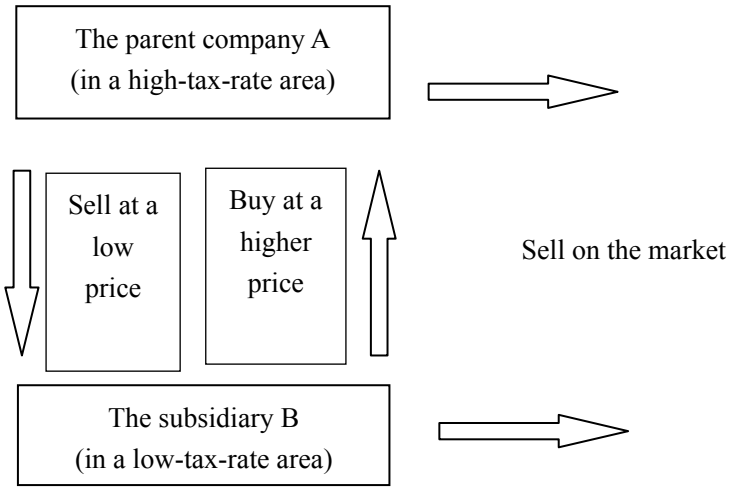

Figure 4. Setting transfer price basing on commodities

As is shown in the Figure 5 that a parent company C as well as its subsidiaries E and F are all in high-tax-rate areas. In order to avoid tax, the multinational can set up a commercial company D in a tax haven to receive the profits that the MNE transfers. When the actual business are sold from E to F, the commercial company D can purchase the business at a low price from E at first, reducing the revenue and profit of E, then sells them to F at a higher price, increasing the purchase cost of F and decreasing F's profit. By means of transfer pricing, profits of both E and F are transferred to D, which is located in a low-tax-rate area, and therefore, tax is avoided.

It is easy to set transfer price basing on commodities. However, it is also easy for governments to compare it with the market price and investigate the correlations between the buyers and sellers by auditing. If the transfer prices in the transactions do not correspond to the market prices, governments are likely to monitor the trades.

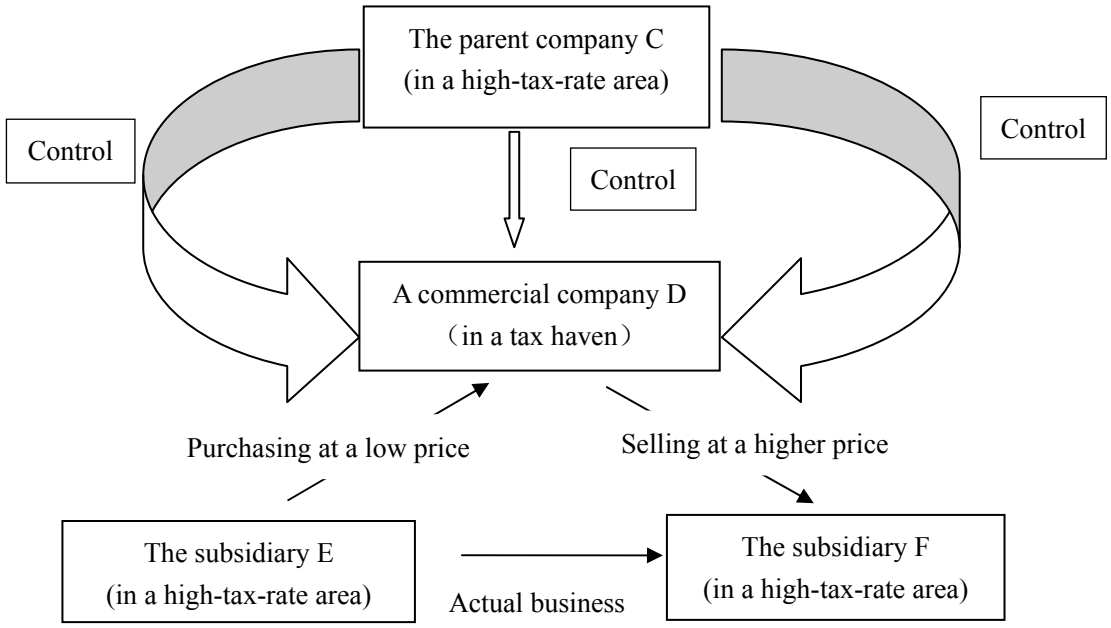

Figure 5. How to take advantage of a tax haven to avoid tax

(2) Setting transfer price by charging for services.

MNEs can transfer their funds through charging for the technical services as well as management services they offer. This method is also instrumental in transferring funds and avoiding tax. It is difficult to price the service accurately and there is no market price for reference. Hence it is hard for governments to monitor these covert transactions.

(3) Setting transfer price by charging the privileged users.

The charges can be paid separately or be paid included in other fees, such as the fees for equipment. It is difficult to know the exact market price of the royalties, such as patents, proprietary technologies and international intellectual property rights, let alone make comparison. As the case study of WR Corporation shown above, MNEs can fully employ this method without worrying governments' monitoring on transactions.

(4) Setting transfer price by employing the interest from in-company loans.

Loans are more flexible than shares when the parent company plans to invest in its subsidiaries and MNEs can avoid tax through the loans. When the subsidiaries repay the investment to the parent company, the dividends cannot be deducted as expense from tax, while the interest from in-company loans can be deducted. Moreover, the parent company can set its own interest rate depending on the situation so that tax can be reduced and funds can be transferred.

For example, in the Figure 6, the affiliated company G is going to invest 30 million U.S. dollars (USD) into the company H. The investment can be divided into two parts, one is the shares of 10 million USD and the other is the loans of 20 million USD. Replacing equity capital with loans is beneficial in two aspects. For one thing, G can take the interest from in-company loans as a tax shield to reduce tax. For another, H can increase its interest income. According to the analysis above, if the interest income of H, which is located in an area with low tax rate, is increased, the tax of G can be reduced. This method, which can be also seen as a way of thin capitalization, can control the profit of affiliated companies and reduce the tax that the multinational should pay.

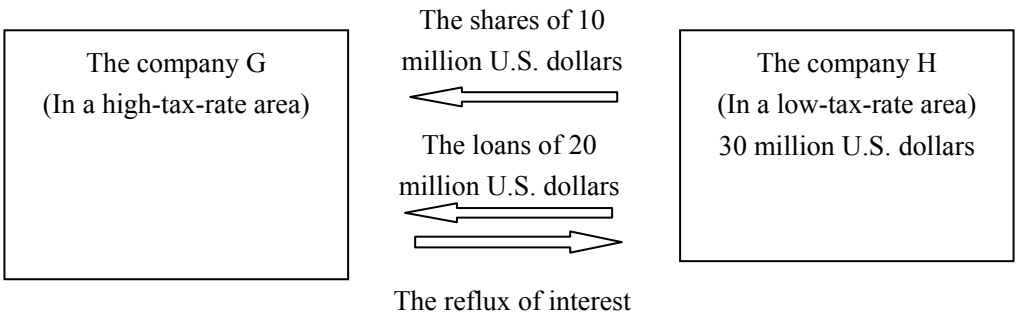

Figure 6. Transfer pricing through the interest from in-company loans

(5) Setting transfer price through rent.

By means of renting instead of purchasing equipment, MNEs can get rid of fund raising and thus reduce tax. Furthermore, rent can be a form of transfer price. For example, MNEs can make use of extremely low rent to allocate their resources, transferring their assets within the enterprise.

(6) How to avoid the risks of exchange rate, of investment and of politics by transfer pricing

First of all, MNEs can set internal transaction prices and take advance payment or deferred payment so as to avoid exchange rate risk. Since the floating exchange rate regime is adopted, the exchange rate has become increasingly fluctuating and MNEs are under a big risk of exchange rate. By in-company transaction prices, MNEs can transfer their funds from a country with devaluation to the other one with appreciating or stable currency, avoiding the potential losses brought by the floating exchange rate. Moreover, taking advance payment or deferred payment is also an effective way to decrease the losses brought by the currency devaluation or appreciation. For instance, a British international enterprise A has set up a subsidiary B in USA. Intermediate products from the headquarter A are transported to B for further processing and the final products will be sold on the U.S. market. Suppose that A sets the internal transfer price at 10 dollars for each piece of intermediate product and each piece of final product is worth of 20 dollars. With the quantity of 1 million pieces of products, the profit will be 10 [(20-10)×1] million dollars. If the headquarter forecasts that the US dollar will devalue 10 percent during the processing, then the subsidiary B is likely to suffer a loss of 1 (10×10%) million dollars in its profit. Hence the headquarter will definitely take measures in advance to avoid losses, such as setting the internal transfer price at 20 dollars, and as a result, the profit of B will be 0 [(20-20)×100]. By this way, profit is transferred from the subsidiary B to the headquarter A in advance and the losses brought by the devaluation of US dollar are also avoided

Secondly, it comes to the method of avoiding the regulation on foreign exchange. Nowadays, in order to maintain the balance of international payment, some countries implement regulation on foreign exchange, limiting the time and the amount of funds remitted abroad by the foreign companies. As a result, MNEs may have problems in remitting funds. Multinationals can resolve the problems by adopting flexible transfer prices so that MNEs can remit its profit from its subsidiaries to the parent company during transactions and avoid the regulation on foreign exchange in the host country.

In the end, it is the method of avoiding political risk. For instance, if a subsidiary is located in a country with political risks, such as unrest and changeable policies, the MNE can set a high internal transfer price for the commodities that are sold to the subsidiary. When the subsidiary is doing transaction with other affiliated companies, the former can set a low transfer price for the commodities. Moreover, the headquarter can also charge the subsidiary high fees for management services and technical services so that the MNE can withdraw the investment in the subsidiary, avoiding the losses brought by the political risks.

6. Discussion and Conclusion

It is reasonable and legal that MNEs employ transfer price to optimize resource allocation or to avoid political risk and the regulation on foreign exchange. However, acts that MNEs do not pay reasonable tax, which is one of their obligations, are likely to violate laws, moral and ethics.

It was reported by the Xinhua Net (2014) that the registered capital of Microsoft Corporation was up to 20 million

USD when it established its Chinese affiliate as a sole proprietorship in Beijing in 1995. Although Microsoft is a powerful MNE in the world, it is odd that its affiliate in China has gained hardly any profit since its establishments. It is also shown in its financial statements that except meager profit in a few years, it has always been in a loss, with an accumulated loss of more than 2 billion RMB in 6 years. Nevertheless, the average profit rate of the IT field in Beijing is over 12 percent, while that of Microsoft's Beijing affiliate is only minus 18 percent. This abnormal phenomenon has raised the concern of the tax authority of China, who investigated the tax avoidance of the Chinese affiliate. According to the investigation, every year the subsidiary of Microsoft in China pays more than half of its profit to the parent company in USA as royalty payment. After getting large amount of proof, the tax authority of China pointed out the unreasonableness of this acts, which were finally admitted by the Microsoft Corporation in USA. In 2014, the subsidiary of Microsoft in China compensated for tax alone with interest of total 840 million RMB to the tax authority of China, which becomes the first anti-avoidance case in China.

In general, it is a violation of laws and corporate ethics to abuse transfer price to avoid tax. Before employing transfer price, MNEs are supposed to take it seriously, launch necessary ethics review and make legal decisions.

Future research can focus on two aspects. One is the measures that governments should take to improve anti-avoidance rules and to strengthen worldwide cooperation, countering wrongful acts. The other is what MNEs are supposed to do to increase their senses of responsibility, pursuing not only profit but also social benefits.

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