A REVIEW OF TRANSFER PRICING: FROM DOMESTIC TO INTERNATIONAL TRANSFER PRICING[1]

Nguyen Thi Xuan Trang
The University of Danang, University of Economics
71 Ngu Hanh Son Street, Ngu Hanh Son District,
Danang City, Vietnam.
Email: trangntx@due.edu.vn

ABSTRACT

Perhaps transfer pricing has started receiving attention of several researchers since the year of 1955 such as studies of Cook (1955), Dean (1955) or Hirshleifer (1956). This paper can be considered as a review in economic literature on the importance together with objectives of transfer pricing, on a general rule for setting transfer prices, on how to establish three main types of transfer prices, and on international aspects of transfer pricing. Additionally, some empirical researches on transfer-pricing practice concerning objectives, methods and determinants will be presented. This paper is expected to become a useful reference for practical accountants in Vietnam when techniques of the advanced management accounting system seem to be not popular in this country.

Keywords: Domestic transfer pricing, international transfer pricing, market-based transfer price, cost-based transfer price, negotiated transfer price

Introduction

Basically, transfer price can be defined as the price that one segment of an organization sets to sell products or services to another segment of the same organization (Cook, 1955, Dean, 1955; Hirshleifer, 1956; Garrison et al., 2003 & Horngren et al., 2014).

McAulay & Tomkins (1992) summarized four sets of arguments to prove purposes of transfer pricing. The first argument is functional necessity. Transfer pricing was ascertained to be really important to firms simulating a divisionalized profit center structure as well as to multinational companies. Secondly, according to economic arguments, resources must be allocated to divisions efficiently thanks to transfer pricing. Thirdly, the organizational argument suggested benefits of transfer pricing in boosting integration and differentiation in divisionalized corporations. Lastly, strategic arguments supported the mutual interaction between strategies and transfer pricing policies that might represent as the relationship between strategic formulation and strategic implementation.

Although the importance of transfer pricing was recognized since the 1990s, the adoption rate of this technique in Vietnam was not too high in 2003 (at 51.9 percent), and during 6 years from 2003 to 2009, this rate increased by only 4.5 percent (Doan Ngoc Phi Anh et al., 2011). The less popularity of transfer pricing technique in Vietnam motivated the author to review previous researches on most essential aspects related to this method.

Firstly, this paper will summarize theoretical aspects of transfer prices (objectives, a general rule for setting, specific formulation of three main types, together with its international aspects). Then, some empirical researches on transfer-pricing practice will be presented.

Literature review

1. Objectives which transfer prices should meet

Transfer pricing plays an important role in a decentralized organization where autonomy is granted to each segment manager because in this organization, there may be dealings in products or services among segments. For example, in a firm operating in the oil industry, there may be dealings between the petroleum refining division, where produces gasoline, and the retail sales division, where buys gasoline. In each transaction, the transfer price is recorded as sales revenue to the selling segment but a cost to the buying segment; and the profit of each segment will be affected by a change in the transfer price while the whole profit of the firm can be unchanged. However, while the producing segments prefer high transfer prices, the transfer prices are expected to be as low as possible in the acquiring segments; so the challenge is how to design a transfer pricing policy that not only

[1] An earlier version of this paper was appeared in an International Conference Proceeding "Management Accounting – International Experiences and Current Situations in Vietnam" organized in Hanoi, Vietnam on 23rd August 2016

motivates segment managers to act towards the best interests of the company as a whole, but also minimizes the costs of occasional dysfunctional transfer decisions (Garrison et al., 2003 & Horngren et al., 2014).

Lucey (1991) suggested three objectives that transfer prices should fulfill. The first objective is goal congruence. It means that transfer prices should be set so that they can encourage decisions of the segment managers not only towards maximizing profitability of the respective segments, but also to be consistent with the objectives of the whole company in order to improve profitability for the company. Secondly, transfer prices should be considered as indicators to evaluate managerial performance, the contribution of the division to the performance of the whole organization, or the worth of the division in business environment. In addition, setting transfer prices should not affect the maximum divisional autonomy so that the organization could maintain benefits of decentralization (Lucey, 1991). However, Lucey (1991) noted that it would be extremely difficult for companies to establish transfer prices satisfying all above three objectives. The most important thing was that managers could use these objectives as a reference in establishing transfer prices.

2. A general rule for transfer pricing

Although there is no an optimal transfer price that satisfies all suggested objectives, Horngren et al. (2014) proposed a general rule for transfer pricing as a good benchmark for guidance. Specifically,

Transfer price = Outlay cost + Opportunity cost

In this formula, outlay cost is the amount of money the producing segment has to pay to produce the product or service, and "opportunity cost is the contribution to profit that the producing segment forgoes by transferring the item internally" (Horngren et al., 2014). This rule helps transfer-pricing system meet the first objective (*goal congruence*) because it might satisfy requirements from all three viewpoints of the producing division, the buying division, and the company as a whole. Let's assume that the transfer price in above formula is equal to X. While the producing division will accept X as the minimum transfer price, the highest transfer price will be acceptable to the buying division when it is the lesser of two values, *the difference between the selling price to final customers and other costs the division needs to cover to finish and sell the item* and *the cost charged by an outside supplier*. In the meanwhile, the transfer decision will become beneficial to the company when the total costs for producing the item internally are less than its value, and costs the producing division incurred are less than the selling price of the item from an outside supplier. Because X meets all above conditions, X can provide the similarities in best decisions between divisions and the company when the outside supplier price is less or greater than X (Table 1).

Table 1: Effects of Transfer Price (assume with the value of X) on Decisions

Outside Supplier Price	Best Decision for Division	Best Decision for Company
Less than X	Do not transfer – buying division rejects transfer because buying internally will reduce its profits	Do not transfer – buy from outside supplier because it is cheaper for the company as a whole
Greater than X	If value to buying division is greater than X: Transfer at X – both selling and buying divisions benefit If value to buying division is less than X: do not transfer – buying division rejects transfer	Transfer – cost of internal production is less than cost of buying externally Do not transfer – cost of producing internally is greater than the value of products to the company

(Source: Horngren et al., 2014)

3. How are transfer prices set?

There are three common types of transfer prices, namely *market-based transfer prices*, *cost-based transfer prices* (including variable cost–based transfer prices and full cost–based ones), and *negotiated transfer prices*.

3.1 Market-based transfer prices

When there is an *intermediate market* for the transferred product or service, market price should be used to determine the transfer price. Garrison et al. (2003) defined intermediate market as "a market in which the product or service is sold in its present form to outside customers". More specifically, Horngren et al. (2014) suggested two situations for calculating the transfer price based on the market price. The first situation is that the producing division can sell its products to external customers without incurring any marketing or delivery costs. In this case, the transfer price should be equal to the market price because this allows managers from both producing and buying divisions to maximize the profitability of each division. Thanks to that, goal congruence in the organization can be achieved. If the transfer price is less than the market price, the profit of producing division will reduce, or if the transfer price is greater than the market price, the buying division will purchase products from external suppliers with the lower price (at market price). The second situation is that the producing division has to incur some marketing or delivery costs when selling externally. At this time, the transfer price should be equal to the market price after deducting the marketing and shipping costs when selling to outside customers. This price was called as *market-price-minus transfer price* (Horngren et al., 2014). The market-price-minus transfer price is expected to drive best decisions from each division towards the best interests of the company as a whole.

3.2 Cost-based transfer prices

Cost-based transfer prices are generally applied when market prices do not exist. Some firms transfer products or services internally at variable costs whereas others transfer at full cost or full cost plus profit (Horngren et al., 2014).

Case 1: Variable cost–based transfer prices

Transfer price = Outlay cost + Opportunity cost
= Variable cost + 0

In the first case, outlay cost is approximately equal to variable cost, and opportunity cost is assumed to be zero because it is supposed that the producing division had excess capacity.

Case 2: Full cost–based transfer prices or Full cost plus profit makeup–based transfer prices
Transfer price = Outlay cost + Opportunity cost
= Variable cost + Allocation of fixed cost *or* Allocation of fixed cost plus profit makeup

It can be seen that in the second case, variable cost is also outlay cost, but opportunity cost is assumed to be an allocation of fixed cost *or* an allocation of fixed cost plus profit makeup.

The approach of cost-based transfer prices is easy to understand and convenient to use. However, it still suffers some disadvantages as it easily results in *dysfunctional decisions* that conflict with organizational goals (Horngren et al., 2014). For instance, in the first case, if the producing segment has positive opportunity costs because of limited capacity, it will not agree to transfer internally so that it can pursue alternative opportunities that might decline the profit of the entire company, or it will be forced to conduct internal trade transactions by top management, but this fact violates segment autonomy. Similarly, in the second case, dysfunctional decisions may happen when positive opportunity costs are significantly different from the allocation of fixed costs or the total of fixed-cost allocation and profit makeup. Therefore, the main disadvantage of transfers at cost is that one of two objectives (goal congruence due to dysfunctional decisions or division autonomy) may be not achieved. The important thing to managers is to select which acceptable drawback is or seek another alternative approach, like negotiated transfer prices.

3.3 Negotiated transfer prices

Garrison et al. (2003) identified a negotiated transfer price as a transfer price with the agreement between the selling and purchasing divisions. They explored that this approach can help to preserve the division autonomy that might lead to benefits of decentralization. Furthermore, because segment managers have more information about potential costs and gains from transferring internally, open negotiation will permit them to make optimal decisions for their own divisions as well as to respond to changeable market conditions flexibly (Horngren et al., 2014). Garrison et al. (2003) and Horngren et al. (2014) utilized specific data to illustrate how to determine the range of acceptable transfer prices that makes an increase in the profits of both participating divisions. Basically, transfer prices through negotiation will be in the range between the minimum transfer price the selling division is willing to accept and the maximum transfer price the purchasing division is willing to pay.
Minimum transfer price the selling division is willing to accept ≤ Transfer prices ≤ Maximum transfer price the purchasing division is willing to pay

In particular, there may be two following situations.

- First situation: No outside supplier offers products at a price below the selling price to external customers after deducting additional costs that the buying division needs to incur in making final products
Range of acceptable transfer prices:
(Outlay costs and opportunity costs that the selling division incurred) ≤ Transfer prices ≤ (Selling price – Additional cost that the buying division needs to incur in making final products)

- Second situation: There are outside suppliers who offer products at prices below the difference between the selling price to external customers and the additional costs that the buying division has to incur in making final products.
Range of acceptable transfer prices:

(Outlay costs and opportunity costs that the selling division incurred) ≤ Transfer prices ≤ Cost of buying products from outside suppliers

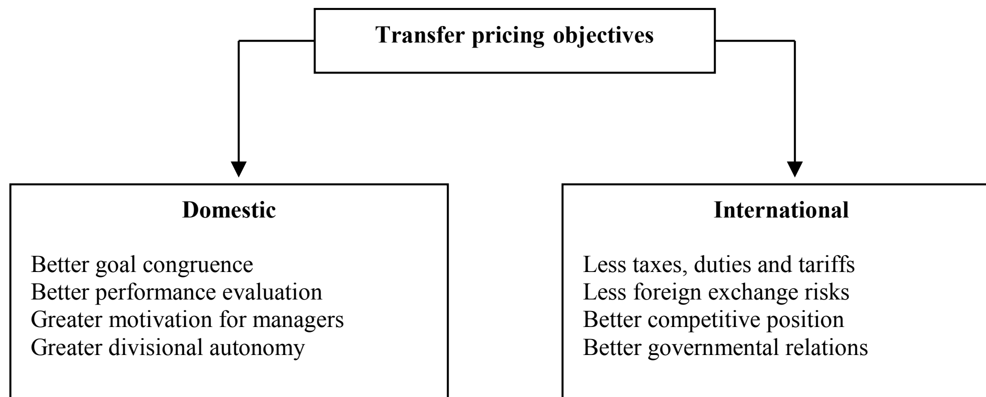
To sum up, although this approach has its drawback as negotiating costs time and effort of both segment managers and top managers, it will be an effective way for companies that wish to encourage decentralization and are being supervised by well-trained and informed segment managers.

4. International aspects of transfer pricing

International transfer pricing was identified as "the pricing of goods and services transferred between a company's domestic divisions and foreign subsidiaries or among those foreign subsidiaries themselves" (Tang & Chan, 1979). Main objectives of transfer pricing between in a national company and in a multinational corporation are totally dissimilar. While domestic transfer pricing emphasizes on goal congruence, performance evaluation, motivation for managers, and divisional autonomy, international transfer pricing finds out how to minimize worldwide income taxes, import duties, tariffs, and foreign exchange

risks, or how to improve competitive positions as well as relationships among governments (Figure 1). For example, in order to minimize income taxes, a high international transfer price should be set when a division in a low-income-tax-rate country transfers produced items to another division in a high-income-tax-rate country.

Figure 1: Differences in objectives between domestic transfer pricing and international transfer pricing



(Source: Garrison et al., 2003)

5. Empirical researches on transfer-pricing practice

5.1 Transfer pricing objectives in practice

In reality, Terzioglu & Inglis (2011) realized that there might be 20 various transfer pricing objectives after they reviewed previous researches from 1979 to 2008 in both manufacturing and service companies using domestic or international transfer pricing (Table 2).

Table 2: Domestic and international transfer pricing objectives

Transfer pricing objective	Type of transfer pricing
1. Ease of understanding	Domestic / International
2. Optimal pricing	Domestic
3. Enhancing goal congruence	Domestic / International
4. Divisional evaluation	Domestic / International
5. Managerial motivation	Domestic / International
6. Preserving divisional autonomy	Domestic / International
7. Communicating information that results in desirable decision making by managers	International
8. Profit maximization	Domestic / International
9. Cost of administration	International
10. Evaluation of divisional manager's performance	Domestic / International
11. Moving profits between divisions	International
12. Fairness and neutrality	Domestic
13. Equitable performance evaluation of managers	Domestic / International
14. Acceptability to branch managers	Domestic
15. Determination of profit-related pay for branch managers	Domestic
16. Maintain competitive position	International
17. Minimization of overall corporate taxes	International
18. Compliance with tax regulations	Domestic / International
19. Managing tax burden and related objectives	International
20. Increasing overall corporate sales	International

(Source: Based on Terzioglu & Inglis, 2011)

The important level of each objective was evaluated unlikely in specific circumstances. For example, the ranking of transfer pricing objectives according to importance in the research of Oyelere & Turner (2000) was different from the study of Terzioglu & Inglis (2011) when Oyelere & Turner (2000) based on a sample of UK-based banks and building societies whereas Terzioglu & Inglis (2011) conducted a survey of the domestic transfer pricing practices from 80 large Australian service organizations. Table 3 shows this dissimilarity cited from the exploration of Terzioglu & Inglis (2011).

Table 3: Difference in ranking transfer pricing between two researches (Terzioglu & Inglis, 2011 and Oyelere & Turner, 2000)

Objectives of Transfer Pricing	Ranking by respondents in the survey of Terzioglu & Inglis (2011)	Ranking by respondents in the survey of Oyelere & Turner (2000)

Ease of understanding	1	5
Optimal pricing	2	
Goal congruence	3	1
Divisional evaluation	4	4
Managerial motivation	5	6
Greater divisional autonomy	6	10
Fairness and neutrality		2
Equitable performance evaluation of managers		3
Evaluation of divisional manager's performance		7
Acceptability to branch managers		8
Determination of profit-related pay for branch managers		9

Importance was ranked with 1 being the most important

(Source: Terzioglu & Inglis, 2011)

5.2 Transfer pricing methods in practice

In terms of transfer pricing methods, after reviewing other studies in a range of nations such as the USA, the UK, France, Germany and Japan, Terzioglu & Inglis (2011) recognized that cost-based transfer pricing was the most popular method that was followed by market-based and negotiation-based transfer pricing methods. This was also congruent with the results of their study in Australia (Table 4).

Table 4: Used Transfer Pricing Methods in Australian Service Organizations

Transfer pricing method	Percentage Used
Variable cost at standard	20%
Variable cost at actual	38%
Variable cost plus	23%
Full cost at standard	57%
Full cost at actual	39%
Full cost plus	51%
Market-price-based (current)	39%
Market-price-based (adjusted)	23%
Negotiated	21%
Other	9%

(Source: Terzioglu & Inglis, 2011)

5.3 Factors affect the choice of a transfer pricing method

In terms of local transfer pricing, Borkowski (1990) identified and analyzed the organizational and environmental variables affecting the selection of a transfer pricing method based on a sample of 168 responding firms in the United States. He/she found that five organizational variables including *company size, degree of conflict, firm objectives, manager participation in setting transfer price,* and *degree of decentralization* together with two environmental variables involving *existence of market price* and *industry* did affect the alternative of transfer pricing methods. In particular, large companies tended towards market price methods whereas firms with high conflict or more decentralized firms encouraged adopting the negotiation–based method in setting the transfer prices. In addition, firm objectives also impacted on the selection. The majority of companies with *ease of understanding* objective chose full cost-based approach while negotiated pricing was used to achieve *goal congruence*; but *evaluation* objective was essential to both market-based and negotiation-based transfer pricing. Furthermore, Borkowski (1990) explored that when setting transfer price, mechanical methods, such as the market-based and the full cost-based transfer pricing, required less decentralized participation of managers than the negotiate method did. Regarding to factors belonging to environment, if the market price did not exist, firms tended to apply full cost-based methods; however, if the market price existed, it was surprising that not all companies used the marketing price method as some companies replaced this method with the negotiation-based method or the full cost–based method. As regards industry type, the market price method was popular to *process firms* while full cost methods were used in most *metal/mining* and *manufacturing firms*.

Mentioning on international transfer pricing, Tang & Chan (1979) surveyed 76 American companies and 50 Japanese firms to find out the importance of 20 environmental variables in formulating their international transfer pricing policies. The interesting point was that large industrial corporations in both the United State and Japan rated the variable *Overall profit to the company* as the most important factor to their international transfer pricing. This was also supported in the research of Reese et al. (1989) when they reviewed preceding studies on transfer pricing in U.S. or Canadian multinational firms. They realized that most multinational companies in both countries called attention to *overall firm profit* goals in their transfer pricing policies.

Besides, Tang & Chan (1979) found that other three important variables consisting of *Competitive position of subsidiaries in foreign countries, Restrictions imposed by foreign countries on repatriation of profits or dividends,* and *Performance of foreign subsidiaries* were also attached great importance in both the U.S. and Japan. Nevertheless, there were five main differences between American and Japanese international transfer pricing practices. Firstly, the importance of *the interests of local partners of foreign subsidiaries* in Japanese companies was rated as being higher than in American ones because large corporations in Japan might have more foreign subsidiaries in South Korea, Taiwan and other developing nations. Secondly,

Japanese firms worried more about *devaluation and revaluation of foreign currencies* or *Antidumping Legislation* than American ones in setting international transfer pricing policies. On the contrary, U.S. firms placed greater emphasis on *import restrictions* than firms in Japan because U.S. foreign subsidiaries that were full-owned or majority-owed by the U.S. parent corporations might receive less support from foreign governments, and many their products competed with local products in foreign countries. The final main difference was *income tax considerations* that American companies paid greater attention to because their profits might be affected more significantly by differentials in income tax rates and income tax legislation among countries (Tang & Chan, 1979).

Conclusion

In conclusion, the paper concentrated on reviewing previous literatures about transfer pricing. Because transfer pricing is a traditional management accounting technique, it is necessary to review basic and initial arguments on this technique. Therefore most references used in this paper were published in the 20th century. It is hopefully to be a useful reference for accountants in Vietnam to be able to apply this technique more and more popular in practice.

After reviewing, the paper found that transfer pricing plays a critical role not only in decentralized organizations but also in multinational corporations. Its importance was rated differently to each suggested objective and to each country. An interesting exploration was that *Overall profit to the company* was rated as the most important objective to international transfer pricing in multinational organizations in most developed countries such as the U.S., Japan and Canada. Moreover, it was realized that choosing an appropriate transfer pricing method (Market-based, Cost-based or Negotiated transfer pricing) would depend on various organizational and environmental factors. Nevertheless, cost-based transfer pricing was proved to be the most popular method in the U.S., the UK, France, Germany, Japan and Australia because of its understandable ability and convenience in applying.

It can be seen that above results were explored in only developed countries. Thus, this will be a huge gap attracting further empirical researches in developing countries. This paper calls for empirical researches not only on local transfer pricing, but also international transfer pricing in developing nations such as Malaysia, Indonesia or Vietnam. Regarding local transfer pricing, the hypothesis may be testing the popularity of cost-based transfer pricing. In terms of international transfer pricing, it will be necessary to test whether *Overall profit to the company* still keeps the first rank or not when rating the importance of various objectives in case of international transfer pricing in multinational companies in developing nations.

References

Borkowski, S. C. (1990). Environmental and Organizational Factors Affecting Transfer Pricing: A Survey. *Journal of Management Accounting Research*, 2, 78-99.

Cook, P. W. (1955). Decentralization and the Transfer Price Problem. *The Journal of Business*, 28, 2, 87-94.

Dean, J. (1955). Decentralization and Intracompany Pricing. *Harvard Business Review*, 33, 4, 65-74.

Doan Ngoc Phi Anh, Duc-Tho Nguyen & Lokman Mia (2011). Western management accounting practices in Vietnamese enterprises: Adoption and perceived benefits. *Pacific Accounting Review*, 23, 2, 142-164.

Garrison, R. H., Noreen, E. W. & Seal, W. (2003). *Management Accounting (European Edition),* McGraw – Hill Education, Berkshire.

Hirshleifer (1956). On the economics of transfer pricing. *The Journal of Business,* 29, 3, 172-184.

Horngren, C. T., Sundem, G. L., Burgstahler, D. & Schatzberg, J (2014). *Introduction to Management Accounting,* 6th ed., Pearson Education Limited, England.

Lucey, T. (1991). *Management Accounting*, 2nd ed., DP Publications Ltd, London.

McAulay, L. & Tomkins, C. R. (1992). A Review of the Contemporary Transfer Pricing Literature with Recommendations for Future Research. *British Journal of Management*, 3, 101-122.

Oyelere, P. B. & Turner, J. D. (2000). A survey of transfer pricing practices in UK banks and building societies. *European Business Review,* 12, 2, 93-99.

Reese, R. A., Henneberry, S. R. & Russell, J. R. (1989). Transfer Pricing in Multinational Firms: A Review of the Literature. *Agribusiness*, 5, 2, 121-137.

Tang, R. Y. W. & Chan, K. H. (1979). Environmental Variables of International Transfer Pricing: A Japan-United States Comparison. *Abacus,* 15, 1, 3-12.

Terzioglu, B. & Inglis, R. (2011). Transfer Pricing in Australian Service Organizations. *Asia-Pacific Management Accounting Journal,* 6, 2, 85-106.