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Journal of Accounting Education

journal homepage: www.elsevier.com/locate/jaccedu

Educational Case

International transfer pricing in multinational enterprises

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ARTICLE INFO

Article history:

Received 16 July 2015

Received in revised form 22 February 2017

Accepted 24 February 2017

Available online xxx

Keywords:

International transfer pricing

Multinational enterprise

OECD Transfer Pricing Guidelines

Management accounting

Responsibility accounting

ABSTRACT

Current curricula in management accounting stress the role of transfer pricing as a tool for measuring the performance of responsibility centers and their managers. Recently, however, multinational enterprises (MNEs) have felt increasing pressure to comply with transfer pricing tax regulation. As a result, tax risk management considerations play a key role in the transfer pricing decisions of MNEs today. This case seeks to provide you with examples of the core principles of international transfer pricing, as well as to allow you to discuss international transfer pricing in the context of responsibility accounting. Specifically, the case study is a fictional MNE, allowing you to apply the OECD Guidelines in practice to cross-border transfers within an MNE, and to discuss the implications of tax-based transfer pricing for responsibility accounting. As a basis for working on the case study, the Appendix provides an overview of the 'OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations' (OECD, 2010), hereafter OECD Guidelines, upon which most transfer pricing regulations worldwide are based. It includes an introduction to the arm's length principle, OECD-accepted transfer pricing methods, and comparability analysis procedures for identifying comparable transactions between independent parties. The case study assumes that you are familiar with responsibility accounting and transfer pricing as discussed by standard management accounting textbooks.

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1. Introduction

Transfer pricing is useful for a variety of management accounting and control issues, including the performance measurement of responsibility centers and their managers. Management accountants and controllers have traditionally been involved in determining suitable transfer prices for such non-tax purposes. However, for intra-group cross-border transactions in multinational enterprises (MNEs), tax compliance has become a dominant concern attracting more attention from MNE management than the traditional management accounting objectives of transfer pricing.¹ MNEs' emphasis on tax compliance stems from an increase in the scope and complexity of transfer pricing tax regulations. Generally, international transfer pricing is subject to increased attention from MNE stakeholders, including policy makers, tax authorities and trade institutions such as the Organisation for Economic Co-operation and Development (OECD). This includes OECD's comprehensive action plan (OECD, 2013) set out as part of its project on base erosion and profit shifting (BEPS). The BEPS project seeks to prevent alleged tax avoidance in MNEs through various tax schemes including international transfer pricing as well as to reduce inefficiencies in

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E-mail addresses: cro.acc@cbs.dk (C. Plesner Rossing), martine.cools@kuleuven.be (M. Cools), cr.acc@cbs.dk (C. Rohde).¹ According to the Ernst & Young 2013 survey (Ernst & Young, 2013, p. 15), the highest priorities in transfer pricing strategies are 'Tax risk management' (66%), 'Effective Tax Rate optimization' (11%) and 'Alignment with management/operational objectives' (14%).

international tax rules and arbitration mechanisms. Some of the BEPS reports (OECD, 2015) relate to the introduction of simplified transfer pricing mechanisms for administrative services as well as an introduction to valuation techniques for intangibles used in intra-group transactions. In addition, a new comprehensive documentation package is put forward, requiring additional information on value creation throughout the MNE value chain as well as a country-by-country report on specific measures of economic activity. Hence, international transfer pricing continues to be on top of the international tax agenda.

Most MNEs choose to apply a single set of transfer prices for both tax reporting and internal managerial purposes. However, even when MNEs decide to decouple their transfer prices, i.e., to use different transfer prices for managerial purposes and for tax reporting, such a managerial transfer price is usually not independent from the tax-based transfer price and the different corporate income tax rates that characterize the various international locations (Hiemann & Reichelstein, 2012). Hence, understanding the basics of tax-based transfer pricing is relevant regardless of whether one or two sets of books is applied.

Although current management accounting textbooks mention the increased importance of the tax perspective of international transfer pricing, they provide few operational instructions as to how MNEs can determine tax-compliant transfer prices and how such transfer prices interact with objectives and concepts in the responsibility accounting domain.² In this context, we find it highly relevant that management accounting students preparing for professional careers in globalized organizations acquire competencies with respect to international transfer pricing. In addition, management accounting students need to understand how international transfer pricing regulations interact with responsibility accounting. Therefore, we also include a task on responsibility accounting and performance measurement because this issue in practice is perceived to be the most critical non-tax issue of transfer pricing.³

2. OECD guidelines

The OECD Guidelines are based on the arm's length principle, which states that MNEs in their intra-group trade must act as if they are independent companies operating on market terms. The Guidelines provide MNEs and tax authorities with an operational manual for applying the arm's length principle, requiring MNE group companies to use transfer prices that are in accordance with the prices *that independent parties would have applied in comparable circumstances*. Hence, the arm's length principle works on the basis of *comparability* between intra-group transactions and comparable market transactions. The Appendix provides an overview of the 'OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations' (OECD, 2010), hereafter OECD Guidelines, upon which most transfer pricing regulations worldwide are based. This includes an introduction to the arm's length principle, OECD-accepted transfer pricing methods, and comparability analysis procedures for identifying comparable transactions between independent parties.

3. Case study

3.1. Case information

UH Group is an MNE active in the business of manufacturing and distributing smartphones. The group's new Chief Financial Officer (CFO), Gregg Clapper, was recently headhunted by UH Group from a similar position at another company. He has worked for a long time in the tech industry and has the reputation of being knowledgeable in management accounting. At a recent CFO network meeting, Gregg Clapper learned that a well-known MNE had incurred some major adjustments to its international transfer prices because the tax authorities had found them to be not in accordance with regulatory requirements. Someone at the meeting had mentioned something about 'OECD Guidelines' and talked about the importance of performing a 'comparability analysis' to determine 'arm's length transfer prices', but Mr. Clapper was not familiar with these concepts. On the train back to headquarters in Dublin, Ireland, he wondered what he could do to ensure UH Group's international transfer prices would be set at arm's length. Additionally, he wondered how the OECD Guidelines would potentially impact UH Group's subsidiaries, particularly in terms of what type of responsibility center he should classify each subsidiary as and what performance measures would be suitable to apply to each of them. Upon arrival at the headquarters, Mr. Clapper decided to hire an accounting firm with expertise in international transfer pricing. You work for this accounting firm, and your manager involves you in this case. To start, this manager asks you to retrieve some basic structural facts about UH Group. You contact Gregg Clapper, who provides you with the following information a few days later:

P is the parent company of UH Group and is based in Ireland. P owns two companies: a manufacturing company M, located in Germany, and a distributor D, located in France. M manufactures a smartphone called Aloha, which has unique product features that differentiate it from otherwise similar smartphones in the market. For example, it includes new and

² The research on the tax versus management control uses of international transfer pricing has produced both analytical studies (e.g. Baldenius, Melumad, & Reichelstein, 2004; Hiemann & Reichelstein, 2012) and case studies (Cools, Emmanuel, & Jorissen, 2008; Cools & Slagmulder, 2009; Plesner Rossing, 2013). These studies confirm the need for management accounting students to get more familiar with international transfer pricing from a tax perspective, based on the globally recognized OECD Guidelines.

³ We recognize that transfer pricing has many non-tax objectives: our experience from working intensively with transfer pricing in MNEs over the past ten years is that the performance measurement of responsibility center managers is the main issue sought to be balanced with the tax compliance objective. Hence, this paper focuses on these two central issues.

innovative software that allows the user to connect to various domestic hardware installments, e.g., heaters and lights, and manage these from a distance. Another feature allows the user to connect to a group of security cameras that the user has been authorized to access through an innovative easy-to-use log-in interface on the Aloha phone. Small business and home owners in particular have found this feature interesting, allowing the UH Group to charge significantly higher prices for Aloha on the market than otherwise similar smartphones.

UH's subsidiary M performs routine functions related to the manufacturing of the Aloha product. However, M performs no R&D functions related to the Aloha product because these are performed by the parent company P, who also owns the intangibles developed. Once M has produced the Aloha phones, they are sold to the parent company P, based on specific volume demands from P.

The contract between M and P states that M takes on the manufacturing risks linked to the manufacturing functions performed, e.g., the risk of price fluctuations in input factors (labor and materials), whereas product inventory risk and R&D-related risks are borne by P. With regards to assets, P owns all intangibles as well as the product inventory related to M's production of Aloha phones until they are resold to D. P also owns the manufacturing equipment used in the manufacturing of Aloha.

With regards to M's sales of Aloha phones, M does not have sales outside of UH Group and hence only sells to P. Moreover, market prices for comparable transactions between independent parties not part of UH Group as well as gross margins on comparable routine manufacturing functions performed by independent parties are not available. However, a commercial database study of *independent manufacturers'* net margin has been performed (Table 1).

Finally, M has full decision rights to choose the input mix, i.e., labor and materials. Moreover, M determines its own level of selling, general and administrative (SG&A) costs within a budget frame determined by P based on the expected production volume. Gregg Clapper plans to hold M responsible and to measure its performance based on the assigned decision rights.

UH's subsidiary D subsequently purchases Aloha phones from P and sells them to external retailers outside of UH Group. D performs routine distribution functions related to phone sales. However, P performs all functions related to brand development and also owns the intangibles, including the very strong Aloha brand.

The contract between D and P states that D assumes the inventory risk for the Aloha phones purchased from P in case the products cannot be re-sold to external retailers. As part of this, D assumes the market risk for the product, e.g., fluctuations in market demand.

P does not sell Aloha phones outside of UH Group and hence only sells to D. Moreover, market prices for comparable transactions between independent parties not part of UH Group, as well as gross margins on comparable routine distribution functions performed by independent parties, are not available. However, a commercial database study of independent *distributor's* net margins has been performed (Table 2).

D has full decision rights to choose the quantity of Aloha phones purchased from P, as well as the selling price charged to external retailers. D also has the full decision right to choose its own level of selling, general and administrative (SG&A) costs within a budget frame determined by P, based on the expected sales volume. Gregg Clapper plans to hold D responsible and measure its performance based on the assigned decision rights. Finally, Tables 3 and 4 provide financial information on the subsidiaries M and D.

3.2. Student requirements

You must assist UH Group's CFO, Gregg Clapper, with the following tasks related to international transfer pricing in UH Group. Answer questions 1–4 by using the conceptual material provided in the Appendix. The core idea of questions 1–4 is to apply the four steps in the comparability analysis presented in the Appendix, Section C. Answer question 5 based on your knowledge on responsibility accounting, particularly responsibility centers (profit/cost/revenue/investment centers) and the controllability principle. Specifically, you should determine what type of responsibility center M and D should be classified as and determine suitable performance measures for each of them, based on the assigned decision rights that you identify from the case information. Make sure to be specific in terms of the quantitative/qualitative performance measures you choose to apply.

- Q1.** Gregg Clapper needs a visual overview of UH's intra-group transactions. Illustrate the intra-group transactions within UH Group as well as the group companies involved.
- Q2.** Gregg Clapper wishes to perform a functional analysis. Create a table that outlines the functions performed, assets owned, and risks assumed for each company in UH Group (M, P, and D).
- Q3.** Based on the table developed in question 2 and the case information provided, which transfer pricing method would you recommend that Gregg Clapper applies to the intra-group transfers of product Aloha from M to P and from P to D?
- Q4.** Based on the method selected in question 3 as well as the accounting data and benchmark studies provided in Tables 1–4, calculate the unit transfer prices that Gregg Clapper should apply to the transfer of product Aloha from M to P and from P to D.
- Q5.** Given the decision rights assigned to M and D, what type of responsibility center should M and D be classified as, and what performance measures should Gregg Clapper consider applying to M and D, respectively?

Table 1

Net margins of independent manufacturers.

	A	B	C	D	E
	Database study: German manufacturer (M)				
Line #	Company #	Business activity	Location	Information retrieved from company website	Net margin (net profit/full-cost)
1	1	Manufacturing: electronics	India		2.00%
2	2	Manufacturing: electronics	France	Applies business strategy different from the UH Group	5.00%
3	3	Manufacturing: electronics	Germany		8.00%
4	4	Manufacturing: electronics	UK	Owens intangibles	18.00%

Table 2

Net margins of independent distributors.

	A	B	C	D	E
	Database study: French distributor (D)				
Line #	Company #	Business activity	Location	Information retrieved from company websites	Net margin (net profit/external sales)
1	1	Wholesale: electronics	France		4.00%
2	2	Wholesale: electronics	Germany	Applies business strategy different from the UH Group	10.00%
3	3	Wholesale: electronics	Taiwan		1.00%
4	4	Wholesale: electronics	Holland	Owens intangibles	18.00%

Table 3

Income statement for year X for UH Group's manufacturer (M).

	A	B
	Income statement (M)	
Line #	Product: Aloha	
1	Sales (units transferred from M to P)	\$35,000,000
2	Cost of goods sold	\$27,000,000
3	Gross profit	\$8,000,000
4	SG&A	\$6,000,000
5	Net profit	\$2,000,000
6	Total number of units transferred to P	100,000

Table 4

Income statement for year X for UH Group's distributor (D).

	A	B
	Income statement (D)	
Line #	Product: Aloha	
1	Sales	\$75,000,000
2	Cost of goods sold (units transferred from P to D)	\$65,000,000
3	Gross profit	\$10,000,000
4	SG&A	\$4,000,000
5	Net profit	\$6,000,000
6	Total number of units transferred from P	100,000

4. Teaching notes

This section explains the educational objectives of the UH Group case and provides guidance for instructors to implement the case in class. It also provides information regarding case efficacy.

4.1. Learning outcomes

The material provided in this case is based on the premise that students have studied the fundamentals of management accounting, including a standard textbook chapter on responsibility accounting. This case has two main objectives. First, we aim to develop students' analytical thinking skills as well as technical competences for applying the OECD Guidelines. Specifically, the Appendix provides insights into the fundamental requirements with which MNEs must comply when determining their transfer pricing policies. The case study guides students through the different steps of applying the OECD Guidelines using numerical information for a fictional MNE taxpayer (UH Group). Going through the preparatory readings in the Appendix and the case study materials and questions is a first step for preparing students to address relevant tax-based transfer pricing situations in their professional lives. Working on this case helps students to narrow the gap between the tax compliance pressure MNEs face in reality and the superficial treatment of the tax principles of transfer pricing in current accounting textbooks. Second, we seek to increase students' understanding of the managerial implications of transfer pricing. The case is positioned to add value for students once they have been introduced to responsibility accounting and domestic transfer pricing concepts. Most textbooks suggest that transfer pricing can be used for tax optimization or provide examples of transfer pricing cases that have attracted media attention due to alleged tax evasions. However, the texts provide limited guidance on the regulatory requirements and their implications for responsibility accounting and performance measurement.

The specific student learning objectives of the case are as follows:

- Ability to identify and analyze intra-group transactions subject to the arm's length principle
- Ability to select a relevant transfer pricing method, given the availability of market data
- Ability to perform a comparability analysis for calculating arm's length transfer prices
- Ability to understand the managerial accounting implications of international transfer pricing
- Development of students' analytical thinking skills

4.2. Implementation guidance

The case is recommended for use in a graduate level management or cost accounting class that uses in-depth cases. It allows instructors to expose students to international transfer pricing based on the globally recognized OECD framework adopted in most developed countries' transfer pricing regulations. Alternatively, this case can be useful in a course module focusing on individual topics in tax accounting and applied corporate taxation or as part of an MBA class where C-suite managers wish to understand international transfer pricing for the purpose of managing transfer pricing tax risks. Although most of the case study and questions do not require knowledge beyond basic cost and management accounting concepts, the final case question (question 5) requires that students are familiar with responsibility accounting and transfer pricing as discussed by standard management accounting textbooks. Instructors who wish to strictly expose students to the questions directly aimed at establishing arm's length transfer prices (questions 1–4) can still use this case and leave out question 5. However, we find that students of management accounting can benefit from understanding international transfer pricing in the context of responsibility accounting and performance measurement as well.

Below we outline two suggested options for implementing the case in class. Option one requires one in-class session, whereas option two⁴ requires two in-class sessions.⁵ Option one is an approach where students study the introduction to OECD Guidelines in the Appendix as homework; read the case study in Section 3; and develop answers to the five case study questions before coming to class. In class, an interactive discussion can take place where the instructor facilitates an open discussion to ensure that students understand the main reasoning behind the answers. Option two involves the instructor preparing one initial class session where the key concepts and examples from the Appendix are presented to students. The students are then asked to work on the case at home and develop answers to the five case questions. In class, an interactive discussion can take place where the instructor facilitates an open discussion to ensure that students understand the main reasoning behind the answers to the five questions. The instructor can require students' solutions to be either detailed notes or formal responses depending on the amount of homework the instructor wishes to assign. Alternatively, assigning one team to develop and present this case as one of a series would be beneficial. From experience, we recommend that students prepare suggested answers to the case questions in groups. Given that international transfer pricing is a topic to which most students of management accounting have not been previously exposed, working individually at home can be overwhelming. Hence, organizing small study groups of 2–4 students is recommended, regardless of whether option one or two is chosen.

We suggest that instructors allow students some time to prepare the material, e.g., one week, regardless of which of the two options is selected. There is quite a bit of theoretical material for students to grasp, and it is our experience that students benefit from having more than a few days to absorb this. Students will need a sufficient amount of time to ensure that their

⁴ Our experiences with teaching international transfer pricing relate to the structure of option two. However, some of these experiences go beyond one introductory session of the theoretical material, because certain issues beyond the basics of international transfer pricing are considered. These include specific details on the pricing of intra-group services, loans and guarantees, the use of commercial databases (ORBIS), advance pricing agreements, mutual agreement procedures, as well as the OECD Guidelines for transfer pricing documentation and country-by-country reporting not considered in this paper.

⁵ One in-class session should equal three hours.

responses are not superficial and take the details provided in the case study for UH Group and the relevant concepts from the Appendix into consideration to arrive at qualified, well-substantiated responses.

4.3. Efficacy

Two of the authors have successfully used a previous version of the case material in the classroom. One group of master-level students at KU Leuven was exposed to the case as part of a course on multinational accounting and control, focusing on management accounting and control in an international environment. This group had completed intermediate and advanced courses in management accounting and management control prior to being exposed to the case. This means that these students understood the role of transfer pricing in a purely domestic setting, before being exposed to the topic of tax-based transfer pricing in MNEs. Another group of students at Copenhagen Business School attended a transfer pricing elective course as part of a diploma degree program in business administration with an emphasis on financial and management accounting, and the group had completed intermediate courses in management accounting and financial reporting.

After completing the case study, the students filled in a voluntary survey. A five-point Likert-type scale was used in the survey, where 1 represented “Strongly Agree”, 2 represented “Agree”, 3 represented “Neither Agree nor Disagree”, 4 represented “Disagree” and 5 represented “Strongly Disagree.” Both groups of students responded that they had a better understanding of international transfer pricing and how to apply the OECD Guidelines than before working on the case. Table 5 presents survey data obtained on the final version of the case study introduced at Copenhagen Business School in September 2016.

In addition, direct assessment data and survey feedback were obtained on the final case study version. Written student responses to case questions reveal that the students did very well on the questions directly aimed at international transfer pricing concepts and techniques. Students also did a good job on question 5, particularly in terms of selecting what type of responsibility center M and D should be treated as based on the assigned decision rights. In terms of choosing relevant performance measures, students did a reasonable job, but in many cases they could have provided more specific details on the recommended performance measures. For example, one group of students suggested that the cost center (subsidiary M) ‘...should be measured on cost.’ This is too vague and to avoid this in future use of this case, we have emphasized in Section 3.2, ‘Student requirements’, that students should make sure to be specific in terms of the quantitative/qualitative performance measures they choose to recommend. Table 6 displays a summary of student performance.

4.4. Recommended solutions to case study questions⁶

Solutions are available, upon request, from Christian Plesner Rossing, E-mail: plesnerrossing@gmail.com, or Martine Cools, E-mail: martine.cools@kuleuven.be.

Acknowledgements

We are very grateful for the constructive feedback provided by Editor-in-Chief Natalie Churyk, an associate editor, and two anonymous reviewers on previous versions of this paper. We also appreciate comments provided by Peder Reuther, Patrick Cauwenbergh, Anders A. L. Rodenberg, Jeppe Christoffersen, Kip Krumwiede, and participants at the 2014 Management Accounting Section Research and Case Conference (Orlando, FL).

Appendix A. Comparability factors

The OECD Guidelines emphasize five comparability factors for identifying market transactions that can be considered comparable with intra-group transactions: (1) the characteristics of the property or service, (2) functional analysis, (3) contractual terms, (4) economic circumstances, and (5) business strategies.

A.1. Characteristics of products or services

Differences in the characteristics of products or services impact prices in the open market. Hence, the characteristics of the product or service being transferred between MNE group companies should be determined to assess if they are comparable to the market transaction. Specific characteristics to consider include quality and product features.

A.2. Functional analysis

In an open market, prices are influenced by the functions performed by each party of a transaction, the risk they assume in regards to the transaction, and the assets they contribute. For example, an independent seller will argue for a higher price the more functions are performed, assets owned, and risks assumed. Examples of main functions are research & develop-

⁶ All figures and tables included in this paper can be obtained from the corresponding author upon request.

Table 5
Student perceptions of UH Group case study.

Question #	Learning objectives survey questions	N	Mean	Median	Std dev	Mean <i>t</i> -test (h0 = 3)	Different from neutral (median = 3) Sign test
1	My ability to identify intra-group transactions subject to the arm's-length standard was improved by working on this case	59	1.90	2	0.5733	14.76 < 0.001	52 < 0.001
2	The UH Group case helped me learn how to identify relevant comparability factors for the purpose of setting/testing transfer prices	59	1.76	2	0.6724	14.13 < 0.001	54 < 0.001
3	The UH Group has made me better able to identify relevant transfer pricing methods for specific intra-group business situations	59	1.90	2	0.6813	12.42 < 0.001	48 < 0.001
4	After working through the UH Group case, I am better able to apply transfer pricing methods to specific accounting and business data	59	1.81	2	0.7005	13.01 < 0.001	52 < 0.001
5	The UH Group case has increased my ability to evaluate potential comparables from a commercial database study	59	1.95	2	0.7231	11.16 < 0.001	48 < 0.001
6	I found the UH Group case interesting	59	1.83	2	0.6926	12.97 < 0.001	52 < 0.001
7	I believe that international transfer pricing is a timely and important topic for accountants	59	1.66	2	0.7504	13.71 < 0.001	52 < 0.001
8	I believe that possessing knowledge about international transfer pricing will be valuable for my career	59	1.86	2	0.8725	10 < 0.001	43 < 0.001
9	The UH Group case and related questions required me to use critical thinking skills	59	2.12	2	0.9036	7.49 0.001	46 < 0.001
10	The UH Group case and related questions were sufficiently challenging	59	2.57	2	0.9227	3.60 < 0.001	41 < 0.001
11	Overall, the UH Group case was a good learning experience	59	1.75	2	0.5992	16.08 < 0.001	54 < 0.001

Table 6
Student performance.

Case topics	Potential points	Student population correctly addressing issue
Q1: Visual overview of UH Group transactions	2	86%
Q2: Development of functional analysis	4	93%
Q3(a): Choice and argumentation for transfer pricing method from M to P	2	76%
Q3(b): Choice and argumentation for transfer pricing method from P to D	2	76%
Q4(a): Calculation of unit transfer price from M to P	3	97%
Q4(b): Calculation of unit transfer price from P to D	3	86%
Q5(a): Choice of responsibility center type for M and D	2	83%
Q5(b): Choice of relevant performance measures for M and D	2	52%
Total	20	

ment, manufacturing, and distribution. Examples of assets are intangibles, e.g., brand names and manufacturing know-how, as well as tangibles, e.g., manufacturing equipment and product inventory. Specific types of risk related to manufacturing include input risk, such as input price fluctuations and inventory risk.

A.3. Contractual terms

Contractual terms, i.e., formal contracts regulating intra-group trade, are relevant because they explicate the business terms, i.e., rights and responsibilities, of the intra-group transaction. The contractual terms can therefore provide valuable input for the functional analysis because the contract often explicates the allocation of functions, assets owned, and risks assumed in the intra-group transaction. These include the way functions and risks are contractually distributed between the trading group companies, conditions for entrance into and cancellation of business relationships, consequences of breaching a contract, and payment terms and conditions for specific transactions. Hence, analyzing the contractual terms is usually an integrated part of performing the functional analysis because it ensures that the conclusions to the functional analysis are in line with the formal contracts of the intra-group transaction.

A.4. Economic circumstances

In a market economy, prices of products and services are influenced by the economic context of the transaction. This means that a significant number of variables potentially impact prices, such as the geographic location of transactions; government regulation; market levels, e.g., retail versus wholesale; and date and time of transactions. To ensure a sufficient

degree of comparability, MNE intra-group and market transactions should be examined in regards to economic circumstances.

A.5. Business strategies

Because different business strategies can have a significant impact on prices in the market economy, it is necessary to examine the business strategy applied in the intra-group transaction and compare it to the strategy applied in potentially comparable market transactions. For example, the price used in a market transaction following a 'harvest-strategy', where products are at the final stage of their life cycle, is not comparable to an intra-group transaction based on a 'market penetration strategy', where prices are usually significantly lower to gain market share.

Appendix B. Transfer pricing methods

MNEs can choose between the five methods below to determine an arm's length transfer price:

- (1) Comparable uncontrolled price method (CUP)
- (2) Resale price method (RP)
- (3) Cost plus method (CP)
- (4) Transactional net margin method (TNMM)
- (5) Profit split method (PS)

The essences of the methods are as follows: the CUP method is based on the direct observation of comparable market prices, which can be applied to the intra-group transaction. The other methods are all based on the observation of comparable market-based *profit margins* from which a market-based transfer price can be determined.

The CUP method is preferred because it provides a comparable market price for justifying the transfer price. When the CUP method cannot be applied due to a lack of comparable market prices, preference is given to methods that focus on gross margins, i.e., the RP and CP methods. When the two gross margin methods also cannot be applied due to a lack of comparable market-based gross margins, the TNMM or PS should be used. This section presents the five methods in the preferred order and provides an example of their application.

B.1. Comparable uncontrolled price (CUP)

The CUP method identifies the market price in a comparable market transaction and applies this market price to the intra-group transaction. The CUP can refer to an internal or an external market price, as shown in Fig. 1. An internal CUP is available when an MNE group company sells the same product or service to an external customer as well as to a group company.⁷ An external CUP refers to the price observed in a comparable transaction between two companies of which neither is part of the MNE group.

Example A. Coffee Mug Ltd. is an MNE group operating as a wholesaler in the coffee bean market. In one case, a group company in Kenya that grows coffee beans sold 20,000 lb of coffee to an independent distributor in the U.S. on January 17th of year X for \$100,000, i.e., \$5 per pound. Moreover, at the same date and time, the Kenya group company sold 20,000 lb of the same coffee to a U.S. group distributor, with no differences in the transactions with regards to the five comparability factors. Hence, the internal CUP of \$5 per pound represents an arm's length price and can be applied as the transfer price in the intra-group transfer.

B.2. Resale price (RP) method

When MNEs cannot find internal or external CUPs, the OECD Guidelines suggest applying one of the two *gross margin* methods, the RP method or the CP method. The RP works by taking the price charged by an MNE re-seller (i.e., distributor) to an independent customer not part of the MNE and subtracting a comparable market-based gross margin. The aim of this calculation is to make sure that the intra-group re-seller earns a gross margin similar to that of independent, comparable market players based on the comparability factors. The residual amount, i.e., market price less a market-based gross margin, is considered an arm's length transfer price. The RP is a one-sided method because it examines only the MNE reseller (called the 'Tested party') and disregards the MNE supplier of the product in determining the transfer price. Fig. 2 illustrates the RP method.

Example B. Rackets Inc. is an MNE that manufactures and distributes tennis rackets to independent sports retailers in Europe. In one case, the group distributor has bought a consignment of tennis rackets from a group manufacturer. The tennis rackets have been re-sold to an independent customer at a unit price of \$120. An examination of independent comparable distributors reveals that the average gross margin is 30%. The 30% is applied as an arm's length gross margin for the MNE

⁷ Note that in this case, the MNE group company and the external customer are independent; hence, the transaction is by definition on arm's length terms.

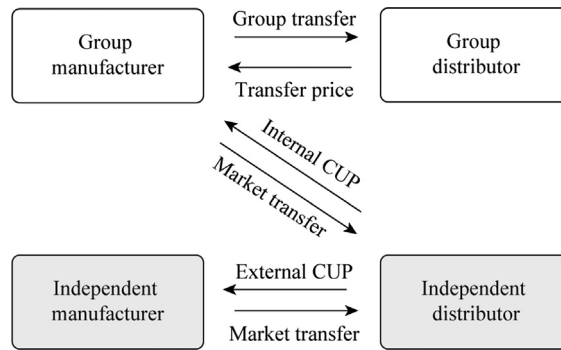


Fig. 1. Comparable uncontrolled price (CUP) method.

distributor. The gross profit for the MNE distributor would thus be \$36, i.e., $\$120 * 30\%$. The transfer price per unit (tennis racket) is then set at \$84 to ensure correct application of the RP method.

B.3. Cost plus (CP) method

The alternative for the RP method at the gross margin level is the CP method. Unlike the RP method, which focuses on the distributor as tested party, the CP method focuses on the manufacturer. Specifically, the CP method takes the manufacturer's cost of goods sold (CoGS) and adds an appropriate mark-up based on the mark-up in comparable transactions between independent parties. Hence, the mark-up can either consist of the mark-up applied by the MNE manufacturer when selling products to an independent party or the mark-up applied by a manufacturer not part of the MNE group. Like the RP method, the CP method is a one-sided approach. Fig. 3 illustrates the CP method.

Example C. Printer Paper Inc. is a manufacturer and distributor of printer paper. One of its group companies manufactures various types of printer paper, which is transferred to a group distributor. The manufacturers' CoGS for 50,000 units of printer paper transferred to the group distributor amounts to \$100,000. Furthermore, comparable independent manufacturers on average earn a 50 percent mark-up on their CoGS. Hence, the printer paper is transferred at \$150,000, with a unit transfer price of \$3.

B.4. Transactional net margin method (TNMM)

When information on the gross margin earned in comparable market transactions is not available for application of the RP or CP method, the MNE can choose between two methods focusing on net margins: the TNMM method and the PS method. The TNMM works in the same way as the CP and RP, except that it examines *net* margins earned in comparable market transactions instead of *gross* margins. The TNMM is typically used when the CUP, RP, and CP methods cannot be used, i.e., when data on market prices or gross margins are not available and one of the parties subject to the intra-group transaction does not own intangibles. In this case, the TNMM will be applied to the company that does not own intangibles because it is relatively easier to obtain data on comparable independent companies that perform similar routine functions versus a structurally more complex company applying unique intangibles, etc. The company being tested is referred to as the 'tested party'.

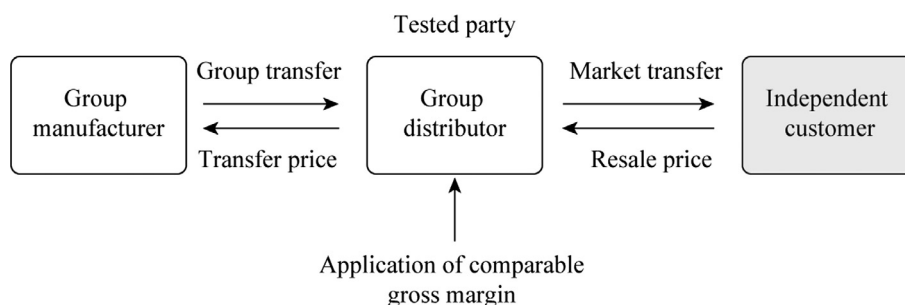


Fig. 2. Resale price (RP) method.

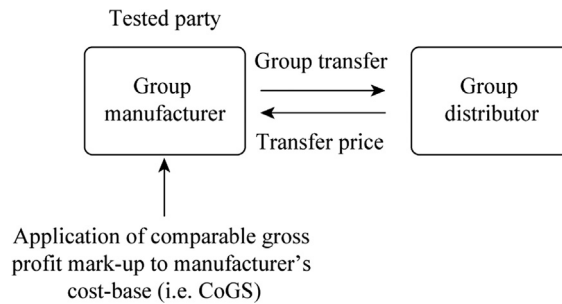


Fig. 3. Cost plus (CP) method.

The TNMM can be applied to both routine manufacturers and routine distributors, using an appropriate base. This base typically consists of 'full-costs', i.e., CoGS+SG&A⁸ when applying the TNMM to manufacturers, and 'external sales' when applying it to distributors.⁹ Specifically, the idea of the TNMM method is to compare the net margin using the full cost as the base for a group manufacturer, with the net margin relative to the full cost realized by an independent comparable manufacturer. Similarly, in the case of a group distributor, the group distributor's net margin using external sales as the base is compared to the net margin realized by an independent comparable distributor. Fig. 4 provides two examples applying the TNMM method: situation A applies the TNMM to a group manufacturer, and situation B applies it to a group distributor. The parent company is not used as the tested party in either situation because it owns intangibles.

Example D. Tablets Inc. is an MNE that manufactures and distributes tablets. The group manufacturer M in China performs simple routine-based manufacturing functions, based on manufacturing know-how and other intangibles developed and owned by the Canadian parent company P, which also assumes the majority of business risks. The finished tablets (5,000 units) are transferred to P, from which they are resold to a group distributor D in the US. Because no market data are available for application of a more direct transfer pricing method, such as the CUP, RP, or CP methods (market prices/gross margins), the TNMM is selected. The Chinese manufacturer M is selected as the tested party because this is the company in the intra-group transaction that does not own intangibles. Due to the nature of the business function performed, i.e., manufacturing, 'full cost' is selected as base. A database study performed on a financial database reveals that the arm's length net profit divided by the full cost for an independent comparable manufacturer is 8 percent.¹⁰ Table 7 shows M's current income statement in year X.

The sales of \$400,000 from the Chinese manufacturer to the Canadian parent company P determine the current aggregated transfer price applied (i.e., for all 5,000 units transferred). This equals a current transfer price/unit of \$80.

The arm's length transfer price can be calculated as follows. First, the arm's length net profit for M is calculated by taking its full cost multiplied by the arm's length net margin of 8 percent: $(\$340,000 + \$50,000) * 8\% = \$31,200$. The calculation reveals that M's current net profit is \$21,200 (i.e., \$31,200–\$10,000) lower than the arm's length net profit. This means that the unit transfer price of \$80 currently used on the 5,000 units transferred from M to P is too low and hence not at arm's length. The arm's length transfer price per unit can be calculated by taking M's full cost plus the arm's length net profit, and then dividing this by the 5,000 units transferred:

Arms' length transfer price: $(\$340,000 + \$50,000 + \$31,200)/5,000 \text{ units} = \$84.24/\text{unit}$

For the US group distributor D that buys goods from P, the TNMM is used in the same way as above, except that D's 'external sales' are used instead of the full cost as the base throughout the calculations. Note that for M, the adjustment is made on M's sales (aggregated transfer price), whereas for D, the adjustment is made on D's CoGS (aggregated transfer price).

B.5. Profit-split method (PS)

The PS method is the last resort and examines the total net profit generated from the intra-group transaction typically without reference to specific comparable market conditions, as is the case for the other transfer pricing methods. The total profit is then split between the MNE group companies based on what net profit margin independent parties would likely have expected to realize from engaging in a similar transaction, considering the functions performed, risks assumed and assets owned (in particular intangibles) by each party of the intra-group transaction. Hence, the PS is typically relevant in si-

⁸ Selling, general and administrative costs.

⁹ Alternative bases can be applied. However, for the purpose of this introduction to international transfer pricing, we here present the two most common bases: 'full-cost' and 'external sales'.

¹⁰ In order to determine an arm's length net margin, accounting information from independent comparable companies needs to be collected. One useful option is to search financial databases, which contain relevant information. In this example, it is assumed that the database search identified one independent comparable manufacturer that earns an 8 percent net margin relative to its full-cost base. Hence, 8 percent is used to determine the arm's length transfer price in Example D.

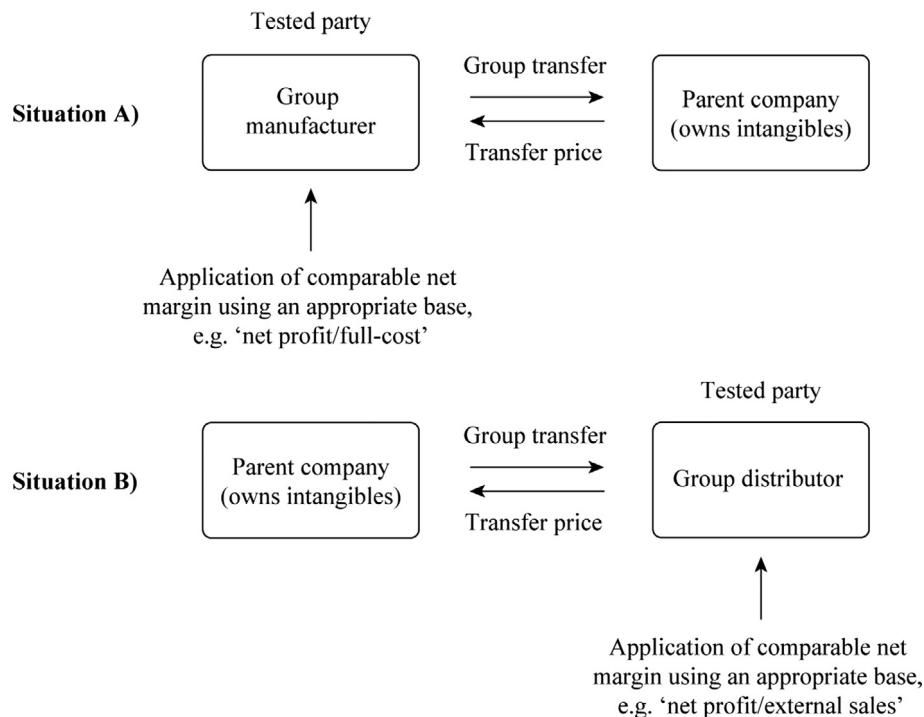


Fig. 4. Transactional net margin method (TNMM).

Table 7
Income statement of the Chinese manufacturer M.

Line #	A	B
	Income statement M	
1	Sales to parent company (units transferred to parent company)	\$400,000
2	Cost of goods sold	\$340,000
3	Gross profit	\$60,000
4	SG&A	\$50,000
5	Net profit	\$10,000
6	Number of units transferred from M to P	5,000

tuations where both companies in the intra-group transaction own intangibles and are engaged in complex, highly integrated intra-group transactions. Fig. 5 illustrates the PS method.

Example E. Sun & Surf is an MNE that manufactures and distributes sunscreen to US retailers. Its group manufacturer is located in Canada, where a number of highly skilled engineers develop various intangibles, including new formulas for maximum UV protection. These formulas are then used in complex manufacturing processes that have also been developed by the Canadian group company. Subsequently, the finished products are shipped to the US distributor for labeling and shipping to a group of independent retailers. The US distributor's intangibles consist mainly of a valuable brand name developed and owned by the US distributor. For income year X, Sun & Surf makes a total profit of \$100 on this activity.

A detailed functional analysis of the manufacturer and distributor is performed, in particular an analysis of the intangibles that each company owns. Based on this analysis, the MNE decides that the total profit realized from the market transaction should be split 80/20 between the manufacturer and distributor by use of the transfer price, to give each party an appropriate net margin.

Appendix C. Comparability analysis

In the previous Appendix sections, we introduced the five comparability factors for identifying comparable market transactions and presented the five transfer pricing methods recommended by the OECD Guidelines. In this section, we describe the practical process, referred to as 'comparability analysis', by which arm's length transfer prices are identified and determined in a systematic way. A critical part of the comparability analysis relates to applying the comparability factors, as well as assessing the availability of market data in the context of the explained transfer pricing methods. The issues described in

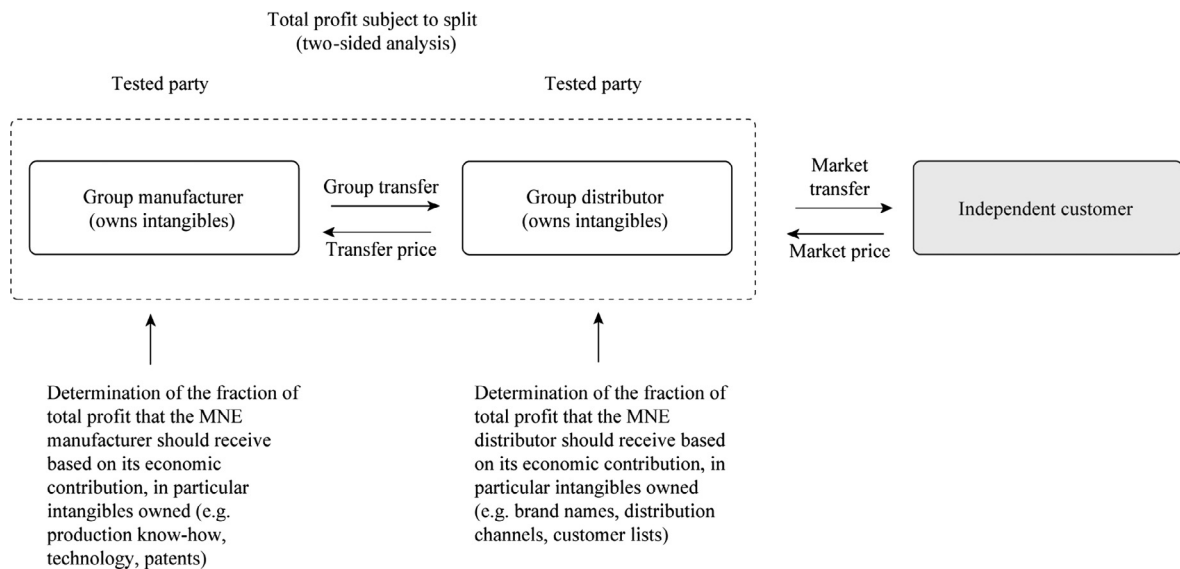


Fig. 5. Profit split method.

Appendix sections A and B provide critical basic information needed to perform the comparability analysis for determining an arm's length price. The comparability analysis consists of the following four¹¹ main steps.

1. Identifying the intra-group transactions subject to analysis

This step involves identifying the specific intra-group transactions under investigation and the specific group companies taking part in these transactions. Typically, analysts¹² illustrate the transactions and the parties involved to create an overview from which further analysis can be performed.

2. Performing an analysis of the controlled transaction(s) under examination, with particular emphasis on the functional analysis

In practice, a functional analysis is then performed for each of the companies involved in the intra-group transaction. The functional analysis is usually undertaken by the MNE's tax function in collaboration with external transfer pricing specialists by interviewing key employees of business functions and reviewing formal contracts guiding the intra-group trade. The conclusions from the functional analysis are often outlined in a table format, e.g., an Excel table that outlines for each group company the functions performed, the risk assumed, and the assets owned in regards to the intra-group transactions.¹³

3. Identifying the appropriate transfer pricing method

This step involves determining the most direct transfer pricing method, given the availability of comparable market data. For example, although the CUP is preferred, comparable market prices are seldom available and less direct methods often must be applied. Transfer pricing methods focusing on gross margins are preferred when CUPs are not available. When comparable market based gross margins cannot be identified due to a lack of data, a method focusing on net margin needs to be applied. In practice, the TNMM is often used because it is usually possible to identify relevant data on net margins realized by comparable independent companies in commercial databases, e.g., ORBIS or COMPUSTAT. In the case of a TNMM, it is important to identify an appropriate base as well, e.g., the full cost for manufacturers and 'external sales' for distributors.

¹¹ The OECD Guidelines outlines nine detailed steps in total. Providing a detailed outline of all nine steps goes beyond the purpose of this case, which seeks to provide students with an understanding of the core four steps that are typically performed in practice as part of a comparability analysis. For instructors and students who want to explore the more advanced parts of a comparability analysis, please see Chapter III of the OECD Guidelines.

¹² 'Analysts' are typically internal controllers and tax staff as well as external transfer pricing consultants.

¹³ In cases where tax authorities wish to test the validity of a functional analysis, they often perform site visits to replicate the functional analysis initially performed by the MNE. Specifically, they interview business people, scrutinize intra-group contracts, etc. to find whether they arrive at the same conclusions.

4. Determining the transfer price

If the CUP is selected as the transfer pricing method because a market *price* can be identified, this market price provides an arm's length transfer price. In many cases, however, a method focusing on either the gross or net margin is selected at this time, due to a lack of CUPs, and gross or net margins of comparable market transactions are identified, often with the use of commercial databases. In those cases, it is necessary to take the arm's length margin on a comparable company obtained from the database and apply it to the accounting numbers relevant in the specific case. Usually, a number of comparable companies will be identified based on the database search. It is then important to subsequently determine whether all companies obtained from the database search are in fact comparable enough to the group company serving as the tested party. Those independent companies not considered sufficiently comparable based on further analysis are dismissed so that only the most comparable company's/companies' accounting data (e.g., net margin) is used for calculating the unit transfer price.

References

- Baldenius, T., Melumad, N. D., & Reichelstein, S. (2004). Integrating managerial and tax objectives in transfer pricing. *The Accounting Review*, 79(3), 591–615.
- Cools, M., Emmanuel, C., & Jorissen, A. (2008). Management control in the transfer pricing tax compliant multinational enterprise. *Accounting, Organizations and Society*, 33(6), 603–628.
- Cools, M., & Slagmulder, R. (2009). Tax-compliant transfer pricing and responsibility accounting. *Journal of Management Accounting Research*, 21(1), 151–178.
- Ernst & Young. (2013). Ernst & Young global transfer pricing survey. EYGM Limited. <<http://www.ey.com/GL/en/Services/Tax/2013-Global-Transfer-Pricing-Survey>>.
- Hiemann, M., & Reichelstein, S. (2012). Transfer pricing in multinational corporations: An integrated management- and tax perspective. In W. Schön & K. A. Konrad (Eds.), *Fundamentals of international transfer pricing in law and economics: MPI studies in tax law and public finance* (Vol. 1, pp. 3–18). Berlin, Heidelberg: Springer.
- OECD (2010). *OECD transfer pricing guidelines for multinational enterprises and tax administrations*. Paris: OECD.
- OECD. (2013). <<http://www.oecd.org/ctp/BEPActionPlan.pdf>>.
- OECD. (2015). <<http://www.oecd.org/tax/beps-2015-final-reports.htm>>.
- Plesner Rossing, C. (2013). Tax strategy control: The case of transfer pricing tax risk management. *Management Accounting Research*, 24(2), 175–194.