Analysis of Transfer Pricing Systems Using Public Information:

The Case of Galp Energia

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Abstract

International transfer pricing systems are a tool that allows multinational enterprises to maximize profits by minimizing taxes, fares and duties. In 1996, the OECD's report "Transfer pricing guidelines for multinationals enterprises and tax administration" introduced the arm’s length principle in order to fairly regulate transfer pricing systems. This research has the primary objective of contributing to the analysis of transfer pricing systems through a new methodological approach, allowing it to be successful even without companies’ confidential information. The methodological approach of this document permits to identify, analyze and evaluate a transfer pricing system, using only public information. The approach consists of functional analysis, comparison market identification and profit margin definition. The document applies it to a Portuguese multinational enterprise, Galp Energia. The application of the methodology permitted the identification of transactions between two subsidiaries of Galp Energia's group, Portuguese company Petrogal, SA and the Mozambican company Petrogal Moçambique, Lda. The transfer pricing system includes transactions of lubricants and technical assistance. The results cover a transfer price's range and show that the industry’s case study allows the integration of services on the value of the products, increasing profits through the reduction of duty tariffs.

KEYWORDS: Public information; Transfer pricing systems; Multinational enterprise (MNE); Arm's length principle; Comparable uncontrolled price; Resale price method.

1. Introduction

Globalization and sophistication of management resources take enterprises to operate out of their national borders. International expansion increases the company's decentralization degree. Decentralization gives importance to tools that can manage an operational control system, for a correct attribution of expenses and income. Transfer pricing systems (TPS) by articulating prices of goods and services between subsidiaries in and out of national borders are management tools that can increase multinational enterprises (MNE) profit and control. This vantage is obtained by minimizing taxes, fares and duties (Shulman, 1968). In 1996 an international report (OECD, 1996) introduced the ALP to fairly regulate transfer pricing systems. In present days, transfer prices (TP) are considered by many enterprises to be the most important fiscal matter to affect MNEs (Ernst&Young, 2010).

Governments around the world have been working on TP’s legislation, most of all, following close by the OECD guidelines. Never the less, there still are countries with poor or no legislation
about TP, exposed to profit shifting by MNEs. Before the recent legislation and fiscal audits, deepening in the theme’s study and full knowledge of the legislation in each territory is needed for optimal application of TPSs. Although many of the benefits from an operational TPS are recognized, the many difficulties on its application like legal obstacles and demotivation from subsidiaries’ managers create a wide range of companies that still don’t use this tool. Therefore, the main goal of this research is to identify, analyze and evaluate a TPS adopted by a Portuguese MNE, using only public information and resources. The purpose of the research is to give a contribution for TPS studies, through a new methodological approach able to be successful even without access to enterprises’ confidential information.

2. Transfer Prices Perspectives

TP’s literature is wide in accounting literature and economic literature with themes varying on goal. Some studies focus on minimizing taxes (Elitzur et al., 1996), others on regulating profit split between governments (Kant, 1990), others on available TP’s information to reach enterprises’ goals (Holmström, 1991) and others on optimal TP’s policy (Samuelson, 1982).

2.1. Basic Concepts

The arm’s length principle (ALP) was introduced by OECD (1996) to fairly regulate transfer pricing systems. The ALP states that TP in MNE must be similar to the practiced prices between independent enterprises in comparable transactions. It has advantages when compared to other methods, the ALP equals MNE and smaller independent enterprises on the eyes of fiscal authorities and is used by a great number of territories. Creating an international consensus TP’s supervision. The ALP also has some problems, is hard to apply in many cases, hard to get the needed data and in conditions of scale economies the ALP may have some flaws (Wittendorff, 2010).

TP methods are divided in two categories, traditional transaction methods and transactional profit methods. Methods can be chosen by two ways depending on the legislation, by free choice or by choice of the most adequate method. Some territories give preference to traditional methods, while the OECD guidelines do not and support the best method’s choice. The traditional methods are the CUP method that implies a comparison between the price that an associate enterprise charges to another member of the same MNE and the price of unassociated independent enterprises. The RPM method that evaluates if the price charged in a controlled transaction is the arm’s length price by referencing to a market’s operational profit margin. And the cost plus method that is applied the same way as RPM but when the producers are less complex and provide more information than distributors (OECD, 1996). The transactional profit methods are the TNMM that tests an obtained net margin in a controlled transaction to the net margin in a comparable uncontrolled transaction. And the profit split method that tries to divide fairly the results between the enterprises involved (UN, 2012).

Responsibility centers are entities inside organizations that can assume responsibility over earnings, profits, costs and investments. There are 4 types of responsibility centers depending on the responsibility assumed. Responsibility centers of investments, costs, profit, or earnings (Hansen
et al., 2009). Transfer Pricing policies specify the rules used to calculate transfer prices between divisions. There are 3 base policies the market price, cost price and negotiated price.

2.2. Economic Perspective and Transfer Pricing Systems

Economic theory on the theme intends to find a price between divisions that takes production levels to maximize MNE’s global results (Eccles, 1983). According to the marginal price determination theory, the optimal TP should be equal to the market price (Acevedo, 2001). Hirshleifer (1956), pioneer on TP’s economic analysis, states that when there isn’t external market for an intermediate product, the TP should be equal to production’s marginal costs. Hirshleifer (1956) also states that when there is an external market in perfect competition’s environment, the enterprise as a market competitor must accept the TP determined by the market forces and transfer at the market price. In situations of imperfect competition’s environment there’s no consensual theory to define TP. In this cases TP usually are negotiated prices or based on total costs plus a liquid margin (Tomkins, 1990).

A MNE can have two main goals when using TPS, first one includes consistency of de performance evaluation system, motivation of subsidiaries’ managers and accomplishment of strategic objectives; second one includes the reduction of taxes, export and import tariffs and minimization of risks (Abdallah, 1989). TP inside the same territory is used for the first main goal, but when subsidiaries are in different territories it makes the use of the second goal possible and fiscal questions rise (Pondent, 2012). At an international level, SPT are an operational tool that can influence the areas of production, marketing, management and finance (Abdallah, 2004).

Many territories still don’t have proper legislation, and territories with legislation may or may not have penalties for non-compliance. Even in the USA where there are penalties, fiscal authorities only act when the TP used is lower than 50% or higher than 200% of arm’s length price (Faille, 2012). Governments are relevant for SPT through taxes and relevant TP’s legislation, the legislation tries to avoid profit shifting to territories with lower taxes affecting optimal results to MNE (Lengsfeld et al., 2006).

2.3. Legal Framework (Portugal and Mozambique)

TP as a mean to reduce MNE’s taxes is a fact well known by authorities for decades (Nielsen et al., 2012). Although the TP’s legislation is recent it’s a reality in almost every world’s territories, many follow the OECD guidelines but other don’t, making the TP’s legislation singular to each territory.

In Portugal TP’s legislation is enshrined by law Nº30-G/2000 of December 29 on the 63 article of CIRC (2009). Being regulated by portaria 1446-C/2001 of December 21 to all exercises beginning after January 1 of 2002 (DR, 2001). Special relations between two entities are defined as when one of the entities has the power to directly or indirectly exercise a significant influence in the other entity management’s decisions. Portugal follows the ALP and uses de OECD guidelines as a supplementary mean to its own internal legislation. TP’s methods allowed are the comparable uncontrolled price method (CUP), the resale price method (RPM), the cost plus method, the
transactional net margin method (TNMM) and the profit split method. Although TP’s legislation states to choose the method that applies better, it gives preference to first three methods stated.

Mozambique’s TP’s legislation is enshrined in article 49 of IRPC (2012). Mozambique’s law does not mention the use of the OECD guidelines or the allowed TP’s methods. Mozambique’s TP’s law just states that if fiscal authorities detect that de ALP is being compromised by associated entities; the authorities have the power to correct it. Although associated entities aren’t define in the law (Leitão et al., 2012).

2.4. Comparable Analysis

Find comparable uncontrolled transactions means to find transactions between independent enterprises with economic characteristics similar to the ones in transactions between associated enterprises. Comparable uncontrolled transactions only exist when two conditions are met; a) none of the differences between the comparable transactions or between the enterprises taking this transactions, materially affect the external market price; or b) precise adjustments can be made to eliminate the effect of such differences (OECD, 1996).

It’s recognized that exact similar transactions aren’t always a reality, allowing adjustments along the comparable analysis. Although the number, magnitude and liability of such adjustments affect the liability of the analysis (Levey et al., 2007).

Comparable transactions are considered external when made between two independent enterprises and internal when made between an associated enterprise and an independent one (Wittendorff, 2010). There’s five comparability factors defined: a) characteristics of the product, service or asset transferred; b) functions made by the enterprises; c) contractual terms; d) economic circumstances of the enterprises; and e) business strategies followed by the enterprises. Depending on the chosen TP’s method, different comparability factors are used with different weights (OECD, 1996).

3. Case Study Analysis

The case study is built on Galp Energia. It’s a Portuguese energy company with different functions across four continents. The mother company is called Galp Energia, SGPS and has headquarters in Portugal. Initially it was a state company but became public in 1999, listed on the Lisbon stock exchange market. The company’s social capital belongs in 39% to Amorim Energia, 30% to the Italian Eni, 24% is free float and 7% belongs to public participations. The group Galp Energia has more than one hundred associated companies. Considering the information collected, the case study will be focused on the Portuguese Petrogal, SA and the Mozambican Petrogal Moçambique, Lda (PM). The Galp Energia’s business is divided in three segments: a) exploration and production; b) refining and distribution; and c) gas and power.
3.1. Methodology

3.1.1. General analysis of the enterprises and transaction

The first step of the methodology intends a search for accounting and financial information about the MNE’s subsidiaries. After getting the needed information, default transactions between associated enterprises are to be identified. With identified transactions, general analyses are to be made to the transactions, to the subsidiaries in these default transactions and to relevant companies in the transactions market. The general analyses are composed by analyses to de industry, competition, economic and legislative factors. The analyses are also composed by information about comparable companies and relevant information to the choice and application of the TP methods (Devonshire-Ellis et al., 2011; OECD, 1996; UN, 2012).

3.1.2. Comparability Factors

To be able to compare the subsidiaries in default transactions with possible comparable independent enterprises, five comparability factors must be identified and evaluated: a) characteristics of the product or service; b) functional analysis; c) contractual terms; e) economic circumstances; and f) business strategies.

In order to evaluate the value of the products on the open market some characteristics must be accessed to posteriorly be considered in the comparability analysis. Characteristics like quality, type of property, warranty or service extension time should be identified (UN, 2012).

The functional analysis intends to associate the value of a transaction with the group structure and the functions performed by the enterprises involved. It’s complemented by a risk analysis and an assets analysis, making it a mean to help in the search for comparable enterprises and the identification of the proper TP methods. The functional analysis identifies the position in the group’s structure and the functions performed by each subsidiary involved in default transactions. Functions of research and development (R&D), production, marketing, sales, distribution and administrative support should be identified. The risks analysis has the point to identify which subsidiaries assume the groups risks for proper rewarding. Market, R&D, product, marketing, financial, credit and business risks should be identified. The assets analysis is important to consider competitive advantages when using different types of assets. Buildings, equipment, intangible assets and other types of assets should be identified (Pereira et al., 2010; Silva, 2006; UN, 2012).

The identification of the contractual terms of the default transactions intends to allow the comparison between the subsidiaries and comparable enterprises at this level. So that contractual terms won’t affect the results of the transaction. Terms like the volume of the buy, warranties available by the seller, collateral transactions should be identified (Feinschreiber, 2004).

Economic circumstances are relevant to make a comparison at a market and industry level. The industry information evaluated should include development and economic tendencies of the industry in both territories, market positioning in the industry and surrounding economic conditions. The market factors to evaluate in both markets should be the relative market size, global economic development degree, type of market, market share, specific costs with location and
production factors, competition, life cycle, available alternatives to buyer and seller and legislation (Feinschreiber, 2004; UN, 2012; Wittendorff, 2010).

The business strategies used by MNEs consider many aspects of the enterprise, aspects like innovation and development of new products, diversification levels, risk aversion and other aspects that can collide with the TP’s policy defined. This way being able to have a direct influence in products’ price. Strategies identifiable for existing markets are a market share maintenance strategy or market expansion strategy; for new markets a market penetration strategy can be identified (Kuan, 2004; OECD, 1996).

3.1.3. Comparability Analysis

The comparability analysis follows four steps: a) identification of internal and external comparable transactions; b) selection of transfer pricing methods; c) selection of comparable transactions; and d) comparability adjustments.

Through the search in public domains and the MNE’s available data, comparable transactions may be identified. First the search should be for internal comparable transactions, by looking to the data available for the subsidiaries performing the default transactions. If internal comparable transactions aren’t enough, a search for external comparable transactions should be made by searching information about prices, results and margins of comparable transaction of independent enterprises. The search criteria’s should be the similarities with the comparability factors analyzed (Weise, 1996; Wittendorff, 2010).

To choose the best TP method the following factors should be considered: a) similarities between default transactions and comparable transactions, according to the factors influencing each TP method; b) liability and amount of information known about the comparable transactions; c) magnitude of the comparability adjustments needed for each method; d) economic measures’ adequacy from both transactions that can be used accordingly with each method; and e) number and quality of methodological assumptions necessary for each method (UN, 2012).

This point has two steps and intends to select the applicable comparable transactions from the identified ones, to meet the TP method criteria’s. The first step is called comparable transactions’ screening as pretends to match the transactions to the TP method’s needs. The step has the following criteria: a) geographic market; b) functions and market’s life cycle; c) business; d) operations’ scale; e) independence; f) financial information; and g) relevant period.

The last step is called comparable transactions’ selection and intends to be a final verification of the transactions that passed the first step by searching for more information about this transactions (UN, 2012).

Comparable adjustments should only be considered to increase the liability of the results and are made to the conditions of uncontrolled transactions to eliminate the effects of material differences between these and the default transactions. So that uncontrolled transactions comply with the terms of comparability. Adjustments are usually made for: a) inventory accounting methods; b) intangible’s amortization; c) pensions; d) working capital; e) resources levels; g) business risks; and h) financial statements (Levey et al., 2007; OECD, 1996; UN, 2012).
3.1.4. Analysis of the Case Transfer Pricing System

With the data acquired in the other points, now the transfer prices can be calculated to the default transactions identified. This point intends to analyze all the possible cases to reach results and evaluate its sensibility, was based on the mathematical model of Liang (2011).

For each default transaction the following factors will be considered: a) relevant import tariffs; b) taxes in both territories; c) transfer price; d) amount of product transferred; and e) product costs for both subsidiaries.

Then the transfer prices for each applicable method and consequent group’s net profit (π) will be calculated. With the results calculated, the results for the optimal TP method and best choice TP method can be compared. Consider the following example:

A transaction between two subsidiaries located in different territories and taxed independently. The seller sells the quantity Q and has taxes t1, the buyer buys the same quantity Q and has taxes t2 and t1 < t2. The seller is the product’s producer, it has production costs Cu1 and the transfer price is Pt. The buyer sells the product at Pv2 and the import tariffs are τA. The group's net profit (π) can be calculated by the formula 1.

\[ \pi = [(Pt \cdot (1 - \tau A) - Cu1) \cdot (1 - t1) + (Pv2 - Pt) \cdot (1 - t2)] \cdot Q \]

With the calculated results the TP method chosen will depend on the legislation of the territory were the method is applied. If the territory has a method’s free choice the choice will depend on the result. After all results have been acquired, its sensibility will be evaluated by analyzing changes in tariffs and taxes. The analysis will focus on the changes of the best method with the different tariffs and taxes. Finally the results of the original TPS and the calculated by the TP method will be compared and analyzed to look for improvements.

3.2. Results

3.2.1. Default Transaction

After searching for information about de MNE’s subsidiaries, we were able to collect the accounts and financial report of PM. A broad analysis to this company and the transactions between associated enterprises was then made. Two transactions were initially identified between this company and the associated Petrogal, SA. The acquisition in 2012 from PM to Petrogal, SA of 1095 tons of lubricants (2,443,650€) and 143,777€ of technical assistance. Being the percentage of technical assistance 5.56% of the lubricants bought.

After a more careful analysis to the two transactions, was decided to proceed with the lubricants’ transaction as a default transaction and use the service’s transaction only to find a relation between both transactions associated values.

3.2.2. Analyzed companies

Both enterprises in the default transactions were evaluated following the five comparability factors. Besides these two, the independent Mozambican enterprise Petromoc was also analyzed through these factors.
Petrogal, SA is a Portuguese company and owns 99.99% of PM's social capital. It executes functions of production, distribution and R&D. It's an investment responsibility center and all TP methods can be used on this enterprise. It's exposed to all kinds of risks by being present in the entire value chain of the oil industry and owns assets in all the categories considered. It's the producer of the default transaction's product with an estimated unitary cost per Kg of 1.3 €. The enterprise sells lubricants with a payment term of 30 days and delivers them on the buyer's location. It's exposed to the economic circumstances of the Portuguese refined products' market and of the global oil industry.

Petrogal Moçambique, Lda is a Mozambican company and executes functions of distribution. It's a results responsibility center and the cost plus method can't be used on this enterprise. It's exposed to financial, market and credit risks and owns all kinds of assets of the categories considered. It's the buyer in the default transaction, buying the product for 2.23 €/Kg. The enterprise is exposed to the economic circumstances of the Mozambican refined products' market and of the downstream segment of the global oil industry. Being the Mozambican lubricant's market in expansion, the business strategy was considered to be of market share maintenance.

Petromoc is a Mozambican MNE with comparable transactions. The lubricants offered are comparable to the lubricants of the default transaction. It's an investment center and executes functions of production and distribution, although the production isn't of lubricants. It's exposed to the same risk of PM and owns assets of the same categories. Petromoc is exposed to the same economic circumstances of PM plus the economic circumstances of the industry of natural gas' production. Petromoc was the only analyzed comparable enterprise for being the only one in the Mozambican market with public information. The market strategy was considered to be the same of PM.

Due to the information obtained and enterprises complexity, was decided to apply the TP methods to PM.

3.2.3. Comparable Transactions

An approximation was made for an internal comparable through the Galp Energia's lubricant price's table from producer to importers. Through this table was calculated a medium price for the sale of lubricants. The value achieved was of 5.06 €/Kg.

An external comparable was founded in the enterprise Petromoc, the research was able to access the total sales and costs of lubricants in 2011 of Petromoc. Although it's not much information we were able to estimate a unitary cost and sale price. The following assumptions were made to obtain comparable results: a) the sale price is the same of PM because both are exposed to the same economic conditions and use the same market strategy; b) the difference between years is compensated by increasing Petromoc's values by the same percentage of PM's increase. With this assumptions we had for this comparable a unitary cost price of 2.34 €/Kg and an operational margin of 12.03%.

With the operational margin of the lubricants transaction, an estimated average market margin was calculated by considering the weight of the sales of both enterprises and theirs margins,
obtaining the value of 12.95%. The relation of technical assistance with the product’s sales in Petromoc was also analyzed and is of 6.22%.

3.2.4. Transfer Pricing Methods and Results Analysis

After evaluating the possible TP methods, two methods meet the conditions needed, the CUP and RPM methods. The CUP method can be elaborated with the price values of both comparable transactions. While the RPM method can be applied with the estimated average market margin.

The CUP method obtained an arm’s length range of [2.34 €/Kg; 5.06€/Kg] and the RPM method an arm’s length value of 2.31 €/Kg. Indicating that the practiced price isn’t at arm’s length. The calculated results for the group’s net profit considered an import tariff of 35%, a producer’s tax of 25% and a buyer’s tax of 32%. The results are showed in the Table 1 below:

<table>
<thead>
<tr>
<th>Method</th>
<th>Original</th>
<th>CUP</th>
<th>RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results for the Group</td>
<td>442.954,88 €</td>
<td>419.768,25 €</td>
<td>426.091,88€</td>
</tr>
</tbody>
</table>

Table 1: Group’s Profit by TP method

We also compared the percentage differences of the technical assistance's services and obtained a difference of more 0.66% to Petromoc technical assistance. The results and sensibility analyses performed show that with these tariffs and taxes, the group’s net profit in maximized with the minimization of the transfer price. The tendency only changes when the import tariff is lower than 9.3% or the buyer’s tax is higher than 51.3%. The results show that the industry allows the integration of services in the price of products, improving the profits by reducing the duty tariffs.

4. Conclusions

A transfer pricing system of Galp Energia was analyzed resourcing only to public information. The results show that methodology applied allows a consistent analysis of multinational enterprises’ transfer prices in the oil industry. The methodology revealed to be adequate by presenting sufficient instruments to evaluate the comparability factors. Through these factors was possible to perform a comparability analysis between the companies of Galp Energia, with internal comparable transactions and external comparable transactions. The available data allowed the estimation through the Comparable Price Method and Resale Price Method of transfer prices and potential profits for Galp Energia. These results allowed the analysis through different transfer pricing methods, demonstrating that public information allows at least an evaluation of transfer pricing ranges. The study’s case demonstrated the possibility to relate transfer prices ranges with subsidiaries’ associated functions of the group Galp Energia. The estimations allowed the critic analysis of the results and the evaluation of the methodology strength through sensibility tests.

The critic analysis of the results allowed the suggestion of improvements, as a higher integration of services’ transfer prices with the prices associated with products knowing that services do not pay duty tariffs. The case’s oil industry revealed a good capacity for the integration of services’ transfer prices with products’ transfer prices, avoiding duty tariffs and maximizing the profits of companies. This integration isn’t specific to this industry and can be extended, for example to the informatics equipment’s industry by associating technical assistance and other services with
product’s transactions. In legal terms the results may indicate some extra financing of the distributor subsidiary through transfer prices. However, this study shows that there weren’t found serious situations of improper use of transfer prices.

5. References


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