

TRANSFER PRICING METHODS FOR SERVICES AND THE POLICY OF FIXED LENGTH PRINCIPLE

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Abstract: The paper deals with the methods used by companies for controlled transactions in services. The author performs an analysis of the ways a company that takes part in controlled transactions of transfer pricing can tackle tax issues using an adequate tax method. Services should comply with the arm's length principle. Therefore, the best method rule and the comparability analysis have a critical role in the arm's length principle of services. The paper compares the results of transfer pricing services with the transfer pricing of goods to conclude the similarities. The object of the paper is to determine the importance of the application of fixed length principle, meaning the application of additional tax for controlled transactions and declined tax for uncontrolled transactions. Therefore, this scrutiny showed that the unstable tax environments force enterprises to proceed to controlled transactions.

Keywords: *Arm's length principle, Fixed-length principle, Services, Transfer pricing*

JEL classification: H2, H26, E22, E2

INTRODUCTION

High taxation and the unstable tax rate imply that authorities make the companies proceed to controlled transactions for services, to establish more profits, and have a better allocation to their prices through their transfer pricing methodologies. Therefore, high taxes lead the enterprises of uncontrolled transactions to proceed to practices of controlled transactions. The tax authorities should keep a low tax rate for the local companies to maintain them in the economy, and to impose higher tax rates on companies of controlled transactions (application of fixed-length principle). The enterprises which take part in controlled transactions use a variety of methods to avoid the taxes (Meier & Rosenbaum, 2000). The fixed-length principle admits that constant additional tax rates should apply to the controlled taxations; thus, the tax authorities can have higher total tax income, keeping at the same time lower taxes for the local enterprises and forcing them not to proceed to controlled transactions practices. The first aim of the paper is to show that in a similar economic environment with the case of control transactions in goods, we have similar results for the services. The second aim of the paper is to mention that an additional tax for the companies that take part in controlled transactions supports the overall tax income, but simultaneously the companies of uncontrolled transactions should have lower tax obligations.

The structure of the paper is as follows: applied methodology, literature review of transfer pricing methods, application of methods for services, estimation for services and conclusions.

1. APPLIED METHODOLOGY

We based the method on the QE approach, and then applied a simulation model. Therefore, three steps for the modification of the model were used. We based the first step on an axiomatic analysis, i.e., we made a hypothesis, which was the subject of examination. In this step, the related concepts of the controlled transactions were examined (Challoumis, 2017). The second step was about the application of the QE method of simulation standing on the RBQ (Rational, Behavioral and Quantified) methodological procedure. After 461 iterations from simulation, the method complied with the initial assumption.¹ The last step was about the conclusions and checked if the second step was the right one, otherwise, we should proceed to a new hypothesis or to a new arrangement of equations or to reconsider the theoretical background of the model.

The case statement is to show that the unbalanced and the easy changing economic tax policies of a government following the arm's length principle support the controlled transactions causing a lack of tax income to the authorities. The fixed-length principle supports the use of additional tax imposed on the companies that follow tax practices of international controlled transactions and shows that companies of uncontrolled transactions should have a lower tax. This policy helps the governments have more tax income and the local companies avoid controlled transactions.

2. LITERATURE REVIEW OF TRANSFER PRICING METHODS

The public and tax procedure is a subject of examination of the fixed-length principle. The arm's length principle is an international transfer pricing standard. The countries, which belong to the OECD, have an agreement for their tax purposes. The basic concept of identification of tax avoidance of the arm's length principle is the independent companies. The independent companies do not make tax allocation of their activities so they can use it as a reference point because they comply with the tax laws. The commercial and the financial relations between the independent companies show the real market conditions to the authorities. The fixed-length principle differs from the arm's length principle in that the dependent companies in most cases try to pass through the regulations of the public and tax authorities. Then, the fixed-length principle uses a minimum level of taxation for the companies that have the characteristics of the companies, which are making international transactions. The services belong as the property to the tangibles. They should not

¹ See paper: Challoumis, Constantinos, Quantification of Everything (A Methodology for Quantification of Quality Data with Application and to Social and Theoretical Sciences) (November 12, 2017). Available at <https://ssrn.com/abstract=3136014> or <http://dx.doi.org/10.2139/ssrn.3136014>.

be confused with the intangibles, which are about commercial rights and non-tangible issues. Therefore, the services have the same transfer pricing criteria with the property of controlled transactions. In the services, the best method rule, the comparability analysis, and the arm's length principle are applied. The case of services has its special characteristics.

The arm's length principle is more difficult to apply in the services than in the property's case because it is difficult to find third-party² to compare the transactions. If we find the companies of uncontrolled transactions, then we should make adjustments for different economic circumstances. One thing considered from the companies, which take part in controlled transactions that use intangibles, is that the tax authorities³ require the companies offer services for these intangibles in order to make separate transfer pricing analysis. However, the authorities can avoid it. Therefore, we have the following transfer pricing criteria for services, which are the same as that of the property:

- **Best method rule:** The best method rule is the procedure where the company, which takes part in controlled transactions, chooses the method that is the most appropriate to serve its scope of business activities. The best method rule is crucial for the next step of the comparability analysis because it will show the orientation of business activities of the company for the change of data in the best way to allocate its profits and losses.
- **Comparability analysis:** The comparability analysis is the process that permits the identification of transfer pricing of companies, which have business activities that belong to control transactions. The comparability analysis is a tool that allows the enterprises to eliminate the differences between the controlled and uncontrolled transactions (Feinschreiber, 2004). We could consider the comparability analysis as a change tool that can be used by the enterprises to estimate if they comply with the tax authorities.
- **Arm's length principle:** The arm's length principle is about the agreement between the OECD member countries about the transfer pricing. The arm's length principle tackles issues about the difference between controlled and uncontrolled transactions⁴. This means the transactions under control by the enterprises to avoid taxation (controlled transactions) differ from the transactions among companies that are not affiliate (uncontrolled transactions). Thereupon, the profits in the controlled transactions are allocated among companies in order to avoid or minimise the costs and maximise the profits.⁵

We should notice that the companies that are subsidiaries must not offer services to the mother companies similar to the scope of the mother company. As mentioned above, the special characteristic of intangibles is the identification of similar circumstances of companies from the uncontrolled transactions. This means that it is not possible to clarify the services as the property because the services are

² As third-party is the case of companies, which participate in uncontrolled transactions.

³ As tax authorities could be considered the IRS (Internal Revenue Service).

⁴ Uncontrolled transactions are the transactions that happen between companies free of control and allocation of profits and losses.

⁵ See paper: Challoumis, Constantinos, *Methods of Controlled Transactions and Identification of Tax Avoidance* (February 4, 2018). In this paper the tax methods are described.

not so objective. Then, a company of control transactions could estimate the services at a much higher transfer price, or at a much lower transfer price than its real one. Then, the transfer pricing in services is more subjective than with property. Simultaneously, in the companies tested parties⁶ have a wide range of flexibility for their business plan activities. Thereupon, we conclude the two following special characteristics for the services:

- The companies which take part in controlled transactions of transfer pricing have higher flexibility to adjust their data in the comparability analysis.
- In the services it is more difficult to identify the same circumstances between the controlled transactions transfer pricing with that of the uncontrolled transactions.
- If the services are for intangibles, plausibly the tax authorities could require a separate analysis between property and services.

From the points above, the last one is a unique tool for enterprises that take part in controlled transactions because they can use the intangibles to make a hidden transfer between a mother enterprise with its subsidiary. Then the services could be covered through the use of the intangibles. We illustrate this economic situation in the scheme (Fig. 1).

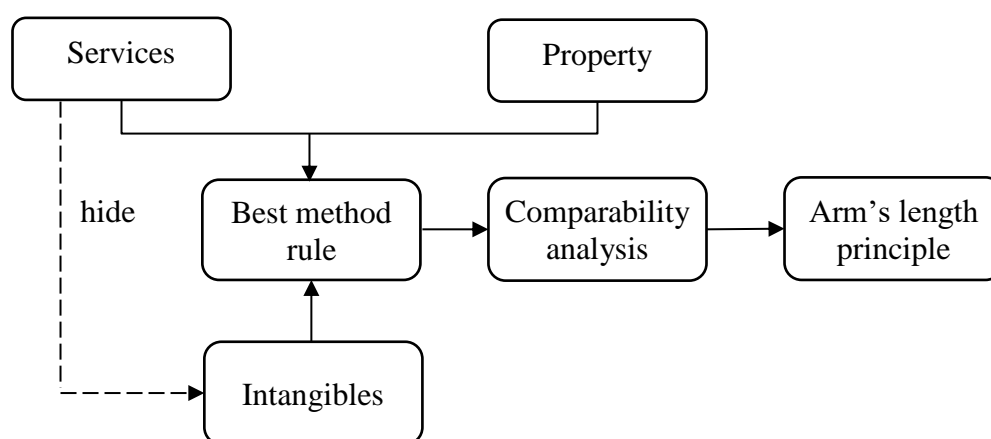


Fig. 1. Services through the intangibles.

In Figure 1, we have the case that the companies could hide some of their costs from their subsidiaries. Then, the companies that take part in controlled transactions can allocate their profits and losses in an easier way because these companies have an additional tool for the allocation of profits and losses.

⁶ Tested parties are the companies which participate in controlled transactions. They are called tested because they are used as a reference point for the companies of controlled transactions to establish the view if their tax estimations and behavior are fine with the tax rules of the authorities.

3. APPLICATION OF METHODS FOR SERVICES

In controlled transactions, the most common methods for services used to tackle with the taxation are as follows:

- The Comparable Profit Method (CPM) is a method based on the profits of the enterprises, which take part in controlled transactions. This method uses profit-level indicators to achieve the arm's length principle. We apply these indicators to find the adequate profit level for the companies, which are the tested party (as the tested party is the company which applies the method to tackle tax purposes). If there is no divergence between the profits of controlled with uncontrolled transactions, then it is considered that the CPM method complies with the best method rule.
- The Resale Price Method (RPM) is a method that stands on the profitability of the distributor. This means that this method emphasises the determination of the gross margin from the side of the distributor. Then, this method stands on the subtraction from the uncontrolled resale price an appropriate gross margin, defining with that way the resale price margin (Feinschreiber, 2004). Thence, the resale price margin could be determined from the uncontrolled purchases and resales by the company, which takes part in controlled transactions.
- The Comparable Uncontrolled Price (CUP) is a method based on the estimation by the taxpayer of the amount charged in a controlled transaction. This means that, according to the CUP method, it should make a comparison of the price charged for property or services transferred in a controlled transaction, with the case that we have a comparison with an uncontrolled transaction. The data from the uncontrolled transactions could be retrieved by the quotation media and the public exchanges, and the taxpayer should adjust these data.
- The Cost Plus Method aims at the cost-plus mark-up, which is added to the cost. This mark-up cost is added to the costs (costs that happen by the supplier of property or services to an associated purchaser) in order to make an appropriate profit.
- The Profit Split Method (PSM) is a method where we divide the profits of the companies and according to the regulations we have two accurate profit split methods. The first one is the Comparable Profit Split Method (CPSM) and the second one is the Residual Profit Split Method (RPSM). Then, the comparable profit split method pends on the division of the operating profits among the controlled taxpayers in amounts similar to those which come from the uncontrolled transactions (OECD, July 2017). The residual profit method is about the allocation from the combined operating profit or loss of uncontrolled transactions to the controlled taxpayers. Then, the operating income is transferred to the participant, which will make a market return from its business activity. The residual profit of the intangible property is apportioned.

We get that the property and the services have the same methods to be used in the best method rule. The main difference between property and services is flexibility, reliability of the adjustment of method and the data that companies of controlled transactions have for their business activities. We illustrate the prior methods in the next scheme (Fig. 2).

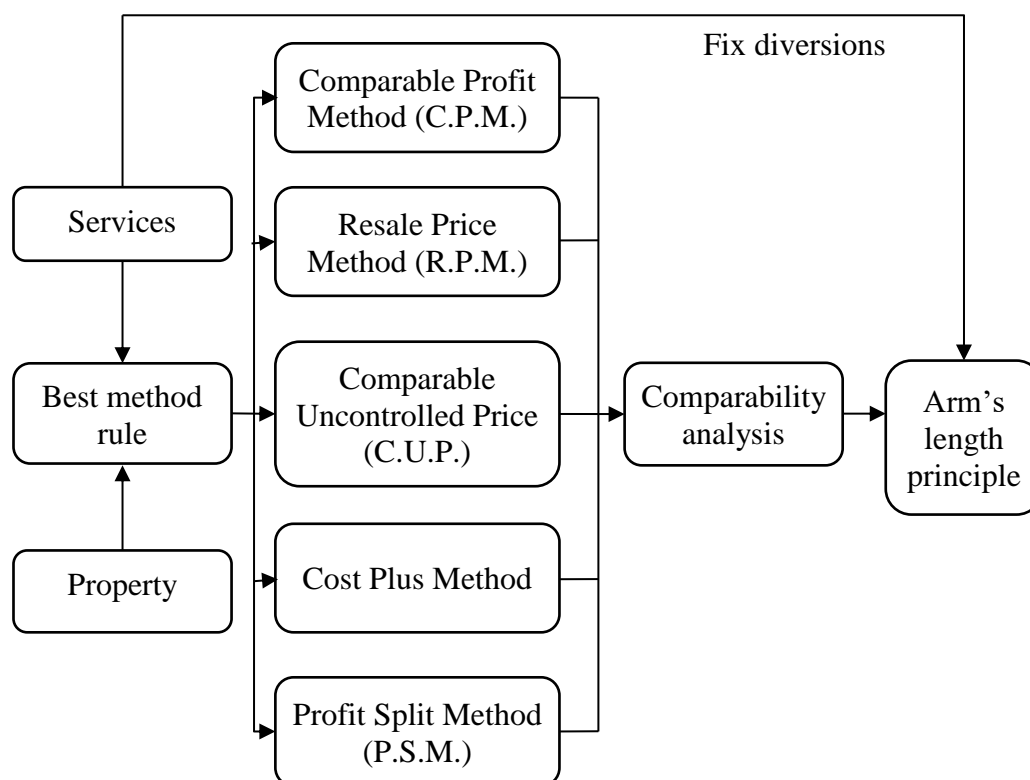


Fig. 2. Methods of services.

In the previous scheme, the companies, which take part in controlled transactions, can follow an approach that permits them to justify the diversions between the controlled and the uncontrolled transactions and to submit to tax authorities a version of profits and losses that complies with the arm's length principle.

4. ESTIMATION FOR SERVICES

The impact factor of tax revenues of countries, which are tax heavens, s (or otherwise global tax revenue) according to the "Methods of Controlled Transactions and Identification of Tax Avoidance"⁷ (we expect similar results, as scrutinized before), is determined as follows:

$$s = \frac{k+l}{r+c+t+i} . \quad (1)$$

The symbol of s shows the impact factor of the tax revenues of the countries, which are tax heavens or have stable economic environments and low tax rates. The

⁷ See paper: Challoumis, Constantinos, Methods of Controlled Transactions and Identification of Tax Avoidance (February 4, 2018).

SSRN: <https://ssrn.com/abstract=3134109> or <http://dx.doi.org/10.2139/ssrn.3134109>

opposite happens for \tilde{s} . There are countries that receive products that are taxed in different countries (Challoumis, 2018). This allocation of profits between profits and losses allows the enterprises, which take part in controlled transactions of the transfer pricing activities, to maximise their utility. At the same time, tax revenue is declined from a global perspective. Then, a loss of tax income from some countries is more than the profits that make the countries, which are tax heavens. Thereupon, the symbol of s is the impact factor of tax revenue from a global perspective, and there are some coefficients that are k, l, r, t, i and c . (Challoumis, 2018). Thus, the symbol of k is about the impact factor of capital, l is the impact factor about the liability of the authorities on the tax system. Interpreting the liability is about how much unbalanced the tax system is. The parameter of r is about the risk, t is about how much trustworthy the tax system (bureaucracy) is. The symbol of i examines the case of intangibles (the intangibles which are charged to the subsidiaries) of the tax system. The symbol of c is about the cost of enterprises. The symbols with the “~” is accordingly the same thing but from the view of the uncontrolled transactions. Thus, the numerator is proportional to the income of taxes. The denominator is inverted proportional to the tax income, as the risk, the cost, and the unbalance of taxation cause less tax income. Moreover, for \tilde{s} we have:

$$\tilde{s} = \frac{\tilde{k} + \tilde{l}}{\tilde{r} + \tilde{c} + \tilde{t} + \tilde{i}} \tag{2}$$

It should be mentioned that we analyse the impact factor of capital in two variables:

$$k = k_1 + k_2. \tag{3}$$

The symbol of k shows the impact factor of capital. We conclude from equation (3) that the impact factor of capital is representative for tangibles, i.e., the property and the services. Thence, k_1 symbolises the impact factor of property and k_2 is the impact factor of services. Then, the QE method is used.

Table 1. Compiling Coefficients of Matlab Simulation (see Appendix)

Factors	Values
k_1	0.1
k_2	0.4
l	0.4
r	0.6
c	0.3
t	0.21
f_s	<0.3
$f_{\tilde{s}}$	>0.3

We expect to have similar results with the work “Methods of Controlled Transactions and Identification of Tax Avoidance” as the k_1 coefficient is determined to be approximately equal with zero because we estimate calculations only for services (It is not zero as we consider a minimum number of transfer pricing of goods with the main services). Therefore, in the simulation, we use the coefficients of the same economic environment that are applied to the transfer pricing of goods. We suppose that in this case we have only services as this is the analysis of this paper. The $\tilde{s} = 0.3$ (as it represents a bad tax income of the authorities, 1 represents the perfect economic environment and 0.5 – a middle economic environment) and we determine the behaviour of s to compare it with this bad tax environment of \tilde{s} . The factors of s follow the hypothesis that the tax income should increase in the low tax systems. Using the QE method, we examine the model and we check if the theory collapses, or needs modifications, or it is appropriate according to the OECD general rules about taxation of controlled transactions and can establish the case of services.

The generator of this procedure used the coefficients provided in the previous table. The factors have an upper limit of 1, and a lower limit 0, but s and \tilde{s} are plausible to receive values greater than one as their mathematical structure allows this. After 461 iterations, the following diagrams were extracted:

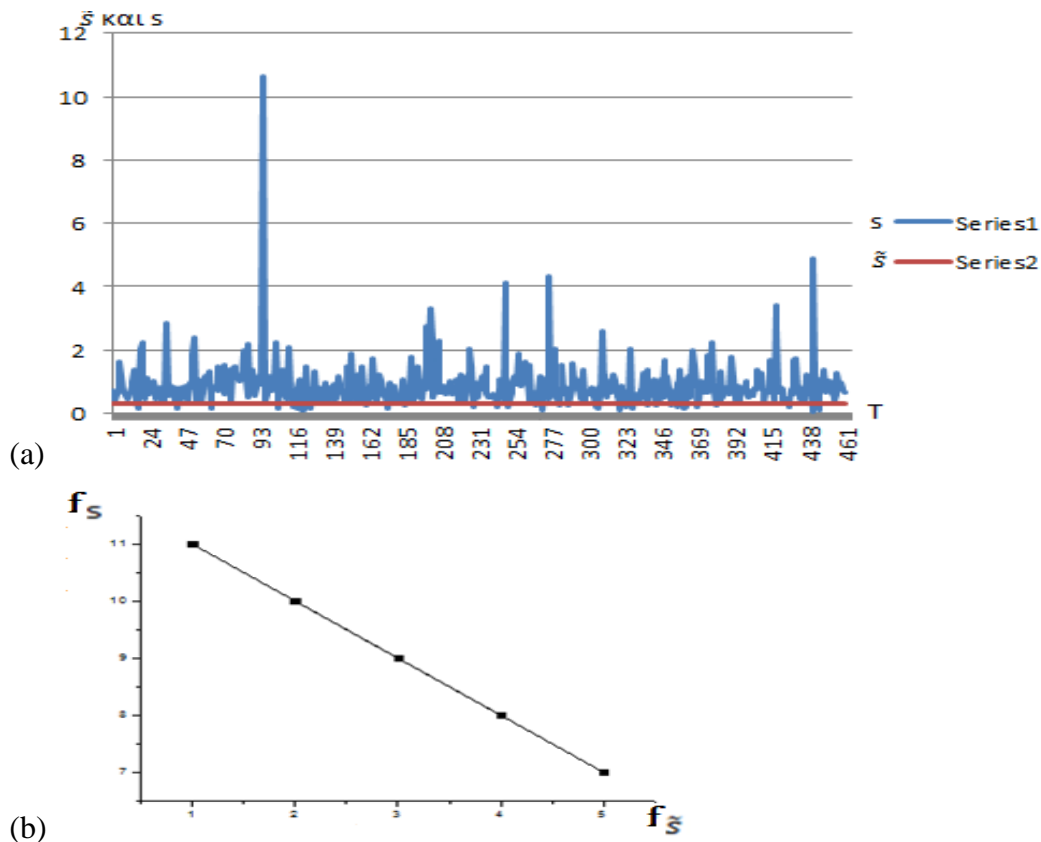


Fig. 3. Diagrams (a) impact factors of s and \tilde{s} (b) frequencies s and \tilde{s} .

As we expected from the simulation (according to the simulation of the previous table we received these graph results), we obtained similar results with the case of transfer pricing of goods. The behaviour of services is that of goods. The main difference then between services and goods is that services are easier to hide from the companies. Then, the importance to apply the fixed length principle is higher with services because it is difficult for the authorities to identify them. Due to this advantage, the companies of controlled transactions choose more easily the tax method they prefer. In diagram (a), \tilde{s} is a constant for the comparison with the s . The diagram (a) shows that there are some disturbances when the nominator of equation (1) is lower than the denominator. This means that the tax income is much higher if the tax authorities set a low tax rate to the local companies. In diagram (b), we get that the frequency of f_s is higher than the frequency of $f_{\tilde{s}}$, as there are more controlled transactions than the uncontrolled ones. According to the diagram (b), we confirm that we have more companies that prefer to proceed to controlled transactions when the tax rate is high, thus tricking the tax authorities.

Therefore, we obtain from two graphs that when the companies face a bad economic and tax economic environment, they proceed to controlled transactions. As a result, the companies prefer to proceed to controlled transactions with services, to establish more profits, and better allocation to their prices through their transfer pricing practices.

CONCLUSION

The problem of taxation of the controlled transaction in services is that it is not easily identifiable by the authorities.⁸ The companies applying one method, which refers to this analysis, can reduce their tax bureau. It should adjust the public policy to make the companies avoid controlled transactions and to proceed to uncontrolled transactions. An increased fixed tax for companies of controlled transactions could resolve this problem. High taxation or non-constant tax environments make the enterprises try to trick the public tax administration. The stable tax environments and the low tax environments attract the companies to proceed to uncontrolled transactions. The problem of taxation of companies could be solved by applying the fixed length principle⁹ that covers these issues that are not covered so much by the arm's length principle.

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⁸ The results are the same with that of the paper "Challoumis, Constantinos, Methods of Controlled Transactions and Identification of Tax Avoidance" <http://dx.doi.org/10.2139/ssrn.3134109> because there k is equal with k_2 .

⁹ Challoumis C. (2019). The arm's length principle and the fixed length principle economic analysis, *World Scientific News*, 115–118, pp.1–12.

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APPENDIX

Compilation code for the application of the QE method of RBQ model:

```

q=0;
while q<10
  q=q+1;

count=0;
counts=1;
counts1=1;
while count<10
  if rand()<9
    k=0.4*rand();
  end

```

```

if rand()<9
    a=0.2*rand();
end
if rand()<9
    l=0.4*rand();
end
if rand()<9
    r=0.6*rand();
end
if rand()<9
    c=0.3*rand();
end
if rand()<9
    t=0.21*rand();
end
s=(k+1)/(r+c+t+a);
s_tilda=0.3;
count=count+1
    if s<0.3
        counts=counts+1;
    else
        counts1=counts1+1;
    end
end
%initially remove ;sec and after the first compile add it
sec=[a,c,count,counts,counts1,k,l,q,r,s,s_tilda,t;sec];
end

```

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Constantinos K. Challoumis has four master degrees and four bachelors in the following fields:

Bachelors in: (1) Electrical and Computer Engineering; (2) Economics; (3) Law and (4) Political Sciences and Public Administration.

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