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Research Article

Tax havens and transfer pricing intensity: Evidence from the French CAC-40 listed firms

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Keywords

transfer pricing intensity | effective tax rate | intangible assets | firm size | leverage

PUBLIC INTEREST STATEMENT

This paper discusses the phenomena of profit shifting by corporations for the purpose of paying less taxes. It concentrates on the impact of intangible assets, firm size, effective tax rate, and leverage on the intensity of transfer pricing in French publicly listed firms in the CAC-40. The results show that firm size and leverage are positively associated to transfer pricing intensity while intangible assets and effective tax rate have a negative impact.

1. Introduction

Many tax-related scandals were made public in the past few years involving some of the major corporations such as Amazon, Google or Starbucks (Barford and Holt 2013). These corporations were accused of practicing tax avoidance on an industrial scale by shifting p… According to the O… x Administ… e attached to the cr… group but establish… e of intragrou… oods and merchan… provision (e.g. res… nt), or finan… yments). By nature, … ween related f… evelopment of intrag… x authorities around t… oment (OECD) … worldwide total tra…

The determination of a transfer price and the localisation of its value directly, and potentially to a great extent, affects the net income—and its related tax—of the firms involved. Indeed, the transfer prices are considered as a deductible charge from the taxable basis for the party which pays for it, and it is added in the taxable basis of the related party receiving the payment. At the heart of the international taxation of MNEs, transfer pricing represents the central challenge both for corporations and for tax authorities worldwide. Firms can take advantage of discrepancies in national's taxation systems and rates either by:

- Making the entities in lower tax rates charging the related entities in higher tax rates for goods or/and services to shift profits to a more friendly-tax jurisdiction;
- Manipulating the value of transfer prices: over-valuing payments to higher tax rates countries and under-valuing transactions to lower tax rate countries.

On the contrary, States pursue their objective of attracting the largest taxable base in their own jurisdiction. The challenge is not only concentrated between a taxpayer and a tax authority but rather between a multinational group and at least two different tax authorities. Therefore, transfer pricing management aims to avoid two issues at the same time. First, the artificial localisation of results and expenses to minimise the tax expense. Second, the risk of double taxation in two different countries. The transfer pricing g Article 9 of the Mod e determi ndent parties c wo indepen ected with the marl y, the "right" a allowed for the S t's taxable basis

The tran thout any risk for f ral tax authoriti as it was valued e ent which, in case c xation. To

reduce this risk, the OECD's Guidelines offer two double taxation neutralization mechanisms:

- A tax payer can, in advance, settle with tax authorities on an agreement on its transfer pricing policy, to legally secure it and potentially avoid a future adjustment;
- Following an adjustment, the tax authorities can decide on allocating the taxation power to the different authorities concerned and settle on an out-of-court, amicable agreement.

The "right" determination of transfer prices is a complex step. The OECD presented different valuation methodologies of transfer prices such as Traditional Transaction Methods (CUP method, Resale price method, Cost plus method), and Transactional Profit Methods (Transactional net margin method, Transactional profit split method). Although this study does not focus on explaining the differences between the generally accepted methods to determine an arm's length price, however, the introduction of these different methods in the transfer pricing would lead us to a few research questions this paper will examine:

- Can corporations lower its effective tax rate and increase its transfer pricing aggres
- Is the s as we have s

Accordin ble assets, firm size f French listed fir 2015 and apply a results of the stud s transfer pricing i ng intensity. This stu of authors' knowled

The pap tudy; section cover the findings

2. Literature review and hypothesis development

MNEs' structure have constantly evolved throughout the past century to be in accordance with the need of globalization of firms to survive. In its study on decisional structures in MNEs, Eichner (1978) puts into perspective a decentralised multiproduct, multinational and multidivisional structure, described as the "M-form", opposed to the traditional "U-form" in which top management is in direct relation with functional divisions—e.g. finance, logistics, etc.,—of the group. In the traditional U-form, employees evolve "on their own" in their department and do not benefits trans-functional expertise or collaboration. This organisational structure is therefore limited in many ways: such as difficult innovation processes, limited performance assessment, strictness of production processes, possible loss of control when managing complex and/or foreign activities. The M-form meanwhile is referring to a parent firm setting the strategy guidelines in the long run and exercising control over the assets used in its affiliates firms. An "M-structured" group is comprised of business units, each one managing core functions for its operations. The purpose of such structure is to optimise the management of assets on a divisional basis and therefore on a group level.

In accordance with those evolutions, MNEs are comprised of a multitude of operational and non-operational entities, holdings and sub-holdings located in various jurisdictions —some Report[3] in 2016, th "UNCTAD") examine hat the first hundred 0 different jurisdicti n 70 affiliates Es were consider ery firm in the wor y became publ everyone is aware t s and many have ex d research s effect on the tax b based on an indire

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Rice is based on the hypothesis that the observed profits equal to the sum of the “real” profits, which come out of tangible economic activities, and the shifted benefits. The regression analysis allows to measure the sensitivity of profits to the tax rates differentials between parent firms and their subsidiaries, considering factors that have a direct and material impact on an enterprise profits such as workforce, leverage, industry, level of development of the host country, etc. Therefore, these factors are used to estimate the counterfactual level of profits, i.e. the profits which would have been observed if no shifting was possible. The initial approach by Hines and Rice (ibid.) used country-by-country aggregated data on U.S.-based MNEs to isolate the effect of tax rates variations between the parent firm and its subsidiary on the reported earnings of the affiliate. A few years earlier, Grubert and Mutti (1991) also performed one of the founding research on the topic. Indeed, the results of their U.S.-based cross-sectional panel data explained that U.S. multinational corporations tend to import and export more from their affiliates in low-tax jurisdictions where its investment was also greater. To continue on U.S. focused researches, we can refer to the work done by Grubert, Goodspeed, and Swenson (1993) for evidence of profit shifting by MNEs to more tax-friendly jurisdictions or known tax havens. Concerning European-based researches, we can mention the work of Huizinga and Laeven (2008) which study the spread of profits of European MNEs.

Further, S. affiliates’ earnings .S.-based parent e in low-tax jurisdicti shifted to a demater ricing. The golden r ansactions to price ued intang agers can use p reat challeng ecause of the lack ore, as those valuatio ent to take advanta e assets betwee , 2011).

for MNEs to present all the elements and methods which could be used when such transactions are undertaken between related parties to ensure the arm's length principle respect. The organization defines intangible property as the right to use industrial assets such as trademarks, patents, intellectual property, industrial and business secrets, designs and models. In an innovation-based economy, a large part of corporations' value is based on its intangible assets which often lead to competitive advantages. Some types of such valuable easily transferred assets may lead to tax planning and raise transfer pricing issues. Indeed, some multinational groups may allocate their intangible assets to lower-tax jurisdictions, generating royalties or license-fee from other entities of the group in higher-tax countries benefiting from such assets allowing profit shifting. The hypothesis is supported by a study which empirically observes a negative relationship of royalty flows on taxation (Dudar, Spengel, & Voget, 2015). Another study by Dischinger and Riedel (2011) on the geographical allocation of intangible assets in MNEs empirically demonstrates that lower a subsidiary's corporate tax rate relative to other affiliates of the multinational group the higher is its level of intangible asset investment. Accordingly, we develop our first hypothesis:

H1:

Intangible assets are positively associated with transfer pricing intensity.

The firm mber of employe n capacity, capital i erform more operatio ver the world, th form business and loss-making ies in deficit to be dictions. Acco g is mainly used by means and expertis e influence of firm s smaller groups a 2003) observe ces on a larger sc countries

profits to low-tax countries and increase their deductible charges through royalties' payments to higher-tax jurisdictions to reduce the consolidated taxable income of the group (Duhigg & Kocieniewski, 2012; Womack & Drucker, 2011). However, an empirical study by Wijaya and Kusuma (2017) concluded that larger firms may try not to perform such optimization because of tax authorities' attention and public outrage that may hurt their business and operations. But considering their small sample of listed firms in Sri Lanka we may challenge these findings as our paper is analysing much larger corporations listed on the CAC-40. Accordingly, we develop our second hypothesis:

H2:

Firm size is positively associated with transfer pricing intensity.

A consolidated group must consider the differences in tax rates in each jurisdiction where it performs economic activity, therefore, there are differences between global strategies that would be implemented in accordance with a local tax strategy. In other words, the optimal solution for the group may not be the optimal one for its related entities if considered as sole entities. The impact of tax can be measured by calculating the effective tax rate (ETR) which can provide information on whether the MNEs used tax avoidance techniques to minimise its tax charge. According to many authors, the effective tax rate can be used to measure and assess the efficiency of tax management in a grou , 1999) as the intra ces in the literatur pta and Newberr go (2003) also just the corresp hors incorpor perations. In thi e charges may ill not accurate ng fiscal year as ally test the impact o p our third hypothe

H3:

According to Modigliani and Miller (1958), in a perfect capital markets situation, the financial structure does not affect the firm's valuation but as stated in their "Proposition 1" it is rather the value of its treasury flows from its assets which determines the total value of a firm. In the presence of taxes, this proposition is as follows: a leveraged firm's value exceeds the value of an unleveraged firm by the value of tax savings allowed by the tax deductibility of interests. However, in real and imperfect capital markets, imperfections arise such as informational asymmetry, incompleteness and the weakness of contracts' implementation. Based on agency theory, the situation is that where a principal (tax authority) wants to attract the most income possible from taxation and the agent (corporation), on the contrary, wants to lower this taxation (Fama, 1980). Therefore, leverage can be used to reduce taxes paid through increased deductible interests costs, lower profit, and lower ETR. In their research study, Richardson and Lanis (2007) stated than the more a firm will finance itself by debt, the lower will be its ETR. Taylor, Richardson, and Lanis (2015) also demonstrated empirically that debt-financing has a positive relationship with tax avoidance. Accordingly, we develop our fourth hypothesis:

H4:

Firm leverage is positively associated with transfer pricing intensity.

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3. Data

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estimates. Further, during the period from 2012 to 2015, a few firms were retreated or suspended from the index (e.g. STMicroelectronics which was replaced by Alcatel S.A. on the 23rd of December 2013), thus these firms were also excluded from our sample. Accordingly, our final sample comprised of 33 firms with 132 firm-year observations over the period of 4 years. The sample period was chosen represents the in-between period right after the global financial crisis and the OECD's BEPS projects and guidelines implementation. The data are hand-collected from each "Document de Référence"[4] for each firm in our sample and for each year.

3.1. Econometric model

The aim of the study is to examine the impact of intangible assets, firm size, effective tax rate, and leverage on the transfer pricing intensity of listed firms in French-based index CAC-40. Therefore, we develop the following regression model:

$$TPI_{it}=\alpha 0+\beta 1INTANG_{it}+\beta 2SIZE_{it}+\beta 3TAX_{it}+\beta 4LEV_{it}+\alpha t+\varepsilon it \quad (1)$$

where

Indicator	=	Definition
α_0		
TPI_{it}		
INTANG		
$SIZE_{it}$		
TAX_{it}		
LEV_{it}		

α_t	=	= Time fixed effect
ε_{it}	=	= Error term
i	=	= Firms 1–33
t	=	= Years 2012 − 2015

3.2. Estimation methods

We apply simple OLS and time fixed effects regression techniques to estimate Equation(1). We also test our models against multicollinearity and find variation inflation factor no greater than 10 (see Table 2 for reference)(Ott & Longnecker, 2015). Finally, we run Pesaran CD test and found cross-sectional dependence. Therefore, we correct the standard error using Driscoll and Kraay's standard errors which is robust to panel dependence (Al-Gamrh, Ku Ismail, & Al-Dhamari, 2018; Hoechle, 2007).

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Table 3 p escriptive statistics standard deviatio imum and maximu .592.

maximum range goes from 3.828 to 5.361 with a standard deviation of 0.371. The effective tax rate of French CAC-40 listed firms have a mean of 23.90% which is lesser than the official corporate income tax rate of 3313%. The minimum tax rate in our sample is −267% for Veolia due to depreciation of untaxed assets and the non-recognition of deferred tax in some countries[5]. The maximum ETR in our sample amounts to 67.90%. The median is of 28.50%, quite close to the 3313% rate. For the leverage, we observe that the debt to equity ratio greatly vary from 0.382 to 7.841.

4.2. Regression results

To investigate the impact of the independent variables on transfer pricing intensity (Equation-1), we apply regression techniques. The following Table 4 shows the results of variations in transfer pricing intensity as a result of variations in the explanatory variables. Our regression models explain 7.2% to 7.6% variations in transfer pricing intensity due to Intangibility, firm size, effective tax rate, and leverage. Model 1 includes four explanatory variables while model 2 includes four explanatory variables along-with time fixed effects.

Table 3. Summary statistics

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Table with transfer support our hypothe nal or more intra-gro the results are supp oteli, and Maina (2 or et al. (2015). W other

corporate income tax in France of 3313%, firms may be tempted to shift their intangible properties to more tax-friendly jurisdictions through complex schemes and therefore reducing the reported intangible assets in their financial statements. Another possible explanation could be that the examined firms under-value their intangible properties such as intellectual property. As firms tend to reallocate their intangible assets in low-tax jurisdictions due to the difficulties of valuation and finding comparable to price transactions at arm's length, such an amount would be diluted into the consolidated financial statements and the individual entities' statements located in tax-friendly country then should be analysed and compared to other group's entities to assess the actual proportion of such practices. By doing this, firms can also benefit from the opportunity to shift profits offshore while paying royalties to their affiliate owning such as a patent right.

Further, we observe that firm size is significantly positively associated with transfer pricing intensity of the French firms suggesting that as a firm grows and develops internationally, it automatically increases the number and amounts of intra-group transactions to and from various locations (hypothesis-2). According to Rego (2003) MNEs having a large number of entities have a lower effective tax rate than those with less entities. This result is supported by a number of empirical previous studies (Cecchini, Leitch, & Strobel, 2013; Richardson, Taylor, & Lanis, 2013). A common conclusi n incoming cash flo er number of entiti tax optimisa

We hypo ricing intensity sfer pricing transact .042* (mo g that MNEs with a pricing transact). Previous studies ower its tax charges. engaging in transfer orted earnings nple

costs which would be incurred in case of a public scandal in which the firm may be involved. Meaning that the firms reporting low profits and keeping a low profile not to get under the tax authorities' radar and may practice aggressive transfer pricing policies. Further, we find a significant positive association between leverage and transfer pricing intensity (hypothesis-4) explaining that French firms listed on CAC-40 use leverage to reduce their taxes paid through increased deductible interests costs, lower profit, and lower ETR.

5. Conclusion

The transfer pricing intensity of MNEs is one of the major interests when analysing the economic significance and the stakes of profit-maximizing firms for governments. Therefore, the identification of the practices is particularly important and the analysis of the variables effecting the transfer pricing intensity of MNEs is of academic and public usefulness. The study applied an innovative approach, as it is based on a large and tedious hand-collected data of French CAC-40 index, to investigate the determinants of transfer pricing intensity. The study reviews the relevant literature thoroughly and develops four hypotheses based on literature and previous empirical studies. The study tests these four hypotheses using linear regression controlled for time-fixed effects. The results o ax rate decrease m size and leverage results in the light

This rese le size cannot a adjust some of the corre are for the most pa hose variables way as in an America of transfer pricing a ed a lot more details t enue Service, e

the French context. But the regulatory environment is moving quickly, and it may be possible to access such level of data in the near future to perform empirical studies of greater robustness.

Future studies should examine multinationality and tax havens utilisation as it was empirically demonstrated that those factors are positively associated with transfer pricing intensity by Taylor and Richardson (2012, Taylor et al., 2015) if the access to such data is possible. In the U.S. and Australia and made public by the IRS and the Australian Taxation Office, it is not yet publicly available for French corporations. Future researches may also concentrate on analysing such questions in developing countries.

Correction

This article has been republished with minor changes. These changes do not impact the academic content of the article.

Additional information

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Notes

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Notes

1. First implemented in 1979 and continually revised and supplemented until the latest version dated 19 May 2017.

2. OECD (2003), “Article 9”, in Model Tax Convention on Income and on Capital: Condens
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3. UNCT llenges.

4. Defini y company with sec ultilateral trading f e company’s organisa tration docu ving financial analysts ation that they nee ancial position, cial and accounti n of the compan

5. Refere tax rate: “Le

d’actifs non fiscalisées et de la non-reconnaissance d’impôt différé actif dans certains pays et groupes fiscaux compte tenu de leurs plans d’affaires respectifs.”

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