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International tax planning techniques: a review of the literature

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Abstract

Purpose – This paper aims to understand the international practices of tax planning. International companies choose their capital structure according to differences in international taxation, in order to minimize the tax burden of the whole company group. This paper reviews the literature that deals with international tax avoidance techniques by highlighting tax planning measurements in the empirical literature. The methodology used is the narrative approach of literature review, which consists on assembling and synthesizing previously published research. The paper concludes that there are several approaches of international tax planning including transfers of revenues by geographical area, redevelopment of the company, haven and loopholes in tax legislation. Moreover, finding more precise measures of tax planning techniques would be of great value to studies in this respect.

Design/methodology/approach – The authors follow the guideline provided by Templier and Pare (2015) in order to select the type of the literature review to use in this paper. Accordingly, this paper employs the narrative approach of literature review, which consists on assembling and synthesizing previously published research on international tax planning. This narrative review will serve as a starting point for future investigations and research developments. The authors rely on a logic of configuration in order to analyze data. This logic consists on addressing then organizing various aspects of international practices of tax planning.

Findings – The paper concludes that there are many aspects of international tax planning that need to be covered by future researchers, especially finding more precise measures of tax planning techniques would be of great value to studies in this respect.

Research limitations/implications – The literature survey reveals the following issues. First, few studies have been conducted to date. Second, several approaches remain unexplored, and studies rely only on surveys' results collected from the annual report of companies (microeconomics variables), while macroeconomic variables can better explain the phenomenon of international tax planning. In this context, studies containing proposals to estimate more accurate international companies' tax planning techniques would also be welcome. Previous literature supposes premises on this issue th:at limit the accurateness of the analysis. Particularly, empirical literature is short of the proper measurement to evaluate corporate tax avoidance. This would explain the various interpretations of research findings. Hence, finding more precise measures of tax planning techniques would be of great value to studies in this respect.

Practical implications – This literature survey highlights recent studies dealing with tax planning theories within the framework of corporate governance. This theoretical framework particularly specifies which key variables are the most suitable for measuring tax planning methods and highlights the need to examine how those key variables might differ and under what circumstances. In addition, it underlines limits on tax planning measurements by addressing the comparison of the empirical measurements.

Originality/value – The paper contributes to the literature on internal tax planning in several ways. First, this study is unique in that it constitutes the only literature review that provides a comprehensive overview of research on international tax planning. Especially, it extends previous studies by considering the specific new trend of empirical literature dealing with the techniques of international tax planning. This literature review

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identifies two categories of tax planning approaches including techniques related to company internal management practices and international tax planning techniques. In addition, the literature survey helps to determine various strategies used by multinationals for tax planning, through an in-depth review of the existing studies. Finally, it provides researchers with a starting point to further explore issues related to tax avoidance techniques.

Keywords Motivation of tax planning, Tax avoidance practices, Measurements of tax planning

Paper type Literature review

1. Introduction

International tax planning is a complex and vast field. Although relatively recent, tax planning by multinational corporations has been prioritized. Tax planning strategies are used by national and international firms in order to avoid tax obligation. Multinational companies exploit the interaction of the tax systems of different states. Particularly, these companies choose their capital structure according to differences in international taxation, in order to minimize the tax burden of the whole company group. International tax planning highlights profits' reallocation by international companies in order to take advantage of tax differences between countries. The whole objective is to decrease tax bills. Accordingly, it becomes important to understand the international tax knowledge, as well as the multiple tax jurisdictions, given that there are many fundamental issues to consider before establishing the optimum tax corporate structure.

The aim of this paper is to trace the development of international tax planning techniques and to identify the theoretical frameworks that justify these techniques. Particularly, this paper offers a survey of the literature on international tax planning. This review offers distinguishing features since it focuses only on international tax planning techniques and summarizes the related empirical research by suggesting future research avenues.

The paper contributes to the literature on internal tax planning in several ways. First, this study is unique in that it constitutes the only literature review that provides a comprehensive overview of research on international tax planning. Especially, it extends previous studies by considering the specific new trend of empirical literature dealing with the techniques of international tax planning. This literature review identifies two categories of tax planning approaches including techniques related to company internal management practices and international tax planning techniques. In addition, the literature survey helps to determine various strategies used by multinationals for tax planning, through an in-depth review of the existing studies. Finally, it provides researchers with a starting point to further explore issues related to tax avoidance techniques.

In light of the importance of this research theme, this study addresses the following research questions. First, it seeks to identify various international tax planning techniques. Second, it investigates the various measurements of tax planning in the empirical literature.

The remainder of this paper is organized as follows. The methodology used for the literature review is discussed in section 2. Section 3 addresses the theoretical framework of international tax planning techniques. Section 4 discusses the empirical literature dealing with the techniques of international tax planning. Section 5 concludes the paper and provides directions for future research.

2. The method of the literature review

We follow the guideline provided by Templier and Pare (2015) in order to select the type of the literature review to use in this paper. Accordingly, this paper employs the narrative approach of literature review, which consists on assembling and synthesizing previously published research on international tax planning. This narrative review will serve as a starting point for future investigations and research developments. We rely on a logic of configuration in order

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to analyze data. This logic consists of addressing then organizing various aspects of international practices of tax planning. Selected articles in this review are mainly based on two sources. First, we start the search process with leading journals, where the major contributions are most likely to be found. Highly ranked journals are selected using various electronic databases such as ISI Web of Knowledge and the Association of Business Schools Journal (ABS) Quality Guide. These latter indicate the relative quality of the journal based on peer review citation and editorial judgment. Then, we identify a representative sample of studies that are considered pivotal in tax planning techniques. Published papers are particularly classified into two main subjects germane to tax planning techniques, namely approaches of international tax planning and their empirical measurements. As far as possible, included papers are highly cited. Additionally, we consider backward searches by examining references in selected papers of interest. This process results in a relatively high number of papers published from 1986 to 2019 in leading accounting journals.

3. International tax planning techniques: a literature review

International tax planning is used to reduce the tax burden of multinationals. Decreasing taxes allow multinational companies to increase their after-tax incomes. To achieve this objective, multinationals may use different techniques, which require detailed knowledge of the different tax systems and tax treaties of the multinationals' countries. Previous researches underline that companies want to overcome tax authorities' examination and avoid reputational costs with shareholders (Graham *et al.*, 2014; Bozanic *et al.*, 2017). International tax planning can be done through one of the following practices: (1) transfers of revenues by geographical area; (2) redevelopment of the company; (3) tax haven; and (4) loopholes in tax legislation [1].

3.1 Transfers of revenues by geographical area

The first technique of international tax planning is the transfer of revenues by geographical area. The assessment of intracompany business within a multinational company affects the global allocation of the tax base between source and residence countries. The majority of countries apply the principle by which internal prices between dependent parties should be similar to prices that would exist between independent parties (Beer *et al.*, 2019). In this context, and in order to decrease their tax liabilities, international firms may falsely charge high prices for products coming from low-tax countries and vice versa (Beer *et al.*, 2019).

Recently the media has drawn attention to the fact that some highly profitable multinational corporations seem to pay almost zero tax on the benefit of the host country. Effective tax rates (ETRs) on the foreign earnings of Google and Apple, for example, were reported at 3% and 1%, as a result of profit transfers and aggressive tax planning activities (Dharmapala, 2014).

The tax planning technique used to reduce the company's taxes is called "Double Irish" [2] (Clemens *et al.*, 2013). The "Double Irish" involves two companies incorporated in Ireland, an IP-Holding and an Operating Company, and a company incorporated in the Netherlands. Indeed, IP-Holding is managed and controlled in Bermuda and therefore considered resident in Bermuda for Irish tax purposes. The United States, on the contrary, treats the company as an Irish company because the tax residence is based on the jurisdiction of the constitution in accordance with US tax law.

The tax planning strategy through revenue shifting by geographic areas is also associated with transfer pricing. The transfer price is defined as "the method of pricing raw materials, products or services that are transferred between the parent company and its subsidiaries or between the different subsidiaries" (Martinson *et al.*, 1999). Bruce *et al.* (2007)

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argue that transfer pricing is a common type of tax planning. This is in line with one of the transfer pricing goals, which are reducing tax worldwide.

We have chosen to illustrate this type of tax planning called (transfer pricing) because of its tremendous growth, especially in the field of international taxation where it is considered the biggest problem in taxing multinationals.

Transfer pricing is intended to provide divisional managers with relevant information on the cost and profitability of intrafirm transactions. Since performance measures for division heads are often based on the profits of the segments they manage, transfer prices have a key resource allocation function in facilitating the transfer of goods and services between divisions. From this point of view, the transfer pricing objective is to determine the distribution of reported revenues in the various divisions of the company (Hiemann and Reichelstein, 2012).

Planning involves sophisticated arrangements in which companies create one or more of its subsidiaries for the purpose of transferring income to more favorable tax jurisdictions. Businesses can reclassify profits and transfer them to a low tax jurisdiction in order to reduce the tax burden. Bruce *et al.* (2007) provide evidence that tax planning activity significantly reduces the taxable profits of firms in high-tax states. The authors show that tax bases have fallen by almost 7% as a result of the increase in the tax rate. This can be interpreted by the fact that firms are more interested in planning opportunities when costs are justified by high tax rates.

The strategy of transferring profits to geographical areas is mainly adopted by multinationals because there are different applications of ETRs between countries. In other words, firms operating in more than one jurisdiction would be more likely to avoid tax (e.g. the US multinationals from 1985 to 1989). Indeed, during this period there were transfers of profits by geographical zones across tax planning activities when there were tax rate reductions in the United States, Europe and other countries. Throughout the period from 1985 to 1986, tax rates in Europe have decreased. This same relationship was empirically studied by Rego (2003) where the author shows that the tax rate of multinationals is lower than their counterparts. The transfer of income is linked to a tax planning strategy that converts a taxpayer's income from one form to another in order to minimize the tax on that particular income (Scholes and Wolfson, 1992).

Tax planning by transferring income from subsidiaries in different tax jurisdictions is a source of concern for the tax authorities, as it has several negative consequences (Gordon and Slemrod, 2000). Mintz and Smart (2004) examined the extent to which transfers of income between affiliates affect the tax bases in Canada. They develop a theoretical model in which they find that taxable profit for multijurisdictional firms that are able to transfer income between affiliates is more mobile than for companies that do not.

As a result of the risks associated with aggressive tax planning activities, G20 leaders stressed the need to take action against the transfer of profits of multinationals in June 2012. On February 12, 2013, the OECD published a report entitled "Erosion and Profit Shifting," which summarizes the preliminary results of the ongoing work of the OECD in this area and identifies key pressure areas. A subsequent global action plan of the OECD with 15 actions was released on July 19, 2013. The deadlines for drawing up concrete recommendations on how to approach its actions are September 2014, September 2015 and December 2015. On December 6, 2012, the European Commission also adopted two recommendations to combat aggressive tax planning.

Figure 1 shows how transfer pricing operates between related companies according to Bruce *et al.* (2007). Particularly, Figure 1 demonstrates how transfer pricing manipulation is considered to be one of the most used methods by multinational companies to transfer their profits to more tax-efficient countries. These prices can be determined in such a way as to transfer the profits of a group in its subsidiaries located in countries with the most

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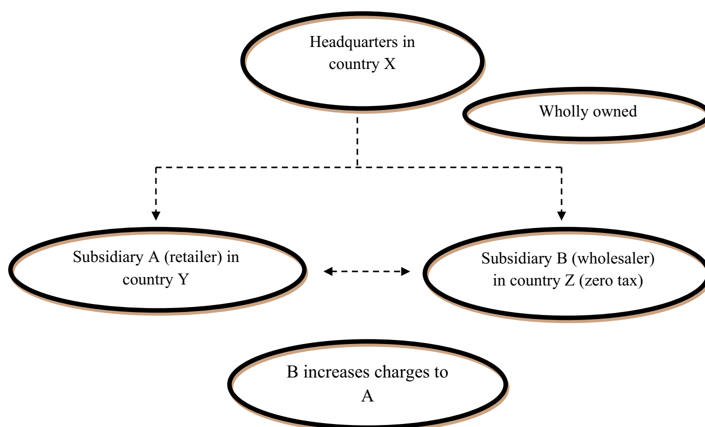

Figure 1. Transfer pricing between related companies (Bruce *et al.*, 2007)

advantageous taxation. According to Figure 1, subsidiary (*B*) is located in zero-tax country, whereas subsidiary (*A*) operates in a high-tax country. When selling a good, company (*B*) may charge subsidiary (*A*) more costs in order to lower profits in country *Y* and thus limit the tax on profits.

Figure 2 explains the approach of tax planning through the transfer of income by geographical area according to Scholes *et al.* (2005). Indeed, international tax optimization mechanisms may have the effect of transferring a portion of the benefit from one country to another, less taxed, through transfer pricing manipulation. For example, Figure 2 shows that a subsidiary in a high-tax state has an interest in selling a good or commodity to another company in the group located in another low-tax state at a discounted price. Such an operation makes it possible to move part of the income of the group from one state where the tax is high, to another where the tax is reduced, which makes it possible to provide a tax saving for the group (one pocket to another). Additionally, Figure 2 shows that another type of tax planning activity is the shift of income from one type to another. For example, companies may shift the nature of an income during adjustment from income revenue in nature to capital gain in nature. Similarly, another example of the modification of the income characteristics may be through shifting the nature of an income from a business to nonbusiness income or vice versa. Finally, a third tax planning approach is to transfer the

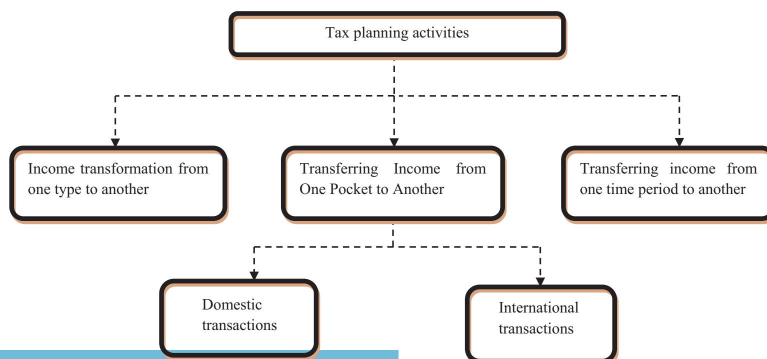

Figure 2. Types of tax planning activities by the transfer pricing strategy (Scholes *et al.*, 2005)

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income from one period to another. Indeed, the future tax rate may be less than, greater than or equal to the current tax rate. When the current tax rate is lower than the future rate, it will result in tax savings in order to recognize income now versus later and vice versa.

3.2 Redevelopment of the company

Another approach of tax planning that is adopted by multinational companies is the redevelopment or the reorganization of the business. International firms may be involved in mergers, acquisitions, divisions and multinational reorganizations in order to benefit from tax planning (Tomsett and Noble, 1986; Huizinga *et al.*, 2009).

Using a case study of a conglomerate, Stonham (1997) shows that firms benefited from tax planning following the adoption of a spin-off strategy in 1996, in which they were able to obtain both tax authorities in the United Kingdom and exemptions on dividends in the United States.

Similarly, another approach of tax planning through reorganization could be done through changes in the residency status of a business. This strategy is also referred to as "enterprise migration." Large multinationals such as Ingersoll Rand, WPP, Henderson and Accenture migrated their portfolios to Ireland in order to take advantage of the benefits of tax planning. Indeed, Ireland offers tax advantages to holding companies on qualified capital gains, on withholding tax and on the tax rate on derivatives.

In the same framework, Barrios *et al.* (2009) show that considering the tax regime of parent companies and subsidiaries plays a significant role in the choice of subsidiaries' location, especially as countries will be liberalized. Thus, a 1 percentage point increase in the ETR in the host country of the subsidiary reduces the probability of location in that country by 0.615%. For their part, Desai and Hines (2002) find that changes in the articles of association between parent companies and subsidiaries are motivated by the desire to escape the taxation of US companies on their foreign income.

3.3 Tax haven

A tax haven is a jurisdiction that has no tax rate or is characterized by a low tax rate. These jurisdictions offer nonresidents a place to escape the taxation of their country of origin. However, low taxation is not enough for a country to be a tax haven. In fact, it was found that only countries that have an important part of services relative to their GDP are considered like a tax haven country (Mara, 2015).

In addition, tax havens are characterized by the secrecy on the banking information they offer to protect investors against the tax authorities outside. Tax havens generally refuse to enter into agreements with other countries for tax purposes in order to keep their bank records and business secrets. They also refuse to exchange information with tax authorities in other countries. This lack of effective information exchange and lack of transparency are considered one of the main criticisms of tax havens as this may encourage involvement in illegal practices such as fraud or money laundering. In addition, tax havens are identified by the fact that there is no requirement that the activities to be undertaken within their jurisdiction must be substantial. This means that investments may not have a real economic activity.

Tax havens could be the result of intense tax competition in recent decades. In fact, firms may react to their competitors, which choose to change their tax planning technique by changing their own tax planning in the same direction (Armstrong *et al.*, 2019). This was accounted for by the fact that these firms want to appear more tax-aggressive than their competitors.

National governments offer tax incentives to attract foreign investment. They offer low tax rates and/or other attractive tax measures to attract capital. Governments offer these tax

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incentives not only to encourage capital flows but also to discourage the outflow of these productive resources. If a government does not make its tax policy attractive, taxpayers can leave the country and move to a more attractive taxation country.

The disappearance of the borders between the Member States makes it easier to move capital and work with the most attractive tax law. It is not only attractive to move capital, but some countries consider that tax practices are seen as an important way to combat certain structural disadvantages such as poor geographical location, limited natural resources and political difficulties. These countries could be tax havens that benefit politically and economically from the foreign investment they receive in exchange for low tax rates.

The OECD has promoted many discussions on the subject of harmful tax competition, such as the illegal use of tax havens. Particularly, OECD countries have discussed with tax haven jurisdictions in order to better understand their purpose and eliminate harmful use between them. In addition, OECD is trying to commit transparency jurisdictions and effective exchange of information. Additionally, some countries may decide to finish their tax treaties with tax havens and do not enter into new agreements with them. This is a sort of exclusion from tax havens. On the whole, it was recommended that countries should encourage programs to intensify the exchange of relevant information in tax havens.

3.4 Loopholes in tax legislation

Companies can take advantage of flaws in the law in order to create aggressive and complex tax planning schemes. Saxton (1999) defines a flaw as "a technique to circumvent the intent of the law without violating the strict letter of the law." In other words, loopholes in tax legislation could provide an opportunity for taxpayers to plan their taxes without violating the rules of the law.

Hoffman (1961) characterizes the existence of loopholes as a reason for exercising tax planning activities. In this context, it is likely that the flaws in tax legislation have actually emerged due to the complexity of the law itself. Slemrod (2004) shows that the complexity of tax legislation could lead to an open interpretation of the law and provides great unexpected tax benefits. In addition, the author shows that the effectiveness of tax planning strategies based on the presence of loopholes in tax legislation is ensured as long as they are not discovered by tax authorities.

On the other hand, the complexity of the law and the lack of tax knowledge can lead to multinational firms' noncompliance with tax regulations. Indeed, international companies may not be aware of their lack of tax knowledge (Loo *et al.*, 2008). This can lead to unintentional noncompliance.

Tax complexity arises mainly due to the complications of tax legislation. It can take many forms, such as computational complexity, procedural complexity and low level of understanding (Saw and Sawyer, 2010). A similar review of fiscal complexity in a comparative study of seven countries conducted by Strader and Fogliasso (1989) suggests that Japan, the United Kingdom, France, Italy and the United States have a very complex tax system. The authors show that only Sweden and the Netherlands are considered to have a moderately complex tax regime. In New Zealand, several tax reforms have been carried out since the mid-1980s to overcome the complexity of the tax system.

Emerging tax planning activities due to the complexity of the law are a source of concern for the tax authorities. However, a planner must be aware of the temporary nature of the loopholes, as the tax administration can prevent these practices (Hoffman, 1961). For example, in Australia, the tax administration has developed specific provisions on operating losses and bad debts to identify specific deficiencies (Porcano and Tran, 1998).

Alternatively, tax authorities can emphasize the ethical and moral implications of tax planning for multinational companies in order to reduce the opportunities for tax planning

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through gaps in tax law. Murphy (2005) focuses on efforts that restore faith and fairness in the system of handling tax planning strategies that are designed to exploit the loopholes.

Similarly, tax returns can be associated with aggressive tax planning practices. Based on a sample of 200 Australian companies listed for a period from 2006 to 2010, Taylor and Richardson (2014) find that reporting uncertain tax situations is associated with tax avoidance. These tax positions are seen as a signal of aggressive fiscal behavior (Rego and Wilson, 2012, Lennox *et al.*, 2013). When a company declares an uncertain tax position, it is confronted with tax risks. These risks arise because of the high likelihood of a mismatch between the declaration of the company's tax charges and what the company should pay to the tax authorities.

Another interesting aspect, however indirectly related to our research theme, is the study of the noncompliance behavior at the individual level. Indeed, given that the decision of tax planning in multinational companies comes from individuals, thus, it would be also interesting to examine the determinants of tax planning by individual taxpayers. First, by studying taxpayers' perceptions of the self-assessment system in Malaysia, Mustafa (1996) attempts to define the complexity of tax legislation. The author finds too many details in the law and that these details are very complex (ambiguity, calculations, changes, details, forms and record-keeping). Richardson (2006) finds that complexity is the most important determinant of taxpayer's noncompliance and may lead to increased noncompliance with tax rules.

In studying the behavior of noncompliance of taxpayers in the United States, Australia and Singapore, Bobek *et al.* (2007) show that Singapore's taxpayers had the lowest noncompliance rate (26%), while Australian taxpayers had the highest rate (45%). The results also show that full compliance was the highest in Singapore (54%) and the lowest in Australia (30%). The United States was in the midst of compliance and noncompliance rate.

In order to reveal taxpayers' perceptions of their knowledge and the complexity of the income tax system in New Zealand, Saad (2014) examines taxpayers' attitudes toward their tax knowledge, the complexity of the tax system and the underlying reasons. The author finds that taxpayers have insufficient knowledge about the technical aspects of the income tax system that have been perceived as intrinsically complex. With respect to taxpayer compliance with tax rules, it has been shown that attitudes, perceived behavioral control and complexity have contributed in part to taxpayers' noncompliance.

Alm (2014) finds that taxpayers are motivated in part by narrowly defined financial considerations in terms of tax rates, audits and penalties they face. Thus, the author classifies them as individual motivations. His main conclusion is that the uncertainties lead to a strong use of an aggressive tax planning strategy. The author shows how the individual choice of aggressive tax planning is affected by uncertain tax policies.

Similarly, greater uncertainty is likely to generate individual feelings of inequitable treatment compared to others, which will lead to greater use of aggressive tax practices. Uncertainty tends to reduce the confidence that a person has toward the government, which again leads to greater use of aggressive tax planning practices.

In each of these cases, greater uncertainty will reduce compliance with tax legislation. It destroys individuals' motivations to obey tax laws, on the one hand, reduces the motive of deference and increases the motive of no confidence, on the other hand (Braithwaite, 2007).

From this, it can be concluded that loopholes in tax legislation represent an opportunity for tax planning activities. However, the tax planning that has emerged from gaps in legislations may not last very long since the tax authorities are trying to fill gaps with additional rules and regulations. However, efforts to close gaps in the application of rules and regulations appear to entail additional costs and opportunities to avoid taxes.

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4. Measurement of tax planning in the empirical literature

Several tax planning measures are identified by previous studies. Some researches measure tax planning by tax savings and aggressive tax returns (Scholes and Wolfson, 1992; Rego, 2003; Slemrod, 2004; Frank *et al.*, 2009; Wilson, 2009). These variables are defined as downward manipulation of taxable profit through tax planning. Tax planning practices are the main source of creating permanent gaps. By creating permanent differences, the company reduces taxes payable without reducing the accounting profit.

Another measure of tax planning is "the cash effective tax rate." This measure is generally used in Anglo-Saxon contexts. It reflects the temporary and permanent differences between the accounting profit and the taxable profit. By concentrating on current taxes paid, this measure avoids overestimating the current tax burden (Hanlon and Shevlin, 2003).

An alternative measure of tax planning that has been used by Graham and Tucker (2006) and Lanis and Richardson (2011) is based on tax litigation. This variable represents a direct measure of tax evasion. Indeed, according to these authors, a company that is in conflict with the tax administration on tax matters is a sign of tax evasion. This work uses as a dependent variable a dichotomous variable that takes the value of 1 if the firm has undergone tax adjustments and 0 otherwise (Lanis and Richardson, 2011, 2015).

Other empirical studies employed the "difference between accounting and taxable income" as a tax planning measure (Graham *et al.*, 2012). Companies that do not pay their taxes are not necessarily able to achieve large differences between their accounting and taxable profits (Dyreng *et al.*, 2008; Frank *et al.*, 2009; Rego and Wilson, 2012). The excess of the accounting profit in relation to the taxable profit is compatible with the manipulation of the results. Discretion provides managers with the ability to manipulate the accounting result upward without necessarily affecting taxable income. Similarly, Mills (1998) suggests that the increase in the gap between accounting and taxable income appears to be associated with aggressive tax planning. Using the difference between accounting and taxable income as a measure of tax planning, Armstrong *et al.* (2012) find that the difference allows a better understanding of tax planning by measuring activities that reduce pretax income.

Recent research shows evidence that the change in corporate tax planning is captured by the ETR (Dyreng *et al.*, 2008; Robinson *et al.*, 2010). The ETR is measured by the ratio of tax expense to income before tax. This measure reflects aggressive tax planning (Chen *et al.*, 2010). Examples of tax planning activities are investments in tax havens with lower foreign tax rates (foreign source profits are classified as definitively reinvested), tax-exempt investments, tax incentives and participation in tax shelters (Wilson, 2009).

The ETR makes it possible to measure the degree of risk, but also the quality of the tax strategy adopted (Rossignol and Chadefaux, 2001). This measure of tax planning summarizes the cumulative effects of various tax incentives so it identifies the level of neutrality of the tax system in firms with different tax burdens. The inequality of the tax system as a result of the inequitable provision of tax incentives can be explained by the ETR in order to identify the level of the tax burden and the nature of the firms facing these burdens (Harris and Feeny, 2000).

Several recent studies find that the ETR does reflect aggressive tax planning techniques (Robinson *et al.*, 2010; Taylor and Richardson, 2014). It also refers to the measure of tax aggression most frequently used by university researchers (Rego, 2003; Dyreng *et al.*, 2008).

Buijink *et al.* (2002) highlight the effect of the tax incentive provision on the difference between the ETR paid by firms and the statutory tax rate (the theoretical tax rate that firms should pay). According to these authors, a large difference between the two rates constitutes large fiscal incentives granted by the government to a particular industry. This leads to more injustice in the tax system. Similarly, the ETR is preferable because it measures the distribution of the tax burden through tax incentives. Liu and Cao (2007) also favored the

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ETR because it measures the overall tax burden for firms rather than the marginal tax rate that was only for specific projects.

Finally, as shown by the aforementioned empirical literature survey on tax planning measurements, the measures adopted encounter many issues. The first problem is related to the source of tax information for the measures. Indeed it is difficult to obtain such information. The second problem is related to the measures actually captured. Particularly, previous studies used simple measures such as ETRs. An inconvenience of utilizing the ETRs is that techniques deferring taxes are not detected by the proxy. This is because total tax expense contains the deferred tax component (Watrin and Weib, 2019). In addition, the cash ETR used as measure of tax planning shares the disadvantage of only capturing nonconforming tax planning since the denominator is the pretax income (Watrin and Weib, 2019).

5. Conclusion

The tax burden is an important and relevant issue in companies' costs. Internal firms may use international tax planning techniques in order to increase their competitiveness. Relatively new and abundant literature has focused on how companies may face tax burden by using international tax planning techniques. This article contributes to this area in several ways. First, this study is unique in that it constitutes the only literature review that provides a comprehensive overview of research on international tax planning. Therefore, it provides researchers with a starting point to further explore issues related to tax avoidance techniques. Moreover, it offers a review of the design and methodological issues linked to the stream of research dealing with the various approaches of tax planning. Finally, this literature review contributes to the extant literature by providing suggestions for future research.

The main objective of international tax planning consists of reducing the overall tax exposure of the company. For this purpose, international businesses can pursue a variety of business strategies that often involve transfers of revenues by geographical area, redevelopment of the company, tax haven and loopholes in tax legislation. Indeed, international tax optimization mechanisms may have the effect of transferring a portion of the benefit from one country to another, less taxed, through transfer pricing manipulation. Additionally, international firms may be involved in mergers, acquisitions, divisions and multinational reorganizations to reduce their overall business tax burden. Moreover, companies can take advantage of flaws in the law in order to create aggressive and complex tax planning schemes. Finally, if a government does not make its tax policy attractive, taxpayers can leave the country and move to a more attractive taxation country. On the other hand, empirical measurements specifically dealing with the techniques of international tax planning are also reviewed. The theoretical framework particularly specifies which key variables are the most suitable for measuring tax planning methods and highlights the need to examine how these key variables might differ and under what circumstances. In addition, it underlines limits on tax planning measurements by addressing the comparison of the empirical measurements. Overall, this comparison shows that the firm's ETR defined as tax liability divided by income seems to be the most widely used calculation method for tax planning.

The literature survey reveals the following issues. First, few studies have been conducted to date. Second, several approaches remain unexplored and studies rely only on surveys' results collected from the annual report of companies (microeconomics variables), while macroeconomic variables can better explain the phenomenon of international tax planning. In this context, studies containing proposals to estimate more accurate international companies' tax planning techniques would also be welcome. Previous literature supposes premises on

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this issue that limit the accurateness of the analysis. Particularly, empirical literature is short of the proper measurement to evaluate corporate tax avoidance. This would explain the various interpretations of research findings. Hence, finding more precise measures of tax planning techniques would be of great value to studies in this respect.

Finally, by reviewing the different literature, it can be concluded that there are many aspects of international tax planning that need to be covered by researchers in the future in order to fill the gap in the body of knowledge. Particularly, given the importance of this branch of the literature, future research may be directed toward exploring financial as well as nonfinancial determinants of multinational corporate tax planning techniques. Also, researchers should bear in mind that tax planning may be measured by different variables depending on the definition of each one. Lastly, research on the link between tax planning and multinational companies' financial performance is not well developed; accounting researchers have much to contribute in that area.

Notes

1. The literature review on tax planning techniques and measurements is also summarized in Table A1 in the Appendix.
2. The "double Dutch Irish Sandwich" is a tax planning technique used by multinationals and is seen as a good example to illustrate the important features of tax planning.

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Appendix

Table A1.
A literature review on tax planning techniques and measurements

Approach	Authors	Main findings
Transfers of revenues by geographical area	Gordon and Slemrod (2000)	An increase in corporate tax rates relative to personal rates results in an increase in reported personal income and a drop in reported corporate income
	Mintz and Smart (2004)	Taxable profit for multijurisdictional firms that are able to transfer income between affiliates is more mobile than for companies that do not
	Beer *et al.* (2019)	The assessment of intracompany business within a multinational company affects the global allocation of the tax base between source and residence countries
	Dharmapala (2014)	Effective tax rates on the foreign earnings of Google and Apple were reported at 3% and 1%, as a result of profit transfers
	Martinson *et al.* (1999)	The method of pricing raw materials, products or services that are transferred between the parent company and its subsidiaries or between the different subsidiaries is considered as one of tax planning techniques
	Bruce *et al.* (2007)	Transfer pricing is a common type of tax planning
	Rego (2003)	Tax rate of multinationals is lower than that of their counterparts
	Scholes and Wolfson (1992)	The transfer of income is linked to a tax planning strategy that converts a taxpayer's income from one form to another
	Scholes *et al.* (2005)	Approaches of tax planning include the transfer of income by geographical area, the shift of income from one type to another and the transfer of income from one period to another
Redevelopment of the company	Huizinga *et al.* (2009)	Mergers, acquisitions, divisions and international firms may be involved in mergers and multinational reorganizations
	Stonham (1997)	Firms benefited from tax planning following the adoption of a spin-off strategy in 1996
	Barrios *et al.* (2009)	The tax regime of parent companies and subsidiaries plays a significant role in the choice of location of subsidiaries, especially as countries will be liberalized
	Desai and Hines (2002)	Changes in the associations between parent companies and subsidiaries are motivated by the desire to escape the taxation of US companies on their foreign income
Tax haven	Mara (2015)	Low taxation is not enough for a country to be a tax haven. Only countries that have an important part of services relative to their GDP are considered as a tax haven country
	Armstrong *et al.* (2019)	Firms respond to changes in their industry competitors' tax planning by changing their own tax planning in the same direction
Loopholes in tax legislation	Saxton (1999)	A flaw is defined as "a technique to circumvent the intent of the law without violating the strict letter of the law"
	Hoffman (1961)	The existence of loopholes explains tax planning activities
	Slemrod (2004)	The effectiveness of tax planning strategies based on the presence of loopholes is ensured as long as they are not discovered by tax authorities
	Loo *et al.* (2008)	Taxpayers may not be aware of their lack of tax knowledge. This can lead to unintentional noncompliance
	Saw and Sawyer (2010)	Tax complexity can take many forms, such as computational complexity, procedural complexity and low level of understanding
	Strader and Fogliasso (1989)	Sweden and the Netherlands are considered to have a moderately complex tax regime
	Taylor and Richardson (2014)	Reported uncertainty of a firm's tax position, tax expertise of directors and the performance-based remuneration incentives of key management personnel are positively associated with tax avoidance
	Porcano and Tran (1998)	

(*continued*)

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Approach	Authors	Main findings
		Tax administration in Australia has developed specific provisions on operating losses and bad debts to identify specific deficiencies
	Murphy (2005)	Ethics are alternative strategies used by authorities in order to limit gaps in tax law
	Mustafa (1996)	Tax law complexity is one of the factors that hinder voluntary compliance
	Richardson (2006)	Complexity is the most important determinant of taxpayer's noncompliance and may lead to increased noncompliance with tax rules
	Bobek *et al.* (2007)	There are differences in compliance rates and social norms among the three countries (Australia, Singapore, and the United States)
	Saad (2014)	Taxpayers have insufficient knowledge about the technical aspects of the income tax system (perceived as intrinsically complex)
	Taylor and Richardson (2014)	Reporting uncertain tax situations is associated with tax avoidance Uncertain tax situations are considered as a signal of aggressive fiscal behaviour
	Alm (2014)	Uncertainties lead to a strong use of an aggressive tax planning strategy
	Braithwaite (2007)	Greater uncertainty destroys individuals' motivation to obey tax laws and increases the motive of no confidence
Measurement of tax planning in the empirical literature	Scholes and Wolfson (1992), Rego (2003) and Slemrod (2004)	Tax saving is the difference between the statutory and the effective tax rate
	Frank *et al.* (2009) and Wilson (2009)	Aggressive tax returns (downward manipulation of taxable profit through tax planning)
	Hanlon and Shevlin (2003)	Cash effective tax rate (the temporary and permanent differences between the accounting profit and the taxable profit)
	Graham and Tucker (2006) and Lanis and Richardson (2011)	Tax litigation (a company that is in conflict with the tax administration on tax matters is a sign of tax evasion)
	Lanis and Richardson (2011, 2015)	Tax planning is measured using a binary variable that takes the value of 1 if the firm has undergone tax adjustments and 0 otherwise
	Mills (1998), Dyreng *et al.* (2008), Frank *et al.* (2009), Rego and Wilson (2012), Graham *et al.* (2012), Armstrong *et al.* (2012)	The difference between accounting and taxable income is a measure of tax planning technique
	Harris and Feeny (2000), Rossignol and Chadefaux (2001), Rego (2003), Dyreng *et al.* (2008), Dyreng *et al.* (2008), Liu and Cao (2007), Robinson *et al.* (2010), Chen *et al.* (2010), Robinson *et al.* (2010), Taylor and Richardson (2014)	Effective tax rate is measured by the ratio of tax expense to income before tax
	Buijink *et al.* (2002)	Difference between the effective tax rate paid by firms and the statutory tax rate (the theoretical tax rate that firms should pay)

Table A1.

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