Accounting & Taxation
Vol. 9, No. 1, 2017, pp. 73-86
ISSN: 1944-592X (print)
ISSN: 2157-0175 (online)

IBFR
www.theIBFR.com

FISCAL MANAGEMENT PRACTICES AND THEIR IMPACT ON CORPORATE GROUPS' FISCAL PERFORMANCE

Ines Menchaoui, Higher Institute of Finance and Taxation at Sousse
Jean-Luc Rossignol, University of Franche-Comté
Mohamed Ali Omri, Northern Border University

ABSTRACT

This article analyses the impact of fiscal management practices on the fiscal performance of all the groups of companies whose parent company is listed on the Tunisian Stock Exchange over a period spanning from 2007 to 2011. Our regression results indicate that Tunisian firms use several practices to reduce their tax liabilities. We specifically conclude that the number of intra-group transactions and tax relief are significantly associated with tax avoidance. Transaction cost theory is utilized to identify the relationship between fiscal management practices and fiscal performance. In general, the theory focuses on minimizing transaction costs. It is important to consider transactions between related parties that have different taxation rates offering considerable opportunities of fiscal management practices. So, transfer pricing decisions can involve multiple objectives: the maximization of global profit and the minimization of global taxes.

JEL: M40, M41

KEYWORDS: Fiscal Management Practices, Intra-Group Transactions, Tax Relief, Income Shifting

INTRODUCTION

Taxation is one of the prevailing factors that can affect the financial position of the group. Corporate tax avoidance is an integral part of firms capital management strategies (Rego, 2003). The fiscal management practices used by members of corporate groups can lead to their tax debt the reduction, which helps to enhance their fiscal performance. Taylor and Richardson (2012) claims that corporate groups use several fiscal management practices to reduce their effective tax rate, particularly transfer pricing and the use of intra-group debt. Specifically, we find that thin capitalization, transfer pricing, income shifting, multinationality, and tax haven utilization are significantly associated with tax avoidance. Corporate tax management for companies is deeply rooted in corporate culture in many economies (Rego, 2003 and Slemrod, 2001). Indeed, corporate taxes represent a major expense item for the firm, management could be motivated to develop strategies to reduce payable the amount of corporate taxes to meet the firm's capital needs (Richardson et *al*., 2015). The practice involves taking advantage of gaps or loopholes in tax legislation to reduce significantly corporate tax (Braithwaite, 2005).

This study is relevant to Tunisia. Firstly, because of its emerging economy. Organizing into groups has become an inescapable economic reality. The number of corporate groups increased by 158% between 1998 and 2011, as 1487 groups were created during this period according to the Central Bank of Tunisia. In addition, the Tunisian legislator confers several effective corporate tax rates. So, differential tax rates may lead a firm to pursue tax avoidance strategies. Fiscal management practices naturally have a strong impact on the group's fiscal performance and therefore should be analyzed in a more detailed way and more

particularly the indirect transfer of commercial or financial benefits. Publicly listed Tunisian firms make use of opportunities, methods, and tools in relation to thin capitalization, transfer pricing, income shifting, multinational operations to avoid paying significant corporate taxes like the Australian companies (Taylor and Richardson, 2012). Therefore, our main focus in this article will be to study the impact of different fiscal management practices in corporate groups on their fiscal performance.This study will shed light on two findings; it contributes in several ways to the existing literature. Theoretically, this is the first study that identifies fiscal management practices in corporate groups in the Tunisian context. Empirically, we find that tax relief along with transfer pricing are significantly associated with corporate tax avoidance. This study provides some valuable insights into tax avoidance in the Tunisian context that should be useful to policymakers, investors and regulators around the world. This paper is organized as follows: the section below describes the literature. Next, we will discuss the data and methodology used in the study followed by the results. The last section includes a summative reading of the preceding sections.

LITERATURE REVIEW

Slemrod (2001) claims that corporate groups use a set of inter-related and globally orientated tax planning methods to minimize corporate taxes. Differential tax rates may lead a firm to pursue tax avoidance strategies (Taylor and Richardson, 2012). It is obvious that corporate groups tend to minimize transaction cost, including tax cost. This especially depends on how profits and losses are spread amongst the parent company and its subsidiaries. To be efficient, the group must try by all means to reduce costs including tax costs. This section introduces the theory of transaction costs that seems adequate to detect the relationship between fiscal management and fiscal performance. This relationship is developed through three research hypotheses forecasting the type of correlation between intra-group transactions, intra-group debt and financial relief on one side, and the effective tax rate on the other one. The pursuit of the firm value maximization is done through an effort to optimize or minimize the tax cost (Mairesse, 2005). Taxes are certainly a basic element in the decision-marking of companies. Also, Policymakers generally try to manage the tax aspect related to each transaction. Extant research (Chen et al., 2010 and Frank et al., 2009) suggests that tax avoidance represents the downward management of taxable income through tax planning activities. It more specifically includes tax planning activities considered to as aggressive seen that they are designed to actively reduce taxable income by exploiting uncertainties or variability in the interpretation of the tax law (Richardson et al., 2015).The shift income between jurisdictions is a method which is more encouraged than the shift between differentially taxed entities within the same jurisdiction. However, advisory materials apply planning suggestions that shift income between entities facing different tax rates within the same jurisdiction (Scholes et al., 2002).

According to the theory of transaction costs, any contract generates costs and to restore the balance between the parties (corporate groups) it is necessary to carry out arbitration that will lead to compromise situations (Mairesse, 2005). To reduce transaction costs and increase the value of the group, managers try to engage in transactions that maximize the value of the group at the end of their period. This especially depends on how profits and losses are spread amongst the parent company and its subsidiaries. The type of goods or services offered may influence the taxation location of the transaction, and thus the final effective tax rate of the multinational entity and any foreign subsidiaries (Yancey and Cravens, 1998). Optimal tax planning for a corporate group would include a strategy to use transfer pricing in order to conduct operations with low taxable incomes in high tax jurisdictions and create high taxable income in lower tax jurisdictions. Firms might change production volumes in different countries depending on the allowed transfer price (Halperin and Srinidhi 1996).

Transaction costs may be a function of the traded assets monetary value or the number of undertaken transactions (Leape, J-I, 1987). To minimize costs, a balanced reduction between all of the applicable subject taxes along with the additional constraints require a tax planning framework which recognizes legal methods coordination (Yancey and Cravens, 1998).

Leitch and Barrett (1992) assert that a multinational firm exists to exploit a variety of advantages which occur due to differentials in ownership, location, and internationalization factors across country boundaries. Indeed, a corporate group with a large number of affiliated member firms has incentives to shift income across its member firms to reduce overall group taxes by taking advantage of the differential tax rates. For example, a corporate group utilizes pricing transfer to reach a congruent goal for a subsidiary and the parent management company. The result will be the assistance in evaluating subsidiary's performance, maximizing profits, and minimizing taxes (Borkowski, 1997).

Multinational corporations may select a variety of organizational forms in order to conduct transactions with the distributed units in other countries. This choice has legal as well as tax implications for the combined entity. If foreign units are organized as subsidiaries, the parent company may be allowed to defer income recognition from the subsidiary to the parent (Yancey and Cravens, 1998). In addition, Sekely and Collins (1988) show how the firm capital structure choice is influenced by the country location. Financing through debt or equity will have different tax effects. The latters will be related to interest deductibility and equity contributions. The type of offered goods or services may influence the taxation location of the transaction, and thus the eventual effective tax rate of the entity and subsidiaries. The fiscal performance could be affected by several factors that can significantly reduce the effective tax rate of the group (Usmen, 2012).These factors are usually related to the indirect transfer of profits to the intra-group debt, and the direct transfer benefits via the reinvestment of earnings between the corporate group member companies.

Key Factors Associated with the Indirect Transfer of Profits

The corporate group resorts to the transfer of benefits to minimize the overall charge of the group due to the difference in tax rates and the ambiguity when setting the transfer price. The size of the group and the financial position of its various company members can in turn influence the choice of some fiscal management practices. The ambiguity in the determination of a method for calculating the transfer pricing is also a favorable ground for intra-group tax management. Indeed, the optimization of the group results necessarily involves a choice of method for fixing the most relevant transfer prices to the situation. This allows both to increase profits and maximize the subsidiaries taxable income. First of all, corporate groups can take advantage of the national and international fiscal disparities by choosing the most profitable income and expense taxation system in the subsidiaries of the same group (Lamorlette and Rassat, 1997), also taking advantage of the tax differences between its members. Multinational corporations have structured their business in a way to avoid taxes in every jurisdiction where they operate (Salihi et al., 2015). Tax differentiation provides corporate groups with important opportunities to transfer their benefits. The greater the difference, the higher their interest to do it (Chan and Lo, 2004). Moreover, Jacob (1996) claims a positive correlation between the differential tax and the importance of income transfer; Brem and Tucha (2006) assert that corporate groups deport 10% to 20% of their income to regions benefiting of lower taxes.

Then, the size of the group and the financial situation of the various companies have an influence on the choice of the different fiscal management practices. Rego (2003) found that large groups are more involved in activities and intra-group transactions than smaller ones. Large groups tend to make more intra-group transactions, both in numbers and in amounts, which allows them to manipulate transfer pricing and take advantage of the tax benefits relating to the location. According to Scholes et al. (1992), the international transfer of income is mainly used by large groups such as Apple, Google, Microsoft that localize their profits in low-tax jurisdictions and increase their deductible expenses by the payment of royalties in high-tax jurisdictions in order to reduce their global taxable income (Duhigg and Kocieniwski, 2012). The indirect transfer of profits may also be affected by the financial situation of the group subsidiaries. When both profitable and unprofitable subsidiaries coexist, the transfer motive is important in order to reduce the overall burden of the group. For example, two related companies can reduce their tax base by transferring the income of a profitable company to the indebted company (Gramlich et al., 2004). It is recognized that sound management requires the management of deficits in a

better way (Sivieude et al., 2012). The fiscal deficit management can be done by distributing the financial loss of the unprofitable company to the profitable companies in the group.

Tax relief through the indirect transfer of profits within the group depends on the volume of sales within the group. The higher the volume of transactions, the more the corporate group may tend to use transfer pricing to reduce the overall effective tax rate. Jacob (1996) studies the relationship between the level of tax to be paid and the volume of transactions between companies of the same group. He claims that corporate groups that have a larger volume of intra-group transactions, with different taxation rates, find it easier to transfer income through the transfer pricing policy.

We deduce a first hypothesis: H1: The practice of tax management (the importance of intra-group transactions) has a negative impact on the effective tax rate.

Main Factors Associated with the Use of Debt

The use of debt results from both under-capitalization and the multinational environment. Dyreng et al. (2007) deduce that successful long-term fiscal management is closely associated with high debt for US companies. Gupta and Newberry (1997) also found a negative and significant co-relation between the effective tax rate and the leverage effect resulting from the deductibility of interest charge. Graham and Harvey (2001) also believe that the deductibility of interest on the debt is a very important factor that determines the structure of the group's capital. Scholes and Wolfson (1996), show that there is a significant relationship between the change in the tax rate and the financing decision of corporate groups.

Very often corporate groups use debt financing to optimize their tax management. Even when there is no need for real funding, they tend to place the loan in a group company whose results are positive in order to minimize the corporation tax amount. This undercapitalization device, which is widely used by businesses, allows them to have higher financial costs and lower corporate taxes (Sivieude et al. , 2012). The excessive use of debt financing in the form of thinly capitalized structures by subsidiary firms located in higher tax jurisdictions constitutes an important international corporate tax avoidance technique used by multinational firms (Shackelford &Shevlin, 2001). Desai et *al.* (2006) find that the 10% increase in the tax rate of a subsidiary in a group based abroad automatically increases the debt ratio of the subsidiary by 2.8%. To test the impact of intra-group debt on fiscal performance, it is necessary to assess its volume. The higher the volume of debt, the more the corporate group members tend to use domestic debt to reduce the overall effective tax rate. Our second hypothesis is as follows: H2: Fiscal management practice (the importance of intra-group debt) has a negative impact on the effective tax rate.

Key Factors Associated to the Direct Transfer of Benefits

Tax management can be done through the incentives provided by the tax legislation. These incentives can take the form of exemptions or tax reliefs. In the presence of a real and diverse tax benefit system, the mastery of fiscal management, which permits to benefit from all the planned contingencies, becomes, in its turn, more and more necessary for companies which are members of a group (Aissi, 2009, Menchaoui and Omri, 2012). In Tunisia, a tax relief method may be achieved through the reinvestment of capital in companies, according to the arrangements of the code of incentives for investments and the tax code on personal income and profits. The financial, oil and mining sectors can't benefit from this tax relief. There are also specific advantages for the subscription of capital in venture capital investment companies. Capital subscription or increase in the capital of the company itself or in the other companies of the group offers the possibility to fully or partially deduct the reinvested profits. It is necessary to empirically check the impact of a direct transfer of an inter-company profit on fiscal performance, particularly to measure the impact of the reinvestment of intercompany profit (tax relief) on the effective tax rate. The third hypothesis follows: H3: Fiscal management practice (Tax relief) has a negative impact on the effective tax rate.

DATA AND METHODOLOGY

The sample is composed of corporate groups whose parent companies are listed on the Tunis Stock Exchange of Securities and required to disclose to the public their consolidated financial statements. This study includes all groups whose mother company is quoted on the Tunisian Stock Exchange of Securities (SES) like the studies by (Aissi, 2009 and Jarboui, 2008). Table 1 provides summary data about the sample composition.

Table 1: Number of Groups of Companies

Type of Parent Company	2007	2008	2009	2010	2011
Non Financial	17	19	20	21	21
Financial	13	13	14	15	15
Total	30	32	34	36	36

This table shows the number of groups of companies whose parent company is listed on the SES, a total of 168 observations

The data for this study were collected through the consolidated financial statements, financial statements of the parent companies, and the special reports of the auditors for a period of five years (2007 to 2011). The collected data set out to establish and test Hypotheses 1and 2. The data for Hypothesis 3 have been collected through a questionnaire sent to the managing directors, accounting or financial managers of the different parent companies listed on the Tunis Stock Exchange of Securities. The questionnaire was distributed in March 2013 and included two major questions: 1- what is the effective tax rate for each company groups, 2- what are the other company groups that can benefit from tax relief. The response rate to this questionnaire is 94.4%; 34 officials from the different parent companies replied to the questionnaire on a total of 36 groups of companies. In order to test the impact of different fiscal management practices of corporate groups on fiscal performance, a linear regression analysis was done. In this analysis model, the tax group performance depends on several factors such as the number of transactions within the group, the amount of intra-group debt and the reinvestment of profits through tax relief. At this level, it is necessary to define the dependent, independent, and control variables and present their respective measurements.

Dependent Variable

The corporate group should find tax optimization for the member companies; the company that belongs to the group is likely to be confronted with the notion of tax optimization for the group rather than tax optimization on an individual basis. Under these conditions, the company adopts the best solution for the group. A solution that does not necessarily correspond to the optimal tax solution for itself (Chadefaux and Rossignol, 2006). Indeed, the corporate group uses fiscal instruments in an appropriate manner and in order to know all the possible legal options without breaking the law. The term corporate tax avoidance lacks universal definition as it might connote "different things to different people (Hanlon and Heitzman, 2010). The fact that there is consequential tax effects for every transaction of a company, meant to increase its profit, could account for such lack of universal definition. Given this, there have been several definitions of corporate tax avoidance put forward by researchers in recent times (Annuar et al., 2014).Thus, the terms such as tax management; tax planning; tax sheltering; and tax aggressiveness are interchangeably used with tax avoidance in the literature" (Chen et al. 2010; Lanis& Richardson, 2012). Here, we define fiscal performance as a reduction in the effective tax rate.

Therefore, the concept of fiscal performance can be measured thanks to the effective tax rate. This ratio is used to determine whether the corporate group has used all possible levers to reduce its taxable income. It also measures the extent of risk and the quality of the adopted tax strategy. Effective tax rate management as a tool reflecting the tax impact of business decisions represents a financial indicator that measures the ability of the company to optimize its tax burden (Chadefaux and Rossignol, 2006). Several authors apply this rate to assess the effectiveness of the company fiscal management such as Roesler and Getz (2004)

Rego (2003). The effect of internal flows in the group is very significant for that rate. The very calculation of the ratio remains a problem. Some authors, such as Gupta and Newberry (1997) do not incorporate the deferred tax in the numerator. Rego (2003) explains this choice by the fact that the charges due to the payment during the year better reflect the actual tax burden. Others prefer to integrate it to take into account all the taxes related to all the operations that can generate savings or tax liabilities on the short and long terms (Chadefaux and Rossignol, 2006). Given the Tunisian context and its specificities, only some groups use the concept of deferred tax in the preparation of their consolidated financial statements. The effective tax rate will be measured by the consolidated tax / consolidated pre-tax profit.

Independent Variables

The independent variables in the model below correspond to the various fiscal groups management practices in relation to the Tunisian context. Indeed, the auditors must mention in their special reports the regulated agreements (articles 475 and 200 of the Commercial Companies Code) indicating the intra-group transactions concluded under abnormal conditions. The variables of the model are: the number of intra-group transactions, the volume of intra-group debt and tax relief. Intra-group transactions (IGT) represent a space of collaboration where these groups often realize various types of transactions between the companies they are composed of. There is not an exhaustive list of transactions that could be realized. The scope of these transactions is huge as far as it relates to selling goods, supplying services, royalties and financial relations. These transactions are the basis of the groups 'activities and thus can become a privileged vehicle to transfer profits through transfer pricing manipulation (Lamorlette and Rassat, 1997).

Taylor and Richardson (2012) develop a proxy measure of non-compliance with the transfer pricing rules based on eight different items. A transfer pricing index was constructed based on the sum of the eight items divided by eight. These items were chosen as representative of aggressive transfer pricing activity as they all involve intra-entity transfers. Collecting such information does not seem possible in the Tunisian context. Through the intra-group transactions, the value of revenues may differ from that of the real revenues (increased or decreased revenue values) and the expenses normally paid may not be those that are actually spent. Therefore, the higher the number of intra-group transactions, the stronger the fiscal management through transfer pricing. Intra-group transactions are measured by transaction number such as purchases, sales operations, capital acquisitions, leases, royalties, services of the billing expenses between companies of the group, and staff mobility between subsidiaries (transactions relating to non-current operations concluded under deemed abnormal conditions by the auditor, article 457 of the Commercial Companies Code) eliminating abnormal transactions relating to intercompany debt (metric variable between 0 and N).

According to Richardson et al. (2013), intra-group debt is significantly associated with the effective tax rate. The more indebted the group is the greater its ability to reduce the effective tax rate. However, if the intercompany debt between related companies does not affect the financial performance of the group as a whole, in fiscal matters it is not the case since there are differences in tax rates between host countries (Chadefaux and Rossignol, 2006). Walsh and Ryan (1997) claims that British companies that lend to their subsidiaries, particularly in countries with higher tax rates, can optimize their overall tax burden. Rego (2003) also shows that the level of debt is negatively associated with the effective tax rate for US companies. Therefore, a parent company of a group is encouraged to re-fund its subsidiaries through debt according to the fiscal situation of each company. In this case, the company will be able to deduct the interest expense from a fiscal base that is subject to a higher rate. Given the specificity of the Tunisian context, the variable included in the model below will be again approximate. The more debts are granted between the parent company and other group subsidiaries, the more developed the tax management seems to be, especially since the companies can be subject to different tax rates. Therefore, the effect of intra-group debt flows will probably be significantly related to the effective tax rate. Only intra-group debt considered by the auditor as abnormal will be retained. The intra-group debt will be measured by the number of intra-group abnormal

debt transactions (metric variable between 0 and N). In the Tunisian context, a member in a group of companies offers a range of tax benefits regulated by the Code of incentives for investments and the tax code on personal income and profits. Reinvestment of profits in companies that are located in regional development areas or totally-exporting companies is one of the most important reinvestments. This tax relief reduces the taxable income of the group. It will be measured by the number of group companies that have received tax relief (metric variable from 0 to N).

Control Variables

Our study includes several control variables relating to the size of the group, the number of businesses that form it, its capital intensity, the stock intensity, return on net assets, the level of foreign debt, industry ,and year. The variable relative to multinational companies of the various subsidiaries of the sample group was not selected because of its weakness in this case (0.05% of the companies are located abroad). Previous research has found conflicting results regarding the size of the group. Gupta and Newberry (1997) claim significant negative effect between the size of the company and the effective tax rate, in contrast with Zimmerman (1983), who finds a significant positive association between the size of the firm and the rate of effective tax. According to Richardson et al. (2012), large companies are likely to be aggressive for tax purposes which leads to a lower effective tax rate. The very measure of size may differ; it may be the natural logarithm of the turnover or, as in Zimmerman (1983), the annual distribution of sales (turnover) .The size will be measured by the natural logarithm of total assets, such as in Richardson et al., (2012). Rego (2003) reports that groups with a large number of companies must have a more effective tax rate than smaller groups. According to Tran (1998), the larger groups benefit more from tax incitements than the smaller ones. In the model below, the number of companies will be taken as a control variable to check if there are significant effects between this variable and the effective tax rate.

Level of debt can be achieved through variable controls because we expect that firms with higher debt-to-equity ratios are more efficient at minimizing corporate taxes (Lanis &Richardson, 2012, Rego, 2003).The higher the debt ratio, the stronger the ability of the group to reduce its income taxes. The deductible interest expense acquired outside the group minimizes the overall charges. On the contrary, Harris and Fenny (2003) find a positive relationship between the level of debt and the effective tax rate. Mill et al., (1998) adopt total liabilities divided total assets as a measure of debt ratio. Lanis and Richardson (2012) are inclined to measure the level of debt by the natural logarithm of the long-term debt divided into total consolidated assets. The external debt level is measured by the external long-term debt of the group divided into total consolidated assets. Capital intensity and stock intensity can be included as control variables. On the one hand, capital intensity is negatively associated with the effective tax rate due to amortization charges (Stickney and McGee, 1982). On the other hand, according to Taylor and Richardson (2012), corporate groups that have a higher stock intensity resort less to fiscal management than the ones with capital intensity. The stock intensity variable will be therefore positively related to tax rates. The stock intensity variable will not be used for entities within the financial sector. The two variables will be measured as follows: net tangible assets of the group divided into active N-1 and crude Stock divided into active N-1. The ROA (return on assets) variable is included in the model to control the operational performance and the variability of the group's performance. Lanis and Richardson (2011) found a positive association between ROA and the effective tax rate. An increase in ROA necessarily leads to an increase of the effective tax rate (Gupta and Newberry, 1997). The variable will be measured as follows: ROA = Consolidated results before taxes divided total consolidated assets.

The sector is a variable that has a dichotomy with which fiscal management practices may fluctuate (Omer et al., 1993). The different sectors that exist in the Tunisian context are: the industrial sector, the commercial sector, the services sector and the financial sector. We note: SEC = 1, if the parent company belongs to the financial sector, 0 if otherwise.

Base Regression Model

This model aims at observing the impact of different tax practices in corporate groups, such as the number of intra-group transactions, the debt volume of intra-group transactions, and tax relief, on the fiscal financial performance of the group measured by the rate of effective tax. The linear regression model is defined as below:

$$ETR_{it} = \propto_0 + \alpha_1 IGT_{it} + \alpha_2 IGD_{it} + \alpha_3 TRE_{it} + \alpha_4 GSI_{it} + \alpha_5 NFG_{it} + \alpha_6 LDE_{it} + \alpha_7 CIN_{it} + \alpha_8 SIN_{it} + \alpha_9 ROA_{it} + \alpha_{10} SEC_{it} + \varepsilon_{it} \quad (1)$$

RESULTS AND DISCUSSION

In this study, it is useful to distinguish between quantitative variables and qualitative ones. In the following part of this study; I will elaborate the description of quantitative / qualitative variables and regression results. The analysis of descriptive statistics is an essential preliminary stage to any quantitative study; they can give an overall general condition through the min, max, average and median. Table 2 provides descriptive statistics for the dependent variable and independent variables of interest.

Table 2: Descriptive Statistics of the Dependent Variable and the Variables of Interest

Variables	ETR	IGT	IGD	TRE
Average	18.03%	7.82	0.91	2.06
Max	97.83%	42	8	20
Min	0.02%	0	0	0
Median	17.56%	4	0	1

With ETR=effective tax rate, IGT=intra-group transactions, IGD= intra-group debt, TRE= tax relief. *The following table provides descriptive statistics for quantitative variables, the dependent variable: the Effective Tax Rate (ETR), the variables of interest: Intra-Group Transactions (IGT), Intra-Group Debt (IGD), and Tax Relief (TRE).*

The Table above shows that Tunisian corporate groups pay an average Effective Tax Rate equal to 18.03%, a lower rate than the statutory rate of 35% for financial companies, companies operating in the telecommunication networks, and petroleum companies, 10% for agricultural companies and 30% for other types of companies (article 49 of the Tax Code on Companies states that the tax rate of 30% is reduced to 25% of 30 December of the finance law for the year 2014). The maximum Effective Tax Rate for corporate groups is 97.83%; this rate, which is much higher than the 35%, might be due to a tax adjustment of the group. The minimum rate is 0.02% and is due to tax benefits. The median is 17.56%, which is very close to the average rate. Tunisian corporate groups are averaging 8 Intra-Group Transactions such as purchase and sale operations, capital acquisitions, leases, royalties, services of the billing expenses between companies of the group, and staff mobility between subsidiaries. The number of Intra-Group Transactions varies from 0 to 42 according to the sample, with a median value which remains relatively low at about 4 transactions. Corporate Tunisian groups clearly and quite surprisingly give little importance to borrowing and Intra-Group Debt. Indeed, the average debt among corporate groups is about one single loan between the various subsidiaries.

The maximum number of debts is 8, and the minimum and median numbers are close to 0. Intra-Group Debt comes in the form of loans or the issue of treasury bills between corporate group and contributions in partners' current accounts. In general, under this descriptive analysis of the sample, Intra-Group Transactions appear more frequent than the transactions related to internal debt. Corporate companies that benefited from Tax Relief are 2 on average, with a maximum of 20 companies and a minimum of 0 per corporate group. Most corporate group companies actually reinvest their profits in other companies in order to take advantage of tax relief, for example in totally exporting companies, companies located in regional

development areas or investment companies with venture capital. Table 3 shows descriptive statistics for the control variables.

Table 3: Descriptive Statistics for Control Variables

Variables	CIN	SIN	NFG	ROA	LDE	GSI
Average	17.48%	18.86%	12.19	7.31%	27.66%	19.66
Max	80.85%	106.88%	98	90.09%	90.68%	22.80
Min	0.00%	0.00%	2	0.05%	0.00%	13.24
Median	3.95%	14.39%	8	3.74%	20.51%	19.15

With CIN=capital intensity, SIN=stock intensity, NFG=number of firms in the group, ROA=return of assets, LDE= level of debt, GSI= group size. *This table presents the descriptive statistics for control variables: Capital Intensity (CIN), Stock Intensity (SIN), Number of Firms in the Group (NFG), Return On Assets (ROA), Level of Debt (LDE), and Group Size (GSI).*

This Table reports that a Capital Intensity Variable (CIN) and Stock Intensity (SIN) have respective averages of 17.48% and 18.86% and a median of 3.95% for (CIN) and 14.39% for (SIN). An economic sector is generally considered low with a capital ratio of 10%, medium with a capital ratio of 50%, and capital-intensive if the ratio is higher. The results of this study show that in the Tunisian context, the industries of these companies have a low Capital Intensity, especially in Tunisia, a country that does not have a naval or car industry and where most groups work in the textile and food areas. The Stock Intensity ratio is also low on average. The Table also shows that a Tunisian group has an average of 12 subsidiaries; the maximum number is 98 in the sample. It is reasonable to assume that the greater the number of subsidiaries, the more internal transactions in the firm thus allowing more room to manage down the effective tax rate. Tunisian group companies have an average ROA equal to 7.31%. The rate varies from 0.05% to 90.09%; the median is 3.74%. The average debt ratio is 27.66% and the maximum value is 90.68%. Finally, the average group size is 19.66 with a value between 13.24 and 22.80. The median is a value close to the average, 19.15. Table 4 shows descriptive statistics for the discrete control variables.

Table 4: Descriptive Statistics of Discrete Control Variables

Binary Variable	V1 (Variable Is Set to 0)		V2 (Variable Is Set to 1)	
	Number	Percentages	Number	Percentages
COM	141	89.24%	17	10.76%
IND	93	58.86%	65	41.14%
SER	146	92.41%	12	7.59%
FIN	93	58.86%	65	41.14%

With COM= commercial, IND= industrial, SER= services and FIN= financial This table shows descriptive statistics for qualitative variable ,related to commercial, industrial, services and financial.

This Table shows that industrial and financial parent societies represent more than 82.24% of the whole studied sample. They represent the majority of the group member companies listed on the Tunis Stock Exchange Securities. These companies are numbered 65 in each of the two sectors, representing 41,14% by sector. The sample is also composed of 17 groups of commercial parent societies (10.76%) and 12 companies in the service sector (7.59%). Table 5 shows the results.

Table 5: Results of the Model Estimations

Explanatory variables	Predicted Signs	Coefficients	Significance
IGT	-	-0.0059***	0.001
IGD	-	0.0230	0.145
TRE	-	-0.0207***	0.000
CIN	-	0.0629	0.476
SIN	+	0.0606	0.557
NFG	+	0.0052***	0.000
ROA	+	-0.2330***	0.000
LDE	+ /-	0.0040	0.930
FSE	+ /-	0.0584	0.497
GSI	+ /-	0.0062	0.544
CSE	+ /-	0.1380	0.100
ISE	+ /-	0.0907	0.226
SES	+ /-	0.0156	0.725
Constant = 0.0213599			
R-squared = 0.2005			
Z= -0.11			

*With***Significant correlations 1% and ** 5%. IGT = Intra-Group Transactions IGD= Intra-Group Debts, TRE= Tax Relief, CIN= Capital Intensity, SIN= Stock Intensity, NFG=Number of Firms in the Group, ROA= Return On Assets, LDE =Level of Debt, FSE= Financial Sector, GSI= Group Size, CSE= Commercial Sector, ISE= Industrial Sector, SES= Service Sector. Table 5 reports the regression results for our base regression model.*

Table 5 reports our regression results. We find an interaction effect between Effective Tax Rate and Intra-Group Transactions on one side and tax relief on the other side. So, two hypotheses have been validated: H1: the practice of tax management (the importance of intra-group transactions) has a negative impact on the Effective Tax Rate and H3: the practice of tax management (Tax Relief) has a negative effect on the Effective Tax Rate. Thus, our regression results show that firms are likely to employ a variety of tax avoidance practices to avoid the payment of corporate taxes, including transfer pricing, and tax relief: the variables relative to the number of intra-group transactions and tax relief are inversely proportional to the effective tax rate.This result seems to be consistent with the assumptions of the theoretical framework, and are therefore confirmed. Tunisian groups commonly use tax management practices such as Intra-Group Transactions and Tax Relief to minimize their Effective Tax Rate. The use of tax relief is explained by the fact that the Tunisian legislation wants to provide a particular advantage to encourage investment. Indeed, Tunisian corporate groups invest in other companies in order to increase tax saving. Furthermore, a significant number of Intra-Group Transactions leave open doors for companies to display advantageous transaction prices from which they would derive a tax benefit since there is a tax disparity between subsidiaries. This confirms the findings of Taylor and Richardson (2012) which claim that thin capitalization, transfer pricing, income-shifting, multinationality and tax haven utilization are significantly associated with tax avoidance. Indeed, based on the magnitude and significance levels of the regression coefficients, the use of thin capitalization and transfer pricing is the primary driver of tax avoidance. However, in the Tunisian context, our results do not reveal a significant relationship between the number of transactions related to the debt and effective tax rate. Hypothesis 2 in the presented theoretical framework (the practice of fiscal management through the importance of intra-group debt has a negative impact on the effective tax rate) is thus not validated.

The descriptive statistical analysis reveals that the average intra-group debt is about one loan between the various subsidiaries. It is normal that the results show no significant correlation between ETR and IGD. Tunisian groups don't shift debt and related deductions to higher tax rate. These results show that, in order to avoid corporate taxes, groups use transfer pricing and tax relief. At the level of control variables, capital intensity, stock intensity or the size of the group, the level of debt and the difference between sectors show no significant effects on the effective tax rate. On the contrary, a significant and negative effect appears between ROA and the effective tax rate. These results contradict the findings of Lanis and Richardson

(2011), which positively associate the ROA and the effective tax rate. The negative relationship between ROA and ETR may be explained as follows: while anticipating soaring results, the groups are more motivated to mobilize tax management techniques than to reduce the tax base. On the contrary, when anticipating declining profits, the groups are less likely to resort to such practices.

CONCLUSION

This paper examines the corporate tax avoidance practices of publicly listed Tunisian corporate groups. Based on a hand-collected sample of 36 publicly listed Tunisian groups over the 2007–2011 period, we find that Tunisian listed groups use a number of corporate tax avoidance practices to reduce their corporate tax liabilities. The approach used in the Tunisian context is particularly innovative since such studies are uncommon by their very nature. Several recent academic studies have examined the practices and methods used by companies to reduce their tax burdens. Taylor and Richardson (2012) in particular, have attempted to examine the impact of the capital structure, the transfer price, the scale of multinational operations, and the installation of the corporate group subsidiaries in tax havens on the effective tax rate. We find that thin capitalization, transfer pricing, income-shifting, multinationality and tax haven utilization are significantly associated with tax avoidance.

Throughout this article, we tried to shed the light on intra-group tax management practices aiming to reduce the tax burden of the group. We have concluded that intra-group transactions and tax relief are significantly associated with effective tax rate. This practice is explicitly introduced and encouraged by the government as an incentive for investment. It can thus be considered as more legitimate and less aggressive than the other fiscal management practices that aim at tax optimization. This study is subject to several limitations. First, the sample is drawn from publicly listed Tunisian corporate groups since we couldn't include unlisted group companies to our sample because of data unavailability. Second, a numerical measure (instead of a binary one) of tax relief and more precise measurements of variables such as transfer price and intra-group debt may lead to further findings. In conclusion, future in-depth studies could provide analysis of the particular effect of tax management on various corporate performance indicators like reduced cost of capital, increased investment etc.

REFERENCES

Aissi, I. (2009) *Fiscal management practices: Determinants and impacts on the value of Tunisian companies*, Unpublished PhD thesis, Management University, Tunisian.

Annuar, H.A, Salihu, I.A and Obid, S.N. (2014) "Corporate ownership, governance and tax avoidance: An interactive effects", *Procedia -Social and Behavioral Sciences*, Vol. 164, p. 150-160.

Borkowski, S. (1997) "The transfer pricing concerns of developed and developing countries", *The International Journal of Accounting*, Vol.32 (3), p.321-336.

Braithwaite, J. (2005) *Markets in vice, markets in virtue*, Sydney: Federation Press.

Brem, M and Tucha, T. (2006) "Transfer pricing: Conceptual thoughts on the nature of the multinational firm", *The Journal for Decision Makers*, Vol. 3 (2), p.29-43.

Chadefaux, M and Rossignol J-L.(2006) "La performance fiscale des entreprises", *Revue de Droit Fiscal,* Vol.30 (35), p.1450-1456.

Chan, K.H and Lo W-Y.(2004) "The influence of management perception of environmental variables on the choice of international transfer-pricing methods", *The International Journal of Accounting*, Vol. 39 (1), p.93-110.

Chen, S., Chen, X., Cheng, Q and Shevlin, T. (2010) "Are family firms more tax aggressive than non-family firms?",*The Journal of Financial Economics*, Vol. 95 (1), p. 41–61.

Desai, M., Foley, C. F and Hines, J. R. (2006) "The demand for tax haven operations, *Journal of Public Economics*, Vol. 90 (3), p.513-531.

Duhigg, C and Kocieniewski, D. (2012) How Apple sidesteps billions in taxes, *The New York Times*,Accessed April29, 2012 at www.pulitzer.org/files/2013/explanatory-reporting/04ieconomy4-29.pdf.

Dyreng, S., Hanlon, M and Maydew, E. (2007) "Long-run corporate tax avoidance", *The Accounting Review*, Vol. 83 (1), p.61-82.

Frank, M.M., Lynch, J.L and Rego, S.O. (2009) "Are financial and tax reporting avoidance reflective of broader corporate policies?",*The Accounting Review*, Vol. 84 (2), p.467–496.

Graham, J. R and Harvey, C. R. (2001) "The theory and practice of corporate finance: Evidence from the field", *Journal of Financial Economics*,Vol. 60 (2), p.187-243.

Gramlich, J-D., Limpaphayom, P and Rhee, S-G.(2004) "Taxes, keiretsu affiliation, and income shifting", Journal of Accounting and Economics, Vol. 37 (2), p.203-228.

Gupta, S and Newberry, K. (1997) "Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data", *Journal of Accounting and Public Policy*, Vol. 16 (1), p.1–34.

Halperin, R and Srinidhi. (1996) "U.S. income tax transfer pricing rules for intangibles as approximations of arm's length pricing", *The Accounting Review*, Vol. 71 (1), p.61-80.

Hanlon, M and Heitzman, S. (2010) "A review of tax research", *Journal of Accounting and Economics*, Vol. 50 (2-3), p.127-178.

Harris, M and Fenny, S. (2003) "Habit persistence in effective tax rates", *Applied Economics*, Vol. 35 (8), pp.951-958.

Jacob, J. (1996) "Taxes and transfer pricing: income shifting and the volume of intra firm transfers", *Journal of Accounting Research*, Vol.34 (2), p. 301-313.

Jarboui, A. (2008). "Impact des mécanismes de gouvernance sur la stratégie de diversification des groupes tunisiens", *Revue Mangement & Avenir*, Vol.17, p.83-104.

Lamorelette, T and Rassat, P. (1997) *Stratégie fiscale internationale*, 3nded, Maxima.

Lanis, R and Richardson G. (2012) "Corporate social responsibility and tax aggressiveness: An empirical analysis", *Journal of Accounting and Public Policy,* Vol. 31 (1), p. 86-108.

Lanis, R and Richardson, G (2011) " The effect of board of director composition on corporate tax aggressiveness", *Journal of Accounting and Public Policy*, Vol. 30 (1), p. 50-70.

Leape, J-I. (1987) "Taxes and transaction costs in asset market equilibrium", *Journal of Public Economics*, Vol. 33(1), p. l-20.

Leitch, R., Barrett, K-S. (1992) "Multinational transfer pricing: Objectives and constraints*", Journal of Accounting Literature*, Vol. 1, p. 47-92.

Mairesse, M.P. (2005) "La gestion fiscale du groupe multinational est-elle créatrice de valeur", *La Revue du Financier*, Vol. 147, p. 33-45.

Menchaoui, I and Omri M-A.(2012) " Determinants of practice of corporate tax in Tunisian context", *International Journal of Managerial and Financial Accounting*, Vol. 4 (4), p. 325-338.

Omer, T., Molloy, K and Ziebart, D. (1993) "An investigation of the firm size–effective tax rate relation in the 1980s", *Journal of Accounting Auditing and Finance*, Vol. 8 (2), p.167-182.

Rego, S O. (2003) "Tax-avoidance activities of U.S. multinational firms", *Contemporary Accounting Research*. Vol. 20 (4), p. 805-833.

Richardson, G., Taylor, G and Lanis, R. (2015) "The impact of financial distress on corporate tax avoidance spanning the global financial crisis: Evidence from Australia",*Economic Modelling*, p.44-53.

Richardson, G., Taylor, G. and Lanis, R. (2013) "Determinants of transfer pricing aggressiveness: empirical evidence from Australian firms". *Journal of Contemporary Accounting and Economics*, Vol.9 (2), p.136-150.

Richardson, G., Taylor, G and Lanis, R. (2012) The impact of risk management and audit characteristics on corporate tax aggressiveness: An empirical analysis. *Paper Presented at the Accounting and Finance Association of Australia and New Zealand (AFAANZ)*,Conference. Jul 1-3 2012, AFAANZ.

Roesler, M. and Getz C.J.(2004). The effective tax rate: Can it be managed without being analyzed", *Journal of International Taxation*, Vol. 15 (1), p. 28-35.

Salihu, I.A., Annuar, H.A and Obid, S.N. (2015) "Foreign investors' interests and corporate tax avoidance: Evidence from an emerging economy", Journal of Contemporary Accounting & Economics, Vol. 11 (2), p. 138-147.

Scholes, M, Wolfson, M, Erickson, M., Maydew, E, Shevlin, T. (2002) *Taxes and Business Strategy: a Planning Approach*, 2nd Edition, Prentice-Hall, Upper Saddle River, NJ.

Scholes, M and Wolfson M. (1996) *Fiscalité et stratégie d'entreprise*, Editions PUF, France.

Scholes, M and Wolfson, M. (1992) Taxes and Business Strategy: A Planning Approach, *National Tax Journal*, Vol. 45 (4), p.451-455.

Shackelford, D. A. &Shevlin, T. (2001) Empirical tax research in accounting, *Journal of Accounting and Economics*,Vol. 31 (2), pp.321–387.

Sivieude, O, Brun, M-C, Sénéchault, N and Bérille, L. (2012) "Tables rondes avec la DVNI et les fiscalistes d'entreprises", *Revue de Droit Fiscal*, Vol. 50, p.52-60.

Sekely, W.S and J.M. Collins. (1988) "Cultural influences on international capital structure". *Journal of International Business Studies*, Vol. 19 (1), pp.87-100.

Slemrod, J. (2001) "A general model of the behavior response to taxation", *International Tax and Public Finance*, Vol. 8 (2), p.119-128.

Stickney, C and McGee, V. (1982) "Effective corporate tax rates - the effect of size, capital intensity, leverage, and other factors", *Journal of Accounting and Public Policy*, Vol. 1 (2), p. 125-152.

Taylor, G and Richardson G. (2013) "The determinants of thinly capitalized tax avoidance structures: Evidence from Australian firms". *Journal of International Accounting, Auditing and Taxation*, Vol. 22 (1), p.12-25.

Taylor, G and Richardson, G. (2012) "International corporate tax avoidance practices: Evidence from Australian firms", *The International Journal of Accounting*,Vol. 47 (4), p. 469-496.

Tran, A.V. (1998) "Causes of the book-tax income gap", *Australian Tax Forum*, Vol. 14 (3), p.253-286.

Usmen, N. (2012) "Transfer prices: a financial perspective", *Journal of International Financial Management and Accounting*, Vol. 23 (1), p.1-22.

Walsh, E. J. & Ryan, J. (1997) "Agency and tax explanations of security issuance decisions", *Journal of Business Finance and Accounting*, Vol. 24 (7), p.943-961.

Yancey, W and Cravens K. (1998) "A Framework for International Tax Planning for Managers", *International accounting, auditing & taxation*, Vol. 7 (2), p.252-272.

Zimmerman, J. (1983) "Taxes and firm size", *Journal of Accounting and Economics*, Vol. 5 (2), p.19-149.

BIOGRAPHY

Ines Menchaoui is an Assistant Professor in Accounting and Taxation at Higher Institute of Finance and Taxation at Sousse. She received a PhD in accounting from the University of Franche-Comte and the University of Tunis El Manar. Teacher researcher at Research Unit: GEF2A. Her research appears in journals such as International Journal of Managerial and Financial Accounting. She can be reached at Higher Institute of Finance and Taxation at Sousse, Avenue Mohamed Ali, Sousse, Tunisia, menchaoui.ines@yahoo.fr. Her research focuses on conceptual frameworks of accounting and taxation.

Jean-Luc Rossignol is Lecturer with ability to conduct researches at University of Franche-Comte. His research appears in journals such as Global Review of Accounting and Finance, European Financial and Accounting Journal. He is also the author of many books on accounting and taxation. He can be reached at University of Franche-Comte, 1 Rue Claude Goudimel, 25000 Besançon, France, jean-luc.rossignol@education.gouv.fr. His research interests include tax planning, tax governance, tax risk, tax ethics and International Accounting Standards.

Mohamed Ali Omri is a Professor (Full) of Financial and Accounting at Northern Border University. His research appears in journals such as International Journal of Managerial and Financial Accounting, International Journal of Critical Accounting, International Journal of Accounting and information Management. He is also the author of two books on business taxation. He can be reached at Northern Border University, Rafha Northern Border, Saudi Arabia, medomri@gmail.com. His research interests include tax planning, tax risk, International Accounting Standards and audit.