

Tax planning and firm value: evidence from European companies

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Abstract—The purpose of this study is to examine whether corporate tax planning behavior increases firm value in European context. The impact of tax planning on firm value is a function of tax savings and Effective Tax Rate (ETR) in disclosures of tax reduction in the financial statements. This study argues that tax planning affects negatively firm's value due to higher agency costs by analyzing a sample of 73 firms listed in the Euronext 100 index for the period from 2008 to 2012. This relationship can be also explained as being related to the permanent differences component of tax saving where firm value is reported as negatively related to permanent differences. In addition, we find also that corporate ETRs are below the statutory tax rate. Indeed, increasing the difference between tax statutory rate and tax rate effectiveness leads to increased tax saving. In this case, tax planning can be considered as steps taken by taxpayers so as to reduce tax liability in obtaining the tax saving benefits.

I. INTRODUCTION

Almost all companies prefer to pay lower taxes or get some tax savings on tax payable. Given that the main purpose of the company is more and more focused on minimizing the overall effective tax rate of the whole company or group in order to maximize its after-tax profits. Indeed, many tax planning approaches have been used by company to achieve its objective [1]. For example, tax deferral represents one of the basic tools of tax planning. Motivated by concerns created by inherently complex tax planning strategies, Desai and Dharmapala [2] investigates whether tax shelters enhance firm value. They found a positive association between tax sheltering and firm value.

Firms might not simply minimize their tax burden but also consider their competitor behavior when deciding about tax planning. However, tax planning is costly on several margins. Aside from the direct costs of engaging in such activities, managers typically have to ensure that these actions are obscured from tax authorities. There are potential costs related to strategies to minimize taxes such as implementation and transaction costs, possible penalties imposed by the tax authorities and reputation risks that must be pondered [3].

The tax planning is a significant element of business strategy which requires attention from managers of all functional areas in the firm. Traditionally, tax planning is considered as leading to increased after tax earnings and therefore to be in the interest of shareholder, but this motivation has been questioned.

Particularly, Desai and Dharmapala [3] argue that the existence of information asymmetry between managers and shareholders for tax planning can help managers to manage earnings in their own interest resulting in a negative association between tax planning and firm's value.

The place and role of tax planning in the integration process of streamlining of financial and economic activity of the companies according to the strategy of its development have become increasingly necessary. Analyzing the specific mechanism through which tax planning affects firm value is important for a thorough understanding of the relation between tax planning and firm value on one hand and regarding how investors perceive the risk of tax planning on another hand.

This work extends prior research on the willingness of firms to decrease their corporate taxes. It specifically investigates the association between tax planning and firm's value, especially to examine the effect of tax planning on firm value.

The rest of this paper is organized as follows: in Section 2, a brief review of the tax planning is given. The proposed research design is detailed in Section 3. Empirical results are shown in section 4 and Section 5 summarizes the important features of our study.

II. PREVIOUS LITERATURE

The most companies are involved in tax planning extensively with the purpose of reducing their income taxes since the income tax expenses will reduce their profits. Traditionally, tax planning is allowed within the tax laws as it is considered as a legal tax avoidance scheme. However, not all companies have the same opportunities to carry out tax planning. This is why some companies are involved greatly in tax planning, while others are involved moderately. Thus, companies may be engaged differently in tax planning due to many factors such as the size and the capabilities of the companies to undertake tax planning activities. For accomplishing this goal, the company can adopt several approaches.

Tax planning is considered as an important investment for shareholders because of the reduction of the tax burden that weighs significantly companies and shareholders [4]. However, shareholders may not promote the activities of tax planning because of the potential costs [4]. Moreover, tax planning can

positively or negatively affect the value of the company. There is a positive association when tax planning maximizes the value of shareholders [5]. The authors reported that tightening of the tax system is positively associated with the higher market performance of firms. In other words, when taxes are considered a burden to society, shareholders positively assess tax planning; in contrast, shareholders might respond negatively if tax planning were viewed as a risk-related activity [2].

Ayers et al. [6] examine the association between changes in profitability and the tax deferral of the exercise. They found a significant relationship between tax deferral and the change in the profitability of the year, which consequently improves the value of the company. In the same context, [7] investigates whether the tax shelters can improve the value of the company. He found a positive association between the tax shelter and the value of the company, but mainly for well-governed companies. Similarly, Amir and Sougiannis [8] find that stock prices react positively to tax losses carried forward; it is the tax planning activities generated deferred tax. In another context, the authors in [4] found a positive relationship between tax planning savings and firm performance. They argue their results from the fact that tax represents the cost of doing business, and any action that has the potential of minimizing tax cost reflects in higher firm performance. This argument presupposes that tax planning cost does not exceed the savings from the planning.

Tax planning may be valued by shareholders using the information on ETR, which may reflect the activities of tax planning. This is consistent with Slemrod [9] who argues that the shareholders can control managers referring to the increase in effective tax rate due to the negative impact on equities. Swenson [10] found a negative association between stock prices and the effective tax rate. This could be explained by the significant effects of long-term reduction of ETR on market capitalization. It is deduced that a penny of tax savings could have a multiplier effect on the market value of the company. Therefore, shareholders can integrate information on tax planning in assessing the value of the company. In the same context, the study reported by [11] investigates the relation between aggressive financial and tax reporting. They find a positive association between tax aggressiveness and financial reporting aggressiveness. More specifically, firms that exhibit aggressive tax and financial earnings management strategies at the same time tend to have concomitant aggressive investing, financing, operating and compensation strategies. Lisowsky et al. [12] observe a positive association between firms that disclose a tax reserve in their financial statements and their use of tax shelters as a main mechanism to reduce the amount of taxes they pay. Tax savings could also affect firm value. Atwood and Reynolds [13] have developed a test portfolio hedging. The authors would suggest that the shareholders are likely to enhance the tax losses as a component of tax planning depending on how the component is presented in the financial statements. In [12], the authors found a positive association between the tax savings achieved through the activities of tax

planning and business performance. This argument assumes that the cost of tax planning does not exceed the savings tax planning.

Although there is a positive relationship between tax planning and the value of the company, other studies have found a negative relationship between tax planning and business value [15]. Similarly, Lev and Thiagarajan [16] suggested that stock return is negatively associated with annual changes in the effective tax rate (ETR). The authors indicate that this result is due to a negative signal to the level of persistence of profits. Abarbanell et al. [17] find a negative relationship between annual changes of ETR and abnormal return in examining the underlying relations between accounting-based fundamental signals and security prices. Indeed, a negative association may be an indicative of the existence of agency problems. Balakrishnan et al. [18] prove that firms that exhibit aggressive tax planning tend to display increased financial and organizational complexity and decreased information transparency. Desai and Dharmapala [2] predict that in an agency setting tax planning can lead to a reduction in firm value when managers have both the opportunity to understate reported accounting profit and the incentive to reduce corporate income tax liability by understating taxable income.

In contrast to the above findings, there are also studies that find no direct association between measures of tax planning and firm value. In [19], the authors interpret their findings as the influence of non-tax cost which associates the relation between ETR and firm value. In the same case, Desai and Dharmapala [20] find no direct relationship between tax planning and market performance. They argue that the complex nature of transactions makes it difficult for stakeholders to fully evaluate firm performance, including the tax implications of these transactions or arrangements.

III. RESEARCH DESIGN

A. Sample selection and data source

We construct our sample starting with all of the companies listed on the EURONEXT 100 index and dated 2013. We use the Orbis database to gather information on tax data and financial control variables. Our sample for empirical testing initially consisted of the top 100 listed on the Euronext 100 index firms over 2008-2012. However, we excluded financial firms (10), regulated utilities (5). Further filters were used to exclude firms with negative pretax income, the extreme value of tax rates and unbalanced data. Table I presents the sample selection process which resulted in 73 firms making 365 year-end observations over the five year period with complete data for analysis.

B. Dependent variable: firm value

Firm value is measured by Tobin's Q, the ratio of the market value of the firm to book value of assets at year end. It is selected as the measure of firm value because of its use in studies of the valuation of tax avoidance [2]. Tobin's Q is considered a good indicator capturing future growth

TABLE I
SAMPLE SELECTION.

	Number of companies	Number of observations
Listed companies throughout the period	100	
Regulated utilities	(5)	
Finance companies	(10)	
	85	425
Negative profit before tax		(29)
Extreme value of tax rates (>1)		(9)
Unbalance data		(22)
Initial sample		365

opportunities and long-term financial performance as expected by the stock market [14].

C. Independent variables: tax planning

To improve the robustness of our results, we employ two measures of tax planning: ETR and Tax saving. They have been implemented in prior studies as our dependent variable [3], [4]. Each of these measures is a reflection of tax planning that decreases a firm's tax liability without necessarily decreasing its accounting income. Our first tax planning measure (ETR) is calculated as the total tax expense scaled by pre-tax accounting income. Corporate ETRs basically assesses the tax performance of firms. Thus, it is the best measure to evaluate the actual corporate tax burdens. ETR is a commonly used measure of a firm's tax burden. ETR provides a basic summary statistic of tax performance which describes the amount of taxes paid by a company relative to its gross profit. This measure reflects aggressive tax planning through permanent book-tax differences. ETR is perceived to be appropriate as compared to book-tax gap measure. The second measure (Tax saving) is calculated as a difference between the statutory tax rate and the effective tax rate. Indeed, where a firm operates across a number of jurisdictions with varying statutory rates, tax rate differentials can provide a tax saving recognised in firm value.

D. Control variables

Our study includes several control variables pertaining to firm size, leverage, capital intensity, Dividend and Earnings management. Firm size (SIZE) controls for the effect of the size of the firm on tax planning. Rego [21] observes that larger firms can achieve economies of scale via tax planning and have the resources and incentives to decrease group tax. SIZE is measured as the natural log of total assets. Leverage (LEV) as a control variable in our study because it is expected that firms that have higher debt-to-equity ratios are more efficient at minimizing corporate taxes. They finds that higher-leveraged firms have lower ETRs, as they use debt deductions to significantly decrease the amount of corporate taxes they pay. Capital intensity (CAPINT) is included as control variables for highly capital-intensive [11]. We measure CAPINT as a tangible asset scaled by total assets. Dividends (DIV) are also included as a control variable; the dividend variable in the

model is measured as the percentage of dividend per share on earnings per share [22]. The dividend is an important tool for influencing shareholders' valuation of the performance of the managers in the presence of information asymmetry. The next control variable, earnings management (EM), is included in order to control for manipulation of financial accounting items by managers [23]. We measure (EM) as a total accruals scaled by average total assets [24]. One important reason why firms potentially manage earnings is to minimize the tax bill.

E. Regression model

To examine the effect of tax planning on the firm's value, the regression model is estimated using the following equation:

$$Tobins\ Q_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_3 tax\ saving_{it} + \beta_2 CAPINT_{it} + \beta_3 LEV_{it} + \beta_4 EM_{it} + \beta_5 DIV_{it} + \beta_6 SIZE_{it} + \beta_6 INFL_{it} + \varepsilon_{it}$$

Where i = firms 1-73; t = the financial years 2008-2012; Q_{TOBIN} = the ratio of the market value of the firm to book value of assets at year end; ETR = the total tax expense scaled by pre-tax accounting income; $tax\ saving$ = difference between the statutory tax rate and effective tax rate; $CAPINT$ = tangible assets scaled by total assets; LEV = the total debt divided by the book value of equity; EM = total accruals scaled by average total assets; DIV = Dividends per share/earnings per share*100; $SIZE$ = plant and equipment scaled by total assets.

IV. EMPIRICAL RESULTS

A. Descriptive statistics

The descriptive statistics for the dependent variables (Tobin's Q), independent variables (ETR and Tax saving), and control variables (LEV , $SIZE$, DIV , $CAPINT$, EM) are shown in Table II.

TABLE II
DESCRIPTIVE STATISTICS.

Variable	Mean	Std. Dev.
Q Tobin	0.8614686	0.8496385
ETR	25.69538	13.74636
Tax saving	5.443115	13.44551
LEV	118.4962	94.52274
SIZE	4.399753	0.802689
DIV	1.419699	1.77467
CAPINT	0.2527988	0.2323312
EM	-0.0186018	0.0835259
INFL	1.861944	1.054594

Form table II, the average effective tax rate of companies indicates that statutory tax rates displayed by the government do not adequately reflect the nature of payment of taxes on companies.

B. Correlation results

The correlations between the variables are presented in Table III. As is apparent from the correlation matrix, multicollinearity may be an issue since the correlation coefficients between various independent and control variables are significant. Finally, we calculate variance inflation factors (VIFs) when estimating the regression model to test for signs of multicollinearity between the independent variables. Our (untabulated) results confirm that none of the VIFs exceed five for any of our independent variables. As such, multicollinearity does not present a problem for our study.

TABLE III
PEARSON CORRELATION RESULTS.

	ETR	LEV	SIZE	DIV	CAPINT	EM	INFL
ETR	1.000						
LEV	-0.048	1.000					
SIZE	0.273	0.101	1.000				
DIV	-0.020	-0.044	-0.115	1.000			
CAPINT	-0.073	0.098	-0.320	-0.181	1.000		
EM	-0.114	-0.172	-0.125	0.052	0.118	1.000	
INFL	-0.074	0.009	-0.070	-0.043	0.094	0.155	1.000

C. Regression results

A series of regression models are intended to test the relationship between tax planning and firm performance. Before doing so, as we employed a panel structure of data. Thus, heteroskedasticity exists, which means that the standard errors of the estimates are inconsistent and the usual tests of significance cannot be applied. Also questions of autocorrelation are raised. These tests, not reported to save space, prove significant and we estimated the models presented in Table IV using Generalized Least Squares (GLS) regression.

TABLE IV
REGRESSION RESULTS.

	Coefficient	Z	P> z
ETR	-0.0035153	-3.33	0.001
LEV	-0.0015684	-8.47	0.000
SIZE	-0.0830458	-2.85	0.004
DIV	-0.0245194	-2.22	0.026
CAPINT	-0.0689148	-0.75	0.451
EM	1.263548	4.42	0.000
INFL	-0.0454553	-4.69	0.000
Const	1.549412	10.82	0.000

The GLS technique is used to estimate the unknown parameters of linear regression model. The GLS is applied when the variances of the observations are unequal (heteroscedasticity), and/or when there is a certain degree of correlation between the observations. In these cases Ordinary Least Squares (OLS) can be statistically inefficient, or even give misleading inferences. The model shows a significant relationship between firm value and tax planning. We find that the regression coefficient for ETR is negative and significantly associated with Tobin's Q ($p < 0.01$). This result is consistent with shareholder concerns about moral hazard risk in tax or other tax planning

related risks, for example, the risk related to inspection or investigation by tax authorities [15].

D. Further analysis

This study also sheds light on the debate related to the relative importance of tax planning activities generating tax savings. To improve the robustness of our results, we employ a second measure for tax planning. Tax savings are our proxy for tax planning. We calculated tax saving as the difference between the statutory tax rate and effective tax rate (ETR). This proxy ties closely with previous studies that show that managers have incentives to reduce financial statement tax expense. Tax planning is clearly a significant activity in terms of tax saving ($p < 0.014$). Tax planning can be considered as a mechanism through which firms generate permanent tax savings and/or temporary tax savings achieved through deferral.

V. CONCLUSION

In this paper, we sought to explore the relationship between tax planning and firms' value. We find a significant and negative relationship between firm value and tax planning. The results are persistent with an agency cost theory of tax planning where the information asymmetry generally associated with tax planning can result in moral hazard or other tax planning related risks, for example, the risk related to inspection or investigation by tax authorities. Also we find that tax planning can be considered as steps taken by taxpayers so as to reduce tax liability in obtaining the tax saving benefits.

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