71h

TÍTULO	**Tax avoidance determinants: Evidence from Spanish corporate conglomerates**
AUTORES	Aitor Garmendia-Lazcano, Ph.D, University of Deusto. Deusto Business School, Department of Finance and Accounting Contact: Mundaiz Kalea, 50, 20012 Donostia, Gipuzkoa, Spain Laura Baselga Pascual, Ph.D. University of Deusto. Deusto Business School, Department of Finance and Accounting Contact: Mundaiz Kalea, 50, 20012 Donostia, Gipuzkoa, Spain Responsabilidad Social Corporativa.
AREA TEMÁTICA	Research Workshop 3
RESEARCH WORKSHOP	

Tax avoidance determinants: Evidence from Spanish corporate conglomerates

Abstract

The aim of this paper is to determine whether Spanish corporate groups are more aggressive in their tax policy than other companies. We study a large sample of Spanish non-financial firms from 2007 to 2016. We use static and dynamic panel data to analyse the main determinants of tax avoidance. Our preliminary results show that companies which belong to a corporate group and located in regions governed by nationalist parties tend to be more tax elusive. Similarly, and consistent with the literature, large, publicly traded firms, with greater proportions of intangible assets face lower tax rates. Conversely, profitable and elder companies stand higher effective tax rates.

Preliminary draft

1. Introduction

Tax avoidance implies adopting tax policies which reduce the firm's income tax payments within the law (Guenther et al. 2016). Corporate groups are said to maximize the efficiency of their tax planning policy by locating some of their branches in tax havens and low tax countries. Companies, all over the word are criticised for avoiding taxes (e.g.: Amazon, Apple, Google, or Starbucks). In Spain, Inditex was accused by the Greens/EFA Group in the European Parliament of avoiding the payment of € 585 Million in taxes from 2011 to 2014[1]. The company published, in response, a statement in which it specified that the annual tax rate during that period had been between 22 and 24%. They further argued that the Green's report was based in wrong premises being all group companies duly audited, transparent and all information available in the Annual Reports[2].

Tax avoidance is a controversial topic which arises several questions: i) Is it rational to expect corporations to behave beyond their legal requirements? ii) Is it ethical to avoid taxes? iii) Which would be the consequences of a stricter fiscal policy? Several papers have discussed these issues, remaining the debate unsolved. Torslov et al. (2018) quantify in 40% of multinational profits, those shifted to tax havens every year; Guenter et al. (2016) argue that aggressive corporate tax avoidance increases firm risk and Muller and Kolk (2015) and Lanis and Richardson (2012) show that socially responsible firms are less tax aggressive. However, Cen et al. (2018) find evidence that tax savings benefit stakeholders such as customers through lower product prices.

Although the aim of this paper is not resolving such complex ethical debate, it might contribute in explaining which are the main factors that determine the marginal corporate tax rate of corporate groups in Spain. Previous literature focuses on similar topics as the relationship between corporate diversification and tax avoidance (Zheng, 2017), or corporate tax avoidance by multinational firms (Needham, 2013). However, this is the first study focusing on the relationship of tax avoidance and corporate groups in Spain.

Multinational companies and corporate groups are pointed out for their aggressive tax planning. The tax department of these companies is configured as a key piece in the company's value chain with the aim of devising strategies to optimize the payment of taxes, becoming a competitive advantage. Thus, the aim of this paper is to determine whether Spanish corporate groups are more aggressive in their tax policy than other companies. For that purpose, we study a large sample of

[1] Tax Shopping: Exploring Zara's tax avoidance business. https://www.greens-efa.eu/legacy/fileadmin/dam/Documents/Studies/Taxation/TAX_SHOPPING_-_Greens-EFA_report_on_Inditex_-_08_12_2016.pdf

[2] https://www.inditex.com/es/article?articleId=290542&title=Inditex%27s+response+to+%E2%80%98Tax+Shopping%3A+Exploring+Zara%27s+Tax+Avoidance+Business%27+report

Spanish non-financial firms from 2007 to 2016. We use a dynamic panel data model to analyse the main determinants of tax avoidance.

Given previous results from Needham (2013), Zheng (2017), or Torslov et al. (2018) among others, we expect group companies to be more efficient in their tax policy, and therefore present lower tax effective rates. Therefore, we hypothesise:

H1: There is a negative and significant relationship between group companies and their effective tax rate.

As expected, our results show that companies which belong to a corporate group tend to have lower effective corporate taxes. Other variables that significantly contribute to tax avoidance are the public status of the firm, the greater proportion of intangible assets, and to be located in regions governed by right-wing and or nationalist parties.

Providing more insight of the main determinants of tax avoidance is of interest of Regulators and Policy makers as corporate tax policy has an impact not only on firm specific characteristics such as value, risk or reputation; but also, in the economies of whole countries. An example of the relevance of this topic is *The inclusive Framework on Base erosion and profit shifting (BEPS) (OECD)*[3], which aims to modernize international tax regulations to reduce the erosion of tax bases and the relocation of profits, preventing multinationals from manipulating intra-group transactions, ensuring that a significant economic presence in a country produces the taxation of the income obtained in the aforementioned country, avoiding the formation of instrumental societies to unduly benefit from the benefits of a CDI; and, ensuring that companies disclose certain tax information to tax administrations, and that they share it with other administrations when relevant.

2. Data and variables

Sample description

In our analysis we use panel data from non-financial Spanish companies from 2007 to 2016. Our main source of information is the SABI database (*Sistema de Análisis de Balances Ibéricos*), which provides the financial and ownership structure data that we need for the analyses. Additionally, some information required to calculate the control variables related to tax havens are extracted from GESTHA (2017)[4] and the variables related to the governing political parties

[3] http://www.oecd.org/tax/beps/
[4] https://www.ioncomunicacion.es/wp-content/uploads/Anexo.pdf

in the different autonomous communities of Spain have been constructed using the web information of the Spanish senate[5].

Therefore, we have constructed an unbalanced panel composed of companies from all regions in Spain for the time period spanning from 2007 to 2016. As a result, the final unbalanced panel comprises 271.809 firms and 770.070 observations.

Observations per region are provided in Table 1. As can be noted from the table, Cataluña comprises more than one in five observations followed by Madrid (17.17%) as they are the main business regions in Spain. Together with Comunidad Valenciana and Andalucía (eighth and second regions in extension) they represent more than half of our observations.

Table 1

Table 2 shows observations per year. The number of observations almost doubles from 2007 to 2008. Around 40% of the observations are concentrated in those years. After 2008, presumably due to the last crisis, observations drastically drop from 184,646 to 57,683; and remain close to 60,000 in average.

Table 2

Dependent variable

The dependent variable for our empirical tests is represented by corporate tax aggressiveness. This variable has been proxied by using the firm's current effective tax rate (ETR). Following Lanis and Richarson (2012), Landry et al. (2013), and Sánchez-Marín et al. (2016) we use ETR for three important reasons: 1) ETR encapsulates tax aggressiveness; 2) ETR is the proxy measure of tax aggressiveness most frequently used by academic researchers; 3) Low ETR is considered a sign of tax aggressiveness. Many authors have seen this ratio as a robust measure of firm's tax pressure (Graham, 2003; Plesko, 2003).

We operationalize this measure as follows:

$$ETR_{it} = \left(\frac{CITE_{it}}{PTBI_{it}}\right) \times 100$$

where ETR_{it} is the effective tax rate of *i* company in period *t*; $CITE_{it}$ is the current income tax expense of *i* company in period *t*; and $PTBI_{it}$ is the pre-tax book income of *i* company in period *t* (Gupta and Newberry, 1997; Richardson and Lanis, 2007; Chen et al., 2010; Lanis and

5 http://www.senado.es/web/conocersenado/biblioteca/dossieresareastematicas/detalledossier/index.html?id=DOSSIER_CCAA1&parte=CCAA1_PLANES

Richardson, 2012; Landry et al., 2013). Therefore, ETR represents the rate of taxation taken by firms (Lin, 2006) and indicates the relative tax burden across corporations (Rego, 2003).

Tax aggressive activities frequently reduce ETRs because they try to generate book-tax differences between a firm's financial accounting income and taxable income. Consequently, tax-motivated transactions usually reduce ETRs (Rego, 2003). Additionally, firm's can use their foreign operations to reduce their tax bill and ETRs capture properly this form of tax aggressiveness. In conclusion, firm's that avoid corporate taxes by reducing their taxable income while maintaining their financial accounting income have lower ETRs, and this makes ETRs a suitable measure of corporate tax aggressiveness. This measure captures a broad range of strategies, from perfectly legal strategies to tax evasion (Landry et al., 2013).

Explanatory variable

Our main independent variable (GD_{it}) is a dummy variable which takes the value of 1 if the firm belongs to a business group and 0 if it does not. In order to create this variable, we have designed an algorithm to identify Spanish business groups from 2007 to 2016.

According to the concept of business group employed in this study, a business group is a collection of companies under the control of the group leader (parent company or matrix), which may not be controlled directly or indirectly by any other company. However, to use this definition in practice, it has been necessary to decide at what point the activity of the shareholders of one company could be considered as the wielding of influence and control over the decision-making process of another. We have decided to adopt the benchmark laid down in the Spanish General Accounting Plan of 2007, where one company is considered to exert significant influence over another if it owns at least 20% of its voting rights.

For each year, SABI database contains shareholder and subsidiaries information for Spanish firms. From 2007 to 2016 we have selected only active firms that provide information about their shareholders and/or subsidiaries and their stakes in company capital. This constitutes our first dataset of Spanish firms.

In order to apply the business groups identification algorithm, we have prepared a second dataset, named as "Main business links", merging all the capital participation links contained in shareholders and subsidiaries data of SABI database, and eliminating duplicates. Each record of this new dataset has been classified as being "individuals and families" or "company" according to the nature of the shareholder. And finally, have been selected the records of this dataset that fulfil these three conditions: 1) the shareholding stake is equal to or greater than 20%; 2) the shareholder is a company; 3) the shareholder is the largest or one of the largest shareholders in the company.

Finally, we have designed our methodology for identifying business groups as an iterative process that involves two steps: 1) Identifying companies with direct control over other firms. For each company of the first dataset of Spanish firms, we have noted the identifier of the company and the percentage of the shareholding stake contained in the second dataset "Main business links", which controls it; 2) At each next stages of the process we have checked, in the second dataset "Main business links", whether there is in fact another company behind the one we had provisionally identified as the parent company, which controls it by means of a shareholding stake equal to or greater than 20%, and where the shareholder is the largest or one of the largest shareholders in the company. In such cases, the identifier of the parent company has been altered accordingly in the final database, so as to reflect the new parent company. Thus, the new parent company has been taken to be the ultimate parent not only of the companies in which it exercised direct influence as the largest shareholder, but also of all the subsidiaries in which they are in turn the largest shareholders. Successive iterations have identified the companies heading each business group. The process of identifying the parent company for any given group stopped at the point where no further company had a stake equal to or greater than 20% of the shares of the company identified as parent.

Applying this algorithm, we have identified the Spanish firms that are integrated in business groups for each year between 2007 and 2016. Additionally, for each business group we have calculated several variables that describe the number of subsidiaries inside the group and its geographical and sectorial diversification. These variables have been included as control variables.

Control variables

Following tax avoidance literature (Lanis and Richardson, 2012; Guenther et al., 2013; Landry et al., 2013; Sánchez-Marín et al., 2016) we include in our model several control variables. Some of them are firm and group specific variables and the others are related to the governing parties

All variable definitions are presented in Table 3.

Table 3

Descriptive statistics

Table 4 provides summary statistics of the selected variables. More specifically, it shows mean, median, standard deviations, maximum and minimum values of each variable. The average effective tax rate is 11.85% however the median reaches 24.29%. 38% of the observations in our sample belong to group companies, while only 9% belong to foreign groups. The average number of subsidiaries is 13 and they have presence in 1.31 countries on average. Only 6% of the subsidiaries and 3% of the parent companies are located in tax havens. The average size in terms

of total assets is above €1.6 million while the average return on assets is 2.59%. The mean proportion of intangible assets over total assets is 3.43%. The average age is almost 17 years old, being the youngest company 1 year old and the eldest 174. Ownership concentration of Spanish firms is significantly high, 73.78% on average; this can partly be explained as only 1% of the companies are publicly traded and most of them (more than 90%) are SME's. Finally, firms are mostly located in Regions governed by central-right and non-nationalist governments.

Table 4

3. First results and conclusions

Correlations

Pearson correlation results are provided in Table 5. The number of subsidiaries (*NSit*) and the number of countries (*NCit*) show a positive and significant very high correlation (0.79); similarly the number of subsidiaries in tax havens (*STHit*) presents a high and positive correlation with *NSit* (0.67) and *NCit* (0.58). Size (*SIZEit*) is also correlated with the group dummy (*GDit*) and *NCit*, being the coefficients 0.48 and 0.32 respectively. Finally, the correlation between Nationalist (*NATDit*) and Right-wing governments (*LRWit*) is also positive. These significant correlations between the explanatory variables might lead to multicollinearity, therefore we will deal with this inconvenient in the regression section.

The correlation table further shows a negative and significant relationship between the dependent variable and the group dummy (*GDit*) as expected. The coefficients of *FGDit*, *NSit, NCit, STHit*, *PCTHit*, *OCit, PDit*, *LRWit* and *NATDit*, and the dependent variable are also negative and significant. In contrast, a positive relationship is shown between ETRit and SIZEit, ROAit and AGEit.

Table 5

Multivariate analysis

To examine the association between tax aggressiveness and belonging to a business group we propose the following model specification:

$$ETR_{it} = \propto_0 + \propto_1 GD_{it} + \phi X_{it} + \eta_{it} + d_t + \upsilon_{it} \quad (1)$$

where: i = corporations 1 to 271.809; t = years from 2007 to 2016; X_{it} = the set of control variables; η_{it} = the individual or firm-specific effect; d_t =measures the temporal or time-specific effect with the corresponding time dummy variables; and υ_{it} = the random disturbance.

To provide robustness to our results, we run different model specifications. Table 6 shows the coefficients and standard errors for static panel data models. We use fixed effects estimations in

models 1 to 3. Model 1 shows the coefficients for the individual fixed effects regression; model 2 shows the coefficients after testing for first order autocorrelation and in model 3 we control for heteroskedasticity. As the tables clearly depict, the coefficient of our main explanatory variable becomes significant at 1% level and negative in all models, supporting our hypothesis and Pearson correlation results. Similarly, the coefficients of *LRWit* are also negative and highly significant in all models, indicating that companies located in right-wing regions tend to have lower tax rates. The coefficients of *NSit* and *SIZEit* are also negative in all models but insignificant in some of them; showing a negative relationship between both the number of subsidiaries and size of the firm; and the effective tax rate, which might not be robust enough and therefore, inconclusive.

Consistent with the Pearson correlations, the coefficients for *ROAit* and *AGEit* are positive and highly significant in all models; reinforcing previous results, suggesting that more profitable and elder firms have higher effective tax rates.

The coefficients of *NCit* and *NATDit* differ across models; being positive and highly significant in models 1 and 2 and negative and highly significant in model 3, after controlling for heteroskedasticity. Thus, the relationship between the number of countries with subsidiaries and whether the company is located in a nationalist region; and the effective tax rate, remain inconclusive.

Table 6

Dynamic models

Firm characteristics might be endogenous. For instance, firms might have incentives to reduce their profitability if that increases their tax rate. Moreover, there are potential omitted variables in our baseline equation with explanatory power, such as board characteristics, making the dependent variable correlated to the error term. Finally, some explanatory variables are correlated with each other, as we have shown in the Pearson correlations section, this indicates a multicollinearity issue. To overcome all these limitations, in Table 7 we use dynamic panel data models. In particular, we use GMM estimator developed for dynamic panel models by Arellano and Bover (1995) and Blundell and Bond (1998), also referred to as the system-GMM estimator. This method allows us to control for individual heterogeneity of firms, because every firm has its own specificity in their tax planning activities and helps us to mitigate the endogeneity problem which occurs when the error term is correlated with any of the explanatory variables. We employ the two-step estimation procedure with finite-sample corrected standard errors, as proposed by Windmeijer (2005). This method provides less biased coefficient estimates and more accurate standard errors. The system-GMM estimator addresses endogeneity by means of suitable instruments. We treat all variables as endogenous covariates by employing lagged first differences of the explanatory variables as instruments for the equation in levels and the lagged values of the

explanatory variables in levels as instruments for the equation in differences (in line with Arellano and Bover, 1995, and Blundell and Bond, 1998). In order to check for the potential misspecification of the model we use the Hansen J statistic of over-identifying restrictions to test for the absence of correlation between the instruments and the error term.

The GMM equation includes the same elements as equation 1, plus the one year lagged dependent variable $ETR_{i,t-1}$.

$$ETR_{it} = \propto + \delta\ ETR_{i,t-1} + \beta\ GD_{it} + \phi X_{it} + \eta_{it} + d_t + \upsilon_{it} \qquad (2)$$

Table 7 shows the results of different specification of the baseline equation. In model 1, we consider all variables as endogenous; in model 2 LRW_{it} and $NATD_{it}$ are treated as exogenous variables; model 3 shows the coefficients including region dummies; in model 4 we include year dummies and; finally, in model 5 we control for both year and region dummies.

As can be noted from the table, the coefficients of our main explanatory variable (GD_{it}) and $NATD_{it}$, become negative for all models and highly significant except for those models in which we use region controls. The lagged dependent variable ETR_{it-1} shows a positive highly significant effect in all model specifications indicating strong persistence of tax rates. Similarly, coefficients of ROA_{it} and AGE_{it} are positive and highly significant in all models, supporting previous static analysis, and consequently providing rather robust results.

Unexpectedly, coefficients of LRW_{it} are positive and highly significant in most models, contradicting previous results, indicating that right-wing regions tend to have higher corporate tax rates.

Table 7

Conclusion

Our results show a negative relationship between companies which belong to a business group and firms located in regions governed by nationalist parties; and effective tax rates, suggesting that those companies engage in more efficient tax planning policies. These results are similar in most models, except for the dynamic models in which we include region dummies. We can accept our hypothesis (H1) as we expected a negative relationship between group companies and their effective tax rate. However, these results shall be taken with caution, as we cannot assume that this relationship is not partly driven by endogeneity. Previous studies attribute a significant effect of the region where the company operates on its *ETR* (Vandenbussche et al., 2005).

Similarly, the size of the firm, the proportion of intangible assets over total assets, and its public status shows negatives coefficients in most models, suggesting that publicly traded, firms with greater proportions of intangible assets, and large companies tend to have lower corporate tax

rates. However, the coefficients of those variables tend to keep their negative sign but not their significance in all model specifications. These results are consistent with previous studies (e.g. Rego, 2003; Lanis and Richardson, 2012; Guenther et al., 2013; Landry, 2013; Richardson, 2016). These authors state that larger firms can achieve economies of scale through tax planning.

Finally, ROA_{it} and AGE_{it} show extremely robust results, presenting a positive relationship between profitability and firm age, and tax rates. Previous literature is ambiguous on the relationship between firm profitability and tax avoidance, providing contradicting results. Such authors as Gupta and Newberry (1997), Harris and Feeny (2003) and Richardson and Lanis (2007) support our results and explain this relationship as if a firm's tax preferences and total assets remain constant; increasing its profitability, will increase its *ETR*. Regarding firm age, literature also shows contradicting views. Kovermann and Wendt (2019) state that older firms, as they are more experienced in effective tax planning might experience lower tax rates; nonetheless, our results are consistent with Gul et al. (2018).

References:

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. Journal of Econometrics, 68, 29–51.

Blundell, R. W., & Bond, S. R. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics, 87, 115–143.

Cen, L., Maydew, E., Zhang, L., and Zuo, L. (2018). Tax planning diffusion along the supply chain. ssrn.3213967 JO - SSRN Electronic Journal.

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

Graham, J. (2003). Taxes and corporate finance: a review. Review of Financial Studies, 16(4), 1074-1128.

Gul, F., Khedmati, M. and Shams, S. (2018). Managerial acquisitiveness and corporate tax avoidance. Pacfin.

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

Guenther, David A., Matsunaga, S. and Williams, B. (2016). Is Tax Avoidance Related to Firm Risk?. Accounting Review.

Kovermann, J., & Wendt, M. (2019). Tax Avoidance in Family Firms: Evidence from Large Private Firms. Journal of Contemporary Accounting & Economics.

Landry, Deslandes & Fortin (2013). Tax, CSR, and Ownership Journal of Accounting, Ethics & Public Policy, Volume 14, No. 3.

Lanis, R. and Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: a test of legitimacy theory. Accounting, Auditing & Accountability Journal, Vol. 26 Iss 1, 75 – 100.

Lin, K. Z. (2006). The impact of tax holidays on earnings management: An empirical study of corporate reporting behaviour in a developing-economy framework. Journal of Accounting and Public Policy 41 (2), 163–175.

Muller, A., & Kolk, A. (2015). Responsible tax as corporate social responsibility: The case of multinational enterprises and effective tax in India. Business & Society, 54, 4, 435-463.

Needham, C. (2013). Corporate tax avoidance by multinational firms. Library of the European Parliament. 130574REV1.

Plesko, G.A. (2003). An evaluation of alternative measures of corporate tax rates. Journal of Accounting and Economics, 2003, 35(2), 201-226.

Rego, S.O. (2003). Tax-Avoidance Activities of U.S. Multinational Corporations. Contemporary Accounting Research, 20(4), 805–833.

Richardson, G. and Lanis, R. (2007). Determinants of the Variability in Corporate Effective Tax Rates and Tax Reform: Evidence from Australia. Journal of Accounting and Public Policy, 26, 689-704.

Richardson, G., Wang, B., & Zhang, X. (2016). Ownership structure and corporate tax avoidance: Evidence from publicly listed private firms in China. Journal of Contemporary Accounting & Economics, 12(2), 141–158.

Sánchez-Marín, G., Portillo-Navarro, M.J., Clavel, J.G. (2016). The influence of family involvement on tax aggressiveness of family firms. Journal of Family Business Management.

Tørsløv, T.R., Wier, L.S., and Zucman, G. (2018). The Missing Profits of Nations National Bureau of Economic Research (NBER). Working Paper No. 24701.

Vandenbussche, Hylke and Tan, Chang, The Taxation of Multinationals: Firm Level Evidence for Belgium (September 19, 2005). LICOS Discussion Paper No. 160/2005. Available at SSRN: https://ssrn.com/abstract=870236 or http://dx.doi.org/10.2139/ssrn.870236.

Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two-step GMM estimators. Journal of Econometrics, 126(1), 25–51.

Zheng, S. (2017). Can corporate diversification induce more tax avoidance practices? Journal of Multinational Financial Management, 41, 47-60.

Tax Shopping: Exploring Zara's tax avoidance business. https://www.greens-efa.eu/legacy/fileadmin/dam/Documents/Studies/Taxation/TAX_SHOPPING_-_Greens-EFA_report_on_Inditex_-_08_12_2016.pdf

https://www.inditex.com/es/article?articleId=290542&title=Inditex%27s+response+to+%E2%80%98Tax+Shopping%3A+Exploring+Zara%27s+Tax+Avoidance+Business%27+report

Table 1: Observations per region

Autonomous Community	Freq.	Percent	Cum.
Andalucía	82,308	10.69	10.69
Aragon	27,297	3.54	14.23
Asturias	14,026	1.82	16.05
Canarias	28,086	3.65	19.70
Cantabria	6,402	0.83	20.53
Castilla y Leon	34,740	4.51	25.04
Castilla-La Mancha	26,219	3.40	28.45
Cataluna	165,808	21.53	49.98
Ceuta	711	0.09	50.07
Comunidad Valenciana	89,078	11.57	61.64
Comunidad de Madrid	132,250	17.17	78.81
Extremadura	9,885	1.28	80.10
Galicia	55,318	7.18	87.28
Islas Baleares	18,622	2.42	89.70
La Rioja	7,164	0.93	90.63
Melilla	533	0.07	90.70
Navarra	11,608	1.51	92.21
Pais Vasco	36,687	4.76	96.97
Region de Murcia	23,327	3.03	100.00
Total	770,069	100.00	

Table 2: Observations per year

Year	Freq.	Percent	Cum.
2007	104,122	13.52	13.52
2008	184,646	23.98	37.50
2009	57,683	7.49	44.99
2010	60,510	7.86	52.85
2011	60,199	7.82	60.66
2012	58,611	7.61	68.28
2013	57,457	7.46	75.74
2014	60,993	7.92	83.66
2015	63,189	8.21	91.86
2016	62,660	8.14	100.00
Total	770,070	100.00	

Table 3: Variable description

Variable	Symbol	Description
Effective tax rate	ETR_{it}	This rate is defined as the current income tax expense divided by the pre-tax book income (Lanis and Richardson, 2012; Landry et al., 2013).
Group dummy	GD_{it}	Dummy variable that equals one if the firm belongs to a business group. Otherwise, the variable takes the value of zero.
Ownership concentration	OC_{it}	Main shareholder's percentage of direct ownership in the company
Size	$SIZE_{it}$	Log of total assets of the company
ROA	ROA_{it}	Return on Assets of the company
Intangible ratio	IR_{it}	Intangible assets to Assets ratio of the company
Foreign group dummy	FGD_{it}	Dummy variable that equals one if the company is part of a foreign business group, and zero otherwise. We consider a business group as foreign when the group's parent company is located out of Spain.
Number of subsidiaries	NS_{it}	Number of subsidiaries integrated in the same business group as the company.
Number of countries	NC_{it}	Number of different countries in which the business group of the company has got subsidiaries.
Subsidiaries in tax havens	STH_{it}	Number of subsidiaries integrated in the same business group as the company, which are located in a tax haven according to the "blacklist" of countries defined by GESTHA (2017).
Parent company in tax haven	$PCTH_{it}$	Variable that equals one when the parent company of the business group in which the company is integrated in is located in a tax haven according to the "greylist" of countries defined by GESTHA (2017); equals two when the parent company is located in a tax haven according to the "blacklist" of countries defined by GESTHA (2017); and zero otherwise.
Age	AGE_{it}	Age of company according to when it was incorporated.
Public dummny	PD_{it}	Dummy variable that equals one when the company is listed on the stock exchange, and zero otherwise.
Governing political party: left-right wing	LRW_{it}	Variable that is a proxy of the political spectrum of the governing political party in the autonomous community of the company (left-right wing). Equals zero when the governing political party is considered left-wing; equals one when is considered centrist; and equals two when is considered right-wing.
Governing political party: nationalist-non nationalist dummy	$NATD_{it}$	Dummy variable that equals zero when the political spectrum of the governing political party in the autonomous community of the company is non nationalist, and equals one when is nationalist.

Table 4: Summary statistics

	Mean	Median	St.Dev	max	min
ETRit	11.85	24.29	27.01	92.61	-102.14
GDit	.38	0	.48	1	0
FGDit	.09	0	.53	9	0
NSit	13.41	0	98	2294	0
NCit	1.31	0	4.53	73	0
STHit	.06	0	.68	34	0
PCTHit	.03	0	.18	2	0
SIZEit	14.3	14.23	1.91	25.26	8.01
ROAit	2.59	3.13	14.67	46.42	-81.03
IRit	3.43	.18	10.18	100	0
AGEit	16.91	15	11.78	174	1
OCit	73.78	92	28.67	100	.01
PDit	.01	0	.08	1	0
LRWit	1.25	2	.95	2	0
NATDit	.14	0	.35	1	0

See Table 3 for variable description

Table 5: Pearson correlation results

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) ETR_{ij}	1.00														
(2) GD_{ij}	-0.07*	1.00													
	0.00														
(3) FGD_{ij}	-0.01*	0.23*	1.00												
	0.00	0.00													
(4) NS_{ij}	-0.03*	0.18*	0.02*	1.00											
	0.00	0.00	0.00												
(5) NC_{ij}	-0.05*	0.37*	0.09*	0.79*	1.00										
	0.00	0.00	0.00	0.00											
(6) STH_{ij}	-0.02*	0.12*	0.01*	0.58*	0.67*	1.00									
	0.00	0.00	0.00	0.00	0.00										
(7) $PCTH_{ij}$	-0.01*	0.18*	0.24*	0.05*	0.12*	0.03*	1.00								
	0.00	0.00	0.00	0.00	0.00	0.00									
(8) $SIZE_{ij}$	0.01*	0.48*	0.15*	0.17*	0.32*	0.14*	0.15*	1.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
(9) ROA_{ij}	0.37*	0.01*	0.01*	0.00	0.01*	0.01*	0.01*	0.12*	1.00						
	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00							
(10) IR_{ij}	-0.05*	0.08*	0.03*	0.06*	0.09*	0.04*	0.03*	0.00*	-0.02*	1.00					
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
(11) AGE_{ij}	0.03*	0.15*	0.02*	0.03*	0.08*	0.03*	0.05*	0.37*	0.04*	-0.07*	1.00				
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
(12) OC_{ij}	-0.03*	0.13*	0.10*	0.05*	0.09*	0.04*	0.08*	-0.11*	-0.02*	0.04*	-0.18*	1.00			
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
(13) PD_{ij}	-0.03*	0.02*	-0.01*	0.02*	0.04*	0.02*	-0.01*	0.09*	-0.01*	-0.02*	0.00	-0.06*	1.00		
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00			
(14) LRW_{ij}	-0.01*	0.06*	0.02*	0.03*	0.05*	0.03*	0.04*	0.08*	0.01*	0.03*	0.09*	0.00*	0.04*	1.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00		
(15) $NATD_{ij}$	-0.00*	0.07*	0.02*	-0.00	0.03*	0.00	0.02*	0.06*	0.03*	0.04*	0.12*	0.00*	-0.02*	0.32*	1.00
	0.00	0.00	0.00	0.18	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Variable definitions: See Table for variable definitions.
* Shows significance at the .1 level See Table 3 for variable description

Table 6: Static models

	(1)	(2)	(3)
Test	FE	FE-AR[1]	PCSE
Dep var	ETR_{it}	ETR_{it}	ETR_{it}
GD_{it}	-0.89***	-0.58**	-3.40***
	(0.21)	(0.28)	(0.09)
FGD_{it}	-0.06	0.01	0.01
	(0.11)	(0.15)	(0.07)
NS_{it}	-0.00***	-0.00***	-0.00
	(0.00)	(0.00)	(0.00)
NC_{it}	0.09***	0.12***	-0.16***
	(0.02)	(0.03)	(0.02)
STH_{it}	0.06	0.01	0.18**
	(0.09)	(0.11)	(0.09)
$PCTH_{it}$	0.38	0.42	0.73***
	(0.31)	(0.40)	(0.25)
$SIZE_{it}$	-0.10	-0.80***	-0.04
	(0.11)	(0.07)	(0.03)
ROA_{it}	0.68***	0.74***	0.61***
	(0.00)	(0.00)	(0.00)
IR_{it}	0.04***	-0.06***	-0.04***
	(0.01)	(0.01)	(0.00)
AGE_{it}	0.10***	0.46***	0.07***
	(0.01)	(0.02)	(0.00)
OC_{it}	0.00	0.00	-0.01***
	(0.00)	(0.00)	(0.00)
PD_{it}	3.79	-3.43	-8.70***
	(2.44)	(3.70)	(0.30)
LRW_{it}	-0.55***	-0.21**	-0.17***
	(0.07)	(0.08)	(0.04)
$NATD_{it}$	1.15***	0.52**	-0.74***
	(0.19)	(0.25)	(0.11)
Intercept	10.13***	13.24***	12.15***
	(1.55)	(0.67)	(0.36)
Observations	770069	498260	770069
R-squared	0.09	.z	0.11

Standard errors are in parenthesis. See Table 3 for variable description
*** p<0.01, ** p<0.05, * p<0.1

Table 7: Dynamic models

Test	(1)	(2)	(3)	(4)	(5)
Dep var	ETR_{it}	ETR_{it}	ETR_{it}	ETR_{it}	ETR_{it}
ETR_{it-1}	0.18***	0.17***	0.17***	0.18***	0.17***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
GD_{it}	-1.58***	-1.92***	-0.60	-1.50***	-0.72
	(0.50)	(0.50)	(0.59)	(0.50)	(0.58)
FGD_{it}	-0.10	-0.31	-0.24	-0.03	-0.24
	(0.31)	(0.31)	(0.33)	(0.30)	(0.33)
NS_{it}	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
NC_{it}	-0.04	-0.10**	-0.03	-0.04	-0.02
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
STH_{it}	-0.13	-0.10	-0.23*	-0.13	-0.23*
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
$PCTH_{it}$	1.08	0.34	0.90	1.05	0.89
	(0.74)	(0.75)	(0.76)	(0.74)	(0.76)
$SIZE_{it}$	-0.66**	0.29	-0.09	-0.68**	-0.12
	(0.28)	(0.28)	(0.34)	(0.27)	(0.33)
PD_{it}	-27.77**	-18.38	-9.52	-24.98**	-16.45
	(12.19)	(14.59)	(12.40)	(11.15)	(11.88)
ROA_{it}	0.90***	0.89***	0.90***	0.90***	0.90***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
AGE_{it}	0.33***	0.35***	0.32***	0.32***	0.32***
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)
IR_{it}	-0.01	-0.06**	-0.07***	-0.01	-0.07***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
OC_{it}	-0.01	-0.02*	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
LRW_{it}	0.57***	0.09	0.21**	0.53***	0.21**
	(0.10)	(0.07)	(0.10)	(0.10)	(0.10)
$NATD_{it}$	-1.32***	-1.10***	-0.05	-1.29***	-0.03
	(0.25)	(0.19)	(0.33)	(0.25)	(0.33)
Intercept	11.47***	-1.13	3.27	11.85***	3.85
	(3.99)	(3.94)	(4.63)	(3.82)	(4.56)
Year f.e.	No	No	No	Yes	Yes
Region f.e.	No	No	Yes	No	Yes
Observations	292248	292248	292248	292248	292248
R-squared	.z	.z	.z	.z	.z

Standard errors are in parenthesis. See Table 3 for variable description
*** p<0.01, ** p<0.05, * p<0.1