Title: Auditor-provided tax services and tax avoidance: Evidence from Spain

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Auditor-provided tax services and tax avoidance: Evidence from Spain

Abstract:

We investigate the relationship between auditor-provided tax services (APTS) and tax avoidance strategies of their clients in the Spanish market. As a result of a recently enacted EU legislation, APTS is seriously restricted within the EU. The evidence available so far for the US provides consistent support for a positive relationship between APTS and tax avoidance. However, given the importance of country-specific institutional issues, such as litigation risk, to understand the relationship between auditors and clients, the possibility of generalizing the US evidence to other countries is limited. Supporting this view, our results indicate that the positive relationship between APTS and tax avoidance observed in the US does not hold in the Spanish market. In fact, the univariate analysis shows that firms which buy tax services from their auditors present significantly higher mean and median effective tax rates. Subsequently, in the multivariate analysis, we do not observe any significant relationship between APTS and tax avoidance. This result seems robust, as it holds independently of the proxy utilized for measuring tax avoidance, as well as across an array of sensitivity checks. This study has potentially interesting implications at both theoretical and practical levels.

Keywords: auditors providing tax services; tax avoidance; effective tax rate; litigation risk.

1. Introduction

The potential implications of the provision of non-audit services (NAS) by the audit firm to its audit clients on the independence of auditors is an issue of concern for the accounting profession as well as for regulators and policy-makers. A notable example of this concern is the Directive 2014/56/EU and Regulation (EU) No 537/2014 of the European Parliament and of the Council on specific requirements regarding statutory audit of public-interest entities (hereinafter "2014 EU Regulation"), which enforces serious limitations to the joint provision of audit services and NAS by the audit firm to the same client. In particular, Article 5 establishes the prohibition for audit firms to provide a wide array of NAS to audit clients, among them, tax NAS. Scholars in the accounting and auditing fields have also devoted a great deal of attention to investigate the potential implications of the joint provision of audit services and NAS on audit quality (e.g., Frankel et al., 2002; Chung and Kallapur, 2003; Larcker and Richardson, 2004; Callaghan et al., 2009). It should be noted, however, that in the specific case of tax NAS, it may impact, not only the quality of audit services, but also the tax avoidance strategies of the audit firm clients. Nevertheless, the attention devoted to the latter issue has been much more limited.

Even though tax avoidance, tax planning and tax aggressiveness are utilized in the literature as interchangeable expressions (Frank et al., 2009), this study specifically refers to tax avoidance, and follows the broad definition provided by Hanlon and Heitzman (2010), as the reduction in explicit taxes paid by the firm. Similar to Dyreng et al. (2008), while this definition does not necessarily involve any improper behavior on the part of the auditor client (i.e., the minimization of tax costs could be the result of an efficient tax department), it definitely includes this possibility. Moreover, as most previous studies, we focus on income tax avoidance, and consequently, do not address other forms of corporate tax avoidance such as labor tax avoidance.

There are arguments in favor and against a positive relationship between APTS and tax avoidance. On the one hand, APTS creates a conflict of interest for the auditor which may eventually compromise the desired level of independence. Hence, a less independent auditor would more likely acquiesce to clients' plausible desires to pay lower taxes. Whereas this holds for any type of NAS, in the specific case of tax NAS, the "knowledge spillovers" (Simunic, 1984) between the firm's audit and tax functions may help to discover tax savings opportunities for those clients that also purchase tax NAS from the audit firm (Hogan and Noga, 2015). However, on the other hand, APTS may also involve higher levels of litigation risk for the auditor, when compared with a situation in which audit services and tax NAS are provided by different firms (Klassen et al., 2016). Under situations of APTS, not only the audit firm, but also the board of directors as well as the top management team will be under stronger scrutiny (Deloitte 2011; Zaman et al., 2011), and consequently, they may be less willing to engage in tax avoidance strategies. The evidence available so far indicates that APTS has a positive impact on tax avoidance (Omer et al., 2006; Armstrong et al., 2012; Richardson et al., 2013; Hogan and Noga, 2015; Klassen et al., 2016). Whereas these studies differ in many important features (i.e., the research period investigated; the proxies used for measuring tax avoidance), they share a common focus on the US setting. Therefore, to the best of our knowledge, the available evidence regarding the relationship between APTS and tax avoidance relates to the US context.

This study is motivated by the growing concern on the implications of corporate tax avoidance strategies for the society, and particularly for its less favored members. As taxes are essential to finance the provision of public goods such as education, public health care, public transportation and support to less favored citizens (Slemrod, 2004), the implementation of tax avoidance strategies by corporations generates great controversy. Within this context, the situation caused by the fast development of the digital economy provides meaningful examples of this debate, such as the recent conclusion by EU Commission on Ireland granting undue tax

benefits of up to €13 billion to Apple (EC, 2016). The fact that the EU is still investigating other companies in the digital economy leads us to anticipate similar decisions in the nearby future (Wessel, 2016) and gives renewed attention to the topic of corporate tax avoidance. Focusing on APTS, the review of the literature allows to draw the following conclusions: 1) The investigation of the relationship between APTS and tax avoidance is relatively scarce, for example, when compared with the available evidence on the relationship between NAS and audit quality; 2) There is a consensus that APTS is positively and significantly associated with tax avoidance; and 3) To the best of our knowledge, with no exception, all the studies have investigated the US context. The latter point provides further motivation for this study, as it raises the question of whether we should expect the same sort of relationship between APTS and tax avoidance in any country. If, as Kanagaretnam et al. (2016) argue, the extent of auditors' influence on tax avoidance likely depends on the institutional environment, the answer to this question should be negative. Therefore, country differences in the audit environment constrain the possibilities of generalizing the US evidence. For example, litigation risk, which is a fundamental determinant of the auditor's work (e.g., Pratt and Stice, 1994), is largely country specific. Hence, many studies on audit quality (e.g., Vanstraelen, 2002; Ruiz-Barbadillo et al., 2004) have justified the interest of replicating US studies in other low litigation risk contexts. The reason is that we should not expect the same effects of, for example, NAS on the independence of auditor in high and low litigation risk countries. Consequently, NAS may compromise auditor independent in low litigation risk countries but not necessarily in high litigation risk countries. Extending this reasoning, we should not necessarily expect the same effects of APTS on tax avoidance (which may also be regarded as a form of auditor independence in the provision of tax advice) in high and low litigation countries. This is precisely the view of Klassen et al. (2016), who justify the possible negative impact of APTS on tax avoidance on the grounds of the higher litigation risk for the audit firm.[1] Consequently, since the institutional context of the audit market is largely country specific, one may not necessarily observe a unique type of relationship between APTS and tax avoidance holding in every country. Hence, further studies conducted in countries with different institutional environments for the auditing work should be welcome. In this regard, in contrast with the US, Spain is largely regarded as a low litigation risk country (Ruiz-Barbadillo et al., 2004).

[1]This is also the view of Bedard (2012) who, without specifically referring to APTS, highlights the importance of the audit environment (i.e., quality control policies of audit firms, regulatory inspections and interaction with client personnel in charge of governance) on the level of accountability for auditors, and therefore on the auditor-client relationship.

We intend to contribute to the accounting and tax literatures by addressing this gap and thus, investigate whether APTS is associated with tax avoidance in the Spanish low litigation risk audit market. We conduct the empirical analysis with a sample of companies listed in the Spanish stock market for the research period between 2008 and 2016, and measure tax avoidance by tax expenses and tax payments indicators. In the particular case of Spain, the strong limitation of APTS following the enactment of the 2014 EU Regulation provides an additional interest to this study, as it may be informative for the current debate between supporters and opponents of the new Regulation. It should be noted that the serious limitations introduced by this Regulation on the auditor-client relationship (fundamentally on the maximum tenure with the audit firm and on the amount and types of NAS to be provided to audit clients) have caused great controversy in the auditing profession, and is expected to have a deep impact on the configuration of the audit market within the EU. An example of this situation is that audit firms have ceased to provide audit services to some clients in order to be allowed to maintain the selling of NAS to these same clients. While, understandably, scholars have focused the attention so far on the likely effects of the 2014 EU Regulation on the quality of audits (e.g., Garcia-Blandon et al., 2017), the potential implications on tax avoidance seems also a meaningful issue to address.

In anticipation of results, this study rejects that APTS is associated to higher levels of tax avoidance in the Spanish audit market. This finding seems robust as it holds in both the univariate and multivariate analyses, and also independently of the proxy utilized for capturing tax avoidance. While the multivariate analysis indicates an insignificant relationship between APTS and tax avoidance, the preliminary univariate analysis even shows that APTS is associated with lower tax avoidance. Hence, results contradict the available US evidence which consistently reports that APTS results in more tax avoidance. Therefore, a first direct implication of our findings is to generate debate and encourage further research on the issue. At a more practical level, another implication is that we should not expect that the 2014 EU Regulation restricting the selling of tax NAS to the audit clients will eventually lead to lower tax avoidance and thus, to higher tax collections, at least in Spain.

The paper proceeds as follows. Section two reviews the literature on the relationship between APTS and tax avoidance and develops the hypothesis of the study. In section three, we present the design of the empirical research and describe the dataset for the empirical analysis. Finally, section four presents and discusses the results, whereas the last section draws the conclusions, implications and limitations of the study.

2. Background and hypothesis development

Omer et al. (2006) point out that the saturation of the market for audit services during the 1970s led audit firms to focus on the selling of NAS. The consequence of this process was that by the late 90s, audit firms obtained more revenues from NAS than from the selling of audit services. According to Zeff's (2003: 270), whereas in 1975 accounting and audit fees represented between 62 and 76 percent of total revenues of Big 8 audit firms, in the year 2000 this percentage ranged between 31 and 45 percent. The important change in the business model of audit firms is noted by Allen and McDermott (1993: 233): *By 1986, PW (Price-Waterhouse) had evolved to the point where its mission was to become nothing less than a full-service business advisory firm.* Besides, the distribution of NAS fees by type of services highlights the importance of tax NAS for audit firms. Hence, Zeff's (2003) figures also indicate that in 2000, fees for tax NAS represented between 18 and 38 percent of total fees for Big 5 audit firms, and for three of them overcame the amount of fees for management consulting services.

The change of business model was regarded with concern by the accounting profession as well by regulators, as it may compromise the necessary independence of the external auditor. The outgoing Board Chairman of the American Institute of Certified Public Accountants, Wm. R. Gregory, stated in the 1980 annual meeting: *It seems that the effects of the phenomenal growth in the profession and competitive pressures have created in some CPAs attitudes that are intensely commercial and nearly devoid of the high principled conduct that we have come to expect of a true professional. It is sad that (…) have subordinated courtesy, mutual respect, self-restraint, and fairness for a quest for firm growth and a preoccupation with the bottom line* (Zeff's, 2003: 267). The 2002 Sarbanes-Oxley Act (hereinafter SOX Act), largely passed as a reaction to Enron and other financial scandals, intended to improve audit quality by enhancing auditor independence. The SOX Act regulates the types of NAS that the audit firm can sell to audit clients and although tax NAS were not finally banned, this possibility was under discussion during the approval of the new regulation (Purcell and Lifson, 2003; Omer et al., 2006). The more restrictive regulatory framework towards NAS established by the SOX Act led to an important decrease in the amount of fees for NAS charged by audit firms to audit clients (Omer et al., 2006).[2] Within the EU region, the 2010 Green Paper on Audit Policy released by the European Commission stresses the potentially negative effects of the joint provision of audit services and NAS on auditor independence: *Since auditors provide an independent opinion on the financial health of companies, ideally they should not have any business interest in the*

[2] As an example, in the specific case of tax NAS, the ratio of fees for tax NAS on audit fees declined from 1 in 2001 to approximately 0.25 in 2004 (Maydew and Shackelford, 2007).

company being audited. [EC 2010: 12]. Whereas the former statement holds for any type of NAS, in the specific case of tax NAS, the potential impact on auditor independence may be regarded as particularly serious as Mr. Mark Anson, CalPERS former chief investment officer, clearly notes: *The issue of independence is particularly acute when the tax strategy is sold to achieve a particular financial statement result. The whole point of the auditor is to audit the financial statements, but now they're affecting the financial statement results and they're then going to audit that? How can that possibly be independent?* (PCAOB 2004: 111.1). Four years after the publication of the Green Paper, this negative view about the joint provision of audit services and NAS was eventually included into the 2014 EU Regulation, which forbids audit firms to provide a wide array of NAS to their audit clients, among them, the preparation of tax forms and the provision of tax advice.

In line with the increasing concern among accounting professionals and regulators, scholars have extensively investigated how APTS might impact audit quality. The arguments against APTS stress the loss of auditor independence associated with this situation. This is generally justified on the basis that, as it happens with any type of NAS, fees for tax NAS create a conflict of interest for the auditor that might eventually compromise its independence (e.g., Krishnan et al., 2005; Higgs and Skantz, 2006; Khurana and Raman, 2006). On the other hand, proponents of APTS point out that the synergies between audit services and tax NAS, in form of "knowledge spillovers", would encourage the joint provision of both types of services to the same client. According to these authors, APTS shall ultimately result in higher audit quality. The available evidence, which generally does not differentiate among the different types of NAS offered by the auditor provides rather mixed results; whereas some studies support a negative impact of APTS on audit quality (e.g., Frankel et al., 2002; Larcker and Richardson, 2004), others refute these negative effects (e.g., Chung and Kallapur, 2003; DeFond et al., 2002; Geiger and Rama, 2003; Callaghan et al., 2009). Focusing on tax NAS, Kinney, Palmrose and Scholz (2004) find that unlike audit-related services and unspecified NAS, tax NAS have a positive relationship with audit quality. Paterson and Valencia (2011) provide some mixed results, as they observe that whereas recurring tax NAS are positively associated with audit quality, the opposite occurs for nonrecurring tax NAS. Outside the US setting, results are also inconclusive, with some evidence suggesting a positive impact of tax NAS on audit quality (Svanström, 2013 for Sweden) and other studies report insignificant relationships (Garcia-Blandon et al., 2017 and Castillo-Merino et al., 2019 for Spain).

Whereas the relationship between APTS and tax avoidance has been less investigated, APTS may favor higher levels of tax avoidance for several reasons. First, the knowledge spillovers

between the audit and tax functions discussed before may help in uncovering tax savings opportunities (Hogan and Noga, 2015). In this regard, Maydew and Shackelford (2007) suggest that APTS favors tax avoidance strategies and predict that the reduction in the provision of tax NAS to audit clients after the SOX Act will increase tax collections. Secondly, opponents of APTS argue that it compromises the independence of external auditors, making them less able to resist clients' pressures, for example, to avoid a modified opinion in the audit report. Following this explanation, less independent auditors will likely be less able to resist the clients' pressures to pay lower taxes. However, according to Klassen et al. (2016: 184), APTS may also involve lower tax avoidance due to the direct and indirect costs for the audit firm of two types of risks: 1) financial reporting restatement risk, due to an audit failure related to the tax accounts; and 2) reputation risk, as the auditor's work is more visible and subject to more scrutiny. This applies not only to the audit firm, but also to the board of directors' members[3] and managers (Deloitte 2011; Zaman et al. 2011). Thus, according to Lassila et al. (2010), some firms may avoid the purchase of tax NAS from their auditors in order to maintain an appearance of independence in the auditor/client relationship.

The extant evidence provides support for a positive impact of APTS on tax avoidance, as firms tend to present lower effective tax rates (ETRs) when audit services and tax NAS are jointly provided. Omer et al. (2006) examine the years between 2000 and 2002, observing a significant relationship between fees for tax NAS paid to the audit firm and subsequent reductions in the client tax rate. However, they also find that this relation weakens in the last year of the research period. For the period between 2002 and 2006, Armstrong et al. (2012) find a negative and significant association between the proportion of fees for tax NAS over total fees paid to the audit firm and ETRs. Similar results are reported by Hogan and Noga (2015) for the years between 2003 and 2009. Although Richardson et al. (2013) do not restrict the study to tax NAS, but include all types of NAS, they observe that clients that purchase proportionally more NAS than audit services from the audit firm are more likely to be tax avoidant. Other studies have further elaborated on the relationship between APTS and tax avoidance. Hence, focusing on the role of auditors as tax-preparers, Klassen et al. (2016) conclude that APTS is positively related to tax avoidance, even after considering the identity of the tax preparer. Specifically focusing on firms who buy tax services from their auditors, McGuire et al. (2012) conclude that auditor's tax expertise is directly associated with greater tax avoidance. Finally, Donohoe and Knechel (2014)

[3] In particular, to the members of the audit committee, who after the enactment of the SOX Act have to explicitly sanction the provision of tax-related NAS by the audit firm.

find evidence of knowledge spillover between the provision of audit and tax services which offset the fee premium for tax avoidance charged by the audit firm.

After the review of the literature on the relationship between APTS and tax avoidance we formulate the hypothesis of this study as follows:

Hypothesis: APTS will be positively and significantly associated with tax avoidance.

3. Research design, sample selection and descriptive statistics

3.1. Research design

To investigate the relationship between APTS and tax avoidance, we propose the regression model depicted in Equation *(1)* below. The model intends to explain the level of firms' tax avoidance (*TAXAVD*) based on our variable of interest (*TAXFEES*) and the usual control variables in the literature (e.g., Lisowsky, 2010; Balakrishnan et al., 2011). The variables included in Equation *(1)* are defined in Table 1.

$$TAXAVD_{i,t} = \beta_0 + \beta_1 \cdot TAXFEES_{i,t} + \sum \beta_k \cdot CONTROLS_{i,t} + \varepsilon_{i,t} \qquad (1)$$

Dependent variable (*TAXAVD*):

We utilize two different proxies for tax avoidance: Book effective tax rate (*ETR*) and cash effective tax rate (*CASHETR*). *ETR* is the standard indicator of tax avoidance in prior related studies (e.g., Omer et al., 2006; Armstrong et al., 2012; McGuire et al., 2012); higher scores of this variable indicating lower tax avoidance. However, as some previous studies (e.g., Dyreng, Hanlon and Maydew, 2008; McGuire et al., 2012), we also utilize *CASHETR*.

Variable of interest (*TAXFEES*):

According to the aim of the study, our main interest is the sign and level of significance of *TAXFEES*. However, we conduct an additional analysis with the dummy version of *TAXFEES* (*TAXFEESDM*). According to the hypothesis of the study, we predict negative and significant coefficients for both *TAXFEES* and *TAXFEESDM* in all the estimations of Equation *(1)*.

Insert Table 1 around here

Next, we discuss the expected effects for the control variables. The relationship between firm's size (*SIZE*) and tax avoidance has been extensively discussed in the literature (e.g., Jacob, 1996; Conover and Nichols, 2000; Taylor et al., 2015), and the conclusion is that larger firms

have more opportunities to implement tax avoidance strategies through manipulation of transfer prices across subsidiaries (Taylor and Richardson, 2013). The potential effects of financial leverage (*LDEBT*) on tax avoidance is usually explained by the wider possibilities to exploit the tax deductibility of interest payments and loan fees across different national jurisdictions (e.g., Newberry and Dhaliwal, 2001; Rego, 2003; Taylor et al., 2015). Previous studies (e.g., Lanis and Richardson, 2011; Hope et al., 2013; Taylor and Richardson, 2013) point out that because of the different criteria for computing tax and accounting depreciation expenses, tangible fixed assets (*TAFIXA*) allow more opportunities for the implementation of tax avoidance strategies. Following previous studies (e.g., Grubert and Altshuler, 2008), intangibles assets are one of the most important factors explaining profit shifting. These assets facilitate the application of tax avoidance behaviors through the manipulation of transfer prices, as generally, there are not comparable products to obtain price benchmarks. Besides, the important differences in the tax treatment of intangible assets across national jurisdictions provide more room for tax opportunistic strategies (e.g., Schackelford and Shevlin, 2001; Higgins et al., 2015). Equation *(1)* includes both the ratio of intangible assets to total assets (*INTFA*) and the variation of this ratio from the prior year (*CHINTFA*) to account for this factor. Similar to Gaetner (2014), we include inventory intensity (*INV*), as firms with higher inventory turnover are expected to enjoy higher tax deductions related to cost of goods sold. Lanis and Richardson (2011) and Edwards et al. (2016), among others, argue that growth opportunities (*GROWTH*) provide more room for non-compliant tax behaviors. In the same vein, profitable firms (*ROA*) face strong incentives for implementing tax avoidance strategies because they can benefit more from such strategies (e.g., Taylor et al., 2015). According to Rego (2003) and Dyreng, et al. (2008), more international firms (*FOREIGNAS*) have more possibilities to implement tax avoidance strategies, for example, thorough transfer prices. Finally, according to Lanis and Richardson (2015), having a Big 4 auditor (*BIG4*) is expected to be associated to less tax avoidance, as these audit firms provide stronger monitoring of the client and higher quality audit services. According to the aforementioned discussion, we predict negative coefficients for all the control variables in Equation *(1).*

3.2. Sample selection

We conduct the empirical analysis with a sample formed by the largest non-financial Spanish companies listed on the Spanish Stock Exchange (*Sistema de Interconexión Bursátil Español*) during the period between 2008 and 2016. The amount of fees for both audit services and tax NAS is hand collected from the financial statements, and data for control variables are

obtained from the Capital IQ database. The sample initially consisted of 90 audited companies and, given the nine-year research period, of 810 firm-year observations. However, we remove 62 firm-year observations due to lack of data for at least one variable in Equation *(1)*. As prior studies (e.g., Gaertner, 2014), we also remove those observations with negative pre-tax income. The reason is that when earnings before taxes are negative, *ETR* (and the same applies to *CASHETR*) does not adequately capture the degree of tax avoidance of a company, providing potentially misleading results.[4] After removing 253 observations with negative pre-tax income, the final sample consists of 495 firm-year observations.

3.3. Descriptive statistics

Table 2 displays descriptive statistics for the variables in Equation *(1)* winsorized at the 1st and 99th percentiles. Regarding the proxies for tax avoidance, a first conclusion is that tax expenses and tax payments present relatively similar mean and median values. As for our variable of interest *TAXFEES*, the amount of fees for tax NAS represents less than 10% of audit fees, on average. However, it should be noted that only in one third of the cases, the auditor provides tax NAS to audit clients. For the subset of companies which buy tax NAS, fees for these services represent almost 20% of audit fees. These figures suggest that the prohibition of providing audit services and the most usual tax NAS to the same clients imposed by the 2014 EU Regulation will likely have an important impact on the audit sector. Another interesting figure in Table 1 is the extreme concentration of the Spanish audit market by Big 4 audit firms.

Insert Table 2 around here

Table 3 shows the behavior of the variable of interest *TAXFEES* over the research period. It displays the average values of the variable for the whole sample as well as for the subsample of firms that buy tax NAS. The percentage of fees for tax NAS on audit fees more than doubled during our research period, being 7.9% at the end of the period. Conversely, for the subsample of firms that buy tax NAS, this ratio decreased approximately by a third. This indicates that the number of firms that buy tax NAS increased during the period covered by our study.

Insert Table 3 around here

Table 4 provides mean and median values for the variables in Equation *(1)* across groups of firms defined by the categories of the dummy variable *TAXFEESDM*. It also shows the results

[4] In this situation, firms with negative pre-tax income generally have negative tax expenses as well, thus leading to positive ETR; exactly in the same way as when earnings before taxes are positive and tax expenses are also positive.

of the univariate analysis of differences of means and medians across groups of firms, according to the *t*-test and the Mann-Whitney test, respectively. The table shows that most variables present significantly different means and medians. Moreover, the outcomes of both tests are very similar. The most interesting result is that firms that buy tax NAS from their auditors show significantly higher tax expenses (*ETR*) and tax payments (*CASHETR*). Accordingly, both tests agree that APTS is not associated with lower *ETR* (or *CASHETR*), but rather the contrary. Therefore, this preliminary result does not support the hypothesis of the study of a positive relationship between APTS and tax avoidance. As for the remaining variables, firms that buy tax NAS from their auditors tend to be larger, more internationalized and leveraged, and with a higher proportion of intangible assets; but also, less profitable and with less proportion of tangible fixed assets and inventories compared to the rest of firms.

Insert Table 4 around here

Table 5 displays Pearson correlation coefficients with levels of significance for the continuous variables in Equation *(1)*. The most interesting result is the lack of significant correlation between *TAXFEES* and either *ETR* or *CASHETR.* This indicates that APTS is not significantly associated with different levels of tax expenses or tax payments. Therefore, this result does not suggest that the joint provision of tax NAS and audit services to the same clients leads to more tax avoidance. Additionally, the correlation pattern of *ETR* indicates positive and significant relationship with financial leverage (*LDEBT*), intangible assets (*INTFA*); and negative and significant relationship with inventories (*INV*), growth (*GROWTH*) and profitability (*ROA*). Results are similar for *CASHETR*, although the relationship with either *INV* or *GROWTH* is no longer significant, while with *FOREINGASS* it maintains the positive sign but becomes significant. Following the discussion on the expected effects for control variables, these results are in line with our expectations for: *INV*, *GROWTH* and *ROA*. Conversely, for *LDEBT, INTFA* and *FOREINGAS* the sign of the coefficient is opposite to expectations, and for the remaining variables (*SIZE, TAFIXA, CHINTFA* and *BIG4*) we report insignificant correlations with either *ETR* or *CASHETR*. Finally, as the correlation between pairs of independent variables is not too large (the highest correlation in absolute values is -0.522 between *SIZE* and *INV*), we do not expect serious multicollinearity problems in the estimations of Equation *(1)*.

Insert Table 5 around here

4. Results of the study

4.1. Main results

Table 6 shows the results of panel data estimations of Equation *(1)* with random effects and robust standard errors clustered at the firm level.[5] Industry and year fixed effects are also included as independent variables. We carry out four estimations, two for each dependent variable *ETR* and *CASHETR* (first with *TAXFEES* and subsequently with *TAXFEESDM* as the variable of interest). All four estimations are statistically significant, although the estimations of the model with *ETR* present better adjustment than the estimations with *CASHETR*, as shown by *R-squared* values and the level of global significance (*p-value* < 0.01 in the estimations with *ETR* and *p-value* < 0.05 in the estimations with *CASHETR*) After the estimations we computed variance inflation factors to assess the potential effects of multicollinearity on the estimations. The relatively low values of these factors (average value of 2.25 and maximum value of 5.21 for *SIZE*) support our initial view after examining the correlation coefficients in Table 5 of no serious multicollinearity problems in the estimations.

The most interesting result in Table 6 is the lack of statistical significance of the coefficients on either *TAXFEES* or *TAXFEESDM,* in all four estimations. This indicates that neither the selling of tax NAS to audit clients (*TAXFEESDM*), nor the amount of fees charged for these services (*TAXFEES*) have any significant impact on the level of tax expenses or tax payments of the client. Accordingly, we should conclude that APTS does not have any significant effects on tax avoidance. We consider this result as rather robust as it holds in all four estimations and therefore, independently on how tax avoidance or tax fees are measured. Moreover, it is consistent with the lack of significant correlation between *TAXFEES* and both *ETR* and *CASHETR* displayed in Table 5. Consequently, the level of fees for tax NAS charged by the audit firm is not significantly associated with the amount of taxes declared by the auditor's client. It should be noted that the results of the univariate analysis displayed in Table 4 showed that firms that purchase tax NAS from their auditors paid significantly higher taxes compared with other firms. The different results reported by the univariate and multivariate analyses may suggest that some of the control variables that showed significant mean or median differences in Table 4 (*SIZE, LDEBT, TAFIXA, INTFA, INV, ROA* and *FOREIGNAS*) could be causing the lack of significance of *TAXFEES* in the multivariate analysis. To investigate this issue, we have conducted a set of sequential estimations of Equation *(1),* each time removing one of these control variables. The coefficient of *TAXFEES* remains insignificant in all the new seven estimations, and the same occurs when all these seven variables are simultaneously dropped from the model. Therefore, we conclude that the differences observed between the univariate and multivariate analyses

[5] Because we do not have complete information for the variables included in Equation *(1)* for all the firms in the sample, the estimations are conducted with unbalanced panels.

are not driven by the control variables. In any case, and despite the fact that both analyses provide evidence against the hypothesis of this study of a positive relationship between APTS and tax avoidance, when the results of the univariate and multivariate analyses do not agree, the conclusions of the study are based on the multivariate analysis.

Insert Table 6 around here

The results depicted in Table 6 for both *TAXFEES* and *TAXFEESDM* contradict the extant evidence of a positive impact of APTS on tax avoidance in the US setting (Omer et al., 2006; Armstrong et al., 2012; Hogan and Noga, 2015; Klassen et al., 2016). It should be note, however, that this prior evidence might not be as strong as it seems as, in Omer et al. (2006) the association between APTS and tax avoidance becomes insignificant in the last year of the research period. In the same line, the positive relationship between APTS and tax avoidance in Armstrong et al. (2012) is rather weak, as it does not hold for most definitions of tax avoidance and, in particular, when tax avoidance is measured by either *ETR* or *CASHETR* as we do.

Nevertheless, the comparison of our results with the US evidence raises the question of which factors may explain these different results. We suggest three possible explanations. First, since the institutional environment of the country is essential to understand auditors' influence on tax avoidance (Kanagaretnam et al., 2016), differences, for example, in the levels of litigation risk or in the market share of Big 4 audit firms between Spain and the US might explain the differences between our results and the US evidence. Higher litigation risk in the US compared with Spain suggests that the positive impact of tax NAS on tax avoidance should be more clearly observed in Spain than in the US. However, on the other hand, the extreme market share of Big 4 audit firms in our sample (96%), higher than in other studies conducted with sample of US firms (80% in McGuire et al., 2012; 82% in Hogan and Noga, 2015), could explain a positive impact of APTS on tax avoidance in the US but not in our study, as Big 4 auditors are expected to limit more the tax avoidance strategies of their clients. There is a consensus in the literature on audit quality that Big 4 auditors generally provide higher-quality audit services. This is explained because Big 4 auditors have stronger incentives to be independent and thus, to resist client's pressures, for example, to avoid a qualified audit report when they deserve it. Following this line of argument, in the role of tax services providers, Big 4 auditors should be also better able to resist the client's pressures, for example, to implement more tax avoidant strategies. Second, an alternative explanation could be that the selling of tax NAS to audit clients is lower

in our sample than in previous US studies.[6] Thus, if the role of auditors as providers of tax services is much less important in Spain than in the US, the relationship between APTS and tax avoidance should also be weaker in Spain compared to the US. Third, the fact that we investigate a more recent research period (2008-16) than previous studies (2000-2002 in Omer et al., 2006; 2002-2006 in Armstrong et al., 2012; 2003-2009 in Hogan and Noga, 2015; 2008-2009 in Klassen et al., 2016) may also explain the differences in the reported results. First, because the concern on the negative implications of corporate tax avoidance strategies for the society has become particularly serious in recent times (i.e., the current debate generated by tax avoidance strategies of companies in the digital economy and, more specifically, the controversy between Ireland and the European Commission regarding Apple's undue tax benefits). It should also be noted that the 2010 Green Paper on Audit Policy and the subsequent 2014 EU Regulation have put situations of APTS under stronger scrutiny. Therefore, a growing concern on both the negative implications of tax avoidance and on situations of APTS may explain that the relationship between APTS and tax avoidance has softened in more recent times. In this regard, an update of the US evidence would be welcome. A last, but not least, possible explanation of the different results reported for the US and Spain has to do with the rather higher nominal corporate tax rates in the US during the period investigated by previous studies (around 40%) and in Spain (between 25 and 30%). Because the incentives for implementing tax avoidance strategies diminish when nominal tax rates decrease, US firms at the beginning of the century had more incentives for implementing tax avoidance strategies than Spanish firms during our period of study. In any case, the lack of significant relationship between APTS and tax avoidance is consistent with the recent evidence for Spain (Garcia-Blandon et al., 2017; Castillo-Merino et al., 2019) showing that the provision of tax NAS does not significantly impact the quality of audits.

Regarding the results for control variables, in the estimations with *ETR* we report significant results, in the predicted direction, for *SIZE*, *INV* and *ROA.* Thus, larger firms, firms with larger levels of inventories as well as more profitable firms present lower *ETR*. We also observe significant results for *LDEBT* (*p-value* < 0.10)*,* which indicates that more leveraged firms have higher *ETR*. Whereas this result contradicts our expectations, it is consistent with the positive and significant correlation between *LDEBT* and *ETR* displayed in Table 5. Finally, we report insignificant results for the remaining variables*.* On the estimations conducted with *CASHETR* as

[6]As displayed in Table 2, the amount of fees for tax NAS is only six percent of audit fees, on average. In Armstrong et al. (2012) and Gleason and Mills (2006), fees for tax NAS represent 18% and 26% of audit fees, respectively. In Klassen et al. (2016) and Hogan and Noga (2015) fees for tax NAS represent 8.4% and 11% of total fees paid to the auditor, respectively.

the dependent variable, we report significant results only for *ROA* and *INV* (*p-value* < 0.05 and < 0.10, respectively), in both cases with the predicted negative sign. This confirms the poorer adjustment of the proposed model for tax payments when compared with tax expenses, already shown by *R-squared* values and global significance tests.

4.2. Additional analysis

The former section elaborated on possible explanations for the differences between our findings and the extant US evidence. However, as the results reported here challenge the consensus on a positive relationship between APTS and tax avoidance, we need to make extra effort to discard that our results are not spurious. With this aim, this subsection discusses the results of an array of sensitivity checks.

We start this subsection with two robustness checks. First, following Gaertner (2014), we truncate the dependent variables *ETR* and *CASHETR* within the [0,1] interval. Results of the new estimations (untabulated) are qualitatively the same as those displayed in Table 6; in particular, with regard the lack of a significant relationship between APTS and tax avoidance. The second check intends to control for the potential effects of the type of audit firm on the results. Following previous studies, Equation *(1)* included the type of audit firm among the control variables. The insignificant coefficients for *BIG4* in Table 6 indicate that the type of audit firm does not involve significantly different levels of tax avoidance. However, Equation *(1)* does not control for the possibility that the relationship between APTS and tax avoidance was conditioned by the type of audit firm. Because the purchase of tax NAS from the auditor has a greater impact on tax avoidance when the auditor is a tax expert (McGuire et al., 2012), and given that Big 4 audit firms are expected to show more tax expertise than non-Big 4 auditors, the type of audit firm might shape the APTS-tax avoidance relationship. Accordingly, we define the interaction variable *BIG4*TAXFEES* and re-estimate Equation *(1)* after including the new variable among the controls. Results (untabulated) show insignificant coefficients for *BIG4*TAXFEES* in both estimations.

Insert Table 7 around here

The next analysis affects the very definition of tax avoidance. Hanlon and Heitzman (2010) and Lanis and Richardson (2015), among others, point out the serious difficulties of the measurement of tax avoidance in business research. As previous studies, we interpret that lower values of the dependent variables (*ETR* or *CASHETR*) indicate more tax avoidance. However, it

can also be argued that, to a certain extent, lower *ETR* or *CASHETR* do not necessarily imply tax avoidance strategies, but merely a higher competence in the firm's tax function. However, we understand that firms with the lowest levels of *ETR* or *CASHETR* may be plausibly defined as tax avoidant firms. Accordingly, following prior studies (e.g., Donohoe and Knechel, 2014), we define two new dependent variables: *ETRDM* (1 if *ETR* is in the lowest quintile of the distribution and 0 otherwise) and *CASHETRDM* (1 if *CASHETR* is in the lowest quintile of the distribution and 0 otherwise); and conduct panel data logistic estimations of Equation *(1)* with robust errors clustered at the firm level with the new dependent variables.[7] Results of these estimations are displayed in Table 7. The most interesting result is the lack of significance of both *TAXFEES* and *TAXFEESDM,* indicating that APTS does not significantly impact tax avoidance.

Next, we address the limitations of measuring tax avoidance based only on annual data, as our proxies *ETR* and *CASHETR* do. According to Dyreng et al. (2008: 65), a first potential problem is that the significant year-to-year variations in annual effective tax rates and the undefined ETRs due to negative pretax income can obscure inferences about a firm's tax avoidance. Moreover, tax expense includes both current and deferred taxes, and the latter is usually associated with tax avoidance strategies. To overcome this shortcoming, Dyreng et al. (2008) propose measuring ETRs over long time periods. Accordingly, we defined the new variables *ETR5Y* (the sum of tax expenses over the last five years divided by the sum of pretax income over the same period) and *CASHETR5Y* (the sum of tax payments over the last five years divided by the sum of pretax income over the same period). Additionally, the variable of interest for this analysis is *TAXFEES5Y* (average of *TAXFEE*), and the new control variables are computed as the average of the original variables for the last five years.[8] For the new estimations we maintain the condition that those observations for which the sum of pretax income over the last five years is negative are removed from the sample. This leads to a final sample of 269 firm-year observations. The most interesting result in the new estimations (results untabulated) is that *TAXFEES5Y* shows insignificant coefficients in both estimations (β = 0.068 and *p-value* = 0.366 in the model with *ETR5Y* as the dependent variable; and β = 0.029 and *p-value* = 0.865 in the model with *CASHETR5Y*). Therefore, the main conclusion from this analysis is that the lack of significant relationship between APTS and tax avoidance observed in the main analysis holds when tax avoidance is computed on a long-term basis.

[7] However, whereas Donohoe and Knechel (2014) consider the lowest quintile by year and industry, due to the relatively small size of our sample, we consider the lowest quintile by year, without differentiating by industry. In any case, Equation *(1)* already includes industry controls.

[8] In the case of *BIG4*, the new variable *BIG45Y* is defined as 1 if the firm has been continuously audited by a Big 4 auditor for the last five years and 0 otherwise.

The subsequent analysis addresses the possibility that the impact of tax NAS on tax avoidance might occur, not in the year that the auditor sells tax NAS to the client, but in the following year. To conduct this analysis, we define the new variables *TAXFEES-1* and *TAXFEESDM-1* as the original variables *TAXFEES* and *TAXFEESDM* one-year lagged. Results of the re-estimations of Equation *(1)* with the variables of interest one-year lagged (untabulated) are qualitatively the same as those reported in Table 6 with the original variables *TAXFEES* and *TAXFEESDM,* in particular, regarding the lack of a significant relationship between APTS and tax avoidance.

Insert Table 8 around here

Next, we examine the relationship between changes in tax NAS and tax avoidance. Arguably, the changes in the amount of fees charged by the audit firm to a client for tax NAS may be more meaningful than the amount of fees per se, in order to explain tax avoidance. For example, the audit firm may be more willing to acquiesce to tax avoidance strategies of those clients who have increased the purchase of tax NAS. To conduct this analysis, we define the new variable *INCTAXFEES* (increase in fees for tax NAS) as the percent change of *TAXFEES* regarding the previous year. The evidence reported by Cook and Omer (2013) supports that a decrease in the purchasing of tax NAS from the audit firm is significantly associated to higher *ETR*. Table 8 displays the results of the new estimations of Equation *(1)* with the new variable *INCTAXFEES* substituting the original variable *TAXFEES.*[9] The figures indicate that changes in levels of tax NAS sold to the audit clients do not have any significant impact on either *ETR* or *CASHETR*.

Insert Table 9 around here

Cook and Omer (2013) observe that *ETR* significantly increases in the year after terminating the purchase of tax NAS from the auditor. If, as the hypothesis of this study suggests, tax NAS were associated with lower *ETR* and *CASHETR*, we would expect the main tax avoidance effect of tax NAS to occur in the first year of the appointment of the auditor as a tax services provider; whereas in the year after terminating the purchasing of tax NAS lower tax avoidance is expected. Hence, we define two new variables: *FYTAXFEES* (first year purchasing tax NAS) as 1 for the year when the firm starts to purchase tax NAS from its auditor and 0 otherwise; and *FYNOTAXFEES* (first year not purchasing tax NAS) as 1 for the year after terminating the purchase of tax services from the auditor and 0 otherwise. Table 9 displays the estimates of Equation *(1)* with *FYTAXFEES* and *FYNOTAXFEES* instead of the original variable *TAXFEES*. As in the former

[9] In this analysis, we lose the observations for the year 2008 as *INCTAXFEES* is defined as the changes in *TAXFEES.*

analyses, for the purpose of the study, the most interesting result is that none of the new variables of interest present significant coefficients. Thus, we conclude that neither the hiring of the auditor as a tax services provider, nor the termination of such a relationship have any significant impact on tax avoidance strategies.

Insert Table 10 around here

The last analysis focuses on the companies which purchase the highest levels of tax NAS from their auditors. Arguably, the impact of APTS on tax avoidance may be stronger when the purchase of tax NAS overcomes a certain threshold. For example, although Richardson et al. (2013) do not restrict the analysis to tax NAS but consider all types of NAS, they observe that when fees for NAS overcome the amount audit fees, the client was more likely to be tax avoidant. To conduct this analysis, we define two new dummy variables *TAXFEES>23%* (1 if *TAXFEES* is larger than 0.23 and 0 otherwise) and *TAXFEES>42%* (1 if *TAXFEES* is larger than 0.42 and 0 otherwise). We choose the 23% and 42% thresholds because they correspond to the cut-off points of the highest quartile and decile of *TAXFEES,* respectively, for the firms that buy tax NAS from their auditors. The estimates of Equation *(1)* with the new variables *TAXFEES>23%* and *TAXFEES>42%,* in substitution of *TAXFEES,* are displayed in Table 10. *TAXFEES>23%* shows insignificant coefficients in both estimations, meaning that firms in the highest quartile of *TAXFEES* do not present significantly different levels of tax avoidance. However, for *TAXFEES>42%* results are insignificant in the model with *ETR* as the dependent variable, but become significant with a negative sign in the model with *CASHETR* (*p-value* < 0.05). In the latter case, this indicates that the purchase of high levels of tax NAS would be associated to lower cash effective tax rates, therefore suggesting a positive association between APTS and tax avoidance. However, given the low number of firms in the sample which meet the condition that fees for NAS represent more than 42% of audit fees, this result has to be carefully taken.

5. Conclusions, implications and limitations

The 2014 EU Regulation on specific requirements regarding statutory audit of public-interest entities, among other issues, restricts audit firms to sell tax NAS to their audit clients. Even though the declared motivation for this measure is to enhance the quality of audits, it may also have effects on corporate tax avoidance strategies. If, as previous studies show, firms that purchase tax NAS from their auditors tend to be more tax avoidant, the limitation of APTS may result in less tax avoidant companies. Nowadays, this is a major concern for EU policymakers, as the case of Apple's undue tax benefits in Ireland illustrates. Whereas prior studies have investigated the relationship between APTS and tax avoidance strategies in the US setting, this

paper intends to contribute to the literature by providing the first analysis outside the US context. The importance of the institutional framework, largely country specific, to understand the auditor-client relationship makes it necessary to extend the US evidence to other countries.

The objective of this study is to investigate whether the direct relationship between APTS and tax avoidance observed in the US holds in Spain. With this aim, our hypothesis states that APTS will be positively and significantly associated with tax avoidance. Nevertheless, the preliminary univariate analysis shows that firms that purchase tax NAS from their auditors present, in fact, significantly higher mean and median tax rates; and this result holds for both proxies of tax avoidance. Later on, the examination of the correlation patterns between *TAXFEES* and both *ETR* and *CASHETR* shows no significant relationship between the tax NAS and tax avoidance. More importantly, the multivariate analysis strongly supports the lack of a significant relationship between APTS and tax avoidance. Specifically, in none of the four estimations performed, and regardless of how tax avoidance or tax NAS are measured do we observe any significant relationship between APTS and tax avoidance. Finally, we conduct an array of robustness checks that strongly support the main findings. Consequently, we conclude that unlike the evidence available for the US setting, the results of this study do not support the hypothesis that APTS favors the implementation of tax avoidance strategies by the auditors' clients.

This study may have some interesting implications at various levels. First, as the evidence reported challenges a consensus in the literature on the positive impact of APTS on tax avoidance, it should encourage further research to confirm, refute or clarify the findings reported here. Still at this same theoretical level, the differences between our findings and the available evidence for the US, do not only stress the importance of the country institutional setting, but also call for more in-depth analysis of which specific factors and in which way do influence the relationship between APTS and tax avoidance. Second, at a more practical level, the strong limitations to the joint provision of audit services and NAS, as a result of the implementation of the 2014 EU Regulation, will not likely affect the tax avoidance strategies of Spanish companies. Whereas, it is true that the main aim of EU regulators for the enactment of the new regulation was to enhance the quality of audit services by strengthening auditor independence, the available evidence of the US indicated that it may also result in less tax avoidant companies. Therefore, neither corporate tax effective rates nor the collection of taxes by the Spanish government will likely change because of the new regulation of APTS. The extension of this study to other European countries may provide meaningful insights to the likely

impact of the new regulation at the whole EU level. Similarly, our results may raise the question that if APTS is not related to tax avoidance, why, then, some firms buy these services from their auditors. The examination of this research question, for example, by exploring in detail the triangle formed by APTS, tax avoidance and earnings management appears as a potentially interesting line of research.

There are, however, some caveats that must be considered when interpreting the results of the study. First, due to the different size of the US and Spanish stock markets, the size of our sample is considerably smaller than in prior US-focused studies. Second, although the explanatory power of the proposed models is in line with prior studies, they do not explain the most part of the observed differences in effective tax rates across companies, and most control variables show insignificant results.

References

Allen, D. G., & McDermott, K. (1993). *Accounting for success: A history of Price Waterhouse in America 1890-1990*. Boston, MA: Harvard Business School Press.

Armstrong, C., J. Blouin, & Larcker, D. (2012). The incentives for tax planning. *Journal of Accounting and Economics* 53(1-2), 391–411.

Balakrishnan, K., Blouin, J., & Guay, W. (2011). Does tax aggressiveness reduce financial reporting transparency? Working Paper. University of Pennsylvania, Philadelphia, PA.

Bedard, J. (2012). Discussion of "Audit partner specialization and audit fees: Some evidence from Sweden". Contemporary Accounting Research, 29(1), 341-348.

Callaghan, J., Parkash, M., & Singhal, R. (2009). Going-concern audit opinions and the provision of nonaudit services: Implications for auditor independence of bankrupt firms. *Auditing: A Journal of Practice & Theory*, 28(1), 153-169.

Castillo-Merino, D., Garcia-Blandon, J., & Martinez-Blasco, M. (2019). Auditor independence, current and future NAS fees and audit quality: Were European regulators right?. *European Accounting Review*, forthcoming.

Chung, H., & Kallapur, S. (2003). Client importance, non-audit services, and abnormal accruals. *The Accounting Review*, 78(4), 931-955.

Conover, T. L., & Nichols, N. B. (2000). A further examination of income shifting through transfer pricing considering firm size and/or distress. *International Journal of Accounting*, 35(2), 189–211.

Cook, K., & Omer, T. (2013). The cost of independence: Evidence from firms' decisions to dismiss auditors as tax-service providers. Working paper, University of Nebraska.

DeFond, M. L., Raghunandan, K., & Subramanyam, K. R. (2002). Do non–audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research*, 40(4), 1247-1274.

Deloitte. (2011). Material weaknesses and restatements: Is tax still in the hot seat? Deloitte Development LLC. Available at: http://www.readbag.com/deloitte-assets-dcom-unitedstates-local-assets-documents-tax-us-tax-materialweaknesses-012011.

Donohoe, M. P., & Knechel, R. W. (2014). Does corporate tax aggressiveness influence audit pricing? *Contemporary Accounting Research*, 31(1), 284-308.

Dyreng, S., Hanlon, M., & Maydew, E. (2008). Long-run corporate tax avoidance. *The Accounting Review*, 83(1), 61–82.

Edwards, A., Schwab, C., & Shevlin, T. (2016). Financial constraints and cash tax savings. *The Accounting Review*, 91(3), 859–881.

EC (European Commission). (2016). State aid: Ireland gave illegal tax benefits to Apple worth up to €13 billion. Press Release IP/16/2923. Retrieved from http://europa.eu/rapid/press-release_IP-16-2923_en.htm.

EC (European Commission). (2010). Green Paper – Audit policy: Lessons from the crisis. European Commission.

Frank, M. M., Lynch, L. J., & Rego, S. O. (2009). Tax reporting aggressiveness and its relation to aggressive financial reporting. *The Accounting Review*, 84(2), 467-487.

Frankel, R. M., Johnson, M. F., & Nelson, K. K. (2002). The relation between auditors' fees for nonaudit services and earnings management. *The Accounting Review*, 77(Supplement), 71–105.

Gaertner, F. B. (2014). CEO After-Tax compensation incentives and corporate tax avoidance. *Contemporary Accounting Research*, 31(4), 1077-1102.

Garcia-Blandon, J., Argiles-Bosch, J. M., Castillo-Merino, D., & Martinez-Blasco, M. (2017). An Assessment of the Provisions of Regulation (EU) No 537/2014 on Non-audit Services and Audit Firm Tenure: Evidence from Spain. *International Journal of Accounting*, 52(3), 251-261.

Geiger, M. A., & Rama, D. V. (2003). Audit fees, nonaudit fees, and auditor reporting on stressed companies*. Auditing: A Journal of Practice & Theory*, 22 (2), 53-69.

Gleason, C., & Mills, L. (2011). Do auditor-provided tax services improve the estimate of tax expense? *Contemporary Accounting Research,* 28(5), 1484–1509.

Grubert, H., & Altshuler, R. (2008). Corporate taxes in the world economy: Reforming the taxation of cross-border income. In Diamond, J.W. and G.R. Zodrow (Eds.), *Fundamental Tax Reform: Issues, Choices and Implications*. (pp. 319–364). Cambridge, MA. MIT Press.

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

Higgins, D., Omer, T. C., & Phillips, J. D. (2015). The influence of a firm's business strategy on its tax aggressiveness. *Contemporary Accounting Research*, 32(2), 674–702.

Higgs, J. L., & Skantz, T. R. (2006). Audit and nonaudit fees and the market's reaction to earnings announcements. *Auditing: A Journal of Practice & Theory*, 25(1), 1-26.

Hogan, B., & Noga, T. (2015). Auditor-provided tax services and long-term tax avoidance. *Review of Accounting and Finance*, 14(3), 285-305.

Hope, O. K., Ma, M. S., & Thomas, W. B. (2013). Tax avoidance and geographic earnings disclosure. *Journal of Accounting and Economics*, 56(2–3), 170–189.

Jacob, J. (1996). Taxes and transfer pricing: Income shifting and the volume of intrafirm transfers. *Journal of Accounting Research*, 34(2), 301–312.

Kanagaretnam, K., Lee, J., Lim, C. Y., & Lobo, G. J. (2016). Relation between auditor quality and tax aggressiveness: Implications of cross-country institutional differences. *Auditing: A Journal of Practice & Theory*, 35(4), 105-135.

Kinney W., Jr., Palmrose, Z.-V., & Scholz, S. (2004). Auditor independence, nonaudit services, and restatements: Was the U.S. government right? *Journal of Accounting Research*, 42(3), 561–588.

Khurana, I. K., Raman, K. K. (2006). Do investors care about the auditor's economic dependence on the client? *Contemporary Accounting Research*, 23(4), 977-1016.

Klassen, K. J., Lisowsky, P., & Mescall, D. (2016). The role of auditors, non-auditors, and internal tax departments in corporate tax aggressiveness. *The Accounting Review*, 91(1), 179-205.

Krishnan, J., Sami, H., & Yinqi, Z. (2005). Does the provision of nonaudit services affect investor perceptions of auditor independence? *Auditing: A Journal of Practice & Theory*, 24(2), 111-135.

Lanis, R., & Richardson, G. (2015). Is corporate social responsibility performance associated with tax avoidance? *Journal of Business Ethics*, 127(2), 439-457.

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

Larcker, D. F., & Richardson, S. A. (2004). Fees paid to audit firms, accrual choices, and corporate governance. *Journal of Accounting Research*, 42(3), 625-658.

Lassila, D., Omer, T., Shelley, M., & Smith, L. (2010). Do complexity, governance, and auditor independence influence whether firms retain their auditors for tax services? *Journal of the American Taxation Association,* 32(1), 1–23.

Lisowsky, P. (2010). Seeking shelter: Empirically modeling tax shelters using financial statement information. *The Accounting Review*, 85(5), 1693–1720.

Maydew, E., & Shackelford, D. (2007). The changing role of auditors in corporate tax planning. In Auerbach, A. J., Hines, J. R., & Slemrod, J. B. (Eds.) *Taxing Corporate Income in the 21st Century*. (pp. 307–337). Cambridge, U.K.: Cambridge University Press.

McGuire, S., Omer, T., & Wang, D. (2012). Tax avoidance: Does tax-specific industry expertise make a difference? *The Accounting Review*, 87 (3), 975–1003.

Newberry, K. K. J., & Dhaliwal, D. D. S. (2001). Cross-jurisdictional income shifting by US multinationals: Evidence from international bond offerings. *Journal of Accounting Research*, 39(3), 643–662.

Oler, M., Shevlin, T., & Wilson, R. (2007). Examining investor expectations concerning tax saving on repatriations of foreign earnings under the American Jobs Creation Act of 2004. *Journal of the American Taxation Association,* 29(2), 25-55.

Omer, T., Bedard, J., & Falsetta, D. (2006), Auditor-provided tax services: the effects of a changing regulatory environment, *The Accounting Review*, 81(5), 1095-1117.

Paterson, J. S., & Valencia, A. (2011). The effects of recurring and nonrecurring tax, audit-related, and other nonaudit services on auditor independence. *Contemporary Accounting Research*, 28(5), 1510-1536

Pratt, J., & Stice, J. D. (1994). The effects of client characteristics on auditor litigation risk judgments, required audit evidence, and recommended audit fees. *The Accounting Review*, 69(4),639-656.

PCAOB (Public Company Accounting Oversight Board) (2004). Briefing Paper: Auditor independence and tax services roundtable. Washington, D.C.: PCAOB.

Purcell III, T. J., & Lifson, D. (2003). Tax services after Sarbanes-Oxley. *Journal of Accountancy*, 196(5), 32-37.

Rego, S. O. (2003). Tax-avoidance activities of U. S. multinational corporations. *Contemporary Accounting Research*, 20 (4), 805–833.

Richardson, G., Taylor, G., & Lanis, R. (2013). The impact of board of director oversight characteristics on corporate tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy*, 32(3), 68–88.

Ruiz-Barbadillo, E., Gómez-Aguilar, N., De Fuentes-Barberá, C., & García-Benau, M. A. (2004). Audit quality and the going-concern decision-making process: Spanish evidence. *European Accounting Review*, 13(4), 597-620.

Schackelford, D. A., & Shevlin, T. (2001). Empirical tax research in accounting. *Journal of Accounting and Economics*, 31(1-3), 321–387.

Simunic, D. (1984). Auditing, consulting, and auditor independence. *Journal of Accounting Research,* 22(2), 679–702.

Slemrod, J. (2004). The economics of corporate tax selfishness. *National Tax Journal*, 57(4), 877–899.

Svanström, T. (2013). Non-audit services and audit quality: evidence from private firms. *European Accounting Review*, 22(2), 337-366.

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

Taylor, G., Richardson, G., & Lanis, R. (2015). Multinationality, tax havens, intangible assets, and transfer pricing aggressiveness: An empirical analysis. *Journal of International Accounting Research*, 14(1), 25–57.

Taylor, G., Richardson, G., & Taplin, R. (2015). Determinants of tax haven utilization: Evidence from Australian firms. *Accounting and Finance*, 55(2), 545–574.

Vanstraelen, A. (2002). Auditor economic incentives and going-concern opinions in a limited litigious continental European business environment: empirical evidence from Belgium. *Accounting and Business Research*, 32(3), 171-186.

Wessel, T. (2016). A signal for other tax authorities. *International Accountant*, (89), 4–5.

Zaman, M., Hudai, M., & Haniffa, R. (2011). Corporate governance quality, audit fees and non-audit service fees. *Journal of Business Finance and Accounting*, 38(1-2), 165–197.

Zeff, S. A. (2003). How the US accounting profession got where it is today: Part II. *Accounting Horizons*, 17(4), 267-286.

Table 1: Definition of variables

Variable	Definition
Dependent variables:	
ETR	The ratio of tax expense to pre-tax income.
CASETR	Cash taxes paid divided by pre-tax income.
Variables of interest:	
TAXFEES	The ratio between fees for tax NAS and audit fees charged by the audit firm to each client.
TAXFEESDM	A dummy variable equal to 1 if the audit firm provides tax NAS to the audit client and 0 otherwise.
Control variables:	
SIZE	Natural logarithm of total assets.
LDEBT	Long-term debt to total assets.
TAFIXA	Ratio of tangible fixed assets to total assets.
INTFA	Ratio of intangible fixed assets to total assets.[10]
CHINTFA	Change in *INTFA* from previous to current year.
GROWTH	Ratio of total assets in the current year to total assets in the previous year.
ROA	Return on assets defined as defined as earnings before interest and taxes scaled by lagged total assets.
FOREIGNAS	Percentage of foreign assets over total assets.
BIG4	A dummy variable equal to 1 when the company is audited by a Big4 auditor and 0 otherwise.

[10] As Armstrong et al. (2012), we utilize Oler et al.'s (2007) approach based on the consolidated turnover ratio and foreign segment sales to infer foreign assets.

Table 2. Descriptive statistics

	Mean	ST. DEV.	Q1	Median	Q3
ETR	0.2849	0.2344	0.1914	0.2521	0.3023
CASHETR	0.2672	0.3862	0.0910	0.2151	0.3171
TAXFEES	0.0648	0.1665	0.0000	0.0000	0.0352
TAXFEESDM	0.3480	0.4768	0.0000	0.0000	1.0000
SIZE	7.6962	2.3879	5.7881	7.5567	9.1518
LDEBT	0.1930	0.1593	0.0681	0.1587	0.2927
TAFIXA	0.5077	0.4520	0.1238	0.3799	0.8509
INTFA	0.1330	0.1582	0.0101	0.0615	0.2462
CHINTFA	0.0010	0.0778	-0.0048	-0.0000	0.0069
INV	0.1158	0.1442	0.0090	0.0708	0.1708
GROWTH	1.0470	0.1593	0.9750	1.0222	1.0941
ROA	0.0648	0.7112	0.0176	0.0398	0.0820
FOREIGNAS	0.4942	0.3287	0.1500	0.5500	0.7900
BIG4	0.9643	0.1856	1.0000	1.0000	1.0000

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *TAXFEES* (fees for tax NAS); *TAXFEESDM* (tax fees dummy); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); *FOREIGNAS* (foreign assets); and *BIG4* (auditor type).

Q1 and Q3 indicate the values defining the first and third quartiles respectively.

Table 3. Average of *TAXFEES* by year. Figures for the whole sample and for the subsample of firms that buy tax NAS

Average of *TAXFEES*	2008	2009	2010	2011	2012	2013	2014	2015	2016
Whole sample	0.034	0.048	0.072	0.057	0.074	0.057	0.082	0.079	0.079
Subsample of firms who buy tax NAS	0.277	0.227	0.180	0.161	0.180	0.151	0.212	0.191	0.194

Table 4. Univariate analysis of differences of means and medians across subsamples of firms. Subsamples are constructed according to the value of *TAXFEESDM*

	Median values			Mean values		
	TAXFEESDM=0	***TAXFEESDM=1***	**Sig.**	***TAXFEESDM=0***	***TAXFEESDM=1***	**Sig.**
ETR	0.2494	0.2642	**	0.2655	0.3192	**
CASHETR	0.1987	0.2432	***	0.2423	0.3135	**
SIZE	6.9726	8.1983	***	7.2688	8.4969	***
LDEBT	0.1405	0.1896	***	0.1808	0.2157	**
TAFIXA	0.5025	0.2933	***	0.5622	0.4056	***
INTFA	0.0299	0.0940	***	0.1096	0.1768	***
CHINTFA	-0.0001	0.0000		-0.0009	0.0046	
INV	0.0763	0.0609	**	0.1331	0.0834	***
GROWTH	1.0194	1.0344		1.0458	1.0475	
ROA	0.0442	0.0330	***	0.0680	0.0497	***
FOREIGNAS	0.4700	0.6800	***	0.4391	0.5939	***

Significant differences at *** p<0.01 and ** p<0.05 with Mann-Whitney tests for median values and *t*-test for mean values.

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *TAXFEES* (fees for tax NAS); *TAXFEESDM* (tax fees dummy); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); and *FOREIGNAS* (foreign assets).

Table 5. Pearson correlation coefficients with significance levels for continuous variables

	ETR	*CASHETR*	*TAXFEES*	*SIZE*	*LDEBT*	*TAFIXA*	*INTFA*	*CHINTFA*	*INV*	*GROWTH*	*ROA*
ETR	1										
CASHETR	0.389***	1									
TAXFEES	-0.011	0.045	1								
SIZE	-0.022	-0.018	-0.051	1							
LDEBT	0.225***	0.094**	-0.033	0.189***	1						
TAFIXA	-0.042	0.026	0.064	-0.373***	0.114***	1					
INTFA	0.196***	0.127***	-0.029	-0.017	0.217***	-0.157***	1				
CHINTFA	-0.016	0.007	0.016	-0.022	0.024	-0.073*	0.259***	1			
INV	-0.105**	-0.614	0.017	-0.522***	-0.149***	0.078*	-0.249***	-0.019	1		
GROWTH	-0.108**	-0.049	0.017	0.085**	-0.024	-0.045	0.031	0.113***	-0.132***	1	
ROA	-0.164***	-0.140***	0.028	-0.318***	-0.245***	0.186***	0.090**	0.018	0.090**	-0.018	1
FOREIGNAS	0.041	0.107***	0.066	0.092**	0.093**	0.118***	0.178***	0.010	-0.122**	0.123***	-0.071*

Significance at *** p<0.01, ** p<0.05 and * p<0.1

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *TAXFEES* (fees for tax NAS); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); and *FOREIGNAS* (foreign assets).

Table 6. Results of the multivariate analysis of the relationship between APTS (proxied by *TAXFEES* and *TAXFEESDM*) and tax avoidance (proxied by *ETR* and *CASHETR*). Robust standard errors in parentheses

Variables	*ETR*		*CASHETR*	
TAXFEES	0.0240 (0.0812)		0.0742 (0.0184)	
TAXFEESDM		0.0421 (0.0338)		0.0738 (0.484)
SIZE	-0.0302*** (0.0113)	-0.0320*** (0.0117)	-0.0107 (0.0184)	-0.0137 (0.0188)
LDEBT	0.4274* (0.2545)	0.4076* (0.2439)	0.3151 (0.2257)	0.2967 (0.2174)
TAFIXA	-0.0137 (0.0525)	-0.0131 (0.0516)	0.0062 (0.0712)	0.0079 (0.0708)
INTFA	0.0768 (0.1313)	0.0562 (0.1389)	0.0510 (0.1984)	0.0057 (0.2053)
CHINTFA	-0.0922 (0.1121)	-0.0874 (0.1092)	-0.2584 (0.2551)	-0.2567 (0.2616)
INV	-0.3545** (0.1757)	-0.3532** (0.1741)	-0.3463* (0.2003)	-0.3552* (0.1983)
GROWTH	-0.0346 (0.0855)	-0.0318 (0.0843)	0.0749 (0.1207)	0.0671 (0.1190)
ROA	-0.7212** (0.3351)	-0.7263** (0.3334)	-0.9000** (0.3912)	-0.8836** (0.3874)
FOREIGNAS	0.0227 (0.0847)	0.0295 (0.0878)	0.0027 (0.0871)	0.0228 (0.0893)
BIG4	0.0426 (0.0467)	0.0405 (0.0446)	-0.0559 (0.1111)	-0.0687 (0.1066)
Industry effects	YES	YES	YES	YES
Year effects	YES	YES	YES	YES
Constant	0.3794** (0.1753)	0.3910** (0.1779)	0.4594 (0.2966)	0.4761 (0.2958)
N	495	495	495	495
R-squared	0.1928	0.1926	0.0957	0.1020
Wald-Chi sq.	57.54***	49.24***	42.87**	43.08**

Significance at *** p<0.01, ** p<0.05 and * p<0.1.

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *TAXFEES* (fees for tax NAS); *TAXFEESDM* (tax fees dummy); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); *FOREIGNAS* (foreign assets); and *BIG4* (auditor type).

Table 7. Results of the multivariate analysis of the relationship between APTS (proxied by *TAXFEES* and *TAXFEESDM*) and tax avoidance (proxied by *ETRDM* and *CASHETRDM*). Robust standard errors in parentheses

Variables	*ETRDM*		*CASHETRDM*	
TAXFEES	0.5139 (1.1120)		-0.6221 (1.4097)	
TAXFEESDM		0.1595 (0.3820)		0.8152 (0.5729)
SIZE	-0.0462 (0.1026)	-0.0543 (0.1026)	0.0119 (0.1637)	-0.0577 (0.1811)
LDEBT	-0.0168 (1.2675)	-0.458 (1.2646)	0.0726 (1.7821)	-0.3512 (1.8701)
TAFIXA	-1.4343** (0.5774)	-1.4371** (0.5740)	-0.7105 (0.7142)	-0.7197 (0.7301)
INTFA	-3.5071** (1.5953)	-3.6704** (1.6628)	0.2447 (2.0812)	-0.0681 (2.1057)
CHINTFA	0.2556 (2.0677)	0.2603 (2.0665)	1.1908 (2.9671)	1.2075 (3.0455)
INV	-1.4152 (1.7662)	-1.4451 (1.7535)	-0.7319 (2.0804)	-0.6732 (2.1801)
GROWTH	-0.5314 (0.7596)	-0.5056 (0.7623)	0.9934 (1.1352)	1.0385 (1.2110)
ROA	2.5338 (2.8712)	2.6291 (2.8132)	-8.7871 (9.7630)	-8.8682 (10.8220)
FOREIGNAS	-0.4250 (0.8460)	-0.4068 (0.8556)	1.5176 (1.0153)	1.5526 (1.1156)
BIG4	0.3874 (1.0106)	0.3980 (1.0159)	0.1295 (1.0620)	-0.2644 (1.0867)
Industry effects	YES	YES	YES	YES
Year effects	YES	YES	YES	YES
Constant	1.1154 (2.1023)	1.1647 (2.0700)	-7.3496** (3.2803)	-6.9530** (3.4781)
N ***Pseudo R-squared*** ***Wald-Chi sq.***	495 0.0805 38.57*	495 0.0778 40.50**	495 0.1718 52.22***	495 0.1740 56.67***

Significance at *** p<0.01, ** p<0.05 and * p<0.1.

Variables: *ETRDM* (dummy version of *ETR*); *CASHETRDM* (dummy version of *CASHETR*); *TAXFEES* (fees for tax NAS); *TAXFEESDM* (tax fees dummy); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); *FOREIGNAS* (foreign assets); and *BIG4* (auditor type).

Table 8. Results of the multivariate analysis of the relationship between APTS (proxied by *INCTAXFEES*) and tax avoidance (proxied by *ETR* and *CASHETR*). Robust standard errors in parentheses

Variables	*ETR*	*CASHETR*
INCTAXFEES	0.0467 (0.645)	0.0013 (0.1101)
SIZE	-0.0257** (0.0116)	-0.0026 (0.0205)
LDEBT	0.4180 (0.2542)	0.2709 (0.2546)
TAFIXA	-0.0093 (0.0528)	-0.0255 (0.0801)
INTFA	0.1241 (0.1329)	-0.0095 (0.2444)
CHINTFA	-0.2136 (0.1575)	-0.0703 (0.4214)
INV	-0.4003** (0.1949)	-0.3327 (0.2711)
GROWTH	-0.0496 (0.0896)	-0.0904 (0.1259)
ROA	-0.7617** (0.3857)	-1.1243*** (0.4627)
FOREIGNAS	0.0475 (0.0862)	0.0340 (0.0951)
BIG4	0.0869* (0.0474)	0.0982 (0.0820)
Industry effects	YES	YES
Year effects	YES	YES
Constant	1.1154 (2.1023)	0.2893 (0.3004)
N ***Pseudo R-squared*** ***Wald-Chi sq.***	435 0.2058 7919.39***	435 0.0937 2283.05***

Significance at *** p<0.01, ** p<0.05 and * p<0.1.

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *INCTAXFEES* (increase in the purchase of tax NAS); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); *FOREIGNAS* (foreign assets); and *BIG4* (auditor type).

Table 9. Results of the multivariate analysis of the relationship between APTS (proxied by *FYEARTAXNAS* and *FYEARNOTAXNAS*) and tax avoidance (proxied by *ETR* and *CASHETR*). Robust standard errors in parentheses

Variables	*ETR*		*CASHETR*	
FYEARTAXNAS	-0.0066 (0.0191)		0.0014 (0.708)	
FYEARNOTAXNAS		0.0537 (0.0467)		0.0474 (0.0801)
SIZE	-0.0271** (0.0112)	-0.0306*** (0.1112)	-0.0253 (0.0190)	-0.0290 (0.0183)
LDEBT	0.4598* (0.2573)	0.4325* (0.2560)	0.2424 (0.2234)	0.2352 (0.2185)
TAFIXA	-0.0171 (0.0525)	-0.0118 (0.0519)	0.0099 (0.0743)	0.0102 (0.0729)
INTFA	0.1067 (0.1285)	0.0767 (0.1343)	0.0451 (0.2169)	0.0096 (0.2082)
CHINTFA	-0.1177 (0.1268)	-0.0925 (0.1113)	-0.0746 (0.3791)	-0.0566 (0.3282)
INV	-0.3222* (0.1746)	-0.3526** (0.1739)	-0.2426 (0.1725)	-0.2830* (0.1720)
GROWTH	0.0346 (0.0878)	0.0326 (0.0549)	-0.1022 (0.1097)	-0.1379 (0.1125)
ROA	-0.7094** (0.3365)	-0.6913** (0.3236)	-1.1670*** (0.3675)	-1.1451*** (0.3598)
FOREIGNAS	0.0250 (0.0873)	0.0205 (0.0838)	-0.1340 (0.1063)	-0.1287 (0.1015)
BIG4	0.0425 (0.0457)	0.0418 (0.0469)	-0.0197 (0.0874)	-0.0215 (0.0866)
Industry effects	YES	YES	YES	YES
Year effects	YES	YES	YES	YES
Constant	0.3537** (0.1782)	0.3790** (0.1754)	-0.7482** (0.3143)	0.8099*** (0.3049)
N ***Pseudo R-squared*** ***Wald-Chi sq.***	495 0.2080 66.34***	495 0.1945 55.26***	495 0.0968 69.47***	495 0.0930 73.87***

Significance at *** p<0.01, ** p<0.05 and * p<0.1.

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *FYEARTAXNAS* (first year buying tax NAS to the auditor); *FYEARNOTAXNAS* (first year not buying tax NAS to the auditor); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); *FOREIGNAS* (foreign assets); and *BIG4* (auditor type).

Table 10. Results of the multivariate analysis of the relationship between APTS (proxied by *TAXFEES>23%* and *TAXFEES>42%*) and tax avoidance (proxied by *ETR* and *CASHETR*). Robust standard errors in parentheses

Variables	*ETR*		*CASHETR*	
TAXFEES>23%	0.0235 (0.0337)		-0.0242 (0.0513)	
TAXFEES>42%		-0.0772 (0.0508)		-0.2013** (0.0860)
SIZE	-0.0300*** (0.0112)	-0.0306*** (0.1114)	-0.0288 (0.0184)	-0.0281 (0.0176)
LDEBT	0.4304* (0.2551)	0.4279* (0.2541)	0.2300 (0.2178)	0.2149 (0.2128)
TAFIXA	-0.0142 (0.0523)	-0.0138 (0.0525)	0.0100 (0.0730)	0.0124 (0.0724)
INTFA	0.0788 (0.1342)	0.0759 (0.1351)	0.0084 (0.2084)	0.0305 (0.2012)
CHINTFA	-0.0965 (0.1093)	-0.0749 (0.1106)	-0.0501 (0.3295)	-0.0307 (0.3307)
INV	-0.3564** (0.1732)	-0.3618** (0.1737)	-0.2774 (0.1725)	-0.2563 (0.1727)
GROWTH	0.0357 (0.0846)	-0.0273 (0.0849)	-0.1372 (0.1132)	-0.1241 (0.1146)
ROA	-0.7241** (0.3343)	-0.7159** (0.3342)	-1.1527*** (0.3617)	-1.1348*** (0.3613)
FOREIGNAS	0.0249 (0.0846)	0.0209 (0.0842)	-0.1305 (0.1023)	-0.1335 (0.0991)
BIG4	0.0404 (0.0490)	0.0474 (0.0402)	-0.0217 (0.0850)	-0.0418 (0.0823)
Industry effects	YES	YES	YES	YES
Year effects	YES	YES	YES	YES
Constant	0.3780** (0.1754)	0.3732** (0.1729)	0.8130*** (0.3038)	0.8105*** (0.2975)
N ***Pseudo R-squared*** ***Wald-Chi sq.***	495 0.1951 54.34***	495 0.1994 51.63***	495 0.0932 68.42***	495 0.1052 67.65***

Significance at *** p<0.01, ** p<0.05 and * p<0.1.

Variables: *ETR* (book effective tax rate); *CASHETR* (cash effective tax rate); *TAXFEES>23%* (fees for tax NAS above 23% of audit fees); *TAXFEES>42%* (fees for tax NAS above 42% of audit fees); *SIZE* (size); *LDEBT* (leverage); *TAFIXA* (tangible fixed assets); *INTFA* (intangible fixed assets); *CHINTFA* (change in *INTFIXA*); *INV* (inventories); *GROWTH* (growth); *ROA* (return on assets); *FOREIGNAS* (foreign assets); and *BIG4* (auditor type).