

## **Elisão fiscal e valor da firma: evidências do Brasil**

*Corporate tax avoidance and firm value: from Brazil*

*Elision fiscal y valor de la empresa: evidencia en Brasil*

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**Abstract**

This paper investigates the relation between corporate tax avoidance and firm value in Brazil. Although one might expect that tax avoidance activities result in shareholder value generation, alternative theories suggest this is not always the case; implicit agency costs have been recently detected by the literature, may exceed the tax saving benefits, causing shareholder value destruction instead. It was held a panel data analysis to verify what happens including 323 publicly traded companies in the stock market from 2006 to 2012, totalizing 1,704 firm-year type observations. It was adopted BTD, controlled by total accruals, such as proxy for tax avoidance and Tobin's q as proxy for firm value. The results showed that tax avoidance and firm value are negatively associated. It was also evaluated the corporate governance effect, finding limited disclosures that can mitigate to value destruction.

**Keywords:** Tax avoidance. Tax planning. Firm value. Corporate governance.

**Resumo**

*Este trabalho investiga a relação entre a elisão fiscal empresarial e o valor da firma no Brasil. Embora se possa esperar que as práticas de elisão fiscal resultem em geração de valor para o acionista, teorias alternativas sugerem que isto nem sempre ocorre; custos de agência implícitos, detectados recentemente pela literatura, podem exceder os benefícios da economia tributária, causando destruição de valor. Para verificar o que ocorre, foi conduzida uma análise de dados em painel incluindo 323 companhias negociadas em bolsa nos anos de 2006 a 2012, totalizando 1.704 observações do tipo firma-ano. Foram adotados a BTD, controlada por accruals, como proxy para a elisão fiscal e o q de Tobin como proxy para valor da firma. Os resultados mostram que a elisão fiscal e o valor da firma estão negativamente associados. Avaliou-se também o efeito da governança corporativa, encontrando-se evidências limitadas de que ela pode mitigar a destruição de valor.*

**Palavras-chave:** Elisão fiscal. Planejamento tributário. Valor da firma. Governança corporativa.

**Resumen**

*En este trabajo se investiga la relación entre la evasión del impuesto de sociedades y el valor de la empresa en Brasil. Si bien puede esperarse que las prácticas de evasión fiscal en consecuencia la generación de valor para los accionistas, teorías alternativas sugieren que esto no siempre ocurre; los costes de agencia implícitas, recientemente detectados en la literatura, pueden superar los beneficios de ahorro de impuestos, causando la destrucción de valor. Para comprobar lo que sucede, se llevó a cabo un análisis de datos de panel que incluye 323 empresas que cotizan en los años 2006 a 2012, por un total de 1.704 observaciones de tipo firme años. El BTD se adoptaron, controlado por acumulaciones, como sustituto de la evasión fiscal y la q de Tobin como un indicador de valor de la empresa. Los resultados muestran que la evasión fiscal y el valor de la empresa se asoció negativamente. También levantó la vista el efecto de gobierno corporativo, la mentira pruebas limitadas de que se puede mitigar la destrucción de valor.*

**Palabras clave:** la evasión fiscal. Planificación tributaria. Valor de la empresa. Gobierno corporativo.

## 1 Introduction

Tax planning activities have called significantly interest of economists, regulators, accountants, researchers, market analysts, and the investment community about "tax avoidance" activities practiced by large publicly traded companies (SHACKELFORD e SHEVLIN, 2001; SLEMROD, 2004; HANLON, MILLS e SLEMROD, 2007; HANLON e HEITZMAN, 2010).

Corporate tax avoidance has long been seen as a value-generating management practice, to the extent that it results in wealth transference from the state to the shareholders, through an increasing net income by the actual taxes amount saved.

However, the tax planning practice adoptions are a controversial practice. The broad scope of the term means that we find sheltered under the same denomination both perfectly licit activities, related to the tax management of companies, as well as those of uncertain legality. Legal activities are rarely a source of problems because they are supported by express legal provisions that correspond to the legitimate exercise of business management.

As an example, we can mention the manager's authority to choose in advance the taxation system to which the profits calculated at the end of each fiscal year will be submitted. On the other hand, uncertain lawfulness activities are always subjected to questioning by the impaired parties. It is not uncommon for the taxpayer and the government to spend years debating their tax law interpretations in the courts producing costs for them ultimately for the whole society.

In Brazil, this character dubiety does not seem to be a strong enough justification to contain its spread. On a daily basis, we continue to face the revelation in the press of expressive tax assessment cases by the tax authority against large companies accused of engaging in abusive tax planning practices. In 2013, for example, the cases of assessment against MMX, Natura, Fibria, Santos Brasil, Gerdau, Vivo, TIM, Oi (EXAME, 2013, FOLHA DE SÃO PAULO, 2013a), among others, came to light.

More recently, the case of Rede Globo de Televisão, charged in the amount of R\$ 274 million was known on charges of concealing a foreign remittance transaction for the purchase of television rights (which would be subjected to taxation), through investment in equity interest in a company based in a tax haven (FOLHA DE SÃO PAULO, 2013b).

At the international level the most recent cases of Apple Company denounced and condemned by evasion, in 2016, to pay R \$ 385 million to the Japanese Government. The company also faced problems with EU officials who fined the company at € 13 billion for illegal benefits received in Ireland in taxes not collected between 2003 and 2014. Last year the company was also penalized at € 318 million by Itálio tax authorities after a long investigation on an evasion denunciation.

Facing character dubiousness between elision and evasion, this research seeks to understand if the interests behind the tax planning practices are focused on generating value for companies (shareholders) or are more likely to achieve company goals and results or are more related to the remuneration complementation of the managers. Thus, it seeks to insert the variable governance as a moderating variable in the relationship between the tax planning level practiced and the value creation by companies.

Armstrong, Blouin and Larcker (2015) identified a relation between corporate tax avoidance and corporate governance characteristics and managers' equity incentives. They expand the scope of prior research by estimating the relation not only at the conditional mean,

but also across the entire tax avoidance distribution. Certain governance mechanisms are likely to exhibit different relations with tax avoidance at different distribution points - especially if the tax avoidance net benefits differ at different tax avoidance levels.

Recent literature (Desai and Dharmapala 2009a), however, argues that corporate tax avoidance can not be treated detached from corporate governance issues. This perspective suggests that, in addition to the well-known explicit costs, there are some implicit costs which have to be taken into consideration if one wishes to figure out properly what is the net outcome of that practice.

Implicit costs, which are mostly agency costs, comprise: reputational costs; potential penalties imposed by the tax authorities; credibility loss of financial statements; and direct appropriation by the managers of benefits accomplished with tax avoidance. Taking into account costs of every nature – tax and non-tax – are also Scholes and Wolfson's framework major requirements (SCHOLES et al., 2005) in assessing the tax planning effectiveness.

In this study we investigate whether tax avoidance activities generate shareholder value in Brazil. Studies on this issue have already been conducted by Desai and Dharmapala (2009a) regarding the United States and by Abdul Wahab and Holland (2012) regarding the United Kingdom. Desai and Dharmapala (2009a) find that the tax avoidance effect on firm value depends on firm governance; in their study, the overall tax avoidance effect is insignificant, but it is more positive for well-governed firms than for poorly governed firms. Abdul Wahab and Holland (2012) find a negative relationship between tax planning and firm value, which shows to be robust even to the inclusion of corporate governance measures.

To answer this question, we hold a panel data regression analysis of comprising most of Brazilian non-financial publicly traded firms from 2006 to 2012, totalizing 1,704 type firm-year observations. We take Tobin's  $q$  as proxy for firm value and we use total BTD, controlled for total accruals, as proxy for tax avoidance. The results show that tax avoidance and firm value are negatively related in Brazil.

We also evaluate the corporate governance effect over that relationship. Therefore, we take as proxy for it the special listing segment in which the firm is classified by the local stock exchange according to the corporate governance practices of firm. We find some limited evidence that corporate governance plays an important role in mitigating value destruction caused by tax-related actions.

This work contributes to the literature providing new phenomenon disclosure described by Desai and Dharmapala (2009a), extending its coverage in place and time. In addition, it illustrates the appropriateness of taking special listing segments as proxy for corporate governance in tax-related research.

This study proceeds as follows. Section 2 presents the related literature and the research questions. Section 3 describes the research design and our sample. Section 4 presents the results. Final considerations in section 5.

## 2 Literature Review and Hypothesis

Tax planning, like any business management activity, is intended to contribute to the economic and financial performance improvement of the firm, thus helping to maximize the return on the owners' investment. It would be an incomplete idea, therefore, that the tax planning objective would simply be to reduce the amount of taxes to be paid, although this may be the activity immediate and inevitable consequence, or even its most evident aspect.

This view is the paradigm basis presented by Scholes and Wolfson in 1992, in "Taxes and Business Strategy: A Planning Approach" considered a seminal research by Shackelford and Shevlin (2001), and is fully compatible with the modern Theory of corporate finance, that the purpose of the company is to maximize the wealth of owners (Ross; Westerfield; Jaffe, 2010).

The Agency Theory assumes that the personal interests of the owners are in conflict with the personal interests of the managers: while those who wish to derive the highest possible return from their investment, they wish to derive the greatest possible benefit from the position they occupy, leaving behind the objectives of the owners. For example, when agents become aware that there is money available in cash, a manager may prefer to purchase a luxury jet for his locomotion instead of distributing surplus funds as dividends or even apply them to other projects. Positive net presents value. These conflicts of interest between principal and agent are agency conflicts and give rise to so-called agency costs, which are borne by the principal. Jensen and Meckling (1976) argue that these costs correspond to expenditures on monitoring activities, incentive spending for alignment of interests, bonding costs, and residual losses, which are equivalent in currency to the loss of well-being suffered by the principal as the harmful action results carried out by the managers, which were possible to avoid by the principal.

The agency conflicts find favorable conditions to proliferate in the corporate environment due to the contract incompleteness and informational asymmetry existing between principal and agent. The contractual inconsistency refers to the contract impossibilities carefully foresee all the actions that will be practiced by the parties. Informational asymmetry arises because managers are in a more favorable position to obtain and hold information about the businesses they manage, since this information disclosure to the outside world is taken into account.

In this scenario, which involves decisions and choices related to the tax planning practice adoptions, it is up to the owners to take measures that limit their losses. Typically, these measures involve the monitoring system implementations, such as external audits, and the appropriate contractual incentive provisions to align interests between them and managers. An example of incentive usually employed in the corporate environment is the remuneration through the bonuse payments due to management performance which is measured by indicators that reflect the interests of the owners.

In general, all the mechanisms implemented in a company that protect the interests of the owners against the selfish impetus of managers, as well as protecting minority shareholders against the actions of controlling shareholders, is the corporate governance system constitution.

Hanlon and Heitzman (2010) identified in the literature two alternative perspectives on the tax avoidance motivations and its consequences. In the mainstream one, its ultimate objective is simply to transfer wealth from the state to the shareholders. That would be accomplished every time the firm successfully avoids paying some amount of taxes that would be otherwise due. Shareholders, then, would be keen on the idea of encouraging their representatives to incur in that practice. Armstrong, Blouin and Larcker (2012), for instance, find that the tax director compensations are negatively related to the firm effective tax rate, which suggests that there exist incentives for them to seek after lower rates.

The alternative view, introduced jointly by Desai, Dyck and Zingales (2007) and Desai and Dharmapala (2006), takes into consideration a more comprehensive set of agency costs

derived from the interest conflicts between managers and shareholders. In this perspective, self-interested managers would be willing to engage in tax avoidance activities only to take advantage of enlarged discretion and thus to divert rent for their own benefit. Shareholders, in turn, would accept the obscurity of the managers' tax-related actions in order not to call attention of tax authorities. Of course, this picture would be much more worrying in firms with corporate governance inferior levels. Investors, sensitive to these possibilities, would express their concerns by discounting the stock prices of these companies by the related risk.

In their study, Desai, Dyck and Zingales (2007) found that an increasing tax enforcement against some companies in Russia in 2000 interestingly led to an increase in their market values, showing evidence that the shareholders' interests were better aligned with the government's interests rather than with the managers'. That suggests that managers could have been diverting rent. By the same time, Desai and Dharmapala (2006) discovered there is a complementary relationship between managerial diversion and tax sheltering, emphasizing the corporate governance role in monitoring and preventing such activities.

With the introduction of this approach, which extends the cost ranges that must be taken into consideration in the tax planning activity assessments, the literature began to develop more interest on the tax planning net effect over the firm value, with some studies trying to identify whether tax avoidance is more associated with wealth creation for shareholders or with managerial opportunism and rent extraction. The main examples are Desai and Dharmapala (2009a) and Abdul Wahab and Holland (2012). Besides them, Wilson (2009) also investigated this issue, but in a complementary fashion, to illustrate the use of the model he created for detecting firms more likely to engage in tax sheltering practices. These three studies presented mixed evidence about the relationship between tax avoidance and shareholder value creation, as described below.

Regarding the strategies adopted by managers considering both the life cycle aspect of companies and the managerial style of managers, Higgins, Omer and Phillips (2015) examine the relation between business and tax planning strategies of a firm. They find that firms adopt a Prospector (innovation and risk seeking) strategy to avoid more taxes than both Defender firms (cost leadership and risk aversion) and firms following a more general (Analyzer) strategy. They find that Prospectors also appear to undertake more aggressive and less sustainable tax positions than Defenders. Thus, their business strategy measure appears not only to capture Prospectors' taking advantage of tax planning opportunities that result from their innovation strategy, but also reflects their greater willingness to undertake risk and deal with uncertainty.

Desai and Dharmapala (2009) find evidence that the tax avoidance effect on firm value is not statistically different from any one. However, the interaction between tax avoidance and corporate governance (proxied by institutional ownership) has a positive effect instead. These conclusions hold for all firms regardless of the corporate governance level. When only high governance levels are tested in a firm the tax avoidance shows to have a positive effect on firm value. For those researchers, the presumption that tax avoidance is simple wealth transference from the state to shareholders is not validated by the data; for them, the agency theory should be incorporated into the models, highlighting the corporate governance role.

Wilson (2009), in turn, firstly develops a model to identify, by collecting data from the accounting reports, the probable participants of tax sheltering. Besides, he compares the stock return performance of tax shelter firms in the preceding periods, during and succeeding tax sheltering practices, taking into account the corporate governance level as well. He finds

evidence that “tax shelter firms with strong corporate governance exhibit significant positive abnormal returns during the period of active tax shelter participation”. According to his findings, tax sheltering is an activity that generates shareholder value, but this benefit is mitigated by firms with lower corporate governance levels. His findings are relatively consistent, therefore, with those of Desai and Dharmapala (2009a).

Abdul Wahab and Holland (2012) studied the same question in the United Kingdom context. There, they find a negative relationship between the tax planning and firm value intensities, regardless the corporate governance mechanism presences, meaning that investors do not appreciate tax avoidance activities at all, because "the information asymmetry generally associated with tax planning can result in moral hazard or fear of moral hazard". They conjecture that UK corporate governance mechanisms may be ineffective or there is not enough tax-related information available for such mechanisms.

On the whole, tax avoidance can be viewed as a management practice with its costs and benefits, which have all to be properly assessed if one wishes to appraise its net outcome. In case the benefits exceed (fall behind) the costs, then we can say tax avoidance is generating (destroying) value. Measuring the benefits is straightforward: the amount of money saved. Measuring the costs, though, is quite another thing.

There are explicit costs, which can be observed directly, for example, the fees of the personal involved in the activity of planning and possible organizational restructuring expenses necessary to obtain the desired benefits, as indicated by Abdul Wahab and Holland (2012). In addition to the explicit costs, tax avoidance also entails implicit costs, of a hidden nature, which are not easily perceptible by any stakeholders and that were being overlooked by the literature. Taking into account all costs – explicit and implicit, tax and non-tax – that may be incurred in tax avoidance practice consequences are one of the greatest Scholes and Wolfson’s framework pillars (Scholes et al., 2005) for evaluating tax planning effectiveness.

Among others, implicit costs comprise:

- a) Direct appropriation, by the managers, of the money savings accomplished with tax avoidance activities (Desai and Dharmapala 2006). Under the pretext that tax avoidance activities should be opaque so that they do not arouse the attention of tax authorities, managers take advantage of this obscurity to give vent to their opportunism and extract benefits for themselves. Specifically, they can contract personally related parties or manipulate accounting numbers to inflate their bonuses. This value diversion would be potentially enlarged in environments with weak corporate governance. To illustrate this possibility, Desai and Dharmapala (2009b) present a hypothetical example, using numbers, showing the direct value appropriation by managers in a case of tax planning associated with earnings management;
- b) The credibility loss of financial statements. Firms that consistently show lower tax load than similar ones raise the suspicion of investors concerning the reliability of their financial statements. After all, if there is any evidence that the management acts in bad faith against the government at some extent, it may be prone to act in bad faith against shareholders as well. Frank, Lynch and Rego (2009), for instance, find evidence that there is a strong association between aggressive accounting and tax aggressiveness. Furthermore, Desai, Dyck and Zingales (2007) report that the increased rigor of the tax audits over some companies in Russia had the effect of raising their market value and reducing the control premium, suggesting that the interests of shareholders, in this case, were better aligned with the state interests

- against the opportunism of the managers.
- c) Reputational costs. A company may become a widespread social rejection target as a punishment for its lack of citizenship, when it becomes publicly revealed that the company dodges paying taxes. Hanlon and Slemrod (2009) report that General Electric, SBC and Wal-Mart make efforts to spread publicly that they are good corporate citizens because they pay their taxes appropriately. In their work, these researchers find that there is a decrease in the average stock price of the companies whose aggressive tax planning practices are reported by the press. Regarding family businesses, the concerns of shareholders with firm reputation seems to be even bigger. Chen et al. (2010) show that family firms present a lower tax aggressiveness level when compared to non-family firms, supposedly in order to avoid those reputational costs.
  - d) The potential penalties imposed by tax authorities. This cost can be estimated by the probability product of being audited, being found out and the expected penalties once found out (Chen et al., 2010).

So, upon this new perspective on tax avoidance, which diligently considers all of its costs and its interrelation with corporate governance issues, the present work investigates the relationship between tax avoidance activities and shareholder value creation in Brazil. That leads us to formulate the first question of this work: **Question 1: Do tax avoidance activities contribute to increase firm value in Brazil?**

There is mixed evidence regarding the relationship between tax minimization and shareholder value creation.

Desai and Dharmapala (2009a) have found evidence in the United States that the tax minimization effect on firm value is positive, provided the firm has a high corporate governance degree. When all firms are analyzed together, without differentiation by corporate governance level, the tax minimization effect on company value is not statistically different from zero. They conclude by stating that the assumption that tax minimization is simple wealth transference from the state to shareholders is not validated by the data, and that Agency Theory should be incorporated into the models, also considering the corporate governance role.

Wilson (2009) also tested the relationship between tax minimization and firm value in the United States. His work is divided into two parts. Initially, it develops a logistic regression model to identify tax sheltering practitioners from accounting indicators. Using court records and press reports as the tax sheltering practice index, it has obtained evidence that there is a positive relationship between the practice incidence and the high Book-Tax Difference (BTD) levels. On the second part was sought for finding out if the tax minimizations are more associated with the wealth creation for the shareholders or the opportunism of the managers. For this, he compared the shareholder's return in the periods before and what happens to the tax sheltering practice, also taking into account the corporate governance influence. He found evidence that "tax sheltering is an activity that generates value for shareholders, but this benefit is mitigated in firms with a low degree of corporate governance." Their results are relatively consistent, therefore, with those of Desai and Dharmapala (2009a).

Abdul Wahab and Holland (2012) studied the same issue in the context of the United Kingdom. Through multiple linear regressions, they found evidence that there is a negative relationship between the tax planning and firm value intensities, independently of

the corporate governance mechanism presences. For them, investors should be cashing in on the firm fears associated with the tax planning activity obscurity. Among these fears, they mention the wealth expropriation possibility by the managers and the lack of financial statement reliabilities, since the tax aggressiveness would be associated with the managers' predisposition for the accounting aggressiveness.

However, Chen, Hu, Wang and Tang (2013) examine whether corporate tax avoidance behavior increases firm value in Chinese context. A large number of studies lead their designs on the consumption that tax avoidance represents wealth transference from government to enterprises and therefore enhances firm value. Using a large sample of Chinese listed-firms data from 2001-2009. This study argues that, contrast to developed countries, tax avoidance does not necessarily add value to opaque Chinese firms relative to transparent counterparts due to higher agency costs. The results suggest that tax avoidance does not necessarily increase firm value, part of earnings are encroached by self-serving managers. Moreover, investors in China downplay the tax avoidance significance, although corporate information transparency could soften their negative tone.

Chen et al. (2014) adapt the methodology of Desai and Dharmapala (2009a) to investigate an issue in China. Using a BTM and ETR as tax planning and Quito metrics as proxy for firm value, they found evidence that a relationship between tax planning and firm value, in general, negative not to the Chinese capital market context. This negative relationship, however, would be attenuated to firms with a high corporate governance degree or greater management transparency. Thus, in view of this new perspective regarding the tax minimization effects on firm value and its interrelationship with corporate governance, the present work investigates this phenomenon in Brazil, seeking to confirm or reject the following hypothesis:

H1: There is a negative relationship between tax planning and firm value in the Brazilian capital market.

Similarly, the target of our research, but considering micro elements such as managerial incentives and corporate tax avoidance, Armstrong, Blouin and Larcker (2015) examine the link between corporate governance, managerial incentives, and corporate tax avoidance. They find no relation between various corporate governance mechanisms and tax avoidance at the conditional mean and median of the tax avoidance distribution. However, using quantile regression, they find a positive relation between board independence and financial sophistication for low tax avoidance levels, but a negative relation for high tax avoidance levels. These results indicate that these governance attributes have a stronger relation with more extreme tax avoidance levels, which are more likely to be symptomatic of over- and under-investment by managers.

Shleifer and Vishny (1997) argue that the corporate governance role is to "assure capital providers that they will get a return on their investment," aiming to prevent unnecessary losses from being imposed on them.

According to the theory presented by Desai and Dharmapala (2009a), tax planning would not always result in a positive return for the shareholder, because under certain circumstances, especially when there are weak corporate governance and manager's levels, hidden under the "Layer" of tax planning, would find favorable conditions to privilege their own interests, imposing losses on shareholders.

Wilson (2009) argues that corporate governance is an important mediating factor in the relationship between tax planning and wealth creation for shareholders. In his study, he

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found evidence that value creation for shareholders is greater when tax planning is practiced by companies with a high corporate governance level.

Focusing on the monitoring role of capital markets, prior literature generally investigates how capital Market participants such as institutional investors affect tax avoidance (e.g., Cheng et al., 2012; Khurana and Moser, 2013). Any empirical relationship examination between firm-level measures of analyst coverage and tax aggressiveness is complicated by endogeneity bias. Allen et al., (2015) contributes to this literature by examining the causal effect of financial analysts, a key information intermediary, on corporate tax aggressiveness. They identify a negative causal effect of analyst coverage on tax aggressiveness, suggesting that financial analysts constrain corporate tax aggressiveness and find that this effect is achieved through the investor recognition channel and the information demand channel. The results do not support the notion that analysts' monitoring function contributes to less tax aggressiveness. Finally, considering a subsample tests are not supportive of the view that pressure from analysts' expectations exacerbates tax aggressiveness.

Summing up, the findings improve our understanding of the financial analyst roles, and more broadly, capital market scrutiny, in affecting corporate tax avoidance. Our study contributes to prior literature on the tax avoidance determinants and furthers the understanding of the "under-sheltering puzzle." Our study also contributes to prior literature on the analyst coverage effects on various corporate behaviors by suggesting that analysts' role in enhancing investor recognition and information demand constrains corporate tax aggressiveness.

On the other hand, in the study by Abdul Wahab and Holland (2012), corporate governance had no influence on the negative relationship between tax planning and firm value in the UK. In view of these evidences, the corporate governance effect investigations in Brazilian context are imposed, in order to confirm or reject the following sub-hypothesis:

H2: The relationship between tax planning and firm value is influenced by the corporate governance degree of the firm.

Brazilian capital market is relatively young and underdeveloped, although it has been attracting more attention worldwide lately due to the BRICs hype. Brazil has nowadays one major stock exchange located in São Paulo, named BM&FBovespa, which resulted from the merger of two other exchanges (BM&F and Bovespa) in 2008. There were about seven hundred thousand deals carried per day on average in 2012.

Brazilian market is characterized by high ownership concentration levels and by familiar firm abundances. Institutional environment provides little protection to investors, which facilitates the wealth diversion by managers or controlling shareholders. A recent prominent case is that of non-controlling shareholders of Eike Batista's oil company OGX who were harmed and then decided to sue the regulatory governmental agency CVM for its supposed negligence.

Preventing the occurrence of such a case is one of the corporate governance roles, which deals with "the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment" (Shleifer and Vishny 1997). It became clear, though, that corporate governance mechanisms alone will not do it, being necessary to have continuous strengthening of the institutional environment and enforcement power of regulatory authorities.

Badertscher; Katz and Rego (2013) examine if ownership separation and control

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variation influences the tax practices of private firms with different ownership structures. Because tax avoidance is a risky activity that can impose significant costs on a firm, we predict that firms with greater ownership and control concentrations, and thus more risk averse managers, avoid less income tax than firms with less concentrated ownership and control. Their results are consistent with these expectations. In particular, they examine whether certain private firms enjoy lower marginal costs of tax planning, which facilitate greater income tax avoidance. The results are consistent with the marginal costs of tax avoidance and the ownership separation and control both influencing corporate tax practices.

In Brazil, some important corporate governance mechanisms are coded directly in law, but it seems that they are not sufficient to appease investors, as stock exchange BM&FBovespa took the initiative some years ago and implemented special listing segment schemes, in which the firms can voluntarily adhere, by complying with the chosen specific segment requirements. A good description of Brazilian capital market and its corporate governance features are presented by Rabelo and Vasconcelos (2002).

That brings up the second question this work tries to answer: ***Question 2: Does corporate governance have any creation (or destruction) effect on shareholder value caused by tax avoidance activities in Brazil?***

### 3 Methodology and Sample

#### 3.1 Tax avoidance

In general, the expression "tax avoidance" is represented by the activities practiced by companies that aim to reduce, postpone or avoid paying taxes. Hanlon and Heitzman (2010, p.137) point out that it is not easy to distinguish technically from tax avoidance (unlawful act) tax planning, since the legality of a tax avoidance activity is often determined after operation completions.

In Brazilian context, the term "avoidance" may represent either certain tax operations (eg, accelerated depreciation tax incentives) or undefined tax positions (eg ICMS (State (value added) exclusion from the PIS / COFINS (Federal value added) calculation basis). These represent situations that may or may not be challenged legally and considered illegal, as they depend on the judiciary appreciation and interpretations. In the literature, the term "tax avoidance" encompasses all behaviors that target the tax economy, whether lawful or illicit (Hylston and Heitzman, 2010; Dyrenen, Hanlon and Maydew, 2010, Blaylock, Shevlin and Wilson, 2012).

The tax avoidance literature has emphasized that "taxes avoidance" has direct and indirect consequences:

- a) If the manager considers an expense as deductible, it increases the cash flow of the company and the wealth of the investors; however, indirectly, the manager may be altering the company capital structure decisions by reducing the funding of third parties, thereby reducing the marginal benefit of interest deductibility (GRAHAM and TUCKER, 2006). However, if a company is identified by the tax authorities, it will be forced to pay taxes with interest and fines, which would mean a decrease in cash flow and investor wealth.
- b) Another relevant situation may occur when the company uses tax planning through investment in assets as a tax advantage; implicit taxes on investments could act by mitigating the tax planning effect on shareholder wealth (BERGER, 1993).

- c) Companies enjoy fiscal incentive policies or programs, in a classical view, managers would be expected to take counterpart actions on the incentives received (fixed assets, working capital) that would maximize the company value. However, the evidence in the literature is conflicting about the fiscal incentive roles in fixed asset prices (GOOLSBEE, 1998a; HASSETT and HUBBARD, 1998), as it has not yet been clearly identified whether firms that succeed with tax planning sacrifices cash flow before taxes or incurs other non-tax costs.

In general terms, tax planning has consequences on the decisions of managers, investors (shareholders), creditors and the government. Hanlon and Heitzman (2010), however, consider that if investors are risk-neutral and require managers to make decisions to maximize shareholder cash flows, then tax planning is a natural byproduct of the company management process, providing they are Management.

In addition, the authors point out that if managers optimize corporate tax planning and if investors form unbiased beliefs about the extent and return of these practices then there should be no association between tax planning and firm value or stock returns. However, it is assumed that the incentives provided are adequate and work perfectly; In addition, managers and shareholders understand all the risks and rewards of tax planning. Hanlon and Heitzman (2010) caution that there is still no robust theory to explain the firm tax planning variations.

Following Desai and Dharmapala (2009a), we adopt total book-tax differences (BTD), controlled for total accruals, as proxy for tax avoidance.

Book-tax differences arise essentially from the differences between the criteria adopted for recognizing and measuring revenues and expenses in order to determine book pre-tax income and taxable income. Their use as proxy is supported by the notion that managers of publicly traded firms most of the time wish to disclose high profits while reducing tax burden. The reason for controlling accruals is to segregate out any possible effects of earnings management over BTD.

Hanlon and Heitzman (2010) properly advise that this measure suitability depends highly on the importance that the firm puts on bottom line of income statement, because firms which do not have to publicly disclose their financial statements may prefer to adopt only conforming tax avoidance techniques, which do not generate book-tax differences at all. In the present study we have only publicly held companies in our sample, so we can safely presume that bottom line is important.

Since Brazilian firms do not explicitly disclose their taxable income, which would be necessary for us to employ the tax-effect BTD advocated by Tang and Firth (2011), we have to estimate taxable income by grossing up current tax expense for the period and then infer total BTD.

There have always been two taxes which are levied on taxable income by the Brazilian federal government, namely IRPJ and CSLL<sup>1</sup>, at rates of 25% and 9%, respectively, which makes taxable income equals to current tax expense divided by 34%:

$$\text{Taxable income} = - \frac{\text{Current tax expense}}{0.34}$$

<sup>1</sup> IRPJ stands for Imposto de Renda Pessoa Jurídica (legal entity income tax) and CSLL stands for Contribuição Social sobre o Lucro Líquido (social contribution over net income). They differ mainly in destination of their tax revenues.

Book-tax differences are then inferred by subtracting taxable income from pre-tax income:

$$BTD = \text{Pre-tax income} - \text{Taxable income}$$

### 3.2 Firm value

Following Desai and Dharmapala (2009a), we adopt Tobin's  $q$  as proxy for firm value. Tobin's  $q$  is the ratio between the firm market value and the replacement cost of its assets. The reason why it can be used as proxy for firm value is that it can be viewed as the value existent amount, in monetary units, per one monetary unit invested in firm. Obviously, obtaining the exact replacement cost of all assets of many companies is not feasible. Chung and Pruitt (1994) suggested a simplified calculation form that provides an approximation to  $q$  instead, and then demonstrated the soundness of their proposal by comparing the approximate  $q$  with the real  $q$ . In this simplified form, the replacement cost of the assets is replaced by the book value of the assets.

The suitability of using the approximate  $q$  depends on how distant do book values and replacement values generally depart from each other, especially for long-term assets. The main causes of distancing are depreciation and inflation. Depreciation is not a considerable problem, as long as it follows, on average, economic depreciation. Inflation, in turn, was kept at moderate rates by Brazilian government during the whole period studied. Thus, in the present study, a formula equivalent to that used by Desai and Dharmapala (2009a) was used for the calculation of  $Q$ :

$$Q = \frac{(\text{Total Assets} - \text{Equity}) + \text{Market Value of Equity}}{\text{Total Assets}}$$

Where:

- $Q_{it}$  - Corresponds to the Tobin  $Q$  of firm  $i$  in year  $t$ ;
- $MVE_{it}$  - Is the firm equity market value  $i$  in year  $t$ ;
- $E_{it}$  - Corresponds to the firm equity  $i$  in year  $t$ ;
- $Ta_{it}$  - Corresponds to the firm total assets  $i$  in year  $t$ .

A convenient approach feature is that our dependent variable becomes automatically scaled by total assets, making additional standardization unnecessary, but requiring that independent variables be like that. The firm market value was taken 3 months after the fiscal year closing date, so that it was time for the accounting information published to exert their effects on the capital market.

### 3.3 Corporate governance

Since 2000, Brazilian major stock exchange BM&FBovespa has been classifying publicly traded firms in special listing segments depending on the firm corporate governance practices. The requirements for being classified in one of the segments include the tag concession along rights, minimum share ratios in free float and constraints on preferred share issuances, among others.

There are currently 5 segments, labeled New Market, Level 2, Level 1, Bovespa Plus and traditional<sup>2</sup>. Although one can view this ordering as from the most protective (to shareholders) to the least protective, in truth Bovespa Plus can be better viewed as Level 2

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<sup>2</sup> In native language: Novo Mercado; Nível 2; Nível 1; Bovespa Mais; tradicional.

and traditional segment mixes.

We adopt the firm listing segment as proxy for its corporate governance level. Segments rarely change over time; so we felt it was safe to collect that information for 2012 and extend its use for all preceding years. Table 1 shows the listing segment frequency distributions for the firms of our sample.

**Table 1 - Listing segments for sample firms**

Listing segment	N
Traditional	145
Bovespa Plus	4
Level 1	31
Level 2	17
New Market	126
Total	323

Although the proxy we used for corporate governance may seem too simplistic, it has strong appeal in Brazilian capital markets. BM&FBovespa keeps educating investors about its listing segments importance, and firms classified in a segment other than traditional always make a point of emphasizing that in their annual reports.

### 3.4 Sample and regression model

In order to answer our two questions, we conduct a regression analysis of unbalanced panel data with 323 publicly traded firms ranging from 2006 to 2012, summing up 1,704 firm-year observations. This sample includes most of Brazilian non-financial publicly traded companies.

Our regression model is based in the work of Desai and Dharmapala (2009a), but it is not the same. Particularly we use less control variables to keep model as simple as possible and also due to their little availability in our data sources. This is the model specification:

$$q_{it} = \beta_0 + \beta_1 BTD_{it} + \beta_2 TA_{it} + \beta_3 NI_{it} + \beta_4 LTD_{it} + \beta_5 SALES_{it} + \sum_{w=6}^9 \beta_w (CG_{wi} * BTD_{it}) + \mu_{it}$$

Where:

- $q_{it}$  = Tobin's  $q$  for firm  $i$  in year  $t$ ;
- $BTD_{it}$  = total book-tax differences, scaled by total assets, for firm  $i$  in year  $t$ ;
- $TA_{it}$  = total accruals, scaled by total assets, for firm  $i$  in year  $t$ ; total accruals are estimated by subtracting operating cash flow from net income;
- $NI_{it}$  = net income, scaled by total assets, for firm  $i$  in year  $t$ ;
- $LTD_{it}$  = long-term debt, scaled by total assets, for firm  $i$  in year  $t$ ;
- $SALES_{it}$  = natural logarithm of net sales, scaled by total assets, for firm  $i$  in year  $t$ ;
- $CG_{wi}$  = collection of four corporate governance dummies which assume 1 when corresponding to the firm  $i$  listing segment; there are dummies for segments Bovespa Plus, Level 1, Level 2 and New Market.

When trying to control industry, none of the coefficient estimates for the 20 industry dummies were significant, so we refrain from including them in the model. Financial statement data were collected from CVM (Brazilian regulatory agency, similar to SEC), while market values necessary for Tobin's  $q$  calculation was obtained from Economatica® (a private firm in business of providing financial information to investors).

We started gathering all information available from these sources, comprising all firms which have their stock publicly traded. Some adjustments were obviously necessary in order to obtain a consistent database. First, we excluded firms in financial and insurance industries, because their financial statements conform to highly specific criteria. Next, we excluded those firm-years for which some variables were missing. Lastly, due to the presence of outliers, we had to winsorize the high Tobin's  $q$  tail at 1%. Table 2 shows descriptive statistics for our sample and Table 3 shows the panel data patterns.

**Table 2 - Sample descriptive statistics**

Variable	N	Mean	Std. Dev.	Min.	Max.
Tobin's $q$	1704	2.01	4.51	.13	60.26
BTD	1704	-.09	1.53	-46.33	1.84
TA	1704	-.11	1.35	-40.42	1.81
NI	1704	-.06	1.54	-46.33	1.85
LTD	1704	1.08	14.72	0	486.55
SALES	1704	-.76	1.26	-9.11	1.76

**Table 3 - Panel data patterns**

Freq.	Percent	Cum.	Pattern
87	26.93	26.93	1111111
83	25.70	52.63	.111111
45	13.93	66.56	..11111
12	3.72	70.28	....111
9	2.79	73.07	.....11
8	2.48	75.54	...1111
7	2.17	77.71	.111...
72	22.29	100	(other)
<b>323</b>	<b>100</b>		<b>(all)</b>

#### 4 Results

We ran three regressions in which the results are presented in Table 4. Regression (I) estimates coefficients without taking into account corporate governance variables. Hausman's regression test (I) resulted in significant statistic ( $H = 268.13$ ;  $p < 0.0000$ ), indicating that the fixed-effect models, which we adopt, is more appropriated than the random-effect models.

In regression (II) we included our corporate governance dummies interacting with BTD; isolated corporate governance dummies did not result in any relevant finding, so we refrain from including them in the model. Regression (III) is the same as regression (II), but with the robust variance estimator instead.

By observing the BTD coefficient estimate we can conclude that tax avoidance activities have a negative effect on firm value for regressions (I) and (II) the BTD coefficient estimate is negative and significant at 1% level. For one unit to increase in BTD (scaled by total assets), Tobin's  $q$  is expected to decrease by 5.96, according to regression (II). In addition, the absolute BTD coefficient estimate value is greater than the NI (net income) coefficient estimate, which suggests that tax saving activities which have direct impact on net income but not on taxable income (i.e., they will increase BTD by the same amount that net

income was increased) will have a negative net effect on firm value. This result is consistent with the findings of Desai and Dharmapala (2009a) and Abdul-Wahab and Holland (2012), for whom tax avoidance activities do not always generate shareholder value, being necessary a thorough analysis of all costs in order to evaluate the activity net effects.

Table 4 - Regression estimations

	(I)	(II)	(III)
NI	4.77 *** (.91)	5.12 *** (.89)	5.12 (3.56)
BTD	-5.07 *** (.85)	-5.96 *** (.84)	-5.96 * (3.04)
TA	-.82 ** (.41)	-.53 (.41)	-.53 (.92)
LTD	-.01 (.02)	-.04 * (.02)	-.04 (.06)
SALES	.23 ** (.10)	.18 * (.10)	.18 (.17)
BTD*CG_BP		-4.89 (3.36)	-4.89 (5.93)
BTD*CG_L1		1.93 (1.60)	1.93 ** (.86)
BTD*CG_L2		3.70 (3.17)	3.70 *** (1.00)
BTD*CG_NM		9.78 *** (1.20)	9.78 * (5.59)
Constant	1.93 *** (.10)	1.84 *** (.10)	1.84 *** (.15)
$\rho$	.8368	.8410	.8410
F-test	16.27	16.82	
R <sup>2</sup>	0.4345	0.4402	0.4402
N	1704	1704	1704

*Numbers in parenthesis show standard error for regressions (I) and (II), and robust regression standard error (III). One, two and three stars indicate significance at the 10%, 5% and 1% levels, respectively. NI=net income; BTD=total book-tax differences; TA=total accruals; LTD=long-term debt; SALES=net sales. CG is a set of dummies for the listing segments Bovespa Plus, Level 1, Level 2 and New Market*

We also find some evidence that corporate governance plays an important role in the tax avoidance activity evaluations. Although not all the interactive term coefficient estimates were significant in regressions (II) and (III), the BTD\*CG\_NM coefficient estimate is greater than the BTD coefficient estimate, which suggests that increases in BTD can be welcomed by investors if the firm belongs to a listing segment which represents a higher corporate governance level. Specifically, if the firm belongs to the New Market segment (which supposedly provides the best protection for investors), increases in BTD and will have the net effect of increasing firm value. This last result is consistent with the findings of Desai and Dharmapala (2009a) and Wilson (2009), for whom tax avoidance activities generate more shareholder value in firms with higher corporate governance levels.

## 5 Conclusion

We investigated the relationship between tax avoidance activities and firm value in Brazilian capital markets. Our findings were consistent with those presented by Desai and

Dharmapala (2009a), Wilson (2009) and Abdul Wahab and Holland (2012) in relation to other countries, each one to some degree. We can state then that tax avoidance activities do not always generate shareholder value as it had been once believed, and that these activity effects should no more be studied detached from corporate governance related issues.

Brazilian capital markets are thought to be underdeveloped. Nonetheless, we could find a significant association between BTM and Tobin's  $q$ . That means Brazilian (and foreign) investors are aware of the risks brought by high tax avoidance activity levels and are willing to adjust their stock return expectations to incorporate those risks.

We find evidences that corporate governance plays an important role in tax avoidance activity evaluations.

- The II and III models, the BTM coefficient estimate is higher than the BTM coefficient estimate, which suggests that BTM can be welcomed by investors If the firm belongs to a listing segment which represents a higher corporate governance level.
- If the firm belongs to the New Market segment (which supposedly provides the best protection for investors), increases in BTM and will have the net effect of increasing firm value. These results are similar to the one found by Armstrong, Blouin & Larcker (2015) which used quantile regression, a positive relation between board independence and financial sophistication for low tax avoidance levels, but a negative relation for high tax avoidance levels. These results indicate that these governance attributes have a stronger relation with more extreme tax avoidance levels, which are more likely to be symptomatic of over- and under-investment by managers.
- This last result is consistent with the findings of Desai and Dharmapala (2009a) and Wilson (2009), for whom tax avoidance activities generate more shareholder value in firms with higher corporate governance levels.

There is one noteworthy limitation in the result and inference interpretations that can be made. Income taxes represent only a certain fraction of all taxes that Brazilian firms have to pay on a regular basis. Last report from Brazilian tax authorities (BRASIL, 2013) reveals that income taxes paid by firms amounted to 10,5% of the national tax revenue in 2011 and 9,4% in 2012. That suggests that BTM can convey only one facet of all tax avoidance activities. The present study remains valid, however, for providing comparable evidence to similar studies conducted elsewhere.

It was mentioned along this paper several times that the causality character was attributed to the relationship between tax planning and firm value. It should be noted that this causal relationship was not formally tested in this paper, but only presumed. This presumption is based on other studies done on the same subject. Furthermore, other research opportunities in the accounting-tax area were detected.

The content analysis of the explanatory notes may reveal unexplained tax planning indications, such as transfer pricing operations involving affiliates in tax havens, or the vehicle company creations with a view to fiscal consolidation of goodwill ascertained in the merger. These indication effects on the capital market remain unknown. In addition, other metrics can be constructed from information not used in this work, such as tax contingency provisions and their annual variations. Finally, data on judicial or administrative litigation (available for searching in the Procurt system of the Ministry of Finance) may reveal the company propensities to tax planning aggression.

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