The Sarbanes Oxley Act and Taxation: A Study of the Effects on the Tax Aggressiveness of Brazilian Firms

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Abstract

This paper investigates the effects of the Sarbanes-Oxley Act (SOX) on the tax aggressiveness of Brazilian firms that issued ADRs, in the period between 2004 and 2012. For this purpose, we analyzed the differences in tax aggressiveness between listed Brazilian firms subject to SOX and peer companies not subject to it. We measured tax aggressiveness according to the effective tax rate (ETR), long-run cash effective tax rate (CASH ETR) and the difference between book income and taxable income (BTD). The results indicate the absence of a significant relationship between the two sets of firms according to the tax aggressiveness metrics applied. In practical terms, the results evidence that the implementation of more stringent internal controls does not inhibit aggressive tax practices of Brazilian firms. This study contributes to the literature on long-run tax avoidance. It also contributes to the internal control literature by demonstrating that certain internal control disclosures contain information beyond financial reporting.

Keywords: Sarbanes Oxley Act; tax aggressiveness; corporate tax avoidance.

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1 INTRODUCTION

Tax governance is associated with good tax management practices, involving lawful tax planning, or legitimate tax avoidance, achieved through a set of management procedures with the objective of improving control and revising procedures to reduce tax expenses without raising the risk of being audited, as well as to increase the transparency, trustworthiness and reliability of the financial statements.

The theme of tax governance has gained greater importance with the movement toward improved overall corporate governance practices after the fraud scandals that emerged in the United States in the early 2000s (especially Enron and WorldCom). The unexpected bankruptcies of these two companies as well as the former's auditor, Arthur Andersen, revealed serious governance problems and acted as sparkplugs to pressure regulators and lawmakers into establishing stricter rules. Chief among these was the Sarbanes-Oxley Act. While the combination of this law and more rigorous regulatory rules has brought many benefits (Holmstrom & Kaplan, 2003), it also has imposed added costs (Engel, Hayes & Wang, 2007). The main cost is for compliance with the more stringent rules on internal controls and auditing, while the improved corporate governance has brought several direct and indirect benefits (Funchal & Gottlieb, 2011).

Therefore, our aim is to analyze the potential effect of the Sarbanes Oxley Act on Brazilian firms' tax management practices. Two specific situations motivated this aim. First, SOX is a rigorous corporate governance mechanism, and second, Brazil's tax system is very complex and the weight of taxes on the cost structure of firms and on the business environment in general is considered very high.

To illustrate the heavy tax burden placed on Brazilian firms, not only by the taxes themselves, but also the expense for compliance, we can refer to a study carried out by the National Revenue Attorney's Office in 2012, which showed that the net tax expense of Brazilian firms rose from R$ 271.8 billion in 2002 to R$ 835.5 billion in 2011, an increase of 207% in a decade. We can also cite a study by the Brazilian Institute of Tax Planning (IBPT) demonstrating that between the promulgation of the current Federal Constitution in 1988 and 2011, more than two new tax rules were issued per hour, variously creating new levies, changing the applicable rates (mainly upward) and altering the record-keeping and reporting requirements.

This leads to a question: Could the Sarbanes Oxley Act really influence the tax management of Brazilian firms that are subject to its rules (because of issuing level 2 or 3 ADRs)?

Just as in the case of corporate governance, better tax management or governance practices aim to improve the transparency of information supplied to stockholders and the market, with the difference being that the focus is on tax information, which necessarily includes accounting data. Therefore, tax governance is a sub-category of corporate governance, and SOX, by establishing more rigorous overall governance rules, could have impacted tax management.

In this context, our aim is to look for empirical evidence of a relationship between SOX and tax management by Brazilian firms. For this purpose, we compared listed Brazilian firms with level 2 or 3 ADRs (treatment group) in comparison with their peer firms only listed in Brazil, or issuers of lower level ADRs not subject to SOX (control group). We also analyzed the two groups of firms separately in the period before and after the inclusion of Section 404 in the Act, which made it mandatory for foreign companies in 2006.

We measured tax aggressiveness with three tax avoidance metrics commonly used in the literature (e.g., Hanlon & Heitzman, 2010): the effective tax rate (ETR), long-run cash effective tax rate (CASH ETR) and book-tax differences (BTD).

2 REVIEW OF THE LITERATURE

According to Zingales et al. (2010), the large and numerous corporate fraud scandals that occurred in the United State shortly after the turn of the century prompted Congress to enact the Sarbanes-Oxley Act (SOX). As argued by Arping & Sautener (2011), SOX is the most important reform of corporate law in the history of the United States, with the main objective of protecting investors by improving the precision and reliability of the financial information disclosed by listed corporations. One of these mechanisms is the requirement to create internal committees to assure better independence of external auditing and more accountability of directors and officers for the financial information disclosed, thus enhancing transparency (Funchal et al., 2008).

The various rules of SOX apply not only to listed American firms, but also to foreign companies that issue ADRs. This application to foreign companies is established in Section 404 of the law, applicable as of 2006. The importance of Section 404 is that it sets the bar higher regarding financial disclosures and internal management controls, to assure better efficacy of these controls and more independence of the audit process, thus making financial data more reliable (Bryen & Lilien, 2005).

2.1 SOX, Corporate Governance and Tax Aggressiveness

Since the objective of this paper is to investigate the effects of SOX on the tax aggressiveness of Brazilian firms, it is first necessary to understand the relationship of SOX with corporate governance and tax aggressiveness. According to Funchal & Gottlieb (2008), the Sarbanes-Oxley Act, also known as the "Company Accounting Reform and Investor Protection Act", imposed stricter rules on executive compensation and accountability, internal controls and punishment of fraud, besides strengthening monitoring by shareholders. These changes induced more conservative behavior by managers, mitigating negligent behavior and moral hazard, such as by inhibiting risky investment decisions with the main aim of increasing personal gains. This greater conservatism also reduces the propensity of manipulate the financial statements, and consequently the numbers revealed to the market, and indirectly has an influence on stock prices.

Further according to Funchal & Gottlieb (2008), the law includes various provisions intended to improve monitoring by the board of directors, especially to increase the power, responsibility and independence of the audit committee (it is charged with hiring the

independent auditors and it must be formed of at least three directors who meet the law's independence requirements).. These stricter monitoring requirements reduce the chances of moral hazard problems and opportunistic behavior.

Finally, SOX increased the potential liability of the officers, by imposing rigorous criminal penalties on the CEO and CFO for misconduct, thus inducing less opportunistic behavior by managers, raising the "cost of wrongdoing". In short, the requirements imposed by SOX induce an improvement in corporate governance.

According to Correia & Amaral (2006), there is no single universal definition of corporate governance, although virtually all scholars of the theme consider good governance fundamental for companies to act in line with the interests of their shareholders, mainly the financial interests.

In relation to tax aggressiveness, Machado (2011) states that the aim of tax management is, through legal forms, to reduce the tax burden of companies, to improve their performance and market value. Desai & Dharmapala (2006) describe tax management as a mechanism for legal transfer of resources from the government to companies by lowering the tax bill. In this same line of reasoning, Bankman (1999), Graham & Tucker (2006) and Wilson (2009) state that tax management is an activity that creates value for shareholders.

Therefore, the connection between corporate governance and tax aggressiveness is the common objective of increasing the firm's value, by maximizing its performance. Hanlon & Slemrod (2007) corroborate this affirmation, because the lower the tax burden, the more profits there will be to distribute to stockholders and the more valuable their shares will be. However, some studies have found evidence that managers often use opportunistic artifices to minimize the tax burden, i.e., they behave too aggressively.

Desai & Dharmarpala (2007) discuss how the corporate governance and tax management mechanisms can interact to the detriment of firms. The basic intuition in this respect is that the search for efficient tax management can encourage the adoption of complex and obscure structures that contribute to opportunistic behavior in pursuit of interests that do not favor those of shareholders. As in other situations of potentially conflicting interests, the agency problem applies here (Watts & Zimmerman, 1986; Fields, Lyz & Vicent, 2001; Shackelford & Shelvin, 2001; Zimmerman & Goncharov, 2005).

Some studies have found evidence of a relationship between corporate governance and tax aggressiveness. For instance, Desai, Dyck & Zingales 2007 analyzed the interaction between the tax burden and corporate governance, finding that the characteristics of a tax system affect the extraction of private benefits by members of the company. Further, according to them, a higher tax burden indicates worse governance and increases the probability that managers will divert income into their own pockets. On the other hand, despite the increase in the tax burden, stronger tax enforcement by the government can reduce the chance for diversion of funds within the firm, and by doing so increase the market value. The system of corporate governance affects the level of taxable income. When the corporate governance is ineffective (or when it is easy to divert income), an increase in the tax rate can lead to a reduction in taxable income. The above authors tested this prediction in a panel of countries. According to the model, they identified that an increase in the corporate tax rate has a lower impact on tax revenues when corporate governance is weak.

Wilson (2009) examined whether the use of tax havens is associated with effective tax planning that generates wealth for shareholders, of whether tax havens are used by managers to extract wealth from the company. The results indicated that firms that use tax sheltering together with strong corporate governance present positive abnormal return performance, while firms that use tax havens with poor corporate governance exhibit significantly lower abnormal returns. The findings also indicated that tax sheltering is a tool for wealth creation in well-governed firms, while the benefit of tax sheltering is attenuated in firms with poor governance.

Desai & Dharmapala (2009) tested alternative theories of tax avoidance using unexplained differences between income reported to the capital market and to tax authorities. Their results indicated that the effect of tax avoidance on firm value is a function of corporate governance and that tax avoidance when combined with good governance practices increases firm value.

Crocker & Slemrod (2005) examined tax planning practices together with the agency theory developed by Jensen and Meckling in 1976, and concluded that the penalties imposed on firms' CFOs are more efficient in reducing tax evasion than those imposed on shareholders.

According to Owens (2008), questions of taxation and corporate governance are connected in various contexts. One set of issues is how to assure that taxation concerns do not encourage behavior that is contrary to the company's or stockholders' interests. Another set of questions is how to guarantee transparency and quality of decisions in the tax area, and how to ensure that management, shareholders and other stakeholders are aware of the stakes involved in managing taxes. For him, corporate governance depends on financial and tax rules and the institutional environment, and the evidence indicates a correlation between corporate governance and taxation.

Minnick & Noga (2010) analyzed how corporate governance influences long-term tax management as well as firms' profits. The results suggested that good corporate governance improves performance and firm value by means of tax management.

The papers mentioned above aimed to identify the existence or not of a correlation between corporate governance and taxation, by evaluating the relationship with the use of various mechanisms of corporate governance and on various aspects, such as the agency problem and conflict of interest, tax evasion, tax avoidance, the existence of tax havens, the nature and environment of corporate governance, maximization of financial results and increase of firm value through tax management. All the authors aimed to contribute to the literature by shedding light on whether good corporate governance brings benefits from the tax standpoint.

This article adds to the debate by investigating whether the Sarbanes Oxley Act, by requiring a higher level of corporate governance, had an influence on the tax aggressiveness of Brazilian firms. The Brazilian setting is of particular interest due to the country's fragile institutional structure and low level of investor protection, combined with a heavy tax burden and complex and in many aspects unfair tax system. To do this, we compare Brazilian firms listed only in Brazil (on the BM&FBovespa) or issuers of level 1 or Rule 144-A ADRs and firms listed in Brazil that also issue level 2 or 3 ADRs. Hence, some brief explanation of this type of security is in order.

JP Morgan created the first depositary receipt (DR) in 1927 for the English retail chain store company Selfridges. The idea was that increasing globalization and the appetite of investors for diversification had created a favorable climate for such a program, enabling firms to broaden their base of investors and sources of capital. Although depositary receipt programs can be structured in a variety of ways, there are two basic options:

i) American Depositary Receipts (ADRs), which allow international firms to access the capital market in the United States; and
ii) Global Depositary Receipts (GDRs), which enable firms to tap sources of capital from the United States and other markets (typically in Europe).

There are four ADR levels: those that can only be placed privately with qualified institutional investors (Rule 144); those that can only be traded in over-the-counter markets (level 1, or OTC facility); those that are listed for exchange trading (level 2, or listing facility); and those involving floating a new public offering (level 3, or offering facility). Issuers of ADRs at levels 2 and 3 are subject to the SOX rules, meaning they must have higher levels of corporate governance.

3 METHODOLOGY

3.1 Selection and Treatment of the Sample

Our sample, obtained from the Economática database, consists of 469 firms listed on the BM&FBovespa between 2004 and 2012, with a total of 3,093 firm-year observations. We excluded financial institutions from the sample because they have different governance requirements and accounting rules. We divided the firms between those with and without ADRs and between those required and not required to follow the rules of the Sarbanes Oxley Act.

We used three metrics to measure tax management (aggressiveness): effective tax rate (ETR), long-run cash effective tax rate (CASH ETR) and book-tax differences (BTD), as proposed for analysis of corporate tax avoidance by Hanlon & Heitzman (2010). According to Minnick & Noga (2010), the ETR is a good measure of tax management because, as the name suggests, it measures the actual tax rate paid by companies. In turn, Dyreng, Hanlon & Maydew (2008) argued that CASH ETR is a better proxy to measure lawful tax planning over the long run, because it takes into account not only the actual taxes paid in the current year, but also the effects of deferred taxes or tax credits in future years.

Hanlon & Heitzman (2010) define book tax differences (BTD) as the difference between book or accounting income and taxable income. This difference can arise because the taxable income is subject to different rules than accounting income, so that companies can legitimately report different values. Another relevant aspect of BTD, according to Tang et al. (2010) is its ability to measure the quality of profits, due its ability to serve as proxy for opportunistic management behavior. In other words, BTD can be used as a metric both of earnings management and tax management. For this reason, Halon & Heitzman (2010) claim it is one of the most important themes in the literature.

Chart 1: Metrics and calculations

Metrics	Calculation	Objective
Efective Tax Rate – ETR	ETR = Tax expenses / EBIT	Captures the ratio of tax expenses to pre-tax earnings.
Cash Efective Tax Rate – CASH ETR	CASH ETR= $\frac{\sum Tax\ Expenses}{\sum EBIT}$	Captures the long-term effective tax rate (every 3 years during 9 years)
Book Tax Differences – BTD	BTD = EBIT – Taxable Income	Captures the difference between book income (pre-tax earnings) and taxable income.

Remark: Taxable income is calculated as the ratio between tax expenses and the nominal corporate tax rate (34%). it, please explain.

We divided our sample into two groups, the treatment group (issuers of level 2 and 3 ADRs, which are subject to the SOX rules), and the control group (issuers of level 1 and Rule 144-A ADRs and firms without ADRs, which are not subject to SOX.

Table 1: Frequency of firms regarding ADRs

	Frequency	Percentage
ADR levels 2 and 3	260	8.40%
144-A ADRs	382	12.35%
Non-issuers	2,451	79.24%
Total	3,093	100%

Source: Prepared by the authors.

The hypotheses tested here are:

- *H0. a* – The Sarbanes Oxley Act has no relationship with the effective tax rate.
- *H0. b* – The Sarbanes Oxley Act has no relationship with the long-run cash effective tax rate.
- *H0. c* – The Sarbanes Oxley Act has no relationship with the difference between book income and taxable income.

The corresponding models are mathematically described as:

$$ETR_{it} = \alpha_{it} + \varphi_t + \beta adr_{it} + \delta_1 adr.sox + \delta_1 pl_{it} + \delta_2 roa_{it} + \delta_3 rec_{it} + \delta_4 at_{it} + \varepsilon_{it}$$

$$CASH\ ETR_{it} = \alpha_{it} + \varphi_t + \beta adr_{it} + \delta_1 adr.sox + \delta_1 pl_{it} + \delta_2 roa_{it} + \delta_3 rec_{it} + \delta_4 at_{it} + \varepsilon_{it}$$

$$BTD_{it} = \alpha_{it} + \varphi_t + \beta adr_{it} + \delta_1 adr.sox + \delta_1 pl_{it} + \delta_2 roa_{it} + \delta_3 rec_{it} + \delta_4 at_{it} + \varepsilon_{it}$$

Where:

- ETR = effective tax rate, the dependent variable of the model;
- CASH ETR = long-run effective tax rate, the dependent variable of the model;
- BTD = the difference between book income and taxable income, the dependent variable of the model;
- αi = the fixed effect estimated for each company independent of time;
- $\mathbf{adr_{it}}$ = 1 if the company issued ADRs in period t and zero otherwise;
- SOX_t = 1 after 2007 and zero otherwise.

To observe the shock, we took into consideration Section 404 of SOX, which covers the requirement for reports on internal controls and also made SOX mandatory for foreign companies with securities traded on exchanges in the United States starting in 2006. Therefore, the experiment considering SOX starts in 2006.

We used the following control variables in the model:
bv = book value of equity;
roa = return on assets;
rev = gross revenue;
ta = value of total assets;
ϵ = error term, for which we assumed mean zero and constant variance among the units examined.

4 RESULTS

This section investigates the correlation between ETR, CASH ETR and BTD on the one hand and the effectiveness of SOX on the other.

Table 2: Results of the tests – ETR

Number of observations			3090	
F(451, 2608)			0.000	
Prob > F			0.000	
R^2			0.1447	
Standard error			27.977	
ETR-tax	Coeff.	Standard error.	T	P>t
ADR.SOX	-2.11539	1.678039	-1.26	0.208
ADR	0.763594	1.827992	0.42	0.676
BE	3.07E-09	1.21E-08	0.25	0.8
Total revenue	-2.47E-09	2.45E-08	-0.1	0.92
ROA	7.98E-06	3.21E-05	0.25	0.804
Total assets	-1.79E-09	5.02E-09	-0.36	0.721

Table 3: Results of the tests – CASH ETR

Number of observations			1059	
F(361, 616)			0.000	
Prob > F			0.000	
R^2			0.3441	
Standard error			61.314	
CashETR-tax	Coeff.	Standard error	t	P>t
ADR.SOX	5.701953	5.386748	1.06	0.29
ADR	3.327536	3.119968	1.07	0.287
BE	-5.19E-08	6.47E-08	-0.8	0.423
Total revenue	9.30E-08	1.43E-07	0.65	0.516
ROA	3.64E-05	0.000164	0.22	0.824
Total assets	1.67E-08	1.91E-08	0.87	0.382

Table 4: Results of the tests – BTD

Number of observations			3091	
F(361, 616)			0.000	
Prob > F			0.000	
R^2			0.6657	
Standard error			64.000	
Btd-tax	Coeff.	Standard error	T	P>t
ADR.SOX	185575.8	204211.7	0.91	0.364
ADR	-91364.96	51765.26	-1.76	0.078
BE	0.0087374	0.033168	0.26	0.792
Total revenue	-0.016223	0.023368	-0.69	0.488
ROA	4.829284	2.335846	2.07	0.039
Total assets	0.021045	0.020426	1.03	0.303

The results of Tables 2, 3 and 4 for the models with the inclusion of SOX, aiming to observe an exogenous shock in corporate governance levels, indicate that the relations between issuance of level 2 or 3 ADRs (representing a higher level of corporate governance) and the tax aggressiveness measures ETR, CASH ETR and BTD are not statistically significant. Therefore, even though there is a causality effect of the impact of SOX on the firms studied, there is no evidence that the enhanced corporate governance required by the Act influenced the tax aggressiveness of Brazilian firms according to the tax management metrics applied in the model. In short, the model proposed here points to no statistically significant effect of SOX on these three tax management metrics.

These results run counter to the theory proposed by most authors in the literature, as summarized here. A possible explanation for this is that most of the firms in the sample that were subject to SOX were also listed for trading in premium segments of the BM&FBovespa that require stronger governance, so they already had better tax governance than their peers not subject to SOX (of which a much smaller percentage were listed for trading in the enhanced governance segments). Another is that perhaps the tax management metrics applied here are independent of whether or not firms have a high level of corporate governance.

5 TEST OF ROBUSTNESS

To confirm the results of the model, we also performed a robustness test. The sample used in this test was taken from the databases of the magazine *Exame Melhores e Maiores* and of FIPECAFI. That sample contained 246 companies that disclosed consolidated statements of value added (SVAs) in the period from 2005 to 2009. This sample included both listed and unlisted firms, unlike the main sample, which only contained publicly traded companies.

Just as in the main sample, we divided the firms between that subject and not subject to the Sarbanes Oxley Act and excluded financial institutions. In this test we used a new metric to measure tax management, the amount of taxes paid as indicated in the SVA.

According to Law 11,638/2007, the SVA became a mandatory statement for listed companies starting in 2008, although many firms both listed and unlisted, started publishing this statement beforehand (the purpose of the law was to bring Brazilian accounting standards into convergence with IFSB, by amending the Law of Corporations). The objective of this statement is to demonstrate how companies' activities contribute to the economic and social development of the regions where they operate, by disclosing the wealth generated and its allocation. For our purposes, the information of interest is the allocation of taxes paid to the municipal, state and federal governments, which enables measurement of the tax burden.

Chart 2: Metric and calculation of the robustness test.

Metric	**Calculation**	**Objective**
SVA – Statement of Value Added	SVA = Value added paid to society in the form of taxes / Total value added	To capture the total tax burden of each firm.

Table 5: Frequency of firms regarding ADRs

	Frequency	Percentage
ADR levels 2 or 3	84	12%
Rule 144-A ADRs	98	13%
Non-issuers	548	75%
Total	730	100%

Source: Prepared by the authors

5.1 Hypotheses and model of the robustness test

The null hypothesis tested in the robustness test is:

H0 – The Sarbanes Oxley Act does not have any relationship with the allocation of value added to society in the form of taxes.

The corresponding model can be described by the following equation:

$$DVA_{it} = \alpha_{it} + \varphi_t + \beta adr_{it} + \delta_1 adr.sox + \delta_1 pl_{it} + \delta_2 roa_{it} + \delta_3 rec_{it} + \delta_4 at_{it} + \varepsilon_{it}$$

Where:

- SVA = the dependent variable of the model: the percentage of value added from payment of taxes in relation to the total distribution of value added;
- $\mathbf{adr_{it}}$ = 1 if firm i issued ADRs in period t and zero otherwise;
- SOX_t = 1 after 2007 and zero otherwise.

As before, to observe the shock we considered Section 404 of SOX, which covers the requirement for reports on internal controls and also made SOX mandatory for foreign companies with securities traded on exchanges in the United States starting in 2006. Therefore, the experiment considering SOX starts in 2006.

The control variables were the same as those used in the previous tests:
bv = book value of equity;
roa = return on assets;
rev = gross revenue;
ta = value of total assets;
ϵ = error term, for which we assumed mean zero and constant variance among the units examined.

5.2 Results of the robustness test

In this section we present the correlation between the value added to society in the form of taxes and the application of SOX to Brazilian firms.

Table 6: Results of the tests – SVA

Number of observations			725	
F(229,490)			5.10	
Prob > F			0.000	
R^2			0, 1342	
Standard error			17,870	
Dva-tax	Coeff.	Standard error	T	P>t
SOX-ADR 2,3	-0.3901890	0.0520808	-0.75	0.454
BE	1.23E-08	6.25E-09	1.96	0.05
Total assets	-5.70E-09	3.69E-09	-1.54	0.124
Total revenue	-1.97E-09	3.92E-09	-0.5	0.616
ROA	-0. 7120841	0. 0766562	-9.29	0

According to the results in Table 6, from testing the model with the inclusion of SOX to observe an exogenous shock on the firms' governance levels, the relationship between issuing level 2 or 3 ADRs (representing enhanced governance) and the dependent variable of tax management (SVA) is not statistically significant. Therefore, once again no causality effect of SOX on the companies studied here can be detected, meaning there is no evidence that being subject to SOX influenced the tax aggressiveness of firms, represented by the tax payments revealed in the SVA.

To summarize, the model proposed here indicates that the relationship between the Sarbanes-Oxley Act and the measure of tax aggressiveness proposed in this robustness test is not statistically significant. A possible explanation for this finding is that the sample was drawn from the 500 largest firms in Brazil, which may have already had good tax governance, so that SOX did not have a sufficiently significant effect.

6 CONCLUSION

The main objective of this article was to verify the existence of a relationship between subjection of listed Brazilian firms to the rules of the Sarbanes Oxley Act, meaning higher corporate governance levels, and the firms' tax aggressiveness. For this purpose, we applied a regression model with the dependent variables ETR, CASH ETR and BTD, and independent dummy variables to indicate groups of firms affected and not affected by SOX, along with the control variables total assets, total revenue, book value of equity and return on assets.

The primary justification for this study is the high tax burden in Brazil and the country's complex and in many respects unfair tax legislation. Another justification is the

fragile institutional structure in Brazil, with weak investor protection, providing a good setting to investigate whether firms with high governance levels really obtain benefits from a tax standpoint because of higher information quality regarding their tax and/or accounting results, a feature directly linked to the quality of earnings. In the final analysis, this investigation sheds light on to what extent better corporate governance enhances the creation of value for shareholders through tax management.

The results point to a weak relationship between subjection to SOX because of issuance of level 2 or 3 ADRs and the tax aggressiveness metrics employed. In other words, we did not find evidence of an influence on tax aggressiveness, measured by the metrics ETR, CASH-ETR and BTD, of having higher levels of corporate governance.

To confirm these results, we also applied a robustness test, using as a metric of tax management the amount of taxes reported by firms in the statement of value added (SVA). The results of this robustness test confirmed the results of the principal test, also showing no statistically significant relationship between subject to SOX and allocation of added value to society in the form of tax payments.

This might have occurred because the sample in the main test was composed of publicly traded companies, and most of those subject to SOX (by issuing level 2 and 3 ADRs) were listed in premium governance segments of the BM&FBovespa, while in the case of the robustness test, the firms were drawn from among the 500 largest in Brazil. In both cases, the sample with respect to firms subject to SOX was perhaps biased toward firms with good overall governance and tax governance, so that the additional effect of SOX was not sufficiently significant.

These results (both the main ones and those of the robustness test) run contrary to the generally accepted theory. A possible explanation is that the quality of tax management, as measured by the effective tax rate, the long-run cash effective tax rate, book-tax differences and allocation of added value to tax payments, is independent of having better corporate governance.

These results are of course limited to the firms studied, here and the unique features of the Brazilian institutional landscape regarding accounting rules and tax laws, so it is not possible to generalize the results to other groups of companies or other settings. Finally, it is not possible to conclude that having better governance by being subject to SOX influences tax management, because the results presented do not prove this hypothesis.

In practical terms, there is no way to affirm that the existence of better internal controls resulting from the rules established by the Sarbanes-Oxley Act altered the tax aggressiveness profile of the sampled firms in the years studied. To sum up, despite the strong empirical evidence that better internal controls improve the quality of accounting results, these rules alone did not appear to have a significant effect in reducing the tax aggressiveness of the firms during the period studied. Firms with better and more sophisticated internal controls do not seem to be significantly likely to be less aggressive in their tax management.

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