1 - INTRODUCTION

Shleifer and Vishny (1997) highlight the enormous practical importance of GC. Despite the common-sense perception that investors are willing to pay more for firms with best CG practices, the doubt still persists over how the relationship between CG and performance is constructed in Latin America (Chong and Lopez-de-Silanes, 2007). Minority shareholder protection varies widely around the world and different legal origin partly explains it (Lopez-de-Silanes et al., 1998). All Latin American countries, however, share a common origin in civil law and their capital markets may offer a below-average minority shareholder protection relative to other civil law nations (Chong and Lopez-de-Silanes, 2007). The voluntary adoption of better CG practices may partially compensate investors for this weak institutional environment (Garay and González, 2008).

Our main objective is to produce a quantitative synthesis of CG and its correlation with performance in the region. We also intend to determine whether the differences between studies occur due to moderating effects, such as the mechanisms thorough which CG is exerted, and the performance measure used. To the best of our knowledge, this is the first study that seeks to undertake a systematic review of the Latin American literature on CG and performance using meta-analytic techniques and that also includes articles published in Portuguese and Spanish in the academic journals of the region, which may be overlooked by non-native speakers. Thus, we endeavor to be as inclusive as possible and our contribution is to provide a broad picture of the topic in the region at the time of our research. This consolidation also contributes to enable researchers throughout the world to glimpse at published results in Portuguese and Spanish in local journals as well as have a portrait of the regional literature about the topic. This article, however, is not a traditional literature review, and does not intend to offer a detailed account of the selected literature.

Companies exert their CG practices through many means or mechanisms, which shall reduce agency conflicts and help the alignment of interests (Goranova et al 2017). The most commonly studied CG mechanisms are the board of directors, the monitoring by large shareholders (ownership structure), and the compensation system to align incentives (Goranova et al., 2017; Dalton et al., 2007). Naturally, there are other CG mechanisms, such as internal controls, internal and external audit, monitoring by analysts, and disclosure practices (Brown et al., 2017; Dalton et al., 2007). Brown et al. (2017), Goranova et al. (2017) and Denis (2012) offer recent reviews of the evolution of many of these mechanisms.

Companies employ these CG mechanisms simultaneously (Brown et al, 2017). CG scores or categorical variables denoting the joining of premium listing segments or markets with more stringent CG demands are metrics that try to capture the joint effect of the adoption of a number of these mechanisms.

This study searched for articles addressing the three most commonly studied mechanisms as well as broader CG metrics and performance in Latin America. Thus, the queries used the keywords 'corporate governance', 'ownership structure', 'ownership concentration', 'board of directors', 'CEO duality', 'board independence', 'executive compensation', and 'Latin America' and their equivalents in Portuguese and Spanish to search several global and regional databases of scientific articles.

The results suggest that the relationship between CG and performance is positive and significant in the fixed effects model. The hypothesis of sample homogeneity was not rejected in the analysis of uncorrected effect sizes (correlations representing this relationship), indicating that the set of studies analyzed refer to the same population. However, this result does not hold when the effect size is corrected. To assure the robustness of the results we use a mixed effects model to analyze the influence of possible moderators, indicating the presence of certain CG mechanisms. In this case, the evidence indicates that the study of CG through the mechanisms of the board of directors, ownership and control structure, broad CG indices and adoption of codes and joining in special CG trading segments, significantly moderate the relationship between CG and performance. This sign of this relationship, however, is negative for the ownership structure and board of directors and positive for broad measures of the adoption of GC practices.

2 – REVIEW OF THE LITERATURE AND RESEARCH QUESTIONS

The adoption of CG mechanisms is seen as being positive for both firms and capital markets and national economies (La Porta et al., 2000). Firms that adopt good GC practices raise capital more easily and lower its cost of capital, which in turn may have a positive effect on performance and firm value (Shleifer and Wolfenzon, 2002; Stultz, 1999). Thus, a natural and general research question in this article addresses its overall objective: Is there is an empirical relationship between CG and performance in Latin America?

A review of the existing literature on GC and performance, including the meta-analyses already produced on the theme with an international reach, indicates a potential

number of moderating influences in this relationship. CG is a broad concept and its goals are operated and attained through a number of mechanisms. Moderators are mechanisms through which CG goals may be achieved but none of them represents the CG concept as a whole. It is expected that moderators are related to the overall CG quality, but they are not the same as CG in general. Moderators, therefore, consist of the different ways of operationalizing and studying GC in the context of this study.

CG encompasses many mechanisms that can be adopted separately or together. Goranova et al. (2017) and Dalton et al. (2007) affirm that three of them are the most commonly studied: the ownership and control structure (La Porta et al., 1999); the board of directors and its characteristics, such as size (Eisenberg et al., 1998; Yermack, 1996) and composition (Hermalin and Weisbach, 1991); and executive compensation (Bebchuk and Fried, 2003). Siddiqui (2015) conducted a meta-analysis concentrating on firm-level CG mechanisms divided in two broad categories: internal and external mechanisms and only external. According to Siddiqui (2015), external mechanisms, such as anti-takeover measures, are absent in countries where ownership is concentrated; therefore, takeover markets are non-existent. Internal CG mechanisms are more prevalent in these countries (mostly emerging economies, including the Latin American ones). Because of the specific characteristics of Latin American economies, as briefly presented in the paper, and corroborated by Siddiqui (2015), we do not believe that external mechanisms, such as country-level information, would be heterogeneous enough for these countries, particularly considering the dominance of Brazilian articles. Thus, the objective was to differentiate at the firm level instead of country level.

These internal CG mechanisms are often adopted simultaneously when firms, whether voluntarily or not, have to meet the demands imposed by best CG practices codes or listing requirements relating to special trading segments or more demanding stipulations in other markets, as in the case of the special CG levels of the Brazilian stock exchange and ADRs, respectively. In an attempt to operationalize the simultaneous adoption of several mechanisms, the literature on emerging markets used broad indices scoring CG practices (Black et al., 2014; Klapper and Love, 2004; Leal et al., 2015) and categorical variables denoting the joining of special segments (Carvalho and Pennacchi, 2012; Lameira et al., 2007) and the adoption of CG codes (Franco and Montalván, 2010) as a way of measuring the overall quality of CG practices. In general, when assessed in broader terms, CG is positively related to performance in Latin America (Black et al., 2014; Black et al., 2012; Black et al., 2014; Braga-Alves and Shastri, 2011; Carvalhal-da-Silva and Leal, 2005; Garay and

González, 2008). The evidence also suggests that CG is positively related to performance when it is represented by categorical variables representing the voluntary adoption of a set of CG practices through listing or other means (Brugni et al., 2012; Carvalhal-da-Silva, 2012; Franco and Montalván, 2010; Lameira et al., 2007; Vilhena and Camargos, 2015).

Thus, the initial research question now has an operational version: Is there a positive relationship between CG, represented by broad CG scores or categorical variables marking the adoption of a broad set of CG practices, and performance in Latin America?

A growing body of literature has shifted the focus of agency theory analysis to the relations between controlling and minority shareholders. This approach is especially important in Latin American economies where a large number of firms have a controlling shareholder or conglomerate that exercises control through complex mechanisms such as pyramids, dual-class shares and shareholder agreements. In these cases, the ownership and control structure acts as a way of intensifying the expropriation of minority shareholders and the market may penalize these firms, reducing their value (Lins, 2003; Okimura et al., 2007; Rapaport and Sheng, 2010; Silveira and Dias Junior, 2010; Silveira et al., 2004). The evidence also indicates that the origin of the controlling shareholder can also have a negative impact on performance, as in the case of family firms and those controlled by the state (Bruno and Carvalhal-da-Silva, 2015).

However, other results suggest that having conglomerates as controllers is not negatively related to performance in environments with weak legal investor protection. The concentration of capital increases shareholder participation in the decision-making process and reduces agency problems with management, thus increasing the value of the firm (Campos, 2006; Carvalhal-da-Silva, 2012; Carvalhal-da-Silva and Leal, 2006; Lefort and Walker, 2007). It is important to highlight the existence of firms that congregate the main shareholders in a control block governed by a shareholder agreement. This ownership and control structure arrangement is situated between control exercised by a controlling shareholder and a firm with dispersed share capital, which is rare in the region. Leal and Carvalhal-da-Silva (2008) suggest that minority shareholders view this arrangement positively because the smaller shareholders who are signatories of the agreement can prevent predatory actions by the largest shareholder. The literature on ownership structure in Latin America thus presents conflicting perspectives and does not necessarily view concentrated control as being a negative factor. Therefore, it is not possible initially to determine the sign of the relationship between CG and performance when studying the ownership structure. This

relation constitutes another research question, with ownership concentration and characteristics controls for CG in general.

An active, diverse and independent board of directors is considered one of the main mechanisms for reducing conflicts of interest. There is a common-sense perception that its main function is to monitor management. The literature has sought evidence that suggests a relationship between its characteristics and firm value. These characteristics include size and composition (diversity, Chief Executive Office – CEO – duality, and the proportion of independent directors). The evidence suggests that investors are willing to pay more for the shares of firms that have independent board members (Gillan and Starks, 2003; Lefort and Urzúa, 2008). The results of studies carried out in Brazil show that firms that have different people occupying the positions of CEO and chairman of the board (Silveira et al. 2003), as well as those with two or more women directors (Carvalhal-da-Silva and Margem, 2015) have a higher market value. Thus, evidence indicates that another valid operational research question for this meta-analysis is if board characteristics controls are positively related to performance.

According to the agency theory perspective, the incentives given to managers are an important CG mechanism, as it is possible to limit the divergence of interests between the contracting parties that make up organizations by establishing appropriate incentives for agents and thus aligning their interests with those of shareholders (principals). The compensation plan may include company shares, stock options or cash, commissions, bonuses and benefits.

The Latin American literature that examines the relationship between compensation and performance is not abundant, due in part to the relative lack of information. The little evidence available is conflicting. On the one hand, it was found that firms that pay their executives more do not have a higher market value or better performance (Carvalhal-da-Silva and Chien, 2013) whereas other results indicate that the share prices of firms that adopt stock options increase (Perobelli et al., 2012). The relationship is either positive or non-existent, but it does not seem to be negative. Thus, a final operational research question is if there is a relationship between executive compensation controls and performance.

Other meta-analyses focused on the accounting and auditing areas (García-Meca and Sánchez-Ballesta, 2009; Lin and Hwang, 2010; and Habib, 2013), but none of them addresse the relationship between firm performance and CG mechanisms in Latin America. These articles addresses issues regarding earnings management and audit quality and opinions and CG practices. Even so, they are additional sources about the topic and the methodology.

3 – METHODOLOGY

Meta-analysis is the employment of statistical procedures to a large number of results with the aim of integrating and assessing them (Borenstein et al., 2009). Using this method it is possible to organize and synthesize various inferences regarding a common theme in order to obtain more robust conclusions (Borenstein et al., 2009; Cooper, 2010; Cooper et al. 2009). It also allows the assessment of the effect of different characteristics of the data on findings, revealing associations and relationships that cannot be perceived by using other systematic literature review methods (Cooper et al., 2009).

3.1 Search for the literature and sample

Data for meta-analysis is usually obtained exclusively from studies published in academic journals to ensure its quality (Schmidt et al., 1985). Thus, the search for literature concentrated on articles published in scientific journals that use Latin American firms as samples and perform regressions to examine the relationship between CG and performance. Initially, we used different combinations of keywords in English ('corporate governance'; 'ownership structure'; 'board of directors'; 'CEO duality'; 'board independence'; 'ownership concentration'; 'executive compensation'; and 'Latin America') and their equivalents in Portuguese and Spanish to search for articles that reported results on the relationship between CG mechanisms and performance. The equivalents in Portuguese used in the search were: 'governança corporativa'; 'estrutura de propriedade'; 'conselho de administração'; 'dualidade do CEO'; 'dualidade do diretor executivo'; 'independência do conselho'; 'concentração de propriedade'; 'remuneração executiva'; and 'América Latina'. The equivalents in Spanish used in the search were: 'gobierno corporativo'; 'estructura de propriedad'; 'junta directiva'; 'CEO dualidad'; 'dualidade del diretor ejecutivo'; 'independencia de la junta'; 'concentración de la propriedad'; 'compensación de lós ejecutivos'; and 'America Latina'. We must note that: it is common for articles that are not published in English to provide a title, abstract, and keywords in English; that all regional databases require English keywords to index articles; and that using English keywords in the databases makes our search easier to replicate, even though we did not limit our searches to this language.

We only searched databases that offer access to the full-text of the articles and, thereby, did not search indexers that do not provide this type of access (open access or not).

We used the keywords to perform a search of academic articles in three regional databases (Spell, Redalyc and Scielo) in addition to well-known international ones such as ABI-Inform, Wiley, Emerald and Science Direct. Spell is a Brazilian open-access scientific article indexer encompassing all business periodicals published in the country and currently includes 113 periodicals. Redalyc is an open-access scientific article indexer and database based in Mexico that encompasses Latin American and Iberian periodicals and includes 1218 of them. Scielo is a regional and Iberian open-access scientific article indexer and database and contains 1249 journals. As an additional effort to identify articles, we also consulted the most important journals in the finance and business areas that publish articles on CG frequently, examined references in recent articles and performed searches in résumés of researchers known for their work on CG as well as the Social Sciences Research Network (SSRN) working paper repository, which also includes abstracts of published articles (and then would search for the full-text article in the other databases).

The Brazilian scientific support and assessment policies induce all scientific journals published in the country to offer open-access. In other words, it would be impossible for a journal that charged subscriptions for online access to its articles to be favorably assessed by the Brazilian scientific assessment system, as well as depriving it of grants from scientific support agencies.

The searches resulted in a total of 51 studies, although nine were excluded because they did not have data that could be transformed into the effect size measure, which is the key metric of meta-analysis adopted in this article and described in the following section. Thus, the final sample was composed of 42 studies published between 2003 and 2015. The basic characteristics of the studies are detailed in Appendix 1. There were 31 studies about Brazil, four about Chile, two for Colombia and Mexico, each, and 1 for Venezuela, with two articles with regional samples. The large majority of the articles included in the meta-analysis focus on public-traded companies. The studies investigate various industries due to the variety of listed firms.

There is a dominance of Brazilian articles despite our effort to find non-Brazilian ones. There are few natural explanations for this, as well as some speculative ones, that could be addressed in future research. Brazil had the largest economy in the region (1.55 times that of Mexico in 2015, according to International Monetary Fund data) and the largest population in the region (1.67 times that of Mexico). These would be the more obvious reasons. Brazil also boasts a centralized and properly established, organized and funded scientific support and evaluation system, as well as a domestic graduate school accreditation system that are largely

based on research output quality metrics. The Brazilian periodicals evaluation only gives good rankings to those that are listed in one of the regional databases (Scielo and Redalyc) and that have a Scopus or Journal Citation Reports (JCR) impact factor. The Brazilian scientific evaluation system also stimulated the creation of domestic journals and, perhaps, this led to a proliferation of published articles, many of them in low impact periodicals. It is possible that the scientific support and evaluation systems in the other Latin American countries are not as well funded and organized, and did not place as much pressure on scholarly output, as the Brazilian one has been doing for a long time. Contrastingly, it is also possible that the evaluation systems in other countries had a higher periodical international impact demand and did not stimulate the creation of local periodicals, resulting in a lower number of published articles on the topic. Brazil also has the largest capital and stock market in the region, with the largest number of listed companies, and established a director's institute as well as a code of best CG practices in 1999, around the time when the first few articles about its CG appeared. Maybe the smaller capital markets of other countries did not motivate more CG research. Finally, it is possible that CG researchers in other Latin American countries used other outlets, such as books, book chapters, institutional working papers or report series, etc., which we did not search for. These are some of the more speculative reasons for a larger sample of Brazilian articles, whose investigation is beyond the scope of this study, but that could be addressed in future research. Yet, we address the dominance of Brazilian articles in the sample with a comparison of the analysis of the Latin American sample with one solely for the Brazilian sample.

3.2 Meta-analytic procedures

The effect size is the index used to represent and normalize the results of the studies reviewed in a meta-analysis sample (Lipsey and Wilson, 2001). Specifically, given the characteristics of CG studies, we use the Pearson correlation coefficient (r) as the effect size. It was not necessary for an article to focus primarily on the relationship between CG and performance and nor did the categorization of dependent and independent variables interfere. Thus, for an article to be included in the study it had to report r between the CG variables and performance. We used the formulas in Lipsey and Wilson (2001) to convert the t statistics into *z-statistics* and r when r was not reported. Various studies reported the p-value of the t statistic and, in this case, we used p-value tables for the conversion. When a study presented several correlations between CG and performance, we used only one correlation coefficient per study (the mean of the correlation coefficients) in order to ensure independence of

observations (Hunter and Schmidt, 2004). We adopt the Hunter and Schmidt (2004) meta-analytic procedures that have already been widely used in finance and CG (Ahmed and Courtis, 1999; Dalton et al., 2003; Dalton et al., 1998; Dalton et al., 1999; García-Meca and Sánchez-Ballesta, 2010; Rhoades et al., 2000; Rhoades et al., 2001). We adopted the Hunter and Schmidt (2004) meta-analytic procedures that have already been widely employed in finance and GC, and used the R package for meta-analysis to perform the calculations (Schwarzer, 2015). Because of the page limitation imposed by ARLA, the specific formulas were not presented in the paper**.**

We did not correct the statistical artifacts that are different from sampling error, such as range restriction and construct reliability in our initial analysis because the sampled studies did not provide this information. García-Meca and Sánchez-Ballesta (2010), Rhoades et al. (2001) and Tosi et al., (2000) did not perform these corrections as well. However, Dalton et al. (2003, 1998, 1999) corrected the effect sizes using a Cronbach's Alpha of 0.8 (which the authors consider conservative) as a measure of reliability. Following this orientation, we performed the correction of the effect sizes in a second analysis and present the alternate results. We also corrected the effect sizes using a Cronbach's Alpha of 0.9 but the results were the same as in the initial analysis.

We adopted a fixed effects model because the homogeneity hypothesis was not rejected in the initial analysis (Lipsey and Wilson, 2001). In the second analysis, however, we used a mixed effects model, which assumes that differences between studies are systematic (and can thus be explained through moderators) but there is still an unmeasured random component in addition to the sampling error. We seek to explain the heterogeneity between studies through moderators (the CG mechanism used), which are analogous to controls by means of dummy variables in a multiple regression setting. Furthermore, Thompson and Higgins (2002) suggested that it is appropriate to use meta-regressions to explore sources of heterogeneity even if an initial overall test for heterogeneity is non-significant, because the Chi-squared test has low power in testing for heterogeneity and therefore a non-significant result may not reliably identify lack of heterogeneity.

The general concept of the meta-regressions performed in the analysis may be thought of analogous to a common multiple regression model. The dependent variable are the performance measures of each observation (article) while the "explanatory variable" of interest is the effect size (r), whereas the moderating variables act as categorical variables (or controls) that indicate if a certain observation (article) contemplated a specific CG mechanism among those selected herein (ownership structure, board of directors, executive

compensation, a broad CG index or score, or a dummy variable denoting listing in a premium market listing or as an ADR, and the nature of the performance measure, accounting or market-based). Each article sampled will measure these concepts differently. Each one of these "controls" or moderators is introduced by itself, together with the effect size, in the meta-regression. They are not used simultaneously. The initial analysis, assuming sample homogeneity with Cronbach's Alpha of 1.0, does not include moderators. The second analysis, with Cronbach's Alpha of 0.8, includes the moderators, one by one.

Lastly, in order to address publication bias, largely discussed in the meta-analysis literature, we performed the calculation of the fail-safe number. Using Rosenthal's method, it would be necessary 360 unpublished studies reporting null results to make the relationships analyzed non-significant at a critical value of statistical significance (Alpha of 0.05). In this way, the fail-safe number can be interpreted as an indication of the stability of the relationship (García-Meca and Sánchez-Ballesta, 2010). We also calculated the fail-safe number using Orwin's and Rosemberg's methods, and the results were, respectively, 42 and 347 studies.

4 – PRESENTATION AND DISCUSSION OF RESULTS

We analyze the mean effect size of the relationship between CG and performance and the results are presented in Table 1. The effect sizes are the Pearson correlation coefficients obtained from the articles. The first two lines of Table 1 show statistics for the overall meta-analysis (42 articles). Lipsey and Wilson (2001) stated the dispersion of the effect sizes around their mean is solely due to sampling error in a homogenous distribution. Homogeneity cannot be rejected when we do not perform the correction of each observed effect size and consider Cronbach's Alpha equal to 1.0. The first line of Table 1 presents the ratio between estimated and total variance that describes the proportion of the total variability of the effect size, which is constituted of a heterogeneity and a sampling error component. Only 9.3% of the variability can be attributed to sample heterogeneity in this case with a non-significant Chi-squared test.

**** Insert Table 1 about here.

We then followed the guidelines in the meta-analyses of Dalton et al. (2003, 1998, 1999) and corrected the effect sizes observed considering Cronbach's Alpha equal to 0.8 in

order to ensure the robustness of the results. The second line of Table 1 shows that homogeneity is rejected in this case (significant Chi-squared test), indicating that there may be differences between the corrected effects sizes of the studies included in the meta-analysis that are not explained solely by sampling error.

Even though the first result is consistent with the seminal conclusion of Shleifer and Vishny (1997) that better CG may lead to performance improvements, the second result suggests that one needs additional analysis to address our main research question. We follow Lipsey and Wilson (2001) who proposed different moderators that can help explain the relationship between CG and performance. The moderators were considered one by one jointly with the effect size, and not simultaneously.

Table 1 shows that the ownership and control structure and board of directors are significant and negatively associated with firm performance. The high concentration of ownership and control characteristic of the region, particularly of Brazil, leads to a negative relationship between CG and performance, possibly due to a greater risk of abuse by the larger shareholders that may also employ several control enhancement mechanisms, such as pyramids and dual-class shares (Lins, 2003; Okimura et al., 2007; Rapaport and Sheng, 2010; Silveira and Dias Junior, 2010; Silveira et al., 2004). Sánchez-Ballesta and García-Meca (2007) also reviewed the relationship between ownership structure and performance using a meta-analysis and concluded that controlling shareholders do not constitute an efficient mechanism for monitoring firms and thereby positively influencing their results. These authors suggest that this evidence confirms La Porta et al. (1999) e Shleifer and Vishny's (1997) findings about ownership structure. We believe that this result is valid for the whole region because ownership concentration levels are high in all countries (Chong and Lopez-de-Silanes, 2007).

A significantly negative relationship also emerges when the moderating effect is the board of directors. This is somewhat consistent with the meta-analysis of Dalton et al. (1998) that evinces little to support a positive relationship between board composition and performance. However, Rhoades et al. (2000) conclude that board composition has a weak positive effect on financial performance whereas the meta-analyses of Rhoades et al. (2001) and Dalton et al. (1999) indicate a positive relationship between CEO duality and board size, respectively, and performance. If the larger shareholders dominate boards throughout the region, which is expected given ownership concentration, then the negative result between the board of directors moderating variable and performance is not surprising.

Boards are not merely an administrative monitoring body, but constitute an

environment in which personal relationships among directors and managers often guide decisions. Subrahmanyam (2008) found that directors include managers in their social network and are consequently reluctant to monitor them more rigorously. The author holds that social networks may reduce the ability of directors to monitor and increase executive compensation, influencing firm value negatively. The author also suggests that directors may depend more on the success of their social networks and monitor managers less. Fracassi and Tate (2012) verified that powerful managers recruit directors who are closer to them and that firms with a greater number of directors linked to the CEO destroy their value significantly in operations involving the acquisitions of other firms. In Brazil, Santos and Silveira (2007) show that board interlocking is a frequent practice and that it reduces firm value. Once again, this negative effect is consistent with the evidence for the region given the influence of large shareholders on boards in highly concentrated ownership.

CG represented by broad indices or scores and the joining of special trading segments or issuing ADRs, as moderators, display a positive and significant relationship with performance. These results confirm those in the literature about the region (Black et al., 2014; Black et al., 2012, 2014; Braga-Alves and Shastri, 2011; Brugni et al., 2012; Carvalhal and Leal, 2005; Carvalhal-da-Silva, 2012; Franco and Montalván, 2010; Garay and González, 2008; Lameira et al., 2007; Vilhena and Camargos, 2015) and show that despite the marked concentration of ownership and control and the inefficiency of boards of directors, other CG mechanisms working in tandem are able to offset structural deficiencies and can even be associated with superior performance. Executive compensation mechanisms did not exhibit significance perhaps because few studies have been devoted to this theme in Latin America or because the close monitoring of large shareholders keep executive compensation levels low. There is no prior reason to believe that these last two results would solely be valid in Brazil due to the dominance of Brazilian articles in the sample.

Finally, to address the issue of the dominance of Brazilian articles in the sample, the analysis in Table 1 was repeated excluding the non-Brazilian articles. The detailed results are not reported herein but are available from the authors. There were only two important differences relative to Table 1. The board of directors' moderator was no longer significant, indicating that the negative effect reported for the whole sample may derive from non-Brazilian articles. The heterogeneity indicated in Table 1 was lower for the Brazilian sample, even though it remained significant, which is not surprising. All in all, the results reported with or without the non-Brazilian articles are largely in harmony. There were only nine non-Brazilian articles, precluding their analysis as a separate alternate sample.

5 – CONCLUSION

This meta-analysis examined the relationship between CG and performance in Latin America through the integration of empirical results from 42 studies – many published in Portuguese and Spanish. The sample is homogeneous for values of Cronbach's Alpha greater than 0.9 and the evidence suggests that CG practices are positive and significantly associated with firm performance.

For Cronbach's Alpha of 0.8, the sample is no longer homogeneous, and it is necessary to include "controls" for different CG mechanisms, or metrics. The meta-analysis results, in this ensuing investigation, indicate that the board of directors and ownership and control structure are negatively and significantly associated with firm performance. This result is not surprising given the high ownership concentration levels in the region and the likely power large shareholders exert on boards. However, the relationship between CG and performance becomes positive and significant when studies represent CG through broad scores of practices, the listing in special trading segments, or the issuance of ADRs. Garay and González (2008) hold that the low level of minority shareholder protection provides firms with an opportunity to differentiate by adopting a wide range of CG practices as a compensation mechanism for the weak institutional environment. Thus, control concentration and boards may not be effective means of shareholder wealth maximization in the region but other CG practices, such as better disclosure, may compensate for these negative effects. More studies are needed to understand the dynamics between board and ownership structure with other CG mechanisms, such as transparency and executive compensation.

The results of this study should be interpreted with caution due to the limitations inherent in the method. As in the case of most meta-analyses, effect sizes were calculated based on Pearson correlations between the CG variables and performance. This means that there are no controls for reverse causality and CG variable endogeneity. In addition, this study is based exclusively on published studies and may produce biased conclusions due to the inclusion of articles that describe significant results. It is also important to mention that the result of a meta-analysis depends on the number of studies reviewed. Thus, meta-analyses that aggregate a larger number of effect sizes or analyze different moderators may produce findings that are different from those presented herein. We also acknowledge the limitations related to the combination of effect sizes from different countries, periods and operational definitions of the variables involved, which are inherent to meta-analyses. Brazilian articles

dominated the sample despite our efforts to systematically search for studies on the relationship between CG and performance in the region. It is possible that some important ones may have been overlooked due to our search procedure. Yet, an alternate analysis solely with Brazilian articles was largely in tune with the Latin American sample results.

In addition, we suggest that future studies perform an in-depth investigation into each of the CG mechanisms singled out as possible moderators in this study and those that were not cited, such as information transparency and disclosure and institutional investors and acquisitions. Country-level moderators could also be employed provided that the sample is expanded to more countries, ideally outside the region, to reduce the dominance of Brazilian studies. Future research could also address why there was a dominance of Brazilian articles in our sample and verify additional sources, such as books, book chapters, local periodicals not indexed in our sources, and institutional report or working paper series, even though the inclusion of non-refereed publications may be problematic.

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**** Insert Appendix 1 about here.

TABLE 1

Meta-analysis results for CG and performance

	Observed *r*	Corrected *r*	Estimate of residual amount of heterogeneity	I^2 (%)	X^2
Overall results at 1.0 reliability	0.051	0.051***	0.0004	9.3	45.19
Overall results at 0.8 reliability	0.051	0.058***	0.0037	42.8	71.73***
CG mechanism studied					
Board of directors	-0.050	-0.056*	0.0030	35.7	65.88***
Ownership and control structure	-0.050	-0.061**	0.0027	33.6	63.77***
Premium segments and ADRs	0.069	0.083***	0.0020	26.9	58.12**
CG índex	0.070	0.084***	0.0021	27.9	58.70**
Compensation	0.007	0.005	0.0037	40.2	71.64***
Performance measure					
Market-based	0.001	-0.005	0.0037	41.0	71.70***
Accounting-based	0.068	0.080***	0.0020	27.4	58.20**

Note. The I^2 statistic estimates (in percent) how much of the total variability in the effect size estimates (which is composed of heterogeneity and sampling variability) can be attributed to heterogeneity among the true effects (Higgins and Thompson, 2002; Viechtbauer, 2010). The X^2 statistics is another homogeneity test for the null hypothesis that all observations come from the same population. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. The residual amount of heterogeneity is the portion of total variance due to heterogeneity.

APPENDIX 1

APPENDIX 1

Description of studies included in the meta-analysis

Study	Country	Number of firms	Period	Source
Silveira, Barros and Fama (2003)	Brazil	120	1998-2000	2, 3
Carvalhal-da-Silva (2004)	Brazil	225	2000	1
Silveira, Lanzana, Barros and Fama (2004)	Brazil	138	1999-2002	1
Carvalhal-da-Silva and Leal (2005)	Brazil	131	1998-2002	1, 2
Campos (2006)	Brazil	136	1998-2001	1, 2
Watkins, Dijk and Spronk (2006)	Mexico	142	1995-1997	2
Lameira, Ness-Junior and Macedo-Soares (2007)	Brazil	64	2005	1, 2
Lefort and Walker (2007)	Chile	142	1990-2002	5
Punsuvo, Kayo and Barros (2007)	Brazil	110	2004	1, 2, 3
Santos and Silveira (2007)	Brazil	285	2003-2005	1, 2
Garay and Gonzalez (2008)	Venezuela	33	2004	4, 5
Lefort and Urzúa (2008)	Chile	165	2000-2003	4, 7
Silva, Azúa, Díaz and Pizarro (2008)	Chile	70	1996-2005	2, 4
Silveira, Barros and Famá (2008)	Brazil	161	1998-2002	1, 2, 3
Silveira, Perobelli and Barros (2008)	Brazil	110	2002	1, 2, 4
Silveira, Leal, Barros and Carvalhal-da-Silva (2009)	Brazil	200	1998-2004	1, 2
Franco and Montalvan (2010)	Colombia	43	1997-2006	2, 3, 4, 7
Rapaport and Sheng (2010)	Brazil	192	2006-2008	2, 4
Silveira, Leal, Carvalhal-da-Silva and Barros (2010)	Brazil	200	1998-2004	4, 6
Braga-Alves and Shastri (2011)	Brazil	236	2001-2005	4, 5
Black, Carvalho and Gorga (2012)	Brazil	66	2005-2006	7
Brugni, Sarlo Neto, Bortolon and Goes (2012)	Brazil	90	2004-2010	8
Carvalhal-da-Silva (2012)	Brazil	366	1995-2009	7
Oliveira, Leal and Almeida (2012)	Brazil	230	1998-2002	8
Carvalhal-da-Silva and Chien (2013)	Brazil	420	2002-2009	1, 2, 4
Cortés (2013)	Colombia	49	2007-2011	2, 3, 4
Holtz, Vargas, da Silva Macedo and Bortolon (2013)	Brazil	315	2011	1
Pinto and Leal (2013)	Brazil	315	2009	1, 2, 3, 4
Zuniga-Jara and Soria (2013)	Chile	112	2003-2008	2
Black, Carvalho, Khanna, Kim and Yurtoglu (2014)	Brazil	159	2004-2009	4, 7
Black, Carvalho and Sampaio (2014)	Brazil	146	2004-2009	4, 7
Carvalhal-da-Silva and Souza (2014)	Brazil	649	2002-2009	8
Catapan and Colauto (2014)	Brazil	111	2010-2012	2, 3, 7
Correia, Amaral and Louvet (2014)	Brazil	266	1997-2006	1
Macías and Román (2014)	Mexico	95	2000-2004	2
Turrent (2014)	Latin America	129	2004-2010	2
Barros and Carvalhal-da-Silva (2015)	Brazil	657	2008-2011	8
Bruno and Carvalhal-da-Silva (2015)	Brazil	407	2002-2009	8
Carvalhal-da-Silva and Margem (2015)	Brazil	383	2002-2009	1, 2, 4
Gelman, Castro and Seidler (2015)	Brazil	149	2008-2012	1, 2, 3, 4
Turrent and García (2015)	Latin America	125	2004-2010	2, 4, 7
Vilhena and Camargos (2015)	Brazil	66	2005-2011	1, 7

Note. To develop the meta-analysis we used N = number of firms in each study because, although the majority of the quantitative studies use panel data (which implies N x T), there is no significant variation in the value assumed by CG variables over time (for example, board composition and size, as well as structure, are not changed). 1 – Spell; 2- Redalyc; 3 – Scielo; 4 – ABI-Inform; 5 – Wiley; 6 – Emerald; 7 – Science Direct; 8 – other sources and searching mechanisms)