Evaluating the link between commercial governance ratings and firm performance in a cross-European setting

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Abstract

Purpose – The purpose of this paper is to explore the ability of commercial governance ratings (CGR) to predict firm performance.

Design/methodology/approach – Based on the review of the corporate governance literature, the authors pose five hypotheses on the relationship between CGR and firm performance. Then, the authors test these hypotheses for the latest version of the Institutional Shareholder Services Inc. (ISS) index (Quickscore) with a sample of firms formed by the constituents of the Standard and Poor's Europe 350 stock market index.

Findings – The authors have not found a consistent significant relationship between Quickscore ratings and firm performance. This main result holds across a variety of checks.

Research limitations/implications – Some of the additional analyses are conducted with rather small samples. The results of these analyses have to be carefully taken. Recommendations for further research are offered.

Practical implications – The results call into question the usefulness of CGR, marketed by influential consultant companies, and which are becoming increasingly popular among investors, as reliable predictors of firm performance.

Originality/value – Despite an increasing body of research on the use of CGR as predictors of firm performance, the available research is heavily concentrated in the US market. No previous study has explored this relationship using the recently developed ISS index Quickscore in a cross-European setting. The use of a cross-country sample of companies allows the authors to address the impact of institutional factors on the CGR-firm performance relationship. Moreover, the authors do not limit the study to the overall scores of the index but examine also the partial scores (pillars) which intend to assess specific dimensions of governance. This makes the evaluation of the relationship more complex and challenging.

Keywords Performance, Corporate governance, Commercial ratings, ISS Quickscore

Paper type Research paper

1. Introduction

Corporate governance has captured a lot of media attention and emerged as a subject of public policy discussion, particularly since the Enron scandal erupted in the USA in the early 2000s and, more recently, due to the global financial crisis and the Volkswagen fraud. In parallel with this, corporate governance has become an area of intense study in the economics and finance community during the past decade. In light of this, governance indicators are becoming increasingly important for firms in their quest to improve external financing conditions. Furthermore, evidence from surveys conducted by consulting firm McKinsey & Co. showed that over 75 percent of investors are willing to pay a premium for shares of firms with high governance standards. These results imply that investors perceive well-governed companies to be better investments than poorly governed ones. Consequently, it has become common for investors to incorporate corporate governance issues when making investment decisions.

With this aim, commercial governance ratings (CGR) are designed to replace the daunting task of gathering and analyzing all available information to make a sound evaluation of management and corporate practices. Thus, during the past decade, a growing market for CGR and proxy voting advisers has emerged, led by agencies such as Institutional Shareholder Services Inc. (ISS) and Governance Metrics International (GMI).

While the impact of corporate governance on firm performance has been extensively studied by management and finance scholars, very limited attention has been given to the use of CGR as a proxy for corporate governance. As pointed out by Bhagat *et al.* (2008, p. 1818), "the more compelling reason for the success of indexes is the elegant simplicity of having one summary number for capturing the multiple dimensionality of governance." This paper is intended to help fill this gap by shedding light on the usefulness and reliability of CGR to investors and market participants.

We investigate the ability of CGR to predict firm performance. Our sample of companies includes the constituents of the Standard and Poor's Europe 350 Index that have been previously analyzed by ISS. We focus on the ISS Quickscore governance index (hereinafter *QUICKSCORE*), as it currently stands as the leading commercial database in terms of coverage (number of firms and markets) available to generate robust and generalizable quantitative results. We investigate the relationship between CGR and firm performance using multivariate regression analysis. As in most previous-related studies, we use return on assets (ROA) and return on equity (ROE) as proxies of performance. Additionally, a key valuation indicator, the Tobin's Q, is also used[1]. It is expected that companies with higher governance risk (higher *QUICKSCORE* ratings) show weaker performance, after accounting for the impact of control variables. If this were not so, we might question these ratings as reliable predictors of performance. Moreover, unlike most prior research, we do not limit our study to the aggregate governance score but also address the scores of main governance sub-indexes (pillars), such as board structure, compensation, shareholder rights or audit practices. Such an approach should offer a more complete and precise picture of the relationship between CGR and firm performance.

The use of a non-US sample allows us to extend prior US evidence. Contrary to most previous studies on this subject that handle relatively homogeneous US companies' data sets, we use a broad sample of European companies. Given the importance of the institutional setting on governance issues, US evidence should not be directly extrapolated to other countries (Aggarwal *et al.*, 2007). As it has been widely documented in the corporate governance literature (Jensen and Meckling, 1976; La Porta *et al.*, 1998), there is a fundamental difference between common-law jurisdictions (mainly identified with the Anglo-Saxon (AS) governance systems), where shareholders' perspectives rule, and the continental Europe (CE) governance civil-law model, where broader stakeholders' perspectives are shared and governance recommendations issued at the country level are largely voluntary.

On the second hand, our multi-country sample allows us to address how the institutional setting affects the issue investigated, adding statistical power to our results. This is due to the different regulatory requirements across countries that should lead to more variation in the ratings. We exploit this institutional diversity in our sample following Bauer *et al.*'s (2004) approach, based on the comparison between the civil-law and the common-law models, which has been the focus of corporate governance researchers in the European context. Despite recent documented convergence in corporate governance between CE and the UK and Ireland (Wójcik, 2006), the European governance setting is still diverse, with a concentrated ownership regime presented in various degrees in CE. Overall, our emphasis is on the different governance qualities between these two broad European regions when measured by CGR, and not on the analysis of the different governance systems across countries.

The motivation of this study relies on the sound and growing demand for reliable measures of corporate governance that should lead to better firm performance while safeguarding investors' interests (Aguilera and Jackson, 2010). The increasingly popular CGR aim to fulfill this necessity. However, in keeping with the growing success of CGR among investors and market participants, their reliability as effective measures of corporate governance has emerged as a meaningful research question in the academic field.

While there are already some papers addressing this issue (Brown and Caylor, 2006; Cheng and Wu, 2006), the lack of consensus on the trustworthiness of CGR welcomes further research on this issue. Moreover, it should be noted that research periods in most prior studies end at the beginning of this century. Since both the importance of corporate governance issues for firms and market participants and the use, availability and complexity of CGR have dramatically changed during the last two decades, results reported by prior studies need to be updated.

We aim to contribute to the research on the use of CGR as predictors of firm performance by providing new evidence obtained with the latest version available of *QUICKSCORE* (ISS Quickscore 2.0). This is, to our knowledge, the second study using this specific rating. In a prior study with a limited sample of US firms, Gherghina *et al.* (2014) reported the lack of a statistically significant relationship with the companies' value. While our research shares some similarities with Gherghina *et al.* (2014), unlike them, we investigate a large sample of firms from 16 European countries following a cross-regional approach. According to Doidge *et al.* (2007), country characteristics explain a much larger share of the variance in governance ratings than firm characteristics. Our study is complimentary to the ongoing scholarly debate over whether governance attributes are largely determined by country factors or by firm practices. Furthermore, we incorporate the companies' ownership structure as a control variable, given its importance in the analysis of the influence of governance on performance. As stated by Bebchuk and Hamdani (2009), different ownership structures demand different governance practices. Finally, while most prior research (Brown and Caylor, 2006; Daines *et al.*, 2010; Gherghina *et al.*, 2014) used a single indicator of performance, we use several metrics in order to report sounder results.

In anticipation of our results, we do not find a consistent significant relationship between CGR and firm performance. This result holds for the overall rating of corporate governance as well as for the segmented ratings. Therefore, our findings call into question the usefulness of CGR marketed by influential consultant companies as predictors of performance. According to our findings, investors should take decisions based on CGR only with due reservations. Furthermore, our results should also encourage the providers of CGR to investigate on the causes of this lack of relationship in order to produce more accurate ratings.

The study proceeds as follows. We review the prior literature on the relationship between governance ratings and performance. The paper continues with a description of the methodology. Finally, we present and discuss the results of the empirical analysis as well as conclusions and implications drawn from these results.

2. Review of the literature
In this section, we review the literature on the governance ratings-firm performance relationship. Prior studies can be classified by the type of governance ratings used, into studies which construct their own governance indexes (academic indexes) and those using governance metrics developed by rating agencies.

In a well-known example of the first approach, Gompers *et al.* (2003) constructed an index of governance quality (G-index) using data provided by the Investor Responsibility Research Center. The authors concluded that the value of good corporate governance (lower G-index) is reflected in equity prices. They also found a high correlation between the G-index and several measures of firm performance. Their findings support the hypothesis that well-governed companies outperform poorly governed firms. Following Gompers *et al.* (2003), but using a smaller set of governance provisions resulting in the entrenchment rating (labeled E-index), Bebchuk *et al.* (2009) found a negative and significant relationship between the E-index level and firm valuation as well as abnormal stock returns. Similarly, Larcker and Richardson (2007), using principal components analysis applied to US companies, reported a positive and significant relationship between academic

governance indexes and firm performance. As the aforementioned studies conducted with US data sets, studies with non-US samples have produced similar results. Drobetz *et al.* (2003) built their own governance rating to study German firms, where worker representatives are usually a powerful voice on corporate supervisory boards and concluded that superior governance standards positively impact performance. Later on, Klapper and Love (2004) built an average governance index based on the Credit Lyonnais Securities Asia report, and observed strong correlation between governance and performance for the 25 emerging economies analyzed. Finally, similar studies with samples of British (Padgett and Shabbir, 2005), Swiss (Beiner *et al.*, 2006) and Greek (Toudas and Karathanassis, 2007) firms have also reported a significant direct relationship between the quality of governance as measured by academic ratings and performance.

While the initial incursion into building governance ratings was for academic analysis, it has quickly evolved into an array of CGR marketed to investors. A number of organizations, including major credit rating companies (Standard and Poor's, Moody's and Fitch) as well as voting proxy companies such as ISS and GMI, have continued to develop governance ratings. Contrary to academic ratings, which are more rigid and narrow in scope, main CGR evaluate the ratings against the industry and average company size. In addition, the methodology and data are adjusted periodically to reflect changes in governance practices in the country and/or sectors, and they use multiple data sources.

Prior studies using CGR have been generally conducted with US samples. Brown and Caylor (2006) extended Gompers *et al.* (2003) academic governance rating, by developing a more complete measure of corporate governance using data provided by ISS. Their Gov-Score index included 51 governance factors divided into eight main categories and covered a larger database. They then related Gov-Score to operating performance, valuation and dividend payouts for more than 2,000 US firms, showing a positive and significant relationship between governance scores and these indicators. Later on, Cheng and Wu (2006) studied the relationship between ISS Corporate Governance Quotient (CGQ) index and total shareholders' return (raw and industry adjusted) for a large sample of US firms. They showed that firms gaining positive governance momentum, defined as an improvement in the overall quality of corporate governance, outperformed the other pool of firms. Furthermore, Aggarwal *et al.* (2007) built a pair of governance indexes based on CGQ to compare the governance of foreign companies and US firms. They found that non-US firms with better governance than a match sample of US firms have higher valuation than non-US firms with weaker governance.

However, other papers have failed to report a significant relationship between CGR and performance. Hence, Epps and Cereola (2008) used the CGQ for large US companies and found no evidence linking CGR and operating performance. Afterwards, Daines *et al.* (2010) built a broad comparison of leading CGR, including ISS and GMI ratings, establishing an association with several firm valuation and operating performance metrics for US firms. Their findings yield consistent weak results about a systematic relation between the indexes and performance. More recently, Gherghina *et al.* (2014) reported a lack of a statistically significant relationship between ISS CGR and company value for a limited US large firms sample.

As far as research conducted within Europe, which is the focus of this paper, there are also mixed results. Some studies show that CGR have a positive and significant impact on firm performance, as reflected by Hitz and Lehmann (2015) with a sample of UK and German companies, and Renders *et al.* (2010) on a set of European companies. Conversely, Bauer *et al.* (2004) failed to document a consistent significant relationship between CGR and performance for distinct UK and European Monetary Union data sets.

In summary, as more companies are required to comply with governance best practices codes, the use of CGR to measure this compliance is becoming increasingly popular. In addition, the relationship between CGR and firm performance has emerged as an

important line of research. However, despite the growing attention devoted to this topic, prior studies do not agree on the nature of this relationship. Moreover, relatively few studies have been conducted on a cross-national basis. Following our discussion in the introductory section, our investigation intends to fill this gap.

3. Research methodology

3.1 Hypotheses

Based on agency theory (Jensen and Meckling, 1976), we should observe a direct link between governance and firm performance. Well-governed firms exhibit higher investors' confidence on the back of higher management's monitoring and disciplining. As a result, they are supposed to carry lower risk and enjoy lower cost of capital, which should translate into higher valuation and performance.

CGR provide an observable measure of the unobservable concept of corporate governance. As discussed in the review of the literature, CGR are becoming an important tool for measuring the quality of governance. Hence, firms that rank better on these ratings should display stronger economic performance. We address the relevance of CGR by answering the question of whether differences in these ratings can help to explain variations in performance which have not been captured by other relevant characteristics of the firm. Due to the nature of *QUICKSCORE*, where a high score represents higher governance risk (lower governance quality), we hypothesize:

H1. Higher governance risk, in accordance with *QUICKSCORE*, is negatively and significantly associated with performance.

Given that our governance index is an aggregate metric based on four main corporate governance categories or pillars, the fact that *H1* holds for the index does not necessarily mean that it will hold true for each of the pillars and vice-versa. We agree with ISS in grouping all the factors analyzed into these four main pillars, as they represent the most critical areas in relation to a successful corporate governance. Next, we develop the hypotheses for the four pillars.

In light of the prominent role and important transformation suffered by the board of directors within past decades, numerous studies have focused on the relation between several attributes of the board (size, composition, practices) and firm performance (Yermack, 1996; Bhagat and Bolton, 2008). As this board structure (*BOARDST*) pillar of *QUICKSCORE* gathers more than 50 attributes of the board of directors, including the most relevant ones covered in prior research, we believe that it should reveal the expected relationship between this governance category and performance. Accordingly, we hypothesize:

H1a. Higher governance risk related to poor board structure practices (*BOARDST*) is negatively and significantly associated with performance.

An important insight shared by most researchers is that management decisions appear to be influenced by compensation to a large extent. Jensen and Murphy (1990) and Mehran (1995), among others, have provided evidence supporting a strong impact of management compensation practices on performance. We believe that the compensation (*COMPENS*) category within *QUICKSCORE*, based on the analysis of a great deal of compensation attributes, should constitute a valid proxy to examine the relationship between this important area of governance and performance. Accordingly, we hypothesize:

H1b. Higher governance risk related to poor compensation practices (*COMPENS*) is negatively and significantly associated with performance.

The importance of shareholders' protection for the future of the company has been widely documented in the literature. According to Gompers *et al.* (2003), firms characterized by

stronger shareholders' rights exhibit a superior performance. In addition, Bebchuk *et al.* (2009) also concluded that there is a negative and significant relationship between the level of management entrenchment and both firm valuation and market returns. We rely on the shareholder rights (*SHRIGHTS*) category within *QUICKSCORE* as a broad representation of the level of protection of shareholders' rights, and as such, we study its impact on performance. Accordingly, we hypothesize:

H1c. Higher governance risk related to poor shareholder rights practices (*SHRIGHTS*) is negatively and significantly associated with performance.

Regarding the last category, prior studies have documented an increasing importance of audit and accounting practices on performance, even though no conclusive evidence has been found. We highlight the works of Brown and Caylor (2009) and Bowen *et al.* (2008) on this subject. As the audit (*AUDIT*) category within *QUICKSCORE* covers the most important attributes of accounting and auditing practices stressed in the literature, we use it as a proxy to analyze the relationship between this governance category and performance. Accordingly, we hypothesize:

H1d. Higher governance risk related to poor audit practices (*AUDIT*) is negatively and significantly associated with performance.

3.2 Research design
In order to highlight the relationship between CGR and performance, we estimate the model given by the following equation with ordinary least squares:

$$TOBINQ/ROA/ROE_i = \alpha + \beta CGR_i + \gamma Z_i + \varepsilon_i \tag{1}$$

where we use *TOBINQ, ROA* and *ROE* (all adjusted at the sector level), as proxies of performance. Our main variable of interest (*CGR*) is the *QUICKSCORE*, although we also test the four partial pillars of the index: *BOARDST*, *COMPENS, SHRIGHTS* and *AUDIT*. Finally, we also include the usual control variables (*Z*) used in prior research (Yermack, 1996; Klapper and Love, 2004).

3.2.1 Proxies for performance. Empirical research on governance uses either market-based measures or accounting ratios to assess the relationship with performance. As pointed out by Dalton *et al.* (2003) in a meta-analysis of the corporate governance literature, there is a lack of consensus about the best measure of performance to investigate this relationship. However, following Bhagat and Bolton (2008), we focus on accounting-based metrics. Contrary to stock market metrics, accounting ones are not tainted by possible anticipation from investors. To test the proposed hypotheses, Equation (1) is taken as a starting point for the assessment of the models. We use the *TOBINQ* (our main proxy of performance) as the dependent variable. However, we also use *ROA* and *ROE* as alternative measurements of performance.

As certain characteristics of the industry may play a critical role in the scores of governance indexes (Bauer *et al.*, 2004; Gompers *et al.*, 2003), we adjust our performance variables by the industry medians, to filter out the potential industry-specific effects. We follow Eisenberg *et al.*'s (1998) approach for this calculation and define the sector-adjusted performance variables as the square-root transformation of the difference between the firm's performance and the industry's median for that metric.

TOBINQ. We test whether poorly governed firms according to *QUICKSCORE*, ceteris paribus tend to have weaker performance. A pure Tobin's *Q* measures the quotient of the market value of assets divided by the replacement value of these same assets. We follow a simplification of this measure commonly used in the finance literature

(Kaplan and Zingales, 1997; La Porta *et al.*, 2002; Gompers *et al.*, 2003), to ensure maximum data availability. Hence, we measure *TOBINQ* as the sum of the book value of total assets plus the market value of common equity minus the sum of the book value of common equity and deferred taxes, over the book value of total assets. The market value of equity is the price of the share multiplied by the total common shares outstanding, while the replacement value of assets is represented by the book value of the total assets. All book values for fiscal year *t* are matched with the market values of common equity at the end of year *t*.

ROA. ROA is a measure of operating performance, which suggests the level of profitability that the company obtains from its assets. Similar to prior research (Larcker and Richardson, 2007; Bhagat and Bolton, 2008), we calculate *ROA* as operating income divided by the book value of total assets.

ROE. ROE is another usual measure of performance, which shows the level of profitability the company obtains from money invested by common shareholders. As is usual in the corporate governance literature (Brown and Caylor, 2009; Epps and Cereola, 2008), we calculate *ROE* as income before extraordinary items available for common equity divided by the book value of common equity.

3.2.2 Governance ratings: QUICKSCORE and pillars. QUICKSCORE was launched in 2013, with the index now in its third version (Quickscore 3.0, as of 2015). This aggregate index rests on the analysis of four major governance pillars: board structure (*BOARDST*), compensation (*COMPENS*), shareholder rights (*SHRIGHTS*), and audit practices (*AUDIT*). Each pillar rating is based on ISS's ranking of the various subcategories underlying each pillar and their corresponding governance factors, based on an examination of the firm's regulatory filings, annual reports, prospectuses, as well as company's websites and press releases. Equation (1) includes five governance variables to account for the aggregate as well as for the four partial governance ratings listed above.

The ISS approach is to assign discrete weights to each attribute, acknowledging that some factors should have a heavier weight on the index than others. It also calibrates the weights assigned to corporate governance factors as a function of their correlations with firm's prior performance. To aggregate these weights, it transforms the scores into a numeric, decile-based scale from 1 to 10 for each pillar which indicates a firm's governance risk. The last step in the process is a combination of the four pillar scores into a single one with a score of 1 indicating low governance risk relative to their index, and conversely, a score of 10 indicating relatively high governance risk. While the factors used to produce a company's rating are public, there is a critical confidentiality component of the methodology used in gathering, weighting and analyzing information that are not revealed and is treated as intellectual property. Further information can be found in the brochures released by ISS[2].

3.2.3 Control variables. Both corporate governance and performance are likely to correlate with other critical firm metrics. One way to mitigate the problem of possible endogeneity is to add an appropriate set of control variables. Therefore, consistent with prior studies (Yermack, 1996; Klapper and Love, 2004; Aggarwal *et al.*, 2007), we include the following control variables: size, age, growth and leverage.

Firm size (*SIZE*) is measured by the natural logarithm of total assets. According to Jensen and Meckling (1976), large firms are more prone to deal with greater agency problems on the back of larger free cash flows. However, they also tend to have easier access to capital markets joined by the cost-effective benefits of economies of scale, and as such, should show a better performance. We define firm age (*AGE*) as the number of years passed since the year of incorporation (logarithmic values). Consistent with Fama and French (2004), performance is likely to deteriorate at the margin in older firms, presumably

due to a worsening of corporate governance features, among other factors. Furthermore, there is the considerable literature emphasizing the positive effects of growth opportunities, as companies with solid growth prospects (*GROWTH)* usually hire better management teams and show higher performance (Core *et al.*, 1999). We follow Klapper and Love (2004) and use the average annual sales growth over the past three years. Finally, we include financial leverage (*LEVER*), as debt service commitment should impose a higher degree of accountability to management teams, deterring managers from making poor investment decisions (Jensen and Meckling, 1976).

As a distinction from the bulk of prior-related studies, and in order to increase the robustness of our results, we include ownership concentration as a control variable. We capture the ownership effect with a variable labeled (*OWNCONC*), which shows the portion of outstanding shares owned by top holding groups. A successful governance system relies on some combination of concentrated ownership and legal protection of investors (La Porta *et al.*, 1998). However, there are both costs and benefits associated with ownership concentration. As stated by Shleifer and Vishny (1997, p. 739), "concentrated ownership has its costs as well, which can be best described as potential expropriation by large investors of other investors and stakeholders in the firm." Furthermore, many economists that have investigated the impact of ownership structure on performance (Morck *et al.*, 1988; Himmelberg *et al.*, 1999; O'Connell and Cramer, 2010) adhere to this notion. Hence, consistent with this wealth expropriation hypothesis, we predict a negative relationship between ownership concentration and performance, as it becomes difficult to remove managers that act opportunistically in their own benefit or on behalf of controlling shareholders. We compile ownership information for the firms in the sample from S&P Capital IQ database[3] for the year 2015. We use Demsetz and Villalonga's (2001) proxy for this metric and add up the holdings of the five largest shareholders to determine the ownership concentration for each company. As a caveat, we make no distinction between inside and outside ownership, so a portion of these large shareholders could well be part of management, or affiliated management. We also ignore the identity of controlling shareholders.

For the estimation of each model, we also include the dependent variable one-year lagged as an independent variable. According to Daines *et al.* (2010), current performance significantly affects future performance. We use fiscal year information to compute all the performance and control variables. Similar to prior work, we winsorize control variables (at the top and bottom 1 percent) to neutralize the impact of possible spurious outliers. As stated by Gompers *et al.* (2003), the governance practices of a firm are rather endogenous, so it is difficult to infer causal direction. In addition, since our governance data are comprised of only one year, we cannot address the issue of causality.

Finally, after the main analysis conducted with the whole sample, we also perform segmented analyses to explore the validity of these hypotheses for our two distinctive European regions: the common-law or AS region, and the civil-law or CE region.

3.3 Data set

To accomplish our goal, the study takes the data of 310 constituents of Standard and Poor's Europe 350 Stock Market Index (SP350) for which *QUICKSCORE* was available. The index covers 350 large capitalization companies across 16 major European countries, comprising approximately 70 percent of the market capitalization of the region. This study uses primary data (governance variables) released in 2013. All dependent variables in Equation (1) are moved forward one year (2014) to reduce endogeneity without significantly upsetting the explanatory power of regressions. As happens in practice, implementation of good governance recommendations may have some delayed

effect on the performance of the company. Control variables refer to 2014, except the lagged performance control variables. Table I presents a summary of all the variable names, codes, brief descriptions, and sources of data.

We analyze companies by industry, using the Industry Classification Benchmark prepared by FTSE that comprises ten major industries. In line with academic consensus, banking and financial companies (60 companies) have been excluded from the sample based on their distinctive governance structures and accounting practices. A further 13 companies were dropped due to the lack of financial data. The final sample consists of 237 companies, corresponding to 76.5 percent of our initial set of companies. These firms operate in a variety of industries: communications (24), consumer discretionary (44), consumer staples (32), energy (14), health care (16), industrials (44), materials (31), technology (14) and utilities (18), as shown in Table II.

Variable	Code	Definition	Data source
Corporate governance variables			
Quickscore	*QUICKSCORE*	2013 aggregate governance rating	ISS
Board structure	*BOARDST*	2013 board structure pillar rating	ISS
Compensation	*COMPENS*	2013 compensation pillar rating	ISS
Shareholder rights	*SHRIGHTS*	2013 shareholder rights pillar rating	ISS
Audit Practices	*AUDIT*	2013 audit practices pillar rating	ISS
Variables for company performance			
Adjusted Tobin's $Q_{(t+1)}$	*TOBINQ*	Quotient of the market value of assets (measured as the sum of the book value of total assets plus the market value of common equity minus the sum of book value of common equity and deferred taxes) divided by the replacement value of assets (book value of total assets) sector-adjusted for the year 2014	S&P Capital IQ
Adjusted return on assets$_{(t+1)}$	*ROA*	Division of the company's operating income divided by total assets at book value sector-adjusted for the year 2014	S&P Capital IQ
Adjusted return on equity$_{(t+1)}$	*ROE*	Division of the company's income before extraordinary items available for common equity divided by the book value of common equity sector-adjusted for the year 2014	S&P Capital IQ
Control variables			
Firm size$_{(t+1)}$	*SIZE*	Measured by the natural logarithm of total assets in 2014	S&P Capital IQ
Firm age$_{(t+1)}$	*AGE*	Defined as the number of years passed since the firm's founding year until 2014 (natural logarithm)	S&P Capital IQ
Growth opportunity$_{(t+1)}$	*GROWTH*	Average sales growth in the last 3 years (2012-2014)	S&P Capital IQ
Level of leverage$_{(t+1)}$	*LEVER*	(Long-term debt/market value of equity plus long-term debt) in 2014	S&P Capital IQ
Ownership concentration$_{(t+1)}$	*OWNCONC*	Log (S5/100−S5), where S5 represents the fraction of shares owned by the five largest shareholders (*)	S&P Capital IQ
Adjusted Tobin's Q	*TOBINQ2013*	Sector-adjusted Tobin's Q in 2013	S&P Capital IQ
Adjusted ROA	*ROA2013*	Sector-adjusted ROA in 2013	S&P Capital IQ
Adjusted ROE	*ROE2013*	Sector-adjusted ROE in 2013	S&P Capital IQ

Note: (*) Latest data on shareholders (percent owned) as of end-2015

Table I.
Description of variables

Region	Sub-region	Country	Frequency	%
		UK	63	
		Ireland	5	
Anglo-Saxon (AS)			68	28.69
	Germanic	Austria	3	
		Germany	29	
		Switzerland	17	
	Nordic	Finland	8	
		Denmark	4	
		Sweden	17	
		Norway	5	
	Southern	Spain	13	
		Italy	9	
		Greece	1	
	Western	France	37	
		Luxembourg	4	
		Netherlands	15	
		Belgium	7	
Continental Europe (CE)			169	71.31
Total			237	100.00

Sectors	Frequency	%
Communications	24	10.13
Consumer discretionary	44	18.57
Consumer staples	32	13.50
Energy	14	5.91
Health care	16	6.75
Industrials	44	18.57
Materials	31	13.08
Technology	14	5.91
Utilities	18	7.59
Total	237	100.00

Table II.
Data set breakdown
by main regions
and sectors

We follow ISS's regional breakdown for Europe, to allow comparison within markets where governance practices are similar. However, we are aware of the fact that the number of factors included by ISS to compute the scores vary among these sub-regions. As explained previously, we exploit this institutional diversity of our sample studying the impact of governance on performance through a comparison between the AS and the CE (CE) regions. As reflected in Table II, out of the 237 companies, 68 (corresponding to 28.7 percent) are from the UK and Ireland, which are grouped in the AS region. The other 169 companies (corresponding to 71.3 percent), re-grouped in the CE region, are originally grouped as followed: 49 from the Germanic sub-region (Germany, Austria and Switzerland), 34 from the Nordic sub-region (Denmark, Finland, Norway and Sweden), 23 from the Southern sub-region (Italy, Spain and Greece), and 63 from the Western sub-region (Belgium, Luxemburg, Netherlands and France).

Table III summarizes the descriptive statistics for the overall data set, while Tables IV and V display these statistics for the AS and CE regions, respectively. The results indicate that there is medium overall quality of governance practices among the large European companies in our data set (corresponding to a mean *QUICKSCORE* of 5.04). *BOARDST*, *COMPENS* and *SHRIGHTS* pillars have similar results with means in the 4.47-4.95 range. Companies do best in *AUDIT* practices with a median of 1 (highest quality) for the overall data set and also for all the regions, highlighting the low clout of this governance category as a distinctive or informative variable. The average firm size is $9.7 billion and the average leverage ratio is 24.8 percent. Furthermore, the average *TOBINQ*, *ROA* and *ROE* are 0.15, 0.66 and 1.28 percent, respectively. On average the five largest shareholders control 34.3 percent of shares.

Variables	n	Mean	Median	SD	Min.	Max.
Corporate governance variables						
QUICKSCORE	237	5.04	5	2.70	1	10
BOARDST	237	4.70	5	3.12	1	10
COMPENS	237	4.95	5	2.67	1	10
SHRIGHTS	237	4.47	3	2.81	1	10
AUDIT	237	1.34	1	1.72	1	10
Company performance variables						
TOBINQ	237	0.15	0	0.59	−0.58	1.38
ROA	237	0.66	0	3.58	−4.34	6.85
ROE	237	1.28	0	9.38	−11.40	20.20
Control variables						
SIZE	237	9.70	9.56	1.19	7.26	12.80
AGE	237	4.28	4.51	0.82	1.61	6.48
GROWTH	237	3.99	3.85	7.89	−33.10	34.80
LEVER	237	24.80	23.90	14.00	0	61.20
OWNCONC	237	34.30	29.80	16.60	2.53	89.70
TOBINQ2013	237	1.98	1.55	1.38	0.38	9.73
ROA2013	237	9.21	8.13	6.15	−2.44	44.8
ROE2013	237	7.64	12.40	65.30	−744	178

Table III.
Descriptive statistics
for the whole sample

Variables	n	Mean	Median	SD	Min.	Max.
Corporate governance variables						
QUICKSCORE	68	4.16	4	2.05	1	9
BOARDST	68	3.51	1	3.26	1	10
COMPENS	68	4.26	4	2.25	1	10
SHRIGHTS	68	3.12	3	1.09	1	9
AUDIT	68	1.26	1	1.53	1	10
Company performance variables						
TOBINQ	68	0.41	0.28	0.62	−0.58	1.38
ROA	68	1.77	1.19	3.84	−4.34	6.85
ROE	68	4.80	2.73	11.1	−11.4	20.20
Control variables						
SIZE	68	9.37	9.16	1.19	7.27	12.40
AGE	68	4.16	4.42	0.91	1.61	5.61
GROWTH	68	5.91	5.14	7.55	−8.23	34.40
LEVER	68	27.20	27.30	13.90	0	61.20
OWNCONC	68	28.10	26.20	11.50	7.15	73.10
TOBINQ2013	68	2.30	1.89	1.45	0.98	9.59
ROA2013	68	11.40	10.90	6.27	−0.16	34.90
ROE2013	68	2.94	16.40	112	−744	178

Table IV.
Descriptive statistics
for the Anglo-Saxon
(AS) region

The ratings by the two major regions reveal some degree of diversity. Companies in the AS region lead in terms of overall governance quality with a mean *QUICKSCORE* of 4.16 (5.39 for the CE region). We gain more insight into the diversity of corporate governance by examining the four governance pillars. Again, the AS region leads in all four pillars. Consistent with the prior literature, these findings somehow confirm the established notion of certain leadership of the Anglo-American model of corporate governance as highlighted by La Porta *et al.* (1998).

Variables	n	Mean	Median	SD	Min.	Max.
Corporate governance variables						
QUICKSCORE	169	5.39	5	2.85	1	10
BOARDST	169	5.18	5	2.94	1	10
COMPENS	169	5.23	5	2.79	1	10
SHRIGHTS	169	5.01	4	3.10	1	10
AUDIT	169	1.37	1	1.80	1	10
Company performance variables						
TOBINQ	169	−0.03	−0.27	0.64	−0.76	1.18
ROA	169	−0.03	−0.59	1.67	−2.08	2.62
ROE	169	−0.21	−0.78	2.49	−3.38	4.50
Control variables						
SIZE	169	9.81	9.76	1.02	8.22	11.40
AGE	169	4.30	4.50	0.70	2.94	5.08
GROWTH	169	1.80	2.21	4.74	−6.25	9.00
LEVER	169	23.70	22.90	11.70	7.25	44.30
OWNCONC	169	35.90	33.40	14.40	17.70	59.40
TQ2013	169	−0.02	−0.31	0.66	−0.76	1.16
ROA2013	169	−0.11	−0.60	1.75	−2.16	2.74
ROE2013	169	−0.22	−0.65	2.46	−3.52	3.68

Table V.
Descriptive statistics for the continental Europe (CE) region

The 0.405 TOBINQ for the AS region, exceeds the −0.031 TOBINQ for the CE region, reflecting a higher firm-value setting for the AS region. The average ROA reaches 1.77 for the AS region, showing the CE region again as a laggard with −0.033. Likewise, the AS region ROE leads by a large margin with 4.8, with the CE region once again lagging with a low − 0.206 score. Overall, these metrics also reflect clear leadership for the AS region in terms of firm performance.

Tables IV and V also show that ownership concentration varies by legal origin. The lowest average concentration measure corresponds to the AS region with 28.1 percent (35.9 percent in the CE region). This is consistent with La Porta *et al.* (2002), who argued that companies in common-law tradition countries tend to have a lower level of ownership concentration in response to stronger legal protection to investors. Overall, there are no large regional differences in terms of age or size. The AS region clearly leads in terms of growth potential and exhibits a 27.2 percent level of leverage (23.7 percent for the CE region).

Table VI depicts the Pearson correlation matrix for the variables in our model. As expected, QUICKSCORE is correlated with the four main governance pillars (BOARDST, COMPENS, SHRIGHTS and AUDIT). We also analyze the correlation between each pair of pillars to rule out any potential substitution effects between governance main features. No significant negative correlation is found suggesting that the main four governance pillars are not substitutes. Overall, the correlations between the independent variables are relatively low, which suggests the absence of serious multicollinearity in the data. Nonetheless, we have calculated variance inflation factors (VIF), in order to rule out the negative potential effects of multicollinearity in the results. At a range of 1.14-1.18, VIF support our view that multicollinearity will not seriously affect the results.

We now focus on the correlations between our performance metrics with the governance variables. QUICKSCORE and most of the four pillars are uncorrelated with performance variables, with the exception of SHRIGHTS which reflects a negative significant correlation with TOBINQ, ROA and ROE. This means that higher scores (weaker shareholder rights' protection) should translate into lower firm performance. The AUDIT category also reflects

	QUICKSCORE	BOARDST	COMPENS	SHRIGHTS	AUDIT	TOBINQ	ROA	ROE	SIZE	AGE	GROWTH	LEVER	OWNCONC	ROA2013	ROE2013
BOARDST	0.67* (0.00)	1.00													
COMPENS	0.49* (0.00)	0.29* (0.00)	1.00												
SHRIGHTS	0.54* (0.00)	0.17* (0.01)	-0.08 (0.24)	1.00											
AUDIT	0.22* (0.00)	-0.02 (0.80)	-0.02 (0.74)	0.11 (0.10)	1.00										
TOBINQ	-0.10 (0.14)	-0.02 (0.71)	-0.04 (0.59)	-0.20* (0.00)	-0.11 (0.100)	1.00									
ROA	-0.06 (0.38)	0.02 (0.71)	0.04 (0.49)	-0.20* (0.00)	-0.15* (0.03)	0.75* (0.00)	1.00								
ROE	-0.08 (0.25)	0.01 (0.77)	-0.08 (0.49)	-0.13* (0.04)	-0.11 (0.10)	0.63* (0.00)	0.56* (0.00)	1.00							
SIZE	0.09 (0.19)	0.11 (0.89)	-0.08 (0.20)	0.19* (0.00)	0.05 (0.46)	-0.43* (0.00)	-0.33* (0.00)	-0.21* (0.00)	1.00						
AGE	-0.11 (0.10)	-0.04 (0.56)	-0.10 (0.12)	0.03 (0.63)	0.05 (0.43)	0.02 (0.82)	-0.03 (0.60)	-0.03 (0.66)	0.01 (0.84)	1.00					
GROWTH	0.18* (0.01)	0.13 (0.05)	0.10 (0.14)	0.00 (0.95)	0.06 (0.34)	0.14* (0.03)	0.11 (0.08)	0.08 (0.21)	-0.02 (0.80)	-0.11 (0.08)	1.00				
LEVER	-0.04 (0.55)	-0.06 (0.33)	-0.01 (0.85)	-0.03 (0.60)	0.00 (0.99)	-0.12 (0.07)	-0.09 (0.15)	0.04 (0.54)	0.18* (0.01)	-0.08 (0.24)	-0.05 (0.42)	1.00			
OWNCONC	0.34* (0.00)	0.36* (0.00)	0.24* (0.00)	0.14* (0.03)	0.01 (0.88)	-0.10 (0.14)	-0.05 (0.44)	-0.16* (0.04)	0.02 (0.71)	-0.07 (0.31)	0.05 (0.42)	-0.02 (0.70)	1.00		
ROA2013	0.02 (0.79)	0.11 (0.10)	0.04 (0.53)	-0.14* (0.04)	-0.16* (0.01)	0.69* (0.00)	0.81* (0.00)	0.54* (0.00)	-0.30* (0.00)	0.03 (0.66)	0.19* (0.00)	-0.11 (0.10)	-0.03 (0.62)	1.00	
ROE2013	0.06 (0.39)	0.12 (0.07)	0.03 (0.63)	0.04 (0.55)	-0.05 (0.48)	-0.04 (0.51)	-0.03 (0.61)	0.23* (0.00)	0.00 (0.99)	0.10 (0.12)	0.10 (0.14)	-0.18* (0.01)	0.04 (0.58)	0.05 (0.44)	1.00
TOBINQ2013	-0.02 (0.80)	0.03 (0.68)	-0.02 (0.72)	-0.07 (0.29)	-0.09 (0.16)	0.64* (0.00)	0.42* (0.00)	0.42* (0.00)	-0.44* (0.00)	0.04 (0.55)	0.12 (0.06)	-0.26* (0.00)	-0.02 (0.79)	0.57* (0.00)	0.06 (0.36)

Note: $*p < 0.05$

Table VI.
Pearson correlation
coefficients

a negative significant correlation with *ROA*, indicating that higher scores (weaker audit practices) would be consistent with lower performance as measured by *ROA*. On the other hand, not surprisingly, performance metrics are highly correlated among them.

Regarding the control variables, *QUICKSCORE* only shows a significant positive relationship with *GROWTH*. All four governance pillars (except *AUDIT*) reflect a positive significant relationship with *OWNCONC*. This is consistent with the agency theory, as firms with concentrated ownership should display relatively higher scores (weaker governance quality).

4. Empirical results

In this section, we present and discuss the results of the estimations of Equation (1). To make *QUICKSCORE* comparable across companies, consistent with the methodology used by ISS, we have standardized the variable at the sub-region level, rescaling the scores to have a mean of 0 and a standard deviation of 1. As the Breusch-Pagan test suggests heteroscedasticity in our data set[4], we conduct significance tests with robust standard errors.

In Model 1, we study the primary relationship between *QUICKSCORE* and our three proxies of performance. To evaluate the separate impact of each of the four main governance pillars, in Models 2-5 we replace *QUICKSCORE* by each of the partial ratings (*BOARDST*, *COMPENS*, *SHRIGHTS* and *AUDIT*). In Model 6, we allow for the simultaneity of all four partial pillars as independent variables to measure their combined impact on firm performance metrics. Tables VII-IX report the results of the regressions of the six models.

4.1 Results of the main analysis

Table VII displays the results of the estimation of Equation (1) with *TOBINQ* as the proxy for performance. The main result is the existence of a positive significant relationship between *QUICKSCORE* and *TOBINQ* (p-value < 0.10), as reflected in Model 1. This contradicts our *H1*, as it indicates that firms with a higher *QUICKSCORE* (weaker governance) exhibit higher performance. As for the partial ratings (Models 2-5), we report significant results for *BOARDST*, with positive sign. This relationship remains significant when all partial ratings are simultaneously included in Model 6. As the results for Model 1, this also contradicts our expectations from *H1a*, as it indicates that firms with higher *BOARDST* scores (weaker board structures) exhibit higher performance.

As for control variables, we find a significantly inverse relationship between *OWNCONC* and performance in all models, except in Model 5 (p-value < 0.05 and < 0.10). This indicates

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
QUICKSCORE	0.040* (1.671)					
BOARDST		0.048** (2.087)				0.063** (2.305)
COMPENS			0.004 (0.168)			0.003 (0.092)
SHRIGHTS				0.017 (0.739)		0.008 (0.316)
AUDIT					0.010 (0.540)	0.012 (0.671)
SIZE	−0.021 (−0.975)	−0.027 (−1.215)	−0.020 (−0.906)	−0.022 (−1.004)	−0.021 (−0.839)	−0.029 (−1.153)
AGE	−0.013 (−0.460)	−0.016 (−0.547)	−0.017 (−0.600)	−0.018 (−0.622)	−0.009 (−0.274)	−0.004 (−0.137)
GROWTH	0.001 (0.235)	0.001 (0.247)	0.003 (0.564)	0.003 (0.579)	0.002 (0.398)	0.000 (0.048)
LEVER	−0.000 (−0.144)	−0.000 (−0.193)	−0.000 (−0.208)	−0.000 (−0.157)	0.000 (0.160)	0.000 (0.188)
OWNCONC	−0.004** (−2.163)	−0.004** (−2.018)	−0.003* (−1.700)	−0.003* (−1.793)	−0.003 (−1.549)	−0.005** (−2.134)
TOBINQ2013	0.831*** (20.958)	0.823*** (21.063)	0.824*** (20.922)	0.825*** (20.193)	0.820*** (17.056)	0.827*** (17.859)
Constant	0.399 (1.633)	0.475* (1.891)	0.386 (1.552)	0.406* (1.653)	0.345 (1.290)	0.461* (1.685)
Adjusted R^2	0.748	0.750	0.745	0.746	0.722	0.726
F-statistic	144.4***	143.9***	131.9***	122.7***	93.9***	87.3***
Companies *(N)*	237	237	237	237	203	203

Notes: Robust *t*-statistics in parentheses. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table VII.
Results on the influence of ISS Quickscore governance ratings on performance as measured by Tobin's Q

that firms with higher ownership concentration (low minority shareholders power) exhibit lower performance as measured by *TOBINQ*. This is consistent with our prediction, based on the wealth expropriation hypothesis. Finally, we also observe the expected significant direct relationship with lagged performance (*TOBINQ2013*) in all six models.

Table VIII depicts the results of the estimation of Equation (1) with *ROA* as the dependent variable. Model 1 shows a significant negative relationship (p-value < 0.10) between *QUICKSCORE* and *ROA*. This is consistent with *H1*, indicating that firms with higher *QUICKSCORE* (weaker governance) exhibit lower performance. As for the partial ratings, we report non-significant results in all cases but *SHRIGHTS,* for which we observe the expected negative significant relationship (p-value < 0.10). However, this relationship turns non-significant in Model 6. In terms of the control variables, we only report significant results for the influence of current performance (*ROA2013*) with the predicted positive sign.

Table IX displays the results of the estimation of Equation (1) with *ROE* as the dependent variable. According to the results for Model 1, the relationship between *QUICKSCORE* and *ROE* is non-significant. In addition, no significant relationship is shown between any of the partial ratings and *ROE*, with the only exception of *BOARDST* in Model 2 (p-value < 0.10) with a positive sign. Hence, firms with higher *BOARDST* scores (weaker board practices) exhibit stronger performance as measured by *ROE*. This relationship remains significant when we introduce the partial ratings altogether in Model 6. These results are again

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
QUICKSCORE	−0.083* (−1.753)					
BOARDST		−0.055 (−1.069)				−0.058 (−0.915)
COMPENS			−0.003 (−0.061)			0.005 (0.085)
SHRIGHTS				−0.083* (−1.798)		−0.075 (−1.480)
AUDIT					−0.028 (−1.237)	−0.021 (−0.883)
SIZE	−0.064 (−1.380)	−0.060 (−1.273)	−0.069 (−1.487)	−0.060 (−1.298)	−0.068 (−1.297)	−0.051 (−0.907)
AGE	−0.095 (−1.420)	−0.087 (−1.324)	−0.085 (−1.340)	−0.085 (−1.294)	−0.077 (−1.023)	−0.085 (−1.141)
GROWTH	0.008 (0.649)	0.007 (0.542)	0.005 (0.420)	0.005 (0.440)	0.011 (0.809)	0.011 (0.773)
LEVER	−0.007 (−1.614)	−0.006 (−1.549)	−0.006 (−1.524)	−0.007 (−1.637)	−0.007 (−1.405)	−0.007 (−1.460)
OWNCONC	0.000 (0.027)	−0.000 (−0.106)	−0.001 (−0.439)	−0.001 (−0.270)	−0.003 (−0.902)	−0.001 (−0.284)
ROA2013	0.862*** (39.530)	0.864*** (39.729)	0.862*** (38.366)	0.860*** (38.447)	0.846*** (30.926)	0.848*** (31.198)
Constant	1.201** (2.121)	1.148* (1.964)	1.261** (2.275)	1.169** (2.119)	1.246* (1.936)	1.049 (1.621)
Adjusted R^2	0.839	0.837	0.837	0.839	0.812	0.812
F-statistic	350.9***	340.4***	336.9***	356.6***	230.7***	170.8***
Companies *(N)*	237	237	237	237	203	203

Notes: Robust *t*-statistics in parentheses. *p < 0.1; **p < 0.05; ***p < 0.01

Table VIII.
Results on the influence of ISS Quickscore governance ratings on performance as measured by ROA

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
QUICKSCORE	0.084 (0.555)					
BOARDST		0.290* (1.927)				0.331* (1.850)
COMPENS			−0.092 (−0.668)			−0.145 (−0.897)
SHRIGHTS				0.014 (0.070)		−0.015 (−0.069)
AUDIT					−0.050 (−0.295)	−0.046 (−0.263)
SIZE	−0.144 (−1.008)	−0.175 (−1.206)	−0.150 (−1.058)	−0.142 (−1.005)	−0.058 (−0.395)	−0.122 (−0.800)
AGE	0.101 (0.499)	0.104 (0.517)	0.079 (0.386)	0.092 (0.453)	0.005 (0.022)	0.000 (0.001)
GROWTH	−0.008 (−0.234)	−0.015 (−0.469)	−0.001 (−0.035)	−0.004 (−0.131)	−0.027 (−0.766)	−0.033 (−0.902)
LEVER	0.016 (1.407)	0.016 (1.376)	0.016 (1.399)	0.016 (1.416)	0.015 (1.240)	0.015 (1.289)
OWNCONC	−0.020** (−2.116)	−0.024** (−2.450)	−0.017 (−1.883)	−0.018* (−1.942)	−0.017* (−1.705)	−0.023** (−2.029)
ROE2013	0.698*** (11.507)	0.695*** (11.651)	0.694*** (11.526)	0.696*** (11.511)	0.715*** (11.239)	0.716*** (11.589)
Constant	1.348 (0.878)	1.813 (1.166)	1.405 (0.914)	1.318 (0.848)	0.840 (0.509)	1.679 (0.958)
Adjusted R^2	0.447	0.457	0.448	0.447	0.441	0.445
F-statistic	33.8***	37.0***	32.1***	33.4***	27.1***	22.4***
Companies *(N)*	237	237	237	237	203	203

Notes: Robust *t*-statistics in parentheses. **p < 0.05; ***p < 0.01

Table IX.
Results on the influence of ISS Quickscore governance ratings on performance as measured by ROE

inconsistent with our hypotheses, reflecting a lack of impact of all governance ratings on performance, and particularly contradictory in the case of the *BOARDST* (*H1a*).

As for control variables, we confirm the significant direct influence of current year performance (*ROE2013*) on future performance. We also report a significant inverse relationship between *OWNCONC* and performance in all models (*p*-value < 0.05 and < 0.10). Consistent with our prediction, this indicates that firms with higher ownership concentration (low minority shareholders power) exhibit weaker performance as measured by *ROE*.

In overall, these results do not suggest that CGR constitute reliable predictors of firm performance.

4.2 Additional results

After the analysis conducted with the whole sample we perform additional analyses at the region level. For the sake of simplicity, we focus on Model 1 (with *QUICKSCORE*) and Model 6 (with all four partial ratings). Hence, we carry out separate estimations of Models 1 and 6 for the AS and the CE regions. Results for the AS and CE regions are shown in Tables X and XI, respectively.

Variables	TOBINQ Model 1	TOBINQ Model 6	ROA Model 1	ROA Model 6	ROE Model 1	ROE Model 6
QUICKSCORE	0.117*** (2.991)		0.021 (0.196)		0.707** (2.003)	
BOARDST		0.104** (2.555)		−0.076 (−0.715)		0.934*** (3.436)
COMPENS		0.027 (0.585)		0.196 (1.306)		−0.151 (−0.459)
SHRIGHTS		0.039 (0.885)		−0.010 (−0.083)		0.284 (0.709)
AUDIT		0.039** (2.540)		0.023 (0.508)		−0.604*** (−4.022)
SIZE	−0.032 (−0.728)	−0.037 (−0.800)	−0.033 (−0.320)	−0.036 (−0.311)	−0.473 (−1.392)	−0.441 (−1.297)
AGE	−0.002 (−0.047)	−0.012 (−0.268)	−0.106 (−0.658)	−0.075 (−0.475)	0.001 (0.002)	0.110 (0.270)
GROWTH	−0.001 (−0.101)	0.003 (0.278)	0.039 (1.169)	0.029 (0.727)	−0.138* (−1.797)	−0.100 (−1.210)
LEVER	0.002 (0.771)	0.003 (1.096)	−0.011 (−1.140)	−0.011 (−1.027)	0.012 (0.504)	0.011 (0.482)
OWNCONC	−0.005 (−1.021)	−0.005 (−0.899)	−0.010 (−1.138)	−0.014 (−1.314)	−0.078** (−2.065)	−0.095** (−2.216)
TOBINQ/ROA/ ROE 2013	0.881*** (19.324)	0.880*** (19.043)	0.870*** (16.212)	0.862*** (15.600)	0.596*** (4.586)	0.593*** (4.931)
Constant	0.446 (0.782)	0.511 (0.840)	1.194 (0.764)	1.226 (0.722)	7.197* (1.763)	6.884* (1.731)
Adjusted R^2	0.792	0.790	0.737	0.735	0.303	0.368
F-statistic	90.9***	84.8***	82.1***	62.5***	6.9***	8.1***
Companies (*N*)	68	68	68	68	68	68

Notes: Robust *t*-statistics in parentheses. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table X.
Results on the influence of ISS Quickscore governance ratings on performance for the Anglo-Saxon (AS) region

Variables	TOBINQ Model 1	TOBINQ Model 6	ROA Model 1	ROA Model 6	ROE Model 1	ROE Model 6
QUICKSCORE	−0.003 (−0.094)		−0.109** (−1.985)		−0.166 (−1.108)	
BOARDST		0.019 (0.468)		−0.012 (−0.138)		−0.119 (−0.563)
COMPENS		−0.000 (−0.009)		−0.091 (−1.337)		−0.031 (−0.181)
SHRIGHTS		−0.013 (−0.327)		−0.081 (−1.286)		−0.260 (−1.373)
AUDIT		0.000 (0.004)		−0.020 (−0.582)		0.223 (1.269)
SIZE	−0.013 (−0.453)	−0.010 (−0.229)	−0.075 (−1.514)	−0.087 (−1.136)	−0.104 (−0.610)	0.183 (1.021)
AGE	−0.028 (−0.732)	−0.014 (−0.279)	−0.073 (−1.283)	−0.077 (−1.090)	0.180 (0.767)	0.043 (0.151)
GROWTH	0.004 (0.543)	0.002 (0.231)	−0.006 (−0.464)	−0.002 (−0.137)	0.034 (0.886)	−0.008 (−0.175)
LEVER	−0.003 (−1.135)	−0.002 (−0.684)	−0.004 (−0.932)	−0.002 (−0.484)	0.009 (0.628)	0.002 (0.140)
OWNCONC	−0.002 (−1.259)	−0.003 (−1.134)	0.00 (0.226)	−0.001 (−0.165)	−0.006 (−0.641)	−0.002 (−0.127)
TOBINQ/ROA/ ROE 2013	0.783*** (13.662)	0.768*** (10.135)	0.879*** (47.095)	0.858*** (33.670)	0.712*** (10.056)	0.782*** (10.082)
Constant	0.380 (1.292)	0.298 (0.751)	1.182** (2.136)	1.298 (1.620)	0.144 (0.088)	−2.157 (−1.216)
Adjusted R^2	0.705	0.640	0.876	0.836	0.520	0.532
F-statistic	61.2***	27.7***	548.7***	278.6***	41.1***	26.1***
Companies (*N*)	169	135	169	135	169	135

Notes: Robust *t*-statistics in parentheses. **$p < 0.05$; ***$p < 0.01$

Table XI.
Results on the influence of ISS Quickscore governance ratings on performance for the continental Europe (CE) region

In Table X, the results for Model 1 show a significant relationship between *QUICKSCORE* and performance as measured by *TOBINQ* and *ROE* in the AS region. However, in both cases, the sign of the relationship is contrary to our expectations. Thus, results for Model 1 would not support *H1*. As for the estimation of Model 6, we find a positive significant coefficient for *BOARDST* when performance is proxied by *TOBINQ* and *ROE*, contradicting our *H1a*. For *AUDIT*, we report a significant relationship with *TOBINQ* and *ROE*. The sign of this relationship follows our predictions from *H1d* in the model with *ROE*, although not in the model with *TOBINQ*.

Focusing on the CE region, results for Model 1 in Table XI show a negative and significant relationship between *QUICKSCORE* and performance as measured by *ROA*. This is consistent with *H1*, suggesting a negative influence of weaker governance practices (higher scores) on performance. However, when performance is measured by *TOBINQ* or *ROE* results are non-significant. As for the partial ratings covered in Model 6, we do not observe any significant results for any of the ratings in any of the estimations. This evidence also contradicts prior empirical research (Bauer *et al.*, 2004), supporting that lower country governance standards (the CE in our case) tend to show stronger links between governance and performance.

In terms of the influence of the control variables, the analysis confirms the strong positive impact of current performance on future performance in both regions. We also highlight the significant negative coefficient of *OWNCONC* for the AS region on firm performance as measured by *ROE*, consistent with our predictions for this variable.

Finally, we conduct a robustness check to rule out the notion that conditions necessary for a significant governance-performance relationship are conditioned to achieve a level of governance quality beyond a certain threshold. Hence, we rerun our base regressions across various subsamples. Consistent with the portfolio approach proposed by Gompers, *et al.* (2003), we classify our sample of 237 firms into three clusters, according to *QUICKSCORE*: "good" quality (low risk) of governance (*QUICKSCORE* from 1 to 3), "medium" quality (medium risk) of governance (*QUICKSCORE* from 4 to 7), and "poor" quality (high risk) of governance (*QUICKSCORE* from 8 to 10). Almost half of the firms (46 percent) are at the "medium" governance practices level. Exactly a third of the firms are at the "good" governance practices level, while firms with "poor" governance represent the remaining 21 percent of the sample. We then conduct sequential estimations of Equation (1) for the extreme "poor" and "good" quality of governance clusters. Results of this check are shown in Tables XII and XIII.

Variables	TOBINQ		ROA		ROE	
	Model 1	Model 6	Model 1	Model 6	Model 1	Model 6
QUICKSCORE	0.074 (0.359)		−0.311 (−1.184)		0.172 (0.205)	
BOARDST		0.056 (0.731)		−0.019 (−0.131)		0.581 (1.397)
COMPENS		−0.008 (−0.161)		−0.105 (−0.762)		−0.367 (−1.064)
SHRIGHTS		−0.023 (−0.481)		0.027 (0.406)		−0.515** (−2.149)
AUDIT		−0.003 (−0.070)		−0.054 (−0.807)		0.252 (0.844)
SIZE	−0.065 (−1.053)	−0.101 (−1.177)	−0.156 (−1.309)	−0.230 (−1.332)	−0.467 (−1.319)	−0.533 (−1.293)
AGE	0.062 (0.849)	0.033 (0.244)	0.047 (0.354)	0.103 (0.467)	0.580 (1.003)	0.284 (0.475)
GROWTH	0.013 (1.201)	0.012 (1.061)	0.007 (0.346)	0.015 (0.606)	0.096* (1.694)	−0.005 (−0.065)
LEVER	0.005 (0.910)	0.006 (1.136)	−0.007 (−0.712)	−0.002 (−0.183)	0.017 (0.527)	0.055 (1.626)
OWNCONC	−0.005 (−1.035)	−0.003 (−0.600)	−0.001 (−0.103)	−0.003 (−0.170)	−0.011 (−0.455)	0.012 (0.552)
TOBINQ/ROA/ ROE 2013	0.773*** (6.997)	0.655*** (4.352)	0.860*** (17.422)	0.830*** (15.107)	0.493*** (3.419)	0.409** (2.265)
Constant	0.373 (0.493)	0.779 (0.957)	1.898 (1.161)	1.939 (1.141)	1.434 (0.411)	1.793 (0.431)
Adjusted R^2	0.697	0.524	0.844	0.772	0.322	0.176
F-statistic	43.1***	13.3***	171.3***	62.3***	6.9***	4.4***
Companies *(N)*	50	41	50	41	50	41

Notes: Robust *t*-statistics in parentheses. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table XII.
Results on the influence of ISS Quickscore governance ratings on performance for the poor-quality governance group

	TOBINQ		ROA		ROE	
	Model 1	Model 6	Model 1	Model 6	Model 1	Model 6
QUICKSCORE	0.053 (0.397)		0.104 (0.333)		−1.315 (−1.610)	
BOARDST		−0.117 (−1.363)		−0.082 (−0.610)		−0.127 (−0.287)
COMPENS		0.117 (1.064)		0.350 (1.359)		−0.150 (−0.411)
SHRIGHTS		0.066 (0.827)		−0.109 (−0.614)		−0.230 (−0.459)
AUDIT		0.734 (0.674)		−2.117 (−0.818)		−9.277* (−1.831)
SIZE	0.013 (0.345)	0.051 (0.965)	−0.043 (−0.622)	−0.009 (−0.122)	−0.204 (−0.835)	−0.062 (−0.276)
AGE	−0.019 (−0.510)	−0.041 (−0.780)	−0.190 (−1.169)	−0.152 (−0.973)	0.475 (1.453)	0.574 (1.626)
GROWTH	−0.009 (−0.823)	−0.019 (−1.272)	−0.014 (−0.563)	−0.030 (−1.049)	−0.084* (−1.702)	−0.128** (−2.267)
LEVER	−0.003 (−0.667)	−0.002 (−0.542)	−0.008 (−1.134)	−0.007 (−0.727)	0.022 (0.949)	0.005 (0.262)
OWNCONC	0.001 (0.478)	0.006 (1.056)	0.003 (0.417)	0.005 (0.486)	−0.012 (−0.607)	−0.006 (−0.247)
TOBINQ/ROA/ROE 2013	0.889*** (18.307)	0.934*** (18.933)	0.834*** (17.223)	0.839*** (14.089)	0.794*** (8.141)	0.912*** (13.296)
Constant	−0.007 (−0.020)	−0.282 (−0.565)	1.632 (1.213)	0.672 (0.536)	−1.692 (−0.577)	−4.119 (−1.434)
Adjusted R^2	0.745	0.755	0.776	0.765	0.545	0.605
F-statistic	72.3***	48.9***	93.4***	62.5***	34.2***	27.3***
Companies (N)	79	68	79	68	79	68

Notes: Robust t-statistics in parentheses. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table XIII.
Results on the
influence of ISS
Quickscore
governance ratings on
performance for the
good-quality
governance group

All the estimations fail to establish a significant relationship between *QUICKSCORE* and performance. Similarly, we do not observe any significant relationship between any of the partial ratings and performance. The only two exceptions occur in the model with *ROE* as the dependent variable, and in both cases the sign of the relationship is negative as predicted. Hence, in the estimation conducted with the sample of poorly governed firms, *SHRIGHTS* presents a significant coefficient, and the same occurs for *AUDIT* (p-value < 0.10) in the estimation conducted with the sample of well-governed firms. As the small size of both subsamples might have affected the reported results, in a last robustness check (results not reported), we split the original sample into only two groups: "good" quality of governance (*QUICKSCORE* from 1 to 5), and "poor" quality of governance (*QUICKSCORE* from 6 to 10), obtaining similar results[5]. Overall, these robustness tests provide support to the results reported in the main analysis regarding a lack of a significant relationship between CGR and firm performance.

5. Concluding remarks
This paper addresses the association between CGR and firm performance. Unlike most studies on this subject, which are focused on USA companies, we investigate the European setting. Although our main interest is on the aggregate scores of the ratings (*QUICKSCORE*), we also study the relationship between partial scores relative to board structure, compensation, shareholder rights and audit practices, and performance. Moreover, in order to provide sounder results, our study considers several metrics of performance.

Overall, our results fail to support a consistent relationship between the tested ratings and firm performance for our Europe S&P350 sample. Although we report a few significant relationships for some of the ratings in some of the estimations, these results do not indicate that they are significantly associated with performance. In most cases, significance is only reported at marginal levels and the sign of the relationship is contrary to our predictions in around half of the cases. In addition, the governance quality-groups' robustness checks have yielded steady results, increasing our confidence in the absence of a significant relationship between the tested ratings and performance. Therefore, we should conclude that neither aggregate *QUICKSCORE* nor partial ratings seem to be able to explain differences in performance across firms.

In terms of the analysis at the region level, we find some unexpected results. For the CE region, only the relationship between *QUICKSCORE* and *ROA* was statistically validated, signaling the negative influence of weaker governance practices (higher ratings) on the company's performance as measured by *ROA*. In the AS region, contrary to our expectations, the relationship between the overall quality of governance (*QUICKSCORE*) and performance (*TOBINQ* and *ROE*) was statistically validated, although the sign of this significant relationship stands surprisingly positive. This signals a direct influence of weaker governance practices (higher ratings) on performance. We also find sporadic and occasionally contradictory influences of certain governance pillars on performance.

With regards to corporate ownership, the findings also show that higher ownership concentration negatively affects firm performance, suggesting that ownership concentration may be a performance-restraining mechanism, reflecting entrenchment of the management team, and confirming our expectations. We believe that this finding underpins the importance of controlling for this interdependence between performance and ownership concentration.

In conclusion, similar to some recent papers in this field, our results call into question the usefulness of CGR as they fail to establish a consistent relation between the *QUICKSCORE* and partial ratings and performance. Considering the increasing importance of these commercial ratings for companies and market participants, we believe that our empirical findings have a number of implications for corporate governance research and practice. First, our results question rating agencies' vindication of these ratings, as they do not seem to create value for market participants. Advocates of commercial ratings should cautiously note the weak relationship between these ratings and the future performance of the firm. Consequently, if their purpose is to help investors pick up best performers, then such efforts might have been misguided. For that reason, we recommend that investors should make decisions based on commercial ratings only with due reservations. On the other hand, we might also recommend the providers of these ratings to improve their design of the ratings in order to release more accurate indexes.

Second, our findings also have implications for corporate decision makers, as they increasingly feel pressured to change their corporate governance practices in reaction to rating agencies' qualifications. In addition, policy makers also need to be cautious when using these ratings to analyze governance practices and make recommendations. Lastly, the inferences of our study extend beyond the merits of tested commercial ratings. We provide additional evidence regarding the troubles faced by rating agencies at devising reliable measures of the quality of corporate governance. On that regard, the approach of building aggregate indices based on a wide array of factors might be ill-advised, as pointed out by Bebchuk and Hamdani (2009). Further investigation would be needed to determine which key factors are of real significance to enhance firm performance. Finally, as pointed out by Daines *et al.* (2010), the fact that results obtained using these more sophisticated commercial ratings remain controversial, also call into question conclusions reached by studies based on more simplistic academic corporate governance metrics.

The limitations of the current study are represented by the short time period analyzed and the nature of our sample data, consisted of major companies in terms of market capitalization for the European corporate landscape (relatively homogenous in terms of size and age). Another important limitation is the relatively small samples used in some of the additional analyses. As a future avenue of research, we look to establish a panel data approach, by extending the time series to a minimum period of three years, allowing to build more robust relationships among critical variables. In addition, we might also expand our sample data beyond the very large (and usually older) corporations included in this data set, as well as to run similar analyses using other CGR.

Notes

1. Within this paper, we refer indistinctively to *TOBINQ, ROA and ROE* as firm-level performance indicators.

2. Ownership concentration information for years 2013-2014 was not available in Capital IQ database. Given the low degree of historic changes in this indicator over short-term periods, we use available 2015 data as a proxy.

3. See ISS Quickscore 3.0, ISS, www.issgovernance.com/governance-solutions/investment-tools-data/quickscore/ (last visited September 19, 2016).

4. As a general rule, for the usual significant levels (0.01 or 0.05) we do not provide the specific mark.

5. For the sake of simplicity, results for this set of robustness checks are not reported in tables. However, they are available upon request from the authors.

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