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Auditor Independence and Value Relevance in the European Banking Sector: Do Investor Protection Environment and Corporate Governance Matter?

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Abstract

Our study explores the effects of statutory auditor's independence on value relevance, measuring the different impact against the quality of country-level investor's protection and firm-level corporate governance. A sample of 98 European financial entities listed on the stock markets of 15 countries in the period from 2009 to 2014 is used to measure statutory auditor independence by taking into account audit firm tenure, partner tenure, and the percentage of nonaudit fees. Findings demonstrate that in different investor protection environments or in the presence of differences in corporate governance quality, phenomena that could be interpreted as a deterioration of the auditor independence do not necessarily determine a decrease in the value relevance of accounting numbers. Rather, they may determine a possible increase if the knowledge spillover effects prevail over the perception that independence has deteriorated. These findings add to the literature and provide regulators with insights by suggesting that not only accounting and auditing practices but also country features or firm-level corporate governance quality might influence the outcome of reforms on the independence of the statutory auditor as well as value relevance judgments.

Keywords

auditor independence, value relevance, investor protection, corporate governance, financial entities, European Union

Introduction

This study aims at investigating whether and how the quality of country-level investor protection and firm-level corporate governance influence the effect of statutory auditor's independence on the value relevance of accounting figures. Value relevance is a dimension of

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accounting quality (Barth et al., 2008), the studies of which assess how well accounting numbers reflect information used by investors (Barth et al., 2001, p. 77) for their investment decisions, while independence is a desirable characteristic of the external legal auditor, which, according to the literature, affects audit quality (Tepalagul & Lin, 2015) whose concept has no precise meaning (Antle, 1984).

This study is motivated by the contradictory findings of scholars investigating the relationship between statutory auditor's independence and value relevance, earnings quality or audit quality. Using rotation of the audit firm and of the key audit partner as proxies for independence, Mechelli and Cimini (2017) find an increase in value relevance of accounting amounts. In contrast, while Robu et al. (2016) find that audit firm rotation negatively affects value relevance, Litt et al. (2014) find a negative relationship between partner rotation and audit quality. Also, when scholars use audit firm tenure and nonaudit fees paid by the client to the statutory auditor as measures of independence, findings are contradictory. For what concerns audit firm tenure, some scholars find an increase (Cameran et al., 2008, 2016), others find a decrease (e.g., Banimahd et al., 2013) of accounting quality, and some scholars find no relation (Chi et al., 2009). With regard to nonaudit fees, while Gul et al. (2006) find that a raise in such fees negatively affects value relevance, Knechel and Sharma (2012) find a positive effect.

Our hypotheses are that both country-level investor protection and firm-level corporate governance quality influence the effect of variables used in literature to measure independence on the value relevance of accounting numbers.

To validate these hypotheses, the research analyzes a sample of 98 financial entities listed in the period from 2009 to 2014 in the stock markets of the 15 European countries that belonged to the European Union (EU) when Regulation 1606 of 2005 was issued. From the consolidated annual reports, available on the entities' websites, we have hand-collected variables that proxy independence: audit firm tenure, partner tenure, and the amount of fees paid by the client to the statutory auditor.

The results show that in countries with low-quality investor protection environments, an extension of the audit firm tenure or partner tenure or an increase in the percentage of nonaudit fees paid by the client to the statutory auditor negatively affects the value relevance of accounting figures. The high probability of earnings management behavior and the low-quality of disclosure (Francis et al., 2008; Leuz et al., 2003) lead investors to perceive an independence deterioration rather than an opportunity to improve the knowledge of the client when audit firm tenure, partner tenure, and the percentage of nonaudit fees paid by the client to the statutory auditor increase. Similar findings are given by firms that do not rely on high-quality corporate governance, due to the low monitoring activity on managers and the high probability of frauds (Beasley, 1996). Conversely, the learning effect seems to prevail over the deterioration of independence in countries with high-quality investor protection environments, and in firms that rely on high-quality corporate governance. In this case, an extension of the audit firm or of the partner mandate or an increase in the percentage of the nonaudit fees paid by the client to the statutory auditor positively affects the value relevance of accounting amounts.

These findings contribute to the literature and have implications for both academics and regulators.

For what concerns scholarly research, to the best of our knowledge, this is the first article to investigate the effects of country-level investor protection and firm-level corporate governance on the relationship between independence and the value relevance of accounting amounts. The only paper with a similar purpose is Brooks et al's. (2017), which

investigates the ability of the quality of investor protection to influence the decline of audit quality when the audit firm tenure increases. In this study, they find that stronger investor protection delays the decline in audit quality and requires a longer audit firm rotation term. So, both Brooks et al.'s study (2017) and our article find that features that cannot be controlled by regulators and standard setters affect the quality of financial reporting. Moreover, our study complements Brooks et al.'s findings with a value relevance analysis, showing that not only country features but also the quality of firm-level corporate governance has this ability. Finally, our research adds partner tenure and the percentage of nonaudit fees paid by the client to the statutory auditor to audit firm tenure used in Brooks et al.'s as measures of auditor's independence. Thus, our research fills a gap in the literature due to the absence of studies that provide evidence on how corporate governance quality affects the relationship between auditor's independence and value relevance. It also encourages to further investigate the association with other dimensions of accounting quality (e.g., accrual quality, earnings management, conservatism).

Regulators may learn from these results that the reforms on statutory audit (e.g., in the EU, Directive 2006/43/CE), strengthening independence requirements, affect accounting quality and, in particular, value relevance judgments. Results also suggest that both the scenario and the habit of relying on high-quality corporate governance are important factors that influence value relevance. Our findings can show regulators that not only accounting or auditing practices but also country features and firm-level corporate governance might influence the impact of reforms on the independence of the statutory auditor.

The article is divided into six sections. Following the introduction in section ''Introduction,'' section ''Literature Review and Hypothesis Development'' reviews the literature and provides proofs that support our hypotheses. Section ''Research Methodology'' describes the research protocol. Section ''Sample Selection Strategy and Descriptive Statistics'' is dedicated to the sample selection and to descriptive statistics, while section ''Research Results'' presents our findings. Finally, section ''Conclusion'' provides the conclusions of the article, along with the study's limitations and possible future developments.

Literature Review and Hypothesis Development

This article examines the effect that country-level investor protection and firm-level corporate governance have on the relationship between independence of the statutory auditor and the value relevance of accounting amounts. Therefore, this analysis belongs to the mainstream of agency theory (AT), like most of the studies in the audit field of research, as well as to the positive accounting theory (PAT), like value relevance studies.

According to AT (Jensen & Meckling, 1976), when ownership and managerial control are separated, the principal can select an independent legal auditor to avoid a scenario in which the agent behaves against the interests of the principal.

PAT was employed in accounting to study the association between accounting numbers and stock prices (Ball & Brown, 1968; Beaver, 1968) and provided an explanation with empirical studies of accounting practices (Watts & Zimmerman, 1990). Within PAT, value relevance is applied to the relationships between market data and accounting figures to investigate their ability to reflect the underlying economic value of the firm (Hung & Subramanyam, 2007, p. 639). In the value relevance field of research, scholars distinguish between relevance and reliability, which are two characteristics of accounting figures that make them value relevant. Accounting figures are value relevant only if they include

information that is relevant to investors and reliable enough to affect investor's decisions (Barth et al., 2001, p. 80).

The independence of the statutory auditor prevents collusive and opportunistic behavior and increases investors' perception of the relevance and reliability of accounting figures. Prior studies support the thesis that the independence of the statutory auditor is useful for investors using accounting figures to support economic decisions to the extent that it alleviates the conflict of interest between the self-interest of legal auditors and their professional obligation to provide good advice (Moore et al., 2006). Actually, a statutory auditor perceived to be independent allows investors to rely extensively on the advice of experts, and on accounting figures for economic decisions. In this regard, Kilcommins (1997) claims that the reliability of financial statements is significantly impaired when independence deteriorates. According to this scholar, such deterioration is possible when the audit is performed by a non-Big Six firm, when the audit environment is highly competitive, no audit committee exists, audit tenure is long, nonaudit services are provided by audit personnel to audit clients, or the auditor takes up an employment position with a former audit client.

The existing literature on the topic clearly shows that statutory auditor independence affects value relevance and the reliability of accounting figures. One of the most controversial topics in this area is the identification of variables that measure independence, and the determination of how these variables affect value relevance judgments. Indeed, the analysis of the literature, and in particular of the most recent empirical studies, shows that scrutinizing the effect that such variables have on the value relevance of accounting figures yields contradictory results.

The most common measures of independence of the statutory auditor control for both audit firm tenure and partner tenure, for the frequency of their rotations as well as for the provision of audit and nonaudit services.

Tenure and Rotation of the Audit Firm

Tenure and rotation of the audit firm measure the independence of the auditor (García Blandón & Argilés Bosch, 2013), even if it is not clear what effect such rotation might have on the value relevance of accounting figures. According to Dattin (2017), differences in the regulation between EU member states could help to explain the inconclusive results. Actually, within the EU, member states respond with different regulations to the requirements of Directive 2006/43/CE of 17th May 2006. For instance, regarding the rules on rotation of audit firm, in Italy, before Regulation No. 537/2014 of the European Parliament and of the council of April 16, 2014, the auditor's term was renewed every 3 years and extended to a maximum of 9-year tenure. In Spain, the audit firms rotated almost every 7 years (Cameran et al., 2015; Ruiz-Barbadillo et al., 2009). In France, there was a 6-year mandate for the auditor. In addition to differences in regulations, there were theoretical arguments that justified the inconclusive and controversial results found by numerous academic studies on the consequences of the mandatory rotation of auditors and/or audit firms (Dattin, 2017, p. 45). For instance, Bamber and Bamber (2009) argue that, in presence of rotation, the learning effect should prevail over the improvement of independence. This means that investors trust less accounting figures, due to the new auditor's lack of familiarity with the client. Actually, according to the reasoning of such scholars, rotation might produce a loss of client-specific knowledge that potentially impairs the effectiveness and the quality of the audit and leads investors to doubt the reliability of the accounting figures.

By analyzing 64 Romanian companies listed on the Bucharest Stock Exchange between 2006 and 2014, Robu et al. (2016) support this thesis and find that auditor's rotation negatively affects the value relevance of the reported information. In contrast, in a study that focuses on EU countries, Mechelli and Cimini (2017) empirically demonstrate that in the year in which the auditor or the partner rotates, investors consider accounting figures more value relevant than in subsequent years. According to these findings, rotation should increase the value relevance of accounting figures to the extent that investors perceive the new auditor to be more independent than the previous one. Differing from Bamber and Bamber (2009), Mechelli and Cimini (2017) suggest that, in the presence of a rotation, the adverse learning effect affects value relevance judgments less than the deterioration of independence of the previous statutory auditor.

Inconsistent findings have also been reached by prior studies using audit firm tenure as a measure of the independence of the statutory auditor. Focusing on the Italian context, Cameran et al. (2008, 2016) show that audit quality deterioration occurs after mandatory changes of the statutory auditor. This suggests that the so-called learning effect tends to prevail over the deterioration of auditor independence. Further studies using tenure to control for the independence of the auditor have achieved similar findings showing that longer audit firm tenure is associated with greater quality of reported earnings due to a deep knowledge of the company. For instance, Ghosh and Moon (2005, p. 586) provide global evidence that lowest forecast errors are associated with longer tenure, suggesting that earnings quality is perceived as improving with tenure because earnings are more predictable. A possible explanation is an improved auditor expertise from superior client-specific knowledge (Ghosh and Moon, 2005, p. 588).

Other studies have achieved different findings, demonstrating that a long audit tenure impairs audit quality, and providing support to the studies in favor of audit firm rotation. Davis et al. (2002) conclude that audit quality declines with extended tenure because, as tenure increases, client firms have greater reporting flexibility and earnings forecast errors decline. In the value relevance field of study, Banimahd et al. (2013) investigate 156 companies listed on the Tehran Stock Exchange (TSE) over a 10-year period and find a negative relationship between audit firm tenure and value relevance. This is because the longer the tenure is, the more likely it is that opportunistic behavior will occur due to familiarity between the audit firm and the client. In this study, the deterioration of independence seems to prevail over the learning effect when audit firm tenure increases.

Some scholars, like Chi et al. (2009), who use audit data from Taiwan, find no consistent support for the belief that mandatory audit partner rotation enhances investor's perceptions of audit quality. Similarly, Hakim and Omri (2012), who analyze publicly listed companies within the Tunisian capital market over the period of 2000 to 2005, identify no relation with the auditor's tenure when they investigate the association between value relevance and reputation, specialization, and experience of the external auditors.

More recently, Brooks et al. (2017) show that the quality of investor protection affects the relationship between audit quality and auditor's independence to the extent that stronger investor protection delays the decline in audit quality requiring longer audit firm rotation term. This makes us believe that high legal liability regimes can raise the checklist's accuracy with more effective legal incentives, stronger regulatory oversight, and stronger audit standards and that they enhance auditors' incentives to speed up the learning effect of their new clients (Brooks et al., 2017, p. 5).

Tenure and Rotation of the Key Audit Partner

As is the case for audit firm tenure, it is similarly unclear to what extent partner tenure may affect the relationship between independence and value relevance or, more generally, between independence and accounting quality. Focusing on the European setting, Mechelli and Cimini (2017) show that the change of the key audit partner positively affects the value relevance of earnings and the book value of equity suggesting a negative relationship between audit tenure and accounting quality. In this setting, the VIII Directive n. 2006/43/CE of 17th May 2006, requires mandates to last no longer than 7 years, with a cooling-off period of only 2 years. On the contrary, in the United States, according to Manry et al. (2008), there is a positive relationship between partner tenure and accounting quality, measured by using estimated discretionary accruals. Like Manry et al. (2008), Litt et al. (2014) observe low financial reporting quality following an audit partner change. A possible explanation for this may be found in Section 203 of SOX 2002, which accelerated the audit partner rotation from 7 to 5 and increased their cooling-off from 2 to 5 years. Assuming the prevalence of the learning effect over the deterioration of independence, Litt et al. (2014) hypothesize that the reduction of the length of the mandate might produce a significant adverse effect on audit quality, primarily due to a 2- to 3-year client familiarization period with the new audit partner.

Percentage of Nonaudit Fees

Using the percentage of nonaudit fees as a measure of independence, prior studies have documented contradictory findings regarding the effect of ''fee dependence'' (Craswell et al., 2002) on the relationship between independence and value relevance. The large majority of scholars find that nonaudit fees negatively affect the independence of the legal auditor and also the quality of financial reporting. A possible reason for this is that the amount and method by which fees are paid to audit firms can create a conflict of interest for auditors (Dart, 2011). This could explain why, in analyzing a sample of Australian firms, Gul et al. (2006) find a decrease in the value relevance of earnings in entities that receive a high proportion of nonaudit services by external auditors, with an adverse effect that is stronger when such services are provided by non-Big Six auditors. According to their analysis, the provision of nonaudit services by the external auditor is likely to adversely affect investors' perceptions of the credibility of financial reports; moreover, Big Six auditors, because of reputational capital and litigation costs, are likely to mitigate the adverse effects of nonaudit services (Gul et al., 2006, p. 797). Knechel and Sharma (2012) show that the provision of nonaudit tax services enhances the value and performance of the audit through knowledge spillovers, a finding in line with studies demonstrating that the provision of audit and nonaudit services improves audit effectiveness and does not reduce audit quality (e.g., Kinney et al., 2004; Robinson, 2008). Similarly, by analyzing a sample of 28 EU countries, Siekkinen (2017) finds a positive association between the provision of nonaudit services and the value relevance of Level 3 fair value assets and that the importance of the client to the statutory auditor negatively affects the value relevance of such hierarchical level.

Hypothesis Development

To formulate a research hypothesis regarding the effect that country-level investor protection and firm-level corporate governance have on the relationship between independence

and value relevance, we present a table with all the studies mentioned above and showing the relationship between the different dimensions of accounting quality and auditor's independence proxied by the presence of the rotation of audit firms and of the key audit partner, by the audit firm tenure and by the payment of nonaudit fees.

Both the analysis of the literature and the results summarized in Table 1 indicate that studies investigating the effect of variables that are proxy for auditor's independence on accounting quality have achieved inconsistent findings. A possible explanation for these different results might be found in factors that go beyond the standard setting process and that regulators cannot control.

With the limited exception of Brooks et al. (2017), the table also shows the lack of studies investigating the potential effect of country characteristics on the relationship between auditor's independence and the different dimension of accounting quality.

No paper focuses on the ability of firm-level corporate governance to affect this relationship. The lack of such studies could be a possible explanation for the inconsistencies found by scholars investigating the relationship between auditor's independence and accounting quality.

As to country characteristics, investor protection should affect value relevance to the extent that legal regimes that provide greater investor protection are posited to lead to financial reporting behavior that reflects greater disclosure and less earnings management (Francis et al., 2008, p. 336). In particular, in high-quality investor protection environments, increases in auditor and partner tenure should lead investors to value accounting amount more than that in countries with low-quality investor protection environments. The lower probability of earnings management behavior and the high-quality of disclosure cause the learning effect to prevail over the deterioration of independence when the tenure increases. On the contrary, the deterioration of independence should prevail over the learning effect in case of an increase in audit firm tenure and in partner tenure in countries with low-quality investor's protection environments because of the high risk of financial information misrepresentation or disclosure low levels. Similarly, the percentage of nonaudit fees paid by the client to the auditor should have different effects on value relevance according to the quality of the investor protection environment. In particular, in countries with low-quality investor protection, in the case of a high percentage of nonaudit fees paid by the client to the statutory auditor, the deterioration of independence should prevail over the improvement in financial reporting quality due to knowledge spillover effects. More specifically, high nonaudit fees paid by the client to the statutory auditor should adversely affect investors' perceptions of the reliability of financial reports because collusive behavior and earnings management behavior are more probable. Conversely, the improvement in financial reporting quality due to knowledge spillover effects should prevail over the deterioration of independence in countries with high-quality investor protection due to both the low risk of collusive behavior and better disclosure. Thus, our first hypothesis is as follows:

Hypothesis 1: The influence of auditor's independence on the value relevance of the accounting figures depends on the quality of investor protection.

To the best of our knowledge, no prior studies have examined the effect of the quality of corporate governance on the relationship between auditor's independence and value relevance. Despite the use in the literature of so many metrics to proxy the quality of corporate governance, the independent directors as a percentage of the total number of directors

Table 1. Literature Review.

Measures of independence	Research papers	Context investigated	Effect on value relevance, earnings quality, audit quality
Rotation of the audit firm	Mechelli and Cimini (2017)	EU countries	Positive effect on value relevance
	Robu et al. (2016)	Romanian companies	Negative effect on value relevance
Audit firm tenure	Brooks et al. (2017)	Countries across legal regimes with high- versus low-level investor protection	Positive association with audit quality
	Cameran et al. (2008, 2016)	Italian companies	Positive effect on earnings quality
	Ghosh and Moon (2005)	Worldwide countries	Positive effect on earnings quality
	Davis et al. (2002)	U.S. firms	Negative effect on earnings and audit quality
	Banimahd et al. (2013)	Iranian firms	Negative effect on value relevance
	Chi et al. (2009)	Taiwanese firms	No relation with audit quality
Partner rotation	Mechelli and Cimini (2017)	EU countries	Positive effect on value relevance
	Litt et al. (2014)	U.S. firms	Negative effect on audit quality
Nonaudit fees	Gul et al. (2006)	Australian firms	Negative effect on value relevance of earnings
	Knechel and Sharma (2012)	U.S. firms	Positive effect on value relevance
	Siekkinen (2017)	EU countries	Positive effect on value relevance on Level 3 fair value assets

Note. The table lists the studies investigating the relationship between the different dimensions of accounting quality and auditor independence proxied by the presence of rotation of audit firm and of the key audit partner, by the audit firm tenure and by the payment of nonaudit fees. EU = European Union.

might be considered a feature of corporate governance (Boone et al., 2007; Coles et al., 2008; Linck et al., 2008; Pathan & Skully, 2010). Evidence suggests that in firms with stronger board independence, managers are significantly less likely to commit fraud (Beasley, 1996). The high fees payed to the statutory auditor assure a good monitoring activity on top management that is less motivated to commit frauds. According to Nehme and Jizi (2018), boards with a larger size and higher independence pay higher audit fees to enhance the monitoring capacity and protect the interests of stakeholders. These scholars state that this is particularly true in financial entities, as the negative consequences of manipulated financial statements will affect not only shareholders but also regulators' reputation. Thus, firms that rely on high-quality governance mechanisms should not be worried by investor's perception of independence deterioration when auditor fees or tenure increase. On the contrary, these firms use tenure and audit fees to contrast opportunistic behavior and to safeguard the reputation of the entity. For these reasons, firm-level corporate governance and country-level investor protection should have a similar influence on the relationship between the independence of the legal auditor and the value relevance of accounting amounts. In particular, in firms that rely on high-quality corporate governance, an increase in audit firm tenure, partner tenure, and/or the amount of audit fees paid by the auditor should lead investors to value accounting amount more than in firms with weaker governance mechanisms. The lower motivation to carry out fraud due to the increased monitoring activity by firms with stronger (vs. weaker) board independence causes learning and knowledge spillover effects to prevail over the deterioration of independence, with a consequent increase in reliability of accounting amounts for economic decisions. In contrast, the deterioration of independence should prevail over the learning effect in the case of an increase in audit firm tenure, partner tenure, and/or the percentage of nonaudit fees in firms that rely on low-quality corporate governance. Actually, in these firms, because frauds are by far more probable for the scarce monitoring activity on top management, investors tend to reduce their trust in accounting values. Thus, our second hypothesis is as follows:

Hypothesis 2: The influence of auditor's independence on the value relevance of the accounting figures depends on the quality of corporate governance.

Research Methodology

This research focuses on a sample of financial entities listed in the EU stock markets. We have chosen EU firms because they have implemented a common framework on statutory auditor's independence in compliance with the EU Directive 2006/43/CE; moreover, our choice of a single sector increases the reliability of our test statistics and avoids biases due to industry effects. From previous studies, we learn that auditing financial firms has several peculiarities. For instance, financial entities' auditors are expected to be more careful when auditing banks, as these are considered part of the market equity. More scrutiny in auditing banks' voluminous transactions and critical accounting assumptions and estimates push auditors to spend more time on audits (e.g., Nehme & Jizi, 2018).

To test our hypotheses, we have collected data regarding the quality of country-level investor protection, the quality of firm-level corporate governance, and some variables that, according to the literature, proxy measure the independence of the statutory auditor.

As to the measure of country-level investor's protection, from the ''Doing Business'' World Bank databases, we have downloaded the investor protection index (IP_{ct}) for each

European country analyzed and for each year investigated (2009–2014). The World Bank index measures the strength of minority shareholder protection against directors' misuse of corporate assets; it also assesses governance safeguards and corporate transparency requirements that reduce the risk of abuse. Following Francis and Wang's (2008) suggestion, in our robustness tests, we have also used an alternative metric to proxy for the quality of the legal setting, due to the multiple concept of investor's protection, and for reducing biases due to the possibilities of measurement errors. The alternative metric is the World Bank enforcing contracts indicator. It measures the times and costs for resolving a commercial dispute through a local first-instance court as well as the quality of judicial processes index, evaluating whether each economy has adopted a series of good practices that promote quality and efficiency in the court system. To identify countries with high and low investor protection, we split at the median our metrics collected from the World Bank database to identify countries with high and low country-level investor protection.

As to the quality of firm-level corporate governance, the percentage of independent directors has been hand-collected from the documents available on the websites of financial entities included in our sample. To identify firms with high- and low-quality corporate governance mechanisms, we split the percentage of independent director at the median.

As to auditor's independence, from the consolidated accounts of the entities analyzed, we hand-collected variables that, according to the accounting literature, measure this desirable characteristic of the statutory auditor. The choice to test our hypotheses by using different variables that proxy independence not only allows us to bypass academic disputes on the best measures of independence but also guarantees the robustness of our findings. In addition, it provides regulators with more comprehensive insights because they should be aware of the effect that reforms have on statutory audits, and in particular of the impact that independence requirements have on the relevance and reliability of accounting figures.

The first two independence proxy variables are audit firm tenure and partner tenure. By splitting these variables at the median, we can identify clients that have long and short relationships with their auditor and their key audit partner. Other variables are the amount of audit fees and the amount of nonaudit fees paid by the client to the statutory auditor. These variables allow us to calculate our third independence proxy variable, which is the percentage of nonaudit fees with respect to the annual total fees paid by the client to the auditor. By splitting this ratio at the median, we can identify firms that pay high nonaudit fees and low nonaudit fees as percentages of total fees paid to the statutory audit firm during each year analyzed.

Value relevance is assessed by using a price model (Ohlson, 1995) whose variables are deflated by the number of shares outstanding because this specification has the best performance, regardless of the type of the scale effect (Barth & Clinch, 2009).

The following regression model is used to test how our measures of auditor's independence affect the value relevance of reported earnings and book value:

$$P_{it} = \alpha_0 + \alpha_1 NIPS_{it} + \alpha_2 BVPS_{it} + \alpha_3 dINDEP_{it} + \alpha_4 dINDEP_{it} xNIPS_{it} + \alpha_5 dINDEP_{it} xBVPS_{it} + fixed\,effects + \varepsilon, \quad (1)$$

where P_{it} is the price per share of the firm i at the end of the fiscal year t, $NIPS_{it}$ is the net income per share of the firm i at the end of the fiscal year t, $BVPS_{it}$ is the book value per share of equity of the firm i at the end of the fiscal year t, and $dINDEP_{it}$ is a dummy variable that measures the independence of the statutory auditor with three different proxies. It

is equal to 1 in case of long audit firm tenure, partner tenure, and in presence of high percentage of nonaudit fees paid by the client to the statutory auditor; it is equal to 0 in case of short audit firm tenure, partner tenure, and in presence of low percentage of nonaudit fees paid by the client to the statutory auditor. Fixed effects are dummy variables that control for the time and country characteristics that have not been considered among regressors and that do not change over time or cross-sectionally; ε is the error term.

To test the first hypothesis that the influence of auditor's independence on the value relevance of the accounting figures depends on the quality of country-level investor protection, we ran Equation 1 over different clusters of firms operating in a high- and low-quality investor protection environment. To test the second hypothesis that the influence of auditor's independence on the value relevance of the accounting figures depends on the quality of firm-level corporate governance, we ran Equation 1 over different clusters of firms that rely on high- and low-quality corporate governance mechanisms.

Like in Kothari and Shanken (2003), this research examines accounting variables' value relevance by analyzing the estimated coefficient's magnitude and statistical significance. While statistically significant coefficients suggest the value relevance of the corresponding variables, the magnitude of statistically significant coefficients denotes their more or the less value relevance. In models with interaction terms like those of this study, our expectation is to find regression coefficients α_4 and α_5 statistically significant. This suggests a significant difference between value relevance of accounting figures in entities with high and low auditor's independence. Specifically, we expect to find these coefficients to be negative in low investor protection environments and in firms that rely on low-quality corporate governance mechanisms because an increase in audit firm tenure, partner tenure, and the percentage of nonaudit fees should lower the value relevance of accounting figures. Indeed, according to our thesis, the higher probability of earnings management behavior and the lower quality of disclosure cause the deterioration of independence to prevail over the knowledge spillover effects, due to the negative consequences that collusion between the auditor and the managers could have on the quality of financial reporting. Conversely, we expect to find the coefficients of interaction terms to be positive in high investor protection environments or in firms relying on high-quality corporate governance mechanisms. This lets us infer that increases in audit firm tenure, partner tenure, and the percentage of nonaudit fees also increase the value relevance of accounting figures. In these settings, the lower risk of earnings management behavior and the better disclosure of countries with high-quality investor's protection or high monitoring activity, typical of firms that rely on high-quality corporate governance mechanisms, should cause the knowledge spillover effects to prevail over the deterioration of independence.

Sample Selection Strategy and Descriptive Statistics

In this section, we describe the sample selection strategy, and we provide the most common descriptive statistics of data used to test our hypotheses.

For the sample selection strategy, we have downloaded from the Orbis Bank Focus database the list of financial entities belonging to the EU at the issuance of Regulation 1606/2002. We started with 229 listed financial entities that operate in the 15 selected countries from 2009 to 2014; after eliminating entities lacking complete documentation, as described in Table 2 (Panel A), we have reduced our final sample to 98 financial entities. We have also excluded financial entities that do not use International Accounting Standards/International Financial Reporting Standards, entities that do not close their fiscal year on

Table 2. Search Strategy and Geographic Location.

Panel A

Search strategy	Financial entities
EU-15 listed financial entities	229
Entities with missing data	−107
Financial entities that are not IAS/IFRS compliant	−11
December 31 fiscal year-end	−11
Financial entities with a negative book value	−2
Total exclusions	−131
Financial entities included in the sample	98

Panel B

Countries	Entities	Countries	Entities	Countries	Entities
Austria	7	Germany	10	Netherland (The)	4
Belgium	2	Greece	1	Portugal	1
Denmark	7	Ireland	2	Spain	4
Finland	2	Italy	21	Sweden	5
France	6	Luxembourg	1	United Kingdom	25

Note. Panel A describes the sample selection strategy that started with 229 listed financial entities and ended with 98 listed financial entities, after exclusions due to missing data, to the presence of non-IFRS adopters, of entities that do not close their fiscal year on December 31 and of Greek entities with negative book value of equity. Panel B describes the geographic location of the entities analyzed and shows where the 98 financial entities included in our sample are listed. IAS = International Accounting Standards; IFRS = International Financial Reporting Standards; EU = European Union.

December 31 (Tsalavoutas et al., 2012) and entities with a negative book value. Panel B of Table 2 tabulates the geographic location of these 98 financial entities.

From Panel A of Table 2, it is evident that most of the exclusions are due to missing data. The problem of missing data mostly regards the variables hand-collected from annual reports that proxy independence. Among entities with a negative book value, there are Greek banks such as the National Bank of Greece, which reports a negative book value for both 2011 and 2012, leading its auditor to emphasize, without a qualifying opinion, uncertainties that may adversely affect the going concern assumption until the completion of the recapitalization process.

Panel B of Table 2, shows that the United Kingdom is the country with the majority of financial entities included in the sample.

Table 3 shows the descriptive statistics of the variables used to test our hypotheses.

It reports the number of observations, the median, the mean, the standard deviation, the minimum, and the maximum of variables that provide interesting insights justifying specific methodological choices made to test our research hypotheses. The divergence between the mean and the median, due to outliers, explains our preference for a share-deflated price model to overcome biases due to the scale effect. The minimum value of earnings shows that in the sample analyzed, there are loss firms. The presence of firms with negative earnings leads us to employ a robustness test to exclude loss firms from our sample. The

Table 3. Descriptive Statistics.

Variables	Number of FYO	*Mean*	Median	*SD*	Minimum	Maximum
P_{it}	588	14.74	7.46	21.82	0.03	186.67
$NIPS_{it}$	588	17.05	0.46	32.40	−352.89	271.63
$BVPS_{it}$	588	21.91	7.19	40.89	0.02	398.49
$AUTENURE_{it}$	588	8.44	6.00	8.44	1.00	69.00
$PATENURE_{it}$	588	2.16	2.00	1.26	1.00	6.00
$NAFEE\%_{it}$	588	28.00	25.00	0.21	0.00	0.90
IP_{ct}	588	6.22	5.70	1.24	3.30	8.70
$AI\%_{it}$	588	35.79	38.46	26.74	0	100

Note. Table 3 shows the number of firm-year observations (FYOs), the mean, the median, the standard deviation, the maximum, and the minimum values of variables used in this research to test our hypotheses. Variable definitions: P_{it} is the price per share on the reporting date (in Euros); $NIPS_{it}$ is the reported net income per share (in Euros); $BVPS_{it}$ is the reported book value of equity per share (in Euros); $AUTENURE_{it}$ and $PATENURE_{it}$ are the auditor and partner tenure (number of years), respectively; $NAFEE\%_{it}$ is the percentage of annual nonaudit fees paid by the client to the statutory auditor; IP_{ct} is the investor protection index downloaded from the World Bank database; $AI\%_{it}$ is the ratio of the independent directors to the total board members. Subscripts *i, t*, and *c* refer to entities, years, and countries, respectively.

Table 4. Correlation Coefficients.

Variables	P_{it}	$NIPS_{it}$	$BVPS_{it}$	$dAUTENURE_{it}$	$dPATENURE_{it}$	$dNAFEE\%_{it}$
P_{it}	+1.00					
$NIPS_{it}$	−.20***	+1.00				
$BVPS_{it}$	+.66***	+.02	+1.00			
$dINDEP_{it}$						
$dAUTENURE_{it}$	+.04	−.06	−.03	+1.00		
$dPATENURE_{it}$	−.02	+.07*	−.02	+.07*	+1.00	
$dNAFEE\%_{it}$	+.02	−.03	+.12***	+.26***	+.01	+1.00

Note. Table 4 tabulates Pearson's correlation coefficients between the variables used to run Regression 1. Variable definitions: P_{it} is the price per share; $NIPS_{it}$ is the net income per share; $BVPS_{it}$ is the book value per share; $dAUTENURE_{it}$, $dPATENURE_{it}$, and $dNAFEE\%_{it}$ are our metrics that proxy auditor independence ($dINDEP_{it}$). They are dummy variables, which are equal to 1 in case of low auditor independence and to 0 otherwise. In particular, $dAUTENURE_{it}$ is equal to 1 if, for each entity observed in a certain year, the number of years of the client–auditor relationship is above the median, and is equal to 0 otherwise; $dPATENURE_{it}$ is equal to 1 if, for each entity observed in a certain year, the number of years of the client-key audit partner relationship is above the median, and is equal to 0 otherwise; $dNAFEE\%_{it}$ is equal to 1 if, for each entity observed in a certain year, the percentage of nonaudit fees in respect to the total fees paid by the client to the auditor is above the median, and is equal to 0 otherwise; ε is the error term. Subscripts *i* and *t* refer to entities and years, respectively.

*Correlation coefficient statistically significant at 10% level. *** Correlation coefficient statistically significant at 1% level.

minimum value of book value is positive because we have excluded banks with a negative book value of equity from our sample.

Table 4 displays the linear correlation coefficients between the variables used to run Equation 1. Most of these coefficients are significant in magnitude and statistically different from zero at 1% level of significance.

Research Results

Main Analysis

Tables 5 and 6 show the regression parameters estimated by using a modified version of the price model to test whether variables that proxy for independence in the accounting literature affect value relevance differently according to the quality of country-level investor protection and firm-level corporate governance.

Table 5 provides evidence that an increase in the audit firm tenure (Panel A), partner tenure (Panel B), and the percentage of nonaudit fees (Panel C) has a different effect on value relevance depending on the investor protection environment in which the firm operates.

Panel A shows that in countries with low-quality investor protection, there is a statistically significant difference between the value relevance of earnings disclosed by entities with a long relationship and entities with a short relationship with the audit firm. The findings do not provide the same evidence for book value of equity. Actually, while the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is negative (e.g., -1.19) and statistically significant (p value $\leq$ 5%), the regression coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ is not statistically significant. The same table suggests that in countries with high-quality investor's protection, when the audit firm tenure increases, investors react by placing additional weight on earnings. Actually, the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is positive (e.g., +1.64) and statistically significant (p value $\leq$ 1%). The research results continue to provide evidence that in countries with high-quality investor protection, the value relevance of book value continues to be unaffected by an increase in audit firm tenure. The regression coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ continues to be not statistically significant.

Panel B provides interesting insights indicating that similar conclusions could be drawn assuming the length of the partner relationship as a proxy of independence. As to the value relevance of earnings, in countries with low-quality investor protection, the regression coefficient of the net income disclosed by entities with long partner tenure is statistically different and lower than that of entities with short partner tenure, as the coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is negative and statistically significant at 5% (e.g., regression coefficient -0.26). As is the case for audit firm tenure, results show that when partner tenure increases, there is no evidence that the value relevance of the book value of equity changes. Actually, the regression coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ is not statistically significant. The same panel shows that in countries with high-quality investor protection, investors place additional weight only on earnings, as the regression coefficient $dINDEP_{it} \times NIPS_{it}$ is positive (e.g., +1.10) and statistically significant (p value $\leq$ 10% equal to 5.9%). If we compare Panels A and B, we can see that the effect on the earning value relevance of a partner tenure increase is lower than that of an audit firm tenure increase. The absolute value of the regression coefficients of interaction terms $dINDEP_{it} \times NIPS_{it}$ of Panel B is lower than that of Panel A. This supports Bamber and Bamber's (2009) thesis that audit partner rotation (tenure) is likely to yield second-order effects relative to the effects of audit firm rotation (tenure). As to the value relevance of the book value of equity, the findings show that, as with audit firm tenure, differences in partner tenure do not affect its value relevance.

Panel C shows the findings achieved assuming the percentage of nonaudit fees paid by the client to the statutory auditor as a measure of independence. The panel shows that in

Table 5. The Effect of Audit Tenure, Partner Tenure, and Nonaudit Fees on Value Relevance in Different IP Environments.

Panel A						
Auditor tenure	Low-quality IP			High-quality IP		
N° FYO	341			247		
F-statistic	24.40***			27.68***		
R^2 (Adj. R^2)	59% (57%)			66% (63%)		
	Coefficients	*T*-statistics	VIF	Coefficients	*T*-statistics	VIF
$NIPS_{it}$	+2.07	+5.22***	2.32	+1.52	+4.85***	1.77
$BVPS_{it}$	+0.32	+9.96***	1.90	+0.56	+11.10***	2.31
$dINDEP_{it}$	+3.57	+1.75*	1.82	−0.84	−0.78	2.58
$dINDEP_{it} \times NIPS_{it}$	−1.19	−1.98**	2.56	+1.64	+2.70***	1.82
$dINDEP_{it} \times BVPS_{it}$	+0.04	+1.03	2.50	−0.06	−0.79	2.88
Intercept	+0.31	+0.05		−0.55	−0.20	
Panel B						
Partner tenure	Low-quality IP			High-quality IP		
N° FYO	341			247		
F-statistic	24.28***			25.48***		
R^2 (Adj. R^2)	59% (57%)			64% (61%)		
	Coefficients	*T*-statistics	VIF	Coefficients	*T*-statistics	VIF
$NIPS_{it}$	+1.39	+5.42***	1.95	+1.24	+3.87***	2.09
$BVPS_{it}$	+0.12	+7.24***	2.44	+0.54	+9.12***	3.00
$dINDEP_{it}$	−0.73	−0.48	1.97	−0.19	−0.17	2.52
$dINDEP_{it} \times NIPS_{it}$	−0.26	−2.17**	1.55	+1.10	+1.90*	2.58
$dINDEP_{it} \times BVPS_{it}$	+0.02	+1.04	2.63	−0.04	−0.49	3.25
Intercept	+5.38	+1.29		+3.18	+0.83	
Panel C						
% Nonaudit fees	Low-quality IP			High-quality IP		
N° FYO	341			247		
F-statistic	24.24***			28.61***		
R^2 (Adj. R^2)	59% (57%)			61% (60%)		
	Coefficients	*T*-statistics	VIF	Coefficients	*T*-statistics	VIF
$NIPS_{it}$	+2.06	+5.48***	2.06	+0.56	+2.39***	2.60
$BVPS_{it}$	+0.30	+8.00***	2.53	+0.50	+8.88***	3.52
$dINDEP_{it}$	−2.42	−1.29	1.55	−2.24	−0.18	2.21
$dINDEP_{it} \times NIPS_{it}$	−0.41	−2.16**	1.50	+0.75	+1.79*	2.63
$dINDEP_{it} \times BVPS_{it}$	+0.03	+0.88	2.39	−0.10	−1.43	3.57
Intercept	+3.17	+0.53		+8.07	+3.73***	

Note. Panels A to C present results of the running Equation 1 over the clusters of countries that operate in high- and low-quality IP environments. They tabulate regression coefficients, *t*-statistics, and VIF. The *t*-statistics are based on White's (1980) heteroskedasticity-adjusted robust variance estimates. Variable definitions: $NIPS_{it}$ is the net income per share; $BVPS_{it}$ is the book value per share; $dINDEP_{it}$ is a dummy variable that measures the independence of the statutory auditor proxied by auditor tenure (Panel A), partner tenure (Panel B), and by the percentage of nonaudit fees paid by the client to the audit firm (Panel C). VIF = variance inflation factor; IP = investor protection; FYO = firm-year observation.

*10% level of significance. ** 5% level of significance. *** 1% level of significance.

countries with low-quality investor protection, there is a statistically significant difference between the value relevance of earnings disclosed by entities that pay a higher percentage of nonaudit fees to the statutory auditor, compared with those that pay a lower percentage of nonaudit fees. Findings do not provide evidence of differences in terms of value relevance of book value. Actually, the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is negative (e.g., -0.41) and statistically significant (p value $\leq 5\%$), whereas the regression coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ is not statistically significant. The same panel suggests that in countries with high-quality investor protection, a high percentage of nonaudit fees lead investors to react by only placing additional weight on earnings. Indeed, while the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is positive (e.g., +0.75) and statistically significant at 10% (p value equal to 7.3%), the coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ is not significant.

According to our findings, the hypothesis that the influence of auditor's independence on the value relevance of the accounting figures depends on the quality of country-level investor protection is valid for earnings but not for book value of equity. Indeed, in low-quality investor protection environments, increases in partner tenure, audit firm tenure, and the percentage of nonaudit fees negatively affect the value relevance of earnings. These results confirm that in these cases, the deterioration of independence prevails over the learning effects. On the contrary, in high-quality investor protection environments, because the knowledge spillover effects prevail over the deterioration of independence, the value relevance of earnings increases.

Table 6 shows findings regarding the effect that an increase in the audit firm tenure (Panel A), partner tenure (Panel B), and the percent of nonaudit fees (Panel C) has on value relevance according to the quality of firm-level corporate governance.

Panel A shows that in the cluster of firms that do not rely on high-quality corporate governance, there is a statistically significant difference between the value relevance of both earnings and book value disclosed, respectively, by entities with a long relationship and by entities with a short relationship with the audit firm. Both the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ and $dINDEP_{it} \times BVPS_{it}$ are negative and statistically significant at 1% (e.g., the fist coefficient is -0.02 and the second one is -0.09). The same table suggests that in firms relying on high-quality corporate governance, when the audit firm tenure increases, investors react by placing additional weight on earnings. Actually, the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is positive (e.g., +1.18) and statistically significant at 10%. In this cluster, the research results continue to provide evidence that the value relevance of the book value continues to be unaffected by an increase in audit firm tenure. Indeed, the regression coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ continues to be not statistically significant like in Table 5.

Panel B provides interesting insights indicating that there is no evidence that the length of the partner mandate affects the relationship between auditor's independence and value relevance. This continues to validate the thesis of Bamber and Bamber's (2009), according to which audit partner rotation (tenure) is likely to yield second-order effects relative to the effects of audit firm rotation (tenure).

Panel C shows the findings achieved assuming the percentage of nonaudit fees paid by the client to the statutory auditor as a proxy for independence. The panel shows that in firms with low-quality corporate governance, there is a statistically significant difference between the value relevance of earnings and book value disclosed by entities that pay a higher percentage of nonaudit fees to the statutory auditor, compared with those that pay a lower percentage of nonaudit fees. Actually, both the regression coefficients of interaction

Table 6. The Effect of Audit Tenure, Partner Tenure, and Nonaudit Fees on Value Relevance When Firms Rely on Different CG Mechanisms.

Panel A						
Auditor tenure	Low-quality CG			High-quality CG		
N° FYO	298			290		
F-statistic	25.28***			15.96***		
R^2 (Adj. R^2)	66% (63%)			54% (51%)		
	Coefficients	*T*-statistics	VIF	Coefficients	*T*-statistics	VIF
$NIPS_{it}$	+0.74	+5.61***	1.93	+0.92	+2.76***	1.67
$BVPS_{it}$	+0.33	+13.26***	2.36	+0.25	+9.28***	2.17
$dINDEP_{it}$	+4.16	+2.11**	1.59	−0.96	−0.95	2.03
$dINDEP_{it} \times NIPS_{it}$	−0.02	−7.77***	1.87	+1.18	+1.70*	1.92
$dINDEP_{it} \times BVPS_{it}$	−0.09	−2.77***	2.76	−0.05	−1.59	1.99
Intercept	+6.97	+0.72		+1.16	+0.41	
Panel B						
Partner tenure	Low-quality CG			High-quality CG		
N° FYO	298			290		
F-statistic	32.00***			15.87***		
R^2 (Adj. R^2)	71% (69%)			55% (51%)		
	Coefficients	*T*-statistics	VIF	Coefficients	*T*-statistics	VIF
$NIPS_{it}$	+0.63	+3.12***	1.81	+1.08	+2.17**	3.68
$BVPS_{it}$	+0.38	+12.87***	2.36	+0.29	+6.95***	5.14
$dINDEP_{it}$	+0.46	+0.36	1.81	−0.34	−0.32	2.07
$dINDEP_{it} \times NIPS_{it}$	−0.01	−0.22	1.14	+0.04	+0.08	3.47
$dINDEP_{it} \times BVPS_{it}$	−0.02	−0.80	2.67	−0.06	−1.62	4.37
Intercept	+10.75	+1.80*		+2.14	+0.76	
Panel C						
% Nonaudit fees	Low-quality CG			High-quality CG		
N° FYO	298			290		
F-statistic	29.71***			11.35***		
R^2 (Adj. R^2)	69% (67%)			46% (42%)		
	Coefficients	*T*-statistics	VIF	Coefficients	T-statistics	VIF
$NIPS_{it}$	+0.76	+5.28***	1.56	+1.79	+3.94***	2.13
$BVPS_{it}$	+0.51	+15.63***	2.89	+0.21	+4.39***	4.67
$dINDEP_{it}$	+4.66	+1.82*	1.84	−0.43	–0.33	2.35
$dINDEP_{it} \times NIPS_{it}$	−0.02	−8.84***	1.51	+1.85	+3.53***	4.32
$dINDEP_{it} \times BVPS_{it}$	−0.19	−4.57***	3.27	+0.01	+0.97	5.01
Intercept	+5.21	+0.44		+6.50	+1.95**	

Note. Panels A to C present the results of the running Equation 1 over the clusters of firms that rely on high- and low-quality CG. They tabulate regression coefficients, t-statistics, and VIF. The t-statistics are based on White's (1980) heteroskedasticity-adjusted robust variance estimates. Variable definitions: $NIPS_{it}$ is the net income per share; $BVPS_{it}$ is the book value per share; $dINDEP_{it}$ is a dummy variable that measures the independence of the statutory auditor proxied by auditor tenure (Panel A), partner tenure (Panel B), and by the percentage of nonaudit fees paid by the client to the audit firm (Panel C). FYO = firm-year observation; CG = corporate governance; VIF = variance inflation factor.

*10% level of significance. ** 5% level of significance. *** 1% level of significance.

term $dINDEP_{it} \times NIPS_{it}$ and of $dINDEP_{it} \times BVPS_{it}$ are negative (e.g., the former −0.02, the latter −0.19) and statistically significant at 1%. The same panel suggests that in firms that rely on high-quality corporate governance, a high percentage of nonaudit fees lead investors to react by only placing additional weight on earnings. Indeed, while the regression coefficient of interaction term $dINDEP_{it} \times NIPS_{it}$ is positive (e.g., +1.85) and statistically significant at 1%, the coefficient of interaction term $dINDEP_{it} \times BVPS_{it}$ is not significant.

According to our findings, the hypothesis that the influence of auditor's independence on the value relevance of the accounting figures depends on the quality of firm-level corporate governance is valid for earnings, when we assume auditor tenure and the percentage of nonaudit fees as proxy of auditor's independence. Findings suggest that the value relevance of accounting amounts disclosed by firms relying less on corporate governance decreases when auditor tenure and the percentage of nonaudit fees increase. On the contrary, the value relevance of earnings disclosed by firms relying on high-quality corporate governance increases because the learning effects prevail over the deterioration of independence. The different probability of earnings management behavior, the different quality of disclosure between the two environments, and the high monitoring activity of the independent boards could be the factors that explain such difference.

A possible explanation for the limited ability of both country-level investor protection environment and firm-level corporate governance to affect the relationship between auditor's independence and that value relevance of book value of equity is the fact that, in financial entities, a significant amount of total assets and liabilities are measured at fair value estimated by using observable inputs (Levels 1 and 2). The lower reliability concerns regarding a significant area of the balance sheet (Mechelli & Cimini, 2019) might lead investors of different investor protection environments to value firm's equity equally, regardless of the length of the audit firm tenure, the length of the partner tenure, and the percentage of nonaudit fees paid by the client to the statutory auditor.

Sensitivity Analyses

To test the robustness of the findings, we have conducted several sensitivity analyses.

In the first test, like Larcker and Rusticus (2010), we use regressions with instrumental variables instead of ordinary least squares in the sensitivity analyses to control for possible biases due to the presence of endogenous variables in our models. The use of instrumental variables avoids the increase in multicollinearity due to the addition to our model of omitted variables that control for the size of the entities and country- or firm-level characteristics. In particular, with instrumental variables, we can also consider the corporate governance dimension, when investigating the ability of country-level investor protection to affect the relationship auditor's independence-value relevance and the quality of the investor protection environment, when investigating the ability of firm-level corporate governance to affect the same relationship.

Tables 7 and 8 show our findings distinguishing the country-level investor protection effect from the one produced by firm-level corporate governance.

As to country-level investor protection, the interaction terms of Equation 1 have been instrumented by the percentage of independent directors and by the total assets per share to alleviate biases due to the omission of variables that proxy the quality of the firm-level corporate governance and the size of the entity. The choice of these variables should overcome endogeneity problems due to their correlation with audit firm tenure, partner tenure, and

Table 7. Robustness Test—Regression With Instrumental Variables (IP).

Proxy for auditor independence	Auditor tenure		Partner tenure		% of nonaudit fees	
N° FYO						
Low (high) IP	341 (247)		341 (247)		341 (247)	
	Coefficients	*T*-statistics	Coefficients	*T*-statistics	Coefficients	*T*-statistics
$NIPS_{it}$						
Low IP	+6.26	+2.05**	+8.88	+2.49**	+0.57	+3.06
High IP	+0.05	+0.05	+1.68	+1.92*	+1.35	+1.55
$BVPS_{it}$						
Low IP	+0.28	+2.48**	+0.29	+2.23**	+0.37	+5.83***
High IP	+0.61	+5.73***	+0.13	+4.11***	+0.46	+4.60***
$dINDEP_{it}$						
Low IP	+2.31	+0.77	+0.08	+0.05	+3.04	+1.69*
High IP	−1.46	−1.00	−1.46	−0.66	−2.46	−2.47**
$dINDEP_{it} \times NIPS_{it}$						
Low IP	−6.27	−2.05**	−9.73	−1.61*	−0.59	−3.14***
High IP	+7.84	+1.88*	+0.07	+2.27**	+1.06	+0.57
$dINDEP_{it} \times BVPS_{it}$						
Low IP	+0.10	+0.73	+0.44	+1.55	−0.07	−0.77
High IP	−0.28	−1.26	+0.01	+0.31	+0.13	+0.78
Intercept						
Low IP	+7.04	+3.33***	+1.70	+1.06	+6.03	+4.78***
High IP	+3.62	+5.80***	+10.33	+5.87***	+4.31	+6.95***

Note. The table presents the results of the running Equation 1 over the clusters of countries that operate in high- and low-quality IP environments. The interaction terms have been instrumented by the percentage of independent directors and by the total assets per share. Variable definitions: $NIPS_{it}$ is the net income per share; $BVPS_{it}$ is the book value per share; $dINDEP_{it}$ is a dummy variable that measures the independence of the statutory auditor proxied by auditor tenure, partner tenure, and by the percentage of nonaudit fees paid by the client to the audit firm. IP = investor protection; FYO = firm-year observation.
*10% level of significance. ** 5% level of significance. *** 1% level of significance.

the percentage of nonaudit fees paid by the client to the auditor, and the low correlation with the residuals of our regression models. Apart from very limited exceptions, findings are similar to those achieved in the main analysis, that is, country-level investor protection affects the relationship between independence and value relevance of earnings. Actually, in countries with low-quality investor protection environment, the regression coefficient of earnings disclosed by entities with long audit firm tenure, partner tenure, and which pay high percent of nonaudit fees is lower (and statistically different) than that of entities with short audit firm tenure and partner tenure or which pay low nonaudit fees. On the contrary, in countries with high-quality investor protection environment, findings show that earnings are more value relevant, with coefficient of interaction terms positive and statistically significant for audit firm tenure and partner tenure. Findings continue to confirm that the value relevance of book value seems not to be affected by country-level investor protection.

As to firm-level corporate governance, the interaction terms of the price model have been instrumented by the investor protection and by the total assets per share to alleviate biases due to the omission of variables that proxy the quality of the legal environment and the size of the entity. Also in this case, apart from very limited exceptions, findings

Table 8. Robustness Test—Regression With Instrumental Variables (Corporate Governance).

Proxy for auditor independence	Auditor tenure		Partner tenure		% of nonaudit fees	
N° FYO						
Low (high) %AI	298 (290)		298 (290)		298 (290)	
	Coefficients	*T*-statistics	Coefficients	*T*-statistics	Coefficients	*T*-statistics
$NIPS_{it}$						
Low %AI	+5.40	+1.75*	+5.10	+8.43***	+0.56	+3.19***
High %AI	+6.74	+1.59	+0.94	+0.60	+0.56	+0.84
$BVPS_{it}$						
Low %AI	+0.37	+2.88***	+0.22	+0.71	+0.45	+6.71***
High %AI	+0.21	+2.43**	+0.15	+3.23***	+0.28	+3.33***
$dINDEP_{it}$						
Low %AI	+6.62	+2.29**	−0.90	−0.80	+4.66	+1.84*
High %AI	−2.99	−0.84	−1.16	−0.34	−1.31	−1.33
$dINDEP_{it} \times NIPS_{it}$						
Low %AI	−5.41	−1.75*	−1.49	−6.57***	−0.58	−3.28***
High %AI	+27.20	+1.86*	+0.12	+2.38**	+1.96	+1.87*
$dINDEP_{it} \times BVPS_{it}$						
Low %AI	+0.03	+0.17	−0.01	−0.29	−0.05	−0.43
High %AI	−0.77	−1.18	+0.03	+0.55	−0.09	−1.16
Intercept						
Low %AI	+4.08	+3.51***	+6.39	+6.99***	+4.93	+3.86***
High %AI	+11.27	+4.84***	+10.45	+3.94***	+6.64	+7.34***

Note. The table presents the results of the running Equation 1 over the clusters of firms that rely on high- and low-quality corporate governance. The interaction terms have been instrumented by the investor's protection and by the total assets per share. Variable definitions: $NIPS_{it}$ is the net income per share; $BVPS_{it}$ is the book value per share; $dINDEP_{it}$ is a dummy variable that measures the independence of the statutory auditor proxied by auditor tenure, partner tenure, and by the percentage of nonaudit fees paid by the client to the audit firm. %AI is the ratio of the independent directors to the total board members; FYO = firm-year observation. *10% level of significance. ** 5% level of significance. *** 1% level of significance.

validate the hypothesis that firm-level corporate governance affects the relationship between independence and value relevance. For what concerns audit firm tenure, partner tenure, and for the percentage of independent director, the value relevance of earnings is different according to the attitude of firms to rely on high/low-quality corporate governance. The research results continue to provide evidence that the value relevance of book value is unaffected by an increase in audit firm tenure, partner tenure, and the percentage of nonaudit fees.

In a second test, we have reestimated Equations 1 by using a different metric to proxy the quality of the institutional setting in which the firms operate. Instead of considering the investor protection index, we have used a measure of contract enforcement available in the World Bank's ''Doing Business'' database. The results of this analysis (not reported here) confirm the findings of the main analysis. In additional tests, we have reran the models while excluding loss firms, adding the natural logarithm of total assets between regressors, and using comprehensive income instead of net income. The exclusion of loss firms is justified by the possible bias that loss firms could have on research findings. The addition of the natural logarithm of total assets verifies whether deflating variables by the number of shares outstanding is sufficient to control for the scale effect, while taking into

consideration the skepticism of some scholars toward the share-deflated models (e.g., Easton, 1998). The use of comprehensive income instead of net income in the price model verifies whether the results remain valid under clean surplus accounting (Ohlson, 1995). In all these additional tests, the findings continue to validate our hypotheses.

Conclusion

Directive 2006/43/CE of the European Parliament and of the Council of 17th May 2006 improved the integrity and efficiency of financial statements and, accordingly, enhanced the orderly functioning of markets (Marques et al., 2015). To reinforce the independence of auditors of public-interest entities, the Directive requires member states to introduce rules on mandatory audit firm and partner changes and strict rules on fees for statutory auditors.

This article provides evidence that value relevance judgments depend on features that go beyond the quality of financial reporting, which regulators and standard setters cannot control. Among the country-level features, the article focuses on the quality of investor protection; among the firm-level characteristics, the article uses the percentage of independent directors with respect to the total board members as a proxy of the quality of corporate governance.

The results of the analysis of the quality of investor protection suggest that value relevance judgments change when audit firm tenure, partner tenure, and the percentage of nonaudit fees paid by the client to the statutory auditor increase. Similar findings are obtained in the analysis of the quality of corporate governance. In particular, in high-quality investor protection environments and in firms that rely on high-quality corporate governance, the prevalence of knowledge spillover effects over the deterioration of independence leads investors to place additional weight on earnings. In contrast, in countries with low-quality investor protection and in firms that rely less on high-quality corporate governance, value relevance of earnings decreases due to the high risk of earnings management behavior, which causes the deterioration of independence to prevail over the knowledge spillover effects. As to book value of equity, apart from very limited exception, the findings have not provided statistical evidence that increases in audit firm tenure, partner tenure, and the percentage of nonaudit fees affect its value relevance.

These results, obtained by studying a sample of 98 European financial entities over the period 2009 to 2014, add to the literature by addressing the lack of studies that investigate the attitude of firm-level corporate governance and limited evidence of the ability of country features to influence the relationship between auditor independence and value relevance. The results have also implications for regulators, who can learn that the effectiveness of reforms depends on the quality of corporate governance mechanisms and on the characteristics of the institutional environment.

Despite its usefulness, the study has some limitations. The lack of information useful to test our hypothesis in the modern databases has led us to restrict our study to financial entities listed on the stock markets of 15 European countries. However, this limitation can stimulate future research. First, scholars can enlarge the sample to financial entities listed in EU-28. Second, scholars can investigate whether additional measures of country-level or firm-specific characteristics might influence the relationship between independence and value relevance. Measures of the different phases of the economic cycle or metrics regarding the ownership concentration might control for such additional country-level or firm-specific characteristics.

Future studies can also use other variables to control for independence, such as the use of a disclosure checklist that negatively affects independence (Van Rinsum et al., 2017), or can use metrics that proxy the independence of the internal audit committee. Future findings should not differ significantly from those obtained in this study for what concerns the role of the external legal auditor, given and existing relation between audit committee quality, auditor's independence, and internal control weaknesses (Zhang et al., 2007, p. 322).

Author's Note

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