Enforcement of Financial Reporting Regulation: Insights from new data

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Abstract We collect new data on the enforcement of reporting regulation. Our data is novel in two ways: we substantially expand the scope and the time-series coverage of existing datasets. It includes 32 enforcement variables measured from 2005 to 2022 in 29 European countries. Based on these data, we document two stylized facts. First, in terms of the level of enforcement, we observe contrasting patterns for enforcement "on the book" and "in practice". While the former appears to have increased over recent years, the latter exhibits the opposite trend. Second, we observe that the variation in enforcement has decreased significantly over time. While there is a downward trend for both enforcement "on the books" and enforcement in "in practice", the decrease is much more pronounced for the latter. These patterns have potential implications for our understanding of the recent evolution of the European enforcement system, which could provide potential lessons for other jurisdictions.

Keywords: Enforcement, IFRS, International Accounting, Supervisory Convergence, European Union, Non-financial Reporting.

JEL Classifications: G15, G18, G38, H77, K22, K42, M41, M48.

The dataset with variables on the European Enforcement system is available for download at https://github.com/robinlitjens/IFRS-Enforcement-Database and will be updated annually.

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1. Introduction

Extensive research on the benefits of IFRS adoption documents significant economic and reporting benefits of reporting regulation (e.g., De George et al., 2016). Prior literature also stresses that these benefits critically depend on the country's public enforcement system to back up IFRS adoption (e.g., Leuz and Wysocki, 2016; Becker et al., 2021). However, this literature often recognizes the need to better characterize variation in enforcement efforts and makes a call to collect more data (e.g., De George et al., 2016; Cascino et al., 2023). Responding to this call, this paper presents new panel data on IFRS enforcement in the European Union (EU). We hand-collect information on 32 enforcement variables from 2005 to 2022 for 29 EU countries, including Iceland, Norway and the United Kingdom.[1]

Our data is novel in several ways. Cross-sectionally, we expand the scope of the data on the enforcement of financial reporting by collecting information on a number of aspects not covered by prior research. To do so, we develop a framework -presented in Appendix A- based on principles proposed by major EU regulators (e.g., CESR and ESMA). Notably, our data collection distinguishes between enforcement "on the books" and "in practice". Enforcement "on the books" refers to formal powers, whereas enforcement "in practice" refers to the actual use of power.

The enforcement measures used in prior work focus on either enforcement "on the books" or enforcement "in practice" but rarely combine these two types of variables. A notable exception is Brown et al. (2014), who combine formal powers and enforcement practices of national competent authorities to create an enforcement index specific to IFRS reporting.

Also, in this regard, our framework includes four important enforcement dimensions (see Appendix A): detection, sanctions, independence of the enforcer, and coordination among enforcers. While prior research has touched on some of these aspects, most of our variables

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[1] Our dataset is available for download at: https://github.com/robinlitjens/IFRS-Enforcement-Database.

cannot be found in previous studies. To illustrate this point, Appendix B presents a detailed analysis of the coverage of our dataset compared to the variables used in prior work (see Appendix C for detailed variable definitions). Finally, rather than collecting information on the enforcement of securities law (which is the common approach in prior research), we focus specifically on enforcing financial reporting regulation.

The second novel aspect of this study is that we expand the scope of enforcement data in the time-series; we collect annual enforcement information over the period from 2005 to 2022. In contrast, the data used in prior research is typically collected at specific points in time and thus cannot be used to analyze the evolution of enforcement over time. Moreover, the most recent data collected by prior literature dates from the early 2000's. Updating data on enforcement is important, considering the potential evolution of the institutional context in recent years.

A third innovation of our data collection exercise is that we gather information on the enforcement of non-financial reporting regulation. Understanding potential differences with financial reporting regulation is particularly important in the current efforts to transition towards a more sustainable economy.

Based on this new data, we document two distinct stylized facts. First, in terms of the level of enforcement, we observe contrasting patterns for enforcement "on the books" and "in practice". While the former appears to have increased over recent years, the latter exhibits the opposite trend. Second, we observe that the variation in enforcement practices has decreased significantly over time, especially after 2011. While there is a downward trend for both enforcement "on the books" and enforcement "in practice", the decrease is much more pronounced for the latter. We confirm the statistical significance of these trends using formal regression analysis.

To obtain further insights into our data, we conducted three additional analyses. First, we examine the correlation of our measures of enforcement with those used in prior literature. The correlation is positive for a number of our variables. Still, in most cases -particularly in metrics related to enforcement "in practice"- we find no or even a negative correlation.

Second, we examine the association between our enforcement metrics and measures of abnormal discretionary accruals and audit fees. The association is remarkably different based on whether the variables refer to enforcement "on the books" or "in practice". Most of the metrics related to enforcement "on the books" appear to be positively associated with discretionary accruals, which is at odds with prior literature showing that tighter enforcement leads to lower discretionary accruals. However, we find that most of the variables related to enforcement "on the books" are positively associated with audit fees, consistent with prior literature showing that tighter enforcement leads to increased compliance costs. The results for enforcement "in practice" are also mixed. Consistent with prior literature, we find a negative (positive) association between some of these metrics and discretionary accruals (audit fees). However, the directionality of the results is exactly the opposite for other variables related to enforcement "in practice". Overall, these tests highlight that using our data results in inferences that often differ from those in prior research. As such, the results confirm that our data captures new enforcement dimensions.

Third, we conduct an exploratory analysis of whether our measures of enforcement of financial reporting go hand in hand with those of enforcement of non-financial reporting (we also collect new data on the latter). The data suggests that while enforcement activity for financial and non-financial reporting are closely related, they also exhibit non-trivial differences. Overall, these comparative analyses suggest that our data captures new dimensions of enforcement that probably deserve further research.

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We discuss some potential explanations for the patterns we document. One explanation for the secular decrease in the variation of enforcement practices is that the ongoing efforts to harmonize enforcement of reporting regulation in the EU have been successful, at least to some extent. Our data is also consistent with the notion that the increase in enforcement "on the books" reflects that, during the initial phase of supervisory convergence, regulatory efforts focused on this type of characteristic of the enforcement system. The fact that the variation in enforcement characteristics decreases much more rapidly for enforcement "in practice" than enforcement "on the books" could relate to the cost of implementing changes in these two types of characteristics of the enforcement system. Finally, the differing enforcement trends "on the books"/ "in practice" could also reflect a substitution effect between these two dimensions. That being said, we acknowledge that more research is necessary to validate these explanations.

Our paper relates to prior accounting literature, showing that enforcement systems differ substantially and impede accounting harmonization (e.g., Christensen et al., 2013; Daske et al., 2008). Some papers measure such differences (Brown et al., 2014; Jackson and Roe, 2009; Johansen et al., 2020). This study also adds to prior work presenting empirical evidence and institutional insights on EU enforcement (e.g., Ernstberger et al., 2012; Hitz et al., 2012; Brochard et al., 2018) and exploiting the EU enforcement setting (e.g., Florou et al., 2020). We advance this research by creating a new dataset that expands the coverage of previous data in several ways and leads to new insights, notably relating to the evolution of the enforcement system over recent decades.

This study should interest academics and regulators interested in understanding the multidimensional nature and the evolution of enforcement systems. In particular, this study can help EU institutions search for mechanisms to harmonize accounting practices across the union (ESMA 2015). For example, our data can be used to identify the parts of the European system to enforce IFRS that exhibit larger differences across countries. The insights from our dataset

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can also help identify patterns in enforcement dynamics as a first step to understanding why enforcement practices have changed over time and the potential consequences of such evolution. Finally, research on the enforcement of reporting regulation seems particularly important in light of current efforts to transition towards a more sustainable economy; the insights from such research could enlighten the debate on how to deal with the new challenges related to the enforcement of upcoming sustainability reporting regulation.

2. Data

2.1. Framework for the data collection

Appendix A presents the framework we use to structure our data. Our approach is based on prior literature and the CESR/ESMA frameworks on enforcing financial reporting regulation (see online appendix OA1 for a reconciliation of our data with these frameworks).[2]

We identify the following dimensions of the enforcement system (see the horizontal axis of Appendix A): i) detection, ii) sanctions, iii) enforcer independence, and iv) cooperation among enforcers. "Detection" and "sanctions" relate to the economics of deterrence, where rational actors weigh the ex-ante benefits and cost of non-compliance (Becker, 1968). The cost of non-compliance is a function of the probability of getting caught (i.e., "detection") and the amount of penalty ("sanctions"). "Enforcer independence" relates to the notion that enforcers can be captured by the industry or politicians (e.g., Stigler, 1971). "Enforcer Cooperation" relates to information sharing and knowledge sharing among enforcers (e.g., Friedman et al., 2002). In Europe, CESR/ESMA are responsible for enforcement coordination. This information sharing is observed through the European Enforcer Coordination Sessions (EECS),

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[2] Our framework corresponds to CESR (2003) Standard No. 1 (which contains twenty-one high-level principles of enforcement) and to ESMA's Guidelines on enforcement of financial information (which was issued to replace CESR (2003) in 2014). The correspondence between the dimensions of our framework and the CESR/ESMA frameworks is presented in Table OA1 in the online appendix.

where country enforcers meet, exchange views, discuss experiences, and share information on IFRS enforcement.[3]

We also distinguish between two types of characteristics of the enforcement system: enforcement "on the books" and enforcement "in practice" (see vertical axis of Appendix A). Enforcement "on the books" refers to formal powers (Coffee, 2007). Examples include legal origin (code or common law), legal enforcement (La Porta et al., 1998; Kaufman et al., 2011), and the anti-self-dealing index (Djankov et al., 2008). Enforcement "in practice" refers to the actual use of power (e.g., Bhattacharya and Daouk, 2002; Jackson and Roe, 2009). For instance, Christensen et al. (2013) use changes in the proactive review process around IFRS adoption to measure a change in enforcement and identify five countries with high levels of enforcement. Florou et al. (2020) and Christensen et al. (2020) identify a change in the U.K.'s Financial Reporting Review Panel (FRRP) procedure that started to use focus sectors where companies faced a higher probability of a proactive review of the IFRS report to measure a higher level of enforcement.

We construct 32 variables. Specific definitions are presented in Appendix C (Appendix OA2 provides further details on these variables, including references to data sources). The dataset is publicly available and will be updated annually. Here, we highlight the main features of these variables by type. Regarding variables measuring enforcement "on the books", *Framework Compliance Detection, Sanction, Independence,* and *Coordination* are variables of compliance with the CESR/ESMA Enforcement Framework (according to CESR principles 2005-2011 and ESMA guidance 2012-2021). *Legal Rights* are variables of legal investigatory powers. *Sanction Options* are variables about the sanction options of the enforcer. *Political Independence* are variables about formal independence from politics. *EECS Sharing*

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[3] The objective of the EECS is to promote common supervisory approaches and practices, to improve convergence of enforcement and avoid regulatory arbitrage. Examples of activities are discussing emerging issues, enforcement actions, share and compare practical experiences (sample selection, review methodology, risk assessment), and decide on common enforcement priorities (ESMA, 2016a).

Restrictions are variables about legal restrictions to share information at the enforcer coordination sessions.

Regarding variables measuring enforcement "in practice", *Reviewers* are variables about the characteristics of reviewers that perform pro-active reviews. *Reviews* are variables about performed proactive reviews. *Review Disclosures* are variables about annual ex-ante disclosures on pro-active review priorities. *Issued Sanctions* are variables about sanctions in case of infringements. *Sanction Disclosures* are variables about ex-post annual disclosures on observed infringements. *Political Connected Chair* are variables about the political connectedness of the chair of the enforcer. *EECS meeting attendance* are variables of enforcer attendance at the enforcer coordination sessions. *EECS case submissions* are variables about the enforcer submission of cases to the enforcer coordination sessions.

2.2. Sample and information sources

We gather data on enforcement for each Member State in the EU between 2005-2022. Consistent with prior literature, we include Iceland and Norway, which are not in the EU but belong to the European Economic Area and implemented IFRS (e.g., Christensen et al. 2016). We also include the United Kingdom, which was part of the Union during a substantial part of the sample period.

We use several data sources: the websites of national enforcers, the website of ESMA, research reports from ESMA and national enforcers, descriptive information on enforcement from other research (e.g., Berger, 2010), and proprietary data provided by some national enforcers.[4] For some of our tests, we complement this data with information from BoardEx, DataStream, Worldscope, and the World Bank.

3. Descriptive statistics

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[4] We sent out a survey by email to each national enforcement body with the request to verify the accuracy of the overview and to add information if needed. 31% responded. The level of detail provided in the responses varied.

Table 1 presents the average values of the variables we collect data for. Appendix OA3 contains the granular data underlying the statistics in Table 1. Detailed variable definitions can be found in Appendix C, and further details in online appendix OA2.

3.1 Enforcement "on the books"

Table 1, Panel A, presents average values for variables related to enforcement "on the books". The first set of columns shows the distribution of average values by country (i.e., averaged over the sample years), and the second set of columns shows the distribution of average values by year (i.e., averaged across the sample countries).

Before delving into each of the groups of variables in Appendix A, we offer two general considerations. Our first observation relates to the time variation of the variables with non-missing data in the time-series. These variables show higher variability in the cross-section than in the time-series; the average coefficient of variation is 0.3 at the country level and 0.1 at the time level. Our second observation relates to the variables capturing enforcers' self-assessments of whether their formal authority complies with the European Enforcement Framework by CESR/ESMA in each categorized dimension of enforcement (detection, sanction, independence, coordination). While the average values of these metrics are relatively high across the sample, there is significant time-series variation. For instance, *Compliance with CESR/ESMA (Detection)* increased from 52% in 2006 to 89% in 2021 (see online appendix OA3).

3.1.1. Detection

We start our analysis of the groups of variables in Appendix A by focusing on the variables related to detection. To begin, we observe that in most countries (82%), the enforcement body declares full compliance with the CESR/ESMA IFRS enforcement framework on proactive reviews (see variable *Compliance with CESR/ESMA (Detection)*).

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We next turn to the variables capturing the legal rights of the enforcer to carry out proactive reviews (see variables *Legal Rights Information, Legal Rights Sample, Legal Rights Shortage*). The average value of *Legal Rights Information* (i.e., the legal rights to obtain information from the firm, the auditor, or a third-party specialist) is 93%, indicating that enforcers can legally obtain information to perform proactive reviews. Notably, Denmark and the Netherlands are restricted, with limited access to information from the issuer and the auditor. The average value of *Legal Right Sample* (i.e., the investigatory powers concerning selecting the sample of proactive reviews) is 71%, suggesting some cross-country variation. Several countries (Austria, Denmark, and Germany) are limited in terms of the size of the sample of reviews and the legal authority to determine the sample scope of the financial reports to inspect. In addition, several countries face restrictions in the timing of reviews (France, Greece, Malta, and the Netherlands). The average value of *Legal Rights Shortage* is 21%. Six enforcers face limitations in legal rights (such as a lack of institutional resources that they cannot effectively carry out public IFRS enforcement): Austria, Bulgaria, Czech, Poland, Slovenia, and Sweden.

3.1.2. Sanctions

We next analyze the variables related to sanctions. Here, we also observe that in most countries (91%), the enforcement body fully complies with the CESR/ESMA IFRS enforcement framework on sanctions (see variable *Sanctions Framework Compliance*). The option to delist a company upon non-compliance with IFRS (*Delist Option*) is present in six countries (Bulgaria, Denmark, France, Greece, Norway, Sweden, and the United Kingdom), namely 29% of the cases. In total, 14 countries (48%) can give pre-clearance on a specific accounting treatment (*Pre-Clearance Option*). France and Spain are two examples. Pre-clearance was typically an option for these enforcers before IFRS enforcement (Berger, 2010).

3.1.3. Independence

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Again, we observe that in most countries (91%), the enforcement body declares full compliance with the CESR/ESMA IFRS enforcement framework on the independence of enforcers (see variable *Compliance with CESR/ESMA (Independence)*). The index's average value based on the enforcer's formal independence from politics is 61% (see Gilardi, 2002).

3.1.4. Coordination

We next analyze the variables related to coordination across enforcers. To begin, we observe that, once again, in most countries (85%), the enforcement body declares full compliance with the CESR/ESMA IFRS enforcement framework on coordination (see variable *Compliance with CESR/ESMA (Coordination)*). Table 1, Panel A, also shows that enforcers generally have the institutional right to share information at the EECS, where the national enforcers discuss IFRS enforcement cases (the average value of *EECS Sharing Restrictions* is 95% in the cross-section and 94% in the time-series).[5]

3.2 Enforcement "in practice"

Table 1, Panel B, presents average values for variables related to enforcement "in practice". Similar to Panel A (i.e., enforcement "on the books"), the variables with time-series observations exhibit higher variability in the cross-section than in the time-series. However, there is a notable difference concerning Panel A; the cross-country and time-series variation of enforcement "in practice" is substantially higher than that "on the books" (the average coefficient of variation is 0.9 cross-country and 0.3 in the time-series). Below, we discuss each of the groups of variables in Appendix A.

3.2.1. Detection

(i) Reviewers

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[5] One of the few institutional shifts over the sample period in this regard occurred in 2017 when Poland created for its enforcement body the right to share information at the EECS.

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We start by analyzing the variables related to reviewers. Table 1, Panel B, shows that, on average, enforcers employ 3.9 FTEs per 100 firms subject to public IFRS enforcement (see *Reviewers FTE*). There is significant cross-country variation. For instance, Sweden employs 1.2 FTE, whereas Spain employs 8.8 FTE per 100 firms (see Online Appendix OA4 for a breakdown by country). Germany, France, Italy, and Spain have the highest FTEs committed to IFRS enforcement. In contrast, some countries have minimal human resources employed for proactive reviews. For instance, in 2016, Slovenia had 0.3 FTE. Iceland and Malta also have less than 1 FTE committed to IFRS enforcement. Only 14 countries (48%) indicate they have IFRS specialists carrying out proactive reviews (see *IFRS Specialists*), and 14% have a shortage of reviewers (see *Reviewers Shortage*).

(ii) Reviews

We next analyze the variables related to reviews. On average, the number of pro-active reviews that countries perform is 43, but there is significant cross-country variation. As shown in Online Appendix OA4, Hungary performs three reviews on average, whereas the United Kingdom performs 258 reviews. In total, 27% of the firms subject to IFRS enforcement are reviewed annually (see *Reviews Performed*), but there is substantial variation (Hungary reviews 7% and Estonia reviews 76%). On average, 65% of these proactive reviews are full-scope reviews, meaning the complete set of financial statements is reviewed (see *Reviews Performed Full-Scope*).[6] Again, there is substantial variation: Cyprus performs a full-scope review for 22% of the reviews, and Austria for 84%. Over the sample period, 48% of the countries have a full-scope review as the default choice (see *Reviews Default Full-Scope*).

Some of these variables do not exhibit time-series variation. In 62% of the countries, enforcers review companies based on a rotation method (see *Reviews Random Method*). The

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[6] The alternative is a focused review where only a subset of the financial statements is proactively reviewed. For instance, on a specific topic such as the compliance with the requirements in IFRS 8 segment reporting.

rotation is usually based on random sampling while ensuring all firms are selected for review within a certain period. However, there is some variation in the timeframe in which all firms are covered, ranging from 3 years in Luxembourg to 10 years in Norway. Most countries allow a four-year period to review all financial statements. On average, 64% of the firms are selected for review in one year based on a risk-based assessment (see *Risk-Based Method*). However, there is wide variation across countries, ranging from 18% in Germany to 100% in Czech, Finland, Lithuania, and Norway.

(iii) Disclosures

We next analyze the variables related to disclosures. On average, 65% of the countries disclose their review priorities ex-ante, and this disclosure increases over time (see *Disclose Review Priorities*). Only the U.K. communicates which types of firms are selected for the upcoming IFRS reviews (Focus Sector Program, see Christensen et al. 2020).

3.2.2. Sanctions

We next analyze the variables related to sanctions. As explained in Appendix C, these variables are expressed as a percentage of the number of issuers. On average, 6% of the firms subject to IFRS enforcement receive a sanction, but the standard deviation is 4% (see *Actual Sanctions*). Countries with lower sanctioning levels include Cyprus, Iceland, Germany, the Netherlands, Norway, and the United Kingdom. Sanctions can be publicly disclosed (via a press release, a public corrective note, or the re-issuance of financial statements) or not. We refer to them as "public sanctions" and "private sanctions", respectively. Public disclosure means that the company is named and shamed. Private sanctioning is usually associated with corrections in the financial statements. The average value of *Public Sanctions Issued* is 1.7%, and that of *Private Sanctions Issued* is 4.5%, suggesting that the most common option is not to disclose publicly that a firm has been sanctioned. Some countries never make this information public (e.g., Estonia, Hungary, Lithuania, Luxembourg, and Slovenia). In other countries, the

public disclosure of sanctions is not uncommon (e.g., Germany, Ireland, Spain). Perhaps not surprisingly, we observe relatively more private sanctions in countries with fewer public sanctions (i.e., Hungary, Lithuania, and Luxembourg). The fraction of firms subject to private sanctions is particularly high in France (11%). Table 1, Panel B, also shows that 20% of the countries (i.e., six countries) practice giving pre-clearance, but they do so in a limited way (on average, 2.5 per year for these six countries). Finally, the data reveals that, on average, 41% of the countries disclose their review findings anonymously.

3.2.3. Independence

We next analyze the variables related to the political independence of enforcers. The value of *Political Chair* (i.e., an indicator of whether the chair of the enforcement body is politically connected) varies across countries and time. On average, the chair is connected in 59% of the cases. Several countries (e.g., Belgium and Sweden) have a politically connected chair in all sample years, whereas others (e.g., France) only appoint chairs that are not politically connected. The remaining countries show a high variance in political connectedness over time.

3.2.4. Coordination

Finally, we analyze the variables related to coordination among enforcers. Our data reveals that enforcers from 12 countries share their enforcement findings and decisions with other enforcers via EECS (*EECS Attendance*).[7] The average value of the variable *EECS Submit Cases* is 44%, which indicates that some countries never submit cases at the EECS meetings (e.g., Bulgaria, Czech, Greece, Hungary, Iceland, Malta, Slovakia, and Slovenia).

4. Trends in enforcement characteristics

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[7] For legal reasons the German enforcer cannot submit cases (DPR-FREP, 2018, p. 20).

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Having described and discussed the characteristics of the data, we next explore trends in enforcement characteristics over the sample period. As previously discussed, a novel feature of our study is that we systematically collect enforcement data from 2005 to 2022, whereas time coverage in the data used by prior studies is limited.

We explore trends in the two moments of the empirical distribution of our enforcement data. First, we study whether the cross-country average value of each of our metrics (i.e., the first moment of the distribution) has changed over time. This analysis can shed light on the question of whether the overall level of enforcement has increased/decreased over the last decades. Second, we study whether the cross-country variation of our metrics (i.e., the second moment of the distribution) has changed over time. This analysis can shed light on whether the enforcement of reporting regulation has converged/diverged across European countries since adopting IFRS. As in prior sections, we distinguish between enforcement "on the books" and enforcement "in practice".

Before we develop a formal analysis, we conduct two graphical analyses. Figure 1 plots the variables related to enforcers' self-reported compliance with the regulatory (CESR/ESMA) framework for enforcement in each of the four dimensions (detection, sanction, independence, and coordination). As shown in the figure, there is a trend of increasing compliance for all framework compliance measures, particularly in the early years of the sample period.

Figure 2 plots the percentage of issuers whose financial statements are reviewed by regulators for each country over the sample period. Figure 2 shows the opposite pattern as Figure 1, namely a secular decline in the percentage of issuers being reviewed. On average, 44% of the firms subject to enforcement were reviewed in 2006, compared to 19% in 2022.

Figure 3 plots the average cross-country variation per year in enforcement separately for enforcement "on the books" and "in practice" over our sample period (the relative standard deviation of all the variables with panel data. See Appendix B for more details). Cross-country

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variation appears to decline for "on the books" and "in practice", but the patterns are much more pronounced for enforcement "in practice".

Taken together, Figure 1 and Figure 2 suggest the possibility that enforcement "on the books" and enforcement "in practice" have evolved in opposite directions over recent years. Figure 3 suggests that the characteristics of the enforcement system exhibit less cross-country variation over time and that the convergence speed is substantially higher for enforcement "in practice". Below, we explore whether these conclusions hold in a more rigorous analysis.

4.1. The first moment of the distribution of enforcement characteristics

We first conduct a regression analysis on whether the cross-country average value of each of our metrics (i.e., the first moment of the empirical distribution of enforcement characteristics) has changed over time.

4.1.1. Enforcement "on the books"

For each of our variables, we estimate the following OLS regression at the country-year level:

$$Enforcement_{ct} = \beta_0 + \beta_1 Time\ Trend + \sum \beta_2 Controls_{ct} + CountryFE + \varepsilon_{it} \quad (1)$$

Enforcement refers to our enforcement variables (see Appendix A and C). The subscripts *c* and *t* indicate country and year, respectively. *Time Trend* is a year-trend variable. *Controls* is a vector containing the following control variables from prior literature (e.g., Jaggi and Low, 2000). *Rule-of-law* is the index on the strength of the rule-of-law published by the World Bank based on survey data on perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development (Kaufman et al., 2011). *GDP Growth* is the growth of the country's GDP based on data from the World Bank. *Market Capitalization* is the aggregated market value of the firms listed in the country (in US dollars) based on data from Worldscope. Equation (1) also includes country-

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fixed effects to control for time-invariant country characteristics such as prior regulatory conditions (legal origin) and other sources of cross-country variation.

Table 2, Panel B, presents results for the variables related to enforcement "on the books" that exhibit time-series variation. The coefficient on *Time Trend* is significantly positive across all four dimensions of enforcement (detection, sanction, independence, and coordination). The magnitude of the coefficient on *Time Trend* is comparable for detection (0.020), sanction (0.018) and independence (0.020). This magnitude suggests that the average increase in detection compliance with the European IFRS framework is nearly 2.0% annually. Based on the results, the magnitude of the annual increase in coordination is lower (0.7%).

4.1.2. Enforcement "in practice"

We repeat the analysis for the variables related to enforcement "in practice". The results from estimating equation (1) using these alternative metrics as dependent variables are presented in Table 2, Panel B. Remarkably, we observe the opposite trend; the coefficient on *Time Trend* is negative and significant for most of these variables. In several cases, the magnitude of the decrease is economically meaningful. For example, the coefficient on *Time Trend* for Public Sanctions Issued is 0.154, compared to a median value of 1.74. That is an annual decline of around 8%.

4.2. The second moment of the distribution of enforcement characteristics

We next conduct a regression analysis on whether the variation in each of our metrics (i.e., the second moment of the empirical distribution of enforcement characteristics) has changed over time.

As a first step, we tabulate the coefficient of variation of our variables in each year of the sample period. The results are presented in Table 3. Visually, we observe an apparent decrease in these statistics over the sample period. The pattern holds for most of the variables. On average, the magnitude of the decrease is more pronounced for the metrics related to

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enforcement "in practice". However, we do not observe a sharp decline in the median values at the bottom of the table, which suggests that the right tail of the distribution drives the secular decline in the median values of the coefficients of variation.

More formally, we follow the literature in economics (e.g., Barro and Sala-i-Martin, 1992) and conduct two standard tests on convergence: β-convergence and σ-convergence tests.[8] The β-convergence test is meant to capture the "mobility" of enforcement within the same distribution (i.e., whether weak enforcement countries catch up with strong enforcement countries). The σ-convergence test is meant to capture whether the variation across countries (i.e., the annual standard deviation across countries) decreases over time.

In the β-convergence test, we estimate the following model:

$$\log\left(\frac{Enforcement_{c,t}}{Enforcement_{c,t-1}}\right) = \alpha_c + \beta_1 \log(Enforcement_{c,t-1}) + country\ FE + \varepsilon_{ct} \quad (2)$$

For enforcement "on the books", *Enforcement* is defined as the sum of the variables related to compliance with the CESR/ESMA framework along each of the four considered dimensions (i.e., detection, sanction, independence, coordination) framework compliance. For enforcement "in practice", *Enforcement* is one of the following two variables: *Reviews Performed* and *Sanctions Issued* (see Appendix C for definitions). A negative value of β_1 indicates convergence.

In the σ-convergence test, we estimate the following model:

$$\text{sd}(Enforcement_{c,t}) = \alpha_c + \beta_2 Time\ Trend + \varepsilon_{ct} \quad (3)$$

Enforcement is defined as in the β-convergence test. "sd" stands for "standard deviation". A negative coefficient on *Time Trend* (β_2) indicates σ-convergence.

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[8] In economics, convergence is described as initial conditions having no implications for a country's per capita income level in the long run. In practice, this can be interpreted as per capita incomes in different countries getting closer to each other, implying that low capita income countries catch up with high per capita income countries (Johnson and Papageorgiou, 2020, p.129). The most elementary convergence tests are the so-called β-convergence tests, which show convergence if the β-coefficient in an OLS regression of the average growth rate of per capita income on its initial level is negative. The related σ-convergence test examines whether the dispersion in the log per capita output levels across a group of economies is decreasing over time.

Table 4 presents the results of these two tests. Panel A and B show the results of the β-convergence and the σ-convergence tests, respectively. For β-convergence, β_1 is negative and significant. The results hold both for enforcement "on the books" and "in practice". For σ-convergence, β_2 is negative for enforcement "on the books", but the results are mixed for enforcement "in practice"; β_2 is negative for the percentage of firms receiving proactive reviews but positive for the total number of sanctions issued.

5. Comparison to other measures of enforcement

We conducted three additional analyses. First, we examine the correlation of our enforcement measures with those used in prior literature. Second, we test the association of our enforcement data with discretionary accruals and audit fees. Third, we conduct an exploratory analysis of whether our measures of enforcement of financial reporting go hand in hand with those of enforcement of non-financial reporting. Finding modest levels of correlations with measures of prior research and obtaining different inferences from prior literature would confirm that our data captures new enforcement dimensions. Moreover, it would suggest that certain aspects of the current enforcement system require further inquiry. As such, these additional tests can provide further insights and highlight the novelty of our data.

5.1. Correlation with enforcement measures used in prior literature

We first examine the correlation of our enforcement measures with those used in prior literature. We focus on three measures of enforcement that have been used in previously published papers. *Rule-of-Law* is the measure of enforcement by the World Bank. *IFRS$_{EU\_ENF}$* is the change in pro-active reviews used in Christensen et al. (2013). *ENFORCE* is the enforcement index defined by Brown et al. (2014). For consistency, we transform *Rule-of-Law* and *ENFORCE* into indicator variables based on whether their values are below/above the sample median (we note that our variables and *IFRS$_{EU\_ENF}$* are also defined as indicators).

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Table 5 shows the number of our variables that are positively correlated, negatively correlated, and uncorrelated with each of the three analyzed variables from prior research. Table OA5 in the online Appendix presents the detailed correlations upon which Table 5 is based. When the measure from prior literature only has one observation (i.e., it is measured at only one specific point in time), we denote positive/negative "correlation" cases in which the values of our variables and that variable coincide/ do not coincide. $IFRS_{EU\_ENF}$ correlates with enforcement "on the books" (6 significant correlations out of 11), whereas $ENFORCE$ correlates with enforcement "in practice" (7 significant correlations out of 21).

But perhaps more interestingly, Table 5 also shows that in many cases, our variables and prior enforcement measures are uncorrelated and even negatively correlated. For example, most of our variables related to enforcement "in practice" are not correlated with the three variables from prior research (12 out of 21 for $Rule$-of-Law and $IFRS_{EU\_ENF}$ and 10 out of 21 for $ENFORCE$). The correlation is even negative for some of them (3 out of 21 for $Rule$-of-Law and $ENFORCE$ and 4 out of 21 for $IFRS_{EU\_ENF}$). In other words, only a minority of our variables related to enforcement "in practice" are positively correlated with the previous enforcement metrics (the same is true for our variables related to enforcement "on the books").

We also analyze the time-series variation in the enforcement measures used in prior literature. We do so to understand whether these alternative data sources exhibit the same time trends documented in section 4 for our data. $IFRS_{EU\_ENF}$ has by construct no time-series variation, and $Rule$-of-Law shows no time-trend (online appendix OA6). $ENFORCE$ has a time series (2002, 2005, 2008) and shows an upward trend (online appendix OA6), which is consistent with our results corresponding to enforcement "on the books".

Overall, this analysis suggests that, compared to the measures of enforcement used in previous research, our data captures new enforcement dimensions. The negative correlations

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between some of these new dimensions and the previous measures of enforcement call for further research.

5.2. Association with discretionary accruals and audit fees

We next assess whether our enforcement variables are associated with discretionary accruals and audit fees. To the extent that prior literature has explored this association, this additional analysis helps us understand whether the use of our data results in inferences that are different from those in prior work. This analysis can also shed additional light on the enforcement patterns we document in Tables 2 and 3.

5.2.1. Discretionary accruals

Following Windisch (2021), we regress abnormal discretionary accruals on enforcement variables. We focus on the enforcement variables that exhibit time-series variation. The specification closely follows that of Windisch (2021). Discretionary accruals are measured as in Dechow et al. (1995). That is, we defined the accruals model at the industry-year level and take the absolute value of the residual to capture both income-increasing and income-decreasing abnormal accruals. The controls are as in Windisch (2021).[9] We include country-fixed effects to control for time-invariant country characteristics, which include sticky enforcement characteristics studied in prior literature.

Table 6 presents the results. Panel A presents the results for enforcement "on the books". Except for one case, these variables exhibit a significantly positive association with discretionary accruals. These results are inconsistent with the findings in Windisch (2021) and others, namely that stronger enforcement is associated with decreased discretionary accruals (presumably because tighter enforcement reduces reporting opportunism). Panel B presents the results for enforcement "in practice". Remarkably, we find contrasting results for some of these

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[9] We did not control for the Market-to-Book ratio as in Windisch (2021) due to limited data availability in some countries. As robustness test, we estimate the model of discretionary accruals pooling observations (rather than doing the estimation by industry) and include firm-fixed effects. We also include *Rule-of-Law* as additional control variable. Our inferences are unaffected (untabulated).

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alternative types of enforcement variables. *Performed Proactive Reviews*, *Total Sanctions Issued* exhibit a significantly negative (rather than positive) association with discretionary accruals. These other results are in line with prior literature.

5.2.2. Audit fees

Following Florou et al. (2020), we regress the natural logarithm of audit fees on enforcement variables. As before, we focus on the enforcement variables that exhibit time-series variation. The specification closely follows Florou et al. (2020); we include the same time-varying-control variables as these authors and firm- and year-fixed effects.[10]

Table 7 presents the results. Panel A presents the results for enforcement "on the books". Except for two cases, these variables exhibit a significantly positive association with discretionary accruals. These results are consistent with the findings of Florou et al. (2020), namely that tighter enforcement is associated with an increase in audit fees, reflecting an increase in compliance costs. Panel B presents the results for enforcement "in practice". Again, we find contrasting results for *Performed Proactive Reviews*, which exhibit a significantly negative (rather than positive) association with audit fees. However, the results for *Disclose Review Priorities, Total Public Sanctions Issued, Cases Submitted to EECS* are consistent with the directionality of the results in Panel A (these variables are positively associated with audit fees). Beyond potential interpretations of the above results (which are not trivial and require further research), the analysis highlights that the inferences obtained using our data often differ from those in prior literature. As such, Tables 6 and 7 confirm that our data captures new dimensions of the enforcement system.

5.3. Enforcement of non-financial reporting

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[10] We did not control for the Market-to-Book ratio as in Florou et al. (2020) due to limited data availability in some countries.

We next conduct an exploratory analysis of whether our measures of enforcement of financial reporting go hand in hand with those of enforcement of non-financial reporting. Currently, non-financial reporting in the EU is regulated by the NFRD (which stands for "Non-Financial Reporting Directive), but this rule will be replaced in the following years by the CSRD (which stands for "Corporate Sustainability Reporting Directive").[11] For now, this alternative type of reporting does not have a separate enforcement infrastructure. However, this does not mean that we can equate the enforcement of financial reporting with that of non-financial reporting.

To begin, EU countries have flexibility in transposing the NFRD into National Law along the following dimensions: (i) which companies must prepare a non-financial statement, (ii) which non-financial information to disclose, (iv) how publicly enforce compliance, and (v) which penalties for non-compliance. This flexibility generates variation in enforcement "on the books". To have a sense of this variation, we completed our data collection exercise by gathering information on these dimensions.

We define the following variables. *Start NFRD* corresponds to the year the NFRD was implemented in the country. *NFI reports* is the average number of non-financial information reports under the NRFD. *Legal Rights* relate to the legal rights of the enforcer to publicly enforce non-financial information. The variation is as follows: i) no power (no enforcement), ii) existence (the enforcer can only check whether there is a report, not the contents) and ii) proactive (the enforcer can perform proactive reviews). *Sanction Fine* indicates whether the enforcer can issue a fine when a firm does not comply with the NFRD. *Auditor Responsibility* relates to the responsibility of the auditor. The variation is as follows: i) the auditor checks whether the NFI (non-financial information) report is present, ii) the auditor checks for

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[11] The NFR-Directive is also known as 2014/95/EU. The CSR-Directive is also known as 2022/2464/EU.

consistency of the NFI report with the financial information, or iii) the auditor provides assurance.

Table 8, Panel A, presents data on the transposition of the NFRD across the EU countries (and thus on enforcement "on the books"). Five countries do not have public non-financial reporting enforcement (Croatia, Cyprus, Hungary, Ireland, Norway). Three countries have formal, proactive enforcement, but it is restricted to formally checking whether the non-financial report is present (Estonia, Germany, Greece). Remarkably, it is not clear from the data in Table 6, Panel A, that the countries commonly perceived as having the strongest enforcement of financial reporting also have the highest enforcement of non-financial reporting. In other words, it is not clear from Table 6, Panel A, that enforcement of financial reporting and enforcement of non-financial reporting go hand in hand.

Non-financial reporting enforcement "in practice" is unavailable at the country level, but ESMA reports aggregate statistics. Table 6, Panel B, presents this data. From 2018-2022, 3,607 (36%) non-financial reports have been proactively reviewed, of which 1,722 (17%) were reviewed in substance. In total, 360 sanctions (20%) have been issued after a proactive review of substance. However, only 14 were publicly issued (the rest of the sanctions were not made public). The enforcement of financial reporting over the same period (untabulated) shows a lower fraction of proactive reviews (17%) but a higher level of sanctions (35%). As such, the enforcement strategy for non-financial reporting (higher probability of detection, lower probability of sanction) appears to differ from that for financial reporting (lower probability of detection, higher probability of sanction). The correlation between the percentage of proactive financial reporting reviews and pro-active non-financial reporting reviews is positive and significant (not tabulated). Overall, the evidence in Table 8 suggests that while enforcement activity for financial and non-financial reporting are closely related, they exhibit non-trivial

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differences. This conclusion is particularly relevant in light of the current efforts to improve sustainability reporting.

6. Discussion

In this last section, we explore possible interpretations of the empirical patterns presented in the prior sections. Our discussion is necessarily speculative, as an in-depth analysis of the documented trends and associations lies beyond the scope of this study. Notwithstanding this consideration, we offer these reflections in the hope that they could guide future research based on our data.

One potential explanation for the secular decrease in the variation of enforcement practices relates to the ongoing efforts to harmonize the enforcement of reporting regulation in the EU.[12] In Europe, enforcement is coordinated at the supranational level but implemented nationally by national competent authorities (NCAs). This coordination has changed significantly between 2005 and 2022. From 2005 to 2011, the coordinating entity was the Committee of European Securities Regulators (CESR), a network of European NCAs. In 2011, CESR was replaced by the European Securities and Market Authority (ESMA). The common perception is that under ESMA, the coordination process became more formal.[13]

Our data is also consistent with the notion that, during the initial phase of supervisory convergence, CESR/ESMA's efforts focused on enforcement "on the books". As such,

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[12] European authorities have often mentioned harmonization as a specific goal. For instance, in the Communication from the European Commission regarding the Single Market Act, regarding the Key Action 2.8 to simplify the Accounting Directives as regards financial information obligations and reduction of the administrative burden, particularly for SMEs, it is stated that *"[t]he introduction of harmonized EU rules replaces a set of 27 national rules and therefore in itself constitutes a reduction in the regulatory burden* (European Commission, 2011, p.18)." Furthermore, According to ESMA (2016b, p. 11), the goal of the annual common enforcement priorities is to achieve a high level of harmonization in enforcing financial information. That said, we recognize that the welfare implications of harmonization are not straightforward. For example, Holthausen (2009) argues that harmonization of enforcement mechanisms might not create uniform quality in financial reporting given the multitude of other institutions and variation therein. Authors such as Wysocki (2011) or Leuz (2018) point out institutional complementarities that might render institutional harmonization economically harmful.

[13] Prior literature offers an alternative explanation for the variance in enforcement systems across jurisdictions; some jurisdictions may desire to maintain the possibility of relaxing enforcement rules for the purpose of regulatory forbearance (e.g., Gallemore 2023 for US bank enforcement; Quagli et al. 2021; Giner and Mora 2020).

enforcement "on the books" would have increased (and converged) over time to higher levels of enforcement. While enforcement "in practice" also exhibits convergence over time, the average value of the variables related to this second type of characteristic of the enforcement system decreases over time. For instance, the fraction of firms being reviewed decreases from 35% in 2005 to 19% in 2022.

The fact that the variation in enforcement characteristics decreases much more rapidly for enforcement "in practice" than enforcement "on the books" could relate to the cost of implementing changes in these two types of characteristics of the enforcement system. That is, the different patterns could be explained by the cost of changing enforcement "in practice" being higher than the cost of enforcement "on the books". One potential factor affecting such cost is the degree of overlap/interaction with the political process.

Of course, the differing trends of enforcement "on the books"/ "in practice" could also reflect a substitution effect; higher enforcement "on the books" reduced the need for enforcement "in practice". It is possible, for example, that increasing the legal rights of the enforcement bodies had a deterrent effect that decreased the need for certain enforcement practices, such as reviewing financial statements.

While the associations of some of our enforcement variables with discretionary accruals and audit fees are consistent with previous literature, the observed associations are somewhat puzzling in some cases. In particular, a positive association between enforcement "on the books" and audit fees could reflect the fact that an increase in this type of enforcement characteristic increases compliance costs. However, we also observe that this increase is associated with higher discretionary accruals, which is at odds with prior literature. One explanation is that, while increasing compliance costs, enforcement "on the books" is not really effective in curbing reporting opportunism and perhaps hides a relaxation in true enforcement efforts (i.e., enforcement "in practice").

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Of course, another explanation is that the relation is driven by an underlying economic factor not appropriately controlled for in the test (e.g., a transformation in certain business models). In fact, the statistical associations could reflect reverse causality, as sanctions can also decline if the quality of financial reports increases over time.

7. Conclusions

This paper presents new panel data on IFRS enforcement in the European Union (EU). We hand-collect information on 32 enforcement variables from 2005 to 2022 for 29 EU countries. Our data is novel in two ways: we collect information on a wide range of characteristics of the enforcement system and for each year of the sample period. Notably, we distinguish between characteristics relating to enforcement "on the books" and those relating to enforcement "in practice" (enforcement "on the books" refers to formal powers, whereas enforcement "in practice" refers to the actual use of power). Our data also covers four important dimensions of enforcement often emphasized by regulators: detection, sanctions, independence of the enforcers, and cooperation among enforcement bodies.

Based on this new data, we document two distinct stylized facts. First, in terms of the level of enforcement, we observe contrasting patterns for enforcement "on the book" and "in practice". While the former appears to have increased over recent years, the latter exhibits the opposite trend. Second, we observe that the variation in enforcement practices has decreased significantly over time. While there is a downward trend for enforcement "on the books" and enforcement in "in practice", the decrease is much more pronounced for the latter.

Our results are consistent with the notion that the ongoing efforts to harmonize the enforcement of reporting regulation in the EU have been successful, at least to some extent. Our data is also consistent with the idea that the increase in enforcement "on the books" reflects that, during the initial phase of supervisory convergence, regulatory efforts focused on this type

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of characteristic of the enforcement system. However, more research is needed to fully understand the time trend patterns we document -at the average level as well as in the cross-sectional variation of the characteristics of the enforcement system- and, notably, why they differ for enforcement "on the books" and enforcement "in practice".

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Appendix A. Framework for the collection of enforcement data

This table presents the framework used for the collection of enforcement data in the paper. See Appendix C for specific variable definitions.

		Dimensions of enforcement			
		Economic Deterrence		Enforcer Independence	Enforcer Cooperation
		Detection	Sanctions		
Type of characteristic of the enforcement system	Enforcement "On the Books"	*CESR/ESMA Compliance (Detection)* *Legal Rights*	*CESR/ESMA Compliance (Sanction)* *Sanction Options*	*CESR/ESMA Compliance (Independence)* *Political Independence*	*CESR/ESMA Compliance (Coordination)* *EECS Sharing Restrictions*
	Enforcement "In Practice"	*Reviewers* *Reviews* *Review Disclosures*	*Issued Sanctions* *Sanction Disclosures*	*Politically Connected Chair*	*EECS Meeting Attendance* *Case Submissions to EECS*

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Appendix B. Comparison with data used in prior research.

This table presents the correspondence between the enforcement variables in this study and direct measures of reporting enforcement from prior research. The variables in this study are presented in accordance with the framework in Appendix A and variable definitions are in Appendix C. The enforcement measures from prior research *ENFORCE* (Brown et al., 2014), *IFRSEU_ENF* (Christensen et al., 2013), and *ENFORCEMENT* of securities regulation (based on the rule-of-law/Kaufman) (Leuz 2010) are also defined in Appendix A. "Panel means panel data for the indicated years specific years. "Cross-Country" data is available at the country level. *Christensen et al. (2013) survey national enforcers about detection and sanctions and focus on the introduction of proactive reviews as a key indication for a substantive shift in enforcement.

Variables	This study	BPT2014 [*ENFORCE*]	CHL2013 [*IFRS$_{EU\_ENF}$*]	Leuz2010 [*Public Enforcement*]
(i) Enforcement "on the books"				
Detection				
Compliance with CESR/ESMA (Detection)	Panel 2005-2022			
Legal Rights: Information	Cross-Country	Cross-Country		Cross-Country
Legal Rights: Sample	Cross-Country			
Legal Rights: Shortage	Cross-Country			
Sanctions				
Compliance with CESR/ESMA (Sanctions)	Panel 2005-2022			Cross-Country
Sanction: Delist option	Cross-Country			
Sanction: Pre-clearance option	Cross-Country			
Independence				
Compliance with CESR/ESMA (Independence)	Panel 2005-2022			
Political Independence	Cross-Country			Cross-Country
Cooperation				
Compliance with CESR/ESMA (Coordination)	Panel 2005-2022			
EECS Sharing Restrictions	Panel 2005-2022			
(ii) Enforcement "in practice"				
Detection				
Reviewers: FTE	Panel 2005-2022	Cross-Country		
Reviewers: IFRS Specialists	Cross-Country			
Reviewers: Shortage	Cross-Country			
Reviews Categorized: Performed	Panel 2005-2022	Panel 2005&2008	Panel 2005-2009*	
Reviews: Default Full-Scope	Cross-Country			
Reviews: Full-Scope Performed	Panel 2005-2022			
Reviews: Risk-Based Performed	Cross-Country			
Reviews: Random Method	Cross-Country			
Reviews: Full Coverage Method	Cross-Country			
Reviews: Instruction Checklist	Cross-Country			
Disclose: Review Priorities	Panel 2005-2022			
Disclose: Review Selection	Cross-Country			
Sanctions				
Sanctions Issued	Panel 2005-2022	Panel 2005&2008		
Private Sanctions Issued	Panel 2005-2022			
Public Sanctions Issued	Panel 2005-2022			
Sanctions Database	Cross-Country			
Sanctions Pre-clearances	Panel 2005-2022			
Disclosure: Anonymized Sanctions	Panel 2005-2022	Panel 2005&2008		
Independence				
Political Connected Chair	Panel 2005-2022			
Cooperation				
EECS Meeting Attendance	Panel 2005-2022			
Submitted cases EECS database	Panel 2005-2022			

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Appendix C. Variable definitions

This Appendix provides the variable definitions and is organized based on the framework in Appendix A. An extended description and the sources on how the variables are collected are available in the online Appendix (OA2).

1. Enforcement "on the books"		
Element	**Variable**	**Description**
Probability of Detection	*Compliance with CESR/ESMA (Detection)*	One if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on Proactive Reviews. See OA2 for the correspondence between the CESR and ESMA enforcement framework.
	Legal Rights: Information	Variable consisting of three information rights. One for each of the following rights: the enforcer has the legal authority to obtain information from the issuer, auditor, and third party. The variable takes the value 0,1,2,3 and is scaled by 3 to create a percentage. This variable does not have time-series variation.
	Legal Rights: Sample	Variable consisting of three sampling rights. One for each of the following rights: the enforcer has the legal authority to determine the sample size, sample scope, and the timing of the pro-active review. The variable takes the value 0,1,2,3 and is scaled by 3 to create a percentage. This variable does not have time-series variation.
	Legal Rights: Shortage	Variable indicating whether the enforcer has sufficient legal rights (i.e., obtaining information in selecting the sample) to perform pro-active reviews. One is the enforcer has sufficient legal rights. This variable does not have time-series variation.
Size of Sanctions	*Compliance with CESR/ESMA (Sanction)*	One if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on Sanctions. See OA2 for the correspondence between the CESR and ESMA enforcement framework.
	Sanction: Delist option	One if the enforcer has the legal right to delist the firm when it is in non-compliance with IFRS. This variable does not have time-series variation.
	Sanction: Pre-clearance option	One if the enforcer has the legal option to give ex-ante approval of a certain accounting treatment as requested by the firm before the firm issues the financial statements. This variable does not have time-series variation.
Independence	*Compliance with CESR/ESMA (Independence)*	One if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on Independence. See OA2 for the correspondence between the CESR and ESMA enforcement framework.
	Political Independence	A cumulated index based on prior literature capturing the formal independence of the enforcer from politics based on legislation (Gilardi, 2002). The index varies between 0 and 1 and a higher value is a higher independence. This variable does not have time-series variation.
Enforcer Coordination	*Compliance with CESR/ESMA (Coordination)*	One if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on coordination. See OA2 for the correspondence between the CESR and ESMA enforcement framework.
	EECS Sharing Restrictions	One if the enforcer has information-sharing restrictions (i.e., they cannot share certain information with the other enforcers in EECS). This variable does not have time-series variation.
Overall	*Compliance with CESR/ESMA (Overall)*	One if the country enforcer indicates full compliance with the complete CESR/ESMA IFRS enforcement framework, i.e. compliance with CESR/ESMA (Detection + Sanction + Independence + Coordination).
2. Enforcement "in practice"		
Element	**Variable**	**Description**
Probability of Detection	*Reviewers: FTE*	The number of full-time equivalents at the public enforcer dedicated to IFRS proactive review activities (scaled by the total number of IFRS issuers in the same year and multiplied by 100).
	Reviewers: IFRS Specialists	One if the reviewers who proactively review financial statements are industry and/or IFRS specialists.
	Reviewers: Shortage	One is when the national public enforcer indicated in the self-assessment of CESR that they do not have sufficient human resources to carry out the IFRS enforcement tasks.
	Reviews: Performed	Actual proactive reviews performed in a specific year (scaled by the total number of IFRS issuers in the same year).
	Reviews: Default Full-Scope	One if the enforcers' default for proactive reviews is a full-scope review. This variable does not have time-series variation.
	Reviews: Full-Scope Performed	Full-scope pro-active reviews performed in a specific year (scaled by the total number of IFRS issuers in the same year).
	Reviews: Risk-Based Performed	Percentage of IFRS reports selected based on a risk-based assessment. This variable does not have time-series variation.

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	Reviews: Random Method	One if the enforcer uses (in part) a random sampling method to select financial statements for proactive reviews. This variable does not have time-series variation.	
	Reviews: Full Coverage Method	One if the enforcer has a policy of ensuring all firms are selected for proactive reviews within a certain period. This variable does not have time-series variation.	
	Reviews: Instruction Checklist	One if the national enforcer has a work instruction/checklist containing considerations for the proactive review of financial statements and instructions for the practice of examination. This variable does not have time-series variation.	
	Disclose: Review Priorities	One if the national enforcer disclosed review priorities before commencing the annual proactive reviews, e.g., which IFRS standards or IFRS topics are relevant for the upcoming proactive reviews.	
	Disclose: Review Selection	One if the enforcer has the practice to communicate ex-ante which types of firms are selected for the upcoming IFRS reviews.	
Size of Sanctions	Sanctions Issued	The number of sanctions issued by the enforcer (scaled by the total number of IFRS issuers in the same year).	
	Private Sanctions Issued	The number of private sanctions issued by the enforcer based on the proactive review, i.e., anonymous corrections in future financial statements (scaled by the total number of IFRS issuers in the same year).	
	Public Sanctions Issued	The number of public sanctions issued by the enforcer based on the proactive review, i.e., re-issuance of the financial statements or a restatement (issued via a public corrective note or a press release (scaled by the total number of IFRS issuers in the same year).	
	Sanctions Database	One if the national enforcer has a database with prior decisions and actions taken. This variable does not have time-series variation.	
	Sanctions Pre-clearances	The number of pre-clearances issued by the enforcer in a year (scaled by the total number of IFRS issuers in the same year).	
	Disclosure: Anonymized Sanctions	One if the enforcer ex-posts disclosed the findings on the proactive reviews anonymously.	
Independence	Political Connected Chair	One if the chair of the enforcer chair is politically connected, i.e., a former minister, member of parliament, or high-level civil servant.	
Enforcer Coordination	EECS Meeting Attendance	The percentage of meetings of the EECS, the national enforcer, attended in a year. The number of EECS meetings occurs about ten times per year.	
	Submitted cases to the EECS database	Equal to one if the national enforcer at least submitted one case (IFRS decisions, IFRS issues) to the EECS database.	
3. Other Variables			
Enforcement variables from prior literature	$IFRS_{EU\_ENF}$	Equal to one if a country substantially changed enforcement. These countries are Finland, Germany, Iceland, Netherlands, Norway, and the United Kingdom. (Christensen, Hail, Leuz, 2013).	
	ENFORCE	The degree of accounting enforcement activity; is an index consisting of whether the enforcer reviews, reports about the review, takes enforcement actions, and the level of resources (Brown, Preiato, Tarca, 2014).	
	Rule-of-Law	Index on the strength of the rule-of-law in the country based on data from the World Bank (Kaufman et al., 2011)	
	Public Enforcement	Public enforcement of securities regulation based on the rule-of-law and consists of the supervisor characteristics index, the rule-making power index, the investigative powers index, the orders index, and the criminal index (Leuz 2010).	
Control Variables	Market Capitalization	The annual market capitalization of listed firms (Worldscope).	
	GDP growth	The annual GDP growth from the World Bank.	

Figure 1 Enforcement "on the books"

This figure plots the variables *CESR/ESMA Compliance (Detection), CESR/ESMA Compliance (Sanction), CESR/ESMA Compliance (Independence),* and *CESR/ESMA Compliance (Coordination)*. These variables - defined specifically in Appendix C- capture the percentage of national enforcement bodies that self-report to be in compliance with the CESR/ESMA framework for enforcement of financial regulation.
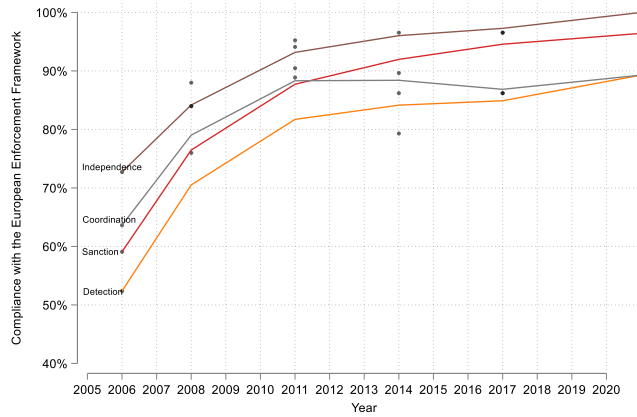
Figure 2 Enforcement "in practice"

This figure plots in each year of the sample period the variable *Reviews Performed*, defined as the actual proactive reviews performed in a specific year (scaled by the total number of IFRS issuers in the same year (see also Appendix C). The line is a locally weighted scatterplot smoothed (lowess).
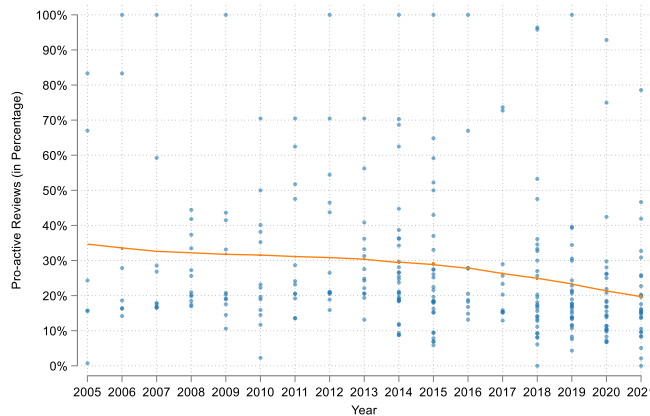
Figure 3. Cross-country variation in enforcement

This figure plots the average relative standard deviation (coefficient of variation) of all variables with panel data of enforcement "on the books" (orange line) and all variables with panel data of enforcement "in practice" (blue line).

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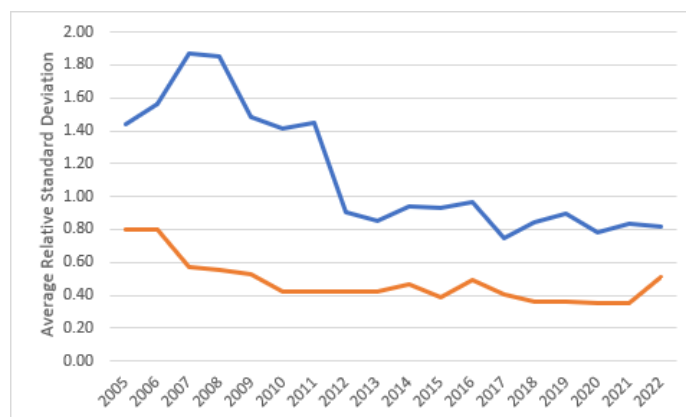
Table 1. Average enforcement characteristics

Panel A provides descriptive statistics on the enforcement variables defined in Appendix C. Panel A focuses on variables related to enforcement "on the books". Panel B focuses on enforcement "in practice". The first set of columns shows statistics of the distribution of average values by country (i.e., averaged over the sample years), and the second set of columns shows statistics of the distribution of average values by year (i.e., averaged across the sample countries). #are the variables with both cross-country and time-series variation. C.V. refers to the coefficient of variation.

Panel A: Enforcement "on the books"

Element	Variable	(1) Distribution of the average values by country							(2) Distribution of the average values by year						
		N	Mean	Median	S.D.	Min.	Max.	C.V.	N	Mean	Median	S.D.	Min.	Max.	C.V.
Detection	*Compliance with CESR/ESMA (Detection)#*	29	82%	100%	32%	0%	100%	0.4	17	85%	89%	10%	52%	100%	0.1
	Legal Rights Information	28	93%	100%	19%	33%	100%	0.2	-	-	-	-	-	-	-
	Legal Rights Sample	28	71%	70%	30%	0%	100%	0.4	-	-	-	-	-	-	-
	Legal Rights Shortage	29	21%	0%	41%	0%	100%	2.0	-	-	-	-	-	-	-
Sanction	*Compliance with CESR/ESMA (Sanction)#*	29	91%	100%	22%	0%	100%	0.2	17	90%	90%	10%	59%	100%	0.1
	Delist Option	28	29%	0%	46%	0%	100%	1.6	-	-	-	-	-	-	-
	Pre-Clearance Option	29	48%	0%	50%	0%	100%	1.1	-	-	-	-	-	-	-
Independence	*Compliance with CESR/ESMA (Independence)#*	29	95%	100%	12%	44%	100%	0.1	17	95%	97%	7%	73%	100%	0.1
	Political Independence	29	61%	61%	11%	46%	86%	0.2	-	-	-	-	-	-	-
Coordination	*Compliance with CESR/ESMA (Coordination)#*	29	85%	100%	30%	6%	100%	0.4	17	88%	89%	8%	64%	100%	0.1
	EECS Sharing Restrictions#	29	95%	100%	21%	6%	100%	0.2	18	94%	93%	3%	90%	100%	0.0
	Average coefficient of variation (C.V.)							0.3							0.1

Panel B: Enforcement "in practice"

Element	Variable	i) Distribution of the average values by country							ii) Distribution of the average values by year						
		N	Mean	Median	S.D.	Min.	Max.	C.V.	N	Mean	Median	S.D.	Min.	Max.	C.V.
Detection	*Reviewers FTE#*	29	3.9	3.5	2.1	0.8	8.8	0.6	10	4.3	4.6	0.9	3.0	5.4	0.2
	Reviewers IFRS Specialists	29	48%	0%	51%	0%	100%	1.1	-	-	-	-	-	-	-
	Reviewers Shortage	29	14%	0%	35%	0%	100%	2.5	-	-	-	-	-	-	-
	Reviews Performed#	29	27%	24%	16%	7%	79%	0.6	18	30%	30%	7%	19%	44%	0.2
	Reviews Default Full-Scope	29	48%	0%	51%	0%	100%	1.1	-	-	-	-	-	-	-
	Reviews Performed Full-Scope#	29	65%	66%	16%	22%	93%	0.3	14	64%	64%	5%	51%	72%	0.1
	Reviews Risk-Based Method	29	76%	100%	44%	0%	100%	0.6	-	-	-	-	-	-	-
	Reviews Performed Risk-Based #	29	64%	67%	26%	18%	100%	0.4	-	-	-	-	-	-	-
	Reviews Instruction Checklist	29	86%	100%	35%	0%	100%	0.4	-	-	-	-	-	-	-
	Reviews Random Method	29	62%	100%	49%	0%	100%	29	-	-	-	-	-	-	-
	Disclose Review Priorities#	29	65%	65%	9%	53%	100%	0.1	18	58%	63%	44%	0%	100%	0.8
	Disclose Review Selection	29	2%	0%	9%	0%	47%	5.4	-	-	-	-	-	-	-
Sanction	*Sanctions Issued#*	29	6%	6%	4%	0%	16%	0.7	18	5%	6%	2%	1%	9%	0.4
	Private Sanctions Issued#	29	5%	4%	4%	0%	13%	0.8	18	4%	4%	2%	0%	8%	0.6
	Public Sanctions Issued#	29	2%	1%	2%	0%	7%	1.2	18	2%	2%	1%	0%	5%	0.5

		N	Mean	Median	SD	Min	Max	C.V.	N	Mean	Median	SD	Min	Max	C.V.
	Sanctions Database	29	79%	100%	41%	0%	100%	0.5	-	-	-	-	-	-	-
	Actual Pre-Clearances	29	0.2	0.0	0.7	0.0	3.8	3.0	5	0.3	0.3	0.1	0.1	0.4	0.5
	Disclose Anonymized Sanctions[#]	29	41%	31%	45%	0%	100%	1.1	17	41%	41%	5%	34%	57%	0.1
Independence	*Political Chair[#]*	29	59%	56%	35%	0%	100%	0.6	18	56%	55%	10%	37%	71%	0.2
Coordination	*EECS Attendance[#]*	26	70%	97%	41%	0%	100%	0.6	16	93%	100%	12%	70%	100%	0.1
	EECS Submitted Cases[#]	26	44%	0%	50%	0%	100%	1.1	18	88%	100%	23%	42%	100%	0.3
	Average coefficient of variation (C.V.)							0.9							0.3

Table 2. Trends in average enforcement characteristics

This table presents results of testing time trends in the mean values of enforcement variables. Panel A focuses on enforcement "on the books" and Panel B focuses on enforcement "in practice". The tabulated results correspond to a multivariate regression capturing a time trend in enforcement variables with the following model at the country-year level: $Enforcement\ Variable_{c,t} = Time\ Trend + Controls_{c,t} + countryFE_c + \varepsilon_{c,t}$. Variable definitions of all the enforcement variables are in Appendix C. *Time trend* is a linear time-trend variable. Control variables are defined in Appendix C. *, **, and *** denote significance at the 10%, 5%, and 1% level (two-tailed), respectively.

Panel A: Linear Time trend in enforcement "on the books"

Variable	Compliance with CESR/ESMA (Overall)	Compliance with CESR/ESMA (Detection)	Compliance with CESR/ESMA (Sanction)	Compliance with CESR/ESMA (Independence)	Compliance with CESR/ESMA (Coordination)
	(1)	(2)	(3)	(4)	(5)
Time Trend	0.031***	0.020***	0.018***	0.020***	0.007***
	(10.66)	(8.05)	(8.04)	(9.22)	(2.89)
Rule-of-Law	-0.254**	-0.079	-0.141*	0.059	-0.199**
	(-2.43)	(-0.91)	(-1.91)	(0.84)	(-2.36)
GDP growth	-0.007*	-0.006**	-0.004	-0.003	-0.001
	(-1.86)	(-2.08)	(-1.47)	(-1.24)	(-0.36)
Capital Market Size	-0.083***	-0.061***	-0.049***	-0.101***	0.001
	(-4.42)	(-3.95)	(-3.48)	(-7.52)	(0.04)
N	369	376	398	402	377
Country-FE	Yes	Yes	Yes	Yes	Yes
Adjusted -R^2	0.752	0.740	0.658	0.412	0.682

Panel B: Linear Time trend in enforcement "in practice"

	Probability of Detection				Size of Sanctions					Independence	Coordination
	Reviewers FTE	Performed Pro-active Reviews	Performed Full-Scope Reviews	Disclose Review Priorities	Total Sanctions Issued	Private Sanctions Issued	Public Sanctions Issued	Actual Pre-Clearances	Disclose Anonymized Findings	Connected Board Member	Cases Submitted to EECS
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Time Trend	-0.164*	-1.758***	-0.861***	0.071***	-0.116	0.060	-0.154***	-0.079**	-0.003	-0.013***	0.021***
	(-1.67)	(-5.08)	(-2.81)	(18.96)	(-1.09)	(0.64)	(-2.66)	(-2.51)	(-1.11)	(-2.67)	(4.06)
Rule-of-Law	-2.085	-27.580**	-6.558	0.185	-10.057***	0.410**	-6.995***	0.484	-0.297***	-0.353**	0.468***
	(-0.85)	(-2.44)	(-0.79)	(1.37)	(-3.33)	(2.42)	(-4.27)	(0.57)	(-3.32)	(-2.11)	(2.70)
Capital Market Size	0.180	3.399	1.057	0.048**	-0.551	0.034	-0.009	0.135	-0.009	-0.025	0.006
	(0.33)	(1.47)	(0.59)	(2.05)	(-0.93)	(1.10)	(-0.03)	(0.89)	(-0.52)	(-0.78)	(0.22)
GDP growth	-0.207*	-0.144	0.075	0.011**	-0.018	-0.006	0.071*	-0.066	0.001	-0.006	0.014
	(-2.00)	(-0.49)	(0.39)	(2.57)	(-0.26)	(-1.57)	(1.83)	(-0.43)	(0.30)	(-1.02)	(1.46)
N	80	319	216	451	230	231	229	477	477	477	103
Country-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted.-R^2	0.339	0.422	0.560	0.574	0.561	0.564	0.457	0.789	0.789	0.278	0.729

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Table 3. Trends in cross-country variation in enforcement: Descriptive statistics

Panel A (panel B) presents the coefficient of variation of the variables defined in Appendix C. Panel A focuses on enforcement "on the books", and Panel B focuses on enforcement "in practice". #are the variables with both cross-country and time-series variation.

Panel A: Enforcement "on the books"

Variables:	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Compliance with CESR/ESMA (Detection)#		0.98	0.54	0.57	0.36	0.36	0.36	0.36	0.36	0.52	0.42	0.42	0.41	0.35	0.35	0.36	0.35	
Legal Rights: Information					0.20													
Legal Rights: Sample					0.41													
Legal Rights: Shortage												0.99						
Compliance with CESR/ESMA (Sanction) #		0.85	0.60	0.45	0.33	0.33	0.33	0.33	0.33	0.35	0.20	0.20	0.19	0.19	0.19	0.20	0.20	
Sanction: Delist option					1.61													
Sanction: Pre-clearance option	1.26	1.29	1.21	1.18	1.09	1.09	1.09	1.09	1.09	1.05	1.05	1.05	1.05	1.05	1.05	1.02	1.02	1.02
Compliance with CESR/ESMA (Independence) #		0.63	0.27	0.38	0.23	0.23	0.23	0.23	0.23	0.19	0.19	0.19	0.19	0.00	0.00	0.00	0.00	
Political Independence											0.17							
Compliance with CESR/ESMA (Coordination) #		0.77	0.52	0.45	0.26	0.26	0.26	0.26	0.26	0.41	0.41	0.41	0.41	0.35	0.35	0.36	0.35	
EECS Sharing Restrictions#	0.34	0.29	0.31	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.19	0.19	0.19	0.19	0.20	0.20	0.00
Mean	0.41	0.46	0.39	0.38	0.31	0.31	0.31	0.31	0.31	0.34	0.28	0.31	0.29	0.25	0.25	0.25	0.25	0.51
Median	0.41	0.49	0.42	0.37	0.29	0.28	0.28	0.28	0.28	0.33	0.26	0.35	0.27	0.25	0.25	0.25	0.25	0.51
Mean#	0.80	0.80	0.57	0.55	0.43	0.43	0.43	0.43	0.43	0.47	0.43	0.41	0.41	0.36	0.36	0.36	0.35	0.51
Median#	0.80	0.81	0.53	0.45	0.31	0.31	0.31	0.31	0.31	0.38	0.34	0.30	0.30	0.27	0.27	0.28	0.27	0.51

Panel B: Enforcement "in practice"

Variables:	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Reviewers: FTE						0.99				0.66		1.03	0.82			0.83	0.82	
Reviewers: IFRS Specialists												1.05						
Reviewers: Shortage												2.54						
Reviews: Performed#	0.99	0.87	1.00	0.98	1.22	1.20	1.14	1.09	1.07	1.10	1.11	0.83	0.85	0.88	0.96	0.85	0.89	0.85
Reviews: Default Full-Scope											1.05							
Reviews: Full-Scope Performed								0.27	0.30	1.63	1.28	0.41	0.49	1.00	1.05	1.02	1.02	1.03
Reviews: Risk-Based Performed											0.47							
Reviews: Random Method											0.79							
Reviews: Full Coverage Method											1.05							
Reviews: Instruction Checklist											0.40							
Disclose: Review Priorities#		2.54	4.00	3.24	2.76	1.82	1.91	1.91	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Disclose: Review Selection#	4.47	5.10	4.90	5.29	5.29	5.29	5.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sanctions Issued	1.64	1.54	1.02	0.91	1.08	1.41	0.27	0.86	0.85	1.10	1.27	0.76	1.16	1.21	1.41	1.19	1.22	1.17
Private Sanctions Issued#	1.73	1.73	1.73	1.73	0.00	0.00	1.73	1.70	1.36	1.52	1.92	1.48	1.69	1.53	1.77	1.39	1.52	1.45
Public Sanctions Issued#	0.92	0.25	1.33	1.15	1.08	1.41	0.85	1.15	1.24	2.09	1.95	1.10	1.35	1.66	1.72	1.31	1.59	1.46

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Sanctions Database											0.51							
Sanctions Pre-clearances														0.47	0.70	0.60	0.70	0.70
Disclosure: Anonymized Sanctions#	0.90	1.20	1.02	1.19	1.19	1.27	1.18	1.18	1.18	1.21	1.30	1.40	1.30	1.30	1.21	1.27	1.27	1.27
Political Connected Chair	0.66	0.65	0.70	0.78	0.72	0.76	0.70	0.88	0.82	0.98	1.05	1.13	1.30	1.21	1.05	0.95	1.02	1.09
EECS Meeting Attendance	0.61	0.59											0.00					
Submitted cases to the EECS database#	1.02	1.19	1.11	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.00	0.00	0.00
Mean	1.44	1.57	1.87	1.85	1.48	1.41	1.45	0.90	0.85	0.94	0.93	0.96	0.75	0.84	0.90	0.78	0.84	0.82
Median	0.99	1.20	1.11	1.19	1.08	1.23	1.14	0.99	0.96	1.10	1.05	1.03	0.84	1.00	1.05	0.90	0.92	1.03
Mean#	1.54	1.68	1.87	1.85	1.48	1.46	1.45	0.90	0.85	0.96	1.07	0.79	0.81	0.88	0.92	0.80	0.85	0.83
Median#	1.00	1.20	1.11	1.19	1.08	1.27	1.14	0.99	0.96	1.10	1.19	0.81	1.01	1.11	1.05	0.98	1.02	1.06

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Table 4. Trends in cross-country variation in enforcement: Regression analysis

This table presents tests on the convergence of enforcement over the sample period. In the β-convergence test (Panel A), we estimate the following model:

$$\log\left(\frac{Enforcement_{c,t}}{Enforcement_{c,t-1}}\right) = \alpha_c + \beta_1 \log\left(Enforcement_{c,t-1}\right) + country\ FE + \varepsilon_{ct}.$$

For enforcement "on the books", *Enforcement* is defined as the sum of the variables related to compliance with the CESR/ESMA framework along each of the four considered dimensions (i.e., detection, sanction, independence, coordination). For enforcement "in practice", *Enforcement* is one of the following two variables: *Reviews Performed* and *Sanctions Issued* (see Appendix C for definitions). In the σ-convergence test (Panel B), we estimate the following model:

$$\mathrm{sd}\left(Enforcement_{c,t}\right) = \alpha_c + \beta_2 Time\ Trend + \varepsilon_{ct}.$$

Enforcement is defined as in the β-convergence test. "sd" stands for "standard deviation". *, **, and *** denote significance at the 10%, 5%, and 1% level (two-tail) respectively.

Panel A: β--convergence

	Enforcement "on the books"	Enforcement "in practice"	
	Compliance with CESR/ESMA (Overall)	*Reviews Performed*	*Sanctions Issued*
Variable	(1)	(2)	(3)
$logY_{t-1}$	-0.242***	-0.920***	-5.144***
	(-11.22)	(-6.25)	(-5.39)
Implicit yearly speed of convergence (%)	1.5%	5.4%	30.2%
N	296	263	149
Country-FE	Yes	Yes	Yes
Adjusted-R^2	0.466	0.195	0.151

Panel B: σ-convergence

	Enforcement on-the-books	Enforcement "in practice"	
	Compliance with CESR/ESMA (Overall)	*Reviews Performed*	*Sanctions Issued*
Variable	(1)	(2)	(3)
Time Trend	-0.043***	-0.099**	0.026*
	(-4.97)	(-2.59)	(1.55)
N	18	18	18
Country-FE	No	No	No
Adjusted-R^2	0.597	0.251	0.081

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Table 5. Correlation with enforcement measures from prior literature

This table provides correlations between the enforcement variables described in Appendix C and measures of enforcement used in prior literature. *Rule-of-Law* (Kaufman et al., 2011), *IFRS$_{EU\_ENF}$* (Christensen et al., 2013), and *ENFORCE* (Brown et al., 2014). Continuous variables are transformed into indicators for whether the observation is below/above the sample median. The table indicates the number of the variables in Appendix C that exhibit positive/negative/insignificant correlation with each of the three variables from prior research.

Enforcement Variables	*Rule-of-Law* (Kaufman et al., 2011)	*IFRS$_{EU\_ENF}$* (Christensen et al., 2013)	*ENFORCE* (Brown et al., 2014)
Enforcement on-the-Books (N=11)			
Positive correlation	3/11	6/11	3/11
Negative correlation	1/11	1/11	1/11
Insignificant correlation	7/11	4/11	7/11
Enforcement Practices (N=21)			
Positive correlation	6/21	5/21	7/21
Negative correlation	3/21	4/21	3/21
Insignificant correlation	12/21	12/21	10/21

Table 6. Enforcement and Abnormal Accruals

This table presents the results of testing the association between enforcement and discretionary accruals. The dependent variable, *ADA*, is the absolute value of discretionary accruals measured following the model in Dechow et al. (1995). Enforcement variables are described in Appendix C. *Reviewers FTE*, *Performed Proactive Reviews*, and *Total Sanctions Issued* are transformed into indicator variables based on below/above median values. Control variables are as in Windisch (2021) and other previous literature: firm size, the length of the operating cycle, the incidence of losses, asset growth, leverage, and indicator for cross-listing in the US, big-4 dummy, and IFRS indicator. Standard errors are clustered at the firm level. *, **, and *** denote significance at the 10%, 5%, and 1% level (two-tail) respectively.

Panel A: Enforcement "on the books"

	Dependent variable: ADA				
Variable	(1)	(2)	(3)	(4)	(5)
Compliance with CESR/ESMA (Overall)	0.016***				
	(3.28)				
Compliance with CESR/ESMA (Detection)		0.017***			
		(3.54)			
Compliance with CESR/ESMA (Sanction)			0.010*		
			(1.79)		
Compliance with CESR/ESMA (Independence)				-0.004	
				(-0.78)	
Compliance with CESR/ESMA (Coordination)					0.012***
					(3.16)
Controls	Yes	Yes	Yes	Yes	Yes
Country-Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry-Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	28,981	28,702	31,881	32,109	28,981
Adjusted -R^2	0.133	0.132	0.123	0.128	0.130

Panel B: Enforcement "in practice"

	Dependent variable: ADA							
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Reviewers FTE	-0.010							
	(-0.58)							
Performed Proactive Reviews		-0.006***						
		(-3.57)						
Disclose Review Priorities			-0.002					
			(-0.88)					
Total Sanctions Issued				-0.012***				
				(-3.23)				
Public Sanctions Issued					0.007**			
					(2.12)			
Disclose Findings						0.005		
						(1.44)		
Connected Board Member							0.006***	
							(2.99)	
Cases Submitted to EECS								-0.010
								(-1.52)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes	*Yes*	*Yes*	*Yes*
Observations	3,892	34,264	29,572	17,090	16,320	33,218	33,680	12,868
Adjusted -R^2	0.263	0.129	0.132	0.128	0.143	0.128	0.129	0.134

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Table 7. Enforcement and Audit Fees

This table presents the results of testing the association between enforcement and audit fees. The dependent variable, *FEES*, is the log of audit fees. Enforcement variables are described in Appendix C. For *Reviewers FTE*, *Performed Proactive Reviews*, and *Total Sanctions Issued* are transformed into indicator variables based on below/above median values. The controls variables are as in Florou et al. (2020): *Size*, *ROA, Leverage, InvRec, Quick, BusSegments, GeoSegments, Loss, Qualified, BigAuditor, AuditorChange, December, Impairments, Acquisition, NegativeEquity*. Standard errors are clustered at the firm level. *, **, and *** denote significance at the 10%, 5%, and 1% level (two-tail) respectively.

Panel A: Enforcement "on the books"

	Dependent variable: FEES				
VARIABLES	(1)	(2)	(3)	(4)	(5)
Compliance with CESR/ESMA (Overall)	0.152***				
	(2.58)				
Compliance with CESR/ESMA (Detection)		0.100**			
		(2.34)			
Compliance with CESR/ESMA (Sanction)			0.231**		
			(1.99)		
Compliance with CESR/ESMA (Independence)				-0.063	
				(-1.49)	
Compliance with CESR/ESMA (Coordination)					-0.015
					(-0.48)
Controls	Yes	Yes	Yes	Yes	Yes
Firm Fixed-Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	8,572	8,436	8,813	8,834	8,496
Adjusted -R^2	0.902	0.901	0.898	0.898	0.902

Panel B: Enforcement "in practice"

	Dependent variable: FEES							
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Reviewers FTE	-0.059							
	(-0.72)							
Performed Proactive Reviews		-0.066***						
		(-2.69)						
Disclose Review Priorities			0.035**					
			(2.18)					
Total Sanctions Issued				-0.002				
				(-0.08)				
Total Public Sanctions Issued					0.049*			
					(1.89)			
Disclose Findings						-0.002		
						(-0.19)		
Connected Board Member							-0.022	
							(-1.13)	
Cases Submitted to EECS								0.156*
								(1.66)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed-Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,768	34,929	35,719	22,755	21,126	41,502	13,327	2,768
Adjusted -R^2	0.950	0.921	0.915	0.926	0.929	0.913	0.937	0.950

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Table 8. Enforcement of Non-Financial Reporting

This table presents characteristics of public enforcement of non-financial reporting for the sample countries. Panel A presents data on enforcement "on the books". *Start NFRD* is the date when the Non-financial Reporting Directive (NFRD) was implemented in the country. *NFI reports* is the average number of non-financial information reports under the NRFD. *Legal Rights* (probability of detection) are the legal rights of the enforcer to publicly enforce non-financial information. This can be i) no power (no enforcement), ii) existence (enforcer can only check whether there is a report, not the contents) and ii) proactive (the enforcer can perform proactive reviews). *Sanction Fine* is an indicator of whether the enforcer can issue a fine when a firm does not comply with the NFRD. *Auditor Responsibility* is an indicator of whether the auditor checks whether the NFI report is i) present, ii) consistency with the financial information, or iii) provides assurance. Panel B presents data on enforcement "in practice". Panel B presents aggregated statistics at the EU level on enforcement "in practice" of non-financial information. *NFRD Reports* is the total non-financial information reports subject to enforcement. *Total Pro-active Reviews* are the number aggregate of pro-active reviews over the 29 countries in the EU. *Pro-active Reviews Substance* (*Pro-active Reviews Existence*) is the number of pro-active reviews focusing on the content or substance of the disclosures (on the existence of a non-financial report). *Sanctions issued* are the number of sanctions issued based on the pro-active reviews. *Public Sanctions issued* (*Private Sanctions Issued*) are public restatements of non-financial information (private adjustments in next year's non-financial information). *Other Sanctions* are all other sanctions (no further details available). The data is expressed in raw values (N) and as the percentage with respect to the number of NFRD reports in that year (%).

Panel A: Enforcement "on the books"

Country	Start NFRD	NFI reports (2018-2022)	Legal Rights	Sanction Fine	Auditor Responsibility
Austria	2016	63	Proactive	Yes	Presence
Belgium	2017	57	Proactive	Yes	Consistency
Bulgaria	2017	30	Proactive	Yes	Consistency
Croatia	2020	41	No Power	Yes	Presence
Cyprus	2017	14	No Power	Yes	Presence
Czech	2016	10	Proactive	Yes	Presence
Denmark	2015	66	Proactive	Yes	Consistency
Estonia	2015	9	Existence	No	Consistency
Finland	2016	90	Proactive	Yes	Consistency
France	2017	275	Proactive	No	Assurance
Germany	2017	293	Existence	Yes	Presence
Greece	2019	47	Existence	Yes	Presence
Hungary	2016	16	No Power	Yes	Presence
Iceland	-	40	Proactive	Yes	Consistency
Ireland	2017	22	No Power	Yes	Presence
Italy	2016	169	Proactive	Yes	Assurance
Latvia	2016	8	Proactive	Yes	Consistency
Lithuania	2016	15	Proactive	Yes	Presence
Luxembourg	2016	37	Proactive	Yes	Presence
Malta	2016	9	Proactive	Yes	Presence
Netherlands	2017	83	Proactive	Yes	Consistency
Norway	2021	255	No Power	Yes	Consistency
Poland	2016	144	Proactive	Yes	Presence
Portugal	2017	34	Proactive	Yes	Presence
Romania	2016	33	Proactive	Yes	Consistency
Slovakia	2015	25	Proactive	Yes	Consistency
Slovenia	2017	10	Proactive	Yes	Presence
Spain	2018	98	Proactive	Yes	Assurance
Sweden	2016	261	Proactive	Yes	Presence
U.K.	2016	436	Proactive	Yes	Consistency

Panel B: Enforcement "in practice"

| | Probability of Detection | | | | Size of Sanctions | | | |
| | NFRD Reports | Total Pro-active Reviews | Pro-active Reviews Substance | Pro-active Reviews Existence | Sanctions Issued | Public Sanctions Issued | Private Sanctions Issued | Other Sanctions |
Year	N	N %	N %	N %	N %	N %	N %	N %
2018	1,906	819 42	385 20	434 22	52 6	4 0	17 2	31 4
2019	1,983	904 45	419 21	518 26	97 10	2 0	93 10	2 0
2020	1,972	737 36	247 13	490 23	39 5	0 0	36 5	3 0
2021	1,958	711 37	338 18	373 19	72 10	4 1	68 10	0 0
2022	2,195	403 20	333 18	70 2	100 24	4 1	83 21	13 3
Total	10,014	3,607 36	1,722 17	1,885 19	360 10	14 0	297 8	49 2
IFRS	23,132	3,979 17	3,979 17	0 0	1,335 33	276 7	1,059 26	0 0

Online Appendices:

Enforcement of Financial Reporting Regulation: Insights from new data

OA1. Correspondence of the CESR and ESMA IFRS enforcement framework

This table presents the correspondence between CESR principles and ESMA guidance on enforcement per enforcement element (discussed in Table 1). The categorized elements are economic deterrence, consisting of the Probability of Detection and the Size of Sanctions upon detection (Becker, 1968). Regulatory Capture is vulnerability to interest groups (Stigler, 1971), Enforcement Cooperation of information sharing between the European enforcers through the coordination sessions (EECS) (Silvers, 2020). For a description of the CESR categories and 21 principles, see CESR (2003) Standard No. 1 on financial information enforcement. For a description of the 18 ESMA guidelines, see ESMA (2014) Final Report. ESMA guidelines on enforcement of financial information.

Element	Variables	CESR category	CESR principle	ESMA guideline
Probability of Detection	*Legal Rights*	Category 2: Enforcers Category 3: Issuers and documents	Principle 5: Unconditional compliance CESR standards Principle 7: Investigatory power Principle 9: All listed firms on regulated markets Principle 10: All harmonized documents Principle 11: Non-prospectus enforcement	Guideline 1: Enforcement of third countries
	Reviewers	Category 2: Enforcers	Principle 8: Administrative competence	Guideline 2: Sufficient human and financial resources
	Proactive Reviews	Category 4: Methods of Enforcement	Principle 12: Prospectus enforcement Principle 13: Pro-active mixed or risk-based selection Principle 14: Mixed selection Principle 15: Wide spectrum of checking procedures	Guideline 5: Enforcement model selection Guideline 6: Unlimited scope examination
Size of Sanction	*Sanctions*	Category 5: Actions	Principle 16: Appropriate action material misstatements Principle 17: Action distinguished from sanction. Principle 18: Effective, timely and proportional Actions Principle 19: Action Policy	Guideline 4: Pre-clearance is permitted. Guideline 7-9: Appropriate Action
Independence	*Political Independence*	Category 2: Enforcers Category 3: Issuers and documents	Principle 3: Competent, independent administrative authorities Principle 4: Delegated to other bodies. Principle 6: Independence	Guideline 3: Independence
Coordination	*EECS meeting*	Category 6: Coordination in enforcement	Principle 20: Coordination of decisions by authorities	Guidelines 10-17: Share with EECS
	EECS Sharing	Reporting	Principle 21: Public Enforcer report	Guideline 18: Report to ESMA

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OA2. Detailed Description of Variables

This Appendix provides the variable definitions and is organized based on the Enforcement Taxonomy in the paper.

1. Observed Enforcement *"on the books"*		
Element	**Variable**	**Description**
Probability of Detection	*Detection Framework Compliance*	Indicator variable that takes the value of one if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on Proactive Reviews, zero otherwise. See OA2 for the correspondence between the CESR and ESMA framework. These self-assessments are available for 2006, 2008, 2014, 2017, and 2021. If there is no change between two observations for a country, the intermediate years are coded similarly. Source: • 2006 and 2008: CESR Final report of the Review Panel concerning the updated self-assessment and peer review of CESR's Standard No.1 on financial information 2008 (CESR/09-374) and Final report on CESR's peer review of the implementation of Standard No 2 on Financial Information – Coordination of Enforcement Activities (CESR/09-188) • 2014: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA/2015/203). • 2017: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20/04/2017). • 2021: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20-01-2021).
	Legal Rights: Information	Variable consisting of three information rights. One for each of the following rights: the enforcer has the legal authority to obtain information from the issuer, from the auditor, and from a third party. The variable takes the value 0,1,2,3 and is scaled by 3 to create a percentage. This variable does not have time-series variation. These legal rights to request information consist of: 1. information from the issuer (one if the enforcer has the legal authority to request information from the issuer), 2. information from the auditor (one if the enforcer has the legal authority to request information from the auditor of the issuer), 3. information from a third party (one if the enforcer has the legal authority have the legal authority to request more information from a third-party expert). Source: • Proprietary Information from an internal survey.
	Legal Rights: Sample	Variable consisting of three sampling rights. One for each of the following rights: the enforcer has the legal authority to determine the sample size, sample scope, and the timing of the pro-active review. The variable takes the value 0,1,2,3 and is scaled by 3 to create a percentage. This variable does not have time-series variation. These legal rights regarding the sample selection consist of the following: 1. Determine the sample size (one if the enforcer has the legal authority to determine the sample size of the reports to proactively review). 2. Determine the scope of the sample (one if the enforcer can inspect all financial reports and not only the last report filed). 3. Determine the timing of the review (one if the enforcer is not limited when to commence a proactive review). Source: • Proprietary Information from an internal survey.
	Legal Rights: Shortage	Variable indicating whether the enforcer has sufficient legal rights (i.e., obtaining information in selecting the sample) to perform pro-active reviews. Indicator variable that takes the value of one is the enforcer has

		sufficient legal rights, zero otherwise. This variable does not have time-series variation. Source: • ESMA Peer review on the guidelines on enforcement of information. ESMA42-111-4138
Size of Sanctions	*Sanction Framework Compliance*	Indicator variable that takes the value of one if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on Sanctions. See OA2 for the correspondence between the CESR and ESMA framework, zero otherwise. These self-assessments are available for the years 2006, 2008, 2014, 2017, and 2021. If there is no change between two observations for a country, the intermediate years are coded similarly. Source: • 2006 and 2008: CESR Final report of the Review Panel concerning the updated self-assessment and peer review of CESR's Standard No.1 on financial information 2008 (CESR/09-374) and Final report on CESR's peer review of the implementation of Standard No 2 on Financial Information – Coordination of Enforcement Activities (CESR/09-188) • 2014: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA/2015/203). • 2017: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20/04/2017). • 2021: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20-01-2021).
	Sanction: Delist option	One if the enforcer has the legal right to delist the firm when in non-compliance with IFRS. This variable does not have time-series variation. Source: • Proprietary Information from an internal survey.
	Sanction: Pre-clearance option	Indicator variable that takes the value of one if the enforcer has the legal option to give ex-ante approval of a certain accounting treatment as requested by the firm before the firm issues the financial statements, zero otherwise. This variable does not have time-series variation. Source: • Proprietary Information from an internal survey. • Berger (2010).
Independence	*Independence Framework Compliance*	Indicator variable takes the value of one if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on Independence, zero otherwise. See OA2 for the correspondence between the CESR and ESMA framework. These self-assessments are available for the years 2006, 2008, 2014, 2017, and 2021. If there is no change between two observations for a country, the intermediate years are coded similarly. Sources: • 2006 and 2008: CESR Final report of the Review Panel concerning the updated self-assessment and peer review of CESR's Standard No.1 on financial information 2008 (CESR/09-374) and Final report on CESR's peer review of the implementation of Standard No 2 on Financial Information – Coordination of Enforcement Activities (CESR/09-188) • 2014: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA/2015/203). • 2017: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20/04/2017). • 2021: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20-01-2021).
	Political Independence	A cumulated index based on prior literature capturing the formal independence of the enforcer from politics based on legislation (Gilardi, 2002). This index is in percentages. The index varies between 0 and 1, and a higher value is a higher independence. This variable does not have time-series variation. The index consists of the following elements: • Chair labor characteristics (term, appointment/dismissal, independence requirements).

Element	Variable	Description
		• Management labor characteristics (term, appointment/dismissal, independence requirements). • Relationship with government and parliament (formal obligations); • Financial/organizational autonomy. • Regulatory competencies. Source: • Hand-collected from legislation at the website of the country enforcers.
Enforcer Coordination	*Coordination Framework Compliance*	Indicator variable takes the value of one if the country enforcer indicates full compliance with CESR/ESMA IFRS enforcement framework on coordination, zero otherwise. See OA2 for the correspondence between the CESR and ESMA framework. These self-assessments are available for the years 2006, 2008, 2014, 2017, and 2021. If there is no change between two observations for a country, the intermediate years are coded similarly. Sources: • 2006 and 2008: CESR Final report of the Review Panel concerning the updated self-assessment and peer review of CESR's Standard No.1 on financial information 2008 (CESR/09-374) and Final report on CESR's peer review of the implementation of Standard No 2 on Financial Information – Coordination of Enforcement Activities (CESR/09-188) • 2014: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA/2015/203). • 2017: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20/04/2017). • 2021: ESMA Guidelines compliance table. Guidelines on the enforcement of financial information (ESMA 32-67-142/20-01-2021).
	EECS Sharing Restrictions	Indicator variable that takes the value of one if the enforcer has information-sharing restrictions (i.e., they cannot share information with the other enforcers in EECS), zero otherwise. This variable does not have time-series variation. Source: • Proprietary Information from an internal survey.

2. Observed Enforcement "*in practice*"

Element	Variable	Description
Probability of Detection	*Reviewers: FTE*	The number of full-time equivalents at the public enforcer dedicated to IFRS proactive review activities. Sources: • 2011: Proprietary Information from Enforcers. • 2016: Peer review of the guidelines on enforcement of information. • 2017 and 2021: ESMA Follow-up report to the peer review on guidelines on enforcement of information. Countries: Greece, Hungary, Latvia, Malta, Portugal, Romania and Sweden. • Other years: activity reports from the country enforcers (Austria, Czech, Luxembourg.
	Reviewers: IFRS Specialists	Indicator variable that takes the value of one if the reviewers that proactively review financial statements are industry and/or IFRS specialists, zero otherwise. Sources: • ESMA Peer review on the guidelines on enforcement of information. ESMA42-111-4138
	Reviewers: Shortage	Indicator variable that takes the value of one is when the national public enforcer indicated in the self-assessment of CESR that they do not have sufficient human resources to carry out the IFRS enforcement tasks, zero otherwise. Sources: • ESMA Peer review on the guidelines on enforcement of information. ESMA42-111-4138.
	Reviews: Performed	Actual proactive reviews performed in a specific year (scaled by the total number of IFRS issuers in the same year).

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		Source: • 2005: CESR's review of the implementation and enforcement of IFRS in the EU (07-352). • 2010: Revision of standards DRAFT for EECS 26 countries Final (Proprietary). • 2014: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138). • 2015: ESMA peer review on the guidelines on enforcement of financial information. (ESMA42-111-4138). • 2016: ESMA Enforcement and regulatory activities of accounting enforcers in 2017 (ESMA 32-63-424). • 2017: ESMA Enforcement and regulatory activities of accounting enforcers in 2018. • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018. (ESMA32-63-672) • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846). • 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385). • Other country years: activity reports and website of the country enforcers.
	Reviews: *Default Full-Scope*	Indicator variable that takes the value of one if the enforcer default for proactive reviews is a full-scope review. This variable does not have time-series variation, zero otherwise. Source: • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138).
	Reviews: *Full-Scope Performed*	Full-scope pro-active reviews performed in a specific year (scaled by the total number of IFRS issuers in the same year). Source: • 2014: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138). • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138). • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018 (ESMA32-63-672)/ • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846). • 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385). • Other country years: activity reports and website of the country enforcers. • Other years: Activity reports of the country enforcers.
	Reviews: *Risk-Based Performed*	Percentage of IFRS reports selected based on a risk-based assessment. This variable does not have time-series variation. Source: • 2015: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138).
	Reviews: *Random Method*	Indicator variable that takes the value of one if the enforcer uses (in part) a random sampling method to select financial statements for proactive reviews, zero otherwise. This variable does not have time-series variation. Source:

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		• 2015: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138).
	Reviews: *Full Coverage Method*	Indicator variable that takes the value of one if the enforcer has a policy of ensuring all firms are selected for proactive reviews within a certain period, zero otherwise. This variable does not have time-series variation. Source: • 2015: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138)
	Reviews: *Instruction Checklist*	One if the national enforcer has a work instruction/checklist containing considerations for the proactive review of financial statements and instructions for the practice of examination. This variable does not have time-series variation. Source: • 2015: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138)
	Disclose: *Review Priorities*	Indicator variable that takes the value of one if the national enforcer disclosed review priorities before commencing the annual proactive reviews, e.g., which IFRS standards or IFRS topics are relevant for the upcoming proactive reviews, zero otherwise. Source: • Reports or other communication on the websites of the country enforces.
	Disclose: *Review Selection*	Indicator variable that takes the value of one if the enforcer has the practice to communicate ex-ante which types of firms are selected for the upcoming IFRS reviews, zero otherwise. Source: Reports or other communication on the websites of the country enforces (e.g., the focus sectors in the UK).
Size of Sanctions	*Sanctions Issued*	The number of sanctions issued by the enforcer (scaled by the total number of IFRS issuers in the same year). Source: • 2014: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138) • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138) • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018. (ESMA32-63-672) • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846). • 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385). • Other country years: activity reports and website of the country enforcers.
	Private Sanctions Issued	The number of private sanctions issued by the enforcer based on the proactive review, i.e., anonymous corrections in future financial statements (scaled by the total number of IFRS issuers in the same year). Source: • 2014: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138) • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138) • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018. (ESMA32-63-672) • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846).

		• 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385). • Other country years: activity reports and website of the country enforcers.
	Public Sanctions Issued	The number of public sanctions issued by the enforcer based on the proactive review, i.e., re-issuance of the financial statements or a restatement (issued via a public corrective note or a press release. (Scaled by the total number of IFRS issuers in the same year). Source: • 2014: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138) • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138) • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018 (ESMA32-63-672). • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846). • 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385). • Other country years: activity reports and website of the country enforcers.
	Sanctions Database	Indicator variable takes the value of one if the national enforcer has a database with prior decisions and actions taken zero otherwise. This variable does not have time-series variation. Source: 2015: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138)
	Sanctions Pre-clearances	The number of pre-clearances issued by the enforcer in a year (scaled by the total number of IFRS issuers in the same year). Source: • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018 (ESMA32-63-672). • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846). • 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385).
	Disclosure: Anonymized Sanctions	Indicator variable that takes the value of one if the enforcer ex-posts disclosed the findings on the proactive reviews anonymously, zero otherwise. Source: Activity reports on the websites of the country enforcers.
Independence	*Political Connected Chair*	Indicator variable that takes the value of one if the chair of the enforcer chair is politically connected, i.e., a former minister, member of parliament, or high-level civil servant, zero otherwise. This approach is consistent with previous literature (e.g., Faccio, 2006; Chaney, Faccio and Parsley, 2011). The names of the identified chairs are available in the database. Source: • BoardEx-database

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		• Orbis-database • Website of the country enforcers.
Enforcer Coordination	*EECS Meeting Attendance*	The percentage of meetings of the EECS, the national enforcer, attended in a year. The number of EECS meetings occurs about ten times per year. EECS is a forum from CESR/ESMA in which national enforcers exchange views and discuss experiences relating to the enforcement of financial reporting requirements. Source: • 2005 – 2008: Final report on CESR's peer review of the implementation of standard no 2 on financial coordination of enforcement activities. • Other country years: activity reports and website of the country enforcers.
	Submitted cases to the EECS database	Indicator variable that takes the value of one if the national enforcer at least submitted one case (IFRS decisions, IFRS issues) to the EECS database, zero otherwise. These submissions are discussed in the EECS meetings that occur about ten times per year. EECS is a forum from CESR/ESMA in which national enforcers exchange views and discuss experiences relating to the enforcement of financial reporting requirements. Source: • 2005 – 2007: Final report on CESR's peer review of the implementation of standard no 2 on financial coordination of enforcement activities. • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138). • 2016: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138). • Other country years: activity reports and website of the country enforcers.
Other Variables	*Number of Firms subject to IFRS enforcement*	The number of firms reporting is subject to IFRS enforcement. This variable is used to scale *Reviewers FTE, Reviews Performed, Reviews Full-Scope Performed, Sanctions Issued, Private Sanctions Issued, Public Sanctions Issued*). Sources: • 2005: CESR's review of the implementation and enforcement of IFRS in the EU – November 2007. 07-352 • 2010: Revision of standards DRAFT for EECS 26 countries Final (Proprietary). • 2014: ESMA Peer review on guidelines on enforcement of financial information (ESMA42-111-4138) • 2015: ESMA peer review on the guidelines on enforcement of financial information (ESMA42-111-4138) • 2017: ESMA Enforcement and regulatory activities of accounting enforcers in 2017 (ESMA 32-63-424). • 2018: ESMA Enforcement and Regulatory Activities of European Accounting Enforcers in 2018. (ESMA32-63-672) • 2019: ESMA Enforcement and Regulatory Activities of European Enforcers in 2019 (ESMA 32-63-846). • 2020: ESMA Enforcement and regulatory activities of European Enforcers in 2020 (ESMA 32-63-1101) • 2021: ESMA 2021 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1249). • 2022: ESMA 2022 Corporate Reporting Enforcement and regulatory activities (ESMA 32-63-1385). • Other country years: activity reports and website of the country enforcers.

OA3. Descriptives of Public IFRS Enforcement Variables "on the books"

Panel A provides a breakdown per country of enforcement "on the books" per element (Detection, Sanction, Independence, Coordination). Panel B provides a breakdown per year of enforcement "on the books" per element (Detection, Sanction, Independence, Coordination). Variable definitions are included in OA2.

Panel A: Cross-country Variation

	Detection				Sanction			Independence		Coordination	
Country	Detection Framework Compliance	Legal Rights Information	Legal Rights Sample	Legal Rights Shortage	Sanction Framework Compliance	Delist Option	Pre-Clearance Option	Independence Framework Compliance	Political Independence	Coordination Framework Compliance	EECS Sharing Restrictions
Austria	0%	.	.	100%	100%	.	100%	100%	69%	100%	100%
Belgium	100%	100%	30%	0%	100%	100%	100%	100%	75%	100%	100%
Bulgaria	0%	100%	70%	100%	100%	0%	0%	89%	46%	11%	100%
Cyprus	100%	100%	100%	0%	100%	0%	0%	100%	72%	73%	100%
Czech	100%	100%	70%	0%	100%	0%	100%	100%	67%	100%	100%
Denmark	89%	33%	0%	100%	100%	100%	100%	100%	47%	100%	100%
Estonia	100%	100%	100%	0%	100%	0%	0%	100%	47%	100%	100%
Finland	93%	100%	100%	0%	100%	0%	0%	100%	70%	93%	100%
France	100%	100%	30%	0%	100%	100%	100%	100%	52%	100%	100%
Germany	100%	100%	100%	0%	0%	0%	78%	100%	60%	6%	6%
Greece	100%	100%	70%	0%	100%	100%	0%	100%	73%	100%	100%
Hungary	80%	100%	100%	0%	93%	0%	0%	93%	53%	80%	100%
Iceland	100%	100%	100%	0%	100%	0%	0%	100%	61%	100%	100%
Ireland	29%	100%	100%	0%	100%	0%	0%	100%	59%	100%	100%
Italy	100%	100%	70%	0%	100%	0%	100%	100%	61%	100%	100%
Latvia	100%	100%	70%	0%	100%	0%	100%	100%	62%	100%	100%
Lithuania	100%	100%	100%	0%	100%	0%	100%	89%	60%	100%	100%
Luxembourg	93%	100%	70%	0%	93%	0%	100%	93%	52%	93%	100%
Malta	93%	100%	70%	0%	73%	0%	0%	100%	51%	100%	100%
Netherlands	93%	33%	100%	0%	93%	0%	0%	93%	72%	93%	100%
Norway	100%	100%	70%	0%	100%	100%	0%	100%	86%	100%	100%
Poland	75%	100%	0%	100%	93%	100%	100%	93%	50%	29%	39%
Portugal	100%	100%	100%	0%	100%	0%	100%	100%	72%	100%	100%
Romania	89%	100%	70%	0%	100%	0%	0%	100%	54%	100%	100%
Slovakia	73%	100%	70%	0%	73%	0%	100%	73%	72%	100%	100%
Slovenia	0%	100%	70%	100%	75%	0%	0%	93%	69%	10%	100%
Spain	100%	67%	70%	0%	100%	0%	100%	100%	48%	100%	100%
Sweden	73%	67%	30%	100%	36%	100%	0%	44%	47%	73%	100%
United Kingdom	100%	100%	70%	0%	100%	100%	0%	100%	73%	100%	100%
N	29	28	28	29	29	28	29	29	29	29	29
Mean	82%	93%	71%	21%	91%	29%	48%	95%	61%	85%	95%
Median	100%	100%	70%	0%	100%	0%	0%	100%	61%	100%	100%
SD.	32%	19%	30%	41%	22%	46%	50%	12%	11%	30%	21%
Min.	0%	33%	0%	0%	0%	0%	0%	44%	46%	6%	6%
Max.	100%	100%	100%	100%	100%	100%	100%	100%	86%	100%	100%
CV.	0.4	0.2	0.4	2.0	0.2	1.6	1.1	0.1	0.2	0.4	0.2

Panel B: Time-series variation

Year	Detection Framework Compliance	Sanction Framework Compliance	Independence Framework Compliance	Coordination Framework Compliance	EECS Sharing Restrictions
2005	100%	100%	100%	100%	90%
2006	52%	59%	73%	64%	92%
2007	79%	75%	94%	80%	92%
2008	76%	84%	88%	84%	93%
2009	89%	90%	95%	94%	93%
2010	89%	90%	95%	94%	93%
2011	89%	90%	95%	94%	93%
2012	89%	90%	95%	94%	93%
2013	89%	90%	95%	94%	93%
2014	79%	90%	97%	86%	93%
2015	85%	96%	97%	86%	93%
2016	85%	96%	97%	86%	97%
2017	86%	97%	97%	86%	97%
2018	89%	97%	100%	89%	97%
2019	89%	97%	100%	89%	97%
2020	89%	96%	100%	89%	96%
2021	89%	96%	100%	89%	96%
2022	.	.	.	.	.
N	17	17	17	17	17
Mean	85%	90%	95%	88%	94%
Median	89%	90%	97%	89%	93%
St.Dev.	10%	10%	7%	8%	3%
Min	52%	59%	73%	64%	90%
Max	100%	100%	100%	100%	100%
CV.	0.1	0.1	0.1	0.1	0.0

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Table OA4. Descriptives of Public IFRS Enforcement "in practice"

Panel A provides a breakdown per country of enforcement "in practice" per element (Detection, Sanction, Independence, Coordination). Panel B provides a breakdown per year of enforcement "in practice" per element (Detection, Sanction, Independence, Coordination). Variable definitions are included in OA2.

Panel A: Cross-Country Variation

| Country | Probability of Detection | | | | | | Size of Sanctions | | | | | | Independence | Coordination |
	Number of Reviewers FTE	Reviewers FTE	Number of Pro-Active Reviews	Pro-Active Reviews	Reviews Full-Scope Performed	Disclose Review Priorities	Number of Sanctions Issued	Sanctions Issued	Private Sanctions Issued	Public Sanctions Issued	Actual Pre-clearances	Disclose Anonymized Sanctions	Political Chair	EECS Submitted Cases
Austria	5.4	5.4	27	28%	84%	100%	5	6%	0%	6%	5	100%	100%	100%
Belgium	6.5	5.5	24	21%	74%	53%	9	7%	6%	2%	2	39%	100%	63%
Bulgaria	12.5	6.0	35	11%	57%	56%	15	4%	1%	3%	13	0%	100%	0%
Cyprus	2.0	1.7	19	22%	22%	59%	1	2%	1%	0%	0	0%	67%	0%
Czech	1.3	3.4	18	29%	80%	65%	7	12%	10%	3%	1	0%	41%	40%
Denmark	6.0	3.6	30	19%	65%	79%	10	7%	4%	2%	4	100%	17%	100%
Estonia	1.1	6.5	17	76%	72%	69%	0	0%	0%	0%	0	61%	56%	60%
Finland	5.0	3.8	47	33%	42%	56%	8	6%	5%	1%	1	56%	17%	100%
France	16.3	2.6	92	18%	72%	59%	53	11%	11%	0%	1	33%	0%	100%
Germany	22.0	3.5	90	15%	80%	61%	16	3%	0%	3%	16	100%	39%	100%
Greece	7.5	3.3	21	12%	69%	67%	11	6%	5%	1%	3	0%	22%	0%
Hungary	1.1	2.7	3	7%	93%	71%	3	6%	6%	0%	0	0%	67%	0%
Iceland	0.9	1.7	5	13%	86%	59%	0	0%	0%	0%	0	0%	71%	0%
Ireland	2.4	1.7	43	34%	52%	64%	18	16%	12%	4%	4	88%	25%	94%
Italy	21.2	7.4	63	26%	56%	56%	6	2%	0%	2%	6	0%	100%	40%
Latvia	1.1	5.8	8	40%	92%	60%	2	11%	4%	5%	2	0%	27%	0%
Lithuania	1.5	4.0	5	15%	66%	73%	2	8%	8%	0%	1	0%	100%	100%
Luxembourg	3.7	2.3	38	30%	65%	67%	16	14%	13%	0%	0	31%	100%	50%
Malta	0.7	1.6	9	14%	49%	69%	5	8%	7%	1%	0	0%	0%	0%
Netherlands	7.5	4.0	48	26%	54%	67%	4	2%	2%	0%	1	89%	56%	100%
Norway	6.7	2.6	47	20%	55%	65%	7	3%	2%	1%	2	100%	39%	100%
Poland	10.3	2.8	83	24%	49%	62%	14	4%	3%	1%	4	100%	31%	40%
Portugal	3.2	5.8	17	29%	44%	65%	5	10%	9%	1%	1	100%	72%	100%
Romania	1.9	5.7	30	33%	49%	71%	4	5%	4%	0%	0	0%	100%	0%
Slovakia	2.5	11.0	19	72%	76%	62%	6	9%	6%	4%	1	0%	31%	0%
Slovenia	1.2	2.2	17	32%	81%	69%	1	2%	2%	0%	0	0%	100%	0%
Spain	14.4	8.8	53	35%	53%	69%	18	13%	5%	7%	11	0%	100%	100%
Sweden	4.4	1.2	74	22%	69%	67%	16	5%	4%	0%	1	100%	100%	50%
UK	11.6	0.8	258	17%	70%	54%	61	4%	4%	0%	2	100%	40%	100%
Mean	6.3	3.9	43	27%	65%	65%	11	6%	5%	2%	3	41%	59%	52%
Median	4.4	3.5	30	24%	66%	65%	7	6%	4%	1%	1	31%	56%	50%
St.Dev.	6.0	2.1	49	16%	16%	9%	14	4%	4%	2%	4	45%	35%	44%
Min	0.7	0.8	3	7%	22%	53%	0	0%	0%	0%	0	0%	0%	0%
Max	22.0	8.8	258	79%	93%	100%	61	16%	13%	7%	16	100%	100%	100%
CV.	1.0	0.6	1.1	0.6	0.3	0.1	1.2	0.7	0.8	1.2	1.5	1.1	0.6	0.8

Panel B Time-Series Variation

|	Probability of Detection						Size of Sanctions						Independence	Coordination
Country	Number of Reviewers FTE	Reviewers FTE	Number of Pro-Active Reviews	Pro-Active Reviews	Reviews Full-Scope Performed	Disclose Review Priorities	Number of Sanctions Issued	Sanctions Issued	Private Sanctions Issued	Public Sanctions Issued	Actual Pre-clearances	Disclose Anonymized Sanctions	Political Chair	EECS Submitted Cases
2005	1.0	4.5	99	35%	.	0%	18	1%	1%	0%	.	100%	71%	50%
2006	.	.	102	44%	.	14%	35	3%	3%	0%	.	39%	71%	42%
2007	.	.	90	36%	.	6%	42	4%	2%	2%	.	0%	68%	46%
2008	.	.	86	25%	.	9%	36	4%	2%	2%	.	0%	63%	50%
2009	.	.	73	33%	63%	12%	21	5%	0%	5%	.	0%	67%	100%
2010	7.0	5.1	66	27%	67%	24%	13	2%	0%	2%	.	100%	64%	100%
2011	.	.	70	32%	72%	22%	23	9%	7%	2%	.	61%	68%	100%
2012	.	.	75	40%	51%	22%	23	8%	8%	2%	.	56%	57%	100%
2013	.	.	63	31%	57%	26%	17	5%	4%	1%	.	33%	61%	100%
2014	3.0	3.0	49	31%	65%	100%	12	7%	5%	2%	.	100%	52%	100%
2015	5.5	4.9	45	29%	69%	100%	10	7%	4%	3%	.	0%	48%	62%
2016	6.0	3.5	66	34%	70%	100%	12	7%	5%	2%	.	0%	45%	62%
2017	5.0	4.7	65	28%	61%	100%	18	7%	4%	2%	.	0%	38%	100%
2018	4.5	5.4	34	26%	65%	100%	10	6%	4%	2%	0.4	88%	41%	100%
2019	3.0	3.5	33	22%	60%	100%	10	7%	5%	1%	0.3	0%	48%	100%
2020	4.0	4.9	26	22%	64%	100%	9	7%	5%	1%	0.3	0%	54%	100%
2021	2.5	3.1	25	20%	63%	100%	9	6%	5%	1%	0.1	0%	50%	100%
2022	.	.	23	19%	66%	100%	8	6%	4%	1%	0.1	31%	46%	100%
Mean	4.1	4.3	61	30%	64%	58%	18	5%	4%	2%	0.3	41%	56%	84%
Median	4.3	4.6	66	30%	64%	63%	15	6%	4%	2%	0.3	31%	55%	100%
St.Dev.	1.8	0.9	25	7%	5%	44%	10	2%	2%	1%	0.1	45%	10%	23%
Min	1.0	3.0	23	19%	51%	0%	8	1%	0%	0%	0.1	0%	37%	42%
Max	7.0	5.4	102	44%	72%	100%	42	9%	8%	5%	0.4	100%	71%	100%
CV.	0.4	0.2	0.4	0.2	0.1	0.8	0.6	0.4	0.6	0.5	0.5	1.1	0.2	0.3

OA5. Correlation of enforcement variables

This table provides correlations between the 32 variables in the enforcement database and variables used in the literature to measure strong enforcement. *High Rule-of-Law* is a median split with high countries coded 1. *IFRS_EU_ENF* are the five countries that substantially changed proactive enforcement. *High ENFORCE* is a median split with high countries coded 1. For variable definitions, see OA2. *10%, **5%, ***1% significance.

	Variable	Exp.	*High Rule-of-Law*		*IFRS_EU_ENF*		*High ENFORCE*		*ENFORCE (2005 & 2008)*		*ENFORCE (Random years)*	
On the books – Detection	Detection Framework Compliance	+	0.12	***	0.20	**	0.36	***	0.59	***	0.21	
	Legal Rights Information	+	-0.25	*	-0.11		-0.34					
	Legal Rights Sample	+	-0.07		0.33	*	-0.17					
	Legal Rights Shortage	-	-0.01		-0.26		-0.23					
On the books – Sanction	Sanction Framework Compliance	+	-0.19	**	-0.18	***	-0.20	*	0.21		0.01	
	Delist Option	+	0.31	*	0.05		-0.03					
	Pre-Clearance Option	-	-0.20	***	-0.34	***	0.34	***	0.08		0.21	
On the books – Independence	Independence Framework Compliance	+	-0.02		0.08	*	0.18	***				
	Political Independence	+	0.01		0.42	**	0.18					
On the books – Coordination	Coordination Framework Compliance	+	0.07		-0.11	**	0.07		0.25		0.23	
	EECS Sharing Restrictions	-	-0.04		-0.23	***	-0.07		0.02		0.24	
In practice – Detection	Reviewers FTE	+	-0.54	***	-0.15	*	0.66	***				
	Reviewers IFRS Specialists	+	0.38	**	0.35	*	0.77	***				
	Reviewers Shortage	-	-0.01		-0.20		-0.32		0.44	**	0.13	
	Reviews Performed	+	-0.13		-0.14	***	-0.16	**				
	Reviews Default Full-Scope	+	0.24		0.01		0.06					
	Reviews Performed Full-Scope	+	0.10		0.04		0.06					
	Reviews Risk-Based Method	+	0.09		0.07		-0.03					
	Reviews Risk-Based Method Performed	+	0.01		0.20		-0.12					
	Reviews Instruction Checklist	+	0.21		0.20		-0.01					
	Reviews Random Method	+	0.31		-0.10		-0.03					
	Disclose Review Priorities	+	-0.06		-0.04		-0.07		-0.12		0.23	*
	Disclose Review selection	+	0.23	*	0.23	***	0.15	***	0.32	*	.	
In practice – Sanction	Issued Sanctions	+	0.42	*	-0.33	***	-0.24	***	0.94	**	0.05	
	Issued Private Sanctions	+	0.28		-0.30	***	-0.37	***	0.82	*	-0.01	
	Issued Public Sanctions	+	0.27		-0.11	*	0.16	**	0.11		0.11	
	Sanctions Database	+	0.01		0.05		0.35					
	Actual Pre-clearances	-	0.25	***	-0.13	*	0.29	***				
	Disclose Anonymized Sanctions	+	0.53	***	0.35	***	0.17	***	0.46	***	0.10	
In practice – Independence	Political Chair	-	0.19	**	0.02		0.33	***	0.12		0.03	
In practice – Coordination	EECS Attendance	+	0.39	***	0.10		0.37	***	0.48	**	.	
	EECS Submit Cases	+	0.50	***	0.33	***	0.38	***	0.42	*	0.32	

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## OA6. Time-series Variation in Public Enforcement Variables

Panel A: Rule-of-Law
This figure presents the *Rule-of-Law* for 2015 – 2022 for the 29 EU countries split between strong/weak enforcement (commencement of proactive reviews Christensen et al., 2013). The lines are locally weighted scatterplot smoothed (lowess). For enforcement elements (Variable definitions), see Table 1 (Appendix).
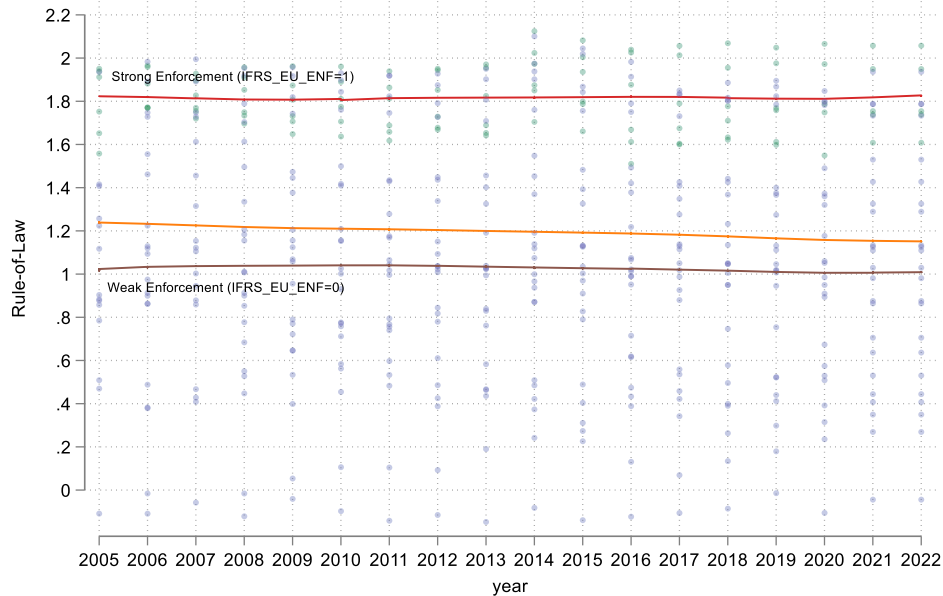
Panel B: ENFORCE
This figure presents *ENFORCE* from Brown et al., 2014) split between strong enforcement (commencement of proactive reviews Christensen et al., 2013). The lines are locally weighted scatterplot smoothed (lowess). For enforcement elements (Variable definitions), see Table 1 (Appendix).
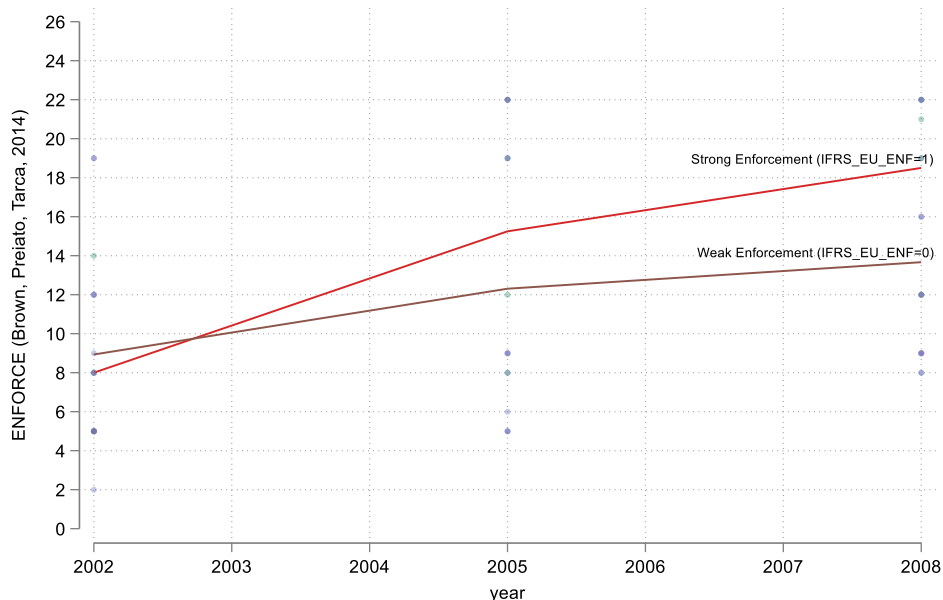
Panel C: ENFORCE

This figure presents *ENFORCE* from Brown et al., 2014) split between strong enforcement (median split Rule-of-Law). The lines are locally weighted scatterplot smoothed (lowess). For enforcement elements (Variable definitions), see Table 1 (Appendix).

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