
| RESEARCH ARTICLE

Compliance without Commitment? Mandatory ESG Reporting on the Mongolian Stock Exchange

Javzmaa Lkhagvasuren¹ and Tumendelger Lkhagvasuren²✉

¹²Graduate School, University of Finance and Economics, Ulaanbaatar, Mongolia

Corresponding Author: Tumendelger Lkhagvasuren, **E-mail:** tumendelger.l@ufe.edu.mn

| ABSTRACT

Stock exchanges in frontier markets increasingly require listed companies to publish environmental, social and governance (ESG) reports, yet little is known about whether such rules change how many firms report, when they report and what they file. This study evaluates the rule of the Mongolian Stock Exchange that, from October 2024, made annual ESG reporting mandatory for issuers in its top listing tier (Tier I) and left it voluntary in Tiers II and III. Using only public exchange records, we reconstruct each issuer's tier at every reporting deadline from the exchange's tier notices and date all 99 documents in its ESG registry, which yields 668 firm-years for 176 listed equities over the financial years 2022–2025. Difference-in-differences estimates with firm and year fixed effects, bias-reduced cluster-robust and wild cluster bootstrap inference show that the mandate raised the probability that a Tier I issuer posted an ESG report within five months of the deadline by 46 percentage points and the probability of posting by the 30 April deadline by 25 points. Tier I reporting was already rising before the rule, but among issuers that had never reported, the annual rate of starting rose from 26% to 78% in Tier I and from 1% to 3% elsewhere. Reporting followed the obligation rather than a commitment: two issuers moved out of Tier I in September 2025 stopped reporting, two moved into it started, and after the rule non-mandated issuers followed a report with another in only 5 of 11 cases, against 32 of 33 cases among mandated issuers. Compliance was partial and thin. Only 53% of mandated firm-years met the deadline, first reports produced under the mandate were shorter than those of earlier reporters (median 7 against 10 pages) and less often on time, about half of the posted documents are scanned images without machine-readable text, and six are in English. A tier-based mandate closed most of the reporting gap within two years, but exchanges need enforced deadlines and data standards to turn filings into information investors can use.

| KEYWORDS

Mandatory ESG reporting; sustainability disclosure; regulatory compliance; stock exchange listing tiers; difference-in-differences; Mongolia

| ARTICLE INFORMATION

ACCEPTED: 02 September 2026

PUBLISHED: 12 October 2026

DOI: 10.32996/jefas.2026.8.10.2

1. Introduction

Sustainability reporting is moving from voluntary communication to regulated disclosure. Governments and stock exchanges in many countries now require listed companies to publish environmental, social and governance (ESG) information, and the evidence on these mandates is growing: they have been linked to changes in corporate conduct and emissions (Chen et al., 2018; Downar et al., 2021; Fiechter et al., 2022), to share-price reactions (Grewal et al., 2019) and to greater stock liquidity (Krueger et al., 2024). Reviews organise this literature around the consequences of mandates for capital markets, firm behaviour and reporting quality (Christensen et al., 2021; Haji et al., 2023; Papafloratos & Pantazi, 2025). Yet a mandate can affect investors only through the reports it produces. Whether firms comply, whether they meet deadlines and whether the documents they file are usable are first-order questions that are seldom examined directly, and they matter most where enforcement capacity is limited and where investors have few other sources of ESG information.

Frontier markets combine both conditions. Listed companies are few and often small, trading is thin and ownership concentrated (Davaadorj & Boldbaatar, 2021), and commercial ESG ratings rarely cover the issuers. Institutional theory offers two predictions for mandates in such settings. Coercive pressure from a regulator should make reporting more uniform across the firms it binds (DiMaggio & Powell, 1983). But organisations can adopt a required practice ceremonially, decoupling what they report from what they do (Meyer & Rowan, 1977), and the review by Haji et al. (2023) concludes that reporting quality typically does not improve after reporting regulations are introduced. If mandated reports are late, short or unreadable by machines, a rule that raises the number of reports may add little to what investors know.

This study examines these questions on the Mongolian Stock Exchange (MSE), where a recent mandate has an unusual structure. The exchange introduced an ESG reporting template in June 2022 and received reports voluntarily until an amendment to its disclosure rules, in force from 4 October 2024, required issuers in its top listing tier (Tier I) to file an ESG report on the template by 30 April of the following year; issuers in Tiers II and III may still report voluntarily (Mongolian Stock Exchange [MSE], 2022b, 2024c, 2025a). Because the obligation depends on the listing tier, firms outside Tier I provide a comparison group on the same exchange and in the same years. Because the exchange periodically reassigns issuers between tiers, the obligation also switched on and off for individual firms: in September 2025, three issuers moved into Tier I and four moved out of it (MSE, 2025c). And because every report is posted in a public registry whose file names record the upload time, compliance and timeliness can be measured for every listed equity.

We reconstruct the tier of every listed equity at each reporting deadline from the exchange's tier notices, date all 99 documents in the ESG registry, measure their length, machine readability and language, and link them to financial, trading, ownership and governance records from the exchange's open-data portal. The resulting panel covers 668 firm-years for 176 equities over the financial years 2022–2025. We estimate the effect of the mandate with difference-in-differences models, examine pre-mandate trends and the rate at which non-reporters start reporting, use the tier reassignments to test whether reporting follows the obligation, and compare the reports filed under the mandate with voluntary reports.

The results show a large increase in reporting with limited substance. The share of Tier I issuers that posted an ESG report within five months of the deadline rose from 29% for the 2022 financial year to 96% for 2025, while at most 15% of Tier II issuers and 3% of Tier III issuers reported in any year. The mandate raised the probability of reporting by 46 percentage points, an estimate that is robust to firm controls, sample restrictions and small-sample inference. Tier I reporting was already rising before the rule, but the rate at which Tier I non-reporters started reporting tripled under the mandate. Reporting followed the obligation: issuers that left Tier I stopped, issuers that entered it started, and voluntary reporting after the mandate was rarely sustained. The reports themselves were often late, and those filed by first-time reporters under the mandate were short and more often scanned images than the reports of earlier reporters.

The study makes three contributions. First, it provides market-wide evidence on ESG reporting and its regulation in Mongolia, a frontier market that has not been studied from this perspective, and adds a tier-based exchange mandate to evidence that comes mainly from government mandates in large economies (Chen et al., 2018; Fiechter et al., 2022; Jackson et al., 2020). Second, it examines compliance itself, separating the extensive margin (whether firms report), timeliness and the extent and form of the documents, and it uses tier reassignments to distinguish compliance from commitment. Third, it shows how such an evaluation can be built entirely from public exchange records, and it draws implications for exchanges that are introducing ESG requirements with limited enforcement resources.

The remainder of the paper reviews the literature and develops hypotheses, describes the setting, data and methods, presents and discusses the results, and concludes.

2. Literature Review

2.1 Why firms report ESG information voluntarily

Theories of voluntary disclosure predict that managers disclose when the expected benefits exceed the costs of preparation and the proprietary costs of revealing information to competitors (Healy & Palepu, 2001; Verrecchia, 1983). Disclosure can signal quality that outsiders cannot observe directly (Spence, 1973), and firms that begin CSR reporting when their performance is strong obtain a lower cost of equity capital (Dhaliwal et al., 2011). Legitimacy theory adds a social motive: firms use environmental and social disclosure to maintain the acceptance of stakeholders, particularly when their conduct is exposed to public scrutiny (Cho & Patten, 2007; Deegan, 2002; Suchman, 1995). Both views imply that voluntary reporting is selective. Firms with more to gain, or with more to explain, report; others do not.

Reviews of the empirical evidence identify firm size, media visibility and ownership structure as the most consistent drivers of sustainability reporting, whereas the evidence on profitability and board composition is inconclusive (Dienes et al., 2016; Hahn & Kühnen, 2013). Studies of individual countries find similar patterns, with firm size and media visibility among the most consistent predictors (Gamerschlag et al., 2011; Reverte, 2009). In developing countries, external actors such as foreign investors,

international buyers and multilateral institutions play a larger role than in developed markets (Ali et al., 2017). Evidence from other emerging markets points the same way: stakeholder pressure, rather than board characteristics, explains sustainability-report disclosure among Indonesian mining companies (Suryana & Setyani, 2023), and the largest companies listed in Nairobi disclose extensively on the Sustainable Development Goals (Manini, 2023). Stand-alone reports are not necessarily of higher quality than other formats (Michelon et al., 2015), and firms can report selectively, emphasising favourable information while omitting damaging events (Boiral, 2013; Marquis et al., 2016).

2.2 Mandatory reporting, compliance and substance

Mandates remove the choice of whether to report for the firms they cover. The literature on their consequences is extensive. China's 2008 requirement for certain listed firms to publish CSR reports reduced the profitability of the firms concerned while lowering pollution in the cities where they operated (Chen et al., 2018). The European Union's non-financial reporting directive led affected firms to increase their CSR activities before it took effect (Fiechter et al., 2022), and investors reacted negatively to its passage on average, least so for firms with strong prior ESG performance and disclosure (Grewal et al., 2019). Carbon disclosure mandates reduced reported emissions in the United Kingdom and the United States (Downar et al., 2021; Tomar, 2023), and ESG disclosure mandates around the world increased stock liquidity, most strongly when implemented by government institutions rather than on a comply-or-explain basis (Krueger et al., 2024). Firms in countries with mandatory non-financial disclosure undertake more CSR activities (Jackson et al., 2020), and Ioannou and Serafeim (2019) study the mandatory sustainability reporting laws of China, Denmark, Malaysia and South Africa. In Asia, sustainability reporting has been associated with higher firm value among companies listed in Singapore (Loh et al., 2017).

Much less is known about compliance itself. Coercive isomorphism predicts that firms subject to the same requirement converge on the required practice (DiMaggio & Powell, 1983), but whether they converge in substance depends on monitoring and sanctions. Studies of financial reporting show that the effects of new disclosure rules depend on enforcement: the capital-market benefits of mandatory IFRS adoption were concentrated in countries that strengthened enforcement at the same time (Christensen et al., 2013), and the effects of disclosure regulation generally vary with the institutions that enforce it (Leuz & Wysocki, 2016). Research on developing markets has long documented incomplete compliance with mandatory disclosure requirements, with larger firms complying more fully (Owusu-Ansah, 1998), and the timeliness of annual reports differs systematically across firms (Owusu-Ansah & Leventis, 2006). For sustainability reporting, the expansion of non-financial reporting has increased the volume and variety of documents (Stolowy & Paugam, 2018). The evidence on quality is mixed. Among leading listed companies in Italy and Germany, reporting quality increased after the European directive (Mion & Loza Adaui, 2019), and a review of 171 articles finds that the positive effect of legislation on the quality, credibility and comparability of reports is more pronounced outside Europe (Papafioratos & Pantazi, 2025). But a review of more than 130 studies concludes that reporting continues to be ceremonial rather than substantive after reporting regulations are introduced (Haji et al., 2023), and after the European directive the gap between the sustainability disclosures and the actual sustainability performance of affected companies widened, a shift towards symbolic transparency (Tariq, 2025).

The form in which reports are published matters as well. Information that is costly to process is less useful to market participants, and lowering processing costs changes what firms disclose (Blankespoor, 2019). Foreign institutional investors increased their ownership of companies affected by the European directive more in countries where the sustainability disclosures were located in the annual report, consistent with lower processing costs for investors (DeFond et al., 2026). A scanned report without a text layer cannot be searched or extracted automatically, and a report available only in the local language is inaccessible to most foreign investors. Both limit the usefulness of mandated reports in a market that seeks foreign investment.

2.3 Research gap and hypotheses

Three gaps motivate the study. First, evidence on ESG reporting mandates comes mainly from government regulation in large economies, not from exchange rules in frontier markets. Second, the literature seldom examines compliance directly: whether all covered firms report, whether they meet the deadline and what they file. Third, it is difficult to distinguish a firm's response to an obligation from a commitment to reporting, because mandates rarely lapse for individual firms. The MSE setting addresses all three.

If the tier-based mandate exerts coercive pressure, Tier I issuers should report more often than before, relative to issuers not subject to it:

H1: The mandate increased the probability that Tier I issuers publicly filed ESG reports, relative to issuers in Tiers II and III.

If reporting reflects compliance rather than a commitment to transparency, it should depend on whether the obligation applies. Issuers that leave Tier I should stop reporting, issuers that enter it should start, and issuers that report voluntarily should be less likely than mandated issuers to continue:

H2: ESG reporting follows the obligation: it starts when issuers become subject to the mandate, stops when they cease to be, and continues less often when it is voluntary.

Finally, symbolic compliance implies that firms induced to report by the mandate do so at minimum cost, filing late or filing short documents on the template:

H3: Reports filed by first-time reporters under the mandate are less timely and less extensive than reports by issuers that reported before the mandate.

3. Methodology

3.1 Institutional setting

The MSE, founded in 1991, is Mongolia's only stock exchange. It lists equities in three tiers, with the most demanding listing and disclosure requirements in Tier I. The exchange reassigns issuers periodically, taking into account their indicators for the two most recent years; notices published in July 2022, September 2025 and September 2026 list every equity by tier (MSE, 2022a, 2025c, 2026b). Trading is concentrated in a few large issuers, and domestic institutional investors are few (Davaadorj & Boldbaatar, 2021).

The exchange joined the United Nations Sustainable Stock Exchanges initiative in 2017 (Sustainable Stock Exchanges Initiative, 2017). New disclosure rules in force from 24 June 2022 introduced an ESG reporting template, and in August 2022 the exchange, the Financial Regulatory Commission, the International Finance Corporation, the United Nations Development Programme and the Mongolian Sustainable Finance Association published guidance on ESG and sustainability reporting (MSE, 2022b; United Nations Development Programme [UNDP], 2022). A survey cited by the exchange had found that 13% of 42 listed companies disclosed ESG indicators in 2021 (MSE, 2022b). Until 2024, reporting on the template was voluntary for all issuers.

An amendment to Article 3.7 of the disclosure rules, in force from 4 October 2024, requires Tier I issuers to report the ESG actions and activities of the reporting period on the template by 30 April of the following year, and allows Tier II and Tier III issuers to report voluntarily within the same deadline (MSE, 2025a). The exchange has also stated that the amendment requires Tier I issuers to publish the information in English (MSE, 2024a, 2024c), and in November 2024 it agreed with the Financial Regulatory Commission and the Mongolian Sustainable Finance Development Association to develop a unified electronic reporting system (MSE, 2024a). The first mandatory reports covered the 2024 financial year and were due on 30 April 2025. The exchange's public notices do not describe sanctions for late or missing reports.

3.2 Data and sample

All data come from the exchange. From its open-data portal (MSE, 2026a) we downloaded, on 30 September 2026, the securities list and, for every listed equity, the company page, the ESG registry and other disclosure records, year-end financial summaries for 2020–2025, audited-statement filings, board and shareholder information and the complete daily trading history. The three tier notices, the exchange's list of reports for the 2024 financial year (MSE, 2025b) and its delisting notices were retrieved from its website.

The population is every equity listed at the reporting deadline of each financial year from 2022 to 2025, that is, on 30 April of the following year. Equities enter the panel in the first year for which they were listed at the deadline and leave it if they were delisted before a deadline. Fifteen Tier III equities that appear in the 2022 tier list but are no longer listed, and for which no dated delisting notice is available, are excluded; none of the 263 delisted equities on the portal has an entry in the ESG registry. The sample contains 668 firm-years for 176 equities: 47 in manufacturing, 44 in trade, transport and services, 27 in finance, 25 in mining and energy, 19 in construction and real estate and 14 in agriculture.

The tier of each equity at each deadline is taken from the official tier lists. The July 2022 list governs the deadlines for the 2022–2024 financial years, and the September 2025 list the deadline for 2025. For equities listed after July 2022, the tier before September 2025 is obtained by reversing the moves named in the September 2025 notice; one equity moved from Tier III to Tier II in December 2024 (MSE, 2024b), and the exchange itself, which was in Tier III in 2022, is counted in Tier I from the 2024 deadline. The reconstruction gives 26 Tier I issuers at the first mandatory deadline, the number the exchange reported in April 2025 (MSE, 2025a). Thirty equities were in Tier I at some deadline.

3.3 Measuring reporting

The ESG registry lists every document that an issuer has posted, with a year label, a title and a file whose name contains the upload date and time. We treat the registry date as the filing date. The financial year a document covers is the year named in its title where the title names a year before the upload year, and otherwise the year before the upload year; the registry's own year label equals this financial year or the following year for every document. The registry contains 99 documents (97 PDF files, one Word and one Excel file) from 38 issuers.

Two sources confirm that the registry is complete. The exchange's separate list of ESG reports contains the same 99 documents, and all 27 companies on its list of reports for the 2024 financial year have a report for that year in the registry, with filing dates within three days for 25 of them; three more companies posted reports for 2024 after the list was published (MSE, 2025b). The registry also shows 15 issuers with an ESG report by 29 November 2024, when the exchange reported that 14 companies had sent reports (MSE, 2024a). Two figures in an exchange notice of April 2025, 27 companies reporting in 2024 and 14 of 26 Tier I companies by 3 April 2025 (MSE, 2025a), cannot be reconciled with these records and may count reports received but not yet posted. Because investors can use only posted reports, we measure public posting.

The main outcome, FILED, equals one if an issuer posted at least one document for the financial year by 29 September of the following year, 152 days after the deadline. The same window applies to every year; for 2025 it ends on 29 September 2026, the day before the data were retrieved. ONTIME equals one if the first document was posted by 30 April. For each posting firm-year we record the number of pages, whether any document has a text layer (at least 30 words per page), whether any document is predominantly in English (Latin letters above half of all letters) and whether a title names a sustainability report rather than the ESG template.

3.4 Firm characteristics

From the year-end summaries we compute SIZE (the natural logarithm of total assets), ROA (net income over total assets) and LEV (total liabilities over total assets); ROA and LEV are winsorised at the 1st and 99th percentiles. TRADED is the share of exchange sessions in the calendar year in which the stock traded, and market capitalisation is the number of shares times the last closing price of the year. Ownership variables indicate a state or local-government blockholder, a foreign blockholder and the percentage held by the largest shareholder; board independence is the share of directors listed as independent. These come from the current rosters and are therefore constant over time. Three disclosure variables capture other reporting obligations: whether audited financial statements were filed within the same window, whether the auditor was one of the Big Four firms, and whether a corporate-governance-code report was filed.

Table 1 shows that Tier I issuers differ sharply from the rest. They are larger, more profitable and more actively traded, more than half are financial institutions, a third are audited by Big Four firms, and almost all file governance-code reports. These differences are the reason for comparing each issuer with itself over time rather than comparing tiers directly.

Table 1. Characteristics of listed equities by tier, FY2022–FY2025

Variable	Tier I	Tier II	Tier III	N	<i>p</i> , Tier I vs other tiers
Firm-years	101	183	384	668	
SIZE (ln total assets)	26.35 (2.16)	23.52 (1.38)	21.24 (2.52)	567	<.001
ROA	0.09 (0.11)	0.06 (0.08)	0.02 (0.07)	539	<.001
LEV	0.45 (0.35)	0.47 (0.66)	0.76 (0.98)	567	.326
ln market capitalisation	4.90 (1.51)	2.33 (1.51)	−0.54 (2.16)	557	<.001
TRADED (share of sessions)	0.84 (0.29)	0.33 (0.32)	0.05 (0.11)	668	<.001
Years listed	12.28 (11.39)	23.86 (10.45)	27.62 (6.29)	592	<.001
Financial sector	0.54 (0.50)	0.11 (0.32)	0.08 (0.27)	668	<.001
State blockholder	0.08 (0.27)	0.11 (0.32)	0.05 (0.21)	631	.638
Foreign blockholder	0.14 (0.35)	0.17 (0.37)	0.12 (0.33)	631	.912
Largest holder (%)	47.22 (21.08)	48.63 (23.06)	50.16 (26.52)	623	.942
Independent directors (share)	0.36 (0.08)	0.30 (0.11)	0.31 (0.10)	559	<.001
Big Four auditor	0.32 (0.47)	0.02 (0.13)	0.00 (0.00)	668	<.001
Audited statements filed	0.84 (0.37)	0.68 (0.47)	0.47 (0.50)	668	<.001
Governance-code report filed	0.99 (0.10)	0.76 (0.43)	0.30 (0.46)	668	<.001

Note. Means with standard deviations in parentheses over firm-years, by tier at the reporting deadline. SIZE is the natural logarithm of total assets (MNT); ROA and LEV are net income and total liabilities over total assets, winsorised at 1% and 99%; market capitalisation in billion MNT. TRADED is the share of exchange sessions in the calendar year in which the stock traded. Ownership and board variables are from the current rosters. Audited statements and governance-code reports: filed between 1 January and 29 September of the following year. *p*: Wilcoxon rank-sum test.

3.5 Empirical strategy

The effect of the mandate (H1) is estimated with a two-way fixed-effects linear probability model:

$$Y_{it} = \alpha_i + \tau_t + \beta \text{MANDATE}_{it} + \mathbf{X}'_{it}\gamma + \varepsilon_{it} \quad (1)$$

where Y_{it} is FILED or ONTIME for issuer i in financial year t , α_i and τ_t are issuer and year fixed effects, and $MANDATE_{it}$ equals one if the issuer was in Tier I at the deadline of a year from 2024 onwards. The issuer effects absorb stable differences between tiers, sectors and firms, and the year effects absorb market-wide changes such as the exchange's training and promotion of ESG reporting. X_{it} optionally contains SIZE, ROA, LEV and TRADED. Because most Tier I issuers became subject to the mandate in the same year, the comparison is close to a standard two-group design, and the biases of two-way fixed-effects estimators under staggered adoption are of limited concern (Goodman-Bacon, 2021; Roth et al., 2023). The treatment also switches off for the four issuers that left Tier I in September 2025, and when treatment effects differ across issuers and years, two-way fixed-effects estimates can weight some of them negatively (de Chaisemartin & D'Haultfœuille, 2020); we therefore also estimate the model without the issuers whose tier changed. Standard errors are clustered by issuer (Bertrand et al., 2004; Cameron & Miller, 2015). Because only 29 issuers are treated, we also report p -values from the bias-reduced CR2 estimator with Satterthwaite degrees of freedom (Bell & McCaffrey, 2002; Pustejovsky & Tipton, 2018) and from the wild cluster restricted bootstrap with six-point weights and 9,999 replications (Mackinnon et al., 2023; Webb, 2023).

To examine pre-mandate trends, we estimate an event-study version of Equation (1):

$$Y_{it} = \alpha_i + \tau_t + \sum_{k \in \{2022, 2024, 2025\}} \delta_k (G_i \times 1[t = k]) + \varepsilon_{it} \quad (2)$$

where G_i equals one for issuers in Tier I at the 2024 deadline and the 2023 financial year is the reference. The coefficient δ_{2022} measures whether Tier I reporting was already rising faster than reporting in other tiers. Because a linear extrapolation of this difference is one way to allow for such a trend, we also report $\delta_{2024} + \delta_{2022}$ and $\delta_{2025} + 2\delta_{2022}$, the effects net of a linear pre-trend, while noting that their credibility depends on the assumed shape of the trend (Rambachan & Roth, 2023).

The rate of reporting rises mechanically as early adopters accumulate, so a trend in the share of reporters need not imply a trend in the propensity to begin. We therefore also estimate a discrete-time model of starting to report (Allison, 1982) among issuer-years without any earlier report:

$$Y_{it} = \tau_t + \theta \text{TIER1}_{it} + \lambda (\text{TIER1}_{it} \times \text{POST}_t) + \varepsilon_{it} \quad (3)$$

where POST_t equals one from 2024 onwards and λ measures the change in the probability that a Tier I non-reporter begins reporting. For H2 we tabulate the reporting of the seven issuers whose tier changed in September 2025, estimate Equation (1) for 2024–2025 using only these issuers and issuers that were never in Tier I, and compare the rate at which mandated and non-mandated issuers continue to report in the year after a report. For H3 we compare the timing, length, machine readability and language of four groups of reports: voluntary reports by Tier I issuers before the mandate, voluntary reports by other issuers, mandated reports by issuers that had reported before and mandated first reports; differences are tested with Wilcoxon rank-sum and Fisher exact tests. Finally, the determinants of voluntary reporting are examined with linear probability and logit models of FILED among all non-mandated firm-years, with year fixed effects and standard errors clustered by issuer.

3.6 Software and use of artificial intelligence

The data were collected and processed in Python 3.13 and analysed in R 4.6.1 (R Core Team, 2026) with the fixest and clubSandwich packages. R and both packages are free software distributed under the GNU General Public License, and Python under the Python Software Foundation License. Generative artificial intelligence (Claude, Anthropic) helped to write the data-collection and analysis scripts and to draft and edit the text; the authors checked the code, results and wording and take full responsibility for the content.

4. Results and Discussion

4.1 Reporting before and after the mandate

Table 2 and Figure 1 describe reporting by tier. Before the mandate, reporting was confined largely to Tier I: 29.2% of Tier I issuers posted a report for the 2022 financial year and 46.2% for 2023, compared with at most 2.2% of issuers in the other tiers. After the mandate, the Tier I share rose to 84.6% for 2024 and 96.0% for 2025. Timeliness lagged behind: 42.3% of Tier I issuers posted by the deadline for 2024 and 64.0% for 2025. Among Tier II issuers, reporting rose to 14.6% for 2024 and fell back to 7.0% for 2025; among Tier III issuers it never exceeded 3.2%. Because the reporters are the largest issuers, posted reports covered 67.4% of market capitalisation for 2022 and 81.6% for 2025, although fewer than one in five listed equities reported in any year.

Table 2. ESG reporting by listing tier and financial year

Financial year	Tier at deadline	Listed equities	Filed within five months (%)	Filed by 30 April (%)	Median days from deadline	Documents	Market capitalisation with a report (%)
FY2022	Tier I	24	29.2	16.7	–2	9	

Financial year	Tier at deadline	Listed equities	Filed within five months (%)	Filed by 30 April (%)	Median days from deadline	Documents	Market capitalisation with a report (%)
FY2023	Tier II	46	2.2	2.2	-10	2	67.4
	Tier III	100	2.0	0.0	62	2	
	All tiers	170	5.9	2.9	0	13	
	Tier I	26	46.2	30.8	-8	13	
	Tier II	46	2.2	0.0	58	1	
FY2024	Tier III	101	1.0	1.0	-7	1	76.4
	All tiers	173	8.1	5.2	-4	15	
	Tier I	26	84.6	42.3	0	27	
	Tier II	48	14.6	6.2	9	7	
	Tier III	89	1.1	1.1	-1	1	
FY2025	All tiers	163	18.4	9.2	0	35	76.4
	Tier I	25	96.0	64.0	0	26	
	Tier II	43	7.0	7.0	0	3	
	Tier III	94	3.2	2.1	-7	3	
	All tiers	162	18.5	13.0	0	32	

Note. A firm-year counts as filed if at least one document for the financial year was posted in the exchange's ESG registry by 29 September of the following year (152 days after the 30 April deadline). Median days: first posting relative to 30 April among reporting firms (negative values are before the deadline). Documents: registry documents posted within the window. Market capitalisation: shares outstanding times the last closing price of the calendar year, all listed equities. Tier I became subject to the mandate from FY2024.

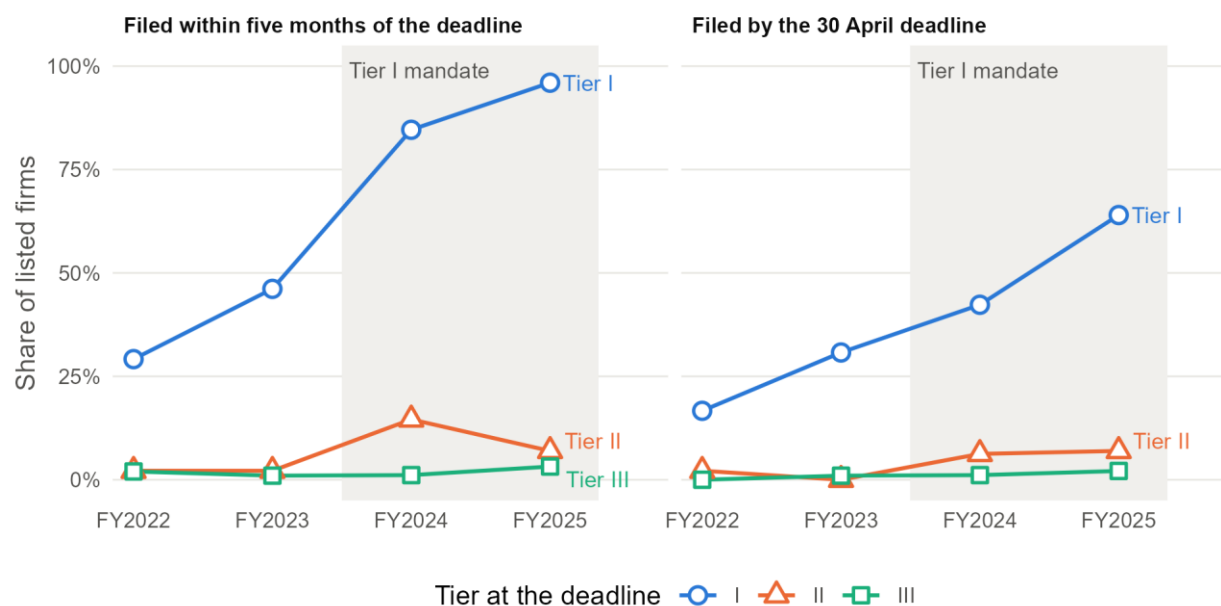


Figure 1. ESG reporting by listing tier, FY2022–FY2025. Share of listed equities in each tier that posted an ESG report within five months of the 30 April deadline (left) and by the deadline (right). The shaded years are subject to the Tier I mandate.

4.2 The effect of the mandate (H1)

Table 3 reports the difference-in-differences estimates. The mandate raised the probability that a Tier I issuer posted an ESG report within five months of the deadline by 46.1 percentage points (column 1; standard error 8.3 points; CR2 and wild bootstrap $p < .001$). The estimate ranges from 40.3 to 54.1 points when firm controls are added, when the sample is limited to issuers listed in all four years, to Tiers I and II or to non-financial issuers, when issuers whose tier changed are excluded, and when all reports

posted by September 2026 are counted. The effect on posting by the 30 April deadline is smaller, 25.1 points (column 8; wild bootstrap $p < .001$).

Table 3. Effect of the mandate on ESG reporting: difference-in-differences estimates

Sample	MANDATE (pp)	SE (pp)	p (CR2)	p (wild bootstrap)	Firm-years	Issuers	Treated issuers
<i>Panel A. Outcome: filed within five months</i>							
(1) All firm-years	46.1	8.3	<.001	<.001	666	174	29
(2) All, with SIZE, ROA, LEV, TRADED	53.6	9.7	<.001	<.001	534	143	21
(3) Equities listed in all four years	48.8	8.5	<.001	<.001	624	156	27
(4) Tiers I and II only	40.3	9.1	<.001	<.001	282	75	29
(5) Non-financial issuers	54.1	12.3	<.001	.001	560	147	14
(6) Without issuers whose tier changed	41.0	9.3	<.001	<.001	634	166	21
(7) All reports posted by 29 September 2026	44.2	8.5	<.001	<.001	666	174	29
<i>Panel B. Outcome: filed by 30 April</i>							
(8) All firm-years	25.1	6.6	<.001	<.001	666	174	29
(9) All, with SIZE, ROA, LEV, TRADED	25.8	8.0	.004	.003	534	143	21
<i>Panel C. Identification from the tier changes of September 2025</i>							
(10) FY2024–2025: tier switchers and Tier II–III issuers	57.1	18.9	.031	.008	278	139	7

Note. Coefficients on MANDATE from Equation (1), linear probability models with issuer and year fixed effects, in percentage points. SE: cluster-robust by issuer. p (CR2): bias-reduced cluster-robust test with Satterthwaite degrees of freedom. p (wild bootstrap): wild cluster restricted bootstrap with Webb weights, 9,999 replications. Issuers observed in a single year are dropped. Column (10) uses FY2024–FY2025 only and excludes issuers that were in Tier I in both years, so that the mandate varies only for the seven issuers whose tier changed in September 2025.

Figure 2 and Panel A of Table 4 show the event-study coefficients. Relative to 2023, reporting by Tier I issuers was 14.8 points lower in 2022 ($p = .024$), so it was already rising faster than in other tiers before the rule, and it was 34.7 and 30.1 points higher in 2024 and 2025. Net of a linear extrapolation of the pre-mandate difference, the effects shrink to 19.9 points for 2024 ($p = .132$) and 0.4 points for 2025. This extrapolation is conservative: it assumes that the pre-mandate increase would have continued undiminished, which would have pushed the Tier I reporting rate above 100% by 2027. The pre-mandate increase was also narrow, coming from three issuers that began reporting for 2023, one of which had listed only in September 2022.

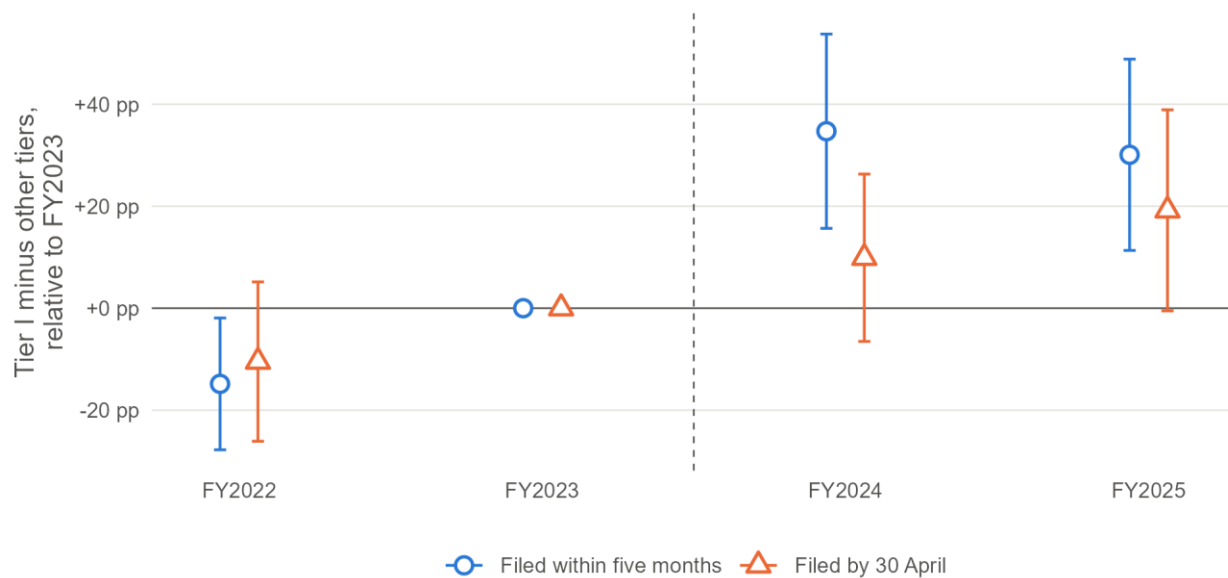


Figure 2. Event-study estimates of the mandate. Coefficients of Equation (2) with 95% confidence intervals (standard errors clustered by issuer), FY2023 = 0. Tier I: issuers in Tier I at the FY2024 deadline.

The start rates in Panel B of Table 4 separate the growth in the number of reporters from the propensity to begin. Before the mandate, 26.2% of Tier I issuer-years without an earlier report were followed by a first report; under the mandate the rate was 77.8%. Among other issuers, the rate rose from 1.0% to 3.4%. The difference-in-differences estimate of Equation (3) is 49.1 points

(standard error 10.8; wild bootstrap $p < .001$). Tier I non-reporters were thus about three times as likely to begin reporting in a mandated year as in a voluntary one, a change that the gradual pre-mandate diffusion does not explain. H1 is supported, with the qualification that part of the rise in the Tier I reporting rate reflects adoption that had begun before the rule.

Table 4. Pre-mandate trends, starting and continuing to report

	Filed within five months		Filed by 30 April	
	Coefficient (SE), pp	p	Coefficient (SE), pp	p
<i>Panel A. Event study: Tier I minus other tiers, relative to FY2023 (Equation 2)</i>				
FY2022	-14.8 (6.6)	.024	-10.5 (8.0)	.189
FY2024	34.7 (9.7)	<.001	9.9 (8.4)	.237
FY2025	30.1 (9.6)	.002	19.2 (10.1)	.056
FY2024, net of linear pre-trend	19.9 (13.2)	.132	-0.6 (13.6)	.966
FY2025, net of linear pre-trend	0.4 (18.2)	.983	-1.7 (22.5)	.938
<i>Panel B. Starting and continuing to report</i>				
	Firm-years	Filed (%)		
No earlier report: Tier I, FY2022–2023	42	26.2		
No earlier report: Tier I, FY2024–2025	18	77.8		
No earlier report: Tiers II–III, FY2022–2023	290	1.0		
No earlier report: Tiers II–III, FY2024–2025	261	3.4		
Reported the year before: Not mandated, FY2022–2023	10	90.0		
Reported the year before: Mandated, FY2024–2025	33	97.0		
Reported the year before: Not mandated, FY2024–2025	11	45.5		
Starting, Tier I $\times$ POST (Equation 3), pp	49.1 (10.8)	$p < .001$; wild bootstrap $p < .001$		

Note. Panel A: coefficients δ_k of Equation (2), in percentage points, with standard errors clustered by issuer; $G_i = 1$ for issuers in Tier I at the FY2024 deadline. Net of linear pre-trend: $\delta_{2024} + \delta_{2022}$ and $\delta_{2025} + 2\delta_{2022}$. Panel B: share of firm-years with a report among firm-years without any earlier report (start) and among firm-years that follow a reporting year (continue). The last row reports λ of Equation (3), estimated on 611 firm-years without an earlier report, with year fixed effects.

4.3 Compliance or commitment? (H2)

Table 5 follows the seven issuers whose tier changed in September 2025. Of the four that left Tier I, two (Talkh Chikher and Gazar Shim Uildver) had filed their first reports for 2024, when they were obliged to, and filed none for 2025, when they were not; the other two never reported, even when obliged. Of the three that entered Tier I, two filed their first reports for 2025, the first year of their obligation, and the third had already reported voluntarily. Estimated on these switches alone, Equation (1) gives an effect of 57.1 points (Table 3, column 10; CR2 $p = .031$, wild bootstrap $p = .008$), similar to the baseline despite resting on seven issuers.

Table 5. Issuers whose tier changed in September 2025: tier and reporting by financial year

Issuer	Sector	FY2022	FY2023	FY2024	FY2025
<i>Moved from Tier I to Tier II</i>					
Gazar Shim Uildver (GAZR)	Manufacturing	I: none	I: none	I: late (9 days)	II: none
Talkh Chikher (TCK)	Manufacturing	I: none	I: none	I: on time	II: none
Bodi Insurance (BODI)	Finance	I: none	I: none	I: none	II: none
Makhimpex (MMX)	Manufacturing	I: none	I: none	I: none	II: none
<i>Moved from Tier II to Tier I</i>					
Mongol Basalt (MBW)	Manufacturing	II: none	II: none	II: none	I: late (40 days)
Monlogistics Holding (MLG)	Trade, transport and services	II: none	II: none	II: none	I: on time
Premium Nexus (CUMN)	Trade, transport and services	II: on time	II: late (58 days)	II: late (29 days)	I: on time

Note. Each cell shows the tier at the reporting deadline and whether a report was posted by 30 April (on time), within five months after it (late, with days after the deadline) or not at all (none). The tier changes took effect on 5 September 2025 and govern the FY2025 deadline of 30 April 2026.

Continuation tells the same story (Table 4, Panel B). Mandated issuers that had reported the year before reported again in 32 of 33 cases (97.0%). Non-mandated issuers did so in 9 of 10 cases before the mandate but in only 5 of 11 afterwards (45.5%); most Tier II issuers that joined the wave of reports for 2024 did not report for 2025. Reporting by issuers outside Tier I rose by only 3.3 points after the mandate (standard error 1.4). The evidence supports H2: on the MSE, ESG reporting is a response to the obligation, not a commitment that persists without it. This is consistent with coercive rather than normative isomorphism (DiMaggio & Powell, 1983). It also means that the benefits that Leuz and Verrecchia (2000) attribute to a credible commitment to disclosure are unlikely to arise for issuers that report once.

4.4 Timeliness and substance of mandated reports (H3)

Compliance was incomplete. Of the 51 mandated firm-years, 46 (90.2%) produced a report within five months of the deadline, but only 27 (52.9%) did so by the deadline; the 19 late reports were posted a median of 46 days after it (range 1–130). Two issuers, a manufacturer and an insurer, filed nothing while subject to the mandate, and three others missed one of the two mandatory years. Figure 3 shows how filing behaviour changed. Under the mandate, reports bunch at the deadline: 45.7% of mandated reports were posted between three days before and one day after 30 April, compared with 21.1% of voluntary Tier I reports. Many issuers treated the deadline as the target, and a sizeable minority missed it without visible consequence.

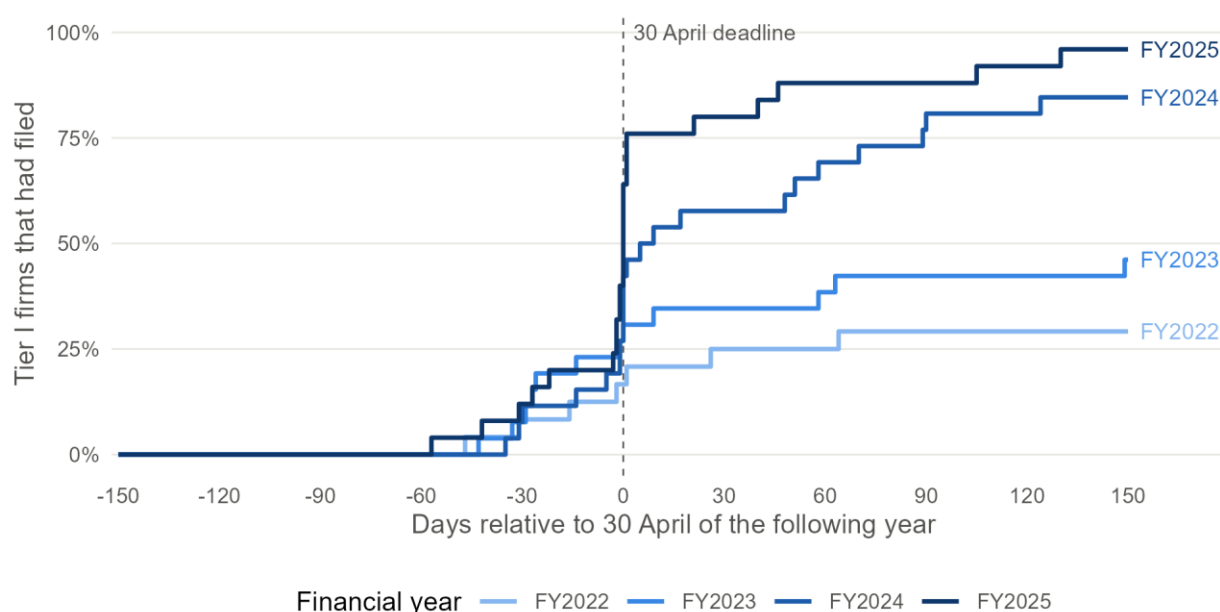


Figure 3. Timing of Tier I reports relative to the deadline. Cumulative share of Tier I issuers that had posted a report for the financial year, by days relative to 30 April of the following year.

Table 6 compares what was filed. Reports by issuers that had reported before the mandate were of similar length before and after it (median 13 and 10 pages; for the 12 issuers observed in both periods, paired Wilcoxon $p = .449$), and 76% of their mandated reports were on time. First reports produced under the mandate were different: their median length was 7 pages against 10 for continuing reporters ($p = .008$), only 38% were posted on time against 76% ($p = .016$), and 38% had a text layer against 60% ($p = .236$). Across all 97 PDF documents, about half (48, or 49.5%) are scanned images without a usable text layer, and only six of the 99 documents are in English, although the exchange has described English-language reporting as part of the Tier I requirement. H3 is supported for timeliness and length: the issuers brought into reporting by the mandate complied at minimum cost, typically by filing the template late.

Table 6. Timing and form of the reports, by group

Group of reporting firm-years	Firm-years (issuers)	Median pages (IQR)	Text layer (%)	English (%)	Titled sustainability report (%)	On time (%)	Median days from deadline
A. Tier I, voluntary (FY2022–FY2023)	19 (12)	13 (8–43)	58	0	26	63	–2
B. Tiers II–III, voluntary (all years)	19 (12)	10 (6–24)	58	5	0	58	0
C. Tier I, mandated, had reported before	25 (13)	10 (8–41)	60	20	20	76	–1
D. Tier I, mandated, first reports	21 (14)	7 (6–10)	38	0	14	38	9

Note. Firm-years with at least one report posted within five months of the deadline. Pages: all documents of the firm-year. Text layer: at least one document with 30 or more words per page in its text layer (otherwise a scanned image). English: at least one document in which Latin letters exceed half of all letters. Tests (Wilcoxon rank-sum for pages, Fisher exact otherwise): pages D vs C $p = .008$; on time D vs C $p = .016$; text layer D vs C $p = .236$; pages C+D vs A $p = .094$; English C+D vs A+B $p = .215$.

These patterns match the ceremonial compliance described in the reviews of CSR reporting regulation (Haji et al., 2023), the symbolic transparency found after the European directive (Tariq, 2025) and the decoupling predicted by institutional theory (Meyer & Rowan, 1977). They also bear on the value of the mandated information. A template report of a few pages that arrives weeks after the deadline as a scanned image is costly for investors to find, read and compare, and processing costs matter for how disclosure is used and supplied (Blankespoor, 2019).

4.5 Who reports without a mandate?

Table 7 examines voluntary reporting in the 504 non-mandated firm-years with complete data, 29 of which include a report. Larger issuers are more likely to report (linear probability coefficient 0.014 per log point of assets, $p = .004$; logit coefficient 0.598, $p < .001$), in line with the size effects documented in reviews of reporting determinants (Ali et al., 2017; Hahn & Kühnen, 2013). Profitability, leverage, trading activity, sector and ownership are not significant, and the coefficient on Big Four auditors is large but imprecise. The strongest regularity is a disclosure complement: in every one of the 38 firm-years with a voluntary report, the issuer also filed a corporate-governance-code report in the same window, whereas only 45.9% of non-reporting firm-years did so. Voluntary ESG reporting on the MSE thus comes from issuers that already meet the exchange's other governance-reporting expectations, rather than from those whose ESG information investors lack most.

Table 7. Voluntary ESG reporting: firm-years not subject to the mandate

	Linear probability model	Logit
SIZE	0.014*** (0.005)	0.598*** (0.148)
ROA	0.120 (0.221)	2.642 (3.113)
LEV	-0.001 (0.006)	-0.367 (0.434)
TRADED	-0.053 (0.091)	-0.790 (1.000)
Financial sector	0.031 (0.071)	0.773 (0.786)
State blockholder	-0.024 (0.038)	-1.345 (0.868)
Foreign blockholder	0.014 (0.041)	0.119 (0.677)
Big Four auditor	0.453 (0.285)	2.255 (1.508)
Audited statements filed	-0.001 (0.017)	0.374 (0.474)
Governance-code report filed	0.061* (0.031)	omitted
Tier II	-0.159 (0.120)	-1.225 (0.825)
Tier III	-0.156 (0.126)	-1.637 (1.265)
Year fixed effects	Yes	Yes
Firm-years (with a report)	504 (29)	504 (29)

Note. Dependent variable: FILED. Sample: firm-years not subject to the mandate (all tiers before FY2024; Tiers II–III from FY2024) with complete data. Standard errors clustered by issuer in parentheses; *, ** and *** denote significance at 10%, 5% and 1%. The governance-code indicator is omitted from the logit because every firm-year with a voluntary report also has a governance-code report (perfect prediction).

4.6 Discussion

The findings qualify both the optimistic and the sceptical views of ESG reporting mandates. A tier-based exchange rule, without a new law, closed most of the reporting gap among the largest issuers within two reporting cycles, and the tier reassignments show that the rule, not a general trend, drove reporting at the margin. This is consistent with evidence that mandates change what firms do (Chen et al., 2018; Fiechter et al., 2022; Jackson et al., 2020). At the same time, the mandate produced compliance rather than engagement. Reporting lapsed when the obligation lapsed, almost half of the mandated firm-years had no report by the deadline, and first-time reporters filed short documents. Krueger et al. (2024) find that the capital-market benefits of ESG mandates are strongest when the requirements are implemented by government institutions rather than on a comply-or-explain basis and are coupled with strong enforcement by informal institutions. The MSE rule is an exchange rule whose public notices specify no sanction, and the results are consistent with the view that enforcement shapes the outcomes of disclosure regulation (Christensen et al., 2013; Leuz & Wysocki, 2016).

The mandate also left the coverage of ESG information narrow. The requirement applies to about 25 issuers, and voluntary reporting outside Tier I is rare, concentrated in larger issuers and rarely sustained. Because Tier I issuers are the largest, the

mandate brought ESG reports for four-fifths of market capitalisation, which matters for index and foreign investors. For the smaller issuers, whose information environment is weakest, it brought almost nothing.

5. Conclusion

This study evaluated the ESG reporting mandate that the Mongolian Stock Exchange introduced for its Tier I issuers in October 2024, using the exchange's public records for all listed equities over the financial years 2022–2025. The mandate raised the probability that a Tier I issuer posted an ESG report by about 46 percentage points and tripled the rate at which Tier I non-reporters began to report. Reporting followed the obligation: it stopped when issuers left Tier I, started when they entered it and was rarely sustained when voluntary. Compliance was partial and often minimal: almost half of the mandated firm-years had no report by the deadline, first reports under the mandate were short, about half of all posted documents are scanned images and very few are in English.

The findings carry implications for exchanges and regulators in frontier markets. A tier-based mandate is an effective and inexpensive way to raise reporting among the issuers that matter most for investors, but its value depends on enforcement and data standards. Publishing a list of issuers that miss the deadline, requiring text-based or structured submissions through the unified system the exchange is developing, and verifying the English-language requirement would make the mandated reports easier to use at little cost. Extending the obligation to Tier II, or asking voluntary reporters to commit to continuing, would address the narrow coverage. For investors, the presence of an ESG report on the MSE now says more about an issuer's listing tier than about its sustainability practices, and the timeliness and form of the report may be more informative than its existence.

The study has limitations. The post-mandate period covers only two reporting cycles, and the pre-mandate period two, which limits the analysis of trends. The number of Tier I issuers is small, although the conclusions hold under small-sample and bootstrap inference. Ownership and board characteristics are observed only for the current rosters. The measures of report substance, namely length, machine readability, language and title, capture the form of the reports rather than the quality of their content, and the analysis measures public posting, which may differ from submission to the exchange. Future research could code the content of the reports against the template, follow the mandate as the unified reporting system is introduced, and examine whether investors and lenders respond to the timeliness and form of mandated reports.

Statements and Declarations

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

Acknowledgments: The authors thank the Mongolian Stock Exchange for publishing its issuers' disclosures, tier notices and trading records on its website and open-data portal.

Data Availability: All data are public and were retrieved from the Mongolian Stock Exchange (<https://mse.mn> and <https://open.mse.mn>).

Use of Generative Artificial Intelligence: Claude (Anthropic) helped to write the data-collection and analysis scripts and to draft and edit the text. The authors checked all code, results and wording and take full responsibility for the article.

Author Contributions: Javzmaa Lkhagvasuren: conceptualisation, data curation, investigation, writing – original draft. Tumendelger Lkhagvasuren: methodology, software, formal analysis, visualisation, writing – review and editing.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

- Ali, W., Frynas, J. G., & Mahmood, Z. (2017). Determinants of corporate social responsibility (CSR) disclosure in developed and developing countries: A literature review. *Corporate Social Responsibility and Environmental Management*, 24(4), 273–294. <https://doi.org/10.1002/csr.1410>
- Allison, P. D. (1982). Discrete-time methods for the analysis of event histories. *Sociological Methodology*, 13, 61–98. <https://doi.org/10.2307/270718>
- Bell, R. M., & McCaffrey, D. F. (2002). Bias reduction in standard errors for linear regression with multi-stage samples. *Survey Methodology*, 28(2), 169–181.
- Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates? *The Quarterly Journal of Economics*, 119(1), 249–275. <https://doi.org/10.1162/003355304772839588>
- Blankespoor, E. (2019). The impact of information processing costs on firm disclosure choice: Evidence from the XBRL mandate. *Journal of Accounting Research*, 57(4), 919–967. <https://doi.org/10.1111/1475-679X.12268>
- Boiral, O. (2013). Sustainability reports as simulacra? A counter-account of A and A+ GRI reports. *Accounting, Auditing & Accountability Journal*, 26(7), 1036–1071. <https://doi.org/10.1108/AAAJ-04-2012-00998>

- Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50(2), 317–372. <https://doi.org/10.3368/jhr.50.2.317>
- Chen, Y.-C., Hung, M., & Wang, Y. (2018). The effect of mandatory CSR disclosure on firm profitability and social externalities: Evidence from China. *Journal of Accounting and Economics*, 65(1), 169–190. <https://doi.org/10.1016/j.jacceco.2017.11.009>
- Cho, C. H., & Patten, D. M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society*, 32(7–8), 639–647. <https://doi.org/10.1016/j.aos.2006.09.009>
- Christensen, H. B., Hail, L., & Leuz, C. (2013). Mandatory IFRS reporting and changes in enforcement. *Journal of Accounting and Economics*, 56(2–3), 147–177. <https://doi.org/10.1016/j.jacceco.2013.10.007>
- Christensen, H. B., Hail, L., & Leuz, C. (2021). Mandatory CSR and sustainability reporting: Economic analysis and literature review. *Review of Accounting Studies*, 26(3), 1176–1248. <https://doi.org/10.1007/s11142-021-09609-5>
- Davaadorj, B., & Boldbaatar, B. (2021). *The emerging Asia Pacific capital markets: Mongolia*. CFA Institute Research Foundation. <https://doi.org/10.2139/ssrn.3807442>
- de Chaisemartin, C., & D'Haultfoeuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, 110(9), 2964–2996. <https://doi.org/10.1257/aer.20181169>
- Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures – a theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15(3), 282–311. <https://doi.org/10.1108/09513570210435852>
- DeFond, M., Hung, M., & Wang, E. J. (2026). The impact of mandatory sustainability reporting on institutional investment: The role of reporting location. *The Accounting Review*, 101(1), 285–313. <https://doi.org/10.2308/tar-2023-0276>
- Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review*, 86(1), 59–100. <https://doi.org/10.2308/accr.00000005>
- Dienes, D., Sassen, R., & Fischer, J. (2016). What are the drivers of sustainability reporting? A systematic review. *Sustainability Accounting, Management and Policy Journal*, 7(2), 154–189. <https://doi.org/10.1108/SAMPJ-08-2014-0050>
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
- Downar, B., Ernstberger, J., Reichelstein, S., Schwenen, S., & Zaklan, A. (2021). The impact of carbon disclosure mandates on emissions and financial operating performance. *Review of Accounting Studies*, 26(3), 1137–1175. <https://doi.org/10.1007/s11142-021-09611-x>
- Fiechter, P., Hitz, J.-M., & Lehmann, N. (2022). Real effects of a widespread CSR reporting mandate: Evidence from the European Union's CSR Directive. *Journal of Accounting Research*, 60(4), 1499–1549. <https://doi.org/10.1111/1475-679X.12424>
- Gamerschlag, R., Möller, K., & Verbeeten, F. (2011). Determinants of voluntary CSR disclosure: Empirical evidence from Germany. *Review of Managerial Science*, 5(2–3), 233–262. <https://doi.org/10.1007/s11846-010-0052-3>
- Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*, 225(2), 254–277. <https://doi.org/10.1016/j.jeconom.2021.03.014>
- Grewal, J., Riedl, E. J., & Serafeim, G. (2019). Market reaction to mandatory nonfinancial disclosure. *Management Science*, 65(7), 3061–3084. <https://doi.org/10.1287/mnsc.2018.3099>
- Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: A review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production*, 59, 5–21. <https://doi.org/10.1016/j.jclepro.2013.07.005>
- Haji, A. A., Coram, P., & Troshani, I. (2023). Consequences of CSR reporting regulations worldwide: A review and research agenda. *Accounting, Auditing & Accountability Journal*, 36(1), 177–208. <https://doi.org/10.1108/AAAJ-05-2020-4571>
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1–3), 405–440. [https://doi.org/10.1016/S0165-4101\(01\)00018-0](https://doi.org/10.1016/S0165-4101(01)00018-0)
- Ioannou, I., & Serafeim, G. (2019). The consequences of mandatory corporate sustainability reporting. In A. McWilliams, D. E. Rupp, D. S. Siegel, G. K. Stahl, & D. A. Waldman (Eds.), *The Oxford handbook of corporate social responsibility* (pp. 451–489). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780198802280.013.20>
- Jackson, G., Bartosch, J., Aветisyani, E., Kinderman, D., & Knudsen, J. S. (2020). Mandatory non-financial disclosure and its influence on CSR: An international comparison. *Journal of Business Ethics*, 162(2), 323–342. <https://doi.org/10.1007/s10551-019-04200-0>
- Krueger, P., Sautner, Z., Tang, D. Y., & Zhong, R. (2024). The effects of mandatory ESG disclosure around the world. *Journal of Accounting Research*, 62(5), 1795–1847. <https://doi.org/10.1111/1475-679X.12548>
- Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research*, 38, 91–124. <https://doi.org/10.2307/2672910>
- Leuz, C., & Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research*, 54(2), 525–622. <https://doi.org/10.1111/1475-679X.12115>
- Loh, L., Thomas, T., & Wang, Y. (2017). Sustainability reporting and firm value: Evidence from Singapore-listed companies. *Sustainability*, 9(11), 2112. <https://doi.org/10.3390/su9112112>
- MacKinnon, J. G., Nielsen, M. Ø., & Webb, M. D. (2023). Cluster-robust inference: A guide to empirical practice. *Journal of Econometrics*, 232(2), 272–299. <https://doi.org/10.1016/j.jeconom.2022.04.001>
- Manini, M. M. (2023). Sustainable Development Goals disclosure among top 25 listed companies in Kenya. *Journal of Economics, Finance and Accounting Studies*, 5(4), 40–53. <https://doi.org/10.32996/jefas.2023.5.4.5>
- Marquis, C., Toffel, M. W., & Zhou, Y. (2016). Scrutiny, norms, and selective disclosure: A global study of greenwashing. *Organization Science*, 27(2), 483–504. <https://doi.org/10.1287/orsc.2015.1039>
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363. <https://doi.org/10.1086/226550>
- Michelon, G., Pilonato, S., & Ricceri, F. (2015). CSR reporting practices and the quality of disclosure: An empirical analysis. *Critical Perspectives on Accounting*, 33, 59–78. <https://doi.org/10.1016/j.cpa.2014.10.003>

- Mion, G., & Loza Adau, C. R. (2019). Mandatory nonfinancial disclosure and its consequences on the sustainability reporting quality of Italian and German companies. *Sustainability*, 11(17), 4612. <https://doi.org/10.3390/su11174612>
- Mongolian Stock Exchange. (2022a, July 7). *The listing tiers of securities have been updated* [in Mongolian]. <https://mse.mn/news/9821>
- Mongolian Stock Exchange. (2022b, August 19). *Guidance on environmental, social and governance and sustainability reporting for listed companies has been published* [in Mongolian]. <https://mse.mn/news/9967>
- Mongolian Stock Exchange. (2024a, November 29). *Memorandum of cooperation signed by the Financial Regulatory Commission, the Mongolian Stock Exchange and the Mongolian Sustainable Finance Development Association* [in Mongolian]. <https://mse.mn/news/12873>
- Mongolian Stock Exchange. (2024b, December 4). *The listing tier of Innovation Investment JSC has been raised* [in Mongolian]. <https://mse.mn/news/12901>
- Mongolian Stock Exchange. (2024c, December 31). *Ten highlights of the Mongolian Stock Exchange in 2024* [in Mongolian]. <https://mse.mn/news/12978>
- Mongolian Stock Exchange. (2025a, April 3). *Training on "Environmental, social, governance (ESG), and sustainability reporting" held*. <https://mse.mn/news/13344>
- Mongolian Stock Exchange. (2025b, July 8). *28 listed companies have publicly disclosed their environmental, social and governance (ESG) and sustainability reports* [in Mongolian]. <https://mse.mn/news/13628>
- Mongolian Stock Exchange. (2025c, September 5). *The listing tiers of securities have been updated* [in Mongolian]. <https://mse.mn/news/13798>
- Mongolian Stock Exchange. (2026a). *MSE Open: Securities list, company information, disclosures and trading history* [Data set]. Retrieved September 30, 2026, from <https://open.mse.mn/securities>
- Mongolian Stock Exchange. (2026b, September 10). *The listing tiers of securities have been updated* [in Mongolian]. <https://mse.mn/news/15010>
- Owusu-Ansah, S. (1998). The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies in Zimbabwe. *The International Journal of Accounting*, 33(5), 605–631. [https://doi.org/10.1016/S0020-7063\(98\)90015-2](https://doi.org/10.1016/S0020-7063(98)90015-2)
- Owusu-Ansah, S., & Leventis, S. (2006). Timeliness of corporate annual financial reporting in Greece. *European Accounting Review*, 15(2), 273–287. <https://doi.org/10.1080/09638180500252078>
- Papaflorentos, T., & Pantazi, T. (2025). A systematic review of the effects of mandatory corporate sustainability reporting. *Sustainability*, 17(12), 5336. <https://doi.org/10.3390/su17125336>
- Pustejovsky, J. E., & Tipton, E. (2018). Small-sample methods for cluster-robust variance estimation and hypothesis testing in fixed effects models. *Journal of Business & Economic Statistics*, 36(4), 672–683. <https://doi.org/10.1080/07350015.2016.1247004>
- R Core Team. (2026). *R: A language and environment for statistical computing* (Version 4.6.1) [Computer software]. R Foundation for Statistical Computing. <https://www.R-project.org/>
- Rambachan, A., & Roth, J. (2023). A more credible approach to parallel trends. *The Review of Economic Studies*, 90(5), 2555–2591. <https://doi.org/10.1093/restud/rdad018>
- Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics*, 88(2), 351–366. <https://doi.org/10.1007/s10551-008-9968-9>
- Roth, J., Sant'Anna, P. H. C., Bilinski, A., & Poe, J. (2023). What's trending in difference-in-differences? A synthesis of the recent econometrics literature. *Journal of Econometrics*, 235(2), 2218–2244. <https://doi.org/10.1016/j.jeconom.2023.03.008>
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374. <https://doi.org/10.2307/1882010>
- Stolowy, H., & Paugam, L. (2018). The expansion of non-financial reporting: An exploratory study. *Accounting and Business Research*, 48(5), 525–548. <https://doi.org/10.1080/00014788.2018.1470141>
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610. <https://doi.org/10.2307/258788>
- Suryana, I. M., & Setyani, E. (2023). Effect of stakeholder pressure and corporate governance on sustainability reports disclosure: Empirical study on mining sector companies in Indonesia. *Journal of Economics, Finance and Accounting Studies*, 5(2), 59–67. <https://doi.org/10.32996/jefas.2023.5.2.6>
- Sustainable Stock Exchanges Initiative. (2017, September 21). *Mongolian Stock Exchange partners with UN initiative to scale up sustainable finance*. <https://sseinitiative.org/all-news/mongolian-stock-exchange-partners-with-un-initiative-to-scale-up-sustainable-finance>
- Tariq, A. (2025). Mandatory sustainability reporting and the disclosure-performance gap: Insights from the EU directive. *Meditari Accountancy Research*, 33(7), 536–567. <https://doi.org/10.1108/medar-02-2025-2838>
- Tomar, S. (2023). Greenhouse gas disclosure and emissions benchmarking. *Journal of Accounting Research*, 61(2), 451–492. <https://doi.org/10.1111/1475-679X.12473>
- United Nations Development Programme. (2022). *ESG and sustainability reporting guidance for Mongolian companies*. UNDP Mongolia. <https://www.undp.org/mongolia/publications/esg-and-sustainability-reporting-guidance-mongolian-companies>
- Verrecchia, R. E. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, 5, 179–194. [https://doi.org/10.1016/0165-4101\(83\)90011-3](https://doi.org/10.1016/0165-4101(83)90011-3)
- Webb, M. D. (2023). Reworking wild bootstrap-based inference for clustered errors. *Canadian Journal of Economics*, 56(3), 839–858. <https://doi.org/10.1111/caje.12661>