

How Do Multinationals Report Their Economic, Social, and Environmental Impacts?

Evidence from Global Reporting Initiative Data

Deborah Winkler



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Abstract

This paper examines the role of multinational enterprises in sustainability reporting. The study assesses how multinational enterprise status correlates with a company's average disclosure rate and probability of reporting on economic, labor and social, environmental, and governance indicators. It uses a unique data set that offers company-level information on sustainability reporting from the Global Reporting Initiative, which covers 2,020 companies in 81 countries and 54 sustainability indicators. The summary statistics show that multinational enterprises and large domestic companies have higher average disclosure rates than small and medium-size enterprises.

However, the econometric analysis suggests that multinational enterprise status does not matter for the average

disclosure rate, but company size shows a strongly positive correlation. Differentiating by type of multinational enterprise reveals that the relationship becomes positive and significant for private companies. By contrast, the correlation between multinational enterprise status and the average disclosure rate does not vary by listing status, sector, region, or income level. Focusing on the relationship by development category also shows no significant correlation. Finally, accounting for the heterogeneity of the sustainability indicators, the study analyzes the relationship between multinational enterprise status and the probability of disclosure at the detailed indicator level, and confirms a significant correlation for 12 indicators.

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Deborah Winkler¹

JEL: F2, F6, M4

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¹ Senior Consultant, Trade & Competitiveness Global Practice, World Bank Group, 1818 H St NW, Washington, DC 20433, USA. eMail: dwinkler2@worldbank.org.

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1. INTRODUCTION

Liberalization in global trade and investment, along with advances in transport and communications, have allowed multinational firms to expand their market reach, exploit resource opportunities, and offshore activities across global value chains (GVCs). But multinational enterprises (MNEs) are not only different from other types of firms in terms of their engagement in GVCs – they are also seen to enjoy technological and other advantages that result in higher levels of productivity (Hoekman and Javorcik 2006). At the same time, MNEs are under increasing pressure to comply with international labor and health, safety, and environmental (HSE) standards, which apply particularly to electronics, apparel, and food GVCs, in which final consumers perceive a more direct link between the consumer good and the working conditions (Taglioni and Winkler 2016).

Against this background, this paper examines the relationship between MNE status and sustainability reporting. Sustainability reporting provides detailed insights into the priorities given by the private sector, and MNEs in particular, to certain sustainability issues. In particular, this study assesses the relationship between MNE status and a company's disclosure rate and probability of reporting on economic, labor and social, environmental and governance indicators. This analysis benefits from the fact that the number of companies producing corporate sustainability reports has strongly increased within a relatively short amount of time. The Global Reporting Initiative (GRI) database, for example, consisted of only 48 companies in 2000, but increased to 436 companies by 2005, more than 2,500 in 2010, and reached around 5,750 by 2015.² This paper uses company-level information on sustainability reporting from the GRI covering 2,020 companies in 81 countries.

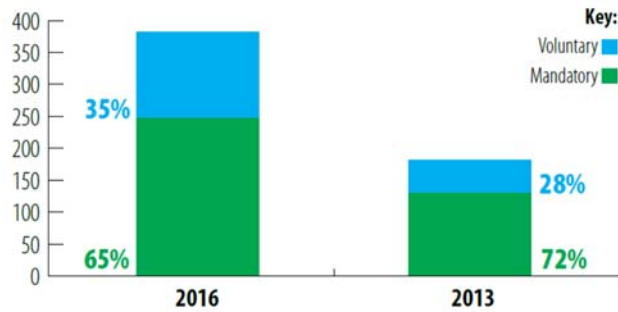
While this study does not measure the effect of multinationals on sustainable development, sustainability reporting can be linked to better development outcomes for several reasons. Mandatory sustainability reporting reflects a minimum level of disclosure as required by governments or regulators that companies have to comply with. In 2016, government regulation accounted for almost two-thirds of sustainability reporting instruments worldwide, up from 58% ten years earlier.³ Figure 1 indicates that among all reporting instruments identified in 2016, 65% are still mandatory.

On the other hand, the share of voluntary reporting instruments has increased from 28% to 35% since 2013. Voluntary sustainability reporting goes beyond mere compliance with mandatory requirements and targets the voluntary sphere and “best practices” of companies (KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa 2010). In particular, voluntary standards (i) show a commitment of companies to greater transparency; (ii) reflect a commitment to greater accountability, and (iii) can be viewed as a tool for improving the quality of corporate sustainability leadership (GRI 2013).

² GRI Reports List as of October 1, 2016.

³ Reporting instruments include regulation and policy; self-regulation; requirements, guidance or recommendations for public, reporting on a single topic; voluntary guidelines and standards for sustainability reporting; and standards on sustainability (KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa 2016).

Figure 1: Mandatory vs. voluntary reporting instruments, 2016 and 2013



Source: KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa (2016, p. 12).

The summary statistics in this paper show that MNEs and large domestic companies have the highest average disclosure rates in the data sample, while disclosure rates of SMEs are substantially lower. The disclosure rate is defined as the average disclosure across all 54 GRI indicators that are taken into account. The average disclosure rate can range from 0, i.e. if a company discloses no information across all indicators, to 1, i.e. if a company fully or partially discloses information on all indicators. This finding forms the basis for the main research question whether MNEs are more likely to disclose information on sustainability indicators, or whether it is mainly firm size that matters for differences in sustainability reporting.

Focusing on the 15 sectors with the highest disclosure rates, MNEs and large companies show a big overlap with some exceptions. Consumer durables show the highest disclosure rates for both types of companies. However, retail, mining, and telecommunications only show high disclosure rates for MNEs, but not for large companies. By contrast, water utilities, media, forest and paper products, and energy show high disclosure rates for large companies, but not for MNEs.

Focusing on different organization types, average disclosure rates are highest for private companies and partnerships both in the MNE and large company samples, while they are highest for subsidiaries in the SME sample. The summary statistics also show that companies in Oceania and Africa show lower average disclosure rates overall, while disclosure rates are similar across all regions for MNEs except Asia where companies tend to disclose more sustainability information. The findings also seem to suggest that average disclosure rates are lower in lower-income countries, although non-OECD high-income countries surprisingly show higher disclosure rates than OECD countries.

The econometric analysis focuses on disclosure patterns of MNEs compared to other domestic firms. In a first step, the analysis studies if MNE status (explanatory variable) matters for the average disclosure rate across all 54 GRI indicators (dependent variable), but finds no effect, while company size shows a strongly positive correlation. The study therefore assesses in a next step if the correlation between MNE status and the average disclosure rate varies by type of MNE. We find that the type of organization matters for the average disclosure rate. Private MNEs show a positive correlation, whereas non-private multinationals (i.e. cooperative, non-profit organization, partnership, public institution, state-owned company, and subsidiary) show a negative correlation with the average disclosure rate. By contrast, the relationship between MNE status and the average disclosure rate does not vary by listing status, sectors, regions, and income levels in our data sample.

In a second step, the study examines if the correlation between MNEs and the disclosure rate varies by type of development category under study. It differentiates between the average disclosure rate on economic, labor, social, human rights, environmental (energy-related, water-related, and other) and governance indicators, but does not find a significant relationship for any of these categories. In order to address the heterogeneity of indicators, this study applies a Probit model in a third step to assess how MNE status is related to the likelihood of disclosure at the detailed GRI indicator level. Overall, the study finds that MNE status is significantly correlated with the probability of reporting for twelve indicators. Company size, however, has a much larger explanatory power.

This paper is structured as follows. Section 2 introduces the econometric specification, explains the GRI data set, and presents first summary statistics. Section 3 shows patterns of disclosure and reports the regression results focusing on the correlation between MNE status and the average disclosure rate overall and also by development category. Section 4 examines the correlation between MNE status and the likelihood of reporting economic, labor and social, environmental, and governance indicators at the detailed indicator level. Finally, section 5 summarizes the results and concludes.

2. ECONOMETRIC MODEL AND DATA

2.1 ECONOMETRIC SPECIFICATION

A company i 's propensity of disclosing information on a certain sustainability indicator, $disclosure$, can be defined as:

$$Pr(disclosure_{isc} = 1) = Pr(\alpha + \beta firm_{isc})$$

where α designates the constant and $firm$ firm-level characteristics, while subscript c denotes countries and s sectors. $disclosure$ takes the value of 1 if a company discloses information (entirely or in part), and 0 if not.

We focus on the following estimation equation:

$$disclosure_{isc} = \alpha + \beta firm_{isc} + D_{cs} + \varepsilon_{isc}$$

where D_{cs} denotes country-sector fixed effects and ε_{isc} the idiosyncratic error term.

The equation is specified as follows:

$$disclosure_{isc} = \alpha + \beta_1 MNE_{isc} + \beta_2 large_{isc} + D_{cs} + \varepsilon_{isc} \quad (1)$$

where MNE is a dummy which equals 1 if the company is multinational, and 0 otherwise; and $large$ a dummy which equals 1 if the company has at least 250 employees, and 0 otherwise. The company-level dummies are computed based on the 2015 GRI data set which is described in more detail in section 2.2.

Since the propensity of disclosure is only available at the detailed indicator-level, we use the average disclosure rate, DR , in some specifications which is the average across all 54 indicators and can range from [0,1]. The specification in equation (1) changes to:

$$DR_{isc} = \alpha + \beta_1 MNE_{isc} + \beta_2 large_{isc} + D_{cs} + \varepsilon_{isc} \quad (2)$$

We also calculate the average disclosure rate by development category—economic, labor and social, environmental, and governance—and sub-categories thereof.

Finally, we assess if the impact of MNE status on the disclosure rate varies for different types of MNEs. We therefore interact a *type*, *type*, with the MNE indicator:

$$DR_{isc} = \alpha + \beta_1 MNE_{isc} + \beta_2 large_{isc} + \gamma_1 MNE_{isc} * type_{isc} + type_{isc} + D_{cs} + \varepsilon_{isc} \quad (3)$$

where *type* captures the type of MNE under investigation. The overall effect for an MNE type is $\beta_1 + \gamma_1$.

2.2 GLOBAL REPORTING INITIATIVE DATA

GRI has pioneered sustainability reporting since the late 1990s and provides the world’s most widely used framework for sustainability reporting and disclosure. GRI has actively collected sustainability reports for almost 20 years and now has a repository of over 35,000 reports issued by nearly 10,000 firms which have mainly followed the GRI framework. By 2013, 80 percent of the largest 100 companies in more than 40 countries were using the GRI Sustainability Reporting Guidelines⁴ as the basis for their reporting, and there were nearly 30 policy and regulatory references to GRI. GRI reporting is still voluntary and not certifiable and is based on self-declaration.

Our analysis is based on a selection of 2,020 corporate sustainability reports published in the year 2015 and that are based on the G4 version of the GRI Sustainability Reporting Guidelines. We selected a set of 54 of G4’s Specific Standard Disclosures which are disclosures on management approach and indicators that align with our identified Inclusive Development Targets (Appendix 1) to examine in particular. The GRI Guidelines organize Specific Standard Disclosures into three categories, namely economic, social, and environmental.⁵ Only Specific Standard Disclosures related to identified material aspects⁶ for firms are expected to be disclosed in a G4-based report.

The economic dimension of sustainability concerns the firms’ impacts on the economic conditions of their stakeholders, and on economic systems at the local, national, and global levels. The economic impact content of G4 contains information along four dimensions: economic performance, market presence, indirect economic impacts, and procurement practices.

- Economic performance variables cover the direct economic value generated and distributed, financial implications and other risks and opportunities for the organization's activities due to climate change, coverage of the organization's defined benefit plan obligations, and financial assistance received from governments.

⁴ In October 2016, the G4 Sustainability Reporting Guidelines were superseded by the GRI Sustainability Reporting Standards. The GRI Standards – which include the majority of disclosures from G4 – will be required for all reports or other materials published on or after July 1, 2018.

⁵ See <https://g4.globalreporting.org/specific-standard-disclosures/Pages/default.aspx> for more background information.

⁶ The reporting principles for defining report content have been designed to assist organizations in identifying material aspects and their boundaries and to indicate where their impacts may be identified as material. The information reported for each identified material aspect can be disclosed.

- Market presence variables focus on the ratios of standard entry level wage by gender compared to local minimum wage, and the proportion of senior management hired from the local community at significant locations of operation.
- The firms' indirect economic impact is captured by the development and impact of infrastructure investments and services supported, as well as significant indirect economic impacts.
- Finally, procurement practices are measured by the proportion of spending on local suppliers at significant locations of operation.

The social category of the Guidelines is further divided into four sub-categories, which are labor practices and decent work, human rights, society, and product responsibility.⁷ In this analysis, the first two sub-categories are combined into the category labor and social impacts:

- Labor practices and decent work include measures on employment, labor/management relations, occupational health and safety, training and education, diversity and equal opportunity, equal remuneration for women and men, supplier assessment for labor practices, and labor practices grievance mechanisms.
- The human rights section covers variables related to investment, non-discrimination, freedom of association and collective bargaining, child labor, forced or compulsory labor, security practices, indigenous rights, supplier human rights assessment, and human rights grievance mechanisms.

The sub-category society deals with governance issues:

- The measures on society cover aspects of local communities, anti-corruption, public policy, anti-competitive behavior, compliance, and grievance mechanisms for impacts on society.

Finally, there are disclosures on the environmental impact which are organized along several aspects, including, among others:

- Materials: type of materials used and percentage of recycled input materials;
- Energy: energy consumption inside and outside the organization, energy intensity, and reduction of energy consumption and energy requirements;
- Water: water withdrawal, water sources affected, and water recycled and reused;
- Biodiversity: impacts on biodiversity, habitats restored;
- Emissions: direct and indirect greenhouse gas emissions, green gas emissions intensity, and reduction of greenhouse gas emissions;
- Effluents and waste: water discharge, spills, hazardous waste, and impacts thereof;
- Compliance: fines and non-monetary sanctions for non-compliance with environmental laws and regulations;
- Transport: environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce;
- Environmental grievance mechanisms: grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms.

⁷ The sub-category product responsibility deals with the impact of products and services on stakeholders, especially customers (i.e. customer health and safety, product and service labeling, marketing communications, customer privacy, and compliance), but does not align with the Inclusive Development Targets (Appendix 1) and is thus not included.

Interestingly, the social and environmental sections contain supplier assessments which look at the labor, human rights, environmental, and societal impacts at the supplier levels. This information allows to specifically take into account sustainability issues in the supply chains of multinationals.

This analysis focuses on those measures of the inclusive development targets (Appendix 1) that are fully or partially captured by GRI measures. The disclaimers are as follows:

- The information is taken from the G4 Reports with a declared “in accordance” option⁸ that have been included in the GRI Sustainability Disclosure Database.
- G4 Reports are sustainability/integrated reports based on the GRI G4 Sustainability Reporting Guidelines for which there is a GRI Content Index available.
- When analyzing these G4 Reports, only the reporting claims made in the GRI Content Index have been taken into account; further information such as assurance statements, content of the report, etc., has not been analyzed.
- The sample size: 2,020 G4 reports published in 2015, from 81 countries, located in six world regions, with “in accordance” options Core and Comprehensive (see footnote 7).⁹
- The data available in the database are collected by GRI in collaboration with its data partners and capture all reports of which GRI is aware.

While GRI collects meta-data about sustainability reports, it has not manually extracted actual reported information (e.g., numbers, percentages, answers) from the reports. Our analysis, thus, has to be based on whether or not companies have disclosed any information on their economic, social, environmental and governance impacts and, by definition, uses binary variables.

This analysis focuses on firms that entirely or partially report information. Table 1 lists the 12 different response options in the second column as constructed by GRI. Following GRI’s suggestion, they can be aggregated up into five response categories (first column). The average distribution across all 54 indicators suggests that most responses fall under the categories “reported entirely” (42.5%) and “not addressed” (53.1%), while less than 5% of disclosures fall into other response categories (last column). The focus of this analysis is on the percentage of firms that entirely or partially disclosed any information.

A higher disclosure rate for certain types of firms could reflect both voluntary and mandatory disclosures. First, firms could have an incentive to voluntarily disclose some type of information, e.g. because they follow a corporate social responsibility (CSR) business model or because this is common practice for their industry, region or type of firm. Second, firms could also disclose information because it is mandatory, i.e. regulations require them to report certain issues which, again could be sector-, region, or type-specific.

⁸ The “in accordance” system is a way that firms can indicate the degree of alignment they have with the GRI Guidelines (as of October 19, 2016 Standards). It also is an indication of breadth of transparency, i.e. if more or fewer indicators are reported. There are many reports that do not self-declare one of these “core” or “comprehensive” options, but do report against GRI metrics and/or use a GRI content index. GRI has introduced a new option “GRI-referenced claim” in the new GRI Standards to allow these firms to more accurately declare their use of the Standards.

⁹ The full 2015 data set as of January 19, 2017 contains 5,748 sustainability reports.

Table 1: Response categories and average distribution across 54 indicators, %

Response category	Options included	Description	%
Reported entirely	A Reported	A reference/direct answer for the Standard Disclosure is given in the Index.	31.1%
	B Reported (*)	Same as above. The disclosure is marked as assured according to the Content Index of the report.	11.4%
Reported in part	C Partially - with RfO	A Disclosure is marked as partially reported and a reason for omission for partial reporting has been provided.	0.5%
	CC Partially - with RfO (*)	Same as above. The disclosure is marked as assured according to the Content Index of the report.	0.4%
	D Partially -w/o RfO	A Disclosure is marked as partially reported and no reason for omission for partial reporting has been provided.	1.0%
	DD Partially -w/o RfO (*)	Same as above. The disclosure is marked as assured according to the Content Index of the report.	0.2%
Addressed via a reason for omission	F Not Applicable	The relevant information is not disclosed, but a reason for omission along the lines of not applicable is given.	0.8%
	G Unavailable	The relevant information is not disclosed, but a reason for omission along the lines of the information is not available is given.	0.4%
	H Legal Prohibitions	The relevant information is not disclosed, but a reason for omission along the lines of there are legal restrains for disclosing this is given.	0.0%
	I Confidential	The relevant information is not disclosed, but a reason for omission along the lines of the information is confidential is given.	0.1%
Not addressed	E Not Addressed	The disclosure is missing from the index. The disclosure has been marked as “not material” in the Index. Reference: Online (without link or any further specification) “A disclosure in line with the GRI requirements is not possible...” No page number or any other reference.	53.1%
Blank cell	Blank cell	The information provided in the index for this particular Disclosure was hard to interpret (for example, disclosure is marked as ‘not reported’ and a direct answer has been given).	1.1%

By contrast, a lower disclosure rate for certain types of firms, especially MNEs, reflects that that the information is not material, but could also include circumstances where firms are holding back specific information although the metric was determined to be material. Our analysis finds that only a very small share of firms that does not disclose information on some indicator also states the underlying reason for omission, including not applicable, unavailable, legal prohibition, and confidential. The majority of firms that omit information do not address the underlying reason in their reports (see also Table 1). While this reflects that the information is not material, this category could also include circumstances where a metric was determined to be material by the company, but is still not disclosed, for example because specific information could be negatively associated with the company.

2.3 SUMMARY STATISTICS

Table 2 shows the summary statistics by firm “size.”¹⁰ The data set contains 2,020 companies, 59% of which are large companies that have at least 250 employees, a turnover of at least 50 million euros or a balance sheet exceeding 43 million euros. Of these, 30% are multinational enterprises which have the same characteristics plus engage in multinational activity. Only 11% of the data set are small and medium-sized enterprises (SMEs) with fewer than 250 employees and a turnover of 50 million euros or less or a balance sheet of 43 million euros or less.¹¹

Table 2: Distribution of companies by company size

Size	Obs	%
Large	1,200	59%
MNE	601	30%
SME	219	11%
Total	2,020	100%

Table 3 shows the distribution of companies by organization type for all companies, and also by firm “size”. While three-quarters of the companies (76.3%) are private, i.e. they are owned either by a non-governmental organization or by a number of stakeholders, this share reaches almost 90% for MNEs. Another 7% of MNEs are subsidiaries, i.e. they are controlled by another company through the ownership of 50% or more of the voting stock, while only 3% are state-owned. The share of state-owned enterprises is considerably higher for large companies and SMEs.

Table 3: Distribution of companies by organization type

Organization type	All		MNEs		Large		SMEs	
	Obs	%	Obs	%	Obs	%	Obs	%
Cooperative	33	1.6%	6	1.0%	20	1.7%	7	3.2%
Non-profit organization	51	2.5%	1	0.2%	18	1.5%	32	14.6%
Partnership	14	0.7%	2	0.3%	9	0.8%	3	1.4%
Private company	1,541	76.3%	530	88.2%	882	73.5%	129	58.9%
Public institution	51	2.5%	2	0.3%	39	3.3%	10	4.6%
State-owned company	180	8.9%	18	3.0%	135	11.3%	27	12.3%
Subsidiary	150	7.4%	42	7.0%	97	8.1%	11	5.0%
Total	2,020	100.0%	601	100.0%	1,200	100.0%	219	100.0%

Table 4 shows the distribution of firms by sector. Of the large firms, 17% are specialized in financial services, while this sector plays a smaller role for MNEs (11.5%) and SMEs (9.1%). And while the energy sector represents the second largest sector for large firms (8.7%), this is not the case for MNEs (4.7%). By contrast, 9.3% of all MNEs are in technology hardware, while this share drops to only 1% for large firms and SMEs. Food and beverages plays a major role across all firms, in particular SMEs (8.2%) and MNEs

¹⁰ The variable “size” by GRI is somewhat misleading, as it combines information on both firm size and multinational activity. While large companies by definition do not engage in multinational activity, this cannot be guaranteed for SMEs. However, since the data set covers 81 countries, including many with lower- and middle-income status, the likelihood of SMEs engaging in multinational activity is low.

¹¹ GRI follows the standard definition of SMEs by the OECD: <https://stats.oecd.org/glossary/detail.asp?ID=3123>

(7.3%). The chemicals sector is equally important to MNEs (7.2%), but is smaller in the sample for large firms (4%) and SMEs (2.7%). Other relevant sectors for MNEs include telecommunications, real estate, construction materials, computers, and commercial services, with shares exceeding 3%.

Table 4: Distribution of firms by sector

Sector	All		MNEs		Large		SMEs	
	Obs	%	Obs	%	Obs	%	Obs	%
Agriculture	20	1.0%	6	1.0%	8	0.7%	6	2.7%
Automotive	52	2.6%	17	2.8%	27	2.3%	8	3.7%
Aviation	39	1.9%	5	0.8%	33	2.8%	1	0.5%
Chemicals	97	4.8%	43	7.2%	48	4.0%	6	2.7%
Commercial Services	49	2.4%	19	3.2%	21	1.8%	9	4.1%
Computers	26	1.3%	21	3.5%	5	0.4%		0.0%
Conglomerates	51	2.5%	17	2.8%	33	2.8%	1	0.5%
Construction	58	2.9%	13	2.2%	40	3.3%	5	2.3%
Construction Materials	50	2.5%	22	3.7%	25	2.1%	3	1.4%
Consumer Durables	13	0.6%	8	1.3%	5	0.4%		0.0%
Energy	145	7.2%	28	4.7%	104	8.7%	13	5.9%
Energy Utilities	79	3.9%	8	1.3%	69	5.8%	2	0.9%
Equipment	29	1.4%	14	2.3%	13	1.1%	2	0.9%
Financial Services	293	14.5%	69	11.5%	204	17.0%	20	9.1%
Food and Beverage Products	134	6.6%	44	7.3%	72	6.0%	18	8.2%
Forest and Paper Products	32	1.6%	3	0.5%	24	2.0%	5	2.3%
Health Care Products	31	1.5%	14	2.3%	16	1.3%	1	0.5%
Healthcare Services	38	1.9%	7	1.2%	26	2.2%	5	2.3%
Household and Personal Products	18	0.9%	7	1.2%	9	0.8%	2	0.9%
Logistics	48	2.4%	13	2.2%	30	2.5%	5	2.3%
Media	18	0.9%	5	0.8%	7	0.6%	6	2.7%
Metals Products	38	1.9%	12	2.0%	23	1.9%	3	1.4%
Mining	77	3.8%	15	2.5%	60	5.0%	2	0.9%
Non-Profit / Services	36	1.8%	1	0.2%	9	0.8%	26	11.9%
Other	128	6.3%	50	8.3%	53	4.4%	25	11.4%
Public Agency	38	1.9%	2	0.3%	30	2.5%	6	2.7%
Railroad	15	0.7%	1	0.2%	14	1.2%		0.0%
Real Estate	72	3.6%	23	3.8%	39	3.3%	10	4.6%
Retailers	35	1.7%	11	1.8%	20	1.7%	4	1.8%
Technology Hardware	71	3.5%	56	9.3%	13	1.1%	2	0.9%
Telecommunications	77	3.8%	23	3.8%	53	4.4%	1	0.5%
Textiles and Apparel	26	1.3%	7	1.2%	15	1.3%	4	1.8%
Tobacco	2	0.1%	1	0.2%	1	0.1%		0.0%
Tourism/Leisure	37	1.8%	14	2.3%	20	1.7%	3	1.4%
Universities	12	0.6%		0.0%	9	0.8%	3	1.4%
Waste Management	19	0.9%	2	0.3%	8	0.7%	9	4.1%
Water Utilities	17	0.8%		0.0%	14	1.2%	3	1.4%
Total	2,020	100.0%	601	100.0%	1,200	100.0%	219	100.0%

Table 5 shows the distribution of firms by world region. Two out of five MNEs are based in Asia (43.1%), while this share drops to a quarter for large firms (27.8%) and SMEs (26%). By contrast, the percentage of European firms is much lower for MNEs (28.1%) compared with SMEs (42%) and large firms (36.4%). Only 12.8% of MNEs are based on Northern America, while this percentage drops further for other types of firms. The share of large firms (23.4%) and SMEs (22.8%) in Latin America and the Caribbean, by contrast, is much higher compared to MNEs (10.8%). Oceania and Africa play a minor role for all firms.

Table 5: Distribution of firms by region

Region	All		MNEs		Large		SMEs	
	Obs	%	Obs	%	Obs	%	Obs	%
Africa	45	2.2%	10	1.7%	31	2.6%	4	1.8%
Asia	649	32.1%	259	43.1%	333	27.8%	57	26.0%
Europe	698	34.6%	169	28.1%	437	36.4%	92	42.0%
Latin America & the Caribbean	396	19.6%	65	10.8%	281	23.4%	50	22.8%
Northern America	175	8.7%	77	12.8%	86	7.2%	12	5.5%
Oceania	57	2.8%	21	3.5%	32	2.7%	4	1.8%
Total	2,020	100.0%	601	100.0%	1,200	100.0%	219	100.0%

Table 6 shows the distribution of firms by the country's income status. Half of the firms in the sample are based in OECD member states across types of firms. A third of all MNEs are located in non-OECD countries that do not receive development aid through the OECD Development Assistance Committee (DAC), while these shares are much smaller for large firms (14.3%) and SMEs (12.3%). Only 14.6% of MNEs are located in upper-middle-income countries which, however, are more relevant to large firms (27.3%) and SMEs (22.4%). Low-income and lower-middle-income countries play no role for MNEs, while a significant portion of SMEs is located in lower-middle-income countries (15.5%).

Table 6: Distribution of firms by country's income status

Income/Country status	All		MNEs		Large		SMEs	
	Obs	%	Obs	%	Obs	%	Obs	%
DAC-LDC	5	0.2%	2	0.3%	3	0.3%		0.0%
DAC-LMICT	136	6.7%	9	1.5%	93	7.8%	34	15.5%
DAC-OLIC	2	0.1%		0.0%	1	0.1%	1	0.5%
DAC-UMICT	465	23.0%	88	14.6%	328	27.3%	49	22.4%
Non-OECD / Non-DAC	401	19.9%	202	33.6%	172	14.3%	27	12.3%
OECD	1,011	50.0%	300	49.9%	603	50.3%	108	49.3%
Total	2,020	100.0%	601	100.0%	1,200	100.0%	219	100.0%

Note: OECD = Organisation for Economic Co-operation and Development, DAC = Development Assistance Committee, i.e. a country receives development aid through the OECD DAC, LDC = Least Developed Countries, LMICT = Lower Middle Income Countries and Territories, OLIC = Other Low Income Countries and Territories, UMIC = Upper Middle Income Countries and Territories.

3. MNE STATUS AND AVERAGE DISCLOSURE RATES

3.1 DISCLOSURE RATE PATTERNS

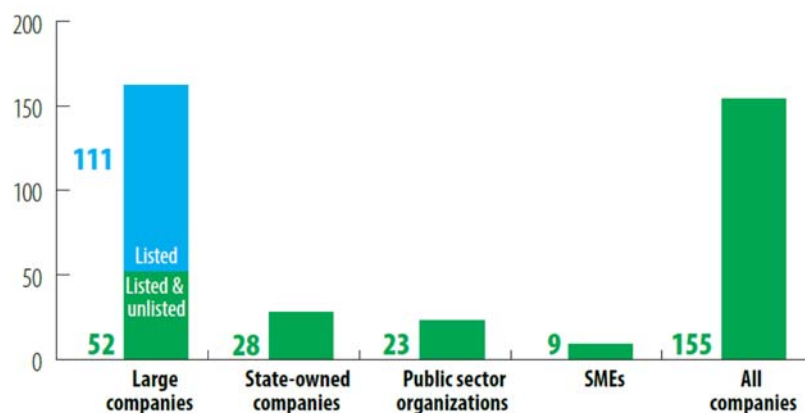
This section shows patterns of the average disclosure rate which is defined as the average disclosure across all 54 GRI indicators. The average disclosure rate can range from 0, i.e. if company discloses no information across all indicators, to 1, i.e. if a company fully or partially discloses information on all indicators.¹² Table 7 shows the average disclosure rate by company “size”. The average disclosure rate for all 2,020 companies in the data sample is 45.1%. MNEs show the highest average disclosure rate of 47.3% which is shortly followed by large domestic companies with a rate of 46.7%. That is, MNEs and large companies report on almost half of the 54 indicators. SMEs only show an average disclosure rate of 30.4%.

Table 7: Average disclosure rate, by company size

Size	Disclosure Rate
Large	46.7%
MNE	47.3%
SME	30.4%
Total	45.1%

Recent research by KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa (2016) identified 383 sustainability reporting instruments in 64 countries for 2016 versus 180 instruments identified in 44 countries in 2013. Figure 2 shows that reporting instruments mainly target large companies, while coverage of SMEs is very low. This finding forms the basis for the research question whether MNEs are more likely to disclose information on economic, social, environmental and governance issues.

Figure 2: Organizations covered by reporting instruments, 2016

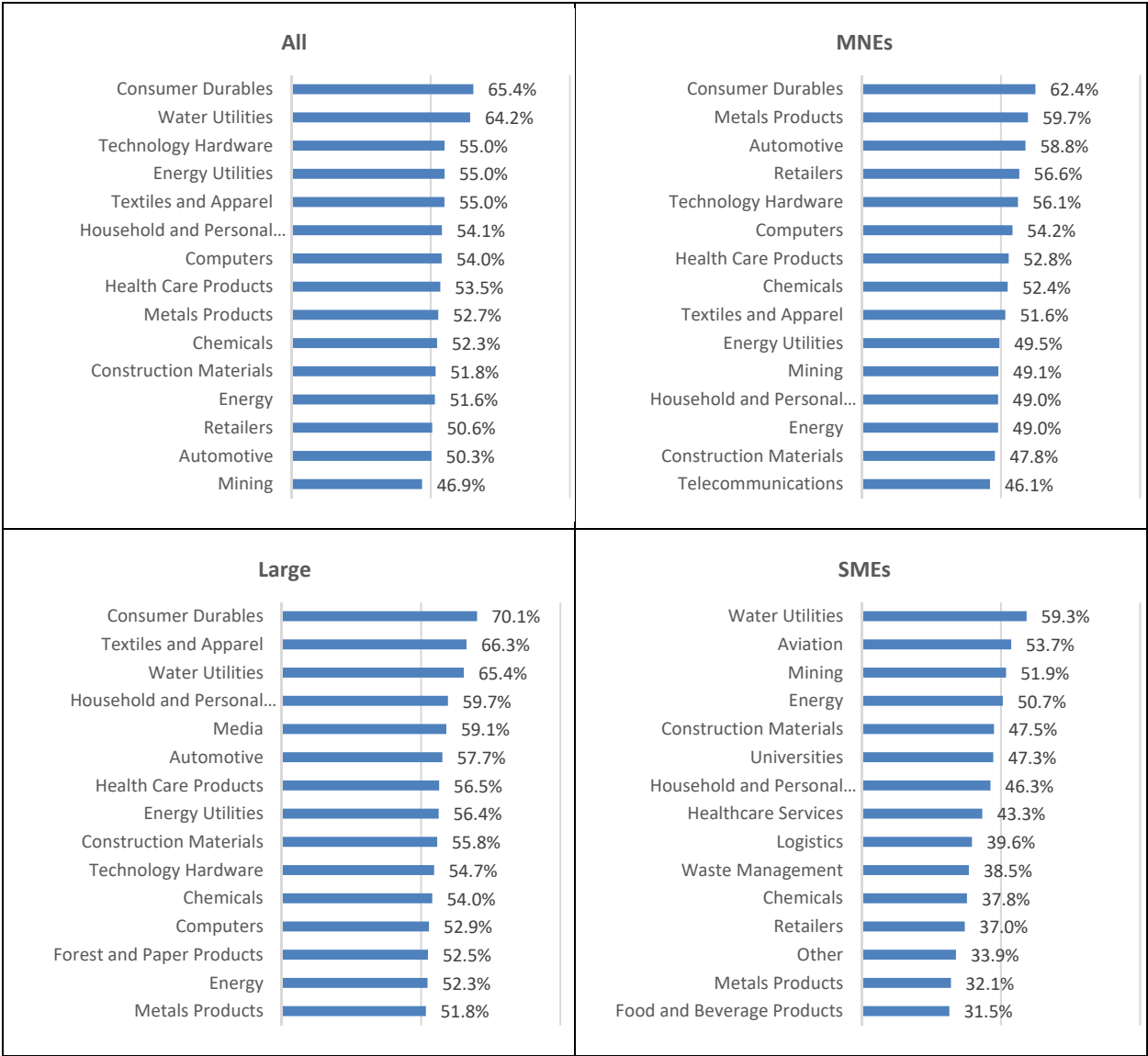


Source: KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa (2016, p. 10). See footnote 3 for definition of reporting instrument.

¹² Technically, a value of 1 can be assigned to companies that fully disclose information on all 54 indicators or that only partially disclose information on all 54 indicators. However, Table 1 reveals that on average companies tend to report fully rather than partially.

Figure 3 shows the average disclosure rate by company size for the 15 sectors with the highest disclosure rates. In the full sample, consumer durables show the highest disclosure rate of 65.4%. Consumer durables also show the highest disclosure rate for MNEs (62.4%) and large domestic companies (70.1%), but are not among the top 15 sectors for SMEs. The second highest disclosure rate in the full sample can be found in water utilities (64.2%) which is entirely driven by large domestic companies (65.4%), while this sector is not among the top 15 for MNEs and SMEs.

Figure 3: Average disclosure rate, by sector and company size



Note: See Appendix 2 for the full sector coverage.

Technology hardware, energy utilities and textiles and apparel show the third largest disclosure rate in the full sample (55.0% each). These are sectors with high disclosure rates for both MNEs and large domestic companies, but are not among the top 15 sectors for SMEs. While for MNEs disclosure rates are higher in technology hardware (56.1%) compared to textiles and apparel (51.6%) and energy utilities

(49.5%), textiles and apparel companies (66.3%) show much higher disclosure rates for large companies than energy utilities (56.4%) and technology hardware (54.7%).

Metals products (59.7%) show a much higher disclosure rate for MNEs than for large companies (51.8%), compared to only 32.1% for SMEs. The automotive sector, by contrast, shows a similar disclosure rate for both types of companies of around 58%. Interestingly, retail shows very high disclosure rates for MNEs (56.6%), but are not part of the top 15 for large companies. They only show a disclosure rate of 37.7% for SMEs. Computers, health care products, and chemicals each show a disclosure rate of over 50% for both MNEs and large companies, while computers and health care products are not represented among the top 15 sectors for SMEs and chemicals show a disclosure rate of only 37.8%. Other sectors with high disclosure rates for MNEs that are not part of the top 15 for large companies include mining and telecommunications. On the other hand, water utilities, media, forest and paper products and energy show high disclosure rates for large companies, but are not among the top 15 sectors for MNEs.

Table 8 shows the average disclosure rate by company type. Focusing on all companies, the summary statistics show that the average disclosure rate is highest for partnerships (53.7%), followed by private companies (46.2%). By contrast, it is lower than 40% for non-profit organizations and cooperatives. Among MNEs, private companies show the highest disclosure rate (48%), followed by partnerships (47.2%) and state-owned companies (45.1%). Among large domestic companies, partnerships (60.4%) show by far the highest disclosure rates, while among SMEs subsidiaries report on more indicators (45.6%).

Table 8: Average disclosure rate by organization type

Organization type	All	MNEs	Large	SMEs
Cooperative	39.6%	30.9%	45.6%	29.9%
Non-profit organization	31.7%	22.2%	38.2%	28.3%
Partnership	53.7%	47.2%	60.4%	40.1%
Private company	46.2%	48.0%	47.8%	28.4%
Public institution	41.7%	32.4%	42.9%	39.0%
State-owned company	42.0%	45.1%	43.5%	32.6%
Subsidiary	43.8%	43.0%	43.9%	45.6%

Table 9 shows the average disclosure rate by a company's region. Focusing on the full sample, companies in Oceania (36.3%) and Africa (40.8%) show lower disclosure rates. The finding is surprising since Australia and South Africa are the only representatives of their respective regions and both have at least ten reporting instruments in place as of 2016 (KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa 2016), while reporting instruments in the rest of Africa and Oceania are much less common. The disclosure rates are higher in Northern America (43.8%) and Europe (44.6%) and highest in Asia (46%) and Latin America and the Caribbean (46.9%) which seems to correspond to the higher number of reporting instrument in place in these regions.

Focusing on multinationals only, by contrast, shows a relatively comparable disclosure rate across regions which is around 45% in almost all regions except for Asia with an average disclosure rate of almost 50%. Among large domestic companies, the disclosure rate is lowest in Oceania (33.5%) and Africa (41.3%) and highest in Latin America and the Caribbean (49.5%). Among SMEs, companies only disclose information

on a third or a quarter of the indicators on average in most regions, while the disclosure rate is even lower in Oceania at only 15.3%.

Table 9: Average disclosure rate by region

Region	All	MNEs	Large	SMEs
Africa	40.8%	45.0%	41.3%	26.9%
Asia	46.0%	49.8%	46.5%	25.8%
Europe	44.6%	45.6%	47.0%	31.8%
Latin America & the Caribbean	46.9%	45.1%	49.6%	34.2%
Northern America	43.8%	45.4%	43.9%	32.8%
Oceania	36.3%	44.5%	33.5%	15.3%

Finally, Table 10 shows the average disclosure rate by a country's income status. Focusing on the full sample, the average disclosure rate is highest in non-OECD high-income countries (47.7%) and upper-middle-income countries (47.2%), which is surprisingly followed by least developed countries (47%). However, the latter category only includes four companies from Bangladesh and one company from Angola and is thus not representative. Surprisingly, companies in OECD countries show somewhat lower disclosure rates (44.1%). Other low-income (only Zimbabwe included) and lower-middle-income countries show the lowest disclosure rates. Among MNEs, the average disclosure rates exceed 45% across all income categories except for lower-middle-income countries (37.9%). Among large domestic companies, disclosure rates are lowest in the lowest income categories, while SMEs generally tend to show low disclosure rates except for SMEs based in non-OECD high-income countries (42.2%).

Table 10: Average disclosure rate by country's income status

Income/Country status	All	MNEs	Large	SMEs
DAC-LDC	47.0%	63.0%	36.4%	
DAC-LMICT	38.0%	37.9%	46.2%	15.2%
DAC-OLIC	13.0%		13.0%	13.0%
DAC-UMICT	47.2%	45.1%	49.6%	34.3%
Non-OECD / Non-DAC	47.7%	51.3%	43.7%	42.2%
OECD	44.1%	45.3%	46.0%	31.1%

Note: OECD = Organisation for Economic Co-operation and Development, DAC = Development Assistance Committee, i.e. a country receives development aid through the OECD DAC, LDC = Least Developed Countries, LMICT = Lower Middle Income Countries and Territories, OLIC = Other Low Income Countries and Territories, UMIC = Upper Middle Income Countries and Territories.

In sum, we find that MNEs and large companies show the highest disclosure rates in our sample, while disclosure rates of SMEs are substantially lower. Focusing on the 15 sectors with the highest disclosure rates, MNEs and large companies show a large overlap with some exceptions. Consumer durables show the highest disclosure rates for both types of companies. However, retail, mining, and telecommunications only show high disclosure rates for MNEs, but not for large companies. By contrast, water utilities, media, forest and paper products, and energy show high disclosure rates for large companies, but not for MNEs.

Focusing on different organization types, average disclosure rates are highest for private companies and partnerships both in the MNE and large company samples, while they are highest for subsidiaries in the

SME sample. The summary statistics also show that companies in Oceania and Africa show lower disclosure rates overall, while disclosure rates are similar across all regions for MNEs except Asia where companies tend to disclose more sustainability information. The findings also seem to suggest that average disclosure rates are lower in lower-income countries, although non-OECD high-income countries surprisingly show higher disclosure rates than OECD countries.

3.2 BASELINE REGRESSIONS AND CONTROLLING FOR MNE TYPE

Table 11 shows the results of the baseline regressions, as specified in equation (2) in section 2.1. The dependent variable is the total disclosure rate in natural logarithms, DR_{total} , defined as the average disclosure rate across all 54 indicators. GRI variables (DR_{total} , mne , $large$) refer to the year 2015. All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

MNE status, mne , has no effect on the total disclosure rate (column 1). The full specification in column (3) reveals that this is driven by company size, as MNEs tend to be larger. Large companies with at least 250 employees ($large$) show a significantly higher average disclosure rate compared to medium or small-sized companies (columns 2 and 3).

In a next step, we interact the mne dummy with a $private$ dummy to assess if the type of organization matters for the average disclosure rate (column 4). The regression follows the specification of equation (3) in section 2.1. MNE status now shows a negative and significant relationship with the average disclosure rate. The interaction term, however, indicates that private MNEs show a positive correlation, while non-private multinationals (i.e. cooperative, nonprofit organization, partnership, public institution, state-owned company, and subsidiary) show a negative correlation with the average disclosure rate.¹³

Table 11: Baseline regressions and controlling for MNE type, OLS

Dependent variable: DR_{total}_{isc}					
	(1)	(2)	(3)	(4)	(5)
mne_{isc}	0.0170 (0.361)		0.0017 (0.926)	-0.1191*** (0.009)	-0.0343 (0.345)
$large_{isc}$		0.1158*** (0.000)	0.1153*** (0.000)	0.1188*** (0.000)	0.1102*** (0.000)
$mne_{isc} * private_{isc}$				0.1419*** (0.003)	
$private_{isc}$				-0.0438* (0.052)	
$mne_{isc} * listed_{isc}$					0.0439 (0.289)
$listed_{isc}$					0.0248 (0.216)
$constant_{isc}$	0.6867*** (0.000)	0.5879*** (0.000)	0.5867*** (0.000)	0.6060*** (0.000)	0.6277*** (0.000)
Country-sector FE	Yes	Yes	Yes	Yes	Yes
R2	0.54	0.55	0.55	0.56	0.55
Observations	2,009	2,009	2,009	2,009	2,009

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$ (p-values in parentheses). Note: GRI variables refer to 2015. All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

¹³ The effect for private MNEs is given by the sum of the coefficients on mne_{isc} and $mne_{isc} * private_{isc}$, while the effect for non-private MNEs is given by the coefficient on mne_{isc} only.

By contrast, the results show no difference between stock-listed and unlisted MNEs (column 5). Figure 1 confirmed that reporting instruments target both listed and unlisted companies equally. We also interact the MNE variable with sector, region, and income dummies, but none of the individual or joint effects is statistically significant with the exception of MNEs operating in the computer industry whose interaction term with MNE status is positive. In other words, the relationship between MNE status and the average disclosure rate does not vary across sectors, regions, and income levels in our data sample.

3.3 DISCLOSURE RATE BY INDICATOR CATEGORY

In a next step, we assess if the results change for different development categories. Table 12 shows the baseline regressions using different types of disclosure rates as dependent variables. They are computed based on the average disclosure across all indicators in a specific development category. The four broad development categories are (i) economic (column 1), (ii) labor and social (column 2), (iii) environmental (column 6) and (iv) governance (column 10). The labor and social category is further subdivided into labor, social, and human rights impacts (columns 3 to 5). Environmental impacts can be further classified into energy-related, water-related, and other impacts (columns 7 to 9). For a list of indicators included in each of the categories, see Tables 13 to 16.

As for MNE status, we do not find a significant impact on the disclosure rate of any of the development categories. Large companies, by contrast, show higher disclosure rates across all development categories. Firm size has a larger explanatory power for environmental (columns 6, 7, 8) and governance indicators (column 10) compared to other indicators.

Table 12: Regressions by indicator category, OLS

Dependent variable: DR_{isc}										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Development category:	Econ	Lab&Soc	Labor	Social	Human	Environ	Env_Ener	Env_Water	Env_Oth	Govern
mne_{isc}	0.0275 (0.264)	0.0065 (0.757)	0.0013 (0.953)	-0.0353 (0.291)	0.0281 (0.272)	-0.0073 (0.717)	-0.0081 (0.743)	-0.0315 (0.227)	0.0085 (0.696)	0.0081 (0.741)
$large_{isc}$	0.0811** (0.019)	0.0928*** (0.003)	0.1004*** (0.002)	0.0841** (0.042)	0.0833** (0.018)	0.1361*** (0.000)	0.1817*** (0.000)	0.1181*** (0.001)	0.0985*** (0.001)	0.1276*** (0.000)
$constant_{isc}$	0.3915*** (0.000)	0.6375*** (0.000)	0.5347*** (0.000)	0.9512*** (0.000)	0.7219*** (0.000)	0.6104*** (0.000)	0.7153*** (0.000)	0.5134*** (0.000)	0.5596*** (0.000)	0.4892*** (0.000)
Country- sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.52	0.52	0.50	0.55	0.54	0.58	0.58	0.58	0.55	0.48
Observations	2,008	2,009	2,007	2,006	2,005	2,005	2,005	2,004	2,004	2,009

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$ (p-values in parentheses). Note: GRI variables refer to 2015, while GVC variables refer to 2011. All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

4. MNE STATUS AND THE PROBABILITY OF DISCLOSURE BY INDICATOR

In this section, we assess if multinational enterprises are different from non-multinationals with regard to their reporting patterns on economic, labor and social, environmental, and governance indicators at the detailed indicator level. In a first step, we show the percentage of reporting companies by indicator differentiating between MNEs, large companies and SMEs. In a second step, we show the correlation between MNE status and the likelihood of reporting by indicator, controlling for firm size and country-sector fixed effects in all regressions as specified in section 2.2 equation 1. All variables refer to the 2015 GRI indicators.

Indicators that show a statistically significant difference between MNEs and non-MNEs are highlighted in bold. A positive coefficient sign indicates that MNEs are more likely to report a GRI metric than non-MNEs, while a negative coefficient sign means their reporting probability is significantly smaller. Throughout the regressions firm size (*large*) explains a large share of the reporting differences, while only some of the indicators show statistically significant differences between MNEs and non-MNEs.

4.1 ECONOMIC INDICATORS

Figure 4 shows that across all economic indicators SMEs tend to underreport compared to large firms and MNEs. Large companies in some cases seem to report more on specific metrics, including the impact of infrastructure and indirect economic indicators (EC7). Firms across the board are more likely to report their value added than other economic indicators, especially indirect impacts. While 84% of MNEs report information on their value added creation and distribution (EC1), only half of MNEs indicate how much they spend on local suppliers (EC9), and 47.8% reveal their impact of infrastructure and services (EC7). Only 41.4% are willing to deliver information on indirect economic impacts (EC8) which is only marginally higher than for SMEs (37.4%), but much lower than for large firms (54.2%).

The regression analysis in Table 13, however, suggests that MNEs do not differ from non-MNEs in their likelihood to report on economic indicators, while firm size explains differences in reporting for two indicators. In particular, firm size shows a significant correlation with the probability of reporting on the impact of infrastructure and services (EC7) and on indirect economic impacts (EC8).

Figure 4: % of companies reporting on economic indicators, by subsample

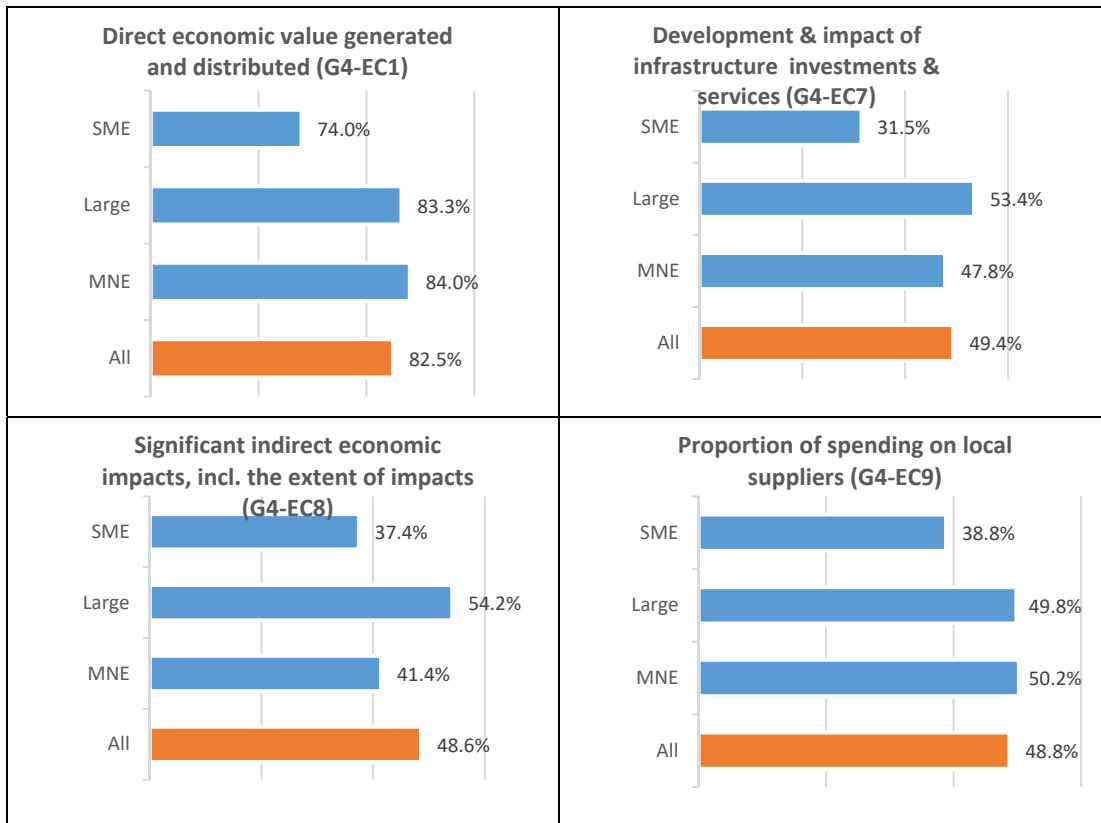


Table 13: Economic indicators, regressions, Probit model

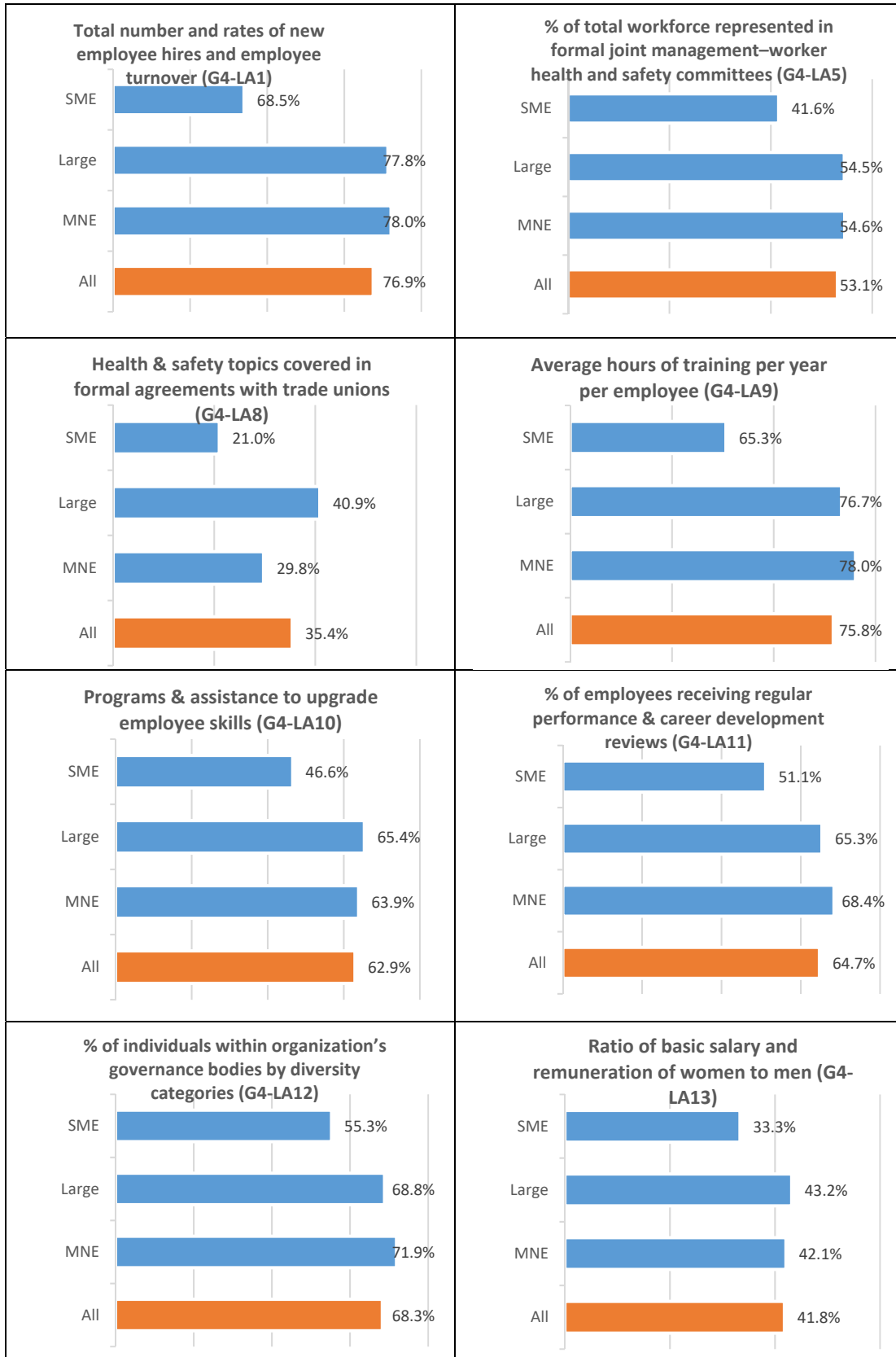
GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-EC1	Direct economic value generated and distributed	0.176	0.136	0.305	0.127
G4-EC7	Development and impact of infrastructure investments and services supported	0.173	0.106	0.588***	0.000
G4-EC8	Significant indirect economic impacts, including the extent of impacts	-0.032	0.763	0.272*	0.077
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	0.122	0.280	0.210	0.213

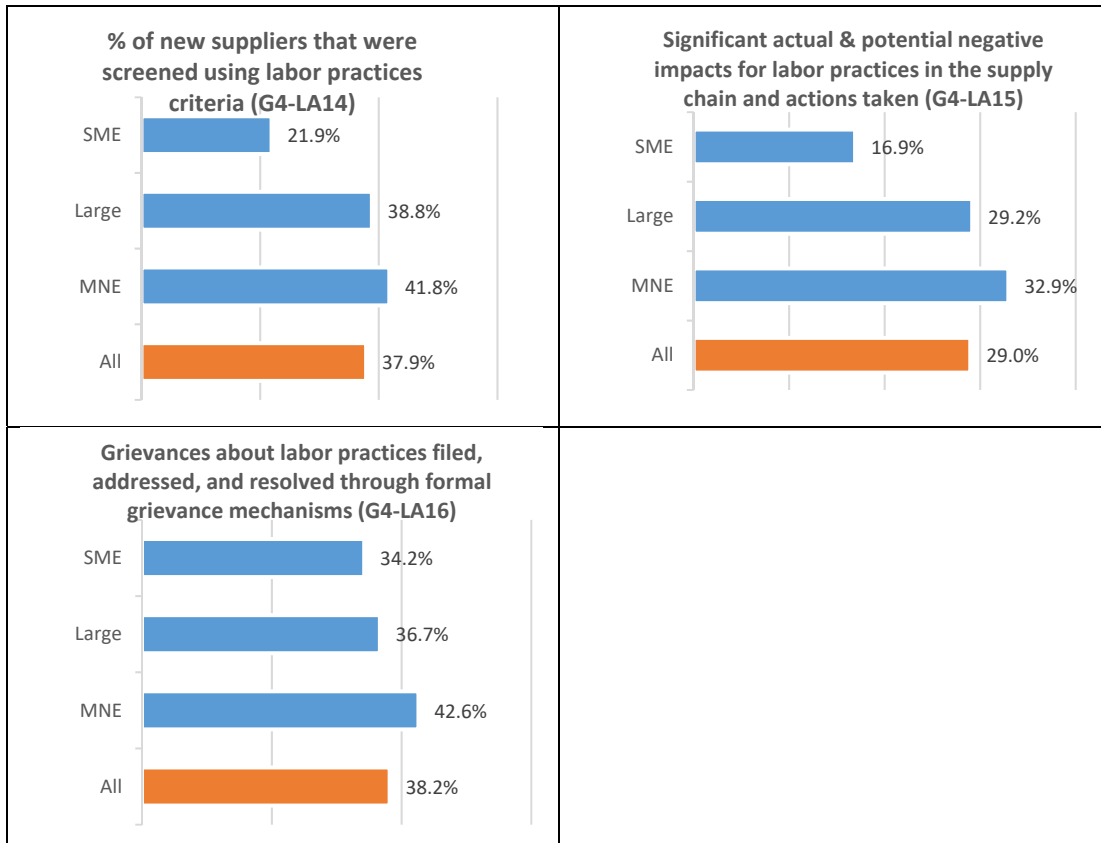
Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2). All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

4.2 LABOR AND SOCIAL INDICATORS

Figure 5 shows the share of companies reporting on labor indicators. A high percentage of firms across all types reports the number and composition of employees, amount of training, skills management, and career development. Of multinationals, 78% report the number and rates of new employee hires and employee turnover (LA1) and the average hours of training per year per employee (LA9), while almost 72% of MNEs reveal their composition of governance bodies and breakdown of employees per employee category (LA12). Around two-thirds of multinationals report information related to regular performance and career development reviews (LA11) (68%) and programs for skills management and lifelong learning (LA10) (64%). For these questions, MNEs and large firms show very similar percentages.

Figure 5: % of companies reporting on labor indicators, by subsample





Labor-related information with regard to wages, health and safety practices, and employment of local managers is provided less often across all firms, and a lower percentage of MNEs discloses information in these cases compared to large firms. The gender wage gap (LA13) is only reported by 42% of MNEs. The share of MNEs reporting health and safety topics covered in formal agreements with trade unions (LA8) is even lower (29.8%), while MNEs are more likely to reveal the share of local managers in their workforce (39%). The percentage of large firms reporting on these indicators is higher.

Similarly, labor practices of suppliers are disclosed less often across firms, but MNEs report slightly more. While multinationals tend to disclose less information on questions related to labor practices of suppliers with regard to supplier screening (LA14) (42%), negative impacts (LA15) (33%), and grievances filed, addressed, and resolved (LA16) (43%), large firms and SMEs both report even less.

The regression results shown in Table 14 indicate that MNEs are more likely to report the number of grievances about labor practices filed, addressed, and resolved (LA16). Figure 5 confirms that the significant difference in reporting between MNEs and non-MNEs found seems to be driven by lower reporting of both SMEs and large firms relative to MNEs. By contrast, MNEs are less likely to report on health and safety topics covered in formal agreements with trade unions (LA8). Figure 5 reveals that this is driven by higher reporting of large firms (40.9%) compared to SMEs (21%) and multinationals (29.8%).

We do not find a statistical difference in reporting patterns between MNEs and non-multinationals for other labor indicators. The underlying reason is that large firms and MNEs show very similar reporting patterns across most indicators, while SMEs tend to underreport (see Figure 3), so the real difference lies

between SMEs and non-SMEs. This is confirmed by the significant correlation between *large* and the likelihood of reporting across most labor indicators (Table 14).

Table 14: Labor indicators, regressions, Probit model

GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	-0.152	0.246	0.249	0.175
G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs	0.031	0.774	0.426***	0.009
G4-LA8	Health and safety topics covered in formal agreements with trade unions	-0.216*	0.061	0.546***	0.002
G4-LA9	Average hours of training per year per employee by gender, and by employee category	0.095	0.458	0.719***	0.000
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	-0.132	0.236	0.690***	0.000
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	0.020	0.854	0.296*	0.057
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	0.055	0.627	0.269*	0.096
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	0.026	0.813	0.246	0.122
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	0.011	0.922	0.703***	0.000
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	0.033	0.776	0.533***	0.005
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	0.229**	0.034	-0.016	0.919

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2). All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

Firms also tend to disclose little information on social and human rights issues (Figure 6). Less than one in four MNEs (22.6%) discloses information on whether investment agreements or contracts contain human rights clauses (HR1). The share is similar for operations subject to human rights review (25.5%) (HR9). The questions related to human rights of suppliers show similarly low disclosure as the corresponding questions on labor practices with regard to supplier screening (HR10) (39%), negative impacts (HR11) (29%), and grievances filed, addressed, and resolved (HR12) (37%). MNEs only disclose slightly more information on most human rights indicators than large companies. SMEs, by contrast, report less on all human rights indicators except for investment agreements and contracts that include human rights clauses or that underwent human rights screening where a larger percentage of large firms disclosed information.

The regression results in Table 15 show that multinationals are less likely to report their entry-level wages relative to local minimum wages (EC5) than non-multinationals. Only 35.1% of MNEs reveal their entry-level wage ratios, while this portion is higher for large firms (37.8%) (Figure 6). On the other hand, multinationals are more likely to report the total number and percentage of operations that have been subject to human rights reviews (HR9) (Table 15). Figure 6 confirms that MNEs show a higher coverage of respondents than large firms and especially SMEs. We do not find any statistically significant difference in reporting between MNEs and non-MNEs on other social and human rights indicators, while firm size and the likelihood of reporting show a significant relationship across most social and human rights indicators (Table 15).

Figure 6: % of companies reporting on social and human rights indicators, by subsample



Table 15: Social and human rights indicators, regressions, Probit model

GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	-0.231*	0.052	0.461***	0.007
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	-0.069	0.541	0.352**	0.038
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	0.026	0.834	0.707***	0.000
G4-HR3	Total number of incidents of discrimination and corrective actions taken	0.021	0.840	0.388**	0.015
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	0.270**	0.023	-0.012	0.948
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	0.067	0.557	0.397**	0.023
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	0.175	0.159	0.454**	0.026
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	0.127	0.283	0.366**	0.035

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2). All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

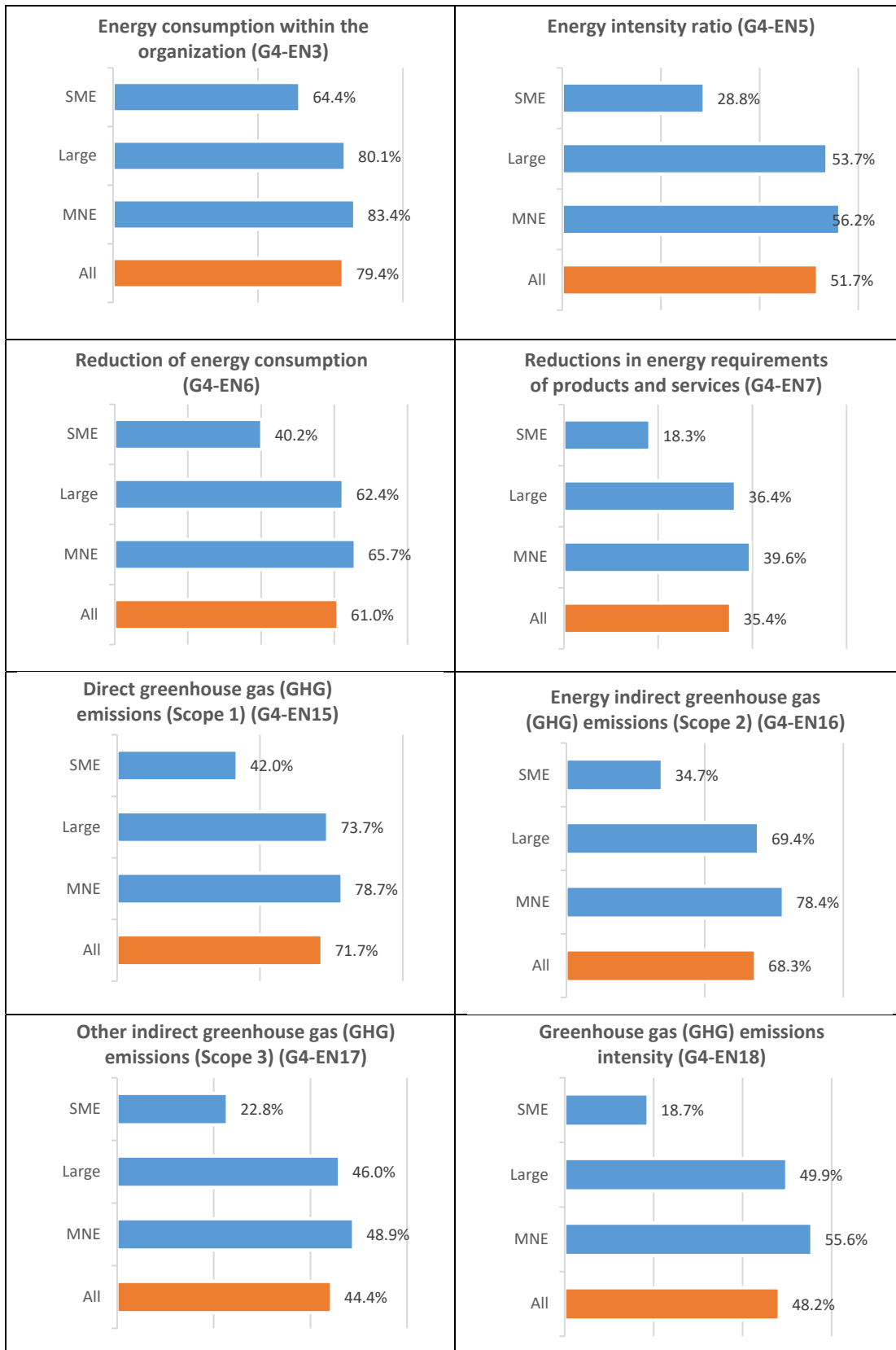
4.3 ENVIRONMENTAL INDICATORS

Regarding the disclosure of environmental indicators, a higher percentage of firms across the board reports on issues related to energy usage, and the average disclosure of MNEs is even higher than for other firms (Figure 7). The fraction of MNEs disclosing information regarding energy consumption within the organization (EN3) is very high (83.4%), while rates regarding energy intensity (EN5) (56.2%) and reduction of energy consumption (EN6) (65.7%) are somewhat lower.

Similarly, more firms tend to disclose information related to greenhouse gas emissions. Indicators related to direct and energy indirect greenhouse gas emissions (EN15 and EN16) show a disclosure coverage of 78% for MNEs, while disclosures related to other indirect greenhouse gas emissions (EN17), their intensity and reduction (EN18 and EN19) show somewhat lower disclosure shares of 48.9%, 55.6% and 61.7%, respectively. However, the difference between MNEs and large companies is very small.

The regression analysis in Table 16 shows that MNEs underreport with regard to reductions in energy requirements of products and services (EN7). Only 39.6% of MNEs disclose information, compared to 36.4% for large firms and 18.3% for SMEs (Figure 7). Firm size (large), by contrast, explains reporting differences across all energy-related environmental indicators (Table 16).

Figure 7: % of companies reporting on energy-related environmental indicators, by subsample



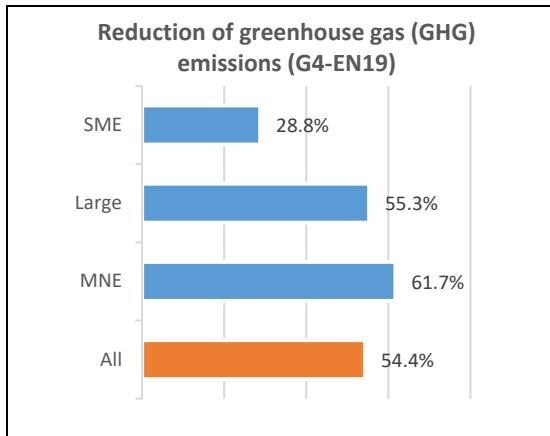


Table 16: Energy-related environmental indicators, regressions, Probit model

GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-EN3	Energy consumption within the organization	-0.125	0.304	0.514***	0.003
G4-EN5	Energy intensity	-0.114	0.297	0.680***	0.000
G4-EN6	Reduction of energy consumption	-0.044	0.687	0.371**	0.018
G4-EN7	Reductions in energy requirements of products and services	-0.208*	0.065	0.597***	0.001
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	0.077	0.532	0.917***	0.000
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	0.040	0.739	1.007***	0.000
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	0.059	0.596	0.823***	0.000
G4-EN18	Greenhouse gas (GHG) emissions intensity	-0.101	0.360	0.969***	0.000
G4-EN19	Reduction of greenhouse gas (GHG) emissions	0.110	0.299	0.660***	0.000

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2).

All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

Figure 8 focuses on the average disclosure on water-related environmental indicators. The analysis indicates that although more MNEs disclose information on the total water withdrawal by source (EN22) (46%), indicators related to water recycling and impacts of water usage show a much lower disclosure share. The share of MNEs disclosing their water sources significantly affected by withdrawal of water (EN9) is only 28%, that revealing the percentage and total volume of water recycled and reused (EN10) is 36%, and that reporting the identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff (EN26) is only 18%. MNEs seem to disclose less information on all these indicators than large firms.

Interestingly, the regression analysis suggests that multinationals show a significantly lower probability of revealing information related to water recycling and impacts of water usage on habitats and water sources than non-MNEs (Table 17). In particular, MNEs are less likely to disclose information on the percentage and total volume of water recycled and reused (EN10) as well as the identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff (EN26).

Figure 8: % of companies reporting on water-related environmental indicators, by subsample

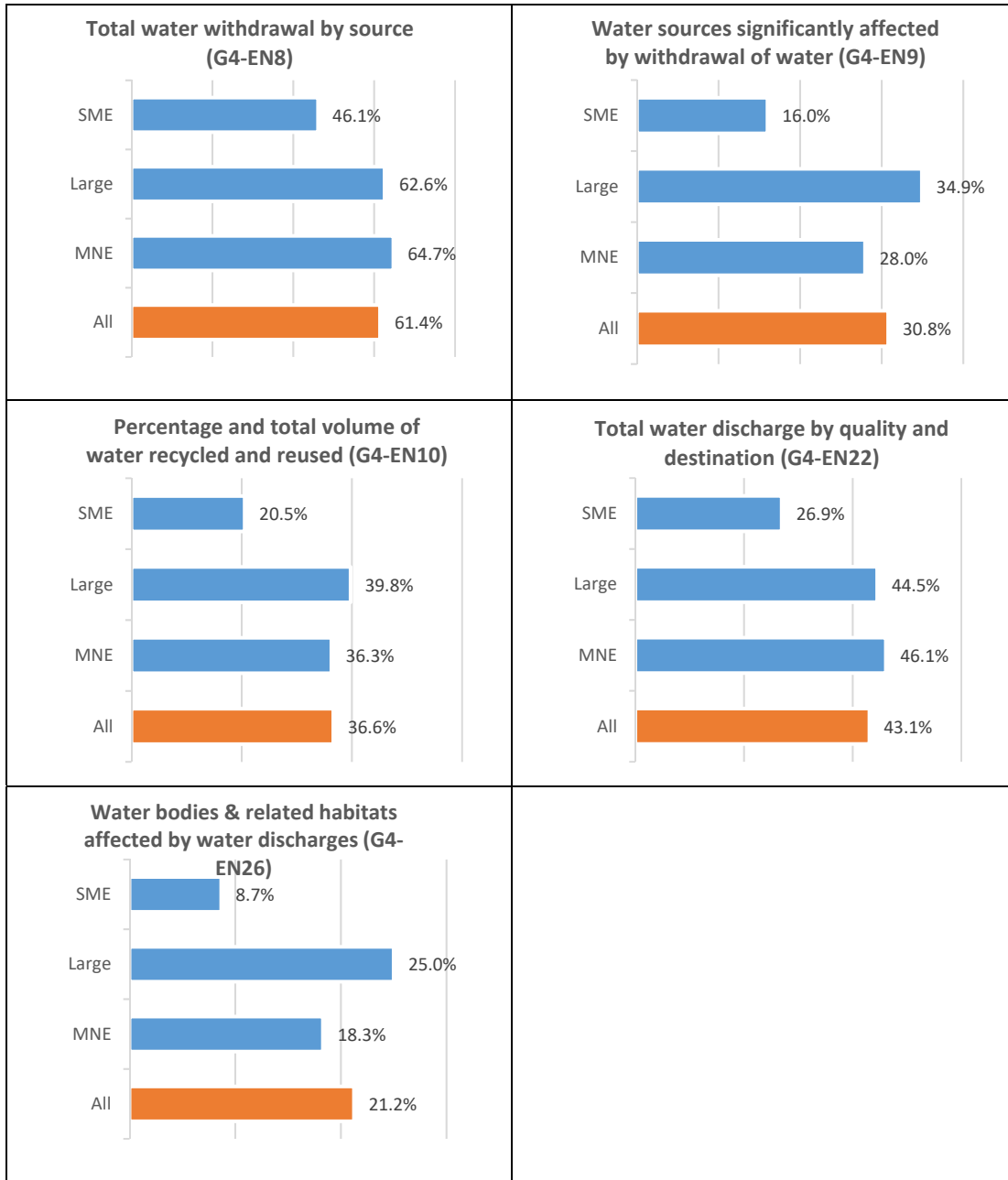


Table 17: Water-related environmental indicators, regressions, Probit model

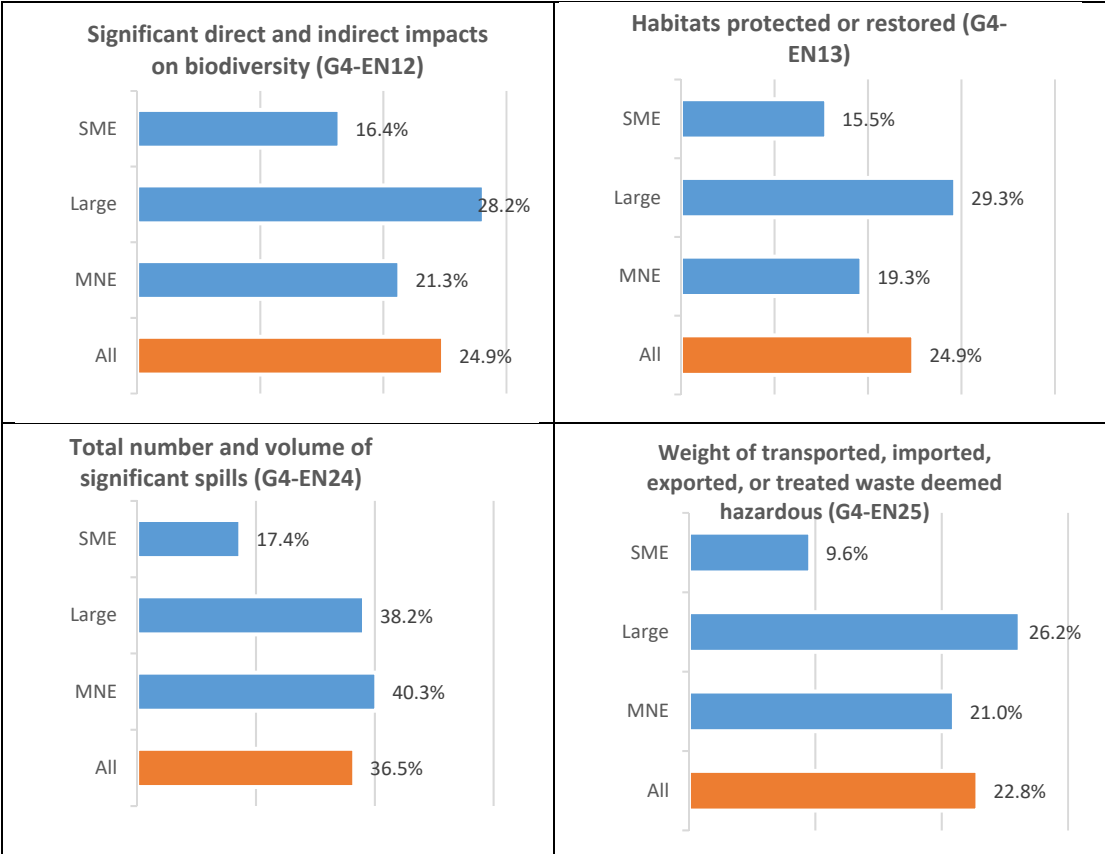
GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-EN8	Total water withdrawal by source	0.078	0.503	0.419**	0.011
G4-EN9	Water sources significantly affected by withdrawal of water	-0.181	0.147	0.699***	0.001
G4-EN10	Percentage and total volume of water recycled and reused	-0.305**	0.011	0.670***	0.000
G4-EN22	Total water discharge by quality and destination	0.017	0.888	0.472**	0.010
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	-0.378***	0.005	0.741***	0.001

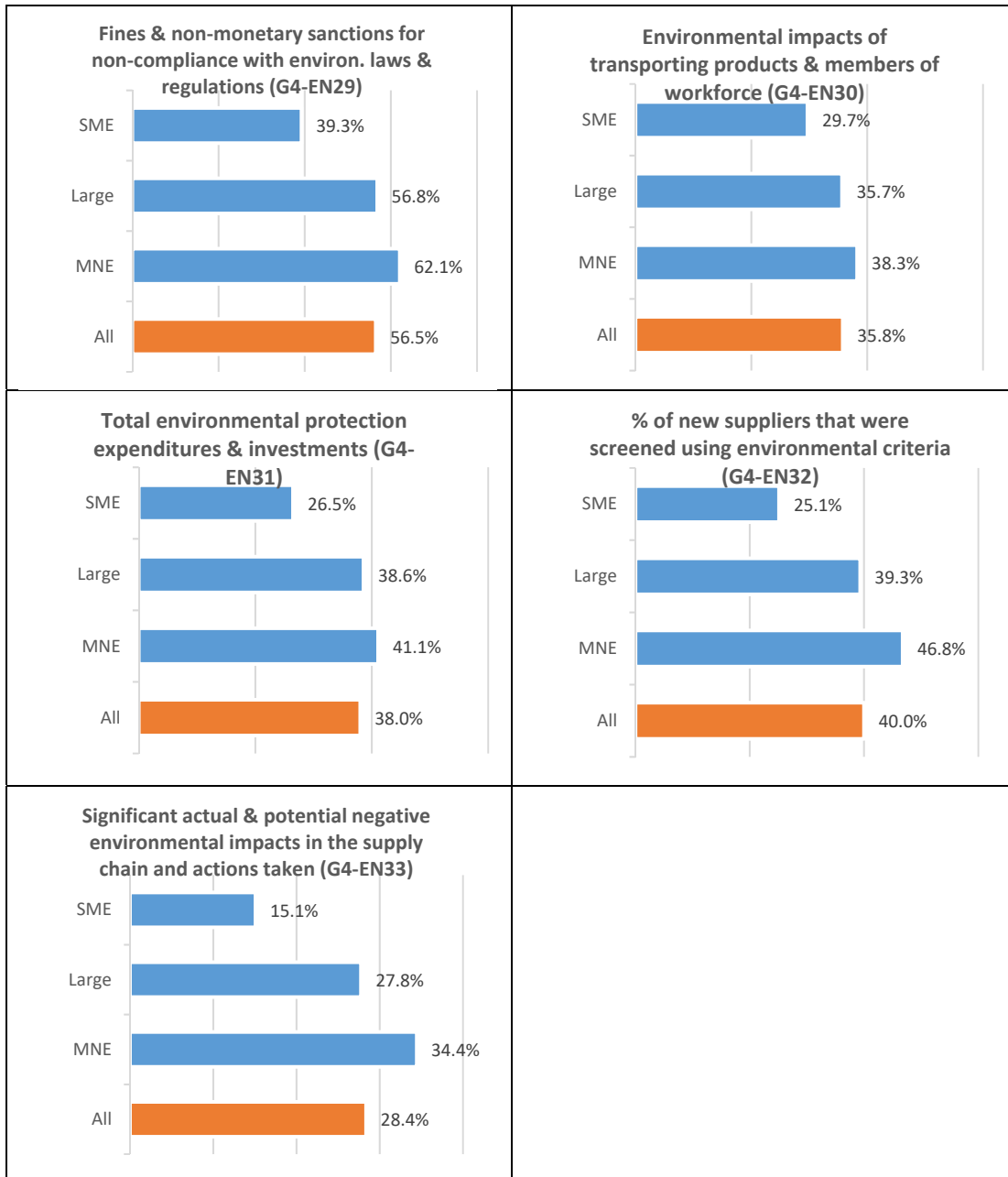
Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2). All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

Regarding other environmental indicators, a larger portion of MNEs discloses sanctions and fines for non-compliance, while disclosure on other indicators is lower (Figure 9). The average disclosure share of multinationals regarding the monetary value of fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations (EN29) is 62.1%. The average disclosure of MNEs is somewhat larger than for large firms and substantially larger than for SMEs.

In addition, while fewer firms disclose information on environmental indicators in the supply chain, MNEs report more information. The share of MNEs reporting significant environmental impacts of transporting products and other goods and materials for the organization’s operations, and transporting members of the workforce (EN30) is 38.3%, the share disclosing the percentage of new suppliers that were screened using environmental criteria (EN32) is 46.8%, and the share revealing significant actual and potential negative environmental impacts in the supply chain and actions taken (EN33) is 34.4%. Non-MNEs report less than MNEs and, as shown above, the difference between MNEs and non-MNEs is statistically significant.

Figure 9: % of companies reporting on other environmental indicators, by subsample





By contrast, a lower percentage of firms discloses information related to biodiversity, habitats, and hazardous waste – with MNEs reporting less than large firms. MNEs’ disclosure share on the description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas (EN12) and habitats protected or restored (EN13) were only 21.3% and 19.3%, respectively. Similarly, MNEs’ disclosure coverage on the weight of transported, imported, exported, or treated waste deemed hazardous, and the percentage of transported waste shipped internationally (EN25) was only 21%. In those cases, the share of large firms disclosing information was substantially higher.

Regression analysis suggests that the probability of MNEs reporting on environmental issues regarding their supply chain is significantly higher than for non-MNEs, as shown in Table 18. Multinationals are more likely to report on the percentage of new suppliers that were screened using environmental criteria (EN32), and negative environmental impacts in the supply chain and actions taken (EN33). We do not find any statistically significant difference between MNEs and non-MNEs and other environmental indicators.

Table 18: Other environmental indicators, regressions, Probit model

GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	-0.025	0.844	0.374*	0.071
G4-EN13	Habitats protected or restored	-0.082	0.521	0.442**	0.032
G4-EN24	Total number and volume of significant spills	-0.099	0.400	0.809***	0.000
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention (2) Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	-0.138	0.305	1.136***	0.000
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	-0.101	0.370	0.393**	0.016
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	0.173	0.114	0.212	0.186
G4-EN31	Total environmental protection expenditures and investments by type	0.032	0.785	0.309*	0.063
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	0.188*	0.080	0.436***	0.009
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	0.198*	0.092	0.455**	0.014

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2). All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

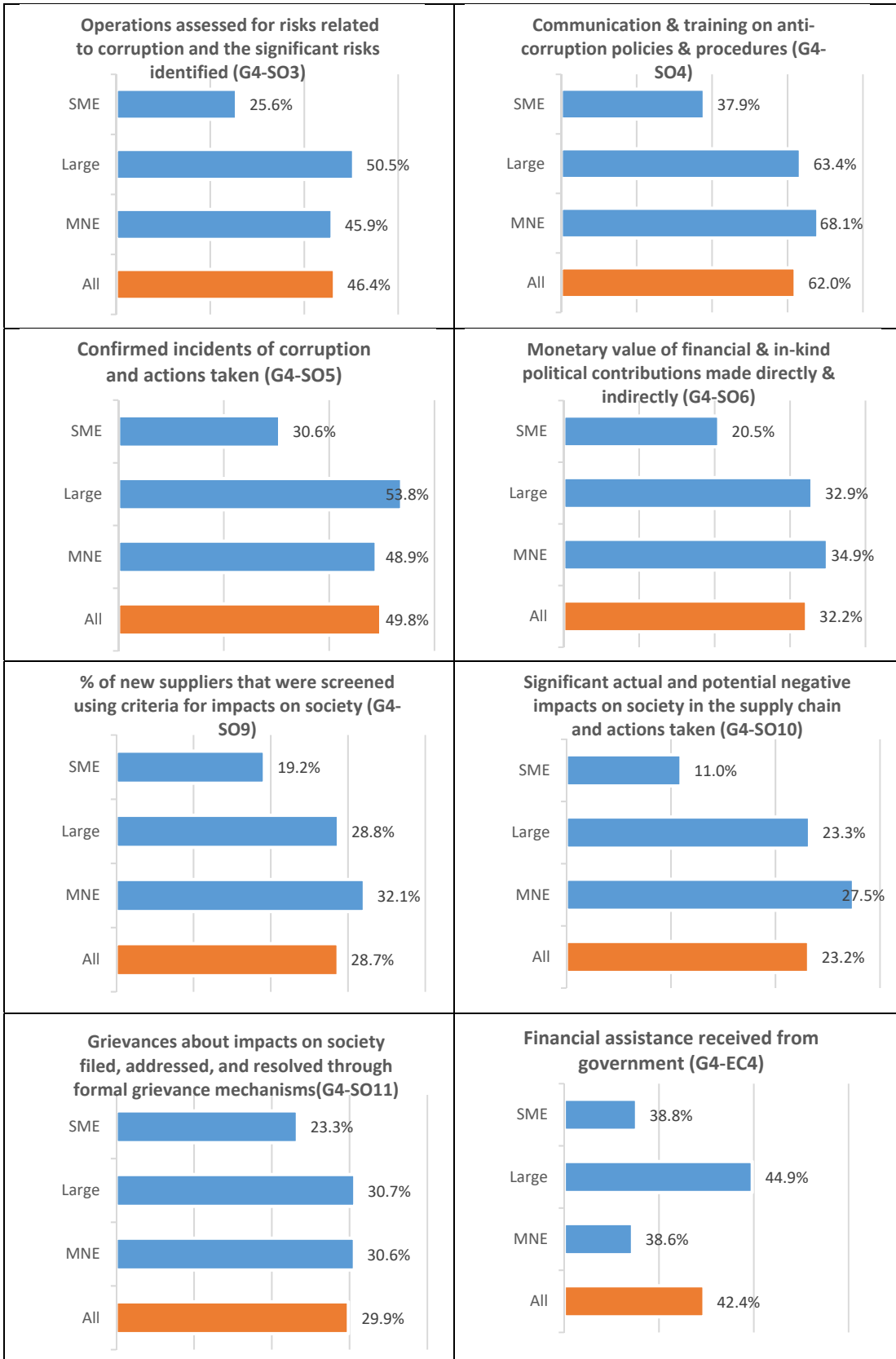
4.4 GOVERNANCE INDICATORS

In this section, we assess if multinational enterprises are different from non-multinationals in terms of their reporting patterns on governance. Overall, a higher portion of firms tends to report issues related to corruption (Figure 10). Of MNEs, 68.1% disclose information on communication and training on anti-corruption policies and procedures (SO4), 48.1% information on confirmed incidents of corruption and actions taken (SO5), and 45.9% on the total number and percentage of operations assessed for risks related to corruption and the significant risks identified (SO3).

Firms tend to disclose less information regarding political contributions made by firms and financial assistance received from governments. The disclosure share of MNEs on the total monetary value of financial and in-kind political contributions by country and recipient/beneficiary (SO6) is only 34.9%, and that on financial assistance received from government (EC4) is 38.6%. Interestingly, the reporting coverage of large firms is much higher for the latter indicator (44.9%).

Similarly, disclosure on societal impacts in the supply chain tends to be low, too. MNEs' disclosure share regarding the percentage of new suppliers that were screened using criteria for impacts on society (SO9) is only 32.1%, that on significant actual and potential negative impacts on society in the supply chain and actions taken (SO10) even lower at 27.5%, and that on the number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms (SO11) only 30.6%.

Figure 10: % of companies reporting on governance indicators, by subsample



Regression analysis in Table 19 confirms that multinationals are significantly more likely to disclose information related to anti-corruption initiatives and to reveal the value of political contributions than non-MNEs. Specifically, MNEs are significantly more likely to report the communication and training on anti-corruption policies and procedures (SO4). The probability of multinationals to disclose their total value of political contributions by country and recipient/beneficiary (SO6) is also significantly higher than for non-MNEs.

Table 19: Governance indicators, regressions, Probit model

GRI G4 Metric	GRI Indicator	MNE	p-value	Large	p-value
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	-0.050	0.646	0.969***	0.000
G4-SO4	Communication and training on anti-corruption policies and procedures	0.265**	0.014	0.810***	0.000
G4-SO5	Confirmed incidents of corruption and actions taken	-0.161	0.126	0.687***	0.000
G4-SO6	Total monetary value of financial and in-kind political contributions by country and recipient/beneficiary	0.210*	0.065	0.189	0.267
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	0.051	0.651	0.238	0.174
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	0.107	0.386	0.808***	0.000
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	0.126	0.284	0.255	0.148
G4-EC4	Financial assistance received from government	-0.272**	0.014	0.219	0.182

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.01$. Note: Variables refer to 2015 GRI data (see section 2.2). All regressions control for country-sector fixed effects. Standard errors are robust to heteroscedasticity.

By contrast, disclosure shares on financial assistance received from government and incidents of corruption and actions taken are significantly lower for MNEs than for non-MNEs. Multinationals are less likely to reveal if they received financial assistance from governments (EC4), and the difference is statistically significant. They also report less on confirmed incidents of corruption and actions taken (SO5) than non-MNEs. In both cases, the large firms disclose more (Figure 10).

5. SUMMARY OF RESULTS AND CONCLUSIONS

MNEs are not only different from other types of firms in terms of their engagement in GVCs, but also enjoy technological and other advantages and higher productivity rates. At the same time, MNEs are under increasing pressure to comply with international labor and HSE standards. As a result, the number of companies producing corporate sustainability reports has strongly increased within a relatively short amount of time. Sustainability reporting provides insights into priorities given by the private sector to certain sustainability issues. In addition, mandatory and voluntary sustainability reporting can be linked to better development outcomes.

This paper examined the role of MNEs in sustainability reporting. In particular, this study assessed how MNE status correlates with a company's disclosure rate and probability of reporting on economic, labor and social, environmental and governance indicators. It uses a unique data set that offers company-level information on sustainability reporting from the GRI which covers 2,020 companies in 81 countries and 54 sustainability indicators.

In summary, we find that MNEs and large companies show the highest average disclosure rates across all 54 indicators in our sample, while average disclosure rates of SMEs are substantially lower. Focusing on the 15 sectors with the highest average disclosure rates, MNEs and large companies show a large overlap with some exceptions. Consumer durables show the highest average disclosure rates for both types of companies. However, retail, mining, and telecommunications only show high disclosure rates for MNEs, but not for large companies. By contrast, water utilities, media, forest and paper products, and energy show high average disclosure rates for large companies, but not for MNEs.

Focusing on different organization types, average disclosure rates are highest for private companies and partnerships both in the MNE and large company samples, while they are highest for subsidiaries in the SME sample. The summary statistics also show that companies in Oceania and Africa show lower average disclosure rates overall, while average disclosure rates are similar across all regions for MNEs except Asia where companies tend to disclose more sustainability information. The findings also seem to suggest that average disclosure rates are lower in lower-income countries, although non-OECD high-income countries surprisingly show higher disclosure rates than OECD countries.

The econometric analysis focused on disclosure patterns of MNEs compared to other domestic firms. In a first step, the analysis studies if MNE status (explanatory variable) matters for the average disclosure rate across all 54 GRI indicators (dependent variable), but finds no effect. The study therefore assessed in a next step if the correlation between MNE status and the average disclosure rate varies by type of MNE. We find that the type of organization matters for the average disclosure rate. Private MNEs show a positive correlation, whereas non-private multinationals (i.e. cooperative, non-profit organization, partnership, public institution, state-owned company, and subsidiary) show a negative correlation with the average disclosure rate. By contrast, the relationship between MNE status and the average disclosure rate does not vary by listing status, sectors, regions, and income levels in our data sample.

In a second step, the study examined if the correlation between MNEs and the disclosure rate varies by type of development category under study. It differentiated between the average disclosure rate on economic, labor, social, human rights, environmental (energy-related, water-related, and other) and governance indicators, but does not find a significant relationship for any of these categories. In order to address the heterogeneity of the underlying indicators, this study applied a Probit model in a third step to assess how MNE status is related to the likelihood of disclosure at the detailed GRI indicator level. Overall, the study finds that MNE status is significantly correlated with the probability of reporting for 12 indicators.

The indicators showing a statistically significant correlation with the probability of reporting are summarized in Table 20. The analysis first finds that multinationals do not differ from non-MNEs in their reporting on economic indicators. Second, regarding labor and social indicators, multinationals are more likely to report grievances related to labor practices than non-MNEs as well as to disclose the total number and percentage of operations that have been subject to human rights reviews or impact assessments. By contrast, MNEs are less likely to report on health and safety topics covered in formal agreements with trade unions as well as on their entry-level wages relative to local minimum wages than non-multinationals.

Table 20: Significant indicators, regressions, Probit model

Indicator type	GRI G4 Metric	GRI Indicator	MNE	Large
Labor and social	G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	+	not sign.
	G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	+	not sign.
	G4-LA8	Health and safety topics covered in formal agreements with trade unions	-	+
	G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	-	+
Environmental	G4-EN32	Percentage of new suppliers that were screened using environmental criteria	+	+
	G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	+	+
	G4-EN7	Reductions in energy requirements of products and services	-	+
	G4-EN10	Percentage and total volume of water recycled and reused	-	+
	G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	-	+
Governance	G4-SO4	Communication and training on anti-corruption policies and procedures	+	+
	G4-SO6	Total monetary value of financial and in-kind political contributions by country and recipient/beneficiary	+	not sign.
	G4-EC4	Financial assistance received from government	-	not sign.

Source: Own calculations, based on Tables 14 to 19. Note: Variables refer to 2015 GRI data (see section 2.2).

Third, focusing on environmental indicators, the probability of MNEs reporting on specific environmental issues regarding their supply chain is significantly higher than for non-MNEs. By contrast, MNEs underreport with regard to reductions in energy requirements of products and services as well as information related to water recycling and impacts of water usage on habitats and water sources than non-MNEs. Finally, focusing on governance, multinationals are significantly more likely to disclose information related to anti-corruption initiatives and to reveal the value of political contributions than non-MNEs. By contrast, the probability of disclosure for financial assistance received from government is significantly lower for MNEs than for non-MNEs.

Several observations can be made. First, MNEs report more than non-MNEs on six indicators which can be grouped into three thematic areas, namely (i) indicators related to labor and human rights practices, (ii) indicators regarding the environmental impacts in the supply chain, and (iii) indicators related to corruption. This suggests that multinationals are targeted by specific sustainability reporting instruments such as the OECD Guidelines for Multinational Enterprises, in particular for those indicators for which company size has no explanatory power (indicators related to labor and human rights practices and monetary value of political contributions).¹⁴

Second, MNEs report less than non-MNEs on their wages or health and safety topics covered in formal agreements with trade unions. It is an established fact that multinationals are more productive than non-multinationals and thus are able to pay higher wages. It could therefore be possible that information related to wages or health benefits is not considered material by MNEs as their compensation and benefit

¹⁴ The OECD Guidelines for Multinational Enterprises are the most comprehensive set of government-backed recommendations on responsible business, providing voluntary principles and standards for responsible business conduct in areas such as employment and industrial relations, human rights, environment, information disclosure, combating bribery, consumer interests, science and technology, competition, and taxation (see <http://mneguidelines.oecd.org/about.htm>).

packages may be higher. Third, MNEs also tend to report less on national-level or geographically constrained issues, such as reductions in energy requirements, water usage, and financial assistance by the government. This may support an observation that has been made about multinationals struggling with breaking out their data at the national level. By contrast, issues like anti-corruption and greenhouse gas emissions may be managed globally and easier to track for MNEs.

Finally, the fact that MNE status shows a significant correlation with the likelihood of reporting for only 12 of 54 GRI indicators, while company size has a large explanatory power across most indicators, implies that large companies – which are often overlooked due to the policy focus on either MNEs or SMEs – are following the multinationals' lead in sustainability reporting. While some reporting instruments specifically target MNEs, e.g. the OECD Guidelines for Multinational Enterprises or a new regulation by the European Parliament from July 2015 to increase the transparency of the finances of multinational corporations including tax havens outside the EU,¹⁵ many instruments target large companies in general – whether they are multinational or not (see Figure 2). This is important as domestic companies are often suppliers to MNEs. Transparency about GVCs should not only be confined to multinationals due to their higher brand exposure.

Much promising ground for additional research remains. Our study suggests two areas for data improvements in particular. First, this paper highlights the role of MNE status in sustainability reporting patterns. Efforts to collect and harmonize the underlying information for various GRI indicators, rather than the status of disclosure only, would enrich the data set tremendously. The possibility to assess a variety of economic, labor and social, environmental and governance indicators – and their relationship with MNE status – would be particularly useful for policy makers. Such data would, for instance, allow to systematically assess the channels through which sustainability reporting affects actual development outcomes.

Second, GVCs have been identified as an entry point into vertically specialized industries for LMICs and means to upgrade. While MNE data give insights into certain aspects of GVC participation, data collection on sustainability reporting should be accompanied by efforts to collect and harmonize GVC integration measures at the company level. GVC participation measures at the company level would allow to measure if companies that are more strongly integrated into GVCs as buyers and/or sellers show a higher economic performance and how GVC integration affects labor practices and decent work, human rights, society, and the environment. Such data would also allow to analyze the relationship between economic and social upgrading through GVC participation and between other types of upgrading at the company level.

¹⁵ https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en#companies-that-must-comply

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Appendix 1: Inclusive development targets

To address major knowledge gaps about the contribution of the private sector to development goals, the World Bank Group in collaboration with the World Economic Forum has identified inclusive development targets (see Table below). They are better suited and more precise indicators of development impacts of the private sector, and specifically multinational enterprises (MNEs), than the Sustainable Development Goals (SDGs) for at least two reasons: (i) they better reflect the business realities of the private sector, including their efforts of capacity building and their development footprint, and (ii) are aligned with recent research on inclusive growth.¹⁶ These targets are classified into four categories, measuring the private sector impact on the economy, the society (including labor), the environment, and governance.

<p>Economic</p> <ul style="list-style-type: none"> • Innovation and business sophistication • Infrastructure and access to networks • Market access/exports • Finance/investment • Technological readiness <p>Social</p> <ul style="list-style-type: none"> • Education and skills • Decent employment, wages, benefits and working conditions • Health and basic services • Fight against discrimination and social exclusion • Asset building and entrepreneurship <p>Environmental</p> <ul style="list-style-type: none"> • Water resource management • Climate and energy • Biodiversity • Sustainable sourcing (other) <p>Governance</p> <ul style="list-style-type: none"> • Corruption and rents • Regulatory and institutional environment • Public sector performance • Taxation and transfers

¹⁶ Similar efforts linking targets designed for the private sector to the SDGs are underway, including by UN Global Compact and GRI in partnership.

Appendix 2: Average disclosure rate, by sector and size

Sector	All	MNEs	Large	SMEs
Agriculture	33.0%	43.5%	38.4%	15.1%
Automotive	50.3%	58.8%	57.7%	7.6%
Aviation	40.9%	45.9%	39.8%	53.7%
Chemicals	52.3%	52.4%	54.0%	37.8%
Commercial Services	36.2%	40.7%	39.6%	18.7%
Computers	54.0%	54.2%	52.9%	
Conglomerates	44.9%	40.1%	48.7%	1.9%
Construction	39.0%	44.0%	39.5%	22.4%
Construction Materials	51.8%	47.8%	55.8%	47.5%
Consumer Durables	65.4%	62.4%	70.1%	
Energy	51.6%	49.0%	52.3%	50.7%
Energy Utilities	55.0%	49.5%	56.4%	28.7%
Equipment	40.6%	41.8%	43.4%	14.8%
Financial Services	40.3%	42.7%	40.9%	25.3%
Food and Beverage Products	43.8%	43.9%	46.8%	31.5%
Forest and Paper Products	45.3%	24.1%	52.5%	23.7%
Health Care Products	53.5%	52.8%	56.5%	14.8%
Healthcare Services	44.0%	34.9%	46.6%	43.3%
Household and Personal Products	54.1%	49.0%	59.7%	46.3%
Logistics	45.4%	45.9%	46.1%	39.6%
Media	38.0%	33.0%	59.1%	17.7%
Metals Products	52.7%	59.7%	51.8%	32.1%
Mining	46.9%	49.1%	46.2%	51.9%
Non-Profit / Services	27.2%	31.5%	31.9%	25.5%
Other	39.4%	45.0%	36.7%	33.9%
Public Agency	40.8%	29.6%	43.7%	29.9%
Railroad	37.6%	24.1%	38.5%	
Real Estate	38.4%	36.8%	41.4%	30.9%
Retailers	50.6%	56.6%	50.0%	37.0%
Technology Hardware	55.0%	56.1%	54.7%	26.9%
Telecommunications	44.5%	46.1%	44.3%	22.2%
Textiles and Apparel	55.0%	51.6%	66.3%	18.5%
Tobacco	28.7%	33.3%	24.1%	
Tourism/Leisure	36.2%	43.6%	32.5%	26.5%
Universities	36.8%		32.9%	47.3%
Waste Management	40.6%	31.5%	45.1%	38.5%
Water Utilities	64.2%		65.4%	59.3%