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Navigating corporate responsibility in global supply chains using codes of conduct
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4 | Decoding codes: the content of codes of conduct[1]

ABSTRACT

This study analyzes supplier codes of conduct of multinational firms, with two main research objectives: (1) providing a description of supplier codes' content provisions, specifically focusing on the labor standards provisions included in these self-regulatory policies and (2) comparing code content across regions and sectors. What promises are formulated by MNEs when adopting their codes? To answer this question, the study uses hand-coding and novel text-as-data techniques for content analysis of a large sample of 880 codes of conduct. Results show that a standardized list of labor rights is included in up to 90% of codes regardless of their location or sector, drafted with a clear influence from internationally recognized standards, even though a minority of codes literally refer to international texts. However, codes' similarity is limited as they differ in length and extent to which they elaborate certain topics. This latter aspect is correlated with firms' location and the sector they operate in. The research demonstrates that European companies refer to the legal framework and international standards extensively, while American companies more often develop their corporate ethical values or focus on governance and their relationship with suppliers. It also empirically shows that companies evolving in reputation-sensitive sectors are developing more specific codes including more detailed labor provisions.

Key words: supplier codes of conduct; international labor rights; global supply chains; corporate self-regulation

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4.1   INTRODUCTION

The growing popularity of corporate self-regulation to address supply-chain issues puts Corporate Social Responsibility (CSR) and specifically codes of conduct at the center of attention when discussing the governance and regulation of global production networks. Studies from 2013 report that 95% of both Fortune US 100 and Fortune Global 100 companies have adopted or adhered to a code of ethics (Sharbatoghlie et al., 2013).[2] As per their definition, supplier codes of conduct (SCCs) include a set of prescriptions developed by the company intending to guide the behavior of their suppliers (Kaptein & Schwartz, 2007). Researchers investigating businesses' motivations to voluntarily adopt codes of conduct and commit to respecting a set of labor rights have identified multi-faceted reasons. These are: enhancing firms' reputation (Fombrun, 2001) preempting legal sanctions and responding to institutional demands (Parker, 2002), responding to civil society pressures (Spar & La Mure, 2003), managing their supply chain risk (Husted, 2005) and generating consumer loyalty and satisfaction (Bhattacharya and Sen 2001, 2004). Cruz (2013) considers that companies develop SCCs to mitigate their global supply chain network risks, including social risks. These relate to societal and environmental impacts of suppliers' activities, including the human and labor rights violations that may occur in global production networks. From these prior studies, we can conclude that SCCs are developed for multiple reasons and addressing different stakeholders, but few studies provide further insight on the distribution of companies' commitments. This paper focuses on how SCCs mitigate supply chains social risks, and more specifically investigates the commitments made by companies in their labor-related provisions. Considering the global regulatory gap of labor conditions in transnational activities, it is especially relevant to discuss whether corporate self-regulation aims to protect labor rights, or whether codes have the primary objective of enhancing firms' reputation, thus likely to constitute "window dressing".

When seeking the extent of companies' social commitments and their intentions in drafting SCCs, the "corpus" of the codes, as called by Béthoux et al. (2007), represents an important source of data. Since codes are drafted voluntarily by and for the company, the lexicon adopted in the codes and the content of the provisions included give us an insight on the social commitment of multinationals.[3] Previous text analysis studies have partially explored codes of conduct content, as highlighted by the review of Babri et al (2019). Among the content-oriented studies of codes of conduct, they identify the development of different approaches and methods,

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2   A code of ethics, as opposed to a supplier code of conduct, aims to regulate the behavior of a company's direct employees.

3   Drawing conclusions on corporate social commitments from the written codes of conduct statements is a method that was notably adopted by Chun (2017), who studied corporate ethical values as written in the codes.

for instance with the use of lexical software analysis (Béthoux et al., 2007). Studies specifically focusing on SCC labor conditions provisions are less frequent, a good example being the OECD report on 233 codes of conduct in 2001 which gave a decent overview of labor and environmental issues addressed, as well as a comparative analysis of codes' content across sector and country of origin. Béthoux et al. (2007) conducted a lexical software analysis to identify eight thematic categories discussed in the codes, the first and most prevalent topic being the regulation of working conditions. These two studies investigate both corporate codes of conduct and supplier code of conduct without making a clear distinction. The analysis conducted by Stohl et al. (2010) shows that codes' content is similar and corporate values and behaviors tend to converge as a result of globalization and the institutionalization of standards. Based on institutional theories (DiMaggio & Powell, 1991), some have argued that corporate behavior will align over time, coming together with a standardization of codes of conduct content (Schleper et al., 2013). It remains untested to what extent SCCs' content converges and is standardized, notably regarding references to labor rights.

The present research intends to "decode" codes of conduct using text analysis, notably to test their standardization levels, with three main additional values. First, this study deals exclusively with *supplier* codes of conduct, which regulate the activities of companies' external parties. Second, it uses the largest collection of SCCs to date and created for the purpose of this study, from companies located in 30 countries worldwide and operating in all sectors. Finally, this research employs a mix of traditional hand-coding and novel text-as-data techniques for content analysis, examining the synergies and complementarity of these methods. In addition to these differences with previous studies, it is worth noting that the current study focuses on SCCs' labor-related provisions, to reveal the extent to which companies commit to ensure proper working conditions throughout their global supply chains. Our goal is thus to perform the first global scale manual and computational analysis of supplier codes content stemming from the largest database of supplier codes developed, to answer the following over-arching question: to what extent are companies committed to protecting minimum labor standards when adopting codes of conduct and how do these commitments vary per regions and sectors?

This paper raises five specific research questions, systematically answered using four different text analysis methods, and is structured as follows. In section 2, we present the database and the sample of codes developed for this research. The third section analyzes the content of SCCs globally, with three research questions investigating code standardization, labor-related SCC content, and reference to international standards. The fourth section captures the differences in codes' contents per geographical locations of companies and their economic sector, answering the last two research questions. Lastly, section 5 interprets the results in context and gives an outlook on the future steps to be taken.

4.2   DATABASE OF CODES OF CONDUCT: THE SAMPLE STUDIED

We aimed to provide conclusions which could generalize to the world's largest multinational global firms conducting business transnationally, thus decided to focus on some of the most economically powerful corporations. This was done for three main reasons. Firstly, large companies operate in many countries, hence have the need and intentions to adopt SCCs and publicize efforts taken towards the regulation of supply chain labor conditions. Secondly, those companies are likely to experience the pressures and challenges of globalization (Stohl et al., 2009), thus are relevant to study when discussing global governance and the regulation of global production networks. Thirdly, these companies have an important influence on how business is operated across global supply chains, which makes them major actors in setting standards of corporate governance. For this purpose, we construct the target sample based on the company lists published by "Standard & Poor's (S&P) Global", a company gathering financial information and analytics on the largest companies worldwide. The S&P financial market indices provide a list of companies representing the largest publicly traded companies in the world disaggregated per regions and sector in which they operate.[4] S&P Global includes six regional indices: S&P Europe 350, S&P TOPIX 150 (Japan), S&P / TSX 60 (Canada), S&P ASX All Australian 50, S&P Asia 50 and S&P Latin America 40. This sample selection explains a disproportionate number of companies located in the USA (502 companies, thus 40%) and in Europe (348 companies, thus 28%). At the time of the data collection, between September 2020 and June 2021, this index counted 1,241 companies and captured approximately 70% of the world market capitalization, covering 30 countries.

From the target sample of 1,241 companies included in the S&P Global, we have collected 880 SCCs between September 2020 and June 2021, directly from companies' website,[5] following the recommendations of Babri et al (2019).[6] This final sample of 880 excludes any document that was not available in English (5 codes identified),[7] or codes that appeared to exist but were not publicly accessible during the time of the data collection (12 codes). The major source of missing documents and data lies in the inability to retrieve the codes from companies' website. Aside from those exceptions,

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4   More information on the selection and classification process operated by S&P Global can be found on their website: https://www.spglobal.com/spdji/en/indices/equity/sp-global-1200/#overview, accessed October 10th 2022

5   This collection of supplier codes of conduct will soon be found in the Database of Business Ethics (db-business-ethics.org) *(alter status at the time of publication)*

6   Babri et al. (2019) consider that collecting codes of conduct directly on companies' websites reflects greater transparency than requesting copies from company personnel or ask question via a survey questionnaire.

7   English was chosen as a language for the analysis as the dominant language in transnational business operations, and most SCC were available in English. A similar choice was taken in other textual analysis studies, such as by Stohl et al. (2009). Two or more languages could not have been included in this research, as multilanguage corpora are difficult to process with the text-as-data approaches applied in the present paper.

all SCCs or similar ethical policies adopted or adhered to by companies are included in our final sample of 880 documents. This means that documents such as companies' human rights policies, sustainability principles, ethical charters, sustainable procurement policies and others were also included in the sample, to the extent that these policies would include expectations and values to be complied with by suppliers, thus would have the same objective and effect than documents named "supplier codes of conduct". For each company, we selected only one document as a SCC. In this paper, we refer to these documents under the umbrella term "supplier codes of conduct" abbreviated by "SCC" to facilitate the reading.

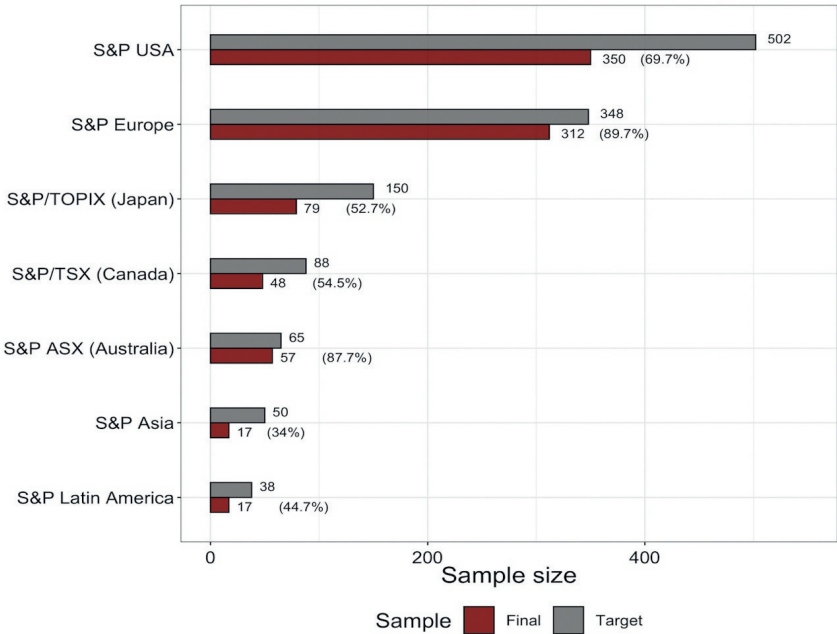*Figure 1: Companies included in the sample per index*

Figure 1 gives an overview of SCCs included in our sample and highlights the deviation between the target sample of companies and the final sample of codes. The under-representation of some geographical markets, such as the Asian and Latin American markets, should be kept in mind for all interpretations made in the result section. A glance at this graph gives first insight on the extent to which SCCs are popular and widely adopted. In our target group of companies, we can see that European and Australian companies score high, as nearly 90% of European and Australian companies have adopted a SCC as opposed to 70% of the American ones, and only 34% of the companies in our Asian sample. The results concerning American companies departs from the statistics obtained from previous studied, such as the one conducted by Erwin (2013) who noted that 95% of American companies had adopted a code. This discrepancy is explained by the differ-

ent target sample: while this study investigated *corporate* codes of conduct, we only considered *supplier* codes in this research.

4.3   WHAT IS THE CONTENT OF SUPPLIER CODES OF CONDUCT?

This section investigates SCCs content and answers three sub-questions to explore the extent of corporate commitment regarding supply chain labor conditions. The research design using mixed-method text analysis provides for a comprehensive descriptive overview of codes' content.

4.3.1   Literature review

Firstly, the literature generally agrees on the trend of 'standardization' or isomorphism of codes' content, according to which codes progressively converge as multinationals set similar standards to be implemented by their suppliers (Holder-Webb & Cohen, 2012). Within institutional theory, DiMaggio and Powell (1991) refer to this as the process of institutional isomorphism to explain the homogeneity in behaviors among organizations over time: to face competitive pressures, organizations tend to imitate behavioral norms of other actors in the field. According to Kostova et al. (2008), this alignment of behavior is essential to organizational survival. This isomorphism is confirmed by empirical scholars who identify a large overlap of codes' content globally (e.g., Schleper et al., 2013). For Stohl et al. (2010), the similarity of 157 codes from the Global 500 and/or Fortune 500 lists suggests that companies experience pressures to "think globally" regarding aspects of sustainability and corporate social responsibility among companies, and that SCCs reflect the dynamic of globalization. Similarly, Holder-Webb and Cohen (2011) observe that, instead of varying from one firm to another based on internal issues for each firm, the structure, content and language of codes of conduct is consistent with a widespread response to isomorphic pressures. They even argue that some companies appear to have copy-pasted their codes, thus largely adopting legalistic terms unlikely to constrain actions and difficult to enforce. Indeed, guidelines formulated by the International Labor Organization (ILO) and the OECD contribute to the standardization of codes, as corporations are likely to adopt the standards drafted by legitimate public entities. Finally, the proliferation of multi-stakeholder codes of conduct that multinationals may adhere to as-is plays a part in the convergence of SCC. The Responsible Business Alliance (RBA) is noteworthy in this regard, as over 200 large companies have agreed to commit to and implement the RBA code of conduct.[8] Considering the trend of research confirming organizational isomorphism, it is relevant to test the levels to which SCCs are alike, which leads us to our first research question:

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8   More information on the RBA scope of action and requirements for membership to be found at: https://www.responsiblebusiness.org/about/members/

RQ1: To what extent is the linguistic content of SCCs similar (standardized)?

Secondly, we find it especially crucial to study SCCs from the angle of labor-related provisions. Béthoux et al. (2007) and Oehmen et al. (2010) previously underlined that labor conditions constitute an important part of SCCs and are "*by far the best covered issue in the codes*". Béthoux et al. highlighted that the category on working conditions and labor standards represents roughly 12% of the corporate codes' corpus according to their selected keywords. 15 years later, it is interesting to observe the evolution of reference to labor and work in SCC and see whether it remains a prevalent topic. We anticipate that most companies having adopted a supplier code will include the four core ILO labor standards laid down in the 1998 Declaration on Fundamental Principles and Rights at Work, namely prohibition of forced labor and child labor, freedom of association and prohibition of discrimination.[9] Previous studies indeed showed that these standards are most often present in codes of conduct.[10] Based on Oehmen et al. (2010), we expect that freedom of association is less referred to than other labor standards, contrary to forced and child labor which will frequently be addressed. Apart from these core labor standards, it can also be expected that multinationals include references to minimum standards on occupational health and safety (OSH), maximum working time, overtime and compensation, and wages. Although it is difficult to estimate the extent to which these rights are mentioned in SCCs, some studies showed that the presence of a code positively impacts OSH standards at the supply chain level (Bartley and Egels-Zanden, 2015; Locke et al., 2016), which could mean that codes often refer to OSH. Considering the remaining uncertainties on the content of SCCs regarding labor standards, we pose the following question:

RQ2: To what extent are labor-related provisions an inherent part of SCC?

International institutions have set common standards to be respected by multinationals in their global production networks, especially in the field of environmental and social topics. Those consist of soft law such as declarations, resolutions, guidelines, principles, drafted by the United Nations, the ILO and the OECD in particular. Earlier reviews of codes content notice that multinationals often refer to these standards, to legitimize the standards included in these self-regulatory documents and to give it a legal basis (Oehmen et al., 2010, OECD-report 2001). The lexical analysis conducted by Béthoux et al. (2007) confirms the strong influence of ILO norms on the writ-

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9   The data collection and initial research were conducted before the 2022 amendment of the ILO Declaration on Fundamental Principles and Rights at Work adding the right to a safe and healthy working environment, which explains why we did not include it.

10   OECD 2001; ILO, 1999; World Bank, 2003; Kolk and Van Tulder, 2002; Oehmen et al., 2010; O'Dwyer and Madden, 2006 discuss the presence of these labor standards in SCC and lead us to believe that they are integrate parts of most supplier codes. The literature review conducted by Schleper and Busse (2013) gives a good overview of these studies.

ing of codes of conduct. Among the international standards referred to, we expect to see some reference to the Universal Declaration of Human Rights (1948), the Conventions of the International Labour Organization and especially the Declaration on Fundamental Principles and Rights at Work (1998), the UN Guiding Principles on Business and Human Rights, the UN Global Compact, and the OECD Guidelines for Multinational Enterprises. Our final research questions in this section is thus:

RQ3: To what extent do companies refer to internationally recognized labor rights as the minimum standards in their SCCs?

4.3.2   Research design

To give an accurate representation of SCCs' content and answer the three questions above, four different content analysis techniques are used, including manual coding techniques and text-as-data approaches, notably similarity scores, dictionary methods and topic models. These methods are meant to be complementary but also intend to provide concurring evidence of our descriptive conjectures. If different methods provide the same results, the validity of these results increases.

The first method used tests the overall standardization levels of all SCC, using the cosine and Jaccard similarity measures (scores). Both methods are the bag of words techniques and allow us to measure the similarity levels between all the SCCs, alas with different set of assumptions. While the cosine similarity takes into account a mere occurrence of terms, the Jaccard similarity goes beyond it and also capture the frequency of terms' occurrence. If the SCCs differ greatly in their lengths, we should thus expect that Jaccard similarity measures, which also capture the term frequencies, will provide lower scores. To obtain the similarity scores, we employ the Quanteda package for R. It is of note that these methods give a sense of lexical similarity (language and terms employed) across the SCCs. They measure if the terms which are employed in the SCCs are the same (cosine) and their frequencies are similar (Jaccard). Therefore, calculating similarity metrics allows us to partially address our first descriptive RQ on the similarity and standardization of SCC, without dealing specifically with labor standards.

The second method used is the Structural Topic Model (STM) approach, an unsupervised machine learning method developed by Roberts et al. (2014).[11] Topic modelling aims to uncover topics prevalent within a corpus of documents and estimate their relationship to document metadata (covariates). Similar to other unsupervised topic models, the STM examines the pattern of co-occurrence of terms. If terms tend to cluster together it

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11   The first application of the STM method was published by Roberts et al., 2014. The book "Text as Data" (2022) provides a succinct introduction into the STM approach.

suggests that they constitute a distinctive topic. A topic is thus defined as a mixture of words where each word has a probability of belonging to a topic, and where one document can be composed of multiple topics (Roberts et al., 2022). This last feature presents a clear advantage over simple clustering methods for text, which enable the classification of documents into exclusive categories, instead of allowing the documents to be composed of a mix of categories (topics). The STM is estimated with an R package (Roberts et al., 2019). For our sample of SCCs, the optimal number of topics was set to 25: this number was chosen based on the trade-off between the linguistic coherence of topics and exclusivity (see appendix 1 for all measures guiding the choice of the optimal model). By identifying the prevalence of topics present in our SCCs, the STM brings elements of response to the second and third descriptive RQ on the content of SCCs.

The third method consists of a manual coding of the 880 collected SCCs, identifying five different items:
1. The acceptance of internationally recognized labor rights as laid down in international conventions or recommendations. Therefore, reference to texts such as the 1998 ILO Declaration or other ILO Conventions, the International Charter of Human Rights, the Modern Slavery Act, the OECD Guidelines or the UN Guiding principles on Business and Human Rights was important for this variable.
2. A reference to the prohibition of forced labor or any related term such as bonded labor, slavery, exploitation, or the insurance to freely chosen employment.
3. A reference to the prohibition of child labor or setting a minimum age for suppliers' employers.
4. A reference to the prohibition of discrimination and harassment.
5. A reference to the protection of freedom of association, collective bargaining or trade union rights.

This coding was performed independently by two different researchers, then merged and checked for discrepancy.[12] This process was specifically relevant for the coding of the first variable, because it involved an interpretative element: the variable was only considered as "present" where international standards were a pillar for the SCC drafting, in the sense of being decisional in setting the minimum labor standards to be complied with by suppliers. On the contrary, sporadic reference to international text, for instance only mentioned for one labor right but not constituting the foundation of the labor standard setting, was not sufficiently contributing to this variable. The coding of variables 2 to 5 was more straightforward and coded whenever the SCC refers to the labor standards in question. These standards were chosen as they are the most internationally recognized labor

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12   The intercoder reliability was close to 100%, only a few cases of uncertainty arose.

rights or "Fundamental Principles", as defined by the ILO 1998 Declaration. Subsequent to the finalization of manual coding, the ILO added the principle of safe and healthy working environment to this Declaration in 2022, which is therefore missing in this list. This hand-coded method was time consuming and required many resources. In parallel with methods 2 and 4, it answers RQ2 on the overall presence of four labor rights (items 2 – 5); and RQ3 by providing data on the reference to internationally recognized standards (item 1).

The fourth method is a dictionary method, which enables to capture a frequency of reference to selected terms (see appendix 2). With the dictionary method, we intended to investigate the presence of the reference to the following topics:
1. Prohibition of forced labor
2. Prohibition of child labor
3. Prohibition of discrimination
4. Freedom of association and collective bargaining rights
5. Reference to international documents and standards.
6. Occupational health and safety (OHS)
7. Working hours
8. Wages and compensation

This method is an automated adaptation of the manual method 3 above. It allows us to compare the results of the manual variables collected, and adds three labor rights: OHS, working hours, and wages and compensation. This study thus assesses how more exploratory automated methods can provide similar results to those which are manual and more labor intensive. This method provides further insight on other labor rights referred to in SCC and addresses RQ2 and RQ3.

Table 1: Research design overview

	RQ1 Similarity levels of SCC provisions	RQ2 Prevalence and reference to labor-related provisions	RQ3 Reference to international labor standards
Method 1 Calculating similarity metrics of SCC	Similarity levels of SCC corpus	/	/
Method 2 Structural Topic Modelling of SCC prevalent topics	/	Prevalence of labor- related provisions as a topic of SCC	Prevalence of international labor standards as a topic of SCC
Method 3 Manual coding of SCC reference to labor standards	/	Reference to 4 labor rights	Reference to international conventions and recommendations
Method 4 Dictionary method of SCC reference to labor standards	/	Reference to 8 labor rights	Reference to a set of pre- determined international conventions and recommendations

Table 1 summaries methods applied along with the corresponding research questions they aim to target.

4.3.3   Results

4.3.3.1 *Similarity levels of SCC provisions*

Figure 2 below lay down the results of the Jaccard and cosine similarity scores, which should be interpreted in parallel with the variation in length and word count of the codes (Figure 3).
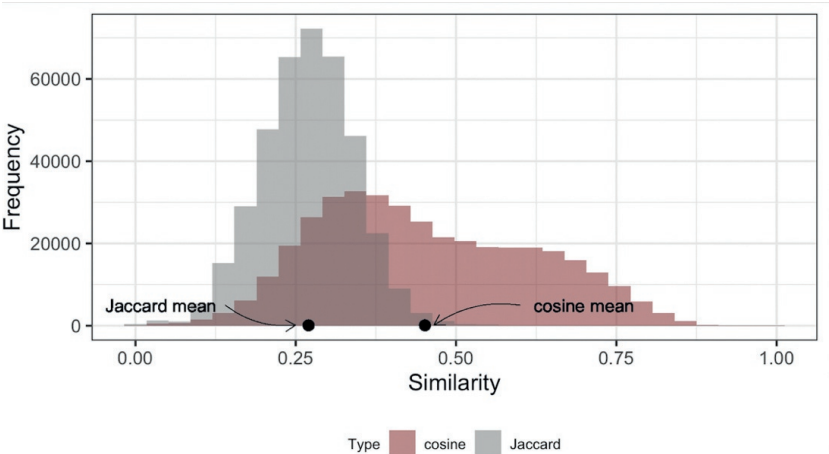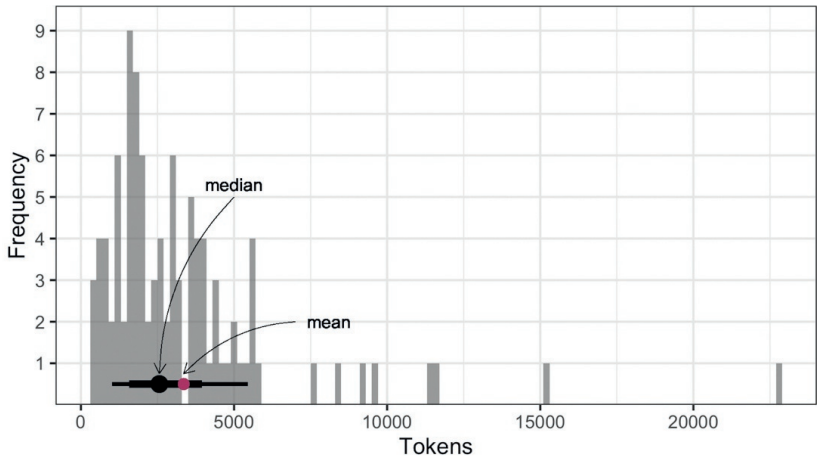
Figure 2: Similarity levels



Figure 3: Length variation of SCC

The Jaccard similarity scores show, on average, only low to moderate lexical similarity. This approach considers the frequency of the terms to assess document similarity, thus should be interpreted in combination with the length variation of SCCs. The cosine metrics tells a different story, with a mean closer to 0.5, indicating higher levels of similarity. This means that, although codes vary in their length and development of important keywords, they use somewhat similar terms overall. These measurements allow us to answer RQ1 as we identify that the linguistic content of SCCs is moderately similar, but the extent to which codes develop and extensively refer to the same terms, both in length and in specification, varies widely.

4.3.3.2 *Prevalence and reference to labor-related provisions and international standards*

Among the 25 topics identified by the STM, eleven of them were straightforward and appeared to belong to a specific category and clear topic. We labelled these eleven topics on the basis of the 20 key words, by figuring out the common theme raising in this list of words. For instance, the category "International text and standards" was chosen based on the keywords "declar*" "principl*" "nation*" "guid*" "global*" "fundament*" "intern*" "univers*" "convent*". The list of keywords defining our label categories can be found in appendix 7. This labelling process allowed us to highlight the most prevalent topics appearing in SCCs, as highlighted in Figure 4. The percentages included in this Figure represent the ratio to which SCCs' database text as a whole discusses each topic.

Figure 4: Percentage of most prevalent topics identified in the text of all codes of the sample
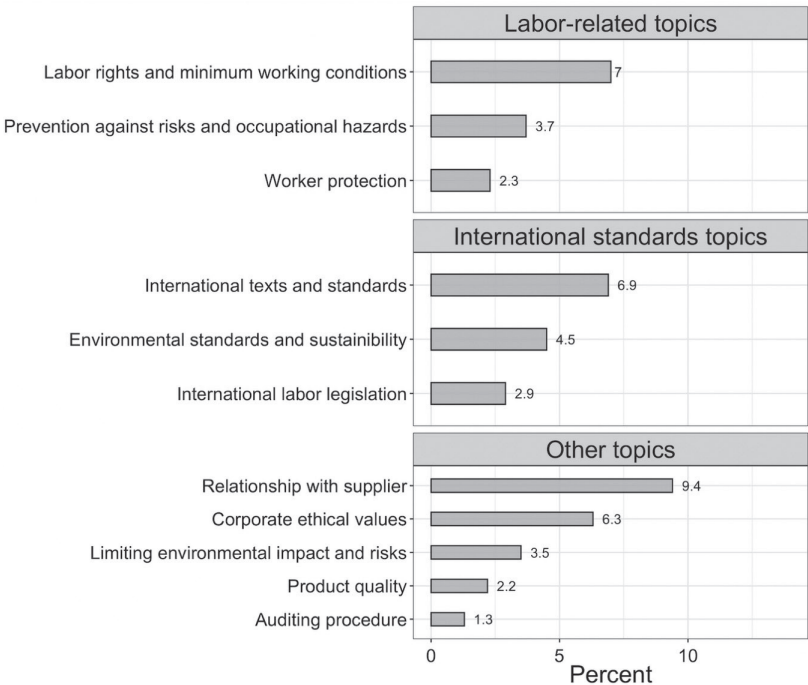
Altogether, specific labor references and workers' protection provisions constitute 13% of the SCCs' content, making it an important overarching topic addressed among all SCCs. These include the topics "labor rights and minimum working conditions", "prevention against risks and occupational hazards" and "worker protection". Reference to international texts and standards constitutes 14.3% of SCCs' text when including the reference to environmental standards and sustainability. Apart from labor-related provisions, we notice that the relationship with supplier is the most prevalent topic (9.4%), which indicates that organizational governance of the global production network is a central objective in drafting codes of conduct. A surprisingly lacking topic in this sample, or at least unidentified by the software, are provisions related to SCC implementation and monitoring processes. The topic on auditing procedures only constitute 1,3% of SCCs' text.

Figure 5: Percentage of SCCs referring to labor standards
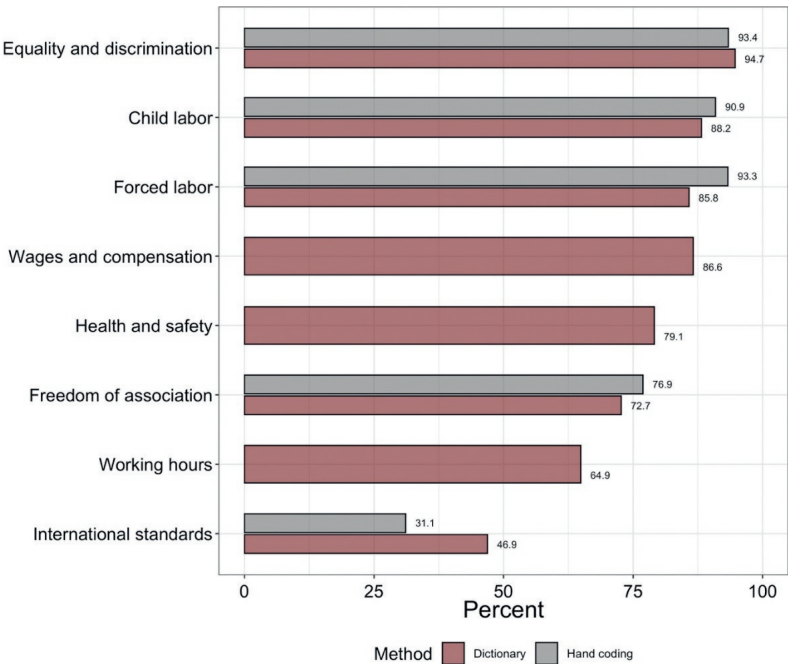
Besides the international standards category, Figure 5 shows that the manually retrieved data and the computational dictionary method give us similar result for the variables coded through both methods (see for further visual insights the scatter plot in appendix 3). This allows us to assume that the results obtained for the data gathered using exclusively the dictionary method are reliable. References to forced labor, child labor and discrimination are observed overall in around 90% of SCCs. Freedom of association is somewhat less present and appears in 77% of the codes according to the manual method, nearly as often as references to health and safety. Outside of these five core ILO standards, reference to wages and compensation is

also heavily represented in SCCs (86.6% of the codes), while working hours are somewhat less present (65%). According to these results, multinationals consistently refer to a standard list of labor rights in their codes. When analyzing these results in parallel with the STM approach, we notice that it is likely that many SCCs only refer to these rights concisely and with a simple reference, as these themes only constitute 13% of the overall documents. The combination of these methods allows us to answer RQ2 with the following: While labor-related provisions only constitute some 13% of SCCs' content, most labor rights are referred to in up to 90% of SCCs. Labor-related provisions are therefore an inherent part of SCCs, and a list of labor references has mainstreamed to be included in most codes.

Results on reference to international standards vary across the manual coding and the dictionary method, with 31% and 47% respectively of companies including international texts within their SCCs. This gap is explained by the interpretative element of the manual coding: international standards were only coded when they were the legal basis of the determination of all labor standards, hence when they were referred to as the minimum standards. Where international conventions were only referred briefly only for one of the labor rights, which was often the case concerning child labor, we did not consider the standards as overarching throughout the SCC. Since the dictionary method uses key words, this differentiation is not possible. The STM approach tells us that references to international (labor) standards and texts constitutes 9.8% of SCCs' content. This combination allows to answer RQ3: Whereas about half of SCCs refer to internationally recognized labor rights with specific references to texts, conventions, and guidelines, only 30% of them include them as benchmarks for labor conditions throughout the text.

4.4   How do supplier codes of conduct differ across sectors and regions?

In this section we compare SCCs' content based on two variables: the sector in which companies and their supply chain evolve, and the geographical location of the company's headquarters. Capturing the differences is performed using the same methods as those described in section 3.2.

4.4.1   Literature review and hypotheses

In her systematic literature review on SCC, Jedynak (2018) has underlined research needs concerning the roles and functions attributed to supplier code of conduct taking into account regional, sectoral and individual specifics. The descriptive section above proved that codes differ in length and extent to which topics are elaborated. While some scholars advocate for

a standardization of SCC content,[13] others consider that codes should be adapted to supply chain needs (Svensson and Wood 2007; Garegnani et al. 2015). It is thus relevant to research divergences across sectors, to analyze the extent to which sector-specific supply chain risks are taken into account in SCCs' content.

In their review, the OECD (2001) observes that the apparel industry shows a strong focus on labor standards. This is confirmed by other scholars (Locke, 2013), who explain that the comparatively higher quality of codes of conduct content in the textile sector stems from the anti-sweatshop activism and civil society focus on the conditions of work in the clothing industry. In this sector, prohibition of child labor is the most protected labor standards, while freedom of association is less referred to (OECD report, 2001. p. 20). Comparatively, in the extractive industries[14] the right to safe work environment and occupational health and safety standards is prominent in codes' provisions, while the concern for child or forced labor is very low (OECD report, 2001. p. 22). Oehmen et al. (2010) demonstrate that health and safety references in SCC are less present in the electronics industry than elsewhere. The analysis by Lugli et al. (2009) compares the content of 29 Italian codes across three different sectors (finance, service, industry), and observed higher percentage of provisions related to human and environmental protection in the service and industry categories. However, these results contrast with the study conducted by Stohl et al. (2009), who did not identify divergences in codes' content across eight industrial sectors, contrary to their expectations. Overall, it is noticeable that the research on sectorial differences in SCCs content is scattered and often covers only one industry (e.g., Oehmen et al. 2010), or compares industry across a small sample of SCCs (Lugli et al. 2009). There are gaps and uncertainties remaining on the extent to which SCCs' content diverges. Consequently, our next research question goes as follows:

RQ4: Does SCC content differ across sectors?

Studies identifying divergences on codes' content across global regions are numerous, and many have identified differences in codes across regions. For instance, the study by Scholtens and Dam (2007) show significant differences in codes' policies between countries, including on the dimension of human rights policy (which includes labor-related provisions). In their sample, firms scoring the highest on the human rights policies category were located in Europe, while American companies scored lower and Asian

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13   For instance, Schleper and Busse (2013) in their paper "*Towards a Standardized supplier code of ethics: Development of a Design Concept Based on Diffusion of Innovation Theory*" consider that a standard SCC would increase stakeholders' trust in sustainability-oriented supplier governance and help firms to save costs.

14   In our research design and sector classification, the extractive industry is included under the sector group "Manufacturing".

companies (Japan, Hong Kong and Singapore) were rated poorly. They jus-
tify these divergences on the cultural and social differences in which compa-
nies evolved when they draft their codes. Similarly, the study by Stohl et al.
(2009) shows that corporations located in the European Union demonstrate
a greater recognition and commitment to the values of globalization and
the expectations of the communities in which they are embedded. Regard-
ing the reference to international labor standards, it can be expected that
American and European companies will refer to international conventions
on labor standards, given that they have participated in many international
organizations and exposed to many global institutional and convergence
pressures.

Chun (2017) also identifies visible differences at continental levels,
where a group of countries resemble countries that are geographically
and culturally close. Codes from American and British companies differ
distinctly in organizational values included in the codes, even when operat-
ing in the same industry. Asian companies appear to have a strong focus
on the organizational value "empathy", which is explained by Chun as the
collectivist culture on that continent, which differs to the individualism
most present on the American continent. This result indicates that codes
are affected by the culture of their regions, and in the case of the labor
standards, codes' references will most certainly be affected by the legal
framework. We can therefore expect that in countries where freedom of
association and collective bargaining is seldom protected by the labor stan-
dards, companies will refer less to it in their SCC. Based on this literature,
we expect the content of SCC to vary across regions: In Europe and the US,
codes contain more labor rights than in the rest of the world. Our last ques-
tion can thus be formulated as follows:

RQ5: Does SCC content differ across different geographical location?

4.4.2   Research design

For this section, methods 2, 3 and 4 as described under section 3.2. are used
to answer RQ 4 and 5. We compare the contents of SCCs across two vari-
ables: the industry and geographical location, which we have clustered in
groups for a comparative analysis.

Companies included in our sample are classified among 11 sectors,
according to the Global Industry Classification Standard (GICS)[15], namely:
Communication, Consumer discretionary, Consumer staples, Energy, Health
care, Industrials, Information, Technology Materials, Real Estate, Utilities.
As some of the sectors were represented by a handful of companies (e.g.,
Real Estate and Energy), to avoid statistically noisy results, we decided to

15   More information on the GICS and the industry division can be found at: https://www.
      msci.com/our-solutions/indexes/gics

create higher-level clusters of sectors (see appendix 4 for industry division). Drawing on the taxonomy adopted by Garegnani et al. (2015), the companies were grouped into five sector groups: consumer (335), energy and utilities (76), financial (119), manufacturing (241), and IT and telecommunications (146). An overview of sample proportions can be seen in Figure 6.

Figure 6: Representation of sectors
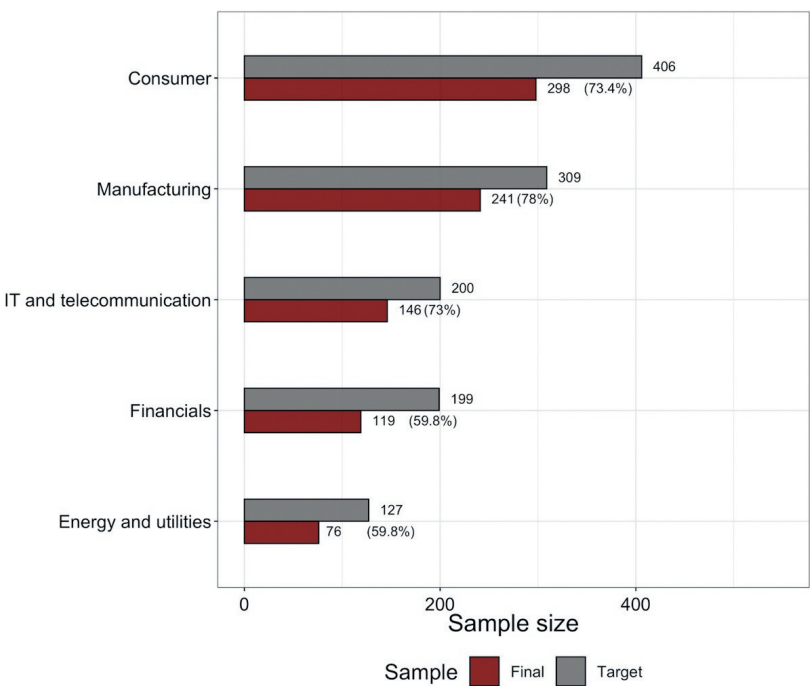
Regarding the geographical location, the choice was more straightforward to cluster the companies into three large groups: North American companies from the US and Canada (398 codes), companies from Europe (312 codes), and a cluster "rest of the world" (170 codes). Although we had the specificities of country location in our database, the disproportionate presence of American and European companies[16] led us to compare the results in three groups. Moreover, it is important to note that, due to the smaller sample for some geographical locations, the results presented are limited to these regions.

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16   The reasons for this disbalanced sample are explained in Section 2

4.4.3   Results

4.4.3.1 *Variation of SCC content across sectors*

The analysis of the variation of SCC content shows that contents significantly differ across five sector groups. Figure 7 gives an overview of the topics addressed, as generated by the STM, in the codes disaggregated by sector.

Figure 7: Variation of the prevalence of labor-related provisions across sector groups in percentage of SCCs' text
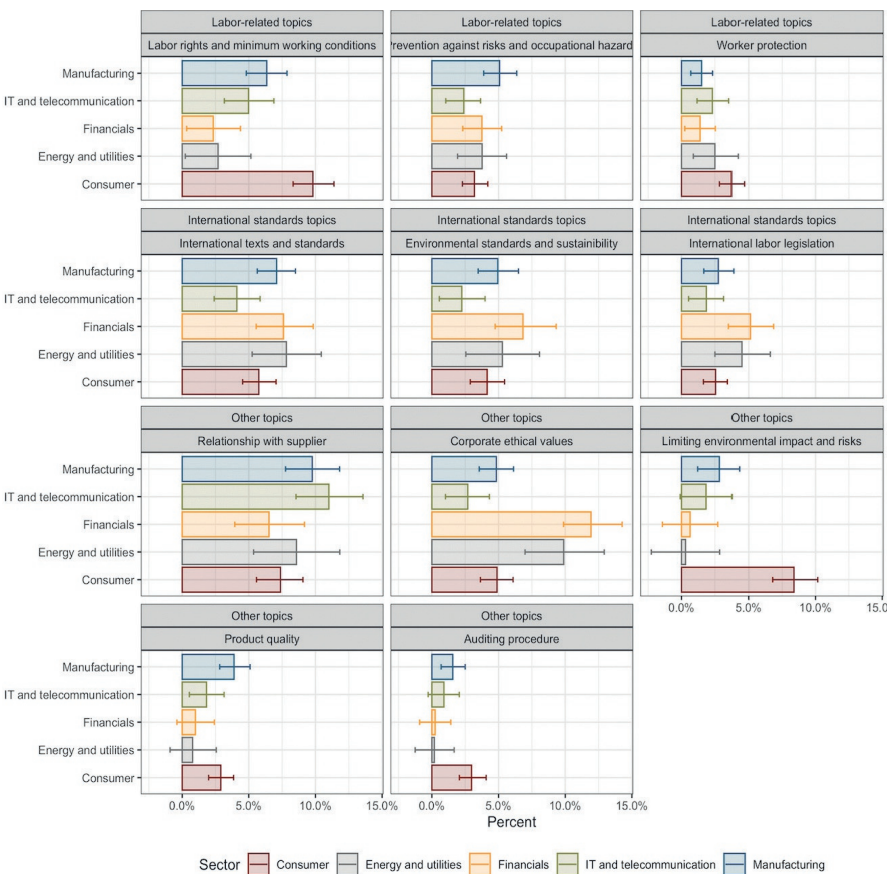
From this overview, four key results can be underlined. Firstly, labor-related topics are predominant in the consumer sector, as well as the references to an auditing procedure, and provisions aiming to limit environmental impact and risks. Secondly, the sectors most referring to international standards is the financial sector, concerning both labor and environmental standards. However, the financial sector is scoring less high in the devel-

opments of labor-specific provisions and worker protections, and instead promotes references to corporate ethical values. Thirdly, the manufacturing sector, which includes the extractive industry includes provisions, aims at preventing risks and occupational hazards to a higher extent than other industries. Finally, the relationship with suppliers appears to be an important topic across all sectors.

Figure 8: Variation of labor-related provisions across sector groups
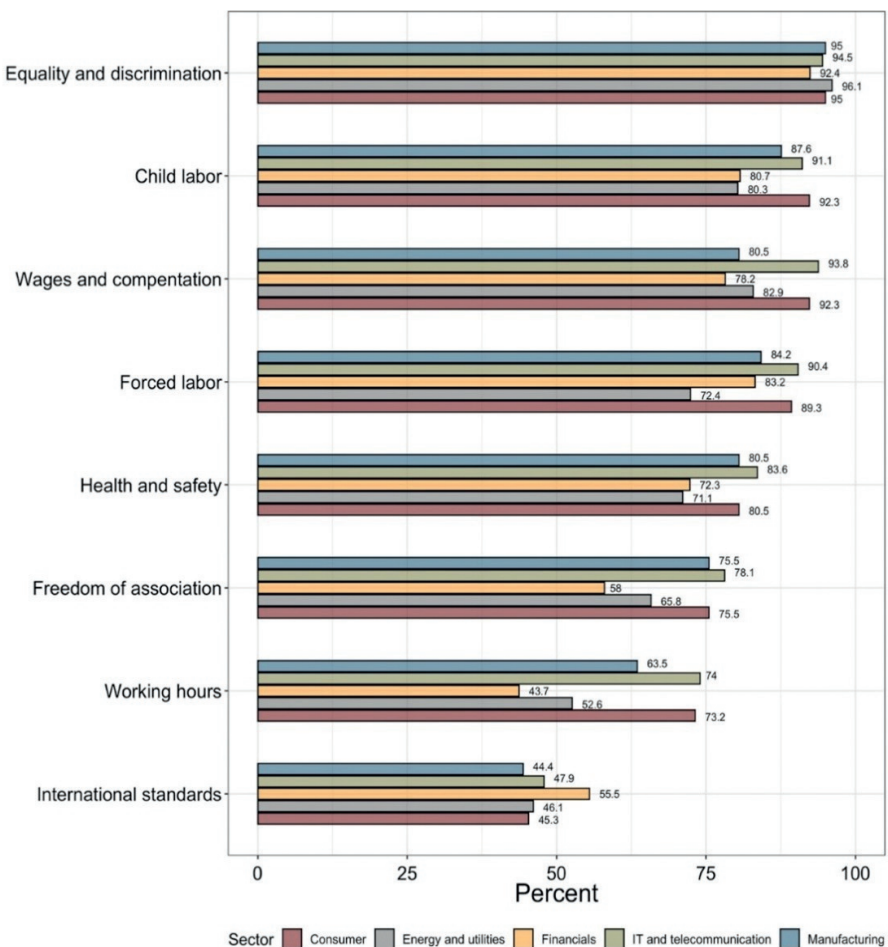
The manual coding (see in appendix 5)[17] and dictionary methods provided similar results regarding the reference to specific labor-related provisions. As identified in the STM, the financial sector is more extensively referring

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17   For a purpose of clarity, the manual coding bar chart is not included in-text but can be found in appendix 5. The relevance of including both bar charts was limited, since the results are very similar.

to international standards yet does not develop labor provisions as much as in other sectors, especially regarding references to hands-on and practical standards such as working hours. The consumer sector scores well on all labor rights. Apart from these differences, there appears to exist an over-arching reference to labor standards in all sector groups.

The combination of these methods gives us an insight into RQ4: SCCs in the consumer sector develop more thoroughly the content of labor-related provisions, include references to the auditing procedure and environmental impact of supplier production. The financial sector most often includes references to international standards, including labor and environmental international benchmarks. All in all, it appears that a set of labor standards is commonly referred to in all sectors.

4.4.3.2 Variation of SCC content across geographical locations

The three clusters of geographical locations give us understanding of cultural and organizational differences reflecting in SCCs' content. Figure 9 gives an overview of the topics addressed in the codes disaggregated by location.

Figure 9: Variation of the prevalence of labor-related provisions across location groups
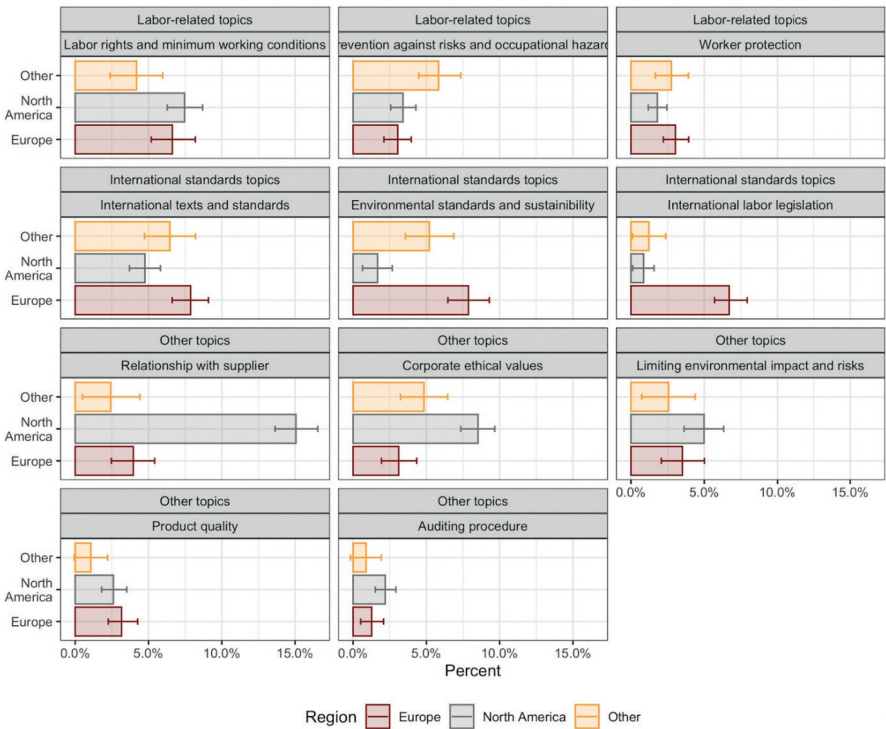
Figure 9 shows that the reference to international standards, including environmental and labor-related international legislation, are significantly more present in SCCs drafted by European companies. American companies on the other hand most often include corporate ethical values and relationship with suppliers as core topics within their SCCs. Interestingly, the group "Other" most often refers to prevention against risk and occupational hazards in their SCCs.

Figure 10: Variation of labor-related provisions across geographical locations according to the dictionary method
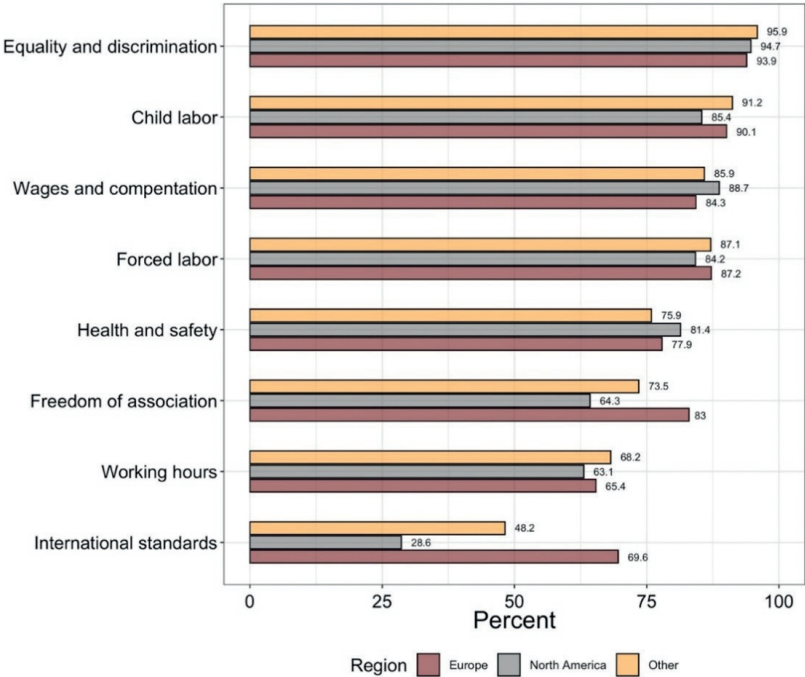
The manual coding (see appendix 6) [18] and dictionary method results (Figure 10) on labor rights references are consistent with the STM figure. Firstly, they show that European companies most often mention international texts as a basis for their codes. They also score higher on the reference to freedom of association and collective bargaining. For the rest, as noticed for the sector differences, all location groups seem to have widely adopted a common list of labor standards. Combining these results, RQ5 can be answered with the following: There are noticeable differences across geographical locations in the topics addressed in SCCs. While American companies thoroughly

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18   For a purpose of clarity, the manual coding bar chart is not included in-text but can be found in appendix 6. The relevance of including both bar charts was limited, since the results are very similar.

elaborate on corporate values and relationship with their suppliers in their SCCs, European companies focus to a greater extent on references to international standards, both regarding labor and the environment. Despite these differences, a common set of labor standards seemed to have been adopted globally, as all corporations include the core ILO standards to a large extent, except for freedom of association.

4.5   Discussion

4.5.1   Contributions

This paper aimed to "decode" supplier codes of conduct and give insight on the commitments made to protect minimum labor standards by multinationals, while highlighting their differences across sectors and locations. From the four different text analysis methods used, the most evident result is that SCCs lack similarity in their formulation and are elaborated to different extent and lengths, although analogous topics and terms are addressed. Despite these differences, a standardized list of labor-related provisions is largely adhered to by multinationals, transcending all economic sectors and regions. This list of labor references is drafted with a clear influence from internationally recognized standards, but a minority of companies mention international texts, conventions, and guidelines literally in their SCCs.

The five sub-research questions drafted throughout this paper can be answered with the following:
- Organizations draft SCCs that use similar terms but vary significantly in length and extent to which they elaborate and develop their provisions. (RQ1)
- While labor-related provisions only constitute around 13% of SCCs' content, most internationally recognized labor rights are referred to in up to 90% of SCCs. Labor-related provisions are therefore an inherent part of SCCs, and a list of labor references has standardized to be included in most codes. (RQ2)
- Whereas about half of SCCs refer to internationally recognized labor rights with specific references to texts, conventions, and guidelines, only 30% of them include them as benchmarks for labor conditions throughout the code. (RQ3)
- There are differences in SCCs' content across sectors. In the consumer sector, companies show more commitment to the inclusion and development of labor-related provisions, as well as references to the auditing procedure and the environmental impact of supplier production. The financial sector most often includes references to international standards, including labor and environmental international benchmarks. Despite these differences, a set of labor standards is commonly referred to in all sectors. (RQ4)

- There are noticeable differences across geographical locations in the topics addressed in SCCs. While American companies thoroughly elaborate on corporate values and relationship with their suppliers in their SCCs, European companies focus to a greater extent on references to international standards, both regarding labor and the environment. As for the sectoral standardization, a common set of labor standards seemed to have been adopted globally. (RQ5)

Despite an overall difference in vocabulary used in SCCs purely based on a lexical analysis, a common list of labor references is mainstreamed in organizational governance. The discussions on corporate isomorphisms developed by institutional theories (DiMaggio and Powell, 1991) are partly confirmed in this paper: there is certainly a similarity of SCC content in the labor rights referred to and included, especially on forced and child labor, prohibition of discrimination, provisions relating to wages and compensation and to a lesser extent freedom of association. However, the extent to which these topics are developed and discussed in depth, both in length and specificity, varies greatly, including across sectors and locations. While some SCCs may only briefly refer to the labor right, others will extensively develop their meaning and how it should be implemented at supplier level. This causes problems, as the simple inclusion of the terms is not sufficient to ensure the implementation of ILO core standards in global supply chains (Pearson et al., 2002).

SCCs' standardization is particularly noticeable within close geographical locations, which is in line with previous studies on this topic analyzing convergence of corporate behaviors in locations sharing similar culture (Scholtens and Dam, 2013). Our research shows that the topics "corporate ethical values" and "relationship with suppliers" are central in American SCCs, but less so in the rest of the world. In Europe, reference to international standards is much more present than elsewhere, which shows the influence of the institutional and legal framework. European companies are indeed more regulated and prone to governmental pressures to draft SCCs, while American companies originally adopted codes to strengthen their internal values and governance mechanisms. This tells us that institutional and legal framework in which firms evolves is an important factor of SCCs' content. In the rest of the world, the prevention of occupational risks and hazards appears to be a more central topic, which can be explained by the sectorial distribution, as companies in the manufacturing sector (where this topic is also central to SCCs) are mainly based in developing countries.

We attribute the seemingly higher quality of SCCs in the consumer sector partly to pressures stemming from consumer associations, civil societies, and the press. The textile industry for instance has been under high public scrutiny, notably since the Rana Plaza disaster in 2013. A substantial literature suggests that non-governmental organizations can act as diffusers, monitors, and even enforcers of global norms, with the power to impose reputational penalties on firms that violate them (Barrientos, 2013). Given

these external pressures, it is possible to hypothesize that SCCs' content is affected by threats of negative publicity that might damage their brand reputation with consumers, the public, and government regulators (Toffel et al., 2015), especially for sectors highly dependent on firms' reputations.

4.5.2   Methodological contributions

By using a mixed method approach, we were able to answer the RQs from different angles and provide insight on the pros and cons of each method. Firstly, the hand-coding and the dictionary method (methods 3 and 4) reached similar results for the straightforward variables, measuring a reference to a specific labor right. This demonstrates that exploratory computational methods are reliable and can provide similar results to those which are manual and more labor intensive. They should be promoted over the hand-coding method, at least for a large sample of data. However, the discrepancy of result for the first variable (reference to international standards), which demanded a level of interpretation, tells us that the manual method still has added value where the simple reference to a variable is not sufficient for the coding.

Secondly, the novel STM approach proves to bring forward results that are not identifiable otherwise. This approach is useful for inductive research: without preconceived idea on the results expected, the model informs us about the prevalence of topics in general and specifically across the levels of covariates (here sectors and geographical locations). It should be kept in mind that unsupervised machine learning models, such as topic models, uncover ex ante unknown topics, instead of covering a set of pre-determined topics. This might be drawback if an expected topic goes undetected by the topic model.

Finally, the similarity cosine and Jaccard approaches gave us results limited to the measurement of similarity of the whole text and not specific to labor-related provisions, which was a limitation. Paragraph or sentence-specific similarity measurements could not be obtained. This is related to the format of data we were working with, which allowed for a bag-of-words techniques at the level of full texts. Similarity measures would show more specific results on standardized legal documents such as court judgements.

4.5.3   Limits of this paper and opportunities for future research

This research is limited in three important ways. Firstly, the specific choice of sample limits our results to multinationals and large firms and might thus be not applicable to small and medium enterprises. The under-representation of firms located in developing countries should also be kept in mind in the interpretation of the results. Secondly, the results presented only allow for a descriptive analysis of SCCs' content and does not provide as to "why" some differences exist, although hypotheses and logic-based explanations can be emitted based on previous literature. Finally, it must be

underlined that SCCs' content does not allow to draw conclusions on the *actual* and *practical* commitment of MNEs to labor standards as there is a *de jure – de facto* gap. SCCs only informs corporate written statements, which may have no effect in practice. However, one can legitimately assume that, where companies do not adopt SCCs or draft SCCs in a poorly fashion, it is unlikely that respect for labor standards is considered a priority.

Related to these limits, a relevant follow-up step would be to dive into the reasons behind SCCs' content and understand the drivers of SCCs content development. Qualitative studies here could answer the questions: what pushes MNEs to draft their codes a certain way? To what extent is it influenced by institutional demands, civil society, or internal values? Although many studies have demonstrated that corporate codes are primarily drafted to satisfy institutional pressures (Holder-Webb and Cohen, 2012), it is relevant to adapt the research to the specificity of SCCs and identify the stakeholders playing a role in the drafting of firms' codes.

Moreover, a riveting result in this study shows that implementation or compliance mechanisms do not constitute one of the most prevalent topics in SCCs. The auditing process, for instance, only concerns roughly 1% of the text of our sample of SCCs and is predominantly present in the consumer sector. Considering the disputed effect of SCCs, it is relevant to pursue the question: what are companies doing to implement their codes? Answering this would require a comparison of text analysis and qualitative methods such as interviews to put in parallel the content of codes with corporate actions to promote labor standards within their supply chains.

Having an overview of SCCs' content is a modest, yet important, steppingstone in the reflections around the improvement of labor conditions in global production networks and sharing the responsibility. This lexical analysis merely shows that most companies inevitably include a set of labor rights in their SCCs, meaning that international institutions have succeeded in putting these standards in the list of corporate commitments towards supply chain workers. The legal value and effect of these provisions remains however ambiguous. As advocated by Beckers (2016), these codes provide an opportunity for lawyers to address a legal gap on corporate legal accountability of multinationals for their transnational activities. Future research could attempt to translate the practical business vocabulary included in SCCs into implementable legal lingo to be used by courts.