IMPROVING GOVERNMENT AND BUSINESS COORDINATION THROUGH THE USE OF CONSISTENT SDGS INDICATORS. A COMPARATIVE ANALYSIS OF NATIONAL (BELGIAN) AND BUSINESS (PHARMA AND RETAIL) SUSTAINABILITY INDICATORS.

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Improving government and business coordination through the use of consistent SDGs indicators. A comparative analysis of national (Belgian) and business (pharma and retail) sustainability indicators.

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Abstract. Sustainable Development Goals (SDGs) are a widely recognized framework to guide sustainable development policies and actions. This papers aims to analyze the potential of SDGs to improve government and business coordination by aligning their sustainability reporting practices. To do so, we assess the consistency between the sustainability indicators at the national level (Belgian) and of businesses (pharmaceutical and retail sectors). We aim to answer the following questions: Do they measure the same SDGs issues? Do they develop similar quantitative targets on similar issues? And how can data from one level be used by the other in order to better coordinate their respective actions? Firstly, we show that indicators are developed for each SDG at the national level but fall behind at the business level on several issues, especially regarding goals 9, 10 and 11. Secondly, it appears that there is a general disconnect between both levels' quantitative targets. Thirdly, we show that business measures are poorly focused on issues which are critical at the national level, i.e. facing unfavourable evolutions. Finally, a focus on GHG emissions shows that Belgian GHG targets at the national level are not compatible with reaching the climate objective of 1.5°, while some business targets (scope 1 & 2) seem consistent with this goal, despite measurement uncertainties. These results show room for improvement of indicators in order to ease the coordination of actors and also for public intervention to align businesses on the achievement of SDGs.

Keywords. Sustainability indicators; Micro macro articulation; Sustainable Development Goals (SDGs); Beyond GDP indicators; Corporate Social Responsibility (CSR); Pharmaceuticals; Retail

JEL classification. E0, M41, N10, N40, Q56

1 Introduction

In 2015, member states of the United Nations (UN) committed to the 2030 Agenda, the post-2015 framework for sustainable development (UN, 2015a). The most famous element of this agenda consisted in the 17 Sustainable

Development Goals (SDGs), which provide direction and targets on crucial issues for humanity and the planet. These goals were defined after consulting with stakeholders (Kharas & Zhang, 2014) and are accompanied by 169 targets and 232 indicators (UNSD, 2017). SDGs are likely to be the main development agenda up to 2030 (Kolk, Kourula, & Pisani, 2017) and the main embodiment of sustainable development.

Contrary to preceding development agendas, such as the Millennium Development Goals, SDGs are not only about governmental action. Businesses, civil society organizations and knowledge institutes have been included in their development, and are expected to promote and help reach the goals. The state-centered perspective has thus been replaced by a multi-stakeholder approach, with a new emphasis on private action. To be effective, multi-stakeholder approaches require mechanisms to guarantee the coordination of all participants at various levels to achieve a common goal.

A first way to ensure such coordination consists in setting precise goals to limit ambiguities in their interpretation (Pattberg and Widerbergd, 2015; Cole, 2015). In the case of sustainable development, the establishment of 17 objectives (the SDGs), accompanied by specific targets is meant to fulfill this function.

Another way to improve coordination – which is the focus of this paper – is to develop a shared system of indicators (Kania and Kramer, 2011). The traditional function of indicators is to enable either external evaluation or internal steering of government or corporate actions. In this respect, indicators measuring a contribution to SDGs ('SDGs indicators') have been developed since 2015 for each type of actor, based on pre-existing sustainability indicators. For instance, the UN developed 232 UN SDGs indicators at the macro level (UNSD, 2017) and business actors developed the SDG Compass at the business level (SDG Compass, 2015). But from a multi-stakeholder perspective, indicators have an additional role in facilitating coordination between these stakeholders.

For this reason indicators should not be thought of separately, which is often the case, but in such a way as to make them consistent with one another and with a certain degree of similarity. According to Malay (2020), for a set of indicators to be the most consistent possible it must satisfy two conditions.

First, these indicators need to be structured according to identical domains for all actors under consideration (*e.g.* government and businesses). These domains or headlines are, for example: health, environment, work, safety, *etc*. In the case of the SDGs, this type of articulation between indicators would result in measures concerning each of the 17 goals, which serve as domains, for each stakeholder. Indicators articulated in this way (called 'conceptual articulation') allow a qualitative assessment of the priorities and performances of each actor in each domain. It helps improve coordination between actors by creating a clear common normative framework, and by allowing actors to position themselves in relation to the performance of others.

Second, a consistent set of indicators should include, in addition to common domains, variables that are measured identically for each actor. An example of this is calculating greenhouse gas emissions identically at the national level and at the level of each company. Such an articulation of indicators (called accounting articulation) is not possible for all variables because some are specific to a single actor (*e.g.* variables such as mortality or poverty rates cannot

be calculated at the business level). This does, however, allow a precise comparison among actor performances. This might improve coordination with actors by allowing the definition of targets that are consistent for different actors.

In summary, indicators that are adequately articulated among actors are tools for improving coordination with actors in a multi-stakeholder perspective such as that provided by the SDGs.

This research aims to study to which degree current sustainability indicators are articulated. It focuses on two stakeholders which have the longest tradition of sustainability reporting: governments and businesses. They correspond to key actors at two levels: the macro (national) and the micro level, respectively. The research question of this paper is the following: 'Do micro- and macro-level SDGs indicators meet the conditions to improve coordination between the government and the business sector?' To provide an answer to this question and further recommendations, four interconnected sub-questions are analyzed, corresponding to the conditions mentioned in this introduction (RQ1 and RQ3) and the current state of coordination (RQ2 and RQ4):

RQ1: Do business and national sustainability indicators measure similar SDGs issues?

RQ2: Are business and macro level priorities consistent with the performance of one another?

RQ3: Which sustainability indicators are accompanied by targets at both the business and national levels?

RQ4: Are greenhouse gas emissions (GHG) targets consistent between the business and national levels?

This research aims to contribute to the literature on SDGs, both at the macro and the business level, and especially to the fields of 'Beyond Gross Domestic Product (GDP)' indicators and 'Corporate Sustainability Reporting' (CSR). The general question it aims to answer is related to the macro-level literature in ecological economics, while its reporting analysis methodology is inspired by the CSR literature. The main methodological contributions included in this paper consist in a joint analysis of two levels, a quantitative account of SDGs indicators, an examination of reported performance, and an analysis of the targets accompanying the indicators.

At the national level, Belgium is taken as a case study. At the business level, pharmaceutical and retail sectors are the area of study. These two sectors have been chosen because of their significance in Belgium in terms of economic value creation, as well as for their potential impact on SDGs. Businesses from the retail sector have huge market power to influence suppliers and customers towards sustainability, while the pharmaceutical sector's core business is intrinsically linked to SDG 3 *Health and well-being*.

This paper is made up of five sections, including the introduction. Section 2 offers an overview of the literature on SDGs reporting. Section 3 shows how data has been selected and treated in order to allow comparisons among businesses and between levels. Section 4 analyzes to which degree national and business indicators measure similar SDGs issues, and whether national and business priorities are consistent with the performance of one another. Section 5 analyzes which sustainability indicators are accompanied by targets at both levels, and whether the targets set are consistent between these levels. Finally, the conclusion summarizes the main results of the paper.

2 Literature review

2.1 Critique of SDGs

If the centrality of SDGs is not contested among sustainable development initiatives, note that its content has been subject to debate. SDGs have been considered both (1) too ambitious (Copenhagen Consensus, 2016), and not ambitious enough. One stream of critiques is about (2) the vagueness of its operationalization possibilities and (3) its non-binding character (Pogge and Sengupta, 2015). Another is about (4) the ideology conveyed by the 2030 Agenda and its goals. They have been criticized because they place free trade, economic growth and its trickle-down effects as central mechanisms to create jobs and fight poverty (Gupta and Vegelin, 2016; Aldeman, 2017; Frey, 2017). (5) Several critiques have also been addressed in specific choice of indicator (Pogge and Sengupta, 2015; Battersby, 2016…). Finally, (6), the one-size-fits-all character of SDGs – applying to poor as well as rich countries – has also been both praised (because the development agenda is no longer primarily an issue for developing countries) and criticized (because the needs in rich and developing countries can be very different).
Despite their flaws, SDGs are an improvement over MDGs. They tackle (a) the most urgent ecological issues, such as the crossing of planet boundaries linked to climate change, biodiversity and nitrogen (Steffens et al., 2015). (b) They also include inter- and intra-national inequality issues, which are currently important concerns. Moreover, SDGs acknowledge (although in a far too limited manner) (c) the interconnections between the goals and between social, economic and environmental issues through the presence of similar targets among different goals (Le Blanc, 2015). SDGs are thus both criticized and praised. However, despite their flaws, they have mainly been embraced by the accounting profession considering that 'inaction is not an option' (Bebbington and Unerman, 2018, p.7). It is worth noticing that some current well-known beyond GDP indicators would face even more criticism if they had been chosen as UN goals or indicators, as they do not even account for absolute carbon emissions or social inequality (Human Development Index, Social Progress Index…).

2.2 SDGs at the macro level

The empirical literature on SDGs focuses on issues which differ between the macro and the business level. At the macro level, it mostly relates to the assessment of SDGs trends and of SDGs implementation processes. The outcome of SDGs indicators has been widely studied (*i.e.* what has been mentioned about the achievement of SDGs), but little attention has been given to the choice of SDGs indicators developed at the national level. This is probably due to the existence of precise guidelines to design targets and indicators provided by the UN (UNSD, 2017). On the contrary, at the business level there is a focus on the type of SDGs indicators with the aim to determine which issues are measured by businesses from different sectors. The achievements revealed by business SDGs indicators received little attention, most likely because the low degree of measurement standardization makes the establishment of aggregated trends difficult. This literature review, and in

general this paper, is marked by this difference in terms of approach between the two levels.

At the macro level, various documents have been published to evaluate the achievement of SDGs. The UN General Secretary releases statements on the world's progress towards SDGs, while national governments are invited to send voluntary reports on their actions. Various tools such as a 'SDG tracker' or a 'SDG index' have been created to evaluate each country. Global assessments show contrasted results regarding the achievements of the 17 goals. While worldwide poverty reduced from 16% to 8.6% between 2010 and 2018, the number of people living in hunger rose from 784 million in 2015 to 821 million in 2017 (UN, 2019). Under-five mortality dropped from 9.8 million in 2000 to 5.4 million in 2017, but 1 out of 4 urban residents still live in slum-like conditions (UN, 2019). On an environmental point of view, 17% of SDGs indicators linked to environment show progress towards sustainability over the last 15 years (UNEP, 2019). These improvements relate to an increase in terrestrial, mountain and marine protected areas, to efforts to combat invasive species and to significant progress towards renewable energy. If these trends continue, it is likely that the targets will be met by 2030. Conversly, 17% of the environment-related SDGs indicators show a flat or a negative evolution (UNEP, 2019). This is especially the case for indicators measuring the state of the environment: indicators related to forests, sustainable fisheries, endangered species, domestic material consumption and material footprint. The rest of the official list of SDGs indicators (68%) lacks sufficient data to assess any progress, which is problematic.

Regional and national assessments have also been carried out (*e.g.* Allen et *al.*, 2017; Allen *et al.*, 2020; de Sanfeliù *et al.*, 2020). Regarding Europe, it has been shown that although EU countries are global leaders in SDGs (according to the global 2019 SDG Index, all ten countries closest to achieving the SDGs are in Europe), none are on track to achieve the goals by 2030 (Sachs *et al.*, 2019; SDSN and IEEP, 2019). Issues with the lowest performances in the EU relate to climate change, biodiversity, circular economy, and inequality between countries and regions.

At the national level, SDGs reporting by official institutions is scattered. Sachs *et al.* showed that national statistical institutes or equivalent institutions identified official key national indicators to monitor the implementation of the SDGs in 28 out of 43 countries, including all G20 and highly-populated ones (Sachs *et al.*, 2018). On average, 141 indicators are included in such monitoring schemes. The authors also showed that the translation of SDGs into policy often falls short. For instance, in 18 out of 43 countries, there is no single mention of SDGs in the latest national budget document. This example is related to a general lack of implementation of the goals at the national level, especially regarding the establishment of clear priorities, and the setting of targets (Allen *et al.*, 2018). Contrasted performance, lack of data and implementation gaps are three main SDGs challenges at the macro level.

2.3 SDGs at the business level

At the business level, a ground breaking literature attempts to capture the way businesses report on SDGs for monitoring or evaluation purposes. This task has been carried out on a cross-sectoral basis (Ike *et al.*, 2019; Wynn and

Jones, 2019; Gungadeen and Paull, 2020) as well as for specific sectors (*e.g*. Jones and Comfort, 2019), mainly on a qualitative level. In Belgium, the SDG Barometer (Moratis *et al*., 2018) provides information on various aspects of SDGs achievements by businesses. It concludes that the 20 largest Belgian businesses in terms of stock market value most often prioritized SDG 8 (Decent work and economic growth) and SDG 13 (Climate action), followed by SDG 12 (Responsible consumption and production). The least reported goal was SDG 2 (Zero hunger). Unfortunately, no detailed analysis of SDGs reporting is present at the sub-objective level.

As SDGs reporting is only one specific form of a more general non-financial reporting, it is worth mentioning the main results of non-financial reporting literature in the two sectors under consideration.

The pharmaceutical sector

The pharmaceutical industry is a sector with a strong tradition of CSR reporting (Cogan *et al*., 2008). On the one hand, as its production is linked to an essential element of life (health), society's expectations of responsible behaviors are high. On the other hand, it is a sensitive sector due to several corruption/lobbying scandals in the last two decades (Schneider *et a*l. 2010). Such sensibility increased scrutiny by various stakeholders and fostered sustainability reporting. To date and on average, pharmaceutical industries report on 30% more issues than industries from other sectors (Demir and Min, 2019). What are the crucial social and ecological issues that one might expect in pharmaceutical company reports?

SASB standards (Sustainability Accounting Standards Board[1]), a reference in terms of sustainability reporting, provide a list of 11 sustainability issues of particular interest to this industry: (1) access to medicines; (2) drug safety and side effects; (3) safety of clinical trial participants; (4) affordability and fair pricing; (5) ethical marketing; (6) employee recruitment, development and retention; (7) employee health and safety; (8) counterfeit drugs; (9) energy, water and waste efficiency; (10) corruption and bribery; and (11) manufacturing and supply chain quality management. One could add traces and residuals which are being found on land and in waterways, contaminating ecosystems and affecting biodiversity (Gimenes and Payaud, 2017; Klatte et al., 2017). These are issues that should attract particular attention in a sustainability or SDGs report in this sector.

If non-financial reporting is a common practice in the pharmaceutical sector, until recently the literature did not provide a comprehensive picture of its practice. Existing analysis was either precise but outdated (Blum-Kusterer and Hussain, 2001; Veleva et al., 2003; Kolk and Pinske, 2004), or limited to the observation of broad CSR categories in sustainability reports, such as the 10 GRI categories (Cogan et al., 2008; Salton and Jones, 2015; Gimenes and Payaud, 2017).

[1] www.sasb.org/

A recent study (Demir and Min, 2019) closed this gap and analyzed sustainability report content of the world's 15 largest pharmaceutical companies. One interest of their research is that it scrutinizes the reports of companies with respect to the SASB framework. It indicates that large pharmaceutical companies report intensively on (6) employee recruitment, development and retention; (7) employee health and safety; and on (9) energy, water and waste efficiency. The least reported issues are (2) drug safety and side effects; (3), safety of clinical trial participants; and (4) affordability and fair pricing. This means that companies in the pharmaceutical sector report mainly on subjects that are not specific to the production of medicines, but common to the activity of any company. The authors' interpretation is that pharmaceutical companies '*highlight their achievements in areas where they feel more confident, while leaving out others that can have potential negative consequences on the company*' (Demir and Min, 2019, p.27). This means that when analyzing Belgian companies (which are often internationally integrated), one should suspect an enhancement of positive performances and an obscuring of bad ones.

The retail sector

Compared to the pharmaceutical industry, the retail industry is considered to report less on sustainability issues. On the one hand, it discloses less information than in other sectors, and with a greater diversity of indicators, which can complicate comparison and analysis (Roca and Searcy, 2012; Saber and Weber, 2019). On the other hand, it rarely provides external assurance on the sustainability reporting process, which can undermine its credibility and integrity (Hillier and Jones, 2018).

There is, however, a large potential for sustainable practices in the retail sector. Its share in the world's GDP is estimated at 31% (Business Wire, 2016). This means that it is the last step in the supply chain of a large proportion of total production. This position provides retailers powerful leverage to influence suppliers and consumers. In one way, they can influence the sustainability of the products they sell by selecting producers according to certain criteria, asking for social and environmental certifications, making inhouse eco-products, etc. (Styles et al., 2012). They are also directly engaged with consumers and they can promote sustainable consumption through ads promoting sustainable products, in-store consumer education, or incentives for eco-friendly consumption (Jones et al., 2009; Signori et al, 2019). Moreover, as in other industries, retailers can improve the sustainability of their own operations. What are the crucial social and ecological issues found in retail company reports?

SASB standards (2018) also provide a list of relevant topics for this industry: (1) Energy management; (2) data security; (3) Wage and turnover; (4) Workforce diversity; (5) Products from sustainable sources; and (6) packaging. This list should certainly be widened to include food waste (Cicatiello et al., 2016), transportation (Ramanathan et al., 2014) and sustainable consumption promotion (Signori et al, 2019), three critical issues in the sector. In addition, the presence of data security should be questioned as it is not regularly mentioned as a sustainability issue in the retail CSR literature.

Are these issues present in retail companies' current sustainability reports? A survey launched by Naidoo and Gasparados (2018) highlights that the most frequently reported issue is overall energy conservation. After that, the most frequently reported issues are waste reduction (food waste and reducing/recycling packaging materials) and GHG emissions reduction. In contrast, biodiversity loss is a neglected issue. The interpretation of this finding by the two authors is that retail companies aim to reduce operational expenses through cost-saving methods. As energy is the second highest operating cost and as waste disposal costs continue increasing, improving these issues reap economic benefits. The main motivation of sustainability reporting in the retail sector would be these economic benefits.

In terms of effective sustainable practices, it must be noted that a heterogeneity exists among retailers. Specialist retailers and smaller cooperative retailers tend to be more advanced, while large retailers and price-led retailers tend to be behind (Styles and al, 2012).

For the retail sector, no quantification of SDGs indicators has been carried out. Research by Jones and Comfort (2019) and Wynn and Jones (2019) provide qualitative examples of SDGs reporting practices in the retail sector, but without precise account at the business or the aggregated level.

3 Methodology

To answer our research questions, we analyse sustainability indicators and targets at the national level (Belgian), as well at the business level (retail and pharma sectors). This section details how data is selected and treated.

3.1 Data selection

Belgian federal sustainability indicators are developed by the Federal Planning Bureau (FPB), a public institution in charge of developing economic information and analysis. It has been jointly-published annually since 2016 with the Institute of National Accounts, a set of indicators complementary to Gross Domestic Product (GDP). Since 2019, and building on these indicators, the FPB published a list of 84 indicators to monitor sustainable development in Belgium. The content of this list has not been chosen by the FPB alone. It is the result of a concertation between the FPB and other main public data producers (including those at the regional level) regrouped in the Interfederal Statistical Institute (ISI). SDGs indicators were thus chosen at the ISI in 2016, among the 232 UN indicators of SDG monitoring. These 84 indicators are the basis for yearly sustainability reports developed by the FPB, as well as for various publications. A subset of these indicators (51) is used by the FPB to formally assess Belgian performance in terms of sustainable development, through a comparison among directions and targets inspired by SDGs agenda and other laws and agreements. Belgian sustainable development monitoring is thus

based on these indicators and their targets, all publicly available[2] and analyzed in various reports. The list of indicators is likely to be extended in the future when new data becomes available. In this paper, indicators for 2019 have been considered.

Business level indicators are evaluated by the analysis of business sustainability reports. When needed, complementary information is found in their annual report or on their website. Businesses under scrutiny have been selected according to three criteria: (1) they operate in the retail or the pharmaceutical sectors. As stated in the introduction, both are important Belgian industries and have a large potential for action in favor of SDGs (2) They are members of The Shift, the main Belgian business consortium for sustainable development. Our sample is thus not representative of all Belgian businesses, but of (some of) the most advanced in terms of sustainable development commitment. (3) They disclose quantitative data about their sustainability performance. In practice, this criterion excludes small or medium-sized businesses which rarely develop sustainability indicators. According to these criteria, 11 businesses have been selected, as it is shown in Table 1. They include most of the major players in both sectors in Belgium. In this study, indicators present in 2018 reports have been considered.

Table 1: Businesses under study

Pharmaceuticals	**Retail**
GSK	Ahold Delhaize
IBA	Aldi North
Johnson & Johnson (Janssens)	Carrefour
Pfizer	Colruyt
UCB	Ingka (Ikea)
	Lidl Belgium-Luxemburg

One complication that emerges from our sample is that, due to dynamics of concentration and merging in both sectors, all businesses included are now multinational corporations (even the originally Belgian ones). Their annual or sustainability report therefore covers not only Belgian activities, but activities all around the world. Only two reports originate from businesses which have a clear Belgian dominance (IBA and Lidl Belgium-Luxemburg). All other reports cover worldwide activities. This exhibits a structural limitation: while Belgian indicators are the focus at the national level, the indicators produced by businesses do not only show Belgian businesses' priorities or performances, but also global ones (mainly Western European countries and the US). This issue fortunately has a limited impact on our research. On the one hand, if differences in reporting practices across Western countries do exist, they are limited (Demir and Min, 2019). On the other hand, the indicators used in a global company are those used in its national branches. They thus provide a fair

[2] www.indicators.be. The 84 indicators have been chosen (rather than the subset of 51 indicators or other subsets) because they make up the most comprehensive database for monitoring sustainable development.

account of this business sustainability reporting in the countries it operates (*i.e.* Belgium).

3.2 Data treatment and standardization

At the national level, as the number of indicators is moderate (minimum 3, maximum 11 per goal) and there is only one country under consideration, we directly used the 84 FPB's SDGs indicators as data. The full list of macro level SDGs indicators can be found in table 6 of the Appendix.

However, at the business level, the degree of standardization of reporting practices is low. This heterogeneity is a classic issue in sustainability reporting, making comparisons difficult and sometimes meaningless (Boiral and Henri, 2015). For instance, some businesses measure carbon emissions of delivery of goods, while others only include those of internal operations. Some measure the proportion of women in management positions, while others measure this proportion only among board members. The communication of measures can also vary: some businesses measure the share of certified products in total sales, while others use ten sourcing indicators, one per product. Measurement heterogeneity makes the use of raw business indicators unfit for comparative analysis or aggregation. Using them first requires capturing the key themes they refer to, not their peculiarities. How can this be done?

A modified version of a list of SDGs themes relevant for businesses developed by Van Zantem and Van Tulder (2018) is used. The two authors condensed the UN framework of targets and indicators (UNSD, 2017) to make it relevant at the business level by excluding targets that are primarily aimed at governmental action and by merging similar issues to capture their main essence. Using this list of SDGs themes allows us to aggregate indicators present in business reports in 58 themes, which leads to a standardized dataset. If one theme is covered by at least one indicator in business reports, the business is considered to report on the issue under consideration (value = 1). In the other case, reporting is considered absent on this issue (value = 0). Sustainability indicators present in business reports are thus first standardized (and grouped) in 58 synthetic binary business SDGs indicators, corresponding to each sustainability issue. These synthetic indicators are then used to show which goals are the most reported (and can be observed independently). The corresponding loss of information due to the use of binary values is limited, while the 58 indicators cover most possible business sustainability indicators. Note that the 58 SDGs indicators are vastly similar to the 169 SDGs targets developed by the UN.

Minor modifications were made to Van Zantem and Van Tulder's list to make it better fit to our objective (showing measurement priorities), while theirs was to survey businesses. Modifications made are the following: (1) the merger of issues which were impossible to distinguish precisely among indicators present in reports (*e.g.* 'labour rights practice in the supply chain', 'collective bargaining in the supply chain', 'elimination of forced labour and child labour', etc. have been merged into a more general 'social standards in the supply chain' indicator) (2) we added highly relevant issues for businesses and SDGs, which were absent from Van Zantem and Van Tulder's work for unknown reason: 'clean mobility and transportation', 'wage policy and working conditions' and 'tax transparency'. These modifications lead to a list

composed of 58 themes (rather than 59), each of them part of one or more SDG. It covers material issues highlighted by the literature review as relevant for the two sectors under consideration. Table 5 in Appendix offers a complete view of the 58 synthetic SDGs indicators.

The analysis of business reports thus consists in observing whether businesses disclose at least one indicator on these issues, and link it with one or more SDG. As reporting practices are the prime focus of this paper, only quantitative indicators giving information on the general business performance are taken into account. Qualitative aspects and single initiatives are left out. Hence, the disclosure of the rate of energy savings is the kind of measure which is taken into account, while the simple mention of a project to save energy is not.

4 Analyzing the consistency of national and businesses' sustainability indicators

In this section, the similarity of reported SDGs themes at the macro and business levels is evaluated. A convergence of reported SDGs themes would suggest a similar awareness regarding the goals, and would facilitate the coordination of ideas and actions. In the case of coordination of actions, it would allow us to observe performances at the other level and make decisions based on this information. If businesses aiming to contribute to SDGs observe a national weakness in a certain goal, they might want to focus their actions on this goal in order to tackle unsolved issues. The observation of company performance in a given sector would provide the government with additional information to develop adequate regulations. This kind of coordination does not require all variables of SDGs indicators to be the same at each level. It just requires that each goal be covered by indicators which capture the essence of the challenge at stake (Malay, 2020).

4.1 RQ1: Do business and national level sustainability indicators measure similar SDGs issues?

Table 2 provides a picture of national and business indicators. It shows the number of sustainability issues covered per goal, as well as the percentage of unfavorable evolution [UE] per goal. This section 4.1 analyzes the number of reported issues, while section 4.2 focuses on performance. Data has been gathered and treated as presented in the methodological section. Recall that counting methods differ between the national and the business level. The interest of the table is thus to show the contrast in priorities at each level, rather than to compare both levels' numbers on a single goal. Business level data is presented with the mean (# indicators per business). Detailed indicators and data by sector are available in Appendix (table 5 and 6) for those interested in a more precise picture of SDGs reporting.

Table 2: Number of SDGs issues covered by indicators and related performance (percentage of unfavorable evolution [UE]), by goal

SDG		National		Business	
		# Indicators	% UE	# Indicators	% UE
1	No Poverty	6	17 %	2	0 %
2	Zero Hunger	4	25 %	1	0 %
3	Good Health and Well-being	11	18 %	2	14 %
4	Quality Education	4	0 %	1	0 %
5	Gender Equality	3	0 %	2	0 %
6	Clean Water and Sanitation	3	0 %	1	45 %
7	Affordable and Clean Energy	5	0 %	2	0 %
8	Decent Work and Economic Growth	6	33 %	7	13 %
9	Industry, Innovation and Infrastructure	7	43 %	0	-
10	Reduced Inequality	4	50 %	0	-
11	Sustainable Cities and Communities	4	0 %	0	-
12	Responsible Consumption and Production	4	0 %	4	11 %
13	Climate Action	5	20 %	3	15 %
14	Life Below Water	3	0 %	2	0 %
15	Life on Land	4	50 %	2	5 %
16	Peace, Justice and Strong Institutions	7	14 %	4	2 %
17	Partnerships to Achieve the Goal	4	25 %	2	0 %
Total		84	18 %	36	7 %

At the national level, all SDGs are covered by indicators. Top reported goals are SDG 3 *Good health and well-being*, SDG 9 *Industry, innovation and infrastructure*, and SDG 16 *Peace, justice and strong institutions*. The priority given to health is consistent with an FPB study which highlights the role of health variables in the well-being of Belgians, accounting for around 40% of subjective variation in wellbeing (Joskin, 2018).

At the business level most SDGs are covered, with an emphasis on SDG 8 *Decent Work and Economic Growth*. Three neglected issues can be identified: SDG 9 *Industry, Innovation and Infrastructure*, SDG 10 *Reduced Inequality* and 11 *Sustainable Cities and Communities*. Indicators on these goals would have been expected as concepts such as industry, innovation, infrastructure or inequality seem directly related to business. If SDG 9 *Industry, Innovation and Infrastructure* is absent from quantitative reporting, note that it is present in a more qualitative form among reports. For instance, some green investments or cleaner industrial techniques are described, however, systematic indicators about the sustainability of investment or industrial strategy are not disclosed (except in the case of investments in renewable energy). This is consistent with findings by studies in other sectors, which show little or a moderate degree of reporting on SDG 9 (Moratis *et al*., 2018). SDG 10 *Reduced Inequality* is completely absent from business reporting. This absence is significant, as the rise of inequality in recent years is explained by factors which partly originate from business decisions, such as changing pay norms or the reduced role of trade unions (Atkinson, 2015). Businesses also have the power to act on social inequalities as they can change their value distribution strategy (‘who will benefit from the surplus?’) to reach a more equal distribution (Bapuji *et al*.,

2018). In a SDGs perspective, businesses should certainly improve the disclosure of data on such issues, by accounting for the wage gap, wage/dividend ratio, *etc*. SDG 11 *Sustainable Cities and Communities* is also absent from quantitative reporting. It is present in reports through the highlight of local projects, but not through systematic indicators. This is understandable, as issues covered by this goal are not well-suited for aggregation at the company level, especially when it operates in various cities and communities.

Businesses' top reported goals are SDG 8 *Decent Work and Economic Growth*, SDG 12 *Responsible Consumption and Production* and SDG 16 *Peace, Justice and Strong Institutions*. These are goals linked to traditional CSR priorities of businesses. They mainly reflect efficiency gains and labor issues (SDG 8), eco-efficiency (SDG 12) and transparency and diversity issues (SDG 16). Part of what these issues have in common is their association with cost-saving strategies (number of accidents, sick days, eco-efficiency…), while others are about other aspects of sustainability (decent work, clean mobility, environmental sourcing, diversity…).

If national indicators do cover every SDG, it is not the case at the business level. This means that for now there is only a partial alignment of reporting practices at both levels. The national level discloses enough relevant information so that businesses can eventually plan their actions in accordance with national performance. However, the reverse is not the case: national authorities do not have information (at least via business reports) on business contribution to SDGs on several crucial issues, which is particularly striking in the case of SDGs 9 and 10. SDGs could therefore improve the situation by fostering indicator disclosure on missing issues.

4.2 RQ2: Are business and macro level priorities consistent with the performance of one another?

Having a clear account of measured issues allows us to analyze the performances of actors at a given level on these issues. These performances can then reveal what is missing at each level. Finally, this information can be used by actors from other levels to take actions to tackle unsolved issues. Of course, for-profit companies may have no use for this information. But it is assumed that at least some businesses are genuinely committed to SDGs and are in search of tools to help them do so, for instance to address national weaknesses. Analyzing performance has been done in this section. Using existing data presented in Table 2, what can be said about the current consistency between the performances at each level and the priorities of other levels' stakeholders?

Analyzing performance should be done with caution considering that disclosed information is compromised by communication strategies, as it has already been noted in the literature review. This is a well-known fact, especially at the business level, which has literature dedicated to this topic. Businesses tend to develop strategies to influence user perception by releasing reports on certain issues, by choosing the most favorable indicators (*e.g.* pollution per sales rather than absolute pollution levels), by attributing bad performance to others (*e.g*. suppliers), or by increasing its reading difficulty (Merkl-Davies and Brennan, 2007). At the macro level, reporting is realized by a partially independent body (the FPB) which can hardly be considered accommodating. But at the business level, checks to assure the exhaustiveness, the honesty of a

report and the quality of data are limited. A famous example of obfuscation is provided by Boiral in a study in which he shows that 90 percent of negative events are not clearly reported in the mining sector's GRI reports. (Boiral, 2013).

Table 2 shows the percentage of unfavorable evolutions per goal. These occur in 18% of cases of SDGs indicators at the macro level and in 7% at the business level. Only the percentage of unfavorable evolutions is reported, as separating the account of favorable and undetermined evolutions faces major issues at the business level[3]. An unfavorable evolution is defined as a strict evolution in the opposite direction of SDGs in the years preceding the last measure[4].

At the national level, the top three critical goals are SDG 9 *Industry, Innovation and Infrastructure*, SDG 10 *Reduced Inequality* and SDG 15 *Life on Land*. They are characterized by respectively 50%, 43% and 50% of indicators showing an unfavorable evolution. A detail of the unfavorable evolution per indicator is provided in Table 6 in Appendix. It shows that the negative performances relate to increases in terms of road transport, risk of poverty-led inequality, and biodiversity loss. Take into account that when they exist, the same indicators calculated at the EU28 level show trends similar to Belgian ones (FPB, 2020). SDGs actions by businesses aiming to tackle national weaknesses should thus make sure to act on these issues. Is this the case?

The increase in road transport is an issue present at the business level under the form of various indicators of mobility and transportation. In our sample of businesses, 60% of reports show at least one indicator linked to mobility and transportation. Among these indicators, 29% are characterized by an unfavorable evolution (see table 5 in Appendix). SDG 10 *Reduced Inequality* is a neglected issue for which no business indicators exist. It is therefore impossible to assess its evolution. In regards to biodiversity, some indicators on the share of products respecting ecosystems and biodiversity on land exist in most retail companies (5 out of 6), but is completely absent from pharmaceutical ones (0 out of 5) (see table 5 in Appendix). However, note that in the retail sector, indicators are about specific goods such as cocoa and coffee but not about main products such as fruits, vegetables, starchy foods or meat.

In summary, business priorities in terms of sustainability do not appear to focus on national weaknesses in terms of SDGs if the absence of reporting can be taken as a proxy for the absence of priority. This potentially explains why these national weaknesses do not improve or get worse, and it offers room for improved SDGs reporting and actions.

At the business level, unfavorable evolutions are mainly located in SDG 6 *Clean Water and Sanitation* and to a lesser extent in SDG 3 *Good Health and*

[3] The synthetic character of SDGs indicators in use makes it impossible to attribute rigorously a favorable or unfavorable evolution when sub-indicators are different across businesses and vary in different directions

[4] The last five years at the national level, the last two years at the business level. This difference is due to less data availability at the business level.

Well-being, SDG 8 *Decent Work and Economic Growth* and SDG 13 *Climate Action*. They are characterized by respectively 45%, 14%, 13% and 15% of indicators showing an unfavorable evolution[5]. They are mainly concentrated in four indicators: Water use (unfavorable evolution in 71% of cases), Greenhouse gas emissions (27%), Occupational health and safety (30%), Clean mobility and transportation (29%), Sustainable waste management (20%). Unfavorable evolutions in health and safety correspond to an increase of accidents or sick leave per employee, while the increases in terms of water use, carbon emissions, transport and waste generation can in all these cases be attributed to an increase in business production superior to eventual efficiency gains. This highlights the presence of rebound effects which negate efficiency gains in these cases (Jones *et al*., 2009). Keep in mind that unfavorable evolutions may occur in more than 7% of cases at the business level, but are not present in our account due to obfuscation strategies described above.

Despite the lack of business data on several goals and issues, an analysis of performances already shows which goals should require special attention from businesses committed to SDGs. It also highlights critical issues at the national level that may not be addressed voluntarily by companies, and for which regulation or planning would be necessary if some seek improvements.

5 Analyzing the consistency of national and businesses' sustainability targets

The next step to improve coordination between government and businesses is through the alignment of targets among these stakeholders, or more precisely between the two levels (macro and micro) at which these stakeholders operate. If one of the roles of SDGs is to guide various actors in the same direction, it is important that their degree of ambition, and thus their targets, is aligned. This is particularly important to ensure that the actions of businesses and governments moving in the direction of SDGs are moving fast enough. This section reviews the conditions for such alignment of targets, and analyzes how it is done when sufficient data is available (GHG emissions).

5.1 RQ3: Which sustainability indicators are accompanied by targets at both the national and business levels?

In order to allow consistent targets across levels, the same indicators connected with targets must first be measured at these levels. It is only when the measured element is identical at both levels (and with a similar methodology) that the

[5] A simplifying assumption has been made to compute unfavorable evolutions at the business level. When a synthetic indicator included sub-indicators evolving in various directions (some unfavorable evolutions, some undetermined and some favorable evolutions), the evolution of the synthetic indicator has been considered unfavorable. This simplification tends to slightly overestimate the number of unfavorable evolutions.

disagregation of the macro-level targets and micro-level targets can be done rigorously. This refers to an 'accounting articulation' according to Malay (2020). Hence, the number of accidents at work is an element which can be measured in the exact same way both at the national and the business level. On the contrary, an indicator such as life expectancy relates only to the macro level, and measuring life expectancy (and developing targets on it) at the business level would have little meaning.

From the FPB's list of 84 national SDGs indicators, one-third (28) can theoretically also be measured at the business level. This proportion could be higher. One may think that, for example, the macro indicators would incorporate a set of indicators from the business level (to steer it), but this is not the case. This partly reflects the current weak coordination between these levels. These 28 indicators are shown in Table 6 in Appendix. Consistent targets across levels are thus possible for this subset of 28 indicators (half of them being environmental indicators). In practice, FPB calculates targets for 11 of them, and businesses for 10 of them. Which ones are they?

Table 3 shows indicators (1) which are identical at the business and the macro level and (2) which are accompanied by targets at at least one of these levels. National targets are all inspired or directly derived from the SDGs, while business targets are set independently. The business target column shows the number of businesses which set a target for a given indicator, out of the 11 businesses under study.

Table 3: Indicators accompanied by targets at the national and the business level[6]

SDG	Indicator	National target?	Business target? (out of 11)
5	Gender pay gap	Yes	0
6	Water consumption	Yes	3
7	Primary energy consumption	No	2
7	Share of renewable energy	Yes	3
7	Energy productivity	Yes	2
8	Number of accidents at work	Yes	0
9	Share of passenger transport by car	Yes	2
9	Share of road freight transport	Yes	2
9	Investment in research and development	Yes	0

[6] Note that Table 3 is not based on synthetic indicators used in the previous sections. To have an exact match with macro-level measures, only business indicators which are identical with macro-level ones have been counted. Similar but not identical indicators have been discarded. For instance, with respect to targets on the reduction of the number of accidents at work, no such target has been counted because the severity of accidents is not the number of accidents at work, and only the latter is measured at the macro level. Table 3 thus reports only targets for business indicators identical to the macro measures. A broader picture of all targets can be found in Table 5 in Appendix, which accounts for targets using synthetic indicators computed as described in the methodology section.

12	Hazardous waste emission	No	1
13	Greenhouse gas emissions non-ETS	Yes	10
14	Oil pollution	Yes	0
14	Share of sustainable fishes	Yes	5
15	Share of forests with FSC label	Yes	4

First, Table 3 shows that the use of targets is far from systematic, especially at the business level. A low use of targets is not necessarily a problem because some actions do not need targets to be implemented. However, targets are important if one aims to address the SDGs agenda, which imposes a certain number of achievements for 2030. For example, this is the case in the objectives to eradicate gender discrimination, to double energy efficiency or to substantially increase water-use efficiency by 2030. These objectives require substantial efforts, the pace of which can only be assessed by targets. Unfortunately, these targets are missing in many cases. This reflects a lack of consideration for the speed of implementation of SDGs.

Note that a low use of targets is also observable when all indicators are taken into account, not only those shown in Table 3 (see Appendix for this data). However, when all indicators are considered, businesses tend to develop more targets.

Second, take into account that targets do not cover the same indicators at both levels. Only greenhouse gas emissions targets are extensively reported at both the national and the business level. This is probably due to the rise of climate issues, to the fact that lower carbon emissions can be achieved through cost-saving measures, as well as to the existence of the movement *Science-based targets* which fostered the development of carbon targets among businesses (half of the businesses under study received support from the *Science-based target initiative*). The share of sustainable fishes and forests can also be considered well-covered by targets at both levels if we limit ourselves to companies in the retail sector, for which such variables are relevant. In this case, it turns out that five and four (out of six) retail sector companies respectively report their percentage of sustainable fish and forests[7]. With the exception of these three indicators, the targets of the government and corporate levels do not coincide, which also reflects the absence of coordination between these levels.

In sum, the analysis of the targets shows that they are not very systematic and at the same time are poorly aligned among the different stakeholders. As the targets at the national level are for the most part directly derived from the SDGs, this means that it is company targets that are disconnected from the SDGs agenda. This situation suggests actions undertaken in a dispersed manner without effectively being part of the overall dynamic.

[7] There is a slight difference between these indicators at the business and the national level. At the macro level, the deflator refers to national production, while at the business level, it refers to sales.

5.2 RQ4: Are greenhouse gas emissions (GHG) targets consistent between the business and national levels?

When identical sustainability indicators are accompanied by targets at different levels, it allows us to analyze the consistency among these targets. This analysis makes it possible to compare the efforts of each actor, and possibly to reinforce them. In the reports under consideration, the only indicator which enjoyed nearly-full coverage at both levels is the GHG emissions indicator, as shown in Table 3. Moreover, the methodology used to compute this at the business level makes it relevant for comparison. Hence, the rest of this section is focused on GHG emissions, but is intended to illustrate the more general issue of the consistency of targets.

Note that comparing targets from different levels is not straightforward because it is difficult to disaggregate the responsibility of a macro level performance into multiple micro-level actors. It is likely that micro-level actors should have different targets depending on their previous efforts, the sector in which they operate, or the cost of further efforts. Secondly, comparing different targets is difficult for practical reasons: the low level of standardization makes micro-micro or micro-macro comparison approximative. These limitations have been partially circumvented in the analysis below. In order to clarify how, the way in which the targets are defined at the different levels is presented.

In the Agenda 2030, GHG emissions targets are not defined, considering that 'the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change' (UN, 2015a, p.14). SDGs thus rely on the 2015 Paris Agreement regarding GHG emissions. Compared to previous agreements, the Paris Agreement strengthened climate objectives to limit global average temperature increase to 'well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels' (UN, 2015b, p3). The IPCC has been invited to operationalize this target in terms of GHG emissions reductions. With respect to this, the IPCC report (AR6) states that GHG emissions in pathways limiting global warming to 1.5°C with no or limited overshoot are projected to be about 81–93% (interquartile range) lower in 2050 relative to 2010 (Masson-Delmotte *et al*., 2018). This will be considered, in an indirect point of view, the SDGs target for GHG emissions. Past annual world performances are based on GHG emissions from 2011 to 2016 (CAIT, 2019).

Belgian targets for GHG emissions are set by the Belgian FPB for non-European Trading System (non-ETS) sectors. No specific target is set for ETS sectors while they are regulated by European legislation on ETS. As both retail and pharmaceutical sectors are non-ETS sectors, the use of non-ETS GHG emissions targets at the national level is relevant for this comparison. A long-term as well as a short-term target for GHG emissions is set by legislation. The long-term target requires a reduction of between 80% to 95% of GHG emissions in 2050 compared to 1990 levels, in accordance with the long-term

federal strategic vision for sustainable development[8]. The short-term target requires a reduction of 35% in 2030 compared to 2005 levels, in accordance with European legislation[9].

At the business level, targets are defined voluntarily, which implies that they depend on the company's strategy and may or may not be defined in relation to macro objectives. One main methodological complexity of sustainability measurement at the business level comes from the existence of different scopes. Three scopes are traditionally distinguished. Scope 1 (direct GHG emissions) covers emissions from sources that are owned or controlled by the business. They include emissions from on-site fuel consumption, owned trucking and cars, refrigerant leakages, etc. Scope 2 (indirect GHG emissions) covers emissions from the generation of purchased electricity, heat or steam. They are produced by third-party installations but are attributed to the business under consideration. Scope 3 (other indirect emissions) includes emissions from suppliers, franchise stores (in the retail sector), subcontractors, employee commuting, business travels, recycling of products, etc. In both sectors under study, scope 3 accounts for the majority of total emissions (*e.g.* 93% by Lidl in 2018, 92% by GSK in 2017). In GSK's case, half of the carbon footprint comes from the value chain. The problem is that data is rarely fully available or reliable for scope 3 emissions, even if improvements are progressively made. Targets and past performances in terms of carbon emissions are thus based on scope 1 and 2. This difference in terms of scope, which can strongly influence the results, reflects the fact that methodological options can be highly political, and should be analyzed with caution.

Table 4 shows GHG emissions targets at the international level, national level and business level, accompanied by past annual performances.

Table 4: GHG targets and past performances among international, national and business (scope 1 and 2) indicators

UN-IPCC	**Target**	**Time frame**	**Annualized target**	**Past annual performance**
World[1]	-81/93%	2010-2050	-2%	0,7%
National				
Belgium[1]	-35% -95%	2005-2035 1990-2050	-1,4% -1,6%	-0,7%
Business				
Aldi[1]	-40%	2015-2021	-7%	0%
Carrefour[1]	-40%	2010-2025	-3%	-4%
GSK[1]	-20%	2016-2030	-1%	-5%
Ingka[1]	-80%	2016-2030	-6%	-1%
Johnson[1]	-20%	2010-2020	-2%	-4%
LIDL[1]	-20%	2015-2025	-1%	3%

[8] Belgian Bulletin of Acts, 08/10/2013
[9] Official Journal of the European Union, 19/06/2018

Pfizer[1]	-20%	2012-2020	-3%	-6%
UCB[1 3]	-35%	2015-2030	-2%	-10%
Ahold Delhaize[2 3]	-30%	2008-2020	-3%	-3%
Corluyt[2]	-20%	2008-2020	-2%	-1%
Mean business	-33%	11 years	-3%	-3%

[1] GHG emissions measured in absolute terms.

[2] GHG emissions measured relatively to operating revenues or m² square area. If absolute GHG emissions were measured, they probably would show a stagnation or a rising slope.

[3] UCB measures include scope 3, while Ahold Delhaize measures include limited scope 3 (franchised stores and associated trucking)

Table 4 shows that both targets and past performances in terms of GHG emissions are lower at the national level than at the business level (-1,4%/1,6% vs -3% for annual targets, -,07% vs -3% for past performances). This can be partly explained by the fact that, by selection, the sample is composed of businesses which are the most committed to sustainability. In some cases, the drop in emissions is also partly explained by the sale of subsidiaries (this is the case with UCB). Moreover, the absence of scope 3 measurement creates an upward bias (while existing partial measures of scope 3 show that absolute GHG emissions reductions are smaller or even null). Even so, annual performances of several of these companies for scope 1 and 2 are impressive.

Are national and business targets consistent with goals of 1.5 or 2° of climate warming? At the national level, Belgian targets are both inferior to IPCC targets (under the assumption that they apply to each country). Even if short-term targets are reached, progress would not be consistent with IPCC trajectories. The ambition of the Belgian government is thus insufficient to reach SDGs. The FPB itself recognizes the lack of government proactivity in terms of sustainable development (FPB, 2019).

At the business level, if average annual targets are extrapolated until 2050, it would correspond with a decrease of GHG emissions by 60% between 2030 and 2050. In addition, with current average targets of 33% reduction on an eleven-year term, the magnitude of efforts would be consistent with the IPCC's carbon reduction trajectories. However, this would only hold for scope 1 and 2 emissions, on the condition that provided data is exhaustive and under the assumption that IPCC targets apply uniformly to all businesses. Moreover, it is based on the hypothesis that it would be possible to sustain efficiency gains at a high rate for the medium or long term. Until now, this hypothesis has not been proven true. Scope 1 and 2 GHG emissions business targets can thus be considered consistent with SDGs, but data constraints and the absence of scope 3 means that this result must be treated with caution.

More fundamentally, the many conditions and assumptions underlying the performance analysis reflect the intertwining of methodological and political issues. They also reveal that while the SDGs may sometimes appear to be consensual, it is at the time of their operationalization that choices are made (for instance, in the scope of measurement) which can have important implications and guide the actors on very different paths.

6 Discussion and conclusion

The analyses conducted in sections 4 and 5 show a misalignment between the indicators and targets at the business and government levels. This is first apparent at the level of the issues being measured, where there is a lack of data at the business level on social inequalities, industrial processes, innovation and biodiversity. As these issues are also Belgium's main weaknesses in terms of SDGs, their lack of reporting leads to a second misalignment, which lies between the priorities of companies and what responding to national SDGs weaknesses would require. A third misalignment is at the level of the targets accompanying the indicators. Few indicators are accompanied by targets, and even fewer indicators are subject to targets at both levels simultaneously. Finally, a fourth misalignment lies between the degrees of ambition reflected in the targets. For the indicator most frequently calculated at both levels (greenhouse gas emissions), it appears that business and government targets do not reflect identical ambition and in some cases are not in line with climate objectives. What does this four-way misalignment tell us?

From the indicator point of view, it tells us that the conditions under which indicators allow for a better coordination between business and government are not satisfied. This means that the SDGs dynamic applied to the indicators is still developing or lagging, and there is much room for improvement in addressing these misalignments.

From the actor perspective, this non-alignment reflects a lack of coordination among actors, which act separately. More fundamentally, it calls into question the sincerity of those who claim to be committed to the SDGs dynamic but do not publish data on some of their performances (in the case of companies), or define targets that are too unambitious (in the case of the Belgian government for greenhouse gas emissions). Are these actors, and particularly companies, ready to change their practices as a whole to reach SDGs, or are they putting aside changes that might cost them?

Finally, from the point of view of the objective (of the SDGs), this misalignment reflects the limits of a non-binding multi-actor approach where the various players are not always aligned with each other or with their stated common objective. If trends continue, it is to be expected that some SDGs will make progress (related to green energy, energy efficiency, gender pay gap, waste management, occupational health and safety, etc.). However, the goals mentioned as neglected issues are unlikely to be achieved. It should also be recalled that the companies analyzed were, by selection, the most advanced in terms of sustainability. The rest of the industry is therefore even further behind in achieving the SDGs.

In terms of public policy, several measures could be taken to improve the situation. First, the government could require large companies to report on each or on a subset of the 17 SDGs, as is currently done in traditional accounting, which is partially regulated. Second, the government could require companies not just to report, but to act in a range of areas through appropriate regulation and planning. In this perspective, the government would thus be the guarantor of the alignment of all actors with the SDGs. Of course, for it to take on such a role it would need the will to do so, which probably requires a change in the balance of power in society beforehand.

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Appendix

Table 5 : frequency of business indicators, of associated targets and of their unfavorable evolutions

To read the table: e.g. third line of the table: Indicators of 'Actual and potential impacts on local communities' are present in 30% of retail compagnies reports and in 0% of pharma compagnies reports. In sum, they are present in 20% of total reports. They are associated with targets in 0% of cases, and show 0% of unfavorable evolution (UE).

SDG	Indicator	Frequency among businesses			Target frequency	% UE
		Retail	Pharma	All		
1	Access to financial services for all, including the most vulnerable	0,0	0,0	0,0	0,0	0
1	Actual and potential impacts on local communities	0,3	0,0	0,2	0,0	0
1	Agricultural productivity of small-scale suppliers	0,0	0,0	0,0	0,0	0
1	Disaster and emergency planning	0,0	0,0	0,0	0,0	0
1	Goods and services for those on low incomes	0,2	0,6	0,4	0,1	0
1	Small-scale producers' ownership over land and other property	0,0	0,0	0,0	0,0	0
1	Social protection systems for all	0,2	0,0	0,1	0,0	0
1	Social standards in the supply chain	1,0	0,6	0,8	0,5	0
2	Actual and potential impacts on local communities	0,0	0,0	0,0	0,0	0
2	Agricultural productivity of small-scale suppliers	0,0	0,0	0,0	0,0	0
2	Healthy and sufficient food for those on low incomes	0,5	0,0	0,3	0,0	0
2	No overfishing and illegal-, unregulated- and destructive-fishing	0,0	0,0	0,0	0,2	0
2	Small-scale producers' ownership over land and other property	0,0	0,0	0,0	0,0	0
2	Sustainable food production	0,8	0,0	0,5	0,1	0
3	Education to promote sustainable development	0,2	0,0	0,1	0,1	0
3	Health-care services and medicines for all	0,0	0,6	0,3	0,2	0
3	Healthy and sufficient food for those on low incomes	0,8	0,0	0,5	0,5	0
3	Mental health and well-being	0,3	0,6	0,5	0,1	0
3	Occupational health and safety	0,8	1,0	0,9	0,3	30
3	Reducing air, water, and soil pollution	0,0	0,2	0,1	0,1	0
4	Childcare services and benefits	0,0	0,0	0,0	0,0	0
4	Children's access to education	0,3	0,0	0,2	0,0	0
4	Education to promote sustainable development	0,5	0,0	0,3	0,1	0
4	Employee training and education	0,8	0,6	0,7	0,5	0
5	Childcare services and benefits	0,0	0,0	0,0	0,0	0
5	Equal pay and opportunities for men and women, at all levels	0,8	0,8	0,8	0,2	0
5	Health-care services and medicines for all	0,0	0,6	0,3	0,2	0
5	No discrimination and anti-discrimination laws and policies	0,8	0,6	0,7	0,2	0
5	No workplace violence and harassment	0,3	0,4	0,4	0,0	0
6	Marine, coastal, and other water-related ecosystems	0,8	0,0	0,5	0,5	0
6	Reducing air, water, and soil pollution	0,0	0,2	0,1	0,1	0

6	Sustainable waste management	0,2	0,2	0,2	0,0	0
6	Water use	0,5	0,8	0,6	0,3	71
6	Water, sanitation, and hygiene	0,0	0,0	0,0	0,0	0
7	Access to energy for all	0,0	0,0	0,0	0,0	0
7	Energy efficiency	0,8	0,8	0,8	0,3	0
7	Energy infrastructure	0,7	0,2	0,5	0,3	0
7	Renewable energy	0,8	0,8	0,8	0,5	0
8	Economic growth and productivity, particularly in developing countries	0,8	0,8	0,8	0,1	0
8	Employee training and education	0,8	0,6	0,7	0,5	0
8	Employment for all, particularly young people and people with disabilities	0,8	0,8	0,8	0,1	0
8	Energy efficiency	0,8	0,8	0,8	0,3	0
8	No discrimination and anti-discrimination laws and policies	0,8	0,6	0,7	0,2	0
8	Occupational health and safety	0,8	1,0	0,9	0,3	30
8	Social standards in the supply chain	1,0	0,6	0,8	0,5	0
8	Sustainable waste management	1,0	0,8	0,9	0,6	20
8	Wage policy and working conditions	0,3	0,2	0,3	0,1	0
8	Water use efficiency	0,5	0,8	0,6	0,3	71
9	Access to financial services for all, including the most vulnerable	0,0	0,0	0,0	0,0	0
9	Access to information and communication technology for all	0,0	0,0	0,0	0,0	0
9	Resilient and sustainable infrastructure	0,0	0,0	0,0	0,0	0
9	Sustainable technologies and sustainable industrial processes	0,3	0,4	0,4	0,0	0
10	Investment (e.g. FDI) in developing countries	0,0	0,0	0,0	0,0	0
10	Social protection systems for all	0,2	0,0	0,1	0,0	0
10	Wage policy and working conditions	0,2	0,0	0,1	0,0	0
11	Access to affordable and safe housing for all	0,0	0,0	0,0	0,0	0
11	Access to affordable and sustainable transport for all	0,0	0,0	0,0	0,0	0
11	Cultural and natural heritage and diversity	0,0	0,0	0,0	0,0	0
11	Disaster and emergency planning	0,0	0,0	0,0	0,0	0
11	Sustainable waste management	0,2	0,2	0,2	0,0	0
12	Clean mobility and transportation	0,8	0,4	0,6	0,4	29
12	Education to promote sustainable development	0,2	0,0	0,1	0,0	0
12	Environmentally sustainable sourcing	1,0	0,6	0,8	0,6	11
12	External reporting on sustainability	1,0	1,0	1,0	0,0	0
12	Reducing air, water, and soil pollution	0,0	0,2	0,1	0,1	0
12	Sustainable waste management	1,0	0,8	0,9	0,6	20
12	Tools to monitor impacts on sustainable development	0,8	0,8	0,8	0,0	0
12	Transfer of (sustainable) technologies to developing countries	0,0	0,0	0,0	0,0	0
13	Clean mobility and transportation	0,8	0,4	0,6	0,4	29
13	Disaster and emergency planning	0,0	0,0	0,0	0,0	0
13	Education to promote sustainable development	0,2	0,0	0,1	0,0	0
13	Energy efficiency	0,8	0,8	0,8	0,3	0

13	Funding for developing countries' climate change actions	0,0	0,2	0,1	0,0	0
13	Greenhouse gas emission reductions	1,0	1,0	1,0	0,9	27
13	Renewable energy	0,8	0,8	0,8	0,5	0
13	Resilience to climate-related hazards	0,0	0,0	0,0	0,0	0
13	Sustainable food production	0,0	0,0	0,0	0,0	0
14	Environmentally sustainable sourcing	1,0	0,6	0,8	0,6	0
14	Marine, coastal, and other water-related ecosystems	0,8	0,0	0,5	0,5	0
14	No overfishing and illegal-, unregulated- and destructive-fishing	0,8	0,0	0,5	0,5	0
15	Ecosystems and biodiversity on land	0,8	0,0	0,5	0,5	0
15	Environmentally sustainable sourcing	1,0	0,6	0,8	0,6	11
15	Halt or reverse deforestation and/or desertification	1,0	0,0	0,5	0,5	0
15	Halt poaching and trafficking of protected species	0,0	0,0	0,0	0,0	0
15	Sustainable food production	0,0	0,0	0,0	0,0	0
16	Accountable and transparent governance	0,5	0,6	0,5	0,0	0
16	Data availability and public access to information	0,8	1,0	0,9	0,0	0
16	Equal pay and opportunities for men and women, at all levels	0,8	0,8	0,8	0,2	0
16	No corruption and bribery	0,0	0,4	0,2	0,0	50
16	No discrimination and anti-discrimination laws and policies	0,8	0,6	0,7	0,2	0
16	No workplace violence and harassment	0,3	0,4	0,4	0,0	0
16	Protection of privacy	0,0	0,0	0,0	0,0	0
16	Responsive and inclusive decision-making at all levels	0,0	0,0	0,0	0,0	0
16	Tax transparency	0,7	0,2	0,5	0,0	0
17	Data availability and public access to information	0,8	1,0	0,9	0,0	0
17	Investment (e.g. FDI) in developing countries	0,2	0,0	0,1	0,0	0
17	Partnerships with the public and civil society sectors	0,7	0,6	0,6	0,1	0
17	Tools to monitor impacts on sustainable development	0,8	0,8	0,8	0,0	0
17	Transfer of (sustainable) technologies to developing countries	0,0	0,0	0,0	0,0	0
	Total # in the sample	251	159	410	167	30

Table 6 : National SDGs indicators, frequency of target and unfavourable evolutions

The table is exclusively composed of binary variables. To read it: e.g. the second line of the table: indicator of 'Risk of poverty or social exclusion' is associated to a target. It shows no unfavorable evolution (UE). And it has no possible counterpart at the business level.

SDG	Indicator	With target?	Unfavorable evolution? (UE)	Business level counterpart ?
1	Risk of poverty or social exclusion	1	0	0
1	Very low work intensity	0	0	0
1	Severe material deprivation	0	0	0
1	Guaranteed minimum income beneficiaries	0	1	0

1	Over-indebtedness of households	0	0	0
1	Postponement or cancellation of health care for financial reasons	0	0	0
2	Adult obesity	0	1	0
2	Meat consumption	0	0	0
2	Organic agriculture area	0	0	0
2	Agricultural pesticides	0	0	0
3	Life expectancy	0	0	0
3	Healthy life years	0	0	0
3	Self-perceived health	0	0	0
3	Limitations in usual activities	0	1	0
3	Premature deaths due to chronic diseases	1	0	0
3	Long-standing illness or health problem	0	0	0
3	Depression	0	1	0
3	Life satisfaction	0	0	0
3	Leisure	0	0	0
3	Traffic fatalities	0	0	0
3	Daily smokers	1	0	0
4	Early school leavers	1	0	0
4	Lifelong learning	0	0	1
4	Higher education graduates	0	0	0
4	Underachievement in reading	0	0	0
5	Gender pay gap	1	0	1
5	Inactive population due to caring responsibilities	0	0	0
5	Female members of parliament	1	0	0
6	Nitrates in river water	0	0	1
6	Nitrates in groundwater	0	0	1
6	Water consumption	0	0	1
7	Energy dependence	0	0	0
7	Dwellings without adequate heating	1	0	0
7	Renewable energy	1	0	1
7	Primary energy consumption	1	0	1
7	Energy productivity	1	0	1
8	Long-term work incapacity	0	1	1
8	Household consumption	0	0	0
8	Unemployment rate	0	0	0
8	Employment rate	0	0	1
8	Youth not in employment, education or training	0	0	0
8	Accidents at work	1	0	1
9	Passenger transport by car	1	1	1
9	Road freight transport	1	1	1
9	Road congestion	0	1	0
9	Physical capital stock	0	0	1

9	Gross investment in the physical capital stock	0	0	1
9	Research and development	1	0	1
9	Knowledge capital stock	0	0	1
10	Risk of poverty	0	1	0
10	Depth of risk of poverty	0	1	0
10	Income inequality: Gini index	0	0	1
10	Income inequality: S80/S20	0	0	1
11	Inadequate dwelling	0	0	0
11	Exposure to particulate matter	1	0	0
11	Nitrogen oxide emissions	0	0	1
11	Noise pollution	1	0	0
12	Domestic material consumption	0	0	1
12	Hazardous waste	0	0	1
12	Waste recycling	0	0	1
12	Municipal waste	0	0	0
13	Greenhouse gas emissions	0	0	1
13	Greenhouse gas emissions non-ETS	1	0	1
13	CO2 atmospheric concentration	0	1	0
13	Natural disaster victims	1	0	0
13	Contribution to international climate fund	0	0	0
14	Oil pollution	1	0	1
14	Sustainable fisheries	1	0	1
14	Natura 2000 protected marine area	1	0	0
15	Natura 2000 protected land area	0	0	0
15	Forests with FSC label	0	0	1
15	Farmland bird population	0	1	0
15	Built-up and related land	0	1	0
16	Social support	0	0	0
16	Meeting with friends and family	0	1	0
16	Generalised trust	0	0	0
16	Victims of burglary or assault	0	0	0
16	Security feeling in public spaces	0	0	0
16	Corruption Perceptions Index	0	0	0
16	Trust in institutions	0	0	0
17	Official development assistance	1	0	0
17	Official development assistance to least developed countries	1	1	0
17	International investment position	0	0	0
17	Public debt	0	0	0
Total		23	15	28

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