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## Article

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*Suggested Citation:* Denčić-Mihajlov, Ksenija; Spasić, Dejan (2025) : Social and environmental disclosures in the European insurance industry in conditions of flexibility in the mandatory reporting regime, Amfiteatru Economic, ISSN 2247-9104, The Bucharest University of Economic Studies, Bucharest, Vol. 27, Iss. 70, pp. 1069-1089, <https://doi.org/10.24818/EA/2025/70/1069>

This Version is available at:

<https://hdl.handle.net/10419/328036>

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# SOCIAL AND ENVIRONMENTAL DISCLOSURES IN THE EUROPEAN INSURANCE INDUSTRY IN CONDITIONS OF FLEXIBILITY IN THE MANDATORY REPORTING REGIME

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## Please cite this article as:

Denčić-Mihajlov, K. and Spasić, D., 2025. Social and Environmental Disclosures in the European Insurance Industry in Conditions of Flexibility in the Mandatory Reporting Regime. *Amfiteatru Economic*, 27(70), pp. 1069-1089.

DOI: <https://doi.org/10.24818/EA/2025/70/1069>

## Article History

Received: 26 March 2025

Revised: 20 April 2025

Accepted: 25 June 2025

## Abstract

Insurance companies are expected to play a critical part in the transition to a net-zero, resilient, and socially just economy. Not only can they impact changes through sustainable investing and underwriting, but they can also make a contribution with their own sustainable and inclusive operations that go beyond traditional corporate social responsibility approaches. Both market and regulatory drivers in different European jurisdictions lead to various stages of the sustainability maturity of the insurance companies. Mandatory non-financial reporting in the European Union (EU) is codified by Directive 2014/95/EU, which allows a high level of flexibility, particularly in the choice of reporting standards/guidelines and disclosure methods. Although the Community Law has been further developed in the meantime, only with the adoption of Directive (EU) 2022/2464 a uniform reporting methodology based on the European sustainability reporting standards (ESRS) was established. The paper explores how European insurers have made progress in the sustainability agenda ahead of the adoption of Directive 2022/2464, in the flexibility regime of mandatory non-financial reporting. In a sample of 20 internationally active European insurance groups, we find that leading European insurers responded to the demands of stakeholders and society as a whole and provided high-quality information on social and environmental issues during the period 2016-2021. There is a significantly stronger focus on environmental issues, with the level of disclosure depending on the sustainability maturity stage and size of the insurance company.

**Keywords:** Sustainability reporting; insurance industry; sustainability performance disclosure index; hierarchical cluster analysis.

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**JEL Classification:** M41, M14, Q56, G22.

## **Introduction**

One of the most important developments in the financial markets over the past ten years is sustainability, along with artificial intelligence, RegTech, and cyber security. In their capacity as businesses, risk managers, risk carriers, and investors, insurers contribute significantly to the promoting of sustainability. Due to a dual role of insurance companies, their direct (at the corporate level) and indirect (as institutional investors, risk carriers, and managers) sustainability impacts, insurers should meet the multiple sustainability reporting requirements. The EU sustainable finance regulation package includes, among others, the Corporate Sustainability Reporting Directive (CSRD, Directive (EU) 2022/2464), the Sustainable Finance Disclosure Regulation (SFDR, Regulation 2019/2088), Taxonomy regulation (Regulation (EU) 2020/852), as well as the Insurance Distribution Directive (IDD, Directive (EU) 2016/97).

The predecessor of the CSRD, Directive 2014/95/EU (Non-Financial Reporting Directive – NFRD), required from companies to report on the environmental and social matters by using key performance indicators relevant to their business. It leaves a fair amount of flexibility in the implementation of its provisions, not requiring the use of a non-financial reporting standard or framework, nor imposing detailed disclosure requirements (such as lists of indicators per sector). In other words, “provisions set forth by the NFRD soon proved to be inadequate in scope and content to keep up with the regulatory development” (Baumüller and Grbenic, 2021, p. 370). The CSRD was adopted in 2022 aiming to improve the regulatory framework for sustainability reporting.

Nevertheless, by giving companies significant flexibility to disclose relevant information in the way they consider most useful, the NFRD represents the first significant step in the transition from voluntary to mandatory sustainability reporting. Since the “voluntary principle of sustainability reporting only provided the hoped-for impetus for corporate management geared towards sustainability aspects to a limited extent” (Stojanović-Blab and Blab, 2024, p. 241) and considering the EU's political commitment to shifting the economy and society toward sustainability is designed to direct capital flows into sustainable businesses through improved transparency, the implementation of mandatory reporting has become essential. Having this in mind, our general objective is to assess to what extent leading European insurers have responded to the NFRD requirements regarding social and environmental issues under conditions of broad reporting flexibility.

Even though there is a large body of literature on the sustainability reporting practices, drivers, and impacts on the financial performances, the largest part of the research encompasses the nonfinancial sector (see: Benvenuto et al., 2023), and contributions have only recently been extended to banks or investment companies (Baradwaj et al., 2019; Gangi et al., 2019). Despite growing attention by industry leaders and regulators, literature on sustainability practices in insurance companies is still scarce (Brogi et al., 2022; Gatzert et al., 2020; Chiaramonte et al., 2020; etc.). This is also confirmed by Aburto Barrera and Wagner (2023) in the ‘systematic literature review on the research on environmental, social and governance (ESG) factors in the insurance and pension sectors’.

Our research aims to fill this gap by exploring the practice of sustainability reporting about corporate operations of 20 Internationally Active Insurance Groups with the jurisdiction of

Group-wide supervisor located in Europe (IAIS, 2021) during the period 2016-2021, for the purpose of identifying the level of the sustainability awareness. Furthermore, the aim is to examine the relationship that exists between the size of the insurance company (measured by the value of total asset and market capitalisation) and the practice of sustainability reporting (measured by the Sustainability disclosure index).

The European insurance market, as a subject of our empirical research, is very important for several reasons. As one of the largest institutional investors, insurers are important participants in capital markets. The total value of insurance companies' assets worldwide was \$357 trillion in 2022 (Statista Inc., 2024). At the European level, with investments of EUR 10,627bn in the economy and a portfolio of 61% of GDP in 2023, the insurance industry is the largest institutional investor (Insurance Europe, 2025). In 2023, EU insurance companies had a global market share of 16.67% and their contribution to European GDP was 6.2% (Swiss Re Institute, 2024, p. 41). According to the European Insurance and Occupational Pensions Authority (EIOPA, 2023), with a total balance sheet of approximately EUR 8 trillion, insurers within the European Economic Area have the potential to contribute substantially to directing European economies towards a more sustainable trajectory through their long-term investments.

In alignment with our objectives, the contribution of our research is two-fold. Theoretically, we advance the understanding of sustainability disclosure practices within the insurance industry during the initial phase of mandatory reporting in the EU, when regulations allowed for significant flexibility. Beyond comparing our findings with existing literature, we establish a foundation for future comparative analyses of reporting quality — contrasting the current period with the upcoming one, which will be subject to stricter reporting requirements under the CSRD. Practically, our research aims to raise awareness of the need for improved ESG reporting, not only among the insurers analysed in this study but also among other organisations committed to sustainability.

The remainder of this paper is structured as follows. First, we provide a literature review on the theoretical framework and specificities of sustainability reporting in the insurance industry. Second, we explain the sample, hypotheses, and methodology. Third, we present the results with a discussion. The last Section concludes with the policy implications.

## **1. Literature review**

### **1.1 Theories underlying sustainability reporting**

Reporting on the key elements of sustainability is an inherent function of an accounting information system that gathers, systematises, and discloses a company's performance indicators. Dealing with sustainability issues, crucial for the public interest, “accounting potentially offers one important avenue for influencing peoples' behaviours towards such critical agendas, as well as enabling personal, organisational, and social flourishing” (Carnegie, Parker and Tsahuridu, 2021, p. 70). To achieve the public interest mission, it is essential to have a multidimensional approach to reporting that inevitably includes sustainability issues (Carnegie et al., 2024).

In the earlier stages of the evolution of sustainability reporting practice, during the 1970s and 1980s, within the voluntary disclosure regime, theories that mostly support the efforts of

companies to be portrayed as "responsible corporate citizens" were most commonly highlighted. However, the rapidly growing interest in this issue in academia, accounting profession, industry, and society in general has led not only to the development of reporting guidelines, but also to interpretations of the theories underlying the disclosure of sustainability information (see: Del Gesso and Lodhi, 2024).

Some researchers also focused on grouping of theories by applying appropriate classification criteria. Zyznarska-Dworczak (2018) highlight two groups of sustainability accounting studies - "studies which represent a positive approach ('what is?'), for example: legitimacy, stakeholder, institutional, signaling, and decision usefulness theory" and studies with "normative approach ('what ought to be?'), for example: ethical, pragmatic, or conditional-normative theories" (pp. 160-161). Bartolacci et al. (2022) differentiate "main" and "minor, i.e. emerging" theories of sustainability disclosure, and show that "legitimacy, institutional, and stakeholder theories are by far the most used and popular for informing empirical or conceptual studies" (p. 106).

Most of the above-mentioned and other theories were developed in the era of voluntary sustainability disclosures (mostly regarding environmental and social issues). Without undermining the significance of other theories, the findings of our research will be analysed through the lens of stakeholder, legitimacy, institutional, signaling, and agency theories, which will be briefly discussed.

According to *stakeholder theory*, founded by Freeman (1984), the focus is on the interests of all relevant stakeholders and satisfying their wants (Dyllick and Hockerts, 2002). The company should, therefore, prioritise the values promoted by various interest groups or individuals who have the capacity to affect the achievement of the company's objectives or whom the company can affect. The reports should contain both financial data, and in particular information related to ESG issues (Lozano, Carpenter and Huisinigh, 2015). Accordingly, disclosing information about social and environmental performance can be a way to establish a "democratic dialogue" with stakeholders (Brown and Fraser, 2006, p. 109) and help build trust and loyalty.

The basic premise of the *legitimacy theory* is that companies do not possess an intrinsic entitlement to existence unless their value system aligns with the norms, values, and beliefs of the society. There is a kind of "social contract" between the company and society about how the company should conduct its business activities in order to gain legitimacy and thus avoid regulatory sanctions if it does not meet society's expectations. Through such an implicit agreement, society grants the company a "license to operate" (García-Meca et al., 2024). In the circumstances of the growing resources scarcity or their degradation globally, there is a need – which is increasingly becoming an obligation – to communicate the responsible management of an organisation to its wider environment (Zyznarska-Dworczak, 2018).

The main focus for companies (and their owners) is not on making profits, but rather – according to *institutional theory* – on gaining legitimacy from the wider social community (Griffin and Youm, 2018). Achieving this goal requires the company to comply not only with external norms and regulations, but also with the generally accepted practices and procedures in the institutional environment. Every organisation is inevitably exposed to the pressures of the environment in which it operates. Institutional pressures may be externally caused "such as government, markets and society (e.g., constituency groups and industry associations)"..., [whereas within the organisation],... "institutional pressures also arise from the culture,

shared belief systems, and political processes, and shareholders” (Darnall, Henriques and Sadorsky, 2008, p. 366). Disclosure of sustainability issues demonstrates compliance with social norms, even if there is no legal obligation. Namely, apart from affirmative achievements in ESG activities, “company applying the institutional approach could mention a negative event and provide ideas, intent or measures for tackling or avoiding it in the future” (Turzo et al., 2022, p. 8), which is one of the essential steps in achieving the legitimacy of the company and thereby ensuring the conditions for stable long-term business and maintaining a company's competitiveness (Tăchiciu et al., 2020).

Signaling information on financial and ESG performance reduces the information gap between company management and capital market participants (Chen et al., 2023; Liu et al., 2024) and other interested parties (Kandpal et al., 2024; Bolognesi and Burchi, 2023). Agency theory is most commonly used in the literature to explain the factors influencing the voluntary disclosure of ESG indicators, for example: size, gender, educational background or age structure of board, compensation policy, quality of the internal control, etc. (Yan, Hu and Hu, 2024).

In addition, incentives for (voluntary) sustainability disclosure are interpreted by signalling and agency theories from the perspective of possible abuses (manipulation) by management. Such circumstances may particularly contradict the idea of legitimacy theory. Melloni, Caglio and Perego (2017) suggest that ‘companies that demonstrate high ESG performance are motivated to signal their exceptional sustainability performance to the market through ESG disclosure’. However, the opportunistic behaviour of managers to cover up failures and emphasise (desirable) successes implies “the so-called obfuscation hypothesis”, which is based on the suspicion that managers are not neutral in the disclosure of accounting information (Brennan, Guillamon Saorin and Pierce, 2009). In other words, in accordance with agency theory, managers of “poorly performing” firms are likely to provide information that presents the firm in the most favourable light (Merkl-Davies and Brennan, 2007) in order ‘to conceal their true performance while trying to maintain their legitimacy’ (Melloni, Caglio and Perego, 2017, p. 231).

## **1.2. Sustainability disclosures in the insurance industry**

As risk managers, risk carriers, and investors, insurers need to incorporate ESG issues into their risk value chain to ensure their own sustainability, as well as the sustainability of their customers and investees, and indirectly other stakeholders. Insurers should consider various risks associated with their clients' businesses, including sustainability aspects, thereby significantly contributing to climate sustainability and green investments in recent times (Goel, Bassi and Pankaj, 2023). However, the intrinsic characteristics of insurance intermediation activities make the social and environmental impacts less noticeable or completely invisible (Ullah, Muttakin and Khan, 2019), which further reinforces the need for sustainability reporting.

In accordance with the theoretical framework analysed previously, insurers strive to meet the expectations of both customers (policyholders) and other stakeholders. Since the insurance industry's business model is based on trust (Heidinger and Gatzert, 2018), the social and environmental practices of insurance providers can significantly enhance a company's reputation and brand value (Lee et al., 2022). On the other hand, inadequate ESG risk underwriting increases the likelihood of reputational damage or loss, while concurrently threatening the financial performance of the insurance company (Nogueira et al., 2018).

There are also studies that the initial expenditure on social and environmental initiatives is compensated for by positive effects in the medium and potentially long term (Fatemi et al., 2015), albeit with limited financial effects (Brooks and Oikonomou, 2018).

Customers' awareness of the insurance company's social responsibility, especially in the life insurance sector, influences their stronger loyalty and indirectly the satisfaction effect (Lee, 2018). Therefore, clear, fair, and non-misleading information provided by insurance distributors to existing and potential customers (beneficiaries) is also an indispensable source of information on issues relating to the sustainability of the insurance company and the insurance products offered (EIOPA, 2024). From a behavioural economics perspective, Apicella, Carannante and D'Amato (2023) argue "that policyholders may assign a remarkable value to the insurers' commitment towards social sustainability" (pp. 8-9).

In addition to direct communication with customers, insurers should pay special attention to the disclosure of publicly available, comprehensive sustainability reports. Empirical evidence indicates that European companies are committed not only to providing sustainable products, but also to providing reliable and relevant ESG disclosures. Gatzert and Reichel (2024), based on a sample of 1,215 annual sustainability and investment reports from 77 insurance companies in the US and Europe for the period 2013–2018, find that the concept and principles of sustainable investments are disclosed much more comprehensively in the reports of European insurers than in those of US insurers.

The need for our research on the disclosure of social and environmental issues is justified by the growing importance of these two pillars for the sustainability of insurance companies. This could be supported by research of Chiamonte et al. (2020), who on a sample of 94 US listed insurers for the period 2006-2018 find "that the overall ESG scores were positively associated with insurer stability, and that this relationship was significant for the environmental and, especially, the social pillars" (p. 15).

A much more common research topic concerns the disclosure of environmental information, particularly with regard to climate-related risks (Kraus, 2024; Amar et al., 2022). For example, using a sample of 15 large insurance companies in the United Kingdom, Klumpes et al. (2019) observe that the majority of sampled insurers took into account the impact of climate change on their investment strategies, albeit with varying frequency and nature of issues considered. Gatzert and Reichel (2022) indicate that larger European insurers are more aware of business risks and opportunities arising from climate change compared to insurers in the US.

In addition to examining the scope and content of sustainability reports, researchers also focus on identifying factors that influence the awareness of sustainability of insurance companies. The main determinants of a high level of ESG awareness are most often: the size of the insurance company, its profitability, and solvency (Brogi et al., 2022; Brasch and Eckert, 2024). As expected, the higher the values of these determinants, implies the higher the ESG awareness of the insurer. The development of the market, i.e., the country of origin, foreign ownership, board independence, as well as institutional pressures, also play an important role in shaping insurers' ESG awareness and the need for disclosure (Ullah et al., 2019).

However, as already mentioned, the disclosure of non-financial information may be motivated by questionable motives of signaling and gaining legitimacy. Some research also highlights the tendency to conceal information that could damage an organisation's reputation

while disclosing positive information about sustainability performance (Haffar and Searcy, 2020; Diouf and Boiral, 2017).

In some cases, therefore, the disclosure of sustainability information may have not only an unethical, but also an unlawful dimension. Inadequate disclosures and related ESG controversies can have long-term implications for the sustainability of an insurance company's business. "ESG (or CSR) decoupling" denotes the divergence between the actual effects of ESG (or CSR) initiatives and their external disclosure (Chao, Yifei and Shuai, 2025), which is particularly apparent in "greenwashing" practices (Bothello et al., 2023; Sneideriene and Legenzova, 2025). Therewith, the governance (G), as a pillar of ESG practices, is essential in mitigating the effects of that controversies on the insurers' insolvency risk (Giráldez-Puig et al., 2025).

## 2. Sample, hypothesis and methodology

The empirical study was conducted on a sample of 20 Internationally Active Insurance Groups with jurisdiction of Group-wide supervisor located in Europe. According to the International Association of Insurance Supervisors, in order to be qualified as Internationally Active Insurance Group, the insurance company have to fulfill two criteria: 1) 'to be internationally active (premiums are written in three or more jurisdictions and gross written premiums outside of the home jurisdiction are at least 10% of the group's total gross written premiums)', 2) to have a defined 'size based on a three-year rolling average (total assets are at least USD 50 billion; or total gross written premiums are at least USD 10 billion)' (IAIS, 2021). The focus was on 20 insurers in five key European markets: France (3), Germany (3), the Netherlands (3), Switzerland (4), and the UK (3). To identify the level of the sustainability awareness among selected insurers, the empirical analysis covered the six-year period, 2016–2021. Taking into account the structure of the sample companies, significant pressure by stakeholders, the nature of the sustainability reporting requirements, and the analysed theoretical and normative framework, two hypotheses are formulated:

*Hypothesis 1: In accordance with the practice of social and environmental performance disclosure, it is possible to group companies according to the level of sustainability awareness and the scope of sustainability reporting practices.*

*Hypothesis 2: The size of the leading European insurance companies is relevant for the sustainability disclosure practice.*

Although there are different frameworks for sustainability reporting (Bose, 2020; Afolabi, Ram and Rimmel, 2022; Albu et al., 2013), we consider the GRI standards as a relevant framework for our modelling, as they are one of the most widely used sustainability reporting guidelines worldwide (IFAC, 2024). The reporting principles underlying the GRI Framework, i.e., "accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness, and verifiability" (Abeysekera, 2022, p. 1389), ensure the relevance of the indicators we use to create our disclosure indices. Additionally, García-Sánchez et al. (2022) prove that the use of GRI reduces SCR decoupling.

In order to assess the scope and the quality of sustainability reporting, 3 indices have been designed. Socially performance disclosure index (*SPDI*), Environmental performance disclosure index (*EPDI*), and composite, Sustainability performance disclosure index (*SusPDI*). The social dimension of sustainable development has been covered by 17 social

indicators belonging to the GRI 400 standards (see Table no. 1). The environmental dimension is assessed by encompassing 14 indicators from the GRI 300 Standards (see Table no. 2).

**Table no. 1. Analysed social indicators belonging to GRI 400**

GRI 401: 'Employment'	401-1 'New employee hires and employee turnover' 401-2 'Benefits provided to full-time employees that are not provided to temporary/parttime employees' 401-3 'Return to work and retention rates after parents leave, by gender'
GRI 402: 'Labor /Management Relations'	402-1 'Minimum notice periods regarding operational changes'
GRI 403: 'Occupational Health and Safety'	403-1 'Occupational health and safety management system' 403-2 'Hazard identification, risk assessment, and incident investigation'
GRI 404: 'Training and Education'	404-1 'Average hours of training per year per employee' 404-2 'Programs for upgrading employee skills and transition assistance programs' 404-3 'Percentage of employees receiving regular performance and career development reviews'
GRI 405: 'Diversity and Equal Opportunity'	405-1 'Diversity of governance bodies and employees' 405-2 'Ratio of basic salary and remuneration of women to men'
GRI 406: 'Non-discrimination'	406-1 'Incidents of discrimination and corrective actions taken'
GRI 412: 'Human Rights Assessment'	412-3 'Significant investment agreements and contracts that include human rights clauses/ underwent human rights screening'
GRI 413: 'Local Communities'	413-1 'Operations with local community engagement, impact assessments, and development programs'
GRI 414: 'Supplier Social Assessment'	414-1 'New suppliers that were screened using social criteria'
GRI 415: 'Public Policy'	415-1 'Political contributions'
GRI 418: 'Customer Privacy'	418-1 'Substantiated complaints concerning breaches of customer privacy and losses of customer data'

**Table no. 2. Analysed environmental indicators associated with GRI 300**

GRI 301: 'Materials'	301-1 'Materials used by weight or volume' 301-2 'Recycled input materials used'
GRI 302: 'Energy'	302-1 'Energy consumption within the organisation' 302-3 'Energy intensity' 302-4 'Reduction of energy consumption'
GRI 303: 'Water and Effluents'	303-5 'Water consumption'
GRI 305: 'Emissions'	305-1 'Direct (Scope 1) GHG emissions' 305-2 'Energy indirect (Scope 2) GHG emissions' 305-3 'Other indirect (Scope 3) GHG emissions' 305-4 'GHG emissions intensity' 305-5 'Reduction of GHG emissions'
GRI 306: 'Waste'	306-2 'Management of significant waste-related impacts' 306-3 'Waste generated' 306-5 'Waste directed to disposal'

The calculation of the Disclosure Index, 'as one of the approaches to content analysis, implies that the presence or absence of certain information is determined primarily by a simple binary coding method and then the index is calculated based on the summary result of all selected information' (Ehsan et al., 2018). The positions of an Index in this paper are coded with 0 (if the information about indicators is not disclosed), 1 (if the information in the report exists, descriptively, or quantitatively). The index value is determined as a sum of equally weighted Index positions, giving the possible maximum of SusPDI value of 31. Furthermore, disclosure rates have been calculated as a ratio of calculated and maximum index value.

Hierarchical cluster analysis was used ‘to statistically determine similarities and differences between companies, considering the level of sustainability performance disclosure’ (Kaufman and Rousseeuw, 2009). In this paper, the Ward clustering method (Kaufman and Rousseeuw, 2009) and the Gower similarity measure (Gower, 1971) are used.

### **3. Research Results and Discussion**

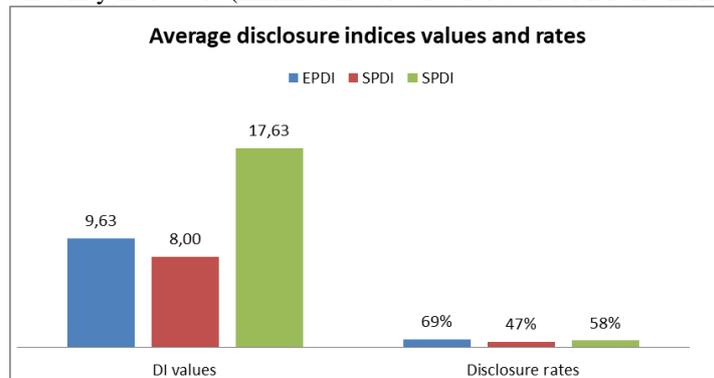
The analysis of the scope and the quality of social and environmental performances disclosure of the selected leading insurance companies, reveals some general observations. First, information on the way insurers operate and manage social and environmental challenges is presented in different reports: sustainability reports (in the case of nine companies), annual integrated reports, annual business reports, CSR report, and ESG report. Second, the GRI content index, which makes the reported information traceable and increases its credibility and transparency, is a component found in the reports prepared by eight companies. Third, external assurance indicates that the insurers are orientating themselves towards the standards and communicate their credibility in the field of sustainability. The non-financial information has been subject of assurance process done by independent assurance services provider belonging to the Big Four group, with one exception.

The flexibility of the Directive 2014/95 respecting the freedom to choose the framework for non-financial reporting has evidently led to differences in the reporting strategies adopted by companies in our sample, which aligns with the fundamental idea of institutional theory regarding organisation's actions (Scott, 2001). Therefore, our results do not deviate from the findings of other studies in which the application of different guidelines for sustainability reporting is indicated (Carmo and Ribeiro, 2022; Caputo et al., 2020; Doni et al., 2020). Regarding the commitment of insurers in our sample to provide independent assurance on the quality of their non-financial disclosures, their aim seems to be to gain or maintain their legitimacy. This view aligns with the findings of a study by García-Meca, Ruiz-Barbadillo and Martínez-Ferrero (2024). Although they conclude that the Directive 2014/95 had no impact on the “the legitimising use of assurance quality after irresponsible ESG actions before and after the Directive” (García-Meca, Ruiz-Barbadillo and Martínez-Ferrero, 2024, p. 1), we believe that the awareness of insurers in our sample about the benefits of external quality assurance of non-financial disclosures significantly influenced their engagement.

The empirical analysis suggests that the insurers recognise the increasing importance of sustainability in their communication with the stakeholders. However, there is a gap in the sustainability record. European top insurers disclose, on average in the period 2016-2021, against 47% (69%) of the analysed SPDI (EPDI), parameters respectively (Figure no. 1). There are at least two possible explanations of a considerably higher disclosure rate that is associated to environmental performance disclosure, or two reasons why disclosure on S pillar is behind E pillar. The most evident argument is lack of data and lack of definitions, social data are difficult to measure, and metrics are less defined. These limitations are also indicated by Billio et al. (2021) and Gyönyörová, Stachoň and Stašek (2021). Secondly, from a regulatory perspective, there have been many more efforts to create the regulation about the environmental issues (Jona and Soderstrom, 2022), which have been neglected until fifteen years ago. Furthermore, the investors have noticed the financial risks posed by environmental degradation (Sawyer, 2021). The commitment to reporting on the impacts of climate change (more recently from a double materiality perspective as well) is particularly

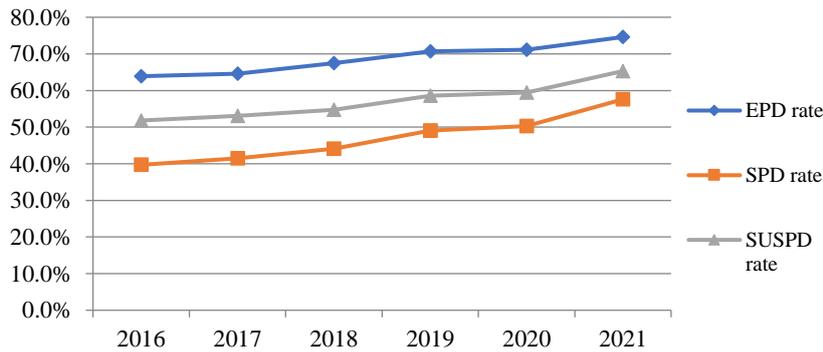
evident following the Paris Agreement in 2015 and the European green policy announcements (Gebhardt et al., 2024). On the other hand, most of the social issues are already regulated in existing legislation (such as labour laws). Currently, there is also a focus on regulation of social issues, since there is an increasing awareness of some duty bearers (investors, asset managers), which have now to meet specific regulatory requirements.

Progress in the disclosure rates has been modest but constant, the average SusPD rates show moderate but constant growth during the six-year period, from 51% in 2016 to 65% in 2021 (Figure 2). However, according to the descriptive statistics data (Table no. 3), the sample is not homogeneous. The information about minimal and maximal SPDI and EPDI values indicate that the sample: a) is consisted from leaders in sustainability reporting (value of 14 of EPDI indicates that there are companies /company that report(s) on each of 14 environmental indicators), and 2) there are companies that does not report at all about selected sustainability indicators (minimal index value for both SPDI and EPDI is zero).



**Figure no. 1. Average disclosure values and rates**

Skewness refers to a distortion or asymmetry that deviates from the symmetrical bell curve, or normal distribution, in a set of data. The data on EPDI follow a left-skewed or negative distribution, with most companies performing environmentally relatively well and a few companies performing far below average.



**Figure no. 2. SuSPDI rates trend in the period 2016-2021**

**Table no. 3. Descriptive statistics**

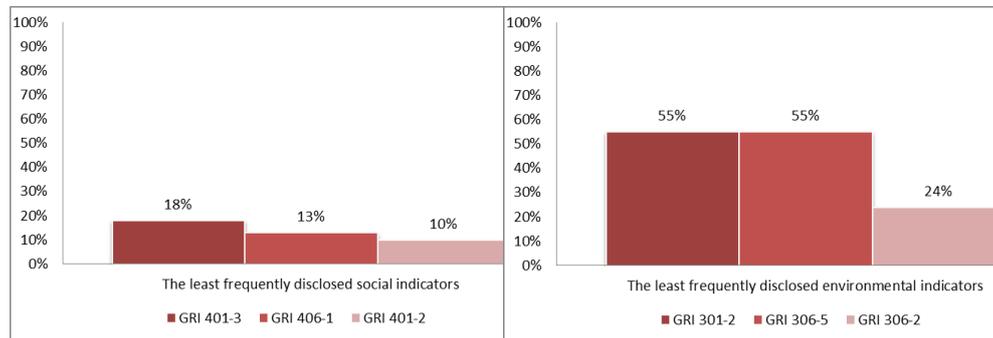
Variable	N	Mean	SD	MIN	MAX	SKEW
SPDI	120	8.00	2.52	1	15	0.05
EPDI	120	9.63	3.91	0	14	1.15

Source: Authors.

There is a gap in reporting practices between the environmental and social components. The most frequently disclosed social indicators are those related to employee turnover, diversity of governance bodies, and employees, and trainings, while the least disclosed are social information regarding incidents of discrimination and corrective actions taken or return to work, and retention rates after parents leave. On the other hand, the insurers have given little attention to the disclosure of waste management data, and the priority in disclosing indicators on Scope 1 and 2 emissions and energy consumption (Figures 3 and 4). By using the S&P 500 sample between 2010 and 2018, Benjamin et al. (2023), find that ‘litigation risks moderate the relationship between waste performance and environmental disclosure’, which may also provide support for our findings. Our results on a satisfactory level of disclosure of greenhouse gas emissions and energy consumption are in the line with Gatzert and Reichel (2022) who indicate ‘increased awareness of European insurers of business risks and opportunities arising from climate change’. The findings of Brié, Stouthuysen and Verdonck (2024), show that European companies have significantly improved climate-related disclosures within the mandate of Directive 2014/95, which are perceived as more relevant to investors, whereby entities from the finance and insurance sector shows a considerable progress in that reporting.



**Figure no. 3. The most frequently disclosed social and environmental indicators**



**Figure no. 4. The least frequently disclosed social and environmental indicators**

According to the hierarchical clustering method, analysed companies are classified in 2021 into three clusters. European insurers in cluster 1, significantly outperform the sustainability disclosure average and report against 68% of the analysed parameters respectively. European insurers in clusters 2 and 3 disclose, on average in the period 2016-2021, against 50% (25%) of the analysed sustainability parameters, respectively (Table 4).

These data indicate that analysed insurers belong to different sustainability maturity stages. Cluster 3 consists of those companies that disclose sustainability information for compliance purposes. These use defensive strategy, even though they operate in the environment with legal and market drivers for sustainability business. Companies belong to cluster 2 are proactive organisations that want to achieve operational cost savings, they are partly driven by stakeholders’ requirements that result in the existence of separate unit / executive officer devoted to sustainability operations. The leaders in sustainability practice and reporting (companies of Cluster 1) use sustainability as a competitive advantage and have a strategic and holistic approach to sustainability. Their mature ESG/ sustainability strategy covers entire supply chain, and these companies see that the purpose of sustainability reporting is in value creation.

**Table no. 4. Results of cluster analysis for 2021**

<b>Cluster 1</b>	<b>Cluster 2</b>	<b>Cluster 3</b>
Allianz Group	Legal & General Group Plc	Ageas
AXA S. A.	Aviva Plc	Vienna Insurance Group
CNP Assurance	Assicurazioni Generali S.p.A.	
Swiss Re Group	Aegon	
Swiss Life Group	Prudential Plc	
NN group	Zurich Insurance Group	
Grupo Mapfre	Munich RE	
Helvetia Group	BNP Paribas Cardif	
Talanx Group	Baloise Group	

Company size (measured by total assets, turnover, sales, number of employees, or market capitalisation) is considered as an important driver of the scope and quality of sustainability reporting (for a literature review, see: Benvenuto et al., 2023). Different empirical studies indicate a positive relationship between company size and reporting due to a greater exposure of larger companies to capital markets, higher marginal costs of disclosure, higher dependence on external funding, higher visibility in the market, and greater stakeholder scrutiny and pressure. As shown in Table 5, there is a strong, positive relationship between insurance companies ‘size measured by total asset and sustainability reporting index, and a moderate positive relationship between market capitalisation and Sustainability performance disclosure index (the values of correlation coefficient are 0.871 and 0.479 respectively), which is in line with previous research.

**Table no. 5. Correlation coefficients**

<b>SuSDi 2021</b>	<b>Pearson coefficient</b>	<b>Sig. (2-tailed)</b>
Total asset 2021	0.871	.000
Market capitalisation 2021	0.479	.033

*Source: Authors.*

This indicates that the size of the top European insurers is relevant for the sustainability disclosure practice, which confirms Hypothesis 2. Therefore, this study supports the

legitimacy and stakeholder theories for insurers in terms of the positive association between sustainability reporting practices and the size of a company. Larger insurers have higher reporting levels due to their more comprehensive range of stakeholders, and the fact that they feel more pressure to be legitimate socially compared to smaller insurers. According to Chiaromonte et al. (2020), a correlation between an insurer's size and its participation in CSR activities can be explained by the increasing focus of stakeholders on the growth of insurers, without neglecting the ESG expectations of all parties involved in the industry. Our findings are also in line with Heidinger and Gatzert (2018), who argue that large European insurers are more aware of the reputational benefits of ESG disclosures, and Brogi et al. (2022), who prove that larger, more profitable, and more solvent insurers exhibit the highest levels of ESG awareness.

The satisfactory disclosure level of the insurance companies can also be interpreted through the prism of isomorphism. Within the mandatory regime of the Directive, regulatory pressure is expected to influence improved non-financial disclosure (Stefanescu, 2022), regardless of the wide range of choices regarding reporting framework, key performance indicators, materiality aspects, and the like. However, several studies (Posadas et al., 2023; Álvarez-Etxeberria, Marco-Fondevila and Zamora-Ramírez, 2023) show that there is insufficient evidence that coercive isomorphism (caused by the Directive) has significantly contributed to the enhancements in this type of reporting. However, the aforementioned authors argue that normative and mimetic channels positively impact the quality of sustainability reporting. Our findings also support the view that regulations with a high degree of flexibility, such as European Directives, have a positive, but limited effect on the quality of ESG disclosures. Due to the increased awareness and responsibility for sustainability issues towards stakeholders, i.e. society as a whole, we support the position of Aboud, Saleh and Eliwa (2024) that reporting under the Directive 2014/95 has contributed to the mitigation of ESG decoupling practices in the insurance industry.

## **Conclusions**

This paper, focused on the analysis of the scope and the quality of social and environmental performances disclosure of the selected leading European insurers, led us to several conclusions:

First, supported by a strong policy and regulatory framework, increasing investor expectations, and increasing public awareness of sustainability, European insurers are the leaders in the areas of sustainable reporting and governance. They recognise the increasing importance of sustainability in their communication with the stakeholders, and a higher disclosure rate is associated to environmental performance disclosure.

Second, the results of hierarchical analysis showed that the first hypothesis was confirmed, considering that the companies were grouped into three clusters in accordance with the disclosure of information on social and environmental indicators. According to the sustainability reporting practice, the analysed insurers belong to different maturity stages. Both market and regulatory drivers in different jurisdictions lead to various stages of the sustainability maturity of the leading European insurers, from compliance-purpose phase, via cost-efficiency driven responsible conduct, to leadership in suitability strategy that leads to value creation.

Third, the size of the company, measured by the value of total asset and market capitalization is relevant for the insurers' sustainability disclosure practice. The larger insurance companies tend to provide more nonfinancial details in their annual/sustainability/ integrated reports. This is in accordance with the principles of legitimacy and stakeholder theories, which argue that larger companies will try to report more to satisfy the needs of their stakeholders and gain legitimacy by giving more information.

The significance of our research lies in its implications, i.e., our contribution to the theory, legislation, and management of insurance companies. As highlighted above, sustainability reporting in the insurance industry is not adequately researched and therefore requires more attention from the academic community. In this regard, we believe that our research will further encourage researchers to provide additional insights and discuss possible improvements in this area. We believe that our work also meets the needs of the insurance industry, its stakeholders, and society. The rights of employees and those who consume the company's products/services, the strong effects of climate change, are just some of the issues that have recently brought social and environmental issues to the forefront, which is particularly pronounced in the insurance sector. The results of our research raise awareness of the need for continuous improvement of sustainability reporting, in order to avoid the risks of ESG decoupling, i.e. misleading non-financial reporting that ultimately affects the decisions and financial performance of participants in insurance arrangements.

There are several limitations to our research. First, our sample covers 20 leading European insurers during the period 2016–2021. Regarding representativeness, we believe that the sample meets the criteria for validating the results, especially since it consists of leading companies in the European insurance industry. However, a global perspective, i.e. a comparison with insurers from other developed markets, which would ensure benchmarking and enhanced conclusion, is not taken into account. Furthermore, there is the general problem of data availability and inconsistent disclosure under the flexibility regime of Directive 2014/95, as highlighted above. Therefore, the application of specific econometric methods is limited. Finally, our research could not include sustainability reports prepared under the latest Directive, which was enacted in 2022, as the first reports are still pending. This limits the analysis of further progress in insurance companies' sustainability reporting in recent years.

The above limitations provide grounds for further research. To draw more comprehensive conclusions, in addition to expanding the sample to include insurance companies from developed markets worldwide, other European insurers should also be included. As insurance leaders in Europe, the companies in our sample should also be benchmarks for smaller insurers. Therefore, we believe that research that also includes other European insurers would further raise awareness and improve the sustainability reporting practice in this important segment of the financial sector. Since reporting under the Directive 2014/95 represents a stage in the transition from voluntary to regulated sustainability reporting, future studies should also include the results of the implementation of the new Directive 2022/2464 and compare them with the previous one. For this purpose, we should also use appropriate econometric models.

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