

ESG Disclosure and Social Identity: Brazilian and Italian Credit Unions

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Abstract

Purpose: This paper investigates ESG disclosure coverage and reported SDG alignment within the credit union sectors of Brazil and Italy, examining how divergent institutional environments shape the transparency of mutual financial institutions operating under hybrid economic and social missions.

Design/methodology/approach: A longitudinal comparative analysis (2021–2024) was conducted on major credit cooperatives (Sicredi, Sicoob, Iccrea, Cassa Centrale). The methodology employs web scraping via Stata® to track GRI indicator frequencies, a Sustainability Coverage Index (SCI), and Multivariate Correspondence Analysis (MCA).

Findings: Italian credit unions exhibit higher overall disclosure indices, reflecting compliance with stringent European regulations. Conversely, Brazilian credit unions prioritize localized goals like community development and financial education. While reflecting structural tensions between coercive regulatory pressures and voluntary identity-signaling, the data highlight a shared focus on core mutualistic values, softening over-deterministic cross-country dichotomies.

Research limitations/implications: Focusing on the largest networks may not fully reflect smaller, independent cooperatives. Theoretically, while indicator frequencies effectively proxy disclosure extent, future research should employ sentiment analysis to capture qualitative corporate motivations.

Practical implications: The results suggest that rigid standardization can prompt symbolic box-ticking. Regulators should balance mandatory compliance with enough flexibility to preserve the territorial, mutualistic identity — the social soul — of cooperative financial intermediaries.

Originality/value: This research provides a systematic cross-country comparison of credit unions under contrasting regulatory architectures (European CSRD vs. evolving Brazilian Central Bank regulations), offering new insights into how institutional pressures and social identity concurrently influence non-financial disclosure.

Keywords: SDG; ESG; GRI; Sustainability reporting; CCBs; Credit unions; hybrid model.

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1. Introduction

The growing demand for socio-environmental transparency is redefining the role of financial institutions in generating sustainable value for companies and reshaping the competitive and institutional environment in which they operate (Adams, 2020; Adebayo & Ackers, 2025). Credit unions, in particular, operate with dual objectives -economic and social- and are therefore potentially well-placed to act as agents of sustainability though empirical evidence on the extent and nature of this role is mixed (Ferraro et al., 2024; Giacomini et al., 2022; Trotta et al., 2025). Cooperative organizational structure does not guarantee the implementation of effective sustainability practices (Tuominen et al., 2017). Nonetheless, they are unique within the financial sector, serving both as financial providers and as community-oriented entities that address the economic and social needs of their members. Unlike traditional banks, credit unions are democratically governed with the foundational mandate to promote, collective well-being, offering financial services at fair, competitive and self-sustaining rates (WOCCU, 2025).

However, the governance and accountability model of these organizations faces a challenge: translating their historical mutualistic identity into Environmental, Social and Governance (ESG) disclosure coverage which remains highly variable across different institutional contexts (Bebbington and Unerman, 2018). The global shift toward sustainability has accelerated the movement to harmonise international standards with national and local frameworks, thereby enhancing organisational transparency and comparability (notwithstanding unresolved tensions between voluntary and mandatory approaches). In response to increasing demands for socio-environmental transparency, organizations now routinely publish sustainability reports, either voluntarily or to comply with legal requirements (Adebayo & Ackers, 2025). Despite the historical coexistence of multiple reporting frameworks, the recent establishment of the International Sustainability Standards Board (ISSB) by the IFRS Foundation marks a pivotal consolidation in global standards, aiming to

reduce the fragmentation that traditionally led to inconsistent and potentially misleading sustainability narratives (Fianko et al., 2025; IFRS, 2023a, 2023b). Consequently, ensuring a unified and coherent approach that satisfies diverse stakeholders has proven highly challenging (Vigneau et al., 2015). To overcome this fragmentation, there is a growing consensus in the need for global framework harmonization (Adams & Abhayawansa, 2022). As Suhardjo et al. (2025) suggest, true harmonization entails transitioning from voluntary practices to mandatory, standardized disclosures, thereby enforcing a more rigorous approach to environmental and social responsibility. At the same time, scholars caution that a one-size-fits-all mandatory model can produce implementation difficulties across heterogeneous institutional settings (see discussion below and methodology for how we measure disclosure coverage rather than narrative quality).

Nevertheless, universal reporting architectures across heterogeneous institutional setting introduce significant operational friction (Adams & Abhayawansa, 2022). In particular, the abrupt shift from flexible, heterogeneous reporting to rigid global frameworks presents challenges for emerging economies - an issue that remains largely underexplored in current academic literature (Fianko et al., 2025). While recent studies have examined sustainability disclosure in the banking sector broadly (e.g., Moufty et al., 2024; Buallay et al., 2023), empirical research focused specifically on cooperative financial institutions remains scarce (Ferraro et al., 2024; Veltri et al., 2023). Prior literature has predominantly analyzed disclosure either within single-country contexts or under static voluntary regimes, leaving unaddressed how credit unions navigate overlapping regulatory demands during major legislative transitions. This study fills that gap by focusing on disclosure coverage (presence/extent of reported indicators) during regulatory transitions rather than attempting to infer managerial intentions or actual performance from reports alone.

On the global stage, countries such as Brazil and Italy represent distinct institutional contexts yet share a commitment to embedding sustainability within accounting and financial governance. Beyond merely representing two different geographic regions, Brazil and Italy offer an ideal theoretical comparison because they embody two contrasting socio-institutional pathways of cooperative governance facing regulatory shocks. In Italy, the initiatives of Federcasse (2020) and the Bank of Italy (2025), aligned with the Corporate Sustainability Reporting Directive (CSRD), reinforce the role of credit unions as drivers of sustainable and regional development. In Brazil, Resolution No. 59/2021 (CVM, 2021) of the Securities and Exchange Commission and Resolution No. 139/2021 (BCB, 2021) of the Central Bank, which introduced the Social, Environmental, and Climate Risks and Opportunities Report (GRSAC), promote the integration of ESG practices and enhance transparency within the cooperative financial sector.

We argue that rather than posing a strict dichotomy between compliance and authenticity, Italy and Brazil represent two different stages in the institutional maturity phase of ESG reporting. Italy operates in a highly codified phase, where historical cooperative identity must be translated into the rigid parameters of the European Sustainability Reporting Standards (ESRS). Brazil represents an evolving phase, guided by BCB Resolution No. 139/2021, where cooperatives still possess relatively greater strategic flexibility to use ESG disclosures primarily as a differentiation tool for local social legitimation.

Building on these premises, this study aims to conduct a comparative analysis of how Brazilian and Italian credit unions disclose sustainability-related information through ESG and GRI reports, focusing on their degree of alignment with the SDGs and international standards, and on disclosure coverage rather than narrative depth. This contributes to the literature for several theoretical reasons. This paper directly builds upon and extends recent research on sustainability reporting in cooperative banks (e.g., Badía et al., 2014; Ferraro et al., 2024) by shifting the focus toward the interaction between mandatory frameworks and organizational identity. Firstly, it contrasts a robust, historically rooted system under the stringent EU framework with a dynamic emerging economy where credit cooperatives serve as a primary engine for financial inclusion (Oliveira, 2020). Secondly, it contributes to the global debate on ESG disclosure standardization versus adaptation, revealing whether reporting is evolving into homogenised practices or reflecting genuine local priorities (e.g., poverty alleviation versus green transition). Ultimately, this research enhances the academic discourse on sustainable accounting and cross-national disclosure practices by examining how institutional contexts shape sustainability narratives in the credit union sector and demonstrating the potential role of accounting to facilitate social transformation and competitive advantage for the common good.

2. Theoretical Framework

As Fouché and Polo-Garrido (2024) emphasize, credit unions conform to a hybrid model where reporting is primarily directed at member-owners rather than anonymous shareholders. This creates a unique accountability loop where social impact is not an elective disclosure but a constitutive element of the organization's identity, reinforced by the consistency between discourse, values, and actions.

In light of these considerations, the study adopts a two-dimensional conceptual framework to interpret sustainability reporting in the cooperative banking sectors, focusing on the structural tension between two forces: *i*) institutional pressures which drive regulatory compliance and shape the boundaries

within which legitimacy is sought, and *ii*) social enterprise identity, that is the adherence to core mutualistic values.

2.1. Institutional Pressures, Isomorphism and the Search for Legitimacy

Institutional Theory (DiMaggio & Powell, 1983) and Legitimacy theory (Suchman, 1995) are integrated here to explain how cooperative banks respond to their external environment. Under increasing stakeholders' scrutiny, organizations use sustainability disclosure as a strategic response to maintain their "social contract" and secure operational legitimacy (Ferraro et al., 2026). This search for legitimacy may take different forms depending on the institutional context, generating specific mechanisms of isomorphism.

In the Italian and European context, cooperative banks are subject to more stringent regulatory pressures, which make standardized reporting a mandatory requirement to align with the expectations of supervisory authorities, such as the European Central Bank. In this setting, disclosure is strongly shaped by coercive pressures and often becomes primarily a matter of formal compliance, even though sustainability may also remain linked to cooperative values and territorial responsibility.

Conversely, Brazil represents a rapidly evolving environment that has historically been more flexible regarding reporting formats than Europe, despite the recent push from the Central Bank of Brazil. In this context, the voluntary adoption of global frameworks such as the GRI may also serve to signal social identity, differentiate cooperative institutions from commercial competitors, and consolidate trust at the local level.

The comparison between Italy and Brazil provides a useful setting to observe how different regulatory architectures shape sustainability disclosure. Although both countries share a cooperative tradition oriented toward local development, their normative structures influence the ways in which organizational legitimacy is constructed and communicated (Ferraro et al., 2024; Pizzi et al., 2024).

In Italy, the cooperative credit sector is governed by a highly codified framework, reshaped by Law No. 49/2016. Serving approximately 3 million members with total assets exceeding €140 billion (Federcasse, 2025; EACB/Federcasse, 2025; Iccrea Group, 2026), Italian Cooperative Banking Groups operate under the strict supervision of the European Central Bank and the Bank of Italy. Consequently, they face mandatory obligations, most notably the EU Corporate Sustainability Reporting Directive (CSRD)[1]. In this context, sustainability and non-financial reporting are strongly driven by formal compliance within the European Banking Union.

In Brazil, the regulatory framework is robust and constantly evolving, with Law No. 5.764/1971 and Complementary Law No. 196/2022 reinforcing the National Cooperative Credit System (SNCC). Supervised by the Central Bank of Brazil (BCB), this framework aligns with ESG and SDG

guidelines, particularly through BCB Resolution No. 139/2021 (GRSAC). In the absence of a mandatory model equivalent to the European CSRD, Brazilian credit unions -serving over 20 million members with assets reaching R\$885.3 billion (Organization of Brazilian Cooperatives-OCB, 2025) may adopt GRI international frameworks as a way to respond to market expectations while also reinforcing their cooperative identity.

Relatively less regulated environments allow greater degrees of managerial discretion. Voluntary reporting serves as a communication tool (McWilliams & Siegel, 2001) to signal a stronger adherence to mutualistic principles (Hahn & Kühnen, 2013) and reduce information asymmetry (Connelly et al., 2011), communicating the core mission to stakeholders and the broader market. At the same time, in highly regulated countries, the challenge for cooperatives lies in preserving substantive meaning within rigid frameworks. For instance, Manes-Rossi and Nicolò (2022) and Silva (2021) suggest that the incorporation of the SDGs goes beyond declarative discourse, operating as both a symbolic and substantive means of communicating with society.

Box 1. Comparative ESG Institutional Features of Cooperative Banking Systems (Brazil vs. Italy)

Feature	Brazil (Emerging Economy)	Italy (Advanced Economy – EU)
Dominant Isomorphism	Primarily Mimetic & Normative (with emerging Coercive pressures from evolving Central Bank regulations)	Primarily Coercive (complemented by Normative network-driven practices within cooperative groups)
Main Regulatory Framework	BCB Resolution No. 139/2021 (GRSAC); Complementary Law No. 196/2022.	EU Directive 2022/2464 (CSRD); Law No. 49/2017 (CCB Reform).
Nature of Disclosure	Primarily voluntary, evolving toward hybrid regulation.	Mandatory and highly standardized (ESRS).
Governance Structure	Decentralized and integrated system (individual units, centrals, and confederations).	Consolidated banking groups (e.g., Cassa Centrale, Iccrea) under ECB and Bank of Italy supervision.
Market Scope (2024)	Approximately 689 credit cooperatives and 20.12 million members.	Approximately 250 Cooperative Credit Banks (BCCs) and about 3 million members.
Strategic Focus	Territorial belonging and financial inclusion; increasing alignment with formal ESG frameworks	Regulatory compliance and Green Deal integration; anchored in traditional local mutualism

Source: Author’s elaboration based on regulatory and institutional data (2024).

2.2. Social Enterprise Identity and the Synthesis of the Conceptual Model

This institutional pressure is further nuanced by the mutualistic purpose of cooperatives. Unlike shareholder-oriented banks, where sustainability disclosure often serves as a strategic tool to manage financial risk, for cooperative banks trustworthiness is rooted in their foundational social mission (Ferraro and Veltri, 2026).

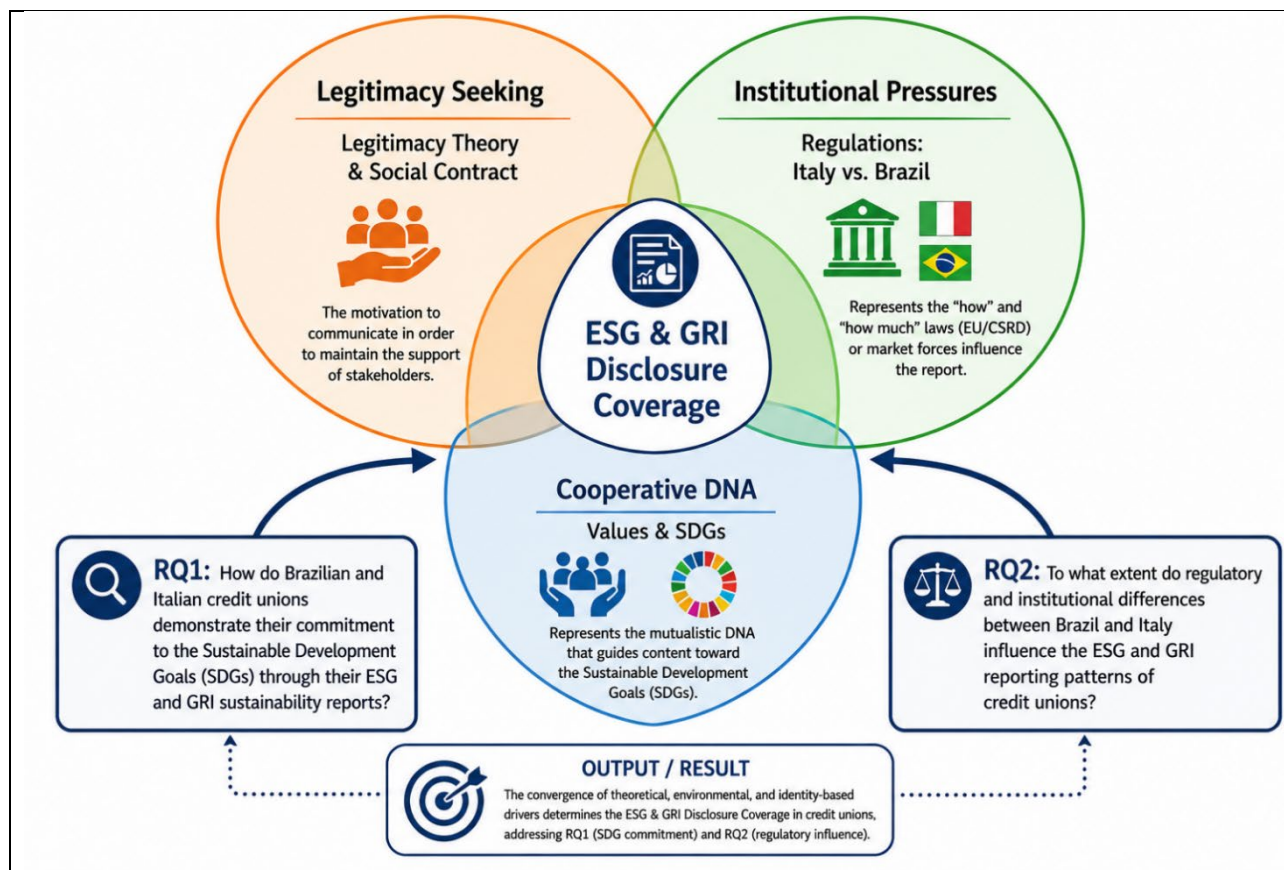
We draw on Social Enterprise Identity theories (Zamagni, 2012; Birchall, 2010, 2013) to define the mission qualifying the nature of these organizations. Unlike commercial banks, which are typically oriented toward maximizing shareholder profit, credit unions are founded with a dual economic and social objective systematically outlined in the seven Cooperative Principles of the International Cooperative Alliance (ICA). From this perspective, the commitment to the 2030 Agenda is not an external imposition but rather the contemporary codification of a long-standing mutualistic mission. However, as these institutions operate in increasingly regulated markets, their inherent identity intersects with exogenous compliance demands.

In line with this rationale, the conceptual framework (Figure 1) of this research attempts synthesize the dynamic tension between adaptation to institutional pressures and the degrees of mutualistic substance signalled by their Non-Financial Reporting. By comparing the Italian and Brazilian models, the study empirically assesses how different institutional environments shape this balance. Consequently, the study addresses the following questions:

RQ1: How do Brazilian and Italian credit unions demonstrate their alignment to the Sustainable Development Goals (SDGs) through their ESG and GRI sustainability reports?

RQ2: To what extent do regulatory and institutional differences between Brazil and Italy influence the ESG and GRI reporting patterns of credit unions?

Figure 1. Conceptual Framework: From Legitimacy and Identity to ESG Disclosure Coverage



Source: Author's elaboration

3. Methodology

3.1. Research Design

To address the research questions, this study adopts comparative longitudinal design covering the period 2021-2024. The analysis focuses on the credit cooperative sectors of Italy and Brazil, intentionally comprising the major cooperative banking networks in both countries: Sicredi, Sicoob, Unicred, Cresol, and Ailos for Brazil; Cassa Centrale Banca Banking Group (CCBG) and ICCREA Cooperative Banking Group (ICBG) in Italy. Specifically, these institutions were selected because they represent the vast majority of the cooperative market share and institutional architecture in their respective countries. By serving as institutional proxies for the Italian and Brazilian models, their selection offers the comparison between two different systemic sets and provide a basis for evaluating how different regulatory and cultural environments shape sustainability disclosure at country-scale level.

3.2. Data Collection

The data used in the study were annual sustainability reports, detailed down by year and institution. Document analysis was performed on the official websites where the companies publish their information, encompassing 22 reports. The mapping of the relationship between GRI standards, ESG dimensions, and SDG targets was conducted in a stratified manner to identify patterns and divergences between countries and to capture the dynamics of the regulatory transition.

The comparative and descriptive-analytical approach was adopted to capture both the frequency and content of sustainability disclosures, aligning with recent approaches in international literature (Adams, 2020; Calabrese et al., 2021; Adams & Abhayawansa, 2022; Kacanski, 2026; Duong & Nguyen, 2025)[2]. The reports (in PDF format) were transformed to text (TXT format) for content analysis, comprising a total of 804,688 words for evaluation.

The analysis period, spanning 2021 to 2024, has been deliberately selected to cover the reporting practices prior to, and during, the consolidation of crucial regulatory milestones, such as the full implementation of the Corporate Sustainability Reporting Directive (CSRD) in the European Union and the GRSAC in Brazil. Nonetheless, the database is unbalanced, as the 2021 reports for Ailos, Cresol, and Unicred are absent, along with the 2024 reports for ICCREA and Cassa Centrale, which were missing due to the regulatory transition towards the new CSRD framework[3].

3.3. Analysis Protocol

In an analytical protocol, the first step involved formulating an automated content extraction procedure for the reports. The text mining algorithm (Appendix A1), implemented in the statistical software Stata®, converts each report into a one-dimensional text vector.

$$AE_{w,r} = (\omega_{1,r}, \omega_{2,r}, \omega_{3,r}, \dots, \omega_{M,r}) \quad (1)$$

Where $AE_{w,r}$ is the Automatic Extraction of w words in r reports, ω_M ($i = 1, 2, 3 \dots M$) represents each word in the text of length M , for each report analyzed.

The algorithm design addresses the interpretation of special characters in portuguese and italian language (UTF-8 encoding), as well as addressing delimiters and truncation that could impact the analysis. The GRI list, composed of 84 items, version 2022 (Duong & Nguyen, 2025), is used as a search dictionary.

$$C_{GRI_{k,r}} = \sum_{m=1}^M I(\omega_{M,r} = "GRI\ k") \quad (2)$$

Where, $C_{GRI_{k,r}} \in AE_{w,r}$ is k indicator related to specific GRI in the r report, with $k = (1, 2, 3, \dots, 84)$, $I(.)$ is a counting function that takes the value 1 if the syntax is identical to the search criteria and zero otherwise, "GRI k " is a nine-character syntax (e.g., "GRI 201-1") is used to convert the text vector into quantitative data.

This iterative scanning procedure mitigates biases resulting from subjective analyses or human fatigue. To ensure robustness, a human evaluation was performed on a sample to determine the algorithm's accuracy. In a subsequent step, a cross-mapping was performed between the three reference frameworks: ESG (Dimensions), SDG (Objectives) and GRI (Indicators) based on the report released by GRI (2022) and the UN Global Compact (United Nations, 2025). Considering a GRI indicator may correspond to an array of SDG dimensions due to its integrative characteristics, the indicator matrix, disaggregated to the level of Sustainable Development Goals (SDG) targets, has 243 elements (Table 1).

Table 1. Cross-Mapping Between GRI Standards and SDG Interconnections

GRI Group	n.	GRI codes (with SDG occurrence weight)	Interconnections
GRI 200	17	201-1 ^(b) , 201-2 ^(b) , 201-3 ^(b) , 201-4 ^(b) , 202-1 ^(c) , 202-2 ^(c) , 203-1 ^(c) , 203-2 ^(c) , 204-1 ^(a) , 205-1 ^(a) , 205-2 ^(a) , 205-3 ^(a) , 206-1 ^(a) , 207-1 ^(b) , 207-2 ^(b) , 207-3 ^(b) , 207-4 ^(b)	33
GRI 300	30	301-1 ^(b) , 301-2 ^(b) , 301-3 ^(b) , 302-1 ^(c) , 302-2 ^(c) , 302-3 ^(c) , 302-4 ^(c) , 302-5 ^(b) , 303-1 ^(b) , 303-2 ^(b) , 303-3 ^(b) , 304-1 ^(b) , 304-2 ^(b) , 304-3 ^(b) , 304-4 ^(b) , 305-1 ^(c) , 305-2 ^(c) , 305-3 ^(c) , 305-4 ^(c) , 305-5 ^(c) , 305-6 ^(c) , 305-7 ^(c) , 306-1 ^(c) , 306-2 ^(c) , 306-3 ^(c) , 306-4 ^(c) , 306-5 ^(c) , 307-1 ^(a) , 308-1 ^(a) , 308-2 ^(a)	73
GRI 400	37	401-1 ^(c) , 401-2 ^(c) , 401-3 ^(c) , 402-1 ^(a) , 403-1 ^(b) , 403-2 ^(b) , 403-3 ^(b) , 403-4 ^(b) , 403-5 ^(b) , 403-6 ^(b) , 403-7 ^(b) , 404-1 ^(c) , 404-2 ^(c) , 404-3 ^(c) , 405-1 ^(c) , 405-2 ^(c) , 406-1 ^(b) , 407-1 ^(a) , 408-1 ^(b) , 409-1 ^(b) , 410-1 ^(a) , 411-1 ^(a) , 412-1 ^(a) , 412-2 ^(a) , 412-3 ^(a) , 413-1 ^(b) , 413-2 ^(b) , 414-1 ^(b) , 414-2 ^(b) , 415-1 ^(a) , 416-1 ^(a) , 416-2 ^(a) , 417-1 ^(b) , 417-2 ^(b) , 417-3 ^(b) , 418-1 ^(a) , 419-1 ^(a)	137

TOTAL	84	243
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Source: authors' elaboration based on *GRI Standards*.

Note 1: N represents the number of unique indicators. ^(a) the GRI is associated with a single SDG, ^(b) the GRI indicator is associated with 2 SDGs, and ^(c) the GRI indicator is associated with 3 SDGs.

Note 2: For the purposes of this study, the GRI 200 series is used as a proxy to capture underlying governance and economic management topics. While acknowledging that GRI 200 focuses primarily on economic impacts, in the cooperative model, economic distribution (mutualism) and democratic governance transparency are structurally intertwined, making this a theoretically sound proxy for this specific sector.

Owing to the cross-cutting and multifaceted interactions between the GRI and the SDGs, the count variables were converted into dichotomous variables

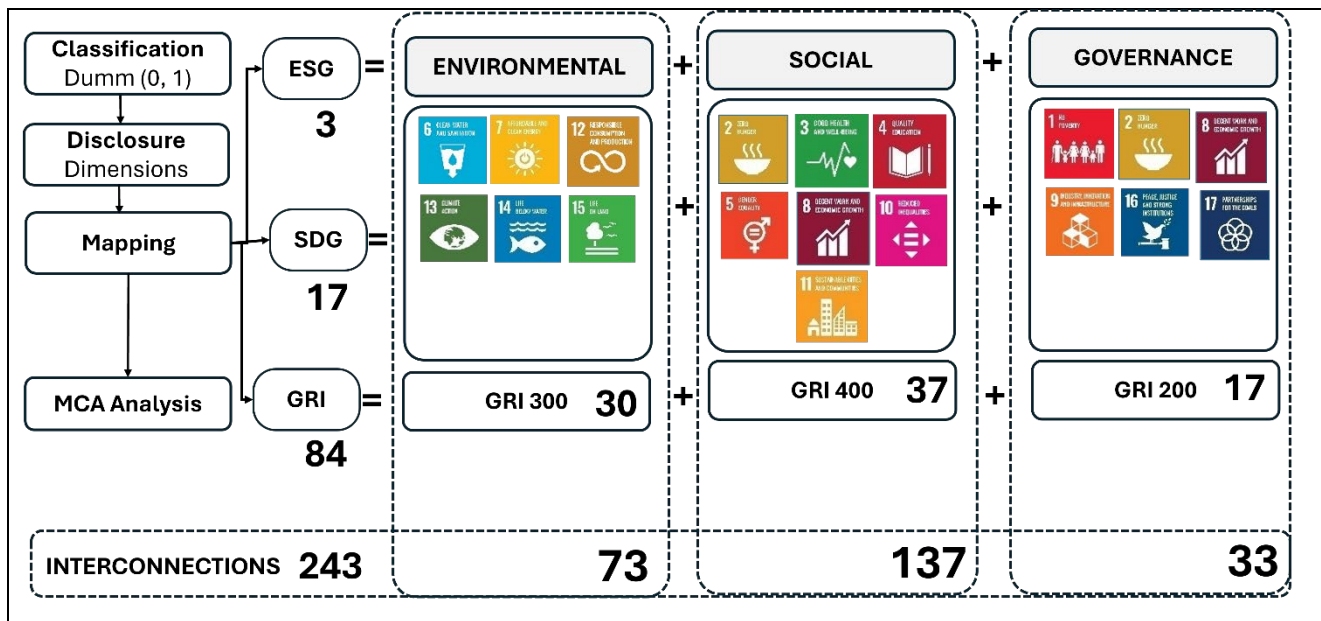
$$x_{k,r} = \begin{cases} 1, & \text{if } C_{GRI_{k,r}} \geq 1 \\ 0 & \text{if } C_{GRI_{k,r}} = 0 \end{cases} \quad (3)$$

Given that each GRI can be interrelated with more than one SDG target, the weight W_k is used to define the interconnection matrix:

$$V_{it,m} = x_{k,(i,t)} \times W_n \quad (4)$$

Where, $V_{it,m}$ as 22-column matrix corresponding to the cooperatives' report (r), which can be analysed by cooperative (i) and by year (t), with $m \in \{1,2, \dots 243\}$ rows, referring to the correspondence between GRI, SDGs and ESG. The total of 243 rows in the matrix $V_{it,m}$ is the result of $x_{k,(i,t)}$, which represents k GRI indicators listed, with $m \in \{1,2, \dots 84\}$ weighting by W_n , with $n \in \{1,2,3\}$, based on the number of SDG targets that each GRI intersects (corresponds to subscripts a, b or c in Table 1).

Counting occurrences is useful for determining the degree of disclosure of each GRI. To avoid bias in allocating each GRI occurrence associated with each Sustainable Development Goal (SDG), particularly when many relationships are detected, a dichotomous variable was selected. Instead of assigning weight to the simple count, the weighting provides significance to the interrelationships between GRI and SDG. Regarding ESG criteria, the overall number of matches is as follows: 73 for the Environmental (E) dimension, 137 for the Social (S) dimension, and 33 for the Economic/Governance (G) dimension (Figure 2).

Figure 2. Flowchart of the cross-mapping SDG – ESG - GRI

Source: authors' elaboration.

This mapping step is necessary to operationalize the comprehensive policy goals of the SDGs into measurable corporate reporting dimensions. Conversely, it is feasible to discern the correlations for each SDG (Table 2). This approach allows for the simultaneous capture of the extent, intensity, and thematic profile of the reported information.

Table 2. Correspondence Between GRI Indicators and SDG Targets

SDGs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
GRI	10	6	24	3	17	13	4	43	6	12	7	26	17	11	16	24	4	243

Source: authors' elaboration based on *GRI Standards*.

Following the identification of potential interconnections among GRI, SDG, and ESG, the Sustainability Coverage Index (SCI) was calculated for each institution annually. The scope of disclosure measure (Calabrese et al., 2021) is determined in a manner analogous to that suggested by Srivastava et al. (2024):

$$SCI_{i,t} = \sqrt[3]{\frac{SCI_{i,t}^E}{N_E} * \frac{SCI_{i,t}^S}{N_S} * \frac{SCI_{i,t}^G}{N_G}} \quad (5)$$

Where, $SCI_{i,t}$ is the aggregated Sustainability Coverage Index, $GRI_{i,j,t} \in \{0,1\}$ defines GRI Sustainability Coverage Index for i cooperatives and t periods (in years); and d dimension ($d = E, S$ or G).

The analysis can be delineated into each dimension, with $SCI_{i,t}^E = \sum_i \sum_{d \in E} V_{it,m} / N_E$ denoting dimension E, with $N_E = 73$. Similarly, $SCI_{i,t}^S = \sum_i \sum_{d \in S} V_{it,m} / N_S$ with $N_S = 137$ and $SCI_{i,t}^G = \sum_i \sum_{d \in G} V_{it,m} / N_G$ with $N_G = 33$.

This approach makes it possible to assess not only whether cooperatives report on specific topics, but also how thoroughly they do so. Furthermore, this empirical strategy is intended to analyse the disclosure of sustainability reports throughout multiple institutional contexts and under the influence of different regulatory frameworks. This approach enables a more refined analysis of the legitimacy strategies adopted by credit cooperatives in Brazil and Italy.

In the last step, the study employs Multivariate Correspondence Analysis (MCA), a statistical method recommended for analysis of qualitative and categorical data (Fávero et al., 2009), to discern the patterns inherent in the sharing of ESG information among the sampled institutions. According to the final geometric scores of the SCI index, the cooperatives are categorized into four hierarchical levels of coverage: (i) Null (0%), signifying the complete lack of indicators; (ii) Low (up to 25%), suggesting nascent transparency; (iii) Moderate (25% to 50%), indicating the formulation of structured reports; and (iv) High (above 50%), representing significant adherence to the international GRI standards.

This classification is necessary for the construction of the Indicator Matrix (Z) whose quadratic projection results in a Burt matrix ($B = Z^T Z$) facilitating the mapping of chi-square distances (χ^2) and the geometric projection of institutional characteristics into comprehensible groups. To validate the country-level clustering suggested by the descriptive statistics and to identify latent patterns in the disclosure structure, MCA was performed on the indicator matrix. This method, recommended for the analysis of qualitative and categorical data (Fávero et al., 2009), serves three specific purposes: (1) to confirm whether the institutional context (Brazil vs. Italy) is the primary driver of disclosure patterns; (2) to reveal how disclosure levels (Null, Low, Moderate, High) are distributed across countries; and (3) to identify temporal dynamics in disclosure evolution. In sum, by graphically representing thematic relationships in a two-dimensional perceptual map, MCA allows for the identification of symbolic and substantive associations between institutions and their reporting priorities.

4. Results and Discussion

The analysis of the GRI Sustainability Index reveals key disparities in legitimacy between Brazilian and Italian credit cooperatives under the GRI 200 dimension (Governance). Brazil scores higher than Italy on the indices associated with local legitimacy: GRI 201, 202 and 203 reflects structural legal requirements (Table 3). Considering Suchman's (1995) typology of legitimacy, the dynamics of pragmatic legitimacy of Brazilian cooperatives are rooted in the structural characteristics of the national model, which mandates, as stipulated in Article 28 of Law 5.764/1971 (Brazil, 1971), the allocation of resources towards policies that influence regional development. Therefore, the high

coverage of these indicators represents compliance with domestic legal obligations, not merely discretionary disclosure. This direct legal link underpins the interpretation of pragmatic legitimacy: disclosure serves as evidence of the cooperative's fulfilment of its social mission to its members and communities.

Conversely, the indicators for Italy demonstrate heightened performance in regulatory transparency and fiscal concerns (GRI 204, 206 and 207). Consistent with the coercive isomorphism discussed in Section 2.1, Italian cooperatives show higher compliance in these governance indicators, driven by the mandatory requirements of the European framework and the anticipation of CSRD standards. The indicators for Italy demonstrate heightened regulatory transparency, particularly concerning fiscal concerns (GRI 206 and 207). This enhanced performance, particularly in GRI 204, is associated with the more rigorous European norms of compliance and accountability.

The superior coverage of GRIs in Italy is directly linked to specific European regulatory requirements: GRI 204 (EU Government Procurement Directive (2014/24/EU)); GRI 206 (Compliance requirements under European Competition Law (Articles 101-102 TFEU) and Bank of Italy circulars on market conduct (Circular 285/2013, Title IV, Chapter 2)); and GRI 207 (EU Accounting Directive (2013/34/EU, amended by Directive 2021/2101) on country-by-country tax reporting). In this context, these direct regulatory links underpin the interpretation of coercive isomorphism, where disclosure is shaped by mandatory pressures from supranational authorities.

Table 3. Descriptive Statistics for GRI 200 Economic: disclosure indicators in Brazil and Italy (entire analysis period).

GRI Range	Ni	Description	Brazil			Italy		
			Mean	SD	N	Mean	SD	N
GRI 201	4	Economic Performance	0.250	0.436	80	0.188	0.397	32
GRI 202	4	Market Presence	0.150	0.362	40	0.000	0.000	16
GRI 203	4	Indirect Econ. Impacts	0.500	0.506	40	0.375	0.500	16
GRI 204	1	Procurement Practices	0.200	0.410	20	0.375	0.518	8
GRI 205	3	Anti-corruption	0.433	0.500	60	0.417	0.504	24
GRI 206	1	Anti-comp. Behaviour	0.100	0.308	20	0.625	0.518	8
GRI 207	4	Tax	0.037	0.191	80	0.719	0.457	32
GRI 200	17	Governance	0.238	0.427	340	0.390	0.489	136
		z-statistic (Mann-Whitney)			-3.316*			

Source: authors' elaboration.

Note: Disclosure Indices $\in [0,1]$, SD indicates standard deviation; N, sample size. Mann-Whitney test: * $p < .01$, ** $p < .05$, *** $p < .10$ (two-tailed)

The coverage of GRI 205 (Anti-corruption) shows convergent levels between Brazil (0.433) and Italy (0.417), suggesting compliance with international integrity standards, although still restricted to essential aspects. This pattern is driven by coercive isomorphism (DiMaggio & Powell, 1983), where Anti-Money Laundering frameworks and national compliance rules exert a homogenizing effect on disclosure practices, regardless of national institutional contexts. This convergence reflects also the

incorporation of the Basel Committee's Principles for the Sound Management of Operational Risk (BCBS, 2011) into domestic regulations: in Brazil, CMN Resolution No. 4.658/2018; in Italy, Bank of Italy Circular No. 285/2013 (Title IV, Chapter 3). The Basel Accords, while not legally binding per se, exert significant regulatory pressure on national regulators, who incorporate them into their domestic legislation, generating global regulatory harmonization in prudential regulation and risk disclosure practices.

The comparative analysis reveals a fascinating divergence in reporting practices. In Brazil, credit unions utilize sustainability reports as a tool for geographic identity and social legitimacy. For instance, Brazilian reports (e.g., from systems like Sicredi or Sicoob) frequently emphasize local development projects, such as financial literacy programs in remote areas and credit lines specifically designed for family farming. These initiatives are narratives of territorial belonging aimed at differentiating cooperatives from the expansion of large commercial fintechs. Conversely, in Italy, the reporting logic is increasingly driven by regulatory accountability toward the European framework. The Italian narrative is structured around compliance with the EU Taxonomy and the anticipation of CSRD requirements. For example, Italian CCBs highlight “green” mortgages and energy efficiency loans, aligning their local impact with the standardized language of Brussels. This suggests that while Brazil uses the report to claim its social space in a developing market, Italy uses it to secure its position in the European regulatory framework.

In the environmental dimension (GRI 300), the higher results observed in indicators such as materials, energy, and emissions (GRI 301, 302, and 305) are consistent with the commitment of Italian cooperatives with regulatory legitimacy (Table 4).

Table 4. Descriptive Statistics for GRI 300 Environment: disclosure indicators in Brazil and Italy (entire analysis period)

GRI Range	Ni	Description	Brazil			Italy		
			Mean	SD	N	Mean	SD	N
GRI 301	3	Materials	0.000	0.000	60	0.500	0.511	24
GRI 302	5	Energy	0.030	0.171	100	0.375	0.490	40
GRI 303	3	Water and Effluents	0.033	0.181	60	0.375	0.495	24
GRI 304	4	Biodiversity	0.000	0.000	80	0.000	0.000	32
GRI 305	7	Emissions	0.121	0.328	140	0.429	0.499	56
GRI 306	5	Waste	0.060	0.239	100	0.000	0.000	40
GRI 307	1	Env. Compliance	0.050	0.224	20	0.000	0.000	8
GRI 308	2	Sup. Env. Assessment	0.300	0.464	40	0.000	0.000	16
GRI 300	30	Environmental	0.068	0.253	600	0.250	0.434	240
z-statistic (Mann-Whitney)					-7.309***			

Source: authors' elaboration

Note: Disclosure indices range from 0 to 1, SD indicates standard deviation; N, sample size. Mann-Whitney test:

*p<.01, **p<.05, ***p<.10 (two-tailed)

In this context, the concern with operational eco-efficiency is associated with the demands of the Corporate Sustainability Reporting Directive (CSRD) and the European Green Deal. In turn, regarding the environmental dimension, Brazil employs a pragmatic legitimacy of control. For instance, for GRI 308, the disclosure of indicators associated with mitigating climate transition risks may be interpreted through the financial standards set by the Task Force on Climate-related Financial Disclosures (TCFD) and the International Sustainability Standards Board (ISSB).

The non-disclosure of biodiversity indicator (GRI 304) results for both Brazil and Italy indicate a significant “institutional silence.” By this term, I refer not to a metaphorical label but to a theoretically informed construct that captures omission driven by two causes: low materiality perception and measurement capacity constraints. The absence of biodiversity coverage in both countries is a phenomenon documented in the sustainable accounting literature, where organizations systematically omit reporting on material topics that lack clear standardized metrics (Bebbington & Unerman, 2018). On one hand, it reflects a perceived low materiality; credit unions often view their environmental impact as indirect—linked to their loan portfolios rather than physical operations—leading to a deprioritization of biodiversity compared to climate change (GRI 305). This pattern aligns with the materiality assessment guidelines of the European Financial Reporting Advisory Group (EFRAG, 2023), which recognize that financial sector entities often classify biodiversity as a non-material issue due to the indirect nature of their impacts.

On the other hand, the findings suggest a technical measurement challenge. Unlike carbon footprinting, which benefits from internationally consolidated equivalent metrics (GHC Protocol, ISO 14064), biodiversity impact assessment demands localized, highly complex, site-specific qualitative data that small-scale cooperative banks often lack the expertise to gather. The Taskforce on Nature-related Financial Disclosures (TNFD, 2023) explicitly acknowledges these challenges. noting the

current lack of standardized metrics and significant methodological heterogeneity across jurisdictions.

This silence risks evolving into “blind spots” in the sustainability narrative, where the absence of standardized KPIs leads to an unintended decoupling between the cooperatives’ social mission and their formal reporting. Similarly, water, its effluents, and waste (GRI 303, 306) do not receive significant attention, reinforcing the idea that reporting is still heavily skewed towards energy transition risks rather than broader ecosystem preservation.

In summary, regarding the environmental dimension, Italian cooperatives emphasize some aspects of eco-efficiency. In Brazil, the disclosure of sustainability indicators in this dimension pertains to risk mitigation and the guarantee of credit viability, in compliance with the regulations of the Central Bank of Brazil (BCB Resolution No. 139/2021).

The analysis of the GRI 400 Social Dimension reveals an institutional silence about many aspects of structural human rights (GRI 407, 410, 411, 415, 416) in Brazilian and Italian cooperatives (Table 5). This silence is documented in the sustainability accounting literature, where organizations systematically omit reporting on topics that are perceived as low materiality for their specific sector (Hahn & Kühnen, 2013; Bebbington & Unerman, 2018).

In the banking sector, financial intermediaries often classify human rights as indirect impacts that do not trigger mandatory reporting thresholds. It may be interpreted not as an absence of commitment, but as a preventative measure to avert misinterpretation or as a result of the perceived “distance” between financial intermediation and direct human rights violations, leading organizations to deprioritize these topics in their sustainability reporting. Certain issues lie beyond the scope of cooperative engagement, and the non-disclosure should not be interpreted as an absence of commitment, but rather as a reflection of materiality frameworks that prioritize direct operational impacts over indirect portfolio-based impacts.

Table 5. Descriptive Statistics for GRI 400 Social: disclosure indicators in Brazil and Italy (entire analysis period)

GRI Range	Ni	Description	Brazil			Italy		
			Mean	SD	N	Mean	SD	N
GRI 401	3	Employment	0.117	0.324	60	0.500	0.511	24
GRI 402	1	Labor / Manag. Relations	0.000	0.000	20	0.375	0.518	8
GRI 403	7	Occup. Health and Safety	0.079	0.270	140	0.750	0.437	56
GRI 404	3	Training and Education	0.417	0.497	60	0.667	0.482	24
GRI 405	2	Diversity Equal Opportunity	0.300	0.464	40	0.750	0.447	16
GRI 406	1	Non-discrimination	0.250	0.444	20	0.625	0.518	8
GRI 407	1	Freedom As. col. Bargaining	0.000	0.000	20	0.000	0.000	8
GRI 408	1	Child Labor	0.050	0.024	20	0.000	0.000	8
GRI 409	1	Forced or Compulsory Labor	0.050	0.024	20	0.000	0.000	8
GRI 410	1	Security Practices	0.000	0.000	20	0.000	0.000	8
GRI 411	1	Rights Indigenous Peoples	0.000	0.000	20	0.000	0.000	8

GRI 412	3	Human Rights Assessment	0.000	0.000	60	0.042	0.204	24
GRI 413	2	Local Communities	0.350	0.483	40	0.063	0.250	16
GRI 414	2	Supplier Social Assessment	0.150	0.362	40	0.063	0.250	16
GRI 415	1	Public Policy	0.000	0.000	20	0.000	0.000	8
GRI 416	2	Customer Health and Safety	0.000	0.000	40	0.000	0.000	16
GRI 417	3	Marketing and Labeling	0.100	0.303	60	0.292	0.464	24
GRI 418	1	Customer Privacy	0.450	0.510	20	0.625	0.518	8
GRI 419	1	Socioeconomic Compliance	0.050	0.224	20	0.125	0.354	8
GRI 400	37	Social	0.132	0.339	740	0.358	0.480	296
z-statistic (Mann-Whitney)						-8.248***		

Source: authors' elaboration.

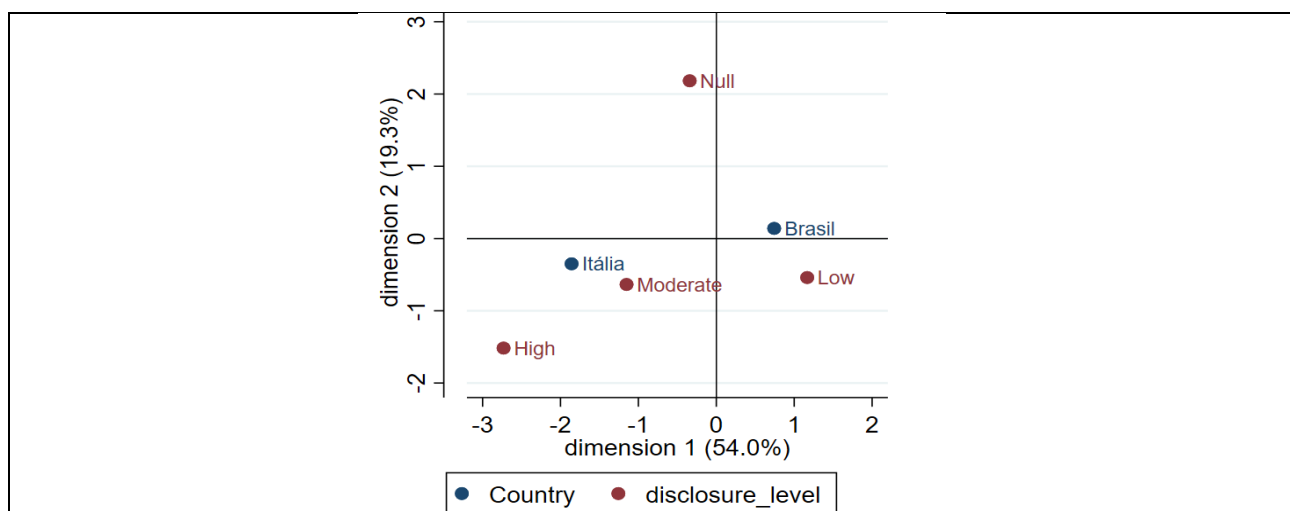
Note: Disclosure indices range from 0 to 1, SD indicates standard deviation; N, sample size. Mann-Whitney test:

*p<.01, **p<.05, ***p<.10 (two-tailed)

In Brazil, pragmatic legitimacy is also present in GRI 404 and 413, and their outcomes align with the fifth principle of cooperativism (Law 5.764/71). Additionally, the outcomes for GRI 418 have connections with the advent of the General Data Protection Law (Law 13709/2018). In the context of Italian cooperatives, there is a consolidated operational regulatory legitimacy regarding aspects of health and safety (GRI 403), training and education (GRI 404), equal opportunity (GRI 405), and non-discrimination (GRI 406). In short, in the social dimension, the reporting patterns suggest that Italian cooperatives focus on internal human capital (the social capital of the employee), while Brazilian cooperatives report on external social capital (the social capital of their members).

As a robustness check, Multiple Correspondence Analysis (MCA) was performed for the indicators, and for the sake of brevity, only the graphical representation of the results is presented (Figure 3). The MCA reveals that Brazilian credit cooperatives exhibit low levels of disclosure, while Italian cooperatives have progressed beyond the intermediate stage, advancing towards maturity (Supplement).

Figure 3. Multiple Correspondence Analysis Map of GRI Disclosure.



Source: authors' elaboration.

Note: For brevity, the statistical tests of the MCA are presented in Appendix A1.

Overall, Italy exhibits superior sustainability indicators compared to Brazil across all years and dimensions analysed. The greatest disparity observed occurred in the governance dimension in 2021 (Table 6). However, this disparity decreased after the implementation of CVM Resolution No. 59/2021 and BCB Resolution No. 139/2021 (GRSAC), which encourage the implementation of ESG practices in the Brazilian financial sector, especially in relation to credit cooperatives.

A comparative analysis revealed a decrease in the discrepancy between Brazil and Italy across all dimensions analysed. In Italy, from 2017, regulations such as the Non-Financial Reporting Directive (NFRD) have mandated the disclosure of sustainability-related issues, although in Brazil, these regulations were implemented more recently in 2021. The research findings indicate an evolution of disclosure in Brazil. But the establishment of benchmarks and enhanced accountability necessitates time. The disparity between the countries stems from the fact that Italy is subject to stricter regulatory pressure on sustainability disclosures (Calabrese et al., 2021), while in Brazil the focus remains predominantly on normative and operational compliance, resulting in a more intricate and complex information presentation format (Kacanski, 2026).

Table 6. Evolution of ESG Disclosure Levels by Dimension and Country (2021–2024)

Panel a) Year-by-Year Country Averages

Year	GRI 200		GRI 300		GRI 400		Total	
	Brazil	Italy	Brazil	Italy	Brazil	Italy	Brazil	Italy
2021	-	0.500	-	0.333	-	0.500	-	0.440
2022	0.259	0.529	0.047	0.333	0.103	0.459	0.114	0.429
2023	0.247	0.529	0.087	0.333	0.135	0.473	0.140	0.435
2024	0.400	-	0.140	-	0.276	-	0.252	-
Total	0.238	0.390	0.068	0.250	0.132	0.358	0.129	0.327

Panel b) Tests of Mean Differences (Aggregate period 2022 and 2023)

Dimension	Country	Mean	sd	Diff.	t Stat.	p-value (Welch)
GRI 200	Brazil	0.253	0.0008			
	Italy	0.529	0.000	-0.276	-47.00	0.0135**
GRI 300	Brazil	0.067	0.028			
	Italy	0.333	0.000	-0.276	-13.33	0.0477**
GRI 400	Brazil	0.1119	0.023			
	Italy	0.466	0.010	-0.347	-19.77	0.0025***

Source: authors' elaboration.

Note: 1. The symbol (-) for Italy and Brazil indicates missing data (zeros).

$$t \text{ test} = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{\left(\frac{s_1^2}{n_1}\right) + \left(\frac{s_2^2}{n_2}\right)}} \text{ with *** } p < 0,01, \text{ ** } p < 0,05, \text{ * } p < 0,10$$

The 2021 and 2024 analysis is hindered by missing data for Brazil and Italian credit cooperatives, respectively. Welch's t-test, a t-test implemented for unbalanced data (unequal sample sizes and variances), was performed during the period when data were available for both countries. For the three GRI dimensions, the null hypothesis of equality of means for was rejected with a significance level of 5%.

In 2024, the European Union underwent a transition from the Non-Financial Reporting Directive (NFRD) to the new Corporate Sustainability Reporting Directive (CSRD) and the implementation of the European Sustainability Reporting Standards (ESRS). The change may have required a novel approach to presenting disclosures and data assurance from auditing companies in Italy, explaining the delay in the publication of the 2024 reports until data gathering was completed. The 2024 database were preserved in the research to illustrate Brazil's substantial advancement across all categories. Moreover, the emergence of the ERS presents a novel research issue, necessitating the development of a new category (Lukács et al., 2026).

The increased maturity in the disclosure of sustainability by Italian cooperatives is also seen in the examination of the SDGs. The research findings point out that the highest levels of transparency pertain to SDGs 7, 17 and 4, reflecting the emphasis of Italian cooperatives on governance and energy transition (Table 7). The energy transition may be linked to the alignment of Italian cooperatives with the European Green Deal.

In turn, Brazilian cooperatives experienced a higher level of disclosure in SDG 4, meaning that in emerging economies leverage education as a means of legitimising their immediate social impact on the community. In Brazil, the fifth cooperative principle in Law 5.764/71 (art. 28) establishes a national regulatory framework that ensures legal institutionalization of educational investments; however, there remains an opportunity to enhance the level of transparency in comparison to Italy. Brazilian cooperatives excel over Italian ones in merely two circumstances.

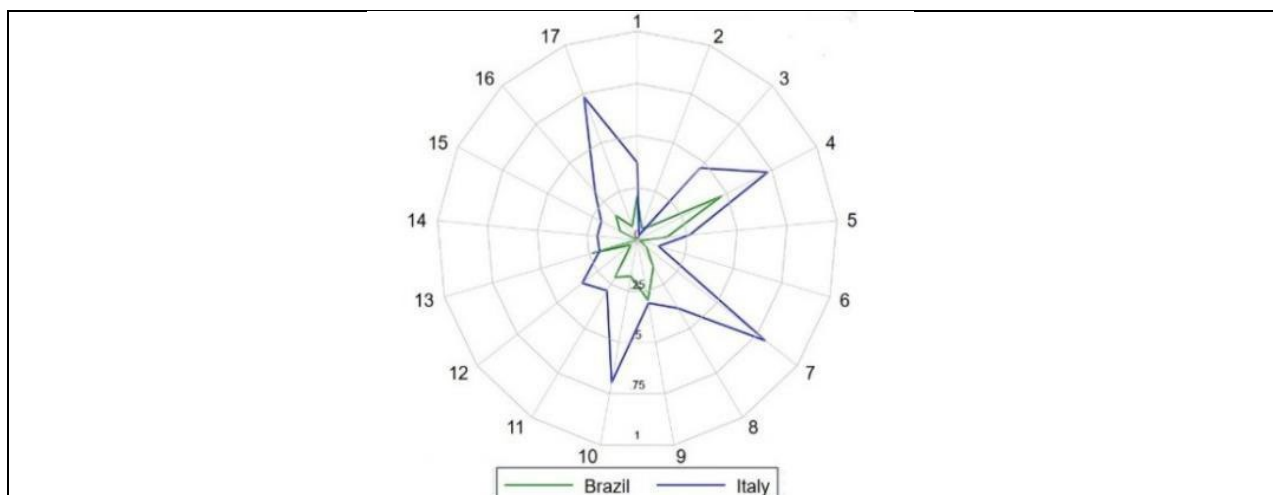
Table 7. SDG 's Disclosure Level by Country

	Brazil			Italy			Difference
	mean	SD	N	mean	SD	N	mean
SDG1-No Poverty	0.208	0.409	72	0.370	0.492	27	+0.162
SDG2-Zero Hunger	0.061	0.240	99	0.025	0.158	40	-0.036
SDG3-Good Health	0.084	0.279	119	0.467	0.505	45	+0.383
SDG4-Education	0.471	0.514	17	0.727	0.467	11	+0.256
SDG5-Gender	0.149	0.358	94	0.263	0.446	38	+0.114
SDG6-Water	0.012	0.111	81	0.111	0.319	36	+0.099
SDG7-Energy	0.059	0.243	17	0.800	0.447	5	+0.741
SDG8-Work	0.153	0.361	320	0.385	0.489	122	+0.232
SDG9-Industry	0.294	0.462	34	0.308	0.480	13	+0.014
SDG10-Inequality	0.177	0.385	62	0.696	0.470	23	+0.519
SDG11-Cities	0.211	0.419	19	0.286	0.488	7	+0.075
SDG12-Consumption	0.040	0.196	176	0.344	0.479	64	+0.304
SDG13-Climate	0.232	0.424	112	0.195	0.401	41	-0.037
SDG14-WaterLife	0.000	0.000	50	0.200	0.408	25	+0.200
SDG15-LandLife	0.095	0.296	63	0.200	0.406	35	+0.105
SDG16-Peace	0.158	0.366	316	0.312	0.465	125	+0.154
SDG17-Partnerships	0.069	0.258	29	0.733	0.458	15	+0.664
Total	0.131	0.337		0.326	0.469		
Observations	1680			672			2352

Source: authors' elaboration. SD indicates standard deviation; N, sample size

In Brazil, the SDG 2 target can be impacted by policies financing Smallholder family farming (PRONAF). Meanwhile, SDG 13 benefits from the Central Bank's socio-environmental regulations, resources from the ABC Program (Low Carbon Agriculture), and the development of the carbon credit market. Despite these regional specificities, the common focus on SDG 4 observed in both countries transcends institutional differences, representing a form of moral legitimacy (Suchman, 1995) grounded in the globally shared values of the cooperative movement, regardless of the regulatory regime (coercive or mimetic).

In the Figure 4 we highlight the difference between Brazilian and Italian cooperatives, particularly noticeable in SDGs 7, 10, and 17.

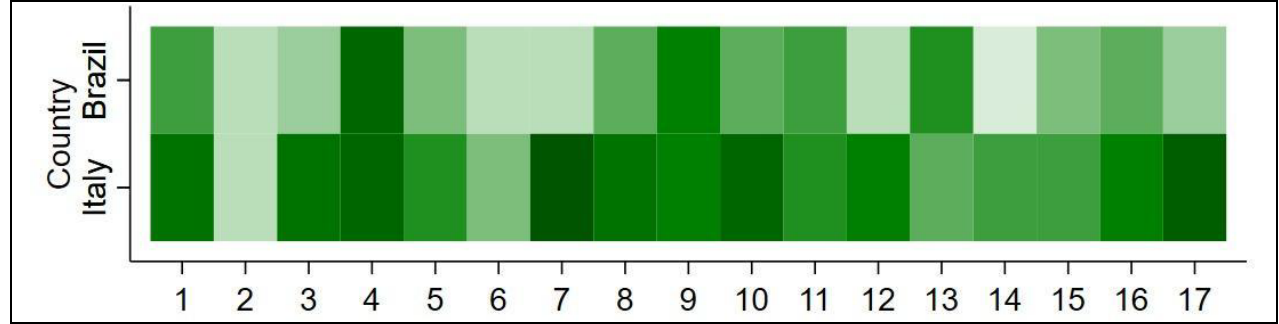
Figure 4. Visual Analysis of SDG Disclosure: radar chart

Source: authors' elaboration.

Notably, both countries excel in SDG 4, confirming that education is the common language in global cooperativism. As noted by Castilla-Polo et al. (2025), education is the only SDG that transcends geographical barriers, as credit cooperatives use it to promote social inclusion, sustainability, and self-management. In this sense, the shared commitment to SDG 4 represents a form of moral legitimacy (Suchman, 1995) that resonates with global cooperative identity. While other dimensions of disclosure are shaped by divergent institutional isomorphisms—coercive in Italy and mimetic in Brazil—education remains a universal ‘de facto’ standard that reinforces the mutualistic purpose of these institutions regardless of their regulatory environment.

Figure 5 highlights the significant disparities in the intensity of disclosure regarding SDGs 7 and 17. The lower emphasis on SDG 7 (Affordable and Clean Energy) in Brazil can be attributed to its national energy matrix, already heavily based on renewables, which reduces the perceived need for strategic legitimization in this area. Conversely, the divergence in SDG 17 (Partnerships for the Goals) reflects deeper institutional differences: while Brazilian credit unions appear more focused on internal operational legitimacy, Italy’s higher intensity suggests a view of cooperativism as an integrated ecosystem.

Figure 5. Visual Analysis of SDG Disclosure: heatmap of reporting intensity



Source: Author’s elaboration in 2025

This alignment in Italy reflects the ‘coercive and normative’ pressures of the European framework, which encourages systemic partnerships as a standardized requirement for sustainable development. Finally, the low intensity observed in both countries regarding SDG 2 (Zero Hunger) represents a shared ‘blind spot’ in current disclosure practices, where the technical complexity of reporting on food security remains a challenge for the isomorphic standardization of both the Brazilian and Italian models. In summary, the research findings that cooperatives prioritize social and governance SDGs are like those obtained by Castilla-Polo et al. (2025) in their study of Spanish cooperatives. Furthermore, the balance in the intensity of SDG dissemination, as in the case of Italy, was also observed by Kacanski (2026) for Nordic companies.

Specifically, the importance of SDG 4 (Education) on the sample reveals something about the cooperative identity. We argue that it serves as moral legitimacy anchor that surpasses geographical

boundaries (global convergence RQ1. Regarding standard disclosures, they differ in relation to the institutional context (RQ2), where Italy is shaped by regulatory pressures (alignment with CSRD/ESRS) with a predominance of normative/coercive isomorphism. In contrast, Brazilian cooperatives are guided mainly by pragmatic legitimacy dynamics, where financial inclusion and local development are the demands of the members and the national territory.

5. Conclusion and Policy Implications

This study demonstrates that sustainability reporting coverage in credit unions reflects distinct institutional environments, rather than directly capturing stakeholder perceptions, managerial intentions or actual sustainability performance. The empirical patterns observed indicate that in Italy the transition toward CSRD and ESRS compliance drives cooperative credit banks toward standardized, eco-efficiency-focused disclosures aligned with the European Green Deal. This reflects specific regulatory legitimacy and internal human capital priorities. Conversely, Brazilian cooperatives leverage GRI and SDG measures consistently with pragmatic legitimacy arguments, emphasizing financial inclusion, territorial identity, and external social capital. This divergence suggests that while Italian institutions adjust their reporting boundaries to corporate regulatory expectations, Brazilian credit unions structure their disclosures to align with community-centered social goals, a pattern consistent with the 7th Cooperative Principle (Concern for Community).

The results clarify how mutualistic principles adapt under opposing pressures—regulatory standardization versus social identity. Despite these differences, the study reveals common institutional silences on biodiversity (GRI 304) and human rights (GRI 400-419). These gaps are attributable to indirect impacts, measurement challenges, and a lack of tailored KPIs for non-profit entities, suggesting that current global frameworks often overlook the specific operational nature of the cooperative banking model.

Our findings enrich Institutional and Legitimacy theories. The interrelations between exogenously imposed and endogenously driven legitimacy unfold in hybrid financial firms. Identity-driven legitimacy depends on the voluntary, deliberate codification of the organization's social goal (Zamagni, 2012), whereas regulatory legitimacy is ensured by closely adhering to institutionalized disclosure criteria (such as the EU CSRD framework). Uncovering the reinforcing nature of this dualism is the main theoretical contribution: formal regulatory pressures give credit unions a standardized, acceptable vocabulary to measure, scale, and convey their historical "cooperative difference" rather than displacing social identity (Ferraro & Veltri, 2026).

Practically, the findings inform specific regulatory bodies. For the Central Bank of Brazil (BCB), the data suggest that future updates to the GRSAC framework should maintain strategic leeway for local

social impact narratives. For the European Financial Reporting Advisory Group (EFRAG) and the European Central Bank (ECB), the results underscore the importance of introducing proportionality rules within the ESRS to prevent mandatory compliance from crowding out the traditional mutualistic identity of smaller cooperative intermediaries. The empirical evidence of institutional silences in biodiversity and the deep gap between Italian internal metrics and Brazilian external social indicators justify the need for hybrid frameworks that balance global standards with local priorities to mitigate information asymmetry.

Notwithstanding its contributions, the study has limitations. The sample is confined to major cooperative groups (e.g., Sicredi, Sicoob, CCBG, ICBG); the database reflects the latest available full disclosure cycle (up to 2024), as 2025 social reports are currently in the publication phase and it prioritizes disclosure quality over external assurance or financial performance linkages.

Consequently, subsequent research must examine the effects of ESRS implementations post-2025 on European cooperatives while also evaluating cooperatives from rising nations or various cooperative sectors, as their ESG, GRI, and SDG disclosures may vary. Such expansions would facilitate addressing the multitude of metrics amidst pressures for standardization, enhancing the discourse on sustainability disclosure and the equilibrium between local adaptation and worldwide compliance within the social economy sector.

Notes

- [1] With reference to the period of analysis, the sector operated under the NFRD while entering a transition phase in anticipation of the CSRD. Under the scope of the analysis, we acknowledge for the possibility that the observed level of transparency is primarily driven by strict formal compliance and the need to progressively align with the upcoming standards.
- [2] It is important to acknowledge that calculating the frequency of GRI indicators provides a quantitative measure of disclosure level but does not directly capture the qualitative motivation behind it. Therefore, the attribution of specific dynamics is an inference drawn from the macro-institutional context, rather than from direct sentiment analysis.
- [3] It is essential to recognize that the absence of data constitutes a methodological limitation of the study. Therefore, the comparative results and frequencies observed in this analysis should be interpreted as indicators of evolving trends, rather than absolute institutional divergences.

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Appendix – Level of Disclosure between Brazil and Italy through MCA**Panel A: Model Statistics (Reliability**

Dimension	Eigenvalue (Inertia)	Percentage (%)	Cumulative (%)
Dimension 1	0.1309	53.96%	53.96%
Dimension 2	0.0467	19.27%	73.24%
Total	0.2425	100.00%	

Panel B: Main Coordinates and Contributions

Variable	Category	Dim 1 (Coord)	Dim 2 (Coord)
Country	Brazil	0.743	0.14
	Italy	-1.858	-0.35
Year	2021	-0.501	1.691
	2022	-0.141	-0.72
	2023	0.312	-1.474
	2024	0.33	0.503
Disclosure Level	Null	-0.342	2.183
	Low	1.167	-0.54
	Moderate	-1.152	-0.636
	High	-2.731	-1.516

Source: Author's elaboration on 2025 data

Table A1. Disclosure of GRI in Brazilian and Italian Cooperatives

Institution	2021	2022	2023	2024	Observações
Unicred (BRA)	No	Yes	Yes	Yes	Sustainability Report without GRI Data
Ailos (BRA)	No	Yes	Yes	Yes	Sustainability Report without GRI Data
Cresol (BRA)	Yes	Yes	Yes	Yes	Sustainability Report without GRI Data
Siccob (BRA)	Yes	Yes	Yes	Yes	
Sicred (BRA)	Yes	Yes	Yes	Yes	
Icrrea (ITA)	Yes	Yes	Yes	No	No GRI data available due to a change in sustainability data disclosure.
Cassa Centrale (ITA)	Yes	Yes	Yes	No	No GRI data available due to a change in sustainability data disclosure.

Source: Prepared by the author based on institutional websites consulted in 2025.

Table A2. Matrix Operationalization: detailed GRI Code Codification by Sustainable Development Goal (SDG)

SDG	n. GRI	GRI Codification
1	10	202_1, 202_2, 203_1, 203_2, 207_1, 207_2, 207_3, 207_4, 413_1, 413_2
2	6	411_1, 412_1, 412_2, 412_3, 413_1, 413_2
3	24	203_1, 203_2, 305_1, 305_2, 305_3, 305_4, 305_5, 305_6, 305_7, 306_1, 306_2, 306_3, 306_4, 306_5, 401_1, 401_2, 401_3, 403_1, 403_2, 403_3, 403_4, 403_5, 403_6, 403_7
4	3	404_1, 404_2, 404_3
5	17	202_1, 202_2, 203_1, 203_2, 401_1, 401_2, 401_3, 404_1, 404_2, 404_3, 405_1, 405_2, 406_1, 408_1, 409_1, 414_1, 414_2
6	13	302_5, 303_1, 303_2, 303_3, 304_1, 304_2, 304_3, 304_4, 306_1, 306_2, 306_3, 306_4, 306_5
7	4	302_1, 302_2, 302_3, 302_4
8	43	201_1, 201_2, 201_3, 201_4, 202_1, 202_2, 203_1, 203_2, 204_1, 301_1, 301_2, 301_3, 302_1, 302_2, 302_3, 302_4, 306_1, 306_2, 306_3, 306_4, 306_5, 401_1, 401_2, 401_3, 402_1, 403_1, 403_2, 403_3, 403_4, 403_5, 403_6, 403_7, 404_1, 404_2, 404_3, 405_1, 405_2, 406_1, 407_1, 408_1, 409_1, 414_1, 414_2
9	6	201_1, 201_2, 201_3, 201_4, 203_1, 203_2
10	12	207_1, 207_2, 207_3, 207_4, 401_1, 401_2, 401_3, 404_1, 404_2, 404_3, 405_1, 405_2
11	7	203_1, 203_2, 306_1, 306_2, 306_3, 306_4, 306_5
12	26	301_1, 301_2, 301_3, 302_1, 302_2, 302_3, 302_4, 302_5, 303_1, 303_2, 303_3, 305_1, 305_2, 305_3, 305_4, 305_5, 305_6, 305_7, 306_1, 306_2, 306_3, 306_4, 306_5, 417_1, 417_2, 417_3
13	17	201_1, 201_2, 201_3, 201_4, 302_1, 302_2, 302_3, 302_4, 305_1, 305_2, 305_3, 305_4, 305_5, 305_6, 305_7, 308_1, 308_2
14	11	304_1, 304_2, 304_3, 304_4, 305_1, 305_2, 305_3, 305_4, 305_5, 305_6, 305_7
15	16	304_1, 304_2, 304_3, 304_4, 305_1, 305_2, 305_3, 305_4, 305_5, 305_6, 305_7, 306_1, 306_2, 306_3, 306_4, 306_5
16	24	205_1, 205_2, 205_3, 206_1, 307_1, 403_1, 403_2, 403_3, 403_4, 403_5, 403_6, 403_7, 408_1, 410_1, 414_1, 414_2, 415_1, 416_1, 416_2, 417_1, 417_2, 417_3, 418_1, 419_1
17	4	207_1, 207_2, 207_3, 207_4
Total	243	