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Ethical Behaviour and Corporate Financing. The Case of 'Legality Rating'

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ABSTRACT

The financial crisis has heightened awareness of ethical and legal issues in the business context. Corporate ethical behaviour is increasingly measured through sustainability ratings. Since 2012, in Italy, the introduction of a sustainability rating, namely the legality rating (LR), has served as an innovative 'label' for socially responsible companies from both legal and ethical standpoints. This study employs a unique dataset of 3905 private Italian firms and the Propensity Matching Score to investigate differences in debt costs and corporate financing between companies holding LR and those not. The findings confirm that LR positively influences debt cost and corporate financing by facilitating access to external financing and supporting the risk mitigation perspective. This analysis enriches the literature on the relationship between sustainability ratings and financial impacts by demonstrating the tangible benefits of LR. Regarding managerial implications, this study offers valuable insights into the advantages of a reward system that promotes 'honest' behaviour in corporate practices.

1 | Introduction

The financial crisis and its dramatic side effects in our society have exacerbated issues related to ethics and legality by highlighting the need to assess the economic and firm-level impacts (Ginesti et al. 2020; Pizzi et al. 2020; La Rosa et al. 2023). For many years, Italian authorities have waged a battle against illegal financial activities that negatively affect businesses and entrepreneurs, potentially leading to severe implications for the economic system's overall competitiveness (Nielsen 2003; Véry and Wilson 2012; Duplat et al. 2012). Although significant legal interventions have occurred, the competent authorities have decided to play an active role in assisting businesses. Since 2012, Italian authorities have advanced a legislative process, culminating in two specific laws, that is, Legislative Decrees N. 27 and 62, which introduced a new rating, the 'legality rating' (LR). This label is a reward system for the most virtuous companies, both legally and sustainably. The LR supports companies in improving access to bank credit and public subsidies as it is part of a broad range of sustainability or ethical ratings (Parguel et al. 2011; Chelli and Gendron 2013; Drempetic et al. 2020; Doni and Johannsdottir 2019; Abate et al. 2021; Boiral et al. 2021; Billio et al. 2021; Boulhaga et al. 2023). It aims to certify that a company is not involved in any criminal, civil and/or administrative court cases, implements internal Corporate Social Responsibility (CSR) procedures and/or adheres to international ethical protocols.

Given the growing interest in measuring companies' responsible and ethical behaviour, there is an urgent need to investigate how sustainability ratings can affect corporate financing, which is identified in the cost of debt and equity financing. Previous studies have analysed the role played by sustainability ratings in enhancing corporate financial performance (Landi and Sciarelli 2019; Boulhaga et al. 2023) and Environmental, Social and Governance (ESG) disclosure (Eng et al. 2022; Christensen et al. 2022; Tsang et al. 2023). By exploring the relationship between ethical behaviour and

corporate financing, some studies assessed the signal of trustworthiness by borrowers, which can mitigate information asymmetry between borrowers and lenders, facilitating access to external financing (Treviño et al. 2006; Weaver et al. 1999). Recent studies on the Italian LR have investigated the motivations for companies voluntarily seeking this rating, in some cases to enhance the company's reputation (Caputo and Pizzi 2019; Ginesti et al. 2018). Other studies have examined the characteristics of firms with an LR regarding family involvement in management (Dawson et al. 2020) or the degree of bankruptcy risk (Pizzi et al. 2020; Lo Conte and Sancetta 2024). The presence of legal and ethical practices certified by LR can ensure good corporate governance practices (La Rosa et al. 2023) and a positive impact on a firm's production efficiency (DeBenedetto et al. 2024). In this field, to the best of our knowledge, little is known about the link between ethical ratings and corporate financing (Kim et al. 2014; Gati et al. 2022) except for Caputo and Pizzi (2019), who analysed the effects of the LR on economic, financial and equity performance in terms of firm's competitive advantage. The context on sustainability ratings does not show homogeneity as there are several differences in methodologies adopted by the CSR rating agencies such as the use of ESG themes, exclusion criteria, adoption of positive criteria, client/'customised' input, quantification, weights for each dimension, etc. (Saadaoui and Soobaroyen 2018). These differences create high divergencies among sustainability ratings (Berg et al. 2022; Rossi et al. 2024) by significantly affecting the validity and reliability of these measures (Saadaoui and Soobaroyen 2018). Among several sustainability ratings LR has been developed to implement a single dimension of sustainability, that is, the compliance with law, by adopting specific requirements in terms of the degree of ethical business activities and therefore the businesses' creditworthiness (La Rosa et al. 2023). As a voluntary rating LR can ensure a transparent methodology and a control by public authorities that can enhance the reputation and credibility of the rated companies. Therefore LR can play a different role for reducing agency problems in comparison with other sustainability ratings.

Therefore, this study aims to explore the effect of LR on corporate financing by considering both the cost of debt and equity financing. Our results demonstrate that the official Italian LR can effectively influence financing practices by decreasing the need for equity financing and affecting access to bank financing. This study contributes to the current literature in multiple ways. Firstly, it focuses on the differences between LR and non-LR private firms by conducting a propensity score matching (PSM) analysis. This analysis validates the positive impact of legal and ethical values in corporate finance by comparing treated firms (those with LR) and control firms (those without LR) and adjusts for potential selection bias due to non-random treatment assignments. Secondly, the study provides novel insights on a specific rating that links honest behaviour with a significant improvement in the relationship between borrowers and lenders by enhancing transparency and discouraging corrupt practices. Thirdly, it offers practical and managerial implications by encouraging companies to obtain an ethical rating, which can immediately enhance their financial reputation and performance. In addition, this study supports policymakers and institutional authorities in promoting a better understanding of the benefits of LR adoption.

The remainder of this paper is organised as follows: Section 2 explains the introduction to LR as established under Italian law; Section 3 provides an overview of previous studies on ethical ratings, identifying some theoretical frameworks that validate the development of the research hypotheses; Section 4 describes the methodology and the process of data collection; Section 5 presents findings, and the discussion of empirical evidence is reported in Section 6. Final remarks, managerial and theoretical implications, and limitations of the research are included in Section 7.

2 | Background

The idea to reward companies that invest in 'legality' by enforcing ethical codes and processes and are personally involved in the fight against 'illegality' originated from associations representing entrepreneurs in Sicily.[1] The concept of the rating was devised specifically to aid those businesses that invest in legality in finding sources of finance, which will otherwise be difficult to secure during a crisis in the banking sector. This crisis was due partly to the credit crunch and the implementation of increasingly restrictive benchmarks. The LR incentive was then adopted by institutions that have long been active in combating the Mafia and the Association of Italian Banks (ABI). An initial legal classification of LR was introduced with Article 5-ter in the Liberalisation Decree (24 March 2012) before being formally implemented with Law No. 62/2012. The Guarantor Authority for Competition and Market (AGCM) was designated as the actuator of the LRs, with specific regulations issued on 14 December 2012 under Resolution No. 20075. These regulations were first modified by the Council of State (25 March 2013), and then, a partially reformulated version was enacted on 9 January 2015.

The Italian legislative system introduced LR to encourage companies to adopt ethical values and behaviours. It defined a reward mechanism that aids businesses in gaining access to bank credit and obtaining public subsidies. Awarding a rating is proof of meeting specific essential requirements, primarily legality but sustainability, which contributes to a higher score and a better rating. The rating is voluntary and can be assigned either to individual companies or collective enterprises that are able to fulfil some specific requirements by paying attention to the responsible management of businesses. The rating is expressed by awarding stars, from 1 (lowest rating) to 3 (highest rating). The LR entails advantages and preferences to obtain public funding and facilitation of access to bank credit by improving cost and speed of procedures.

The launch of LR has been in a business context where CSR and ESG issues have gained momentum and attracted corporate and media attention in Italy, in Europe and other countries worldwide. In this scenario, many companies are considering embedding ESG issues in their business model and corporate strategy to revise their processes and operations to meet all stakeholders' needs. In this view, investors

and financial institutions can use sustainability ratings to evaluate companies' corporate social and environmental performance, although there is little transparency regarding the metrics (Delmas and Blass 2010) and the methodology used for developing ratings (Boiral et al. 2021). Several discrepancies among ratings undermine their credibility without an effective improvement provided by the effort in harmonising the reporting practices by the mandatory adoption of sustainability standards as required by the recent EU Directive CSRD (Arena et al. 2025). Despite these concerns, sustainability ratings remain a vital tool, particularly for increasing the awareness of investors and financial entities on ESG information (Boiral et al. 2021), and they cannot be replaced by other instruments. For improving the validity and the credibility of sustainability ratings, the main aspect is related to the adoption of a clear and rigorous methodology by which it is possible to evaluate and compare the level of corporate ESG performance. The case of LR represents a unique institutional opportunity for the Italian companies without any similar rating in other countries, as argued by Bertacchini et al. (2025) and confirmed by some studies (Dawson et al. 2020; Ginesti et al. 2018; Ginesti et al. 2020; La Rosa et al. 2023; La Rosa and Bernini 2022; Pizzi et al. 2020). The main feature of LR on corporate legality can provide an interesting evaluation on some topics that can be linked to ethical behaviour. In this view, the evaluation of corporate ethical commitment through the adoption of LR may facilitate a firm's reputation in the financial markets and improve its relationship with financial entities, as previous literature demonstrated.

3 | Literature Review, Theoretical Framework and Hypotheses Development

3.1 | Ethical Behaviour and Corporate Financing

Given the growing attention to ethical principles in business practices, a relevant debate in the literature is how adopting ethical behaviour affects a company's corporate financing. Addressing this question allows further understanding of how ethics can mitigate the information asymmetry between borrowers and debt lenders, favouring access to external financing.

From a risk mitigation perspective, business ethics aim to moderate lenders' perception of credit risk, decreasing interest rates and facilitating access to finance. Prior literature has modelled the relationship between debt lenders and borrowers as a principal-agent relationship (Kim et al. 2014). The lenders (principal) are characterised by bounded rationality and cannot fully assess the borrower's (agent) behaviour. Agents can behave opportunistically, not in the interest of the debt lender, resulting in them paying higher interest costs to compensate for the lender's high-risk exposure (Deegan 2014; Eisenhardt 1988, 1989). By following ethical principles, firms' business practices share the values of honesty and integrity; thus, business ethics become a signal of trustworthiness, potentially reducing agency problems in the relationship between borrowers and debt lenders. An ethical agent behaves honestly, avoids opportunistic behaviours and increases trust from the debt lender (Treviño et al. 2006; Weaver et al. 1999), which can reflect this behaviour in a lower interest rate, favouring access to external financing. In this perspective we use agency theory (Eisenhardt 1988, 1989) by implementing the influence of ethical issues on the agent behaviour to justify the formulation of our research hypotheses. LR can be placed in this theoretical framework as it represents a tool that is able to lead ethical behaviour in agents (Bertacchini et al. 2025) by supporting the adherence to ethical issues and incentivising social norms that can enhance the relevance of ethical actions and policies (Bosse and Phillips 2016).

Kim et al. (2014) conducted the first study analysing the effect of borrower ethical behaviour on corporate financing. Focusing on the relationship between firms and bank debt lenders, this study highlights that borrowers' ethical behaviour inclined bank lenders to grant loans with lower spreads. In addition, it argues that ethical similarity between borrower and lender favours the decrease of loan spreads since the affinity of ethical values between the two actors promotes the perception of trust. Extant literature mainly focuses on the relationship between corporate financing and CSR, which embraces the ethical, social and environmental dimensions (Margolis and Walsh 2003; Orlitzky et al. 2003). Two main research streams arise: (1) studies about the effects of CSR on firms' leverage level and (2) studies about the effects of CSR on firms' cost of external financing. In relation to the first research stream, scholars suggest that higher CSR performance favours firms' access to external finance, leading firms to face lower capital constraints. Supporting the risk mitigation view, firms with greater CSR present a higher level of leverage (Cai et al. 2019; Cheng et al. 2014; Harjoto 2017; Limkriangkrai et al. 2017). In relation to the second research stream, scholars suggest an inverse relationship between the cost of debt financing and CSR, supporting the risk mitigation view (Bae et al. 2018a, 2018b; Bhuiyan and Nguyen 2019; Du et al. 2017; Eliwa et al. 2019; Huang et al. 2018; La Rosa et al. 2018; Oikonomou and Pavelin 2014; Xu et al. 2019). Socially responsible firms aim to moderate the lenders' perception of credit risk, decreasing interest rates.

3.2 | Institutionalisation of Ethical Behaviour and Corporate Financing

Companies' ethical behaviour can favour access to external financing in countries where the institutional environment recognises and rewards adopting sustainable and ethical behaviours. In such cases, stakeholder groups such as banks, employers, suppliers, governments, and communities expect firms to adopt ethical behaviour, generating pressure on firms, which in turn can benefit from adopting ethical values (Williams and Aguilera 2008). Specifically, firms can experience greater access to various sources of financing, from bank loans (Kim et al. 2014; La Rosa et al. 2018) to trade credit (Xu et al. 2019; Zhang et al. 2014). The institutional environment in which companies operate is crucial in fueling the positive relationship between companies' ethical behaviour and access to external financing. For example, Stellner et al. (2015) and Cheung et al. (2018) demonstrated that the institutional environments determine the inverse relationship between CSR and the cost of

debt (Barnea and Rubin 2010; Bartkus et al. 2002; Magnanelli and Izzo 2017).

A high level of institutionalised ethical behaviour can activate mechanisms underlying the risk mitigation view, rewarding companies' ethical behaviours. It is essential, both theoretically and empirically, to expand our focus beyond overarching measures of firms' CSR to consider an institutionalised indicator of firms' ethical behaviour to enhance understanding of the effects of companies' ethical behaviours on corporate financing (Kim et al. 2014). However, prior literature remains largely silent about the effects of institutionalised ethical behaviour on corporate financing. As such, we aim to fill this literature gap by investigating the effects of LR on companies' access to debt financing.

LR represents an institutionalised indicator of firms' ethical behaviour introduced by the Italian legislative system. It certifies firms that are able to meet specific legal and ethical requirements. By introducing LR, the Italian legislator has institutionalised ethical values, recognising and rewarding firms' responsible behaviour. Banks are required to favour firms with LR in access to debt financing. In addition, other stakeholder groups, such as employers, suppliers, governments and communities can also favour companies with LR, enhancing their access to various financing sources.

Limited literature empirically investigates LR, and it is nearly silent concerning its effects on corporate financing, except for Caputo and Pizzi (2019), who found a positive relationship between LR and a company's leverage level. However, additional research is necessary to understand how LR relates to access to external financing in terms of leverage level and the cost of debt. As far as we know, our study is the first to investigate the effects of LR on access to external financing and capital structure, focusing on both companies' cost of debt and equity financing levels.

Borrowers with LR can be classified as high-quality borrowers; therefore, we expect the risk mitigation view to prevail (Goss and Roberts 2011). LR represents a potential signal of trustworthiness, which is likely to reduce agency problems in the relationship between borrowers and debt lenders. We anticipate that LR may increase trust from the debt lender, leading to a decrease in the cost of debt. From the same perspective, companies with LR can increase their leverage level and decrease their need for equity financing (see Table 1).

Thus, consistent with our expectations, our hypotheses are as follows:

H1. *Firms with LR are likely to experience a decrease in the cost of debt.*

H2. *Firms with LR are likely to experience a decrease in equity financing.*

To test these hypotheses, we will develop a research design and methodology that will be explained in the next section.

4 | Research Design and Methodology

4.1 | Features of LR

LR can be obtained by the Italian firms that (1) have a business based in Italy[2]; (2) reached a minimum turnover of 2 million Euros in the fiscal year preceding that of the rating request; (3) have been registered in the official Company Register for at least 2 years. The steps by which a company can get the highest rating (three stars) are directly related to the fulfilment of specific requirements, namely: (1) basic requirements, sufficient to obtain one star; (2) additional requirements, which can increase the initial score of one star up to 3 stars. Each additional requirement achieved corresponds to a '+'. Once three '+++' have been obtained, a second star is awarded and so on, up to a maximum of three stars. Therefore, to obtain three stars, a company must meet the basic requirements and an additional six requirements (the regulation specifies a total of eight possible additional requirements).

The basic requirements are included in paragraphs 2 and 3 of Article 2 of the Implementing Regulation for LR and relate to issues concerning 'compliance with legality', both by the company itself and by those working on its behalf, such as directors, general managers, technical directors, partners and others. By 'compliance with legality', we refer to not being the subject of any action against the laws in force in Italy under the penal, civil and administrative codes concerning, for example, administrative and accounting offences, health and safety in the workplace and criminal, tax, or financial offences. European regulations on antitrust offences must also be respected, as must regulations relating to state aid.[3] The additional requirements pertain to more intrinsic aspects. As approved in January 2015, the regulation identifies eight

TABLE 1 | Theoretical frameworks and development of hypotheses.

Theory	Approach/implications	Hypothesis
Agency theory Risk mitigation view	– Borrowers-lenders – Indirect relationship between CSR and financial structure	– Borrowers with LR can be classified as high-quality borrowers – Borrowers without LR are low-quality borrowers Hypothesis 1: accepted Hypothesis 2: accepted

Source: Authors' elaboration.

parameters, but it is sufficient to fulfil seven requirements to achieve the maximum rating score. These additional parameters concern:

1. Compliance with the contents and principles of the Legality Protocol, signed by the Ministry of the Interior, along with representative entrepreneurial associations.
2. Use of tracking systems for payments, even for those amounts below the limits set by the law
3. Implementation of organisational systems for compliance monitoring (including outsourcing) of all business activities, with legislative provisions applicable to the company or of an organisational model under Legislative Decree 231/01.
4. Implementation of processes to ensure CSR, even though membership in programmes promoted by national or international organisations, with the accumulation of sustainability indices (for instance, having previously obtained an *ethics rating*).
5. Inclusion in a 'white list'.[4]
6. Compliance with self-regulatory ethical codes of conduct, as implemented by the trade associations, or provision of mediation clauses, when not required by law, in contracts between businesses and consumers to resolve disputes or implementation of protocols between consumer organisations and trade associations to implement joint conciliation.
7. Denouncing to the judicial authorities or the police any crimes as described in the Rating Regulations, which have been committed against the entrepreneur or their family members and co-workers, such complaint being followed up by prosecution proceedings.
8. Implementation of organisational models for the prevention and combating of corruption.

The credit rating request is sent online by completing a form in which the company must self-certify that they meet the basic requirements and any of the additional requirements, where applicable. The request is evaluated, and a rating is assigned within 60 days. The rating is valid for 2 years and can be renewed upon request.

By considering ESG issues and other sustainability ratings, LR includes issues that are mainly related to the pillar 'Governance'. Companies with LR could have the possibility to disclose on this dimension as they have to comply with different requirements. This kind of information can provide details on socially responsible business conduct by integrating what is already disclosed in voluntary or mandatory sustainability reports.

4.2 | Empirical Strategy

This study aims to evaluate the effects of LR on two outcome variables: cost of debt and equity financing. It compares two samples of Italian firms with and without LR. LR is a treatment condition in this framework. However, a major concern in this analysis is that treatment assignment is not ignorable, as firms in our sample are not randomly distributed between those with and without LR. The lack of randomisation can expose the study to selection bias since the characteristics of firms often confound treatment selection. The factors influencing the likelihood of belonging to the group of firms with LR can also be associated with the outcomes. When this occurs, the treatment effect estimation can be seriously flawed, making the study's findings unreliable.

PSM (Rosenbaum and Rubin 1985) is utilised to estimate treatment effects, adjust for confounding variables and mitigate treatment selection bias. It operates on the premise that bias can be reduced when comparing outcome variables between two groups, treated and controls, that are as similar as possible regarding a set of pre-treatment characteristics represented by multiple covariates. Firms in the treated and control groups are matched based on the probability of receiving treatment, that is, the probability of being in the group of firms with LR, conditional on the observed firms' characteristics (or control variables). This probability, defined as the propensity score (PS), is estimated using a logistic regression model. The quality and comprehensiveness of the control variables utilised to compute the PS determine how much bias is reduced (Becker and Ichino 2002). Then, for each firm in the treatment sample (those with LR), firms in the control samples are selected as matched samples according to the closeness of the previously estimated PS, thereby forming a control group of firms (those without LR). Once the PS is estimated, matching between treated and control firms is performed using two algorithms: radius matching and kernel matching (for a detailed description these algorithms, see Caliendo and Kopeinig 2008). For a detailed description of these algorithms, Caliendo and Kopeinig (2008). With radius matching, treated firms are matched to all controls within a specified PS distance, referred to as the radius. In contrast, kernel matching pairs each treated firm with a weighted average of all controls, where weights are proportional to the distance between a given control and the treated firm, ensuring closer controls receive larger weights.

We estimate the average treatment effect on the treated (ATT) by comparing the outcome variables between the treatment and control groups in the matched sample of firms that received treatment (Cunningham 2021) to evaluate the impact of LR. This estimator eliminates the confounding effect because, after matching, the distribution of the control variables is expected to be nearly identical in treated and untreated firms (Austin 2011). The focus on the average impact on treated firms, rather than the effect on all firms, including those that did not receive LR, is due to the practical implications of estimating treatment on all firms. LR is not randomly assigned; it is awarded by AGCM only to those firms that meet the requirements and submit a specific prior request, while all other firms remain unaffected. Therefore, estimating the treatment effects on LR firms rather than on the entire sample is more relevant.

PSM algorithms assume that all confounding variables are observable and that no unobserved or omitted factor affects the

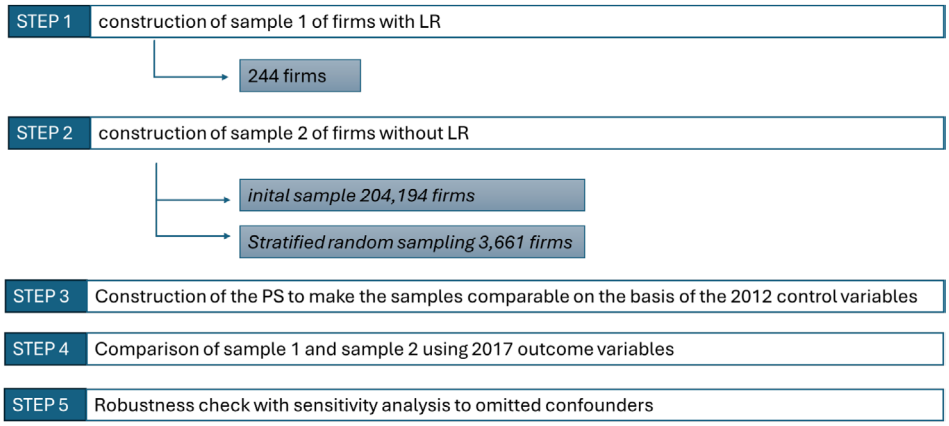

FIGURE 1 | Research method. *Source:* Own elaboration.

treatment selection process. Unfortunately, this assumption cannot hold because of unobservable or omitted confounding variables, which can undermine the estimates of treatment effects. We conducted a sensitivity analysis using the bounding approach (R-bounds) proposed by Rosenbaum (2002), employing Stata's *mhbounds* programme to evaluate the robustness of our estimates to potential omitted confounders (Becker and Caliendo 2007). This sensitivity analysis aims to determine how significant the effect of an omitted (or unobserved) confounder will need to be to alter the significance of the inference about the estimated treatment effects.

4.3 | Data Selection

We conducted the analysis using a dataset of Italian firms created by combining financial data downloaded from the AIDA database with information about LR extracted from the official database of the Guarantor AGCM (AGCM 2018).[5] Our dataset identifies two samples of Italian firms: (1) the sample of firms with LR and (2) the sample of firms without LR.

We downloaded the related firms' specific financial performance data from the AIDA database for the period 2012–2017. The period was chosen considering the start date of the introduction of the LR (2012) and the end date that of entry into force in Italy of the NFRD (2017)[6] with Legislative Decree 254/2016, that impacted the ethical behaviour of companies and changed the institutional scenario with possible distortions on the analyses. A radical shift was introduced by the Non-Financial Reporting Directive (NFRD, EU/95/2014, issued on 22 October 2014) that highlighted the importance of respecting human rights and the fight against corruption and illegal behaviour as a priority of the European Commission targets. A awareness of ethical behaviour as a Social or Governance issue within ESG factors has been implemented in the revised EU Directive on sustainability disclosure (Corporate Sustainability Reporting Directive CSRD, EU 2022/2464 approved on 16 December 2022; EU 2022). Specifically, the Regulated Act (EU 2023) issued governance, ethical, and legal topics in two standards (European Sustainability Reporting Standards, ESRS, 2 and ESRS, G1, 2023[7]) where governance, risk management and internal control are related to business conduct. In this scenario legal and ethical issues are considered in sustainability reports that can provide interesting information but they are less relevant in comparison with Environmental and Social issues. A potential inclusion of the period after NFRD does not provide useful insight in our analysis because LR requirements are not aligned with CSRD and specifically ESRS disclosure issues.

We selected all the Italian firms with available financial data on AIDA for the entire period of 2012–2017 to ensure that the firms in the sample were in a business continuity situation. Observations related to firms subject to collective procedures and merger and acquisition procedures were removed from the final sample to further guarantee this.

We used control variables that characterised the firms at the beginning of the period (2012) to construct the PS. In this way, it was possible to ensure that these variables had not been influenced by the introduction of the LR or any other exogenous factors that occurred during the period. The impact of the LR was assessed by considering the outcome variables referring to 2017.

4.4 | Sample 1

The first sample contains firms with LR (Figure 1). The selection process follows three main steps. First, we downloaded the lists of all Italian firms with LR from the AGCM database (5742 firms). Due to data availability, we obtained a sample of 3906 firms with LR. Finally, considering that LR was introduced in 2012, we selected the firms that had obtained LR for at least 2 years to estimate the effect of LR. Therefore, we selected firms that obtained LR in 2013, 2014, or 2015 and had recently renewed it. The final sample of firms with LR is composed of 244 Italian firms.

4.5 | Sample 2

The second sample contains all the Italian firms that do not have LR (Figure 1). The initial sample results in 204,194 firms.

TABLE 2 | Sectors' identification. *Source:* Own elaboration.

Industry	CODE	NAICS CORE CODE
Agriculture	1	11
Mining	2	21
Services	3	22,42,44,45,48,49,51,52,53, 54,55,56,61,62,71,72,81,92
Costruction	4	23
Manufacturing	5	31,32,33

In line with previous research (Winarno et al. 2024), a stratified random sampling was selected to determine the final firms without LR. Strata were defined based on size and sectoral composition. The strata based on size were determined based on the definition of small and medium-sized enterprises (SMEs) from the EU recommendation 2003/361. The strata based on sectoral composition were determined by categorising NAICS sectors into five main categories (Table 2). The resulting final Sample 2 contains 3661 control firms.

4.6 | Variables Description

4.6.1 | Outcome Variables

We opted to use the ratio of a firm's equity to total assets as an indicator of the firms' equity financing (Equity Financing 2017), as a complementary indicator of leverage level (La Rosa et al. 2018; Mancinelli and Ozkan 2006; Baldini et al. 2018). This indicator captures firms' capital structure. It assesses the level of capital raised from external financing sources by estimating the level of equity financing. As indicators of the cost of external financing we used: (1) the total interest expenses to total financial debts (Cost of Debt 2017) and (2) the total interest expense to total revenues and (Debt Sustainability 2017). Given that the LR may potentially affect both financial charges and the level of financial indebtedness, we included not only the widely used Cost of Debt 2017 variable (e.g., Francis et al. 2005; Gray et al. 2009; Eliwa et al. 2021; La Rosa et al. 2018), but also the Debt Sustainability 2017 indicator. The latter allows us to highlight the impact of the cost of debt on turnover, thus providing insights into its effect on corporate profitability. In doing so, we are able to account for the combined effect that the LR may exert on both financial debt and interest expenses. All the outcome variables refer to the year 2017. While some studies (Ghosh and Moon 2010; La Rosa et al. 2018; Francis et al. 2005; Ye and Zhang 2011) used the cost of debt we want to add a different indicator (Debt Sustainability 2017) to measure the impact of the cost of debt on turnover in terms of corporate profitability. This choice is motivated by the Italian business context where most of companies are not listed and are small and medium entities where the effect of cost of debt on financial performance and profitability is significant. Then we will compare the findings by using these two indicators, the first one in line with literature, the second one provided by our database AIDA which is more focused on non-listed companies and SMEs that are able to represent the Italian business context.

4.6.2 | Control Variables

A key concern when examining the effects of LR on our outcome variables, such as cost of debt and equity financing, is that firms' characteristics can influence them, confounding the treatment selection. For this reason, we control for characteristics identified in prior literature as factors affecting our outcome variables, such as firms' size, profitability, corporate governance, sector and geographic location (Baldini et al. 2018; Haque 2017; Cheng et al. 2014; Bae et al. 2018b; Fosberg 2004; Klock et al. 2005; Ghouma et al. 2018; Lorca et al. 2011; Boubakri and Ghouma 2010). We use total revenues and total assets as indicators of size (Baldini et al. 2018; Cheng et al. 2014, Haque 2017) and returns on assets, EBITDA (Earnings Before Interest Taxes Depreciation and Amortization) and ROE Return on Equity as indicators of profitability (Bae et al. 2018b; Baldini et al. 2018; Haque 2017). Regarding corporate governance, we use the type of corporate model, that is, joint-stock and limited liability companies, as indicators (Fosberg 2004; Klock et al. 2005; Ghouma et al. 2018; Lorca et al. 2011).

The sample firms are classified into three sectors using NAICS codes: service, construction and manufacturing. Finally, we classify firms based on their geographic regional location, that is, Italian North and South regions. Like in other European countries, regional disparities characterise the Italian context. However, what makes Italian regional disparities unique is the 'long-lasting nature of the social and economic divide between North and South regions' (Di Caro 2015, 275; Carlucci et al. 2017). This socio-economic divide also reflects disparities in corruption, with a higher level of corruption in the South than in the North regions, which can affect the outcome variables and confound the treatment selection. The control variables refer to the year 2012.

Table 3 lists the outcome and control variables used in the analysis and provides the main descriptive statistics.

5 | Findings

5.1 | Estimation of PS

PS is estimated using a logistic regression model, incorporating firm characteristics as exogenous explanatory variables. The preventive analysis of the correlation matrix among these variables ensures that collinearity is not a concern (See Appendix below). In addition, McFadden's pseudo R squared (McFadden 1974) is 0.1851, demonstrating a good model fit.

Appendix: Correlation matrix.

Revenues	1.0000	—	—	—	—	—
Employees	0.2952	1.0000	—	—	—	—
Total asset	0.4350	0.3057	1.0000	—	—	—
ROE	−0.0817	−0.0183	−0.0562	1.0000	—	—
ROA	−0.0124	−0.0120	0.0323	0.6132	1.0000	—
EBITDA	−0.1684	0.2843	0.1619	0.0757	0.1056	1.0000

Table 4 reports the coefficients of the logistic regression model utilised to estimate PS. Results indicate that firms with LR tend to have slightly lower revenues ($\beta = -0.00001$; $p = 0.002$) but more employees ($\beta = 0.01549$; $p < 0.001$). In addition, joint stock companies and firms in the construction sector are more likely to obtain LR ($\beta = 1.55334$; $p < 0.001$ and $\beta = 1.28865$; $p = 0.050$, respectively), whereas those located in the northern regions of Italy show a lower probability of having LR ($\beta = -0.5991$; $p < 0.021$). Regarding performance indicators, ROE or EBITDA has no significant effect, only ROA (profitability related to invested capital). Specifically, firms with higher levels of ROA are less likely to have LR ($\beta = -0.02067$; $p < 0.027$).

5.2 | Evaluation of Covariate Balance

Table 5 illustrates the means for each observed firm characteristic (or control variable) in the treatment and control groups before and after matching. These variables are the same ones utilised to mitigate the effect of confounders when estimating the PS through the logistic regression model. Evaluating covariate balance in the matched sample is crucial, as PS is an aggregate measure summarising all variables, while PSM aims to create treatment and control groups balanced for each covariate.

Before matching, when comparing firms with LR (treated) to those without LR (controls), 7 out of 11 covariates are significantly different at the 1% level. This indicates that the two groups of firms exhibit very different baseline characteristics; thus, treatment assignment cannot be considered ignorable. Under these conditions, evaluating treatment effects by comparing outcome variables between firms with and without LR will yield biassed estimates. In contrast, none of the observed covariates significantly differ between the treated and control groups after matching. This demonstrates that PSM effectively forms balanced groups of firms with and without LR, helping to remove treatment selection bias.

5.3 | Comparison Findings Between LR Firms and Controls

Tables 6–10 illustrate the estimates of the effects of LR on the three outcome variables, *cost of debt, debt sustainability* and *equity financing*, by calculating the ATTs using kernel and radius matching algorithms. Different specifications were employed for each matching algorithm to enhance the reliability of our findings. Specifically, kernel matching estimates were produced using Epanechnikov, Normal and Biweight kernel functions with a fixed bandwidth of 0.08. Radius matching estimates were conducted by setting radius values to 0.02, 0.03 and 0.05. Estimates were obtained using Stata's *psmatch2* programme (Leuven and Sianesi 2003).

Cost of debt. ATT estimates obtained using kernel matching are presented in Table 6. Results indicate that although a difference in values was observed between the LR and control firms, this difference was not statistically significant ($p > 0.05$), regardless of the kernel function employed.

Estimates with radius matching are presented in Table 7 and, even in this case, confirm that there is no significant effect.

Debt sustainability. ATT estimates obtained using kernel matching are listed in Table 8. Findings indicate that LR does have an impact: on average, the Debt sustainability is lower among firms with LR than among matched firms without LR. Values of the treatment effect vary between −0.646 and −0.722 points, depending on the kernel function used. These differences are all significant at the 0.05 level.

Estimates with radius matching are detailed in Table 9 and confirm the effect of LR. In this case, the difference in the debt sustainability among matched firms with and without LR varies between −0.694 and −0.727 points, depending on the radius size. Even in this case, such differences are significant at the 0.05 level.

Equity financing. ATT estimates obtained using kernel matching presented in Table 10 show that LR also impacts equity financing: on average, equity financing is lower among firms with LR than among matched firms without LR, with values varying between −5.652 and −6.171 points, depending on the kernel function used. These differences are all significant at the 0.01 level.

Estimates with radius matching presented in Table 11 are consistent with the previous ones, thus confirming the effect of LR. In this case, the difference in equity financing among matched firms with and without LR varies between −5.820 and −6.248 points. Such differences are all significant at the 0.01 level.

5.4 | Robustness Check

5.4.1 | Sensitivity Analysis to Omitted Confounders

Generally, estimates are considered sensitive when observed R-bounds are close to 1, while values greater than 1 indicate lower sensitivity.[8] Tables 12 and 13 show the critical values for each

TABLE 3 | Description of variables and descriptive statistics.

Variable	Description	Literature	Role	Unit	Obs	Mean	Std. dev.
Cost of debt 2017	Total interest expenses/ total financial debts	(Francis et al. 2005; Gray et al. 2009; Eliwa et al. 2021; La Rosa et al. 2018)	Outcome	Ratio	3268	0.30	6.83
Debt sustainability 2017	Total interest expenses/total revenues	(AIDA)	Outcome	Ratio	3526	2.04	5.68
Equity financing 2017	Equity/total assets (complementary to leverage)	(La Rosa et al. 2018; Mancinelli and Ozkan 2006; Baldini et al. 2018)	Outcome	Ratio	3541	36.31	25.30
Size		(Baldini et al. 2018; Cheng et al. 2014, Haque 2017)					
Revenues 2012	Total revenues		Control	Thsd Euros	3672	7884.77	111148.90
Employees 2012	Number of employees		Control	Persons	3672	17.37	37.88
Total asset 2012	Total assets		Control	Thsd Euros	3672	8667.52	6230.98
Profitability		(Bae et al. 2018b; Baldini et al. 2018; Haque 2017)					
ROE 2012	Return on equity		Control	Percentage	3672	9.24	26.20
ROA 2012	Return on assets		Control	Percentage	3672	5.85	10.95
EBITDA 2012	Earnings before interest, taxes, depreciation and amortisation		Control	Thsd Euros	3672	520.65	2828.79
Corporate governance model		(Fosberg 2004; Klock et al. 2005; Ghouma et al. 2018; Lorca et al. 2011)					
Joint stock company 2012	Joint stock company		Control	0 = No, 1 = Yes	3672	0.098	0.298
Sector		(Cheng et al. 2014)					
Service 2012	Firms with NAICS code: service		Control	0 = No, 1 = Yes	3672	0.628	0.483
Construction 2012	Firms with NAICS code: Construction		Control	0 = No, 1 = Yes	3672	0.124	0.325
Manufacturing 2012	Firms with NAICS code: Manufacturing		Control	0 = No, 1 = Yes	3672	0.228	0.430
Geography		(Di Cairo 2015; Carlucci et al. 2017)					
Northern regions 2012	Firms located in a northern region of Italy		Control	0 = No, 1 = Yes	3672	0.575	0.494

Source: Authors' elaboration.

matching algorithm regarding the magnitude of an omitted confounder needed for the 95% confidence interval of the estimated ATT to include zero, indicating that the ATT is no longer significant.

The results indicate that our treatment effect estimates are reliable since they are robust to potential omitted (or unobserved) confounders. R-bounds are significantly greater than 1 for both matching algorithms for both Debt sustainability and equity financing, although for the former, the values are much higher, indicating greater robustness.

6 | Discussion

Our findings confirm our two research hypotheses by highlighting the positive effect of LR on the Debt sustainability and the negative effect on equity financing. In more details, LR firms can benefit from the decrease of the incidence of interest expenses on sales in terms of an improvement on their profitability. Moreover LR firms do not need for equity financing as they can catch preferences in accessing to bank credit. Italian private firms that hold LR can benefit from this unusual kind of official certification of 'honest' behaviour. Descriptive statistics

TABLE 4 | PS parameter estimates.

	Coefficient	SE	$p>\|z\|$
Revenues	−0.00001	0.000005	0.002
Employees	0.01549	0.001687	0.000
Total asset	0.00000	0.000001	0.221
ROE	0.00652	0.004114	0.113
ROA	−0.02067	0.009354	0.027
EBITDA	0.00004	0.000021	0.101
Joint stock company	1.55334	0.183347	0.000
Service	−0.11978	0.648429	0.853
Construction	1.28865	0.657501	0.050
Manufacturing	0.74224	0.652636	0.255
Northern regions	−0.35991	0.155919	0.021
Constant	−3.56533	0.639208	0.000

TABLE 6 | ATT estimates for cost of debt with kernel matching.

Kernel function	LR firms	Controls	Difference	$p>\|t\|$
Epanechnikov	0.027	0.259	−0.232	0.271
Normal	0.027	0.288	−0.261	0.121
Biweight	0.027	0.257	−0.230	0.288

TABLE 7 | ATT estimates for cost of debt with radius matching.

Radius size	LR firms	Controls	Difference	$p>\|t\|$
Radii = 0.02	0.027	0.240	−0.213	0.428
Radii = 0.03	0.027	0.237	−0.210	0.384
Radii = 0.05	0.027	0.252	−0.225	0.317

TABLE 8 | ATT estimates for debt sustainability with kernel matching.

Kernel function	LR firms	Controls	Difference	$p>\|t\|$
Epanechnikov	1.556	2.279	−0.722	0.032
Normal	1.556	2.203	−0.646	0.041
Biweight	1.556	2.276	−0.720	0.034

TABLE 5 | Means of treated and control groups before and after matching.

	Before matching			After matching		
Variable	LR firms	Control	$p>\|t\|$	Treated	Control	$p>\|t\|$
Revenues	15,161	7416.6	0.314	14,946	13,186	0.707
Employees	60.7	14.6	0.000	57.3	46.1	0.077
Total asset	24,034	7678.6	0.000	23,068	23,167	0.991
ROE	9.2	9.2	0.988	9.5	9.6	0.967
ROA	4.8	5.9	0.140	4.9	4.7	0.821
EBITDA	1797.9	438.5	0.000	1806	1492	0.530
Joint stock company	0.401	0.079	0.000	0.400	0.366	0.477
Service	0.383	0.644	0.000	0.371	0.381	0.833
Construction	0.216	0.118	0.000	0.219	0.219	0.991
Manufacturing	0.387	0.218	0.000	0.395	0.384	0.811
Northern regions	0.554	0.576	0.512	0.562	0.567	0.923

TABLE 9 | ATT estimates for debt sustainability with radius matching.

Radius size	LR firms	Controls	Difference	$p > \|t\|$
Radii = 0.02	1.563	2.075	−0.694	0.048
Radii = 0.03	1.556	2.271	−0.715	0.041
Radii = 0.05	1.557	2.283	−0.727	0.033

TABLE 10 | ATT estimates for equity financing with kernel matching.

Kernel function	LR firms	Controls	Difference	$p > \|t\|$
Epanechnikov	31.438	36.628	−6.171	0.00005
Normal	31.464	37.117	−5.652	0.00008
Biweight	31.464	37.621	−6.156	0.00006

TABLE 11 | ATT estimates for equity financing with radius matching.

Radius size	LR firms	Controls	Difference	$p > \|t\|$
Radii = 0.02	31.473	37.294	−5.820	0.00028
Radii = 0.03	31.465	37.419	−5.954	0.00017
Radii = 0.05	31.465	37.713	−6.248	0.00006

TABLE 12 | R-bounds values for kernel matching estimates.

Kernel function	Debt sustainability	Equity financing
Epanechnikov	3.8	1.6
Normal	4.2	1.5
Biweight	3.7	1.6

TABLE 13 | R-bounds values for radius matching.

Radius size	Debt sustainability	Equity financing
Radii = 0.02	2.5	1.6
Radii = 0.03	2.9	1.6
Radii = 0.05	3.5	1.6

demonstrate findings on some control variables that can influence the companies' attitudes toward obtaining LR, such as the company's legal status, industry, geographical location and firm profitability. For example, joint-stock companies are more oriented toward ethical behaviour than limited liability companies, as their corporate governance structure must comply with stricter regulations and norms. This result is consistent with La Rosa et al. (2023), who identified some determinants of LR related to the corporate governance model. In our sample, companies belonging to the construction sector have a higher probability of obtaining LR, as this sector may be more exposed to bribery and corruption risks due to compliance with strict legal issues related to public administration and procurement (Sargiacomo et al. 2015; Ferwerda et al. 2017; DeBenedetto et al. 2024). The geographical location in Italy can represent a significant issue influencing the company's attitude toward obtaining the rating. As the extensive literature can confirm, the presence of mafia activities in the South of Italy led to several cases of corporate crime and corruption (i.e., Arlacchi and Ryle 1986; Chubb 1982; Caneppele and Martocchia 2014). This unethical geographical context, particularly in the public sector, may justify our findings regarding a lower probability of having LR for companies in the north of Italy, where corporate crime and corruption cases are fewer than in the southern regions. Based on profitability indicators, our results do not indicate any correlation between EBITDA and ROE with LR. There is a negative relationship between ROA and the probability of obtaining LR. This finding suggests that the higher the firm's profitability of the invested capital, the lower the propensity to seek LR. More profitable companies may not need to enhance their corporate reputation to support access to debt financing by obtaining benefits from LR. Their high profitability may be regarded as the best driver for facilitating access to debt financing and decreasing the cost of debt. This conclusion aligns with a recent study by DeBenedetto et al. (2024), which demonstrated the positive impact of LR also on a firm's production efficiency (Deng et al. 2023).

Our findings confirmed the first hypothesis when we used the Debt sustainability, while we obtained not significant results when we used the variable Cost of debt The Debt sustainability is lower among companies with LR than among matched firms without LR. According to large literature when we used the variable Cost of debt our findings are not significant. In this analysis there is no difference between the two samples of companies and LR does not provide positive effect on the cost of debt and on financial performance. This finding cannot support the risk mitigation view and corporate financial access. Our finding can be motivated by the limited interest by financial institutions on the ethical dimension. Banks need to be informed more on the broader range of ESG information, particularly on the environmental dimension (i.e., GHG emissions). As we explained above LR requirements are limited on the 'G' and are not able to provide a complete picture on the environmental and social performance. The adoption of LR does not provide benefits and it does not add useful information for lenders and financial institutions when we use Cost of debt variable. In this view our finding is not consistent with previous studies where the sample is represented by listed companies and the independent variable is an overall ESG score (Magnanelli and Izzo 2017; Raimo et al. 2021). Moreover some studies demonstrated that the credit scoring system used by banks is not affected by ESG performance valuation by reducing the relevance of sustainability ratings (Zeidan et al. 2015; Oino and Xi 2022).

Oppositely if we use the Debt sustainability variable our finding aligns with the risk mitigation view, in line with some studies that have demonstrated how a CSR approach can improve

lenders' perception of credit risk and decrease interest rates (Bhuiyan and Nguyen 2019; Kim et al. 2014). Our results mainly show how legal and ethical values and integrity in business conduct can be factored into a lower cost of debt. In our sample, honest behaviour, measured and officially certified by the Italian State, can positively impact financial performance, extending the empirical results of previous literature focusing on corporate social performance. Our mixed (not significant with *cost of debt* variable; significant with *debt sustainability* variable) results are in line with large literature on the relationship between CSR and financial performance (i.e., Griffin and Mahon 1997; Johnson 2003) as it is confirmed by recent news with the approval of Omnibus Package I (EU 2025). We think that in our analysis the second variable is able to add more information because it measures the incidence of financial costs on revenues and it can offer a better ratio on financial performance particularly for not listed companies or in general SMEs. Revenues can give information about the company's dimension by informing banks about the corporate financial structure and the relationship with profitability. The recent trends (EU 2025) confirm an increasing attention on firm's profitability and competitiveness that can support and validate our findings.

Our findings support the theoretical approach based on reducing agency problems between borrowers and lenders by highlighting the importance of ethical/sustainability ratings in validating the quality of borrowers. The presence of LR can be perceived as an effective signal for investors and banks that ensures the ethical behaviour of lenders without needing other types of certification. LR can be considered a robust tool that offers a clear and transparent methodology for assigning ratings, which can be controlled and certified. Moreover, LR can be voluntarily obtained by non-listed private companies without strict dimensional criteria and does not require a high level of ESG disclosures.

Our findings are consistent with Goss and Roberts (2011), as the mitigation risk view prevails over the overinvestment hypothesis (Bae et al. 2018b; Ye and Zhang 2011). From this perspective, this study demonstrates that official certification by LR can be priced by financiers who perceive a reduced risk in their loans, decreasing interest rates and, generally, the cost of debt (Brogi et al. 2022). This evidence must be interpreted within the context of non-listed and private Italian companies, where corporate financing is primarily oriented towards banks and financial institutions, as equity financing can be challenging or impossible without listing on the financial market. As extensive literature confirms, investors and financial analysts cannot appreciate higher sustainability ratings regarding credit risk mitigation (i.e., Aupperle et al. 1985; Abd Rahman et al. 2018; Camodeca et al. 2018; Landi et al. 2022), as they can be interpreted as tools for impression management (Boiral et al. 2020; Clementino and Perkins 2021), a formal label for legitimising a company's activities without effectively implementing ESG performance in their strategy and business model. The predominance of ethical and legal issues in LR can enhance credit risk mitigation because business integrity positively impacts the quality of borrowers, particularly in the case of non-listed companies where compliance with laws and regulations is less relevant than in listed companies. Similarly, our findings confirm the second hypothesis: that equity financing decreases and leverage increases in the sample of firms with LR.

The official certification of legal and ethical behaviour plays a significant role for non-listed companies because their traditional propensity for obtaining debt financing rather than equity financing can positively impact their financial performance. LR can be obtained voluntarily with low costs and can be easily adopted by SMEs. This rating can provide clear and verifiable information on business integrity that can inform financiers correctly and transparently. Recently, the 'rating culture' has gained attention from financial markets, investors, consumers, consultants, banks and businesses, even though the reliability and verifiability of sustainability ratings are being strongly criticised. Some empirical studies demonstrate that financial markets negatively evaluate higher ESG or sustainability ratings (Gyönyörová et al. 2023; Serafeim and Yoon 2023). LR was not included in this 'rating culture' as its transparent methodology and ease of implementation can effectively reduce information asymmetry, although some factors can influence the rating process, as we commented on in our findings from descriptive statistics (Steurer et al. 2012; Chan et al. 2014; Cahan et al. 2015; Altman 2015). The need to measure and provide a synthetic evaluation of sustainability or ethical performance is increasing due to some new EU regulations on sustainability disclosures (EU CSRD), EU Taxonomy (EU 2020), due diligence (EU CSDDD) and regulation on sustainability disclosure in the financial sector (EU SFDR). Recently (1 September 2023), the European Commission adopted a proposal for a regulation on sustainability ratings that underscores the importance of their reliability and comparability for ensuring a company's creditworthiness (COM 2023, 2023/177).

7 | Conclusion

This study analyses the impact of an Italian ethical rating, specifically LR, on firms' financial performance by employing PSM in a sample of 3905 Italian private companies divided into two groups: those with and those without LR. Our statistical analysis considers LR a treatment condition for investigating how it can affect the companies' debt and equity financing costs. After conducting logistic regression models to estimate the PSs, our findings confirm both hypotheses. The positive relationship between LR and the debt sustainability can validate the rating by supporting policymakers and Italian authorities in promoting LR in the business context.

7.1 | Policymakers and Managerial Implications

Our findings can provide some suggestions for policymakers and businesses. In an evolving scenario concerning sustainability ratings, LR should be revised to include environmental and social issues requirements. The gradual extension and adoption of the CSRD (Corporate Social Reporting Directive, EU 2023) requirements can diminish the usefulness of LR, as it cannot guarantee a complete evaluation of corporate ESG performance. Companies can prefer to seek other types of sustainability ratings. The Italian government should consider this challenge to adapt and modify the requirements of LR to reward the most virtuous companies across all ESG issues.

Regarding managerial implications, our findings can incentivise CEOs, boards of directors and top managers to comply with legal and ethical issues to gain benefits in financing access. In addition, our research can encourage companies to conduct their business more ethically to gain advantages in acquiring funds and to increase participation in public procurement. This aspect can improve the public allocation of resources. Lastly, our empirical results can provide a valuable tool for banks, financial institutions and financial analysts to monitor and evaluate various companies across different industries, including SMEs. Our positive findings can support the adoption of the LR rating as a voluntary certified government rating that can help Italian companies enhance their sustainable development and sustainability reporting.

7.2 | Theoretical Implications

From a theoretical point of view our findings can partially confirm the importance of having LR for supporting the access to debt financing by enhancing the importance of legality and ethical dimension within CSR. The benefits of having LR can suggest the importance of the 'institutionalisation' of sustainability ratings as companies decide to apply for LR because they want to catch the advantages of LR requirements that can be related to a more convenient access to finance (La Rosa et al. 2023). In this perspective we can consider the theoretical implications from contingent/compliance theory (Epstein 2008; Thorne et al. 2008) where LR acts as a driver for improving the ethical performance that can affect the corporate financial structure. Moreover LR can reduce the problems related to the information asymmetry between borrowers and lenders by enhancing the quality of borrowers and decreasing the risk perception by lenders.

7.3 | Limitations of the Research

This empirical analysis shows some limitations related to the features of LR that represent a government certification that cannot comprehensively evaluate companies' sustainability issues. As we clarified in previous sections, LR focuses only on the legal and ethical issues primarily included in the letter 'G' within the ESG acronym. For this reason, our findings cannot provide insights into the linkage between ESG and corporate financing, as LR narrows the focus of analysis to the legal and ethical dimensions of corporate actions and policies. To investigate the linkage between ESG and corporate financing different sustainability ratings has to be used. Other limitation concerns the choice on the variables we used. It is possible to use alternative indicators by enhancing our findings.

Moreover our analysis is related to the geographical area focused on a single country. It is not possible to compare our findings with similar studies as LR is a unique indicator developed by the Italian government and affected by cultural and social context.

7.4 | Further Development of the Research

Further development can carry out a longitudinal analysis by considering the period before the entry into force of the NFRD Directive (2017) and the period after (until the entry into force of CSRD fiscal year 2024 and then after the approval of Omnibus Package I). We can replicate the same analysis by introducing a dummy variable regarding the compliance with CSRD requirements to evaluate the trend in the relationship between LR and corporate financing.

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Endnotes

[1] Confindustria Sicilia intervention (Antonello Montante).

[2] The legal *rating* may also be awarded to foreign companies with Italian operational headquarters, provided they have an on-site representative for third parties.

[3] For a full list of the basic requirements, refer to Annex A containing the integral copy of Regulation n. 20075.

[4] White lists are lists of suppliers, service providers and firms that carry out contracted work, which have no Mafia connections. *White lists* were established by Decree of the President of the Council of Ministers on 18/04/2001.

[5] The data had been retrieved in October 2021.

[6] The Non-Financial Reporting Directive (NFRD) was implemented in Italy in the fiscal year 2017.

[7] See the draft simplified version of ESRS standards issued on November 2025. https://www.efrag.org/en/draft-simplified-esrs.

[8] For the *cost of debt* variable, sensitivity analysis was not implemented because the results for this variable were not significant.

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