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Net Burden of Voluntary Sustainability Reporting

A Cost-Benefit analysis of reporting in the Italian Wine Industry

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Abstract

This thesis investigates the costs and benefits of voluntary sustainability reporting in the Italian wine sector among small and medium-sized enterprises (SMEs). With SMEs currently exempt from the EU´s Corporate Sustainability Reporting Directive (CSRD), this group of companies provides a suitable environment for assessing voluntary practices of disclosing sustainability efforts. Using a mixed-method approach, 40 wineries are benchmarked into four levels of ESG maturity based on their disclosures. Subsequently, a cost-benefit analysis is conducted on companies with high ESG maturity using both financial data from Moody´s Orbis database and qualitative insights from non-financial value.

The financial analysis is structured around fixed-effects panel regressions and difference-in-differences (DiD) models using ROA, ROE and profit margins as dependent variables. Although the changes for these indicators were generally positive for wineries with high ESG maturity relative to those with low levels, none of the effects were statistically significant. The results suggest that the short-term financial benefits of structured reporting remain limited or inconclusive, likely due to the recent adoption of structured sustainability practices, limiting the timeframe for measurable outcomes. Nevertheless, the study identifies several non-financial benefits, including enhanced reputational capital, improved supply chain positioning, stronger human capital, and increased innovation capability. On the other side of the analysis, the estimated direct costs of reporting, including certification fees, third-party auditing, and assurance, range from €27,600 to €38,600 annually, with one-time setup costs approximated at €36,000. This points to a significant economic commitment for SMEs, particularly for smaller firms at the lower end of the SME category.

Although the empirical results do not confirm the central hypothesis that voluntary sustainability reporting yields a net financial benefit for SMEs, the analysis give ground to the potential of ESG reporting as a strategic asset when implemented in the long term. It also highlights the role of the newly introduced Voluntary Sustainability Reporting Standards for SMEs (VSME) as a framework that more proportionally could lower adoption barriers formerly identified by the CSRD, and facilitate for future alignment with stakeholder expectations.

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1.0 Introduction

1.1 Background

Voluntary sustainability reporting is increasingly recognized as a strategic activity for firms that wish to demonstrate their commitment to environmental and social responsibility. In recent years, this practice has expanded beyond large, listed entities, and is now attracting small- and medium sized enterprises (SMEs), including those not legally required to disclose non-financial information such as sustainability practices. Although the regulatory landscape in the European Union has moved towards more regulated and standardized disclosures, particularly through the Corporate Sustainability Reporting Directive (CSRD), a significant portion of companies remain outside the scope of these obligations.

Voluntary reporting entails the disclosure of a firm´s environmental, social and governance practices (ESG) in a structured (or semi-structured) format. This is often performed with the intention of managing stakeholder expectations and improve internal decision-making through enhanced transparency. For SMEs voluntarily reporting on these matters, it may offer reputational and strategic benefits. At the same time, it can also present challenges. Limited internal capacity, uncertainty about the return on investment, and a lack of technical expertise can create barriers to the adoption of structured sustainability reporting (Gangi, Varrone, & Daniele, 2021; Degregori, Brescia, Calandra, & Secinaro, 2025).

The Italian wine industry presents a relevant setting for studying the costs and benefits of voluntary ESG reporting. Italy is the world´s largest producer of wine by volume and one of the leading exporters globally (OIV, 2023). In this sector, sustainability challenges are well-documented. Wineries face a range of environmental risks, including climate variability and soil degradation (Costantini, Dazzi, & L'Abate, 2024). Additionally, the reliance on manual labor in the sector raises important social considerations. Consequently, sustainability initiatives have become increasingly visible, with many firms pursuing organic certifications, adopting climate adaption practices, or participating in local environmental programs (Stasi et al., 2016). But despite the relevance of these initiatives for the sector, structured reporting remains uncommon among SMEs. Instead, firms tend to communicate their efforts solely through websites and certifications, without engaging in formal reporting. This variation in practices provides an opportunity to assess how structured sustainability engagement relate to firm benefits.

This thesis ais to investigate the implications of voluntary sustainability reporting in the Italian wine industry. The study will focus on the costs and benefits of high ESG maturity among SMEs, considering both financial and non-financial effects of the efforts.

1.2 Problem Statement

Engaging in voluntary reporting is not without costs. It may require firms to gather data, invest in third-party verification, auditing etc. These investments can be of particular burden for SMEs with limited financial and administrative capacity. Nevertheless, it is also possible that these investments yield returns. The challenges lie in understanding whether these benefits outweigh the costs. Currently, there is limited empirical research on the economic effects of voluntary reporting for SMEs in the EU, especially for agriculture-related sectors. While several studies suggest that ESG engagement can lead to improved performance metrics and lower risk (Buallay, 2019; Degregori et al., 2025), others argue that small firms often face implementation barriers that diminish the value of sustainability efforts (CEPS & Milieu, 2022). Additionally, the majority of the literature focuses on large firms or on compliance with mandatory frameworks, leaving a gap in the understanding of voluntary reporting practices for smaller enterprises.

This thesis addresses that gap by analyzing the relationship between ESG reporting maturity and firm performance in the context of the Italian wine industry. Rather than treating reporting as a binary variable, it distinguishes between different levels of maturity – from no sustainability efforts at all to structured disclosures. It then examines how high reporting maturity relates to the costs incurred and benefits obtained by the firm, relative to companies in the lower end of the maturity scale. The central research question is as follows:
What are the costs and benefits of voluntary sustainability reporting in the Italian wine industry?

To support this problem, the study addresses the following sub-questions:

- How can wineries be categorized in ESG reporting maturity?
- What are the main direct and indirect costs associated with voluntary reporting?
- Are higher ESG maturity levels associated with financial benefits?

- What types of non-financial benefits can be achieved with structured sustainability reporting?

By exploring these questions, the study aims to provide evidence on whether voluntary reporting constitutes a net burden or a net benefit for SMEs in the sector. With the help of data retrieved from the Orbis (Moody´s) database on financials for Italian wineries, this facilitates for the investigation of the following hypothesis:

H_1 : *Voluntary sustainability reporting entails a net benefit for Italian wine SMEs.*

1.3 Structure and Chapter Overview

The thesis is structured in a way that facilitates for a gradual exploration of the topic, moving from theoretical framing and literature to empirical analysis and discussion. Chapter 2 reviews the key frameworks that guide the analysis. These include sustainability standards, cost-benefit analysis, and stakeholder theory as a way to interpret firm behavior under voluntary conditions. Chapter 3 provides an overview of relevant existing studies on sustainability practices in the wine sector and among SMEs. It elaborates on how firm size variability and innovation capacity influence the adoption of ESG reporting, in addition to presenting the cost-of-capital reduction perspective, which will be central in the cost-benefit analysis. Furthermore, chapter 4 outlines the selection of 40 wineries, explains the ESG maturity classification model, and the sources of financial and qualitative data used in the analysis. This is followed by chapter 5, which describes the benchmarking results and categories of wineries into four levels of ESG maturity. It explains the criteria used for this classification and the relevance of each maturity level for interpreting relevant implications of reporting. Chapter 6 estimates the costs and benefits. It evaluates the financial data using regression models, and explores strategic benefits based on available empiricism. In chapter 7, the thesis will discuss its findings and the implications for wineries, before summarizing the study in chapter 8.

2.0 Theoretical & Regulatory Framework

2.1 Sustainability Reporting in the EU

The European sustainability reporting landscape has changed significantly over the last decade. Initially driven by stakeholder pressure and voluntary initiatives, later adopting the Corporate Sustainability Reporting Directive (CSRD), and now proposing to adjust the regulations for a large share of European companies in the EU omnibus (European Commission, 2025), the perception of future sustainable initiatives in the union is in a rapidly changing state. This section provides an overview of the sustainability reporting in the EU, the CSRD and the European Sustainability Reporting Standards (ESRS), and discusses the future relevance of reporting for SMEs in Italy.

Overview of the CSRD

The CSRD is an EU reporting directive that requires companies to report on their ESG performance in a standardized matter (European Commission, 2021). It represents a significant regulatory shift in the European Union, expanding upon the Non-Financial Reporting directive (NFRD). The CSRD mandates that businesses disclose information regarding their environmental impact, social responsibility, governance structures, and transparency in how sustainability factors affect their financial performance.

European Sustainability Reporting Standards (ESRS)

Developed by the European Financial Reporting Advisory Group (EFRAG), the directive introduces European Sustainability Reporting Standards (ESRS). Their purpose is to ensure consistency and comparability across industries and prevent unnecessary double reporting by companies (European Comission, 2023). The standards intend to provide information to investors on the sustainability impact of companies, as they cover a significant range of ESG issues to report on.

In practice, a significant part of compliance with the CSRD is aligning reports with the European Sustainability Reporting Standards. Introduced in the directive´s Article 1 (specified in 29b), the full ESRS package outlines ten specific standards on ESG dimensions and two cross-cutting standards, ESRS1 & ESRS2 (European Parliament, 2022). Each standard is

named according to a number and a letter depending on which category it belongs to; Environmental, Social or Governance.

	Environmental	Social	Governance
ESRS 1: General Requirements	**ESRS E1**: Climate Change	**ESRS S1**: Own Workforce	**ESRS G1**: Business Conduct
ESRS 2: General Disclosures	**ESRS E2**: Pollution	**ESRS S2**: Workers in the Value Chain	
	ESRS E3: Water & Marine Resources	**ESRS S3**: Affected Communities	
	ESRS E4: Biodiversity and Ecosystems	**ESRS S4**: Consumers and End-Users	
	ESRS E5: Resource use & Circular Economy		

Table 1: Overview of ESRS

Key Requirements

An important requirement under the CSRD is the double materiality principle. Double materiality implies that companies report on both their impacts on society and the environment, and on financial disclosures of the implications of sustainability issues (Global Reporting Initiative, 2024). This ensures that businesses consider sustainability in a holistic manner, rather than as an isolated component of corporate responsibility.

The CSRD requires third-party assurance, meaning that sustainability reports must be externally audited to enhance reliability and credibility. Furthermore, integration with financial reporting is a key aspect in the reporting directive. It ensures that ESG data is included within management reports and allows for a comprehensive understanding of the

overall corporate performance. Additionally, the directive introduces sector-specific disclosures, requiring companies to provide detailed reporting tailored to their industry to enhance the level of relevance and transparency (European Comission, 2021). A general disclosure across different sectors is transparency in supply chains, as firms must assess sustainability-related risks and impacts beyond their direct operations, extending to suppliers and business partners.

Voluntary Sustainability Reporting Standards for SMEs (VSME)

While the CSRD mandates sustainability disclosures for large and listed firms, a development has emerged for non-listed small and medium-sized enterprises. In the light of the "Omnibus Simplification Package", introduced by the European Commision in February 2025, listed and non-listed SMEs are proposed exempted from the reporting directive. This package narrows the CSRD´s applicability to large entities with over 1,000 employees and either €50 million in revenue or €25 million in total assets (European Commission, 2025). In response to this exemption, EFRAG developed the Voluntary Sustainability reporting standards for SMEs (VSME). The VSME provides a non-mandatory, tailored framework that aims to enable SMEs to disclose ESG information proportionate to their size and resources (EFRAG, 2024). It allows small and medium-sized enterprises to demonstrate their sustainability practices without the complexity and resource intensity associated with the CSRD. The framework consist of two modules (EFRAG, 2024):

- **Basic Module:** Serves as an entry point for SMEs in the start of their reporting practices. This module focus on disclosing the most essential ESG topics, without extensive quantitative data requirements.
- **Extended Module:** Aimed at SMEs with higher ESG maturity or those facing more substantial stakeholder demands. It includes quantitative metrics such as energy consumption, GHG emissions and workforce density, but to a limited extent. It aligns partially with the ESRS but remains more proportionate to SMEs´ capacities.

This framework allows the firms to select the level of reporting that aligns with their capacity and stakeholder expectations, while incorporating some of the key requirements from the CSRD in a simplified matter. The double materiality principle, which requires companies to report on both the impact of sustainability issues on the company and the company´s impact

on society and the environment, is adapted by simplifying the assessment process. It is simplified through pre-defined lists of material topics, permission to rely on internal knowledge rather than detailed mapping by consultants (EFRAG, 2024), no requirement on technical modelling or conducting quantitative threshold analysis (on Co2 emissions, FTEs etc) to assess financial materiality, and more. Through these simplifications, VSME function as a voluntary option that reduce the reporting burden previously posed by the CSRD.

For the Italian wine industry, the VSME framework can become relevant for firms aiming to enhance their sustainability transparency. Additionally, it is expected to gain traction as stakeholders increasingly value this transparency. The European Commision has indicated that the VSME may serve as a benchmark for the extent of which large companies can request from SMEs in their supply chains (European Commision, 2025). However, as the framework is relatively new, its impact remains to be empirically validated. Given its implementation stage and the current lack of longitudinal data and empirical evidenc eon financial impact, this thesis will not assume inherent financial benefits from VSME adoption. Instead, it will use a categorization of ESG maturity as a proxy for structured sustainability engagement, further elaborated on in chapter 5.2.

2.3 Stakeholder Theory

Introduced in 1984, the stakeholder theory emphasizes the importance of balancing interests of stakeholders, hence employees and customers, as well as investors, regulators and others. It suggests that businesses benefit from creating value for multiple stakeholders rather than exclusively focusing on maximizing shareholder profit (Freeman, 1984). This implies that companies are accountable to a wider set of actors who can or are affected by their activities. In the context of sustainability reporting, the theory can be used as a tool to highlight ESG disclosures as strategic responses to external expectations, even in the absence of mandatory regulations.

Unlike large, listed companies subject to the CSRD, direct external market pressures and more regulatory requirements, non-listed SMEs have a higher dependency on voluntarily efforts to stakeholder pressures. Sustainability reporting can in this sense be used as a mechanism for demonstrating accountability, although Italian SMEs are not required to do so.

It becomes a feature where the companies can signal commitment and transparency on issues various stakeholders acknowledges, which could be beneficial when considering the wine sector in the country. Characterized by regional identity, a high reliance on quality perception, and an increasing focus on global market survival (Sellers and Alampi-Sottini 2016), the wine sector can benefit from direct influence on stakeholder trust and long-term strategic positioning. Hence responding to customer interests by providing accountability from internal operations, acquire or maintain employee loyalty through transparency and healthy working conditions, enhance investor attractiveness by aligning reporting with recognized standards, and more. According to Freemans principle of balancing interests of various stakeholders, wineries can strengthen brand loyalty among environmentally conscious consumers and attract institutional investors that prioritize ESG factors by providing satisfactory reporting on issues the respective stakeholders value.

3 Literature review/Empirical leverage

Although the main goal of the thesis is to reveal the current state of costs and benefits of sustainability reporting, there is need for empirical research and evidence to support the proposed study.

3.1 Sustainability in the Italian Wine Industry

The article *"New Technologies and Sustainability in the Italian Wine Industry"* explores how wineries adopt technological innovations to enhance sustainability while remaining competitive (Stasi et al., 2016). The study investigates how firm characteristics, absorptive capacity, networking demand factors, and regulatory frameworks influence technological innovation. It builds upon existing literature on the industry that highlights the role of territorial clusters and collaboration among firms and university-industry technological development. A particularly important point in relation to sustainability reporting from the articles empirical foundation, is the previous research of Porter & van der Linde (1995) which suggests that environmental regulations can drive innovation rather than hinder it.

The authors conduct an empirical study utilizing survey data from 2,000 wineries across Italy. The survey collects data on:

- Firm characteristics (size, employees, ownership structure)
- Innovation strategies (types of technologies adopted)
- Market orientation (Export intensity, consumer demand)
- Regulatory compliance (certifications, carbon footprint)
- Collaboration networks (universities, suppliers, competitors)

Using a logit regression model to identify the probability of adopting new technologies based on these factors, the study revealed the following insights:

Regulatory compliance as a driver for Innovation. The study finds that firms with environmental certifications are more likely to adopt new technologies, contrary to the assumption that regulations impose financial burdens.

Firm Size and Innovation. Larger wineries are more likely to invest in technology due to economies of scale. Smaller firms, however, face financial and managerial constraints that limits their ability to adopt costly innovations at the same rate.

Market Orientation and Export activity. As international consumers demand higher quality and sustainability standards, firms that engage in export markets are more likely to innovate.

Networking and Knowledge Sharing. Collaboration with other wineries, customers, and suppliers enhances technological adoption. Nevertheless, partnerships with research institutions and universities have a weaker effect than expected *what effect*

Internal Capabilities Matter. Firms with a higher percentage of graduate employees are more likely to implement new technologies, highlighting the importance of skilled labor in driving sustainability and efficiency.

The findings of Stasi et al. (2016) provide insights into relevant economic implications of sustainability compliance in the industry, making their work relevant to this study. One of the key areas of investigation in this thesis is the direct costs associated with CSRD compliance, including infrastructure investment, reporting requirements, and auditing expenses. Stasi et al- demonstrate that although wineries investing in environmental certifications incur significant upfront cost, these expenditures are strategic investments that can lead to long-term operational efficiencies and competitive advantages. This aligns with the hypothesis that while compliance with reporting standards may initially present financial challenges, it has

the potential to drive cost reductions through improved resource management and process optimization.

Financial benefits from sustainable practices are essential to the topic explored in this thesis, especially in relation to long-term economic gains and market positioning. The study of Stasi et al. provide evidence that wineries engaged in export markets are more likely to innovate and adopt sustainability-oriented practices, as international demand for higher environmental and quality standards increase (Stasi et al., 2016). Furthermore, the study underscores the role of firm size in determining the capacity for innovation and sustainability investments. The findings indicate that larger firms benefit from economies of scale, providing comprehensive prerequisites for the integration of sustainability technologies. Consequently, smaller wineries face greater constraints that can hinder the ability to invest and innovate, potentially affecting sustainability performance.

3.2 Size and Regional Variability

In the study “The Influence of Size on Winery Performance: Evidence from Italy”, Ricardo Sellers and Veronica Alampi-Sottini investigates how firm size impacts the economic performance of Italian wineries. They apply traditional profitability and productivity measures alongside non-parametric efficiency estimation to assess performance, utilizing data from 723 Italian wineries in 2013. The findings indicate a positive correlation between firm size and economic performance. This is attributed to advantages related to economies of scale, enhanced market power, and hence greater access to resources.

The study relies on three types of indicators when measuring economic performance: profitability, productivity, and efficiency. As primary measures for profitability, Sellers and Alampi-Sottini (2016) employ traditional indexes such as returns on investment (ROI), returns on equity (ROE) and returns on assets (ROA). The study finds that larger wineries tend to score higher on these metrics, suggesting that economies of scale contributes to greater market reach and better access to financial resources, conversely implying that smaller wineries may struggle with their per-unit costs and profit margins, making it more challenging to sustain financial performance over time. Furthermore, the authors utilize two specific ratios to estimate productivity in human capital; added value per employee and sales per employee

(Sellers & Alampi-Sottini, 2016). For efficiency, the study employs data envelopment analysis (DEA) to estimate the technical efficiency of wineries. This is a non-parametric approach that compares wineries based on their ability to convert inputs (such as labor and capital) into outputs (profits or revenues). By benchmarking the most efficient wineries in the dataset, DEA identifies best practices and highlights areas where inefficient wineries can improve. The study suggests that large wineries generally achieve higher efficiency scores, indicating better resource allocation, cost-effective processes and a practice closer to the optimal production frontier.

The insights from this article provide a foundational understanding of how firm size influences economic performance within the sector, which is of great use to the study of sustainability reporting for Italian wineries. Due to the relationship between firm size and economic performance, the findings in the article implies that larger wineries may be better positioned to absorb the direct costs associated with the compliance of various standards, such as infrastructure investments, auditing, and reporting expenses. In contrast, smaller wineries might face financial constraints, making it more challenging to meet the requirements of standards without compromising other operational aspects. Understanding these dynamics can be of great importance to this thesis, as size and regional variability can affect both the costs and benefits of sustainability reporting.

3.3 Digital Tools and Financial Incentives in SME Sustainability Reporting

Recent studies have highlighted the role of digital technologies further in managing the costs of sustainability reporting among SMEs in Italy. A particularly relevant contribution is the study by Degregori et al. (2025). It examines how an Italian bank, specialized in ethical financing, integrates digital tools in order to detect and promote sustainability. The article provides empirical insights into how AI-driven ESG rating systems can reduce the burden of sustainability reporting, and simultaneously enhance the quality. It is carried out by a mixed-method approach combining interviews with bankers and a quantitative data collection from 3431 SME clients, based on the AI-driven rating system. It found that there is a statistically significant correlation between higher ESG scores and lower risk of default (Degregori et al.,

2025). For SMEs with a score above 06, the risk of default was 50%, compared to 5,8% for those with a score below 0,35.

The study by Degregori et al. offers both theoretical and practical relevance for this present thesis. It supports the hypothesis that sustainability reporting, even when it is not mandatory, can yield economic benefits in the long term, in this case by improved access to finance and reduced risk. In a capital-intensive sector such as the wine industry, where investments often require external funding, this can be of significant importance. Additionally, the study emphasizes the potential of modern technologies in reducing the costs of reporting by automating the process and minimize the dependency on external consulting. This could represent a more effective way of reporting in accordance with sustainability standards, given that the practices are aligned with the requirements.

When discussing the costs for the various ESG maturity levels, this thesis will acknowledge the potential cost savings related to the use of AI when automating reports and real time performance in the future. However, the estimations in chapter (6.1) also takes into account the auditing and initial reporting costs relevant to the current practice in the industry.

3.4 Cost-of-Capital Reduction Perspective

To understand the landscape of economic implications of sustainability reporting, the study must consider evidence on the cost-structure of structured reporting. In the article “Between cost and value: Investigating the effects of sustainability reporting on a firm´s performance” by Amina Bullay (2019), the author explores the potential of generating value and the imposed financial burden of firms as a result of sustainability reporting. The study analyzes 342 financial institutions across 20 countries considered leaders in advancing sustainable development goals over a ten year period (2007-2016). Its goal is to test the influence on three dimensions of firm performance: Return on Assets, Return on Equity and market performance (Tobin´s Q). The analysis uses Bloomberg ESG scores as proxies for sustainability disclosures.

The theoretical framework is distinctive for this study. On one side, the value creation perspective indicates that sustainability reporting fosters improved stakeholder trust,

competitive advantage and ultimately higher firm valuation (Porter & Kramer, 2006; Eccles et al., 2014). On the other side, the cost-of-capital reduction perspective implies that ESG engagement entails significant investment costs, which may affect short-term financial performance (Marsat & Williams, 2014; Friedman, 1962). Buallay embraces both views but finds negative effects of ESG on Return on Assets and Return on Equity, interpreted through the perspective of cost-of-capital reduction. This is particularly relevant for quantifying the costs of sustainability reporting. Unlike studies aggregating these costs through surveys or case analyses, Buallay uses performance metrics as proxies for financial burdens under the assumption that higher ESG scores correlate with higher reporting efforts. This method provides a baseline for interpreting costs as latent variables in the outcome of firm performance.

In the context where financial data on sustainability initiatives are not publicly published, this approach can help solve the problem of cost estimation of sustainability reporting relative to ESG maturity. Incorporating the cost-of-capital reduction perspective is therefore of use in the cost-benefit analysis, as the direct costs of ESG reporting are not necessarily observable for SMEs in the Italian wine sector.

3.5 Cost-Benefit Analysis

Cost-benefit analysis is a widely used framework for assessing the economic trade-offs of regulatory measures. In the context of sustainability reporting, it entails both direct and indirect costs for the different practices in the wine industry, systematically compared to the potential benefits of the reporting. Consequently, if the benefits outweigh the costs, the analysis states a positive argument in favor of initiating the project. This section will state the foundation of how the study will project the estimated costs (or opportunities) associated with voluntary sustainability reporting.

There are three types of costs that will be considered: direct, indirect and opportunity costs. *Direct costs* are typically fixed expenses related to conducting the project (Stobierski, 2019). In the case of sustainability reporting, this includes infrastructure investments in sustainability reporting mechanisms, auditing expenses, and related personnel training. *Indirect costs* involve operational adjustments, shifts in supply chain management, eputational risks related

to sustainability disclosures and more. In terms of the *opportunity costs*, the analysis refers to the loss of benefits or other opportunities in the light of the investment made in project.

On the other side of the analysis, both direct and indirect benefits are assessed. *The direct benefits* are considered as the increased incremental net profits of the project (Stobierski, 2019). This is a result that would be affected by advantages such as higher operational efficiency through sustainable resource use, lower costs and positive effects on key financial figures. As referred to in chapter 3.1, the adoption of sustainable practices may result in cost reductions over time, particularly in energy efficiency and waste management (Stasi et al., 2016). *The indirect benefits* are related to the effect on customer and market interest as a response to the initial investment. For reported sustainable practices, such benefits can entail enhanced consumer perception and stronger access to ESG-aligned investment funds.

This thesis intends to apply the framework of the cost-benefit analysis when investigating the net burden of voluntary sustainability reporting. In chapter 6.1, an outline will be given of the estimation of each cost, allocated to the different ESG maturity levels of the companies in the selection of this study. Similarly, direct and indirect benefits for high ESG maturity are analyzed in 6.2, providing the basis for assessing costs and benefits of each respective rank of maturity.

4 Data Collection

4.1 Research Design Overview

The mixed-method exploratory research design of this thesis aims to assess the cost-benefit dynamics of voluntary sustainability reporting in the Italian wine industry. This design integrates both qualitative and quantitative elements, represented in two respective phases.

Phase one consists of a benchmarking analysis where the SME wineries are categorized in different levels of ESG maturity. The analysis is based on document reviews of sustainability disclosures, primarily through websites and reports, evaluated in accordance to GRI standards for Agriculture, which the thesis will elaborate on further in chapter 4.2. The ESG maturity is

divided into four different levels, providing the foundation for the different cost structures in the analysis that follows. *Phase two* involves the cost-benefit analysis. From a wide selection of wineries, qualitative data on key financial indicators are evaluated in relation to the companies´ respective ESG maturity level. The intention of this is to collect data that can be utilized in a statistical analysis. Financial indicators included in this study are return on investment (ROI), revenue, EBITDA, net income, CapEx and debt levels.

To secure sufficient quality in the data, the figures are manually obtained from the Orbis (Moody´s) database. Orbis provides access to an extensive range of data availability, leveraging information from more than 170 providers worldwide (Moody´s analytics, 2023). In Italy, they collect data through AIDA (Analisi Informatizzata Delle Aziende), formerly Bureau van Dijk. With data on over 9,5 million companies and public authorities in Italy (Moody´s analytics, 2025), it encompasses a wide range of financial and corporate information, satisfying the demand of this study.

4.2 Selection and Categorization of Wineries

Enterprise Variety

The selection of wineries is conducted with the intent of covering a wide group of SMEs in the Italian wine sector. According to the European Commission Recommendation of 2003 concerning the definition of small and medium-sized enterprises, SMEs are operating with:

- €2 m < Turnover ≤ €50 m
- €2 m < Balance sheet total ≤ €43 m
- 10 < Staff headcount < 250

Aiming to achieve variation across firm size and a randomized selection within this category, the top five performers in eight different brackets are selected. These brackets are divided according to annual operating revenue: €2-5 m, €5-10 m, €10-15 m, €15-20 m, €20-25 m, €25-30 m, €30-40 m, and €40-50 m, which makes up a total selection of 40 wineries. The selection is based on the most recent available data retrieved from ORBI (Moody´s) for all companies, being 2023 at the time when this study is conducted. Operating revenue is used as the proxy for firm size, as it offers a comparable indicator for companies that can have different business models and capital structures that affects their financials. Consequently, the

proxy enables diversity across small-, and medium sized enterprises through segmentation of operating revenue.

ESG Topics for Benchmarking

To compare wineries based on their sustainability reporting, this study applies a four-level ESG maturity model, specified in chapter 5.1. The level of maturity is qualitatively evaluated according to each company´s performance on specific ESG topics, selected from a benchmarking analysis. The foundation of the benchmarking is the GRI 13: Agriculture, Aquaculture and Fishing Sector Standards. The GRI 13 is positioned as the first standard tailored for agriculture, with the intent to identify the most relevant sustainability impacts for businesses in the sector (Global Reporting Initiative, 2022), many of whom are directly relevant to wine producers. The standard is builds upon a tailored list of 23 topics, 13 of whom are "likely material topics" according to the Global Sustainability Standards Board (GSSB), GRI´s independent standard setting body that approves the sector-specific standards. The standards are narrowed down in number as some are only relevant to one sector, overlaps other topics, or are not applicable for the reporting of small companies. The Benchmarking in chapter 5.1 will include these 13 topics, as listed below.

ESG Topic (GRI 13)	Topic Name
13.1	Emissions
13.2	Climate Adaptation and Resilience
13.3	Biodiversity
13.5	Soil Health
13.6	Pesticides use
13.8	Waste
13.9	Food Security
13.11	Animal Health and Welfare
13.15	Non-discrimination and equal opportunity
13.19	Occupational health and safety
13.20	Employment practices
13.21	Living income and living wage
13.23	Supply Chain Traceability

Table 2: Likely Material Topics from GRI 13

From this, the thesis identifies a subset of high-relevance topics – those who are most frequently referred to among businesses in the sector through their sustainability disclosures. It is important to address that the companies in the analysis are not expected to align their practices with the GRI 13. However, this thesis applies its topics in the evaluation of sustainability maturity, as they have been selected by the Global Reporting Initiative based on their relevance to the industry.

The primary justification for using the GRI 13 lies in its sector specificity. The standard is specifically tailored to agricultural calue chains and identifies a subset of "likely material" topics relevant for sectoral disclosures (Global Reporting Initiative, 2022). They do not only reflect the environmental pressures facing the sector, but also the social and governance aspects of production. Using GRI 13 also supports methodological transparency and comparability with future EU disclosure frameworks. Although with different names, several of the standard´s core topics overlap with themes in the ESRS, including climate risk, resource use and own workforce. While most wineries may not report directly according to the GRI standards, the framework provides a robust lens through which their ESG engagement can be assessed and compared.

4.3 Conceptual Framework

The study employs a conceptual framework that explores the relationship between ESG-reporting and cost-benefit, indicated by financial performance in the industry. Central to this framework is that sustainability reporting is not just a binary practice but a graduating process where different wineries operate at various levels of ESG maturity. This conceptual framework intends to capture both the direct and moderated effects of sustainability disclosure practices. Sustainability reporting is treated as a *strategic* voluntary decision made by the respective SMEs, given their current exemption from the CSRD in Italy (European Comission, 2025). The study therefor aims to see how a high level of ESG maturity moderates the relationship between ESG engagement and observed costs and benefits.

Strategic input and ESG Maturity as Moderator

In the context of voluntary disclosures, sustainability reporting is not mandated by regulation for SMEs as previously expected from the proposed CSRD (European Comission, 2025). The

decision is then rather influenced by other factors than regulatory incentives, such as market orientation and resource availability. Drawing from stakeholder theory (Freeman, 1984), companies voluntarily engaging in ESG reporting can be perceived as strategically responding to the interests of stakeholders. On the other hand, not all reporting appears equal, and the degree to which reporting is practiced among SMEs range from minimal acknowledgments to structured disclosures. This defines the firms reporting level and allows the study to differentiate between minimum ESG efforts and advanced reporting. The analysis introduces a four-level categorization of reporting maturity, further specified in chapter 5.2:

- Level 1: No Acknowledgement
- Level 2: Mention Only
- Level 3: Action without structure
- Level 4: Structured Alignment

The evaluation of maturity level is based on the benchmarking analysis and criteria-selection in chapter 5. The categorization of maturity level aims to capture the firms' investments in sustainability practices. Higher level of maturity typically requires significant upfront investments, which is highly relevant when performing the cost-benefit analysis. By acknowledging this, the high maturity level constitutes a significant role as moderator in this framework.

Outcome Variables

The framework assumes that the benefits of sustainability reporting is traceable through analysis of financial metrics and performance, complemented by empirical findings. This is both through direct effects such as improvements on key financial figures and operational efficiency, and indirectly on reputation, investor attractiveness etc. To test this relationship, the study employs a set of key financial indicators commonly used in firm performance evaluation. Furthermore, by triangulating reporting maturity with financial data, the framework can investigate whether SMEs that engage in structured reporting experience measurable financial advantages (or disadvantages). This is further guided by the cost-of-capital reduction perspective (Buallay, 2019), suggesting that reporting may either burden short-term performance due to high adoption costs, or contribute to long-term profitability by improving stakeholder trust and reduced risk exposure.

The analysis can be illustrated by the following model:

Figur 1: Conceptual Model

, where ESG reporting is an independent variable, while the reporting level of the company serves as a moderating variable influencing the impact of the relation. This allows the thesis to provide an understanding of the cost-benefit of reporting given the extent of which the firm is invested.

In summary, this conceptual framework explores whether firms with higher maturity levels experience stronger or weaker financial effects from their reporting practices. Specifically, it aims to explore the hypothesis that structured voluntary reporting (level 4), yields a net benefit for firms in the Italian wine sector. The framework supports a nuanced understanding of ESG reporting as a strategic activity and allows the thesis to further discuss under what conditions voluntary sustainability engagement entails financial benefits.

5 ESG Maturity

5.1 Benchmarking Analysis

The study applies a benchmarking analysis grounded in the GRI 13 standard to identify the most central topics of sustainability reporting for Italian SME wineries. As stated in 4.2, the GRI 13 contains 23 sector-specific topics tailored for the agricultural value chain, 13 of whom are considered as “likely material” (Global Reporting Initiative, 2022). This subset of 13 topics is the baseline for the benchmarking of the sustainability disclosures from the 40 companies selected using the revenue-based sampling. For each winery, publicly available documents, hence websites, stand-alone sustainability disclosures etc., are evaluated on the 13 topics. A binary variable is used to indicate the reporting practice on each topic:

- 1 if the topic is addressed through available company material.
- 0 if the topic is neither addressed nor mentioned.

Table 3 states the results of the benchmarking, including how often a topic were addressed in the sustainability disclosure of a winery in the selection.

ESG Topic (GRI 13)	Times Reported (out of 40)
13.1 Emissions	19
13.2 Climate Adaptation and Resilience	19
13.3 Biodiversity	13
13.5 Soil Health	31
13.6 Pesticides use	24
13.8 Waste	13
13.9 Food Security	2
13.11 Animal Health and Welfare	6
13.15 Non-discrimination and equal opportunity	5
13.19 Occupational health and safety	6
13.20 Employment practices	4
13.21 Living income and living wage	3
13.23 Supply Chain Traceability	7

Table 3: Results of Benchmarking Analysis

Most Reported Topics

13.5 Soil Health: Mentioned by 77,5%. Wineries frequently mention soil preservation regardless of whether they have structured sustainability disclosures. This is a topic that is central for the future operating ability of the company, highlighting it as one of the most important environmental issues in the sector.

13.6 Pesticide Use: Disclosed by 60%. This topic entails communicating the firms' efforts on reducing chemical inputs on the vineyards. Additionally, it is strongly linked with organic production. According to EU regulation 2018/848, pesticide use in organic production is strictly regulated, and only certain substances are permitted (European Parliament and

Council, 2018). Consequently, this topic is highly relevant for a significant part of the industry,

13.1 Emissions & 13.2 Climate Adaption: Each mentioned by 47,5% of wineries. These topics appear in relation to the sector´s exposure to climate risks, often in the same context. However, they are not as common as pesticide use and soil health, partly due to emissions and climate adaption being more dependent on specific sustainability actions rather than general concerns in the sector.

Least Reported Topics

At the other end, some ESG topics were rarely addressed in the sustainability disclosures from the sector. (13.9) Food Security and (13.21) Living Income were only mentioned twice, while (13.20) Employment Practices and (13.9) Occupational Health and Safety were only mentioned four times. Mentions of (13.11) Animal Health and Welfare were also somewhat present, but these were explicitly related to vegan wines that do not use animal products. Common for the least reported topics is that they are more social- and governance oriented rather than environmental. Reporting on these issues entails an ESG-responsibility that stretches beyond the environmental focus from a website or minor, unstructured disclosure-form. Notably, only *5 out of the 40* firms published a structured sustainability report. Consequently, this reveals a significant gap in relation to which topics the vast majority of the sector voluntarily choses to report on when there are no legal requirements for sustainability disclosures.

Following the benchmarking, the performance of the wineries on each of the most relevant topics for the sector will be evaluated when categorizing the firms according to their ESG maturity. To secure appropriate topics for this categorization, the study includes the six most relevant topics for the sector in the current reporting landscape:

- Soil Health
- Pesticide Use
- Emissions
- Climate Adaptation and Resilience
- Waste and Food Loss

- Biodiversity

5.2 Maturity Levels and Criteria

Criteria for maturity evaluation

To ensure a structured process of evaluating each company´s sustainability maturity level, sufficient criteria are required. This study builds upon a scoring framework where each winery is scored from 1 to 4 on each of the most relevant ESG topics from the benchmarking analysis. The goal is to capture whether companies are addressing these issues, and to what extent they are doing so. The company information that will be evaluated in relation to these criterias are communicated through public disclosures such as websites and sustainability reports. If a company does not posit any kind of related disclosure, it will score 1 unless a practice is communicated in a way that is considered easy to access and clear to the consumer. Criteria of the levels are defined as follows:

Level 1: No Acknowledgement
The wineries in this level makes no mention of the topic in public materials. No apparent recognition is made of the topic's relevance to the practice of the business. Level 1 reflects an absence of awareness on the issue and indicates a baseline from which progression can be measured.

Level 2: Mention Only
There is minimal awareness demonstrated by the company on the issue, but it is briefly mentioned in public disclosures. This level is typically relevant when the topic is part of a website section or a value statement, but no direct measure is taken to address it. Furthermore, the level does not consider how many times the topic is mentioned in the company material, it only considers whether there is evidence of specific actions, internal policies, performance disclosures etc.

Level 3: Action Without Structure
This level represents both disclosures and efforts initiated by the companies related to the ESG topic. However, they are not reported in a standardized manner, although some wineries

have been awarded relevant certificates by recognized bodies. This level indicates a practice where there is intention of transparency and proactively approaching ESG topics, without investing in sufficient reporting on the matter.

Level 4: Structured alignment

Companies scoring at level 4 demonstrate consistent and structured reporting on sustainability efforts. They are third-party verified through recognized certifications, including those relevant for the industry itself such as Equalitas, an Italian sustainability standard specifically developed for the wine sector. More importantly, they publish an annual sustainability report. This level does not require that the wineries report in accordance with sustainability frameworks such as the GRI standards, or even voluntarily with CSRD or VSME. However, it highlights that these businesses disclose data in a comprehensive matter where it is easy for the consumer to access, usually through a sustainability report or website. Additionally, the sustainability practices of level 4 businesses are disclosed to the extent where they are expected to have invested somewhat in tools (consulting, infrastructure etc.) to adopt its current performance.

These criteria are qualitatively aligned. They are not consistently linked to investment figures, number of ESG topic mentions, external information etc. This is due to the assumption that a company can invest heavily in a practice or mention a sustainability topic a large amount of times on its website, without necessarily engaging in structured reporting, which ultimately is what this study is investigating. This qualitative alignment, solely focusing on a firms reporting practice, therefore requires a substantial amount of time and effort in order for the maturity evaluation of each company to be correct. This is a critical aspect of the analysis, as the maturity distribution offers the foundation for the study.

When providing a score on a topic for a business, some issues will arise. For small- and medium sized businesses with no specific legal requirements to sustainability reporting, signs of sustainable practices are often provided by certificates or awards from third parties, without the winery itself necessarily providing further information other than their relevant recognition. Examples of this can be local requirements on pesticide use or soil health through the quality classification DOCG (Denominazione di Origine Controllate e Garantita), or organic and vegan wine labelling. In these cases, the thesis will consider it as efforts on the relevant sustainability topic without any reporting structure, given that the acknowledgements

are provided by the material of the winery. This is important due to the cost-estimates this rating system is directed towards. If the reported sustainability practices are only reported on by other actors and not the winery itself, it is not implicit that they have invested in reporting activities, nor is it easily accessible for the end user. The study therefore requires that all material relevant for the consideration of the ESG rating must be available through the channels of the winery in question.

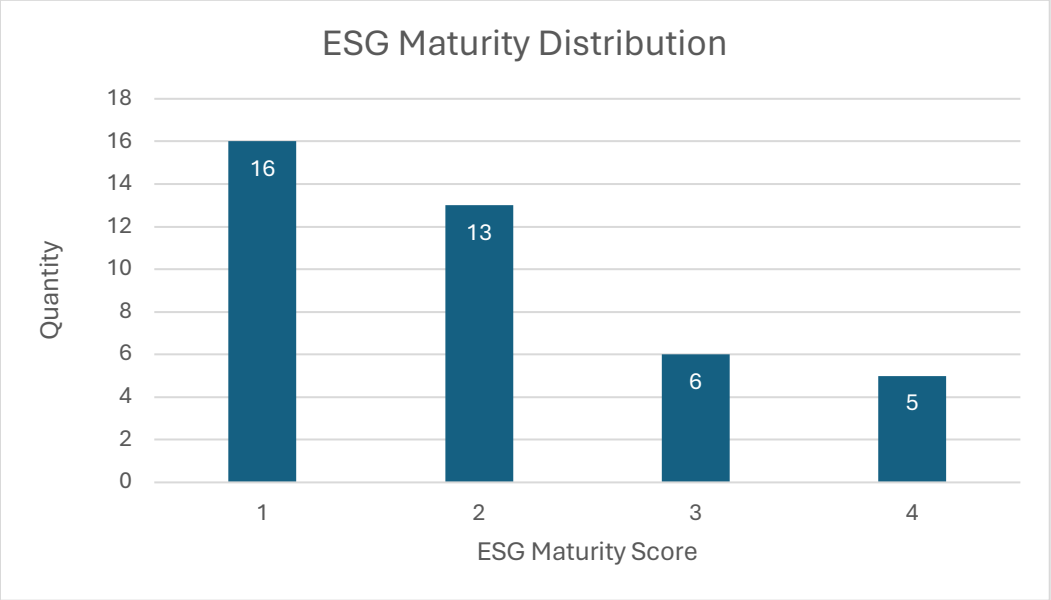
ESG Maturity Distribution

The model of which the study states the ESG maturity of each winery is based on their average level on the six most relevant topics from the benchmarking analysis. The final classification is the company average rounded to the nearest natural number, categorizing the wineries from 1 to 4 in maturity levels. This methodology recognizes sustainability reporting as a wide strategic investment, as the average-scoring system does not capture high performance on a single topic without also performing well on the other areas. It rewards wineries that structurally reports on the most relevant topics in the sector, rather than referring to certifications and DOCG requirements from third parties. This is grounded in the goal of this part of the study; identify the costs related to *sustainability reporting* for different maturity levels, not acquiring certifications or internal practices kept inside the business.

The methodology entails a risk of underestimating companies that exhibit comprehensive reporting on the most critical topics, simply because they do not report on less material issues. However, much of that risk is mitigated through the benchmarking analysis that ensures that only the six most material topics are considered in the maturity evaluation. A company cannot achieve a high maturity score without reporting on the challenges that are found material by the sector. Consequently, applying the average ensures that the level of the winery reflects both disclosure quantity and qualitative alignment with the expectations of the sector.

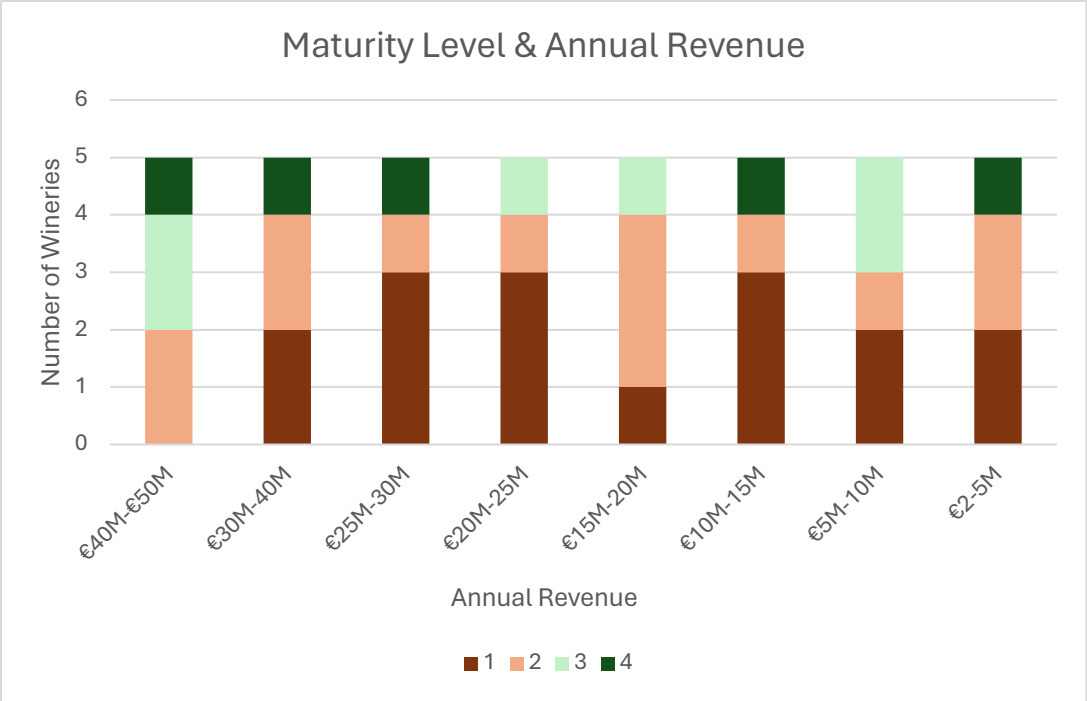
In this context, a winery that is structurally reporting on the majority of the most material topics will reach a higher maturity level than one that performs operationally well but does not disclose its sustainability efforts beyond certification logos. For example, an organically certified company might score a 3 on topics like soil health and pesticide use but receive 1 on all other topics if they do not report on them. Its final average would be rounded to 2, which appropriately reflects the firms position of having taken steps in environmental management,

without investing in sustainability communication through structured reporting. On the other hand, a winery that scores consistently at level 3 across most topics – due to transparency and actively engaging in efforts on the material topics – will receive a level 3 maturity score, even if it does not hold a structured sustainability report or formal certifications. This is how the maturity system differentiates between internal practices and outward-facing sustainability engagement, which is most important when identifying the reporting-related costs of the respective maturity levels.



Figur 2: ESG Maturity Distribution

Following the rounded average scoring methodology, table 4 presents the distribution of ESG maturity scores across the 40 SME wineries included in the study. It illustrates the concentration of firms at the lower end of the scale, with 16 wineries (40%), communicating minimal or no formal engagement in sustainability reporting. Firms that reflect limited disclosure and only mentions of the material topics (level 2) comprises 13 wineries, while only 6 wineries reached level 3. And as only 5 wineries reached level 4 maturity in the evaluation, this distribution highlights that the sustainability disclosures for Italian SMEs in the wine sector are still at an early stage.



Figur 3: Maturity Levels and Annual Revenue

Furthermore, table 5 illustrates the distribution of ESG maturity levels across the segmented revenue groups from the selection of wineries. A clear take from this table is that the lower levels (1 and 2) dominate in nearly all segments, yet higher maturity levels (3 and 4) are more frequently observed among companies in the highest end of the revenue-spectrum. Although the selection group of 40 firms is not large enough to determine a clear pattern from this, it aligns well with the findings from Sellers and Alampi-Sottini (2016), who demonstrated how larger Italian wineries benefit from economies of scale, better access to financial capital and improved efficiency. These advantages are likely to extend to sustainability reporting, where economies of scale have higher economic performance and therefore better prerequisites for investing in third-party verification and transparent reporting. Additionally, these companies are closer to those defined as large companies by the European Commission Recommendation of 2003, and also subject to the CSRD. Although this directive does not apply for any of the SMEs in the selection of this study, the segment of wineries with the highest annual revenue appears to be closer aligned with the formal frameworks for the group of large companies.

6. Cost-Benefit and Descriptive Statistics

6.1. Estimating Costs

This section of the study aims to estimate the costs associated to voluntary sustainability reporting in the sector, focusing on how these costs vary by ESG maturity. The analysis is structured into two parts. The first employs the approach of cost-of-capital reduction, building upon the framework of Buallay (2019). In this approach, the cost estimations are performed using financial performance indicators, hence Return on Assets and Return on Equity, to estimate the opportunity cost of sustainability engagement. The second part is based on an analysis of direct costs, using available data on certification fees, ESG audits and consulting services. The goal of this dual-lens methodology is to allow for concrete cost estimations grounded in the understanding of both perspectives.

Cost-of-Capital Reduction-Based Estimation

This thesis leverages the cost-of-capital reduction perspective to estimate the implicit costs for SME wineries that voluntarily undertake structured sustainability reporting (classified as level 4 maturity). Buallay´s empirical findings suggest that higher ESG disclosure levels correlate positively with market valuation but negatively with specific short-term accounting performance metrics. These initial burdens are due to direct and indirect costs – such as infrastructure investments, administrative overhead, and opportunity costs – before enhancing stakeholder trust and competitiveness. This thesis will build upon the findings of Buallay (2019) and assess changes in indicators of financial performance for the reporting year each winery started their structured sustainability disclosures (event year), compared to the movements observed among non-reporting peers (maturity levels 1 and 2). By doing so, the study aims to use the cost-of-capital reduction lens in an SME context where reporting remains voluntary and strategic.

Metrics

The choice of financial metrics is grounded in the empirical findings of Buallay, that for accounting numbers tracks movements in return on assets (ROA) and return on equity (ROE).

ROA: The return on assets captures how efficiently a firm generates profits by using its assets. It can be affected by sustainability reporting through both non-revenue activities such as audits and certifications, and by introducing new cost centers that engages in and improves

the disclosure practices of the business. Additionally, it is particularly appropriate for comparing SMEs of varying capital structures and sizes as it is relatively asset insensitive.

ROE: The return on equity measures the financial efficiency from the shareholders´ perspective. It reflects the net income return on the invested equity base, and is sensitive to both operational performance and financial leverage. Changes in this metric at the time where a firm starts with (or significantly improves) sustainability reporting provide insight into whether costs of ESG adoption are absorbed at the ownership level. This complements the tracking of ROA by incorporating financing effects.

Asset Growth: Total asset growth is used as a proxy for investment in sustainability infrastructure. Although it is not an accurate estimation for the actual investments, variations in this metric for the year of a firms first report is highly relevant for tracking necessities for structured ESG reporting. Detecting above-normal asset growth in the reporting year would suggest that wineries are incurring direct capital expenditures to achieve level 4 maturity. In the analysis, the numbers are comparable and given in percentages due to firm size variations.

Event-Based Estimation Approach

The thesis adopts an event-based estimation methodology for capturing firm-level financial changes associated with initiating structured sustainability reporting. For each winery with level 4 maturity, the year of the first report was identified. This is referred to as event year, which marks the year of which the company reported for, and not the following year when the report was posted. This is grounded in the assumption that investments in auditing, infrastructure etc. is invested in the first year of which the firm intend to disclose its practices for. This is standardized in the following:

- t-1: One year before reporting
- t=0: Reporting event year

, which makes these formulas for the respective metrics:

- $ROA\ Event\ Jump = \ ROA_{t=0} - ROA_{t-1}$
- $ROE\ Event\ Jump = \ ROE_{t=0} - ROE_{t-1}$
- $ROA\ \%\ Change = \frac{ROA_{t=0} - ROA_{t-1}}{|ROA_{t-1}|}$
- $ROE\ \%\ Change = \frac{ROE_{t=0} - ROE_{t-1}}{|ROE_{t-1}|}$

- $Asset\ Growth\ \% = \frac{Total\ Assets_{t=0} - Total\ Assets_{t-1}}{Total\ Assets_{t-1}}$

Control Group

To estimate the financial movement for wineries that do not disclose sustainability performance and practices, the study uses a control group that can provide the baseline for comparison with the figures above from the formulas above. The control group was formed by collecting numbers for wineries classified at levels 1 and 2 on ESG maturity. The assumption is that low maturity offers a valid representation of financial trends in the absence of sustainability-induced investments related to reporting. For these firms, annual changes in the event years were calculated over corresponding periods. As all maturity 4 wineries in the selection initiated reporting in two connecting years, either one or two years before their latest available data, all other years are exempted from this specific comparison due to market fluctuations and externalities over the years (ex. Covid19).

The average financial changes for level 4 wineries were compared with the control group. The summarized results are presented below:

Cost-of-Capital Reduction-Based figures

Metric	Level 4 Mean	Control Mean	Difference
ROA Absolute Jump (Event Year)	0.01622	-0.00803	0.02425
ROA % Change (Event Year)	159.89%	-24.6%	184.49%
Asset % Growth (Event Year)	15.17%	14.04%	1.13%
ROE Absolute Jump (Event Year)	11.1018	0.06359	11.03821
ROE % Change (Event Year)	40.87%	29.28%	11.59%

Table 4: Cost-of-Capital Reduction-Based

Findings

The ROA analysis reveald positive differential for Level 4 wineries relative to control firms. Specifically, the percentage-change for the event year stands out with an increase of 159,89%. This contrast with Buallay´s findings of negative ROA-ESG associations. A plausible explanation is that adopters of voluntary reporting in the industry may already possess above-average operational resilience, allowing them to absorb ESG compliance costs without impairing profitability. However, the numbers also somewhat reflects that the total number of

level 4 maturity companies is exposed for variations between firms, as the selection group is relatively small.

The ROE improved significantly, implying that level 4 wineries not only maintained but enhanced shareholder returns through reporting transition. This is also in contrast with empirical evidence from cost-of-capital reduction theory (Buallay, 2019), as it suggests that wineries may perceive immediate value from sustainability reporting and not merely long-term potential. The ROE increased by 11,1%, constituting a 40% higher level than before the event year.

Asset growth among level 4 wineries were marginally higher than the control group. It grew by 15,17% relative to 14,04% for low-maturity companies, indicating a difference of 1,13%. It supports the claim that reporting requires some degree of infrastructural or procedural upgrade, although the marginal differences does not state any clear evidence on the matter. Nevertheless, an important take is the asset growth, suggesting that wineries adopting sustainability reporting does not pursue large-scale capital expenditures particularly beyond what is expected or average in the sector for SMEs.

The event-based cost-of-capital reduction analysis conducted in this thesis has provided some insights on short-term financial implications of adopting sustainability reporting for the firm. From the data of this study´s selection, the outcomes suggest that voluntary reporting is not immediately associated with operational or financial burdens as suggested by the traditional cost-of-capital reduction perspective. Instead, it appears to have coincided with positive financial movements in the event year. This is possibly due to operational maturity among adopters, benefits materialized quickly, effects of limited data etc. However, while the methodology applied detects differences in firm performance surrounding the event year, it does not *alone* provide a direct estimation of costs incurred by wineries to achieve Level 4 maturity. Increases in assets, ROA and ROE creates an idea of the overall changes of a company´s financials in the event of initiating reporting, which is relevant for the scale of which a firm must invest. However, it does not quantify the underlying resource allocations, audit expenses, certification fees or consultancy costs that are necessary for level 4 ESG maturity. To address this limitation and complement the findings, the next part of the thesis will examine direct costs, focusing on tangible financial outlays relevant for wineries with structured sustainability disclosures.

Direct Cost Estimation

As the developments in ROA, ROE and asset growth among level 4 wineries does not reflect operational or financial strain, the next phase of the thesis focuses on estimating direct costs to fill this gap. This analysis aims to capture the tangible financial outflows associated with structured sustainability reporting, complementing the understanding of the economic burden placed on SMEs in the wine sector from the previous cost-of-capital reduction evaluation. In contrast to the previous approach, direct cost estimation identifies actual expenditure categories relevant to structured reporting categorized as level 4 in the ESG maturity scale. These categories include:

- **Certification Fees:** Costs associated with obtaining sustainability certifications such as organic or biodynamic certifications, Equalitas, B-corp etc.
- **ESG Auditing and Verification Costs:** Fees for third-party verification of sustainability disclosures on performance metrics.
- **Consultancy and Advisory Services:** Expenses related to external consultants hired to assist specifically on the process of sustainability reporting
- **Training and Internal Capacity building**

Certification Fees for Sustainability Standards

Third-party sustainability certifications signal to customers that a winery meets defined environmental or social standards. For Italian producers, this often involves certifications like organic or Equalitas, an Italian sector-specific sustainability standard for wineries (Equalitas, 2025). The certifications and labelling for sustainability practices can be divided into (1) Organic Certification, (2) Bio-dynamic certification, (3) Quality label (DOC/DOCG) (De Steur, Temmerman, Gellynck, & Canavari, 2020), with general sustainable practice certifications also experiencing growing importance over the last year.

Many wineries pursue organic certification to demonstrate their commitment to environmental stewardship. It involves a one-time application fee plus annual inspection fees by a body accredited for such verifications (Waldin, 2017). In Italy, organic certifications are overseen by the Ministry of Agriculture, Food and Forestry Policies (MIPAAF), with accreditation provided by ACCREDIA. The accreditation allows certification bodies to conduct inspections and issue organic certifications in accordance with EU Regulation

2018/848 (European Parliament and Council, 2018). However, as the related costs of application and inspection in Italy generally remain undisclosed, the study applies numbers for neighboring countries under the same EU legislations for the industry. For example, Ecocert, a major EU organic certifier in France, charges roughly €300-€800 annually for a wineyeard´s organic certification fee (Waldin, 2017). Additionally, maintaining the organic standards can entail indirect costs like supplementary labor, but this is not taken into account in this study as it is not directly relevant for the reporting practice of the company. Nor are the EU per-hectare subsidies during the 2-3 year conversion period to organic production, through its Common Agricultural Policy (CAP) (European Comission, 2023).

More specific for Italy, wineries can obtain the “Equalitas – Vino Sostenibile” certification, which is a standard covering the main pillars of ESG practices in the industry (Equalitas, 2025). The certification provides an “umbrella” sustainability label beyond organic, consequently requiring annual third-party audits and compliance across the operations of the firm. Like any certification, it has a fee structure for the wineries. However, Equalitas are aiming to reduce the certification burden for firms in the sector through industry coordination. A recent collaboration between Equalitas and the organic sector (FederBio) has initiated a dual-certification process (Equalitas & FederBio, 2024). In practice, this means that the incremental cost of adding Equialitas for an organic winery is less than the sum of doing each alone. Nevertheless, non-organic wineries should expect a similar order of magnitude for Equalitas as for a single organic certification, depending on the size of the business.

Other quality or sustainability certifications occasionally relevant for wineries in Italy are biodynamic certification, ISO standards, DOC/DOCG labelling – all of which likewise require verification from third parties. Nonetheless, organic and Equalitas are the most prominent for Italian wine SMEs that are disclosing sustainability practices. For example, the collaboration of Nordic retail monopolies recently required Italian wines to be Equalitas or Viva certified for being labelled “Environmentally certified production” in 2025 (Vinmonopolet, 2025). This illustrates that for sustainability certification to be a ticket to certain export markets, these type of certification fees are necessary. For simplicity reasons, the fees of organic production and/or Equalitas will therefore be used as proxies for certifications in this cost-estimation.

ESG Auditing and Assurance Costs

Auditing and report verifications incur costs for SMEs disclosing sustainability efforts. These costs are expected for an auditor to verify a winery´s carbon footprint or provide assurance on a published report. As expectations arise in relation to ESG disclosures, such verification is relevant for the reliability of the report. While this is not yet mandatory for SMEs in the EU, level 4 maturity firms voluntarily reporting on sustainability are trending toward external assurance of this form. It adds credibility but it becomes a cost.

For SMEs, the cost of a sustainability audit can be significant. According to a study by Enterprise Engagement Alliance (2023), smaller firms may spend around €28,000 to €42,000 for a preliminary audit of ESG data and assurance. The precise costs vary due to the scope of the engagement, level of readiness, and which external consultancy firm that is hired. Firms with well-organized internal systems on ESG data can reduce the need for extensive external audit (Enterprise Engagement, 2023), while first-time audits can be significantly more resource intensive. However, this is a cost referred to as “sustainability preparation costs” later in the summary of direct expenditures.

The cost of assurance engagement by an audit is potentially significant for small- and medium sized businesses. It is important to recognize that in the context of voluntary reporting, concrete figures for ESG auditing are somewhat undisclosed for SMEs. Level 4 maturity companies that publish structured sustainability are positioning themselves closer to reporting standards and expectations designed for larger firms. According to a study by the European Financial Reporting Advisory Group (EFRAG), “limited assurance” can range from 0,013% to 0,026% of the company´s revenue (EFRAG, 2022), or 0,002% to 0,003% of total assets. Limited assurance entails that auditors gather less information for validation than under “reasonable assurance” and is designed to fit companies with less mature sustainability data than big corporations with comprehensive monitoring and infrastructure investments. However, cost variability is high. This is further supportet by EFRAG who recently cautioned that assurance requirements may be “overwhelming for smaller companies” that lack experience on sustainability reporting (EFRAG, 2024).

Although varying, the expected costs related to sustainability auditing and assurance in Italy are relatively close to the estimates above. The price for limited assurance on ESG disclosures from a “Big Four” accounting firm could be between €12,000 and €15,000 Euros, while

assistance for the elaboration of a sustainability report is expected within the range of €15,000 and €22,000 (R., Giovannini, personal communication, May 2025). The reason for the significant gap in the estimates is because these services are not normally requested by SMEs in Italy. However, following the framework of voluntary reporting. the VSME and the criteria of maturity levels in this study, these are highly relevant expenses for this cost-benefit analysis.

Beyond audit and assurance fees, preparing for the sustainability report itself also incur costs. This entails gathering data, consulting on frameworks, conducting materiality assessments etc. In late 2022, a study on the financial implications on the Corporate Sustainability Reporting Directive (Ruohonen & Kullas, 2024) estimated that for a medium-sized company, then scheduled for coming under the CSRD, the one-time setup costs were about €36,000, with an additional recurring cost around €40,000 to maintain compliance each year. By comparison, a large entity from the same study had a one-time cost at between €287,000 and €320,000. Although the SMEs no longer are required to report to the same standard as under the CSRD, maturity level 4 -companies that voluntarily posts structured sustainability reports are expected to invest at a rate close to as if the directive was still relevant for SMEs.

In the absence of consistent estimates from a wider range of accounting- and consultancy firms, this study will base its reporting costs on the estimated fees from a recognized “Big Four” company. For sustainability assurance, the EFRAG-study suggesting a range from 0,013% to 0,026% of revenues differ substantially from the “Big Four” estimate. In the higher range of this suggested percentage, a medium-sized firm with €40 million in revenue would have to spend approximately €10,400 for assurance. This indicates that the estimates by EFRAG are better suited for large undertakings with a level of revenues that would make the assurance costs exceed the “Big-Four” estimate, given the 0,026% suggestion. Although this estimate takes into account the size of each respective firm, reflecting how comprehensive disclosing their sustainability practices are, the €12,000 to €15,000 range is more consistent with the aim of this study. Furthermore, the thesis will thereby also assume audit-expenses between €15,000 to €22,000. In total, the structure for annual direct costs of voluntary sustainability reporting is illustrated in table 7.

	Estimated Annual Costs (Low/High)	
Cost (type)	*Low*	*High*
Organic Certification	€300	€800
Equalitas	€300	€800
Sustainability Audit	€15,000	€22,000
Assurance	€12,000	€15,000
Total	**€27,600**	**€38,600**

Table 5: Overview of Direct Costs

At the higher end, this total estimate is marginally lower than the €40,000 suggested by Ruohonen & Kullas (2024), and well aligned with the price range of €28,000 to €42,000 from the study by Enterprise Engagement Alliance (2023). In addition to these annual expenses, the total direct costs of voluntary reporting must also consider the one-time setup costs of €36,000 (Ruohonen & Kullas, 2024) expected for level 4 maturity companies.

Indirect Costs

While the direct costs are central to the economic burden of structured sustainability reporting, the cost analysis must also account for the indirect expenses that arise due to the voluntary disclosure. The following part outlines four categories of indirect costs relevant to SMEs engaging in structured sustainability reporting; value chain trickle-down effects, litigation and reputational exposure, competitive position risks, and innovation trade-offs.

The trickle-down effect is one of the most empirically grounded forms of indirect cost, hence as SMEs produce sustainability-related data not due to their own regulatory obligations, but because they can be part of the value chains of larger firms that must report under the CSRD. When large entities request data on scope 3 emissions or biodiversity from their suppliers, SMEs are compelled to undertake relevant data preparation. This is often without adequate expertise or infrastructure (CEPS & Miliey, 2022, p.48). The study of CEPS & Milieu (2022) estimates that SMEs may experience one-off costs of €1,300 and €2,000 in annual recurring costs to meet these requirements. Up to 50% of these expenses are classified as incremental (p.52). The costs related to this effect are particularly relevant for SMEs engaged in agricultural value chains where sustainability reporting is expected by downstream clients and retailers.

Voluntary sustainability disclosures can also impact firms if they are compelled to reveal sensitive strategic information. Factors such as resource allocation and supply chain practices may be revealed through disclosures, and consequently exploited by competitors (CEPS & Miliey, 2022, pp. 56-57). According to CEPS survey result, a minority – especially larger firms – express concerns that such transparency could erode their market position (p.60). However, for the assessment of costs related to sustainability disclosures in the Italian wine industry, the thesis does not find the competitive disadvantages posed from transparency material for SMEs in this sector due to the nature of the industry and its barriers.

Lastly, sustainability reporting may prevent innovation capacity among resource-constrained SMEs. The implementation of structured reporting, the hiring consultants etc., may divert the firm from investing in R&D activities (CEPS & Milieu, 2022, pp. 62-63). This is a tradeoff that can be of significance for innovation in the sector, specifically related to cultivation, fermentation, and eco-verification. Nevertheless, there are no specific empirical findings on this, nor is it sufficient data due to the limited time period of which voluntary reporting and VSME have been relevant in the current ESG-landscape. As a consequence, the thesis have no leverage to estimate or specify this tradeoff in terms of numerical costs.

Summary

This section has examined the costs associated with voluntary reporting among SMEs in the Italian wine sector. The analysis distinguishes between two approaches: an estimation of implicit costs through changes in financial performance (ROA, ROE, asset growth), and a calculation of direct expenses, complimented by the indirect costs associated with implementing structured reports.

The findings from the cost-of-capital reduction approach do not indicate significant financial strain for wineries classified at level 4 ESG maturity. Instead, the data suggest that firms adopting voluntary sustainability reporting may already have a relatively strong financial position. However, these figures do not allow for a precise estimation of the specific costs of associated with reporting practices, as they are based on outcome metrics rather than actual resource use.

To address this limitation, the second part of the analysis focuses on direct costs. These include certification fees, sustainability audits and assurance. Based on data on the estimated fees from a “Big four” accounting firm, which aligns well with studies from Ruohonen and Kullas (2024), Enterprise Engagement Alliance (2023) and EFRAG (2022), the annual recurring costs for SMEs engaging in structured reporting are estimated to range between €27,600 to €38,600. In addition, the one-time setup costs for establishing infrastructure and data collection are estimated at €36,000 (Ruohonen & Kullas, 2024). Indirect costs were also discussed. These include pressures to deliver EGS data to supply chain partners subject to the CSRD (CEPS & Milieu, 2022), but these do not incur solely as a consequence of adopting voluntary reporting. Other relevant costs include the risk of reputational exposure and opportunity costs such as diverted investment from innovation activities.

In summary, the specified costs of voluntary sustainability reporting for SMEs in the Italian wine sector is estimated at €27,600 to €38,600 annually, with an additional one-time cost of approximately €36,000.

6.2 Financial Benefits

ROA Model Specification

When considering the benefits of sustainability reporting, we will first explore the relationship between ESG reporting maturity and firm performance using panel regression. The primary objective is to assess whether wineries with higher maturity experience financial benefits, initially measured by return on assets over a five-year period. This is achieved by estimating a fixed effects panel regression model that exploits the longitudinal structure of the dataset while controlling for firm characteristics. The method also allows us to control for unobserved, time-invariant heterogeneity across firms, which may otherwise bias the estimated relationships.

The data for this analysis includes the ROA figures for all 40 wineries in the selection across five time periods, with the most recent year (t=0) and the four proceeding years (t=-1 to -4). The dependent variable is ROA while the key independent variables are interaction terms

between ESG maturity levels and year-relative time dummies, *Year_offset*. The fixed effects regression model takes the following form:

$$ROA_{it} = \alpha_i + \beta_1 * YearOffset + \sum_{k=2}^{4} \beta k * D_{ik} * YearOffset_t + \epsilon_{it}$$

Where:

- ROA_{it} is the return on assets for firm i in year t.
- α_i firm fixed effect,
- D_{ik} are dummy variables for ESG maturity levels (1 to 4)
- $YearOffset_t$ is a numeric variable for the relative year ranging from -1 to -4
- $D_{ik} * YearOffset_t$ is the interaction terms,
- ϵ_{it} is the idiosyncratic error term.

This specification captures the different patterns in ROA over time for ESG maturity levels 2, 3 and 4, relative to level 1 firms, which are absorbed into the fixed effects and therefore acts as the baseline category. The YearOffset variable is designed to reflect the time distance from the last reporting year (t= 0). This allows for comparison of performance over time across maturity levels. By estimating this model, the study aims to identify whether ESG engagement is associated with systematically different trends in ROA compared to wineries with no sustainability engagement.

Fixed Effects Regression – Interaction between ESG Maturity and Time on ROA

Variable	Estimate	Std. Error	t-value	p-value
Year_offset_-3	-0.0076	0.0082	-0.94	0.351
Year_offset_-2	-0.0179	0.0227	-0.79	0.432
Year_offset_-1	-0.0130	0.0138	-0.94	0.347
Year_offset_0	-0.0074	0.0104	-0.71	0.478
Maturity_2 × Year_offset_-3	0.0144	0.0098	1.48	0.141
Maturity_3 × Year_offset_-3	0.0116	0.0101	1.15	0.254
Maturity_4 × Year_offset_-3	-0.0052	0.0096	-0.55	0.587
Maturity_2 × Year_offset_-2	0.0249	0.0247	1.01	0.315
Maturity_3 × Year_offset_-2	0.0323	0.0257	1.26	0.210
Maturity_4 × Year_offset_-2	0.0275	0.0279	0.98	0.326
Maturity_2 × Year_offset_-1	-0.0039	0.0162	-0.24	0.811
Maturity_3 × Year_offset_-1	0.0276	0.0243	1.14	0.257
Maturity_4 × Year_offset_-1	0.0154	0.0168	0.92	0.361
Maturity_2 × Year_offset_0	0.0073	0.0139	0.52	0.601
Maturity_3 × Year_offset_0	0.0260	0.0197	1.32	0.188
Maturity_4 × Year_offset_0	-0.0004	0.0161	-0.03	0.979

Note: Dependent variable is ROA. Firm-level fixed effects included. Standard errors are clustered at the company level. Maturity level 1 is the baseline category. Year_offset is measured relative to the most recent year (0 = latest, -4 = oldest).

Table 6: Regression 1

The results from the fixed effects are summarized in figure 3. The time coefficients for Year_offset for firms with level 1 maturity are all negative. As none of them reach statistical significance, firms with no formal sustainability reporting have not seen systematic improvement in ROA over the past five years. Furthermore, the coefficients for maturity levels 2 and 3 are mostly positive. Firms at maturity level 3 exhibit an additional ROA of approximatelt +0.032 at t = -2 and +0.026 at t = 0, relative to firms at level 1. However, these fall short of statistical significance with statistical significance of $p < 0.1$, which limits the ability to draw causal inferences although the numbers suggest a potential trend toward better efficiency among firms engaging in intermediate ESG reporting. The coefficients for maturity level 4 (structured reporting) are also somewhat mixed. In some years, such as t = -2 and t = -1, the interaction terms are positive, while for t= 0, the coefficient is slightly negative (-0.0004). The regression results do not provide any statistically significant evidence that higher ESG maturity levels lead to improved ROA within the observed time frame for the selection of this study, even though level 2 and 3 maturities correlate with modest improvements over time.

To better capture the effect of adopting sustainability reporting for firms with a maturity level of 4, the analysis will highlight the effects on ROA from the first reporting year of each firm relative to non-reporting companies. While the initial fixed effects model showed the average performances over the five-year period across different maturity levels, the analysis will now focus specifically on identifying whether level 4 reporters experienced changes in ROA *after* adopting structured reporting. This is performed through a Difference-in-Differences (DiD) approach, where a binary treatment variable flag firm-year observations that occurred after a winery started their reporting. The DiD estimator captures the changes within firms in ROA, using firms in lower maturity-levels as a quasi-control group. The econometric specification of the model is as follows:

$$ROA_{it} = \alpha_i + \lambda_t + \delta * Treated_{it} + \epsilon_{it}$$

, where λ_t is the time fixed effects which absorb year-specific factors for all firms, and $Treated_{it}$ is the binary indicator equal to 1 if firm (i) is classified as level 4 maturity and the year (t) falls on or after the firm´s first year of reporting. δ captures the average treatment effect on the treated, hence the change in ROA after structured reporting.

Fixed Effects Regression – ROA Before and After Level 4 Reporting

Variable	**Estimate**	**Std. Error**	**t-value**	**p-value**
Treated (Level 4 Post)	0.0104	0.0132	0.788	0.432
Year offset -3	-0.0019	0.0040	-0.487	0.627
Year offset -2	-0.0024	0.0100	-0.242	0.810
Year offset -1	-0.0096	0.0075	-1.275	0.204
Year offset 0	-0.0026	0.0064	-0.403	0.688

Note: The dependent variable is Return on Assets (ROA). The variable *Treated* equals 1 for firms at ESG Maturity Level 4 in years following the start of comprehensive reporting, and 0 otherwise. The model includes firm fixed effects and year fixed effects. Standard errors are clustered at the firm level.

Table 7: Regression 2

The estimated coefficient on the Treated variable of 0.0104 suggests that firms exhibit a modest increase in return on assets following the adoption of voluntary sustainability reporting. However, this estimate does not reach statistical significance (p = 0.432), which implies that the evidence is insufficient to confirm a causal effect, although the direction of the coefficient is aligned with the hypothesis that structured reporting may enhance financial

performance or resource efficiency. The fixed effect coefficients themselves are relatively small and statistically insignificant, which indicates a relatively stable industry-wide ROA trajectory over the period of the study.

ROE and Profit Margin

To allow for a broader understanding of how voluntary reporting may translate to financial benefits, the analysis will examine two additional performance indicators: Profit Margin and Return on Equity (ROE). Whereas ROA focuses on operational efficiency from the perspective of total assets, ROE assesses the return to shareholders´ equity while profit margin captures net profitability relative to revenues. The goal of adding these figures is to complement the view of the outcomes associated with adopting ESG reporting and reaching level 4 maturity. Following the same Difference-in-Differences approach as for ROA, the study employs fixed effects panel regressions for both ROE and profit margins. By comparing firms that engage in structured sustainability reporting with those that do not, the model aims to estimate whether the ESG practies yield any measurable short-term financial benefits in terms of shareholder returns or profitability.

Difference-in-Differences Regression on ROE

Variable	Estimate	Std. Error	t-value	p-value
Treated (Level 4 Post)	-0.891	3.441	-0.259	0.796
Year offset -3	-6.138	2.902	-2.115	0.036*
Year offset -2	-11.407	11.355	-1.005	0.317
Year offset -1	-5.870	4.470	-1.313	0.191
Year offset 0	-3.045	3.340	-0.912	0.364

Note: Dependent variable is Return on Equity (ROE). Fixed effects for firm and year are included. Standard errors are clustered at the firm level. Significance codes: * p < 0.05.

Table 8: Regression 3

The figure above presents the results of the regression using ROE as the dependent variable. The coefficient on the treatment variable is negative (-0.89), which indicates a slight decline in ROE for firms that have transitioned to structured reporting. This estimate suggests that these firms experienced a 0.89 percent decrease in ROE after initiating reporting, but with an insufficient p-value of 0.796 that confirms that the result is not statistically significant. This is particularly interesting due to the return on assets often being considered as an investor-

focused metric, reflecting on how well a firm uses its equity to generate profits. The negative trend in this metric post-reporting could reflect that the costs initially associated with implementing the reporting, in accordance with the cost-of-capital reduction perspective (Buallay, 2019), outweigh the immediate gains. However, it is also important to highlight the significant negative coefficient on the Year offset -3 dummy ($p = 0.036$). It suggests that all firms in the sample, regardless of ESG maturity, experienced a decline in the ROE three years prior to the last reporting year. With the last reporting year being 2023, this industry-wide shock may reflect the macroeconomic impact of Covid-19 in 2020. This assumption is strengthened by the fact that the year effect is significant while the treatment is not, which suggests that any observed drop in ROE may be driven more by external factors than by ESG behavior.

Difference-in-Differences Regression on Profit Margin

Variable	**Estimate**	**Std. Error**	**t-value**	**p-value**
Treated (Level 4 Post)	1.202	1.851	0.650	0.517
Year offset -3	0.220	0.614	0.359	0.720
Year offset -2	-0.359	1.912	-0.188	0.852
Year offset -1	-0.430	0.860	-0.500	0.618
Year offset 0	0.229	0.795	0.287	0.774

Note: Dependent variable is Profit Margin. Fixed effects for firm and year are included. Standard errors are clustered at the firm level. Significance codes: none.

Table 9: Regression 4

The results of the Profit Margin regression are displayed in figure 6. The treatment variable is estimated at 1.202, which implies that wineries classified as maturity level 4, on average, experience an increase in profit margin in the years following the adoption of structured reporting. However, the p-value of 0.517 states that the result is not statistically significant at any conventional level. In practice, the findings implies that while structured reporters may perform marginally better on profitability, the effects in this selection are not robust enough to rule out random variation. As the year fixed effects in the model are all statistically insignificant, it suggests that profit margins in the industry have remained relatively stable over the observed five-year period. Consequently, in the absence of level 4 adoption, we would not expect major fluctuations in profit margins over time. Differences in outcomes between treated and control firms can therefore be more confidently attributed to the treatment condition, supporting the assumption of parallel trends as a key condition of the

DiD estimator. Nevertheless, the result does not provide any conclusive evidence on increased profits as causal for structured sustainability reporting.

Taken together, the ROE and Profit Margin regression support the main conclusion drawn from the ROA model; while the results of the treatment effects vary, none of them are statistically significant. The ROE model yields a negative estimate, which points to the possibility that structured sustainability reporting may incur short term implementation costs and lower the equity returns. In contrast, the effect on Profit Margin is positive, which implies a marginal increase in profits after the level 4 wineries started their reporting. However, none of the findings on the Treated variable are statistically significant. However, it does not necessarily invalidate the conceptual link between sustainability reporting and firm performance. It highlights the temporal limitations of capturing these effects within a five-year window on a relatively small selection, and the need for more data to better understand the mechanisms of which sustainability reporting influences the financials of a company. There is no compelling evidence that voluntary ESG reporting under level 4 maturity yields immediate financial gains in the Italian wine SME sector, although the direction of effects may hint patterns of potential effects.

6.3 Non-Financial Benefits

This section considers the non-financial benefits associated with voluntary sustainability reporting for SMEs in the Italian wine sector. The analysis identifies four benefit-categories, rooted in relevant literature in the topic: (1) reputational capital, (2) supply chain positioning, (3) human capital advantages, and (4) innovation capability. These are derived from empirical observations on structured ESG disclosures (Eccles et al., 2014; De Steur et al., 2020; Stasi et al., 2016). While financial metrics provide insights into economic effects, a broader lens on benefits can reveal how ESG maturity affect a business on other areas of its practice and in the longer term.

Reputational Capital

An immediate factor for non-financial benefits of sustainability reporting is its contribution to corporate reputation. For industries facing consumers, where trust and symbolic value are important, voluntary ESG disclosures serve as critical signals of integrity and efforts beyond regulatory requirements. Reporting initiatives, particularly when aligned with recognized

standards, communicate transparency and long-term responsibility to stakeholders (Eccles et al, 2014). Consumers increasingly associate these elements with environmental responsibility and ethical production (De Steur et al., 2020). Reporting on these practices can therefore enhance the perceived integrity and brand of the company. This is further visualized through certifications such as Equalitas, Viva, or organic labelling, that function as proxies for ESG maturity, export markets included. These certifications, integrated or supported by sustainability reports, signal to stakeholders that the firm is to a certain extent committed to long-term value creation, which according to Eccles et al. (2014) can contribute to outperform peers in reputation and stakeholder trust.

Supply Chain Positioning

A second major non-financial benefit is the enhanced positioning for supply chains and export markets. ESG reporting has evolved into a tool for market access, especially in terms of large retailers, international buyers, and state-controlled monopolies. A prominent example for Italian SMEs in the wine sector is the Nordic alcohol monopolies, such as Vinmonopolet and Systembolaget. These actors require Equalitas or Viva certifications for wines labeled as “sustainably produced” (Vinmonopolet, 2025). Wineries lacking such disclosures are effectively excluded from these market segments – regardless of product quality. Similar examples are seen amongst major supermarket chains in Germany, the UK and the Netherlands, where they use ESG data in supplier selection and scoring systems. According to a KPMG survey (2022), over 70% of B2B buyers in the EU consider ESG reporting as “moderate to significant” in supplier retention. Even when there is no direct CSRD obligation for SMEs, downstream compliance pressure may affect the requirements of these companies. EFRAG (2022) states that suppliers in the agri-food sector are often asked to submit ESG audits, publish statements or complete ESG questionnaires, even when their enterprise size is below the limit for CSRD. This suggests that structured sustainability reporting may save non-reporting wineries additional investment-costs, in addition to facilitating for international “sustainability-market” access.

Human Capital

Voluntary ESG reporting can also have organizational effects. This is particularly related to employee engagement and talent attraction. Gangi et al. (2021) demonstrate that firms with formalized ESG communication see higher employee satisfaction and lower turnover. For

SMEs in the Italian wine industry, where many of the firms are family-owned or regionally embedded, these factors can be essential for maintaining workforce stability. Furthermore, Stasi et al. (2016) found that wineries engaging in sustainability certification invest more in training and hire more graduates relative to the rest of the sector. Although these effects may not just occur due to ESG performance, the structured internal communication and process formalization that reporting requires is likely to play an important role in the finding. This is backed by the European Commossion (2021), who claimed that SMEs with internal sustainability governance structures report higher levels of staff-driven innovation and morale, suggesting that structured ESG transparency improve labor practices.

Innovation Capability

A strategic and long-term benefit of ESG reporting is its contribution to learning and innovation. By requiring firms to collect and process data related to their sustainability performance, structured reporting provides the foundation for new routinnes that increase capacity (Cohen & Levinthal, 1990) and dynamic capabilities for innovation (Teece, 2007). ESG-mature wineries are more likely to implement process innovations such as precision irrigation systems, biodiversity corridors, low-emission logistics and packaging, and circular economy practices. Stasi et al. (2016) suggest that wineries involved in sustainability disclosures adopt such technologies at a higher rate relative to firms with no ESG-adoption. These practices are designed to reduce environmental footprints and improve resource efficiency, consequently enhancing the sustainability performance of the business,

In summary, the analysis of non-financial benefits suggests that voluntary sustainability reporting can offer strategic advantages for SMEs in the Italian wine sector, potentially beyond what is captured by short-term financial metrics. Firmst with higher ESG maturity appear better positioned to enhance their reputational capital, meet requirements from supply chains, strengthen employee engagement, and build internal innovation capabilities. While these effects are more difficult to quantify and may be relevant over longer time horizons, they align with stakeholder theory and empirical observations in the sector. These benefits highlights the role of structured ESG reporting as long-term driver for competitiveness, particularly for firms seeking to differentiate themselves in sustainability-conscious markets.

7.0 Discussion

This chapter discusses and interprets the empirical findings of the thesis, addressing the cost-benefit dynamics of the study. The results presented in the previous chapter provide the baseline for evaluating the main research question: What are the costs and benefits of voluntary sustainability reporting for SMEs in the Italian wine industry? Furthermore, the analysis facilitates a discussion of how ESG maturity interacts with firm size, strategic positioning, and financial outcomes. The findings are discussed in relation to the literature presented in chapters 2 and 3, with particular interest in the implications for wineries at different levels of ESG maturity.

7.1 ESG Maturity and Reporting Landscape

The benchmarking analysis and categorization revealed an uneven reporting landscape among wineries. The majority of SMEs (29 out of 40) were classified at level 1 or 2, which indicates a general lack of structured disclosures. This supports the studies by Gangi et al. (2021) and De Steur et al. (2020), which suggests that small firms tend to lack formal sustainability governance. It is further illustrated by the rarity of level 4 maturity, even within an industry exposed to ESG concerns such as soil health, climate variability and pesticide use (Stasi et al, 2016). The maturity structure also reflects the literature on size-based constraints, as suggested by Sellers and Alampi-Sottini (2016). They found that larger wineries generally benefit from higher resource availability and operational efficiency. This is backed by the maturity level distribution across revenue categories from this thesis, as companies with higher annual revenues are more likely to engage in level 3 or 4 reporting. It supports the assumption that economies of scale are important factors in ESG engagement, even for SMEs.

The current exemption of SMEs from the CSRD, together with the recent proposal to ease the reporting burden in the light of the 2025 Omnibus Package (European Commission, 2025), have removed some of the most central incentives for the adoption of standardized reporting. Without legal requirements, most wineries only adopt sustainability disclosures when market pressures or certifications require to do so. This is consistent with the stakeholder theory perspective (Freeman, 1984), which highlights voluntary measures as a response to external pressures.

7.2 Interpreting the Financial Costs

The Thesis applied a dual-method approach for estimating the reporting costs: one building upon the cost-of-capital reduction framework (Buallay, 2019), and another on cpncrete, observable expenses (certifications, assurance, audits etc.). These methods were applied with the aim of complementing each other, and ultimately broaden the understanding of the difference dimensions of the reporting burden.

The cost-of-capital reduction analysis provided no evidence of significance on structured ESG reporting causing short-term financial strain. ROA and ROE increased modestly for level 4 wineries around the year of adopting the reporting, although the results were statistically inconclusive. This does not align with the findings of Buallay (2019), and may instead suggest that SMEs that initiate structured ESG disclosures are already financially resilient and strategically inclined. This interpretation supports with Degregori et al. (2025), who observed that SMEs with high ESG scores had lower risk of default and greater financial stability.

However, the cost-of-capital approach offers only an indirect lens on actual costs. To complement this, the direct cost estimates for level 4 wineries offer a more tangible picture of the reporting burden. Ranging from €27,600 to €38,600 annually, with an additional one-time setup cost of approximately €36,000, the direct costs are substantial investments for SMEs often operating with tighter margins than larger enterprises. Given that the median revenue range of the firms in the selection lies between €10-€25 million, the costs of reporting may represent more than 0.1-0.3% of annual revenue. This is somewhat in line with the estimates from the study by EFRAG (2022), and with Ruohonen & Kullas (2024).

Indirect costs such as supply chain data preparation and innovation expenditures (CEPS & Milieu, 2022) are also relevant when discussing the total burden of voluntary reporting. While not specifically quantifiable in this study, they reflect the broader challenges of SME reporting. Compliance burdens can spread from large firms to smaller actors. For wineries, this trickle-down effect is particularly relevant for firms operating in B2B export markets or supplying major European retailers, many of whom require ESG data or sustainability certifications (KPMG, 2022).

While some reporting firms are likely capable of absorbing these investments without damaging financial performance in the short-term, the costs of structured voluntary disclosures are still significant for most SMEs. Strong external incentives or internal strategic innovation are therefore important factors if a winery within this size-category is to implement this feature.

7.3 Interpreting the Financial Benefits

The DiD models and panel regressions explored whether higher ESG maturity is related to improved financial outcomes, using ROA, ROE and profit margin as proxies. The most consistent result was a modest, positive change in ROE for level 4 wineries post-adoption. Nevertheless, the estimate failed to reach statistical significance, which limits the evidence of improved financials. As highlighted by Buallay (2019) and Marsat & Williams (2014), the relationship between ESG reporting and financial performance is complex, moderated by reporting quality and firm-specific factors. In the case of the Italian wine industry, the relatively short observation-window and the small sample of firms classified as level 4 maturity, limit the ability to detect robust trends of performance. However, it does not weaken the assumption that sustainability reporting may produce long-term benefits rather than immediate results, especially through reduced capital costs and reputational improvements. The positive signs in ROA and profit margin suggest that sustainability diclosure does not impair performance and may offer marginal gains when coupled with strategic implementation.

7.4 Non-Financial Benefits and Strategic Positioning

While the statistical analysis of financial metrics did not provide any conclusive evidence regarding the economic gains from ESG reporting, the non-financial benefits identified in this thesis suggest that voluntary disclosures may offer strategic value. This value is primarily related to access to export markets, employee engagement and innovation capability. Although harder to quantify, they are well documented in empirical literature (Eccles et al., 2014; Stasi et al., 2016; De Steur et al., 2020).

Reputational Capital and Stakeholder Trust

Voluntary disclosure, especially when aligned with recognized frameworks or certifications (Equalitas, organic labelling etc.) can serve as a signal of commitment to sustainable practices, consequently creating immediate advantages through reputational enhancement. In an industry such as wine production, the perceived authenticity of the brand is central to consumer choice (De Steur et al., 2020). Furthermore, as noted by Eccles et al. (2014), firms that implement sustainability reporting tend to develop stronger stakeholder relationships and face lower reputational risks during crises. In the context of Italian wine production, this is relevant due to environmental vulnerabilities. A winery with established ESG disclosures is more likely to retain consumer trust and mitigate reputational fallout if such events were to occur. Although it is no0t directly reflected in ROA or ROE, this type of "reputational insurance" can provide a long-term resilience that is difficult to replace by conventional marketing. From the perspective of stakeholder theory (Freeman, 1984), this reputational capital can be transferred into increased legitimacy among customers, regulators, suppliers and even employees. Firms that engage in sustainability reporting voluntarily are perceived as going "beyond compliance", which can tend to reinforce stakeholder confidence.

Supply Chain Access

As stated in chapter 6.3, a growing number of international buyers and retailers require sustainability documentation for procurement eligibility. In markets with strong regulatory frameworks or public control over alcohol distribution, Italian wines must be Equalitas or Viva certified to qualify as "sustainably produced" (Vinmonopolet, 2025). This demonstrates how ESG maturity can function as a market gatekeeper. These dynamics align with the "double materiality" principle highlighted by the CSRD (European Commission, 2021), where firms are expected to report on how their practices affect society and the environment, in addition to how societal and environmental factors affects the firm. And even if the SMEs are formally exempted under the current framework (European Commission, 2025), the expectation to demonstrate sustainability performance persists through value chain dependencies and trickle-down effects. This converts ESG maturity from a reputational asset into requirements for entering certain markets.

Human Capital and Innovation Capital

Gangi et al. (2021) argue that CSR and ESG engagement enhances employee retention and attracts talent. For small and medium-sized enterprises in the wine industry, often family-run where workforce loyalty is particularly important, enhancing performance on these topics can be of great value for the business. Additionally, Stasi et al. (2016) found that wineries with higher ESG engagement reported more training activities and skilled labor, suggesting that sustainability efforts are associated with broader human capital investments. Although the thesis does not measure employee outcomes, these dynamics reflect that the act of reporting itself, hence requiring documentation, stakeholder engagement etc., can entail organizational learning. And with this learning, wineries were more likely to adopt new production technologies and collaborate with external actors (Stasi et al., 2016). With this in mind, structured reporting can not only reflect a firm´s ESG commitment, it also tend to facilitate for greater innovation capabilities.

7.5 Limitations and Methodological Considerations

While the findings of this thesis provide valuable insights, it also has to acknowledge the methodological limitation that constrains the interpretation of the results. These limitations are related to data availability, sample size, temporal scope and the evaluation of ESG maturity.

The analysis was based on a sample of 40 wineries, equally distributed by revenue to ensure variation across SME size. While this approach was designed to reflect the diversity of the industry, the sample remains relatively small for the application of econometric models such as fixed effects regressions and difference-in-differences. This restricts the statistical power and increases sensitivity to outliers. Although the quantitative insights remain valuable, the robustness of statistical inferences is reduced. Future studies would benefit from a larger sample which would facilitate for greater variance in ESG maturity and a more robust quantitative analysis.

Furthermore, the classification of wineries into four different ESG maturity levels is a particularly important part of this analysis. Instead of using binary variables (report vs no report), this classification enables for a more dynamic analysis grounded in the real-life

practices of sustainability reporting, assuming that firms can invest in ESG efforts without publishing a structured report. However, as the classification of a company is based on the average score across GRI-derived ESG topics, it introduces subjective and potential measurement errors. As a result, the evaluation criteria are carefully designed to best exclude such errors. Additionally, due to the classification's importance for the overall analysis, a substantial amount of time and effort is put into the evaluation process, somewhat limiting the quantity of the sample. In this process, one must also consider that the reliance on publicly available documents may underestimate efforts that are not disclosed, hence highlighting the assumption relevant for this thesis, analyzing voluntary *reporting*, that structured sustainability efforts are publicly communicated. Moreover, the framework assumes that ESG topics are equally weighted. The materiality of these issues may differ, especially in terms of geography, production method and general relevance for the sector. Some of these differences are avoided through the materiality benchmarking in chapter 5.1, but further weighting-adjustments have not been considered.

The financial data used in the panel DiD regressions are retrieved from Moody´s, which offers standardized information. However, concerns about endogeneity and reverse causality are still of relevance. It is possible that financially strong firms, in accordance with the findings of Sellers and Alampi-Sottini (2016), are more likely to adopt sustainability reporting, rather than ESG engagement leading to better financial performance. Although the fixed-effects models helps control for time-invariant heterogeneity, it does not fully eliminate this risk. In addition, the DiD approach assumes parallel trends between treated and control firm, which cannot be definitely confirmed with the available data, even though it is plausible. Furthermore, for capturing long-term effects, time horizon of five years may be insufficient. Benefits of ESG engagement, particularly reputational capital, investor attractiveness and innovation capacity, tend to materialize gradually. On the other hand, given that voluntary sustainability reporting is a relatively new phenomenon in the landscape of ESG, a sufficient timeframe will develop over the years to come. The current results should be interpreted as indicative rather than conclusive.

7.6 VSME as a Possible Pathway?

The findings of this thesis relate to central regulatory developments at the EU level, particularly the refinement of the CSRD and the introduction of the VSME. While SMEs are

currently exempted from mandatory compliance with the CSRD under the Omnibus proposal (European Commission, 2025), the thesis suggests that voluntary reporting can yield reputational strategic benefits – but only for firms capable of absorbing the associated costs.

Any efforts to encourage SME reporting should recognize the variation of firms within the category of small and medium-sized enterprises. Medium-sized firms with €25-50 million in turnover are better equipped to absorb reporting costs than small enterprises ranging downwards to the €2 million threshold. A one-size-fits-all policy is unlikely to be effective. Consequently, the policy should be adjustable for business size and not entail significant cost barriers.

The VSME framework provides a simplified structure for non-listed SMEs to report on sustainability effort in a more proportionate manner (EFRAG, 2024). For wineries at ESG maturity level 3 or 4, the VSME could serve as a pathway between informal disclosures and full alignment with a recognized framework, although simplified. However, the findings indicate that most SMEs in the sector are far from this level in reporting, which is consistent with previous literature highlighting that SMEs may lack the internal capacity or financial resources to engage in comprehensive ESG disclosures (Gangi et al., 2021; CEPS & Miliey, 2022), especially those in the lower end of the size-category. In context of this, the VSME simplifies these burdens and allow the firms to select their decree of disclosure (basic or extended) based on their capacity and stakeholder needs (EFRAG, 2024).

Firms already positioned at maturity level 4 could benefit from aligning with the extended VSME module. While these companies already publish stand-alone reports, applying the module could provide standardization and comparability. Moreover, as the VSME is developed by the same entity responsible for the ESRS under the CSRD, it is likely to gain legitimacy in accordance with stakeholder pressures. Adopting the VSME may therefore increase perceived credibility and reduce vagueness about a winery´s commitments.

A practical challenge is the limited awareness of the VSME among SMEs. As the framework is still new, most small firms are unlikely to have engaged with the documentation of ESG efforts. Even if the framework is conceptually simpler than the CSRD, it still requires a certain degree of administrative effort. This may discourage some firms from adopting the framework unless they receive a tangible benefit or regulatory risk. And as the findings in this

thesis show, wineries rarely move beyond unstructured reporting unless they face external demands and stakeholder pressure.

From Voluntary to Strategic

The experience of ESG maturity among wineries in this study suggests that voluntary reporting is more likely to be implemented when it serves strategic purpose, hence stakeholder satisfaction, market access, or long-term innovation. This highlights the potential of the VSME to evolve in the ESG-landscape as a business-enabler. However, it requires awareness in the sector and gradual onboarding if this is going to be realized. Simply offering a standard is not enough; it must be perceived as a tool for value creation rather than an administrative burden. Additionally, the VSME may also play an important role in supply chains. As stated by the European Commission (2025), the framework is intended to serve as a benchmark for the tupe and scale of ESG information that large companies can request from SMEs. For wineries seeking to supply large retailers or certified distribution networks, this is particularly relevant. If the VSME becomes the reference point for these exchanges, alignment may become increasingly relevant.

7.7 Theoretical Contributions

The thesis aims to contribute to the ongoing debate on sustainability reporting by performing the cost-benefit analysis with stakeholder theory in a sector where ESG reporting is both voluntary and heterogeneous. While much of the existing literature has focused on large firms subject to mandatory reporting frameworks, the contributions of this study can potentially enrichen the understanding of the current reporting landscape within this specific sector.

Despite being Europe´s largest wine producer and a global exporter in terms of volume (OIV, 2023), the sector remains relatively immature in its adoption of structured ESG reporting according to the sample of this thesis. Most SMEs continue to rely on certifications and informal website content, falling short of the expectations of standardized reporting. The thesis findings suggest that sustainability reporting is still perceived as a high-barrier, and (short term) low return activity by most wineries, with its relatively high costs of €27,600–€38,600 annually plus €36,000 in setup. However, the reputational and market-access benefits indicate that voluntary reporting could become a source of competitive advantage in the absence of obliged disclosures.

7.8 Validity and Data Reliability

Ensuring validity and reliability of data and methodological choices is important. The analysis relies on observed reporting behavior among SMEs in the sector, where ESG maturity is interpreted from publicly available disclosures matched with financial data retrieved from Orbis. The findings must be interpreted in light of constraints related to sample size, data visibility, subjectivity in classification and causal inference. This section discusses these considerations to clarify the reliability of the empirical results.

Internal validity refers to the degree to which the findings reflect the causal relationships between ESG maturity and firm outcomes. To account for this. The study applies the fixed effects and difference-in-differences (DiD) models, appropriate for longitudinal dimensions, allowing the analysis to consider unobservable firm-specific characteristics that remain constant over time, hence location, business model etc. Additionally, ESG maturity is treated at multiple levels rather than as a binary variable. It enables the analysis to capture more nuanced differences in sustainability efforts and acknowledges ESG engagement even in the absence of a structured report. Furthermore, by defining the year of when structure reporting was initiated as the event year in the DiD framework, and using t-1 as pre-treatment baseline, the analysis ensures that the reporting year corresponds with the timing of associated investments, which improves the precision of estimated effects.

The external validity states to what extent the findings can be generalized beyond the sample. The selection of 40 SMEs was based on a stratified sampling strategy using different revenue brackets from €2 to €50 million, aligned with the EU definition of SMEs (European Commission, 2003). The goal of this strategy is to ensure representation across the size spectrum within the SME category. While the size of the sample limits the ability to generalize the results across the entire wine sector, the selection is designed to capture variation in ESG engagement and firm characteristics. This sector-specific focus also enhances relevance given the unique sustainability challenges of wine production.

However, despite these precautions, several limitations must be acknowledged. The sample size remains modest, which reduce the statistical opportunities of the regression models. Additionally, the ESG maturity classification is based on disclosed content. Non-disclosure

does not necessarily imply absence of action, which this study assumes. Nevertheless, this is consistent with the scope of this thesis, as it investigates the costs and benefits of voluntary reporting, where visibility and communication are central factors for stakeholder perception and market effects.

7.8 Recommendations for Future Research

The thesis highlights a gap open for further inquiry. Firstly, larger and more diverse samples would improve the generalizability of the findings. While the focus on 40 wineries requires substantial investigation into sustainability practices and public disclosures for each firm, a broader dataset could enhance statistical robustness and allow for a more nuanced quantitative analysis.

Furthermore, future studies could integrate qualitative interviews with winery owners and auditors, enlightening the internal decision-makin processes behind ESG efforts. This would clarify the understanding of how winery managers perceive the return on sustainability, which barriers they face, and the motivation behind enhancing their ESG performance. As times change and the landscape of voluntary reporting evolves, these are factors that are not necessarily visible through financial figures and empirical studies.

Third, more attention could be given to the role of digital tools reducing the reporting burden. As stated by Degregori et al. (2025), AI-based ESG rating systems and digital reporting platforms can lower the barriers of initiating sustainability reporting practices. This is particularly relevant for smaller companies ranging down to the €2 million threshold, who have more challenges absorbing the disclosure-costs than larger entities.

Finally, the relation between voluntary reporting standards and market pressures requires further investigation. Understanding whether soft regulatory tools like the VSME are sufficient to foster ESG adoption or whether market mechanisms will ultimately drive the transition, is highly relevant in the context of this discussion. Comparative studies across sectors with different cost structures and prerequisites for sustainability reporting, could offer valuable insights into this dynamic.

7.10 Conclusion of the Discussion

In sum, this chapter has discussed the empirical findings of the thesis in the light of the theoretical framework and regulatory developments surrounding voluntary sustainability reporting for SMEs. Drawing from both the quantitative and qualitative analyses, the discussion has provided an understanding of the cost-benefit dynamics of ESG reporting in the Italian wine industry.

From a financial perspective, the evidence suggest that voluntary reporting does not lead to immediate or statistically significant improvements in performance. The DiD regressions using ROA, ROE and profit margins suggest modestly positive effects, but none of which are at statistically significant levels. This implies that the financial benefits of structured reporting may be more long-term or context-dependent than initially expected. At the same time, the analysis of direct and indirect costs provided an annual cost range of voluntary reporting between €27,600–€38,600 annually plus approximately €36,000 in one-time setup. While these may be manageable for medium-sized enterprises, they represent a significant barrier for smaller SMEs. Beyond financial considerations, the study identified several non-financial benefits linked to sustainability disclosures, hence reputational capital, market access, human capital development and innovation capacity. Although harder to quantify, they are well-supported by literature and observed industry dynamics.

The chapter also investigated the role of the VSME as a potential pathway to structured reporting for SMEs. It offers a simplified and proportionate alternative to the CSRD, aligning better with the capacities of smaller firms. For wineries currently classified with level 2 or 3 maturity, the VSME could offer adjusted standards that are easier to adopt. However, the use of these will likely depend on external support, given the potential lack of awareness and limited perceived returns.

8.0 Conclusion

This thesis investigated the costs and benefits of voluntary sustainability reporting for small and medium-sized enterprises in the Italian wine industry. Using a mixed-method approach that combines benchmarking, cost estimations and regression models, the study examined

both the direct and indirect costs of reporting, in addition to the financial and strategic benefits that may follow from high ESG maturity. The central hypothesis was aimed at:

H_1 : *Voluntary sustainability reporting entails a net benefit for Italian wine SMEs.*

The empirical findings from the analysis provided varied perspectives to this hypothesis. Although voluntary reporting appears to coincide with positive outcomes, its financial benefits are less evident in the short term according to the data evaluated. Furthermore, the analysis of the cost-side revealed that initiating reporting and achieving high ESG maturity (level 4) requires significant investments. The cost estimations were given in a range between €27,600–€38,600 annually plus approximately €36,000 in one-time setup (Ruohonen & Kullas, 2024). These figures suggests that voluntary reporting constitutes a substantial economic commitment for SMEs, especially those operating in the lower ranges of the category in terms of size and revenue.

The statistical analysis of financial performance yielded mixed but largely inconclusive results. From the fixed-effects panel regressions and the Difference-in-differences models, none of the effects associated with structured reporting reached statistical significance. As an example, ROA showed a modest positive shift after adopting reporting, but the DiD coefficient of 0.0104 ($p=0.432$) did not support a causal inference. The same went for ROE and profit margin, where estimates remained statistically non-significant despite some directional patterns. However, they support existing literature that highlights the complexity and context-dependence of the relationship between financial performance and ESG maturity (Buallay, 2019; Marsat & Williams, 2014). One of the primary reasons for the inconclusiveness in the findings is the relatively short observation window and the recent emergence of voluntary reporting practices among SMEs in the sector. Most wineries classified with level 4 maturity only began disclosing sustainability practices within the last two or three years. This limitation makes it difficult to capture the full extent of the benefits that ESG reporting might offer. Previous studies have suggested that sustainability initiatives often entail long-term returns that are not immediately reflected in accounting figures (Porter & Kramer, 2006; Eccles et al., 2014; Stasi et al., 2016). The nature of these returns, such as reputational improvements and stakeholder trust, may manifest gradually and are not easily quantifiable in short-term profitable metrics.

Despite the absence of statistically significant financial correlations, the analysis of non-financial outcomes highlights that voluntary reporting may yield substantial benefits over time. More specifically, these include enhanced reputational capital (Eccles et al., 2014), stronger positioning within international supply chains (Vinmonopolet, 2025; KPMG, 2022), improved employee engagement (Gangi et al., 2021), and increased innovation capacity (Stasi et al., 2016). Wineries that structurally disclose their sustainability practices are more likely to meet the procurement criteria of large retail actors and export markets that demand ESG compliance. Furthermore, the internal processes required for these disclosures are often able to improve a firm´s absorptive capacity (Cohen & Levinthal, 1990), potentially strengthening its ability to innovate and adapt. These strategic benefits align with the premises of the stakeholder theory (Freeman, 1984). And in the absence of legal reporting mandates, voluntary reporting becomes a mechanism for the business to demonstrate its transparency and accountability to customers and other relevant stakeholders. This voluntary nature implies a role of strategic intent rather than compliance, given the current legislation in the EU.

Looking forward, the strategic value of ESG reporting as sustainability consideratins become embedded in market access conditions and investor criteria. The recently proposed Voluntary Sustainability Reporting Standards for SMEs (VSME) offer a potential pathway for small and medium-sized enterprises in the sector (EFRAG, 2024). Alignments with the VSME could enhance comparability and signal commitment to stakeholders in a standardized format. Consequently, while the current dataset prevents definitive conclusions on the financial net benefit of voluntary ESG reporting, the broader picture points to a growing relevance. This opens up for several opportunities for future research. Data of companies´ financial performance over a longer timespan post-integration will be essential to fully capture the delayed effects of sustainability engagement on company figures. Additionally, the value and effectiveness of the VSME in supporting these transitions can be further evaluated based on future data for companies within this size-category.

In conclusion, voluntary sustainability reporting holds considerable potential as a long-term strategic asset, although the findings of this thesis do not support immediate financial returns for SMEs in the Italian wine industry. The estimated costs of structured reporting, ranging from €27,600–€38,600 annually plus approximately €36,000, are substantial but not prohibitive for medium-sized enterprises. Furthermore, these costs must be interpreted in the light of potential strategic gains. While the cost-benefit relationship remains unclear in

relation to the short term, quantifiable effects, the overall evidence points toward values that are potentially more easily recognized in the long term. Therefore, although the hypothesis that voluntary ESG reporting yields a net benefit cannot be confirmed on the basis of the current financial data, reporting remains a meaningful asset when viewed through a longer-term cost-benefit lens.

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