

RESEARCH ARTICLE

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Sustainability Covenants as a Financial Measure to Enhance the Efficiency of Companies

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Abstract

This article aims to identify the status quo of sustainability covenants firstly, secondly analyze their possibilities in enhancing sustainability performance and thirdly present further research directions. Covenants are additional contractual agreements mainly used in financial contracts, e.g. loans. They often focus on financial performance indicators, e.g., equity and net debt ratio, which the borrower must fulfil. However, the purpose of this article is to present a new approach to non-financial covenants, so-called sustainability covenants. Therefore, also nowadays ecological and social challenges are addressed. Banks have a huge impact on sustainable development by introducing more non-financial indicators in evaluating the creditability of borrowers. As a key hypothesis, this article argues that the approach of integrating ecological and social objectives through non-financial covenants is underrepresented in economic and business practice. Therefore, this article wants to examine how those objectives can be integrated into the financial concept of covenants and rely on research towards an integrative sustainability approach. In addition, a systematic literature review was conducted from October 2022 to July 2023 to analyze the status quo and derive future research directions. The review was based on two databases – Google Scholar and Scopus. As one key result, it was revealed that there is scarce existing literature on sustainability covenants, which refers to them as a policy measure. Only a few publications analyze their usage in financial contracts. However, this study implies the necessity for further research on sustainability covenants, emphasizing that they are powerful indicators to enhance the sustainability performance of the borrower.

Keywords: Sustainability Covenants, Financial Covenants, Non-Financial Covenants, Economic Growth, Sustainability Performance Management, Management Control System, Business

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1. INTRODUCTION

The topic of sustainability has gained enormous importance in recent years and has become indispensable in politics, ecology, finance, and economics. Against the backdrop of a growing world population and the associated increase in demand for consumer goods and energy, sustainability is one of the most important topics of the 21st century, mainly because of limited input factors. Already in the 70s, global awareness for sustainable development was created. The reports from the limits of growth from the Club of Rome accelerating to the Brundtland Report “Our common future” from the World Commission for Environment and Development (WCED), building the foundation for the concept of sustainable development and leading to the 17 sustainable development goals of the United Nations (UN).

However, the pressure from stakeholders on financial institutions and companies is increasing. Furthermore, man-made climate change and climate-related problems, like landslides, floods, tornadoes, heat waves, and droughts lead to new challenges for companies and their global supply chains. Therefore, only reporting on sustainability is not sufficient anymore, leading to the need for new financial measures and tools to enhance the sustainability performance of companies (Zirkler et al., 2018).

Moreover, the finance sector is under enormous pressure from politics and its stakeholders to develop effective and efficient sustainable measures, like green bonds, sustainability-linked loans, and Environmental, Social and Governance (ESG) investments. In this context, financial covenants are considered a powerful tool for monitoring and steering the environmental impact of organizations (Jouffray et al., 2019; Sumalia et al., 2020). However, the topic of sustainability indicators used as financial covenants, therefore, additional clauses bound to an indicator in financial contracts, has not yet been covered in the standard literature. In contrast to the mentioned pressure on financial institutions and companies to increase their sustainability performance, the lack of legally binding clauses to financial contracts offers a research gap.

Jouffray et al. (2019) and Loorbach et al. (2020) underline the power of covenants to enhance the sustainability performance of companies. Furthermore, the development of sustainability-linked loans, which bind the loan's interest rate to the sustainability performance of a borrower, e.g., the CO₂ emissions, is a way to foster sustainable development (Guthrie, 2022). Therefore, the question arises of how covenants as a finance tool to reduce information asymmetries can be used by financial institutions as a measure to monitor and steer the sustainability performance of the borrower.

This article uses a literature review as a first step to capture the status quo of sustainability covenants in the literature and relate to their usage in practice. Therefore, the Scopus and Google Scholar databases were analyzed. In addition, the collected results are used to describe the status quo, and further implications for actions to use covenants to foster sustainability are discussed. In the conclusion section, further research opportunities are provided.

2. LITERATURE REVIEW

In general, covenants are additional contractual agreements/clauses in any contract or agreement (Woehe et al., 2013). In a financial context, covenants are additional contractual agreements/clauses primarily used in international bank loan contracts between a borrower and a lender, which function as an early risk monitoring system (Prilmeier, 2017). They limit the scope of the debtor before the actual risk occurs to protect the creditor. Such measures aim to increase the chances of closing financing gaps through capital providers and reduce operational debt service expenses, significantly contributing to sustainable management (Zirkler et al., 2020). Covenants can be divided into financial and affirmative covenants (see Figure 1).

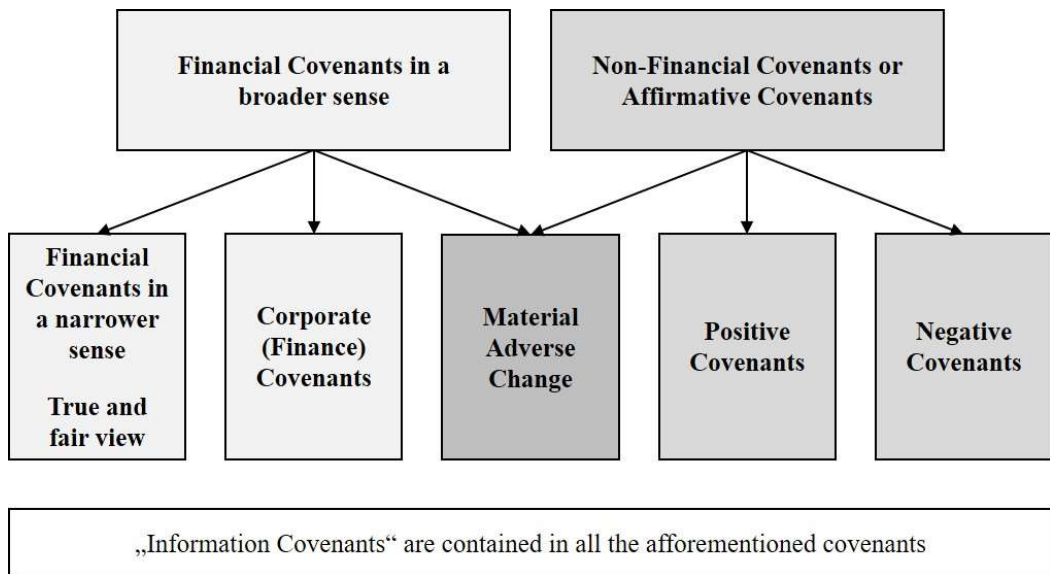


FIGURE 1. Classification of types of covenants

Source: compiled by source Brauweiler (2016)

Financial covenants are additional agreements between a borrower and a lender, including critical financial figures that the debtor has to achieve. Therefore, they regulate, legally binding, which values of the agreed financial indicators must be achieved in a period and may not be exceeded or fallen below (Zirkler et al., 2020). Typical key figures are the equity ratio, the (dynamic) debt-equity ratio, the return on equity or return on assets, the cash flow, and the cash flow and asset coverage ratio. Also, interest coverage ratios are important (Prilmeier, 2017).

However, this means that by overshooting or undershooting the agreed figures, the borrower breaks the covenant and the contract will trigger certain events (see Figure 2).

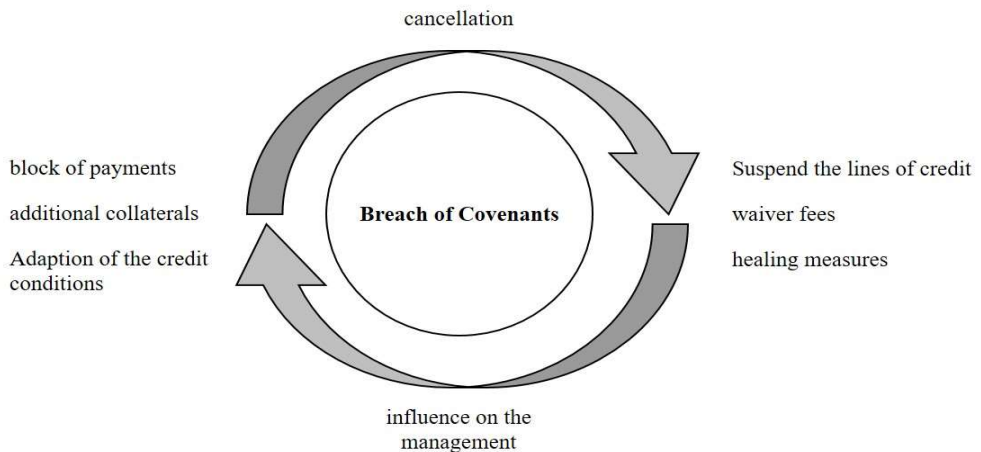


FIGURE 2. Breach of Covenants

Source: own presentation, content related to source Graml (2014)

In most cases, the credit lines will be suspended, or the interest rate will be adjusted to the new risk situation. Nevertheless, the creditor can influence or change the management and implement an interim manager. Furthermore, the creditor can cancel the loan contract. However, this is not used often in practice. A fee will usually be collected and healing measures initiated (Noack & Brauweiler, 2019).

Affirmative covenants contain concrete obligations to take actions in the form of commands (positive covenants) or prohibitions (negative covenants). They can be further subdivided into non-financial covenants (compliance with laws, reporting of required information) and corporate covenants (e.g., prohibition of selling certain assets) (Woehe et al., 2013; Zirkler et al., 2021). Examples are the negative pledge (prohibition for further collateralizing), pari-passu agreement (in case of insolvency, equal treatment of claims from the lender and other creditors), and the cross-default clause (possibility of cancellation if the borrower breaks agreements with other contractors) (Olivares-Caminal, 2017).

According to the literature analysis conducted for this article, there is little literature devoted to the topic of sustainability covenants, especially their usage in financial contracts such as loans (see Figure 3). Contrary to this, the overall topic of covenants, especially in finance and business management literature, is widely spread (e.g., studies of (Davydenko et al., 2020; Prilmeier, 2017). A quick search of “financial covenants” relates to around 6.330 results in Google Scholar and 105 search results in the Scopus database.

Furthermore, if the search term “sustainability” is expanded regarding the Tripple-Bottom-Line Approach of Elkington (1994) – which explains sustainability as a balanced concept resulting from the interaction of the economic dimension with the social and environmental dimension – the term environmental covenants is most spread in literature, regarding the sustainability framework (see Figure 3).

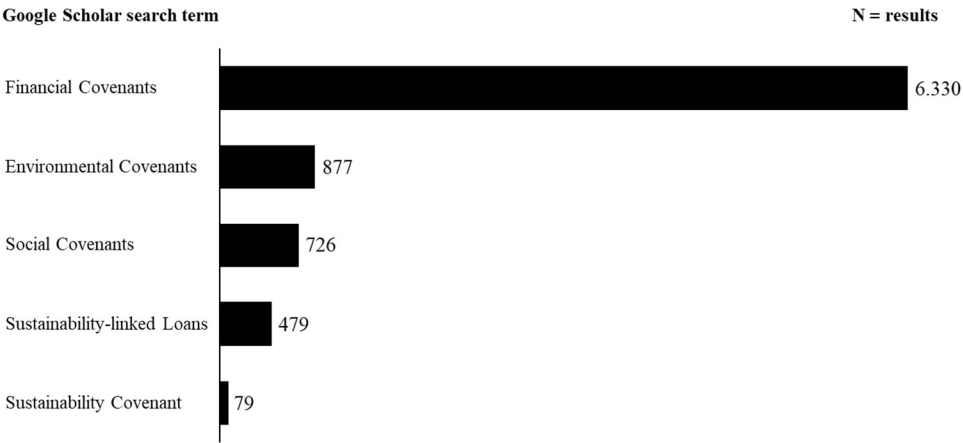


FIGURE 3. Google Scholar search results for Sustainability Covenants, Environmental Covenants, Social Covenants and Sustainability-linked Loans

Source: compiled by authors

Environmental Covenants are closely related to the definition of sustainability covenants as voluntary agreements between government and corporations or industries. They can be both affirmative and quantitative (Herenius et al., 1994). Covenants and indicators of lenders to monitor the environmental activity of borrowers (Choy et al., 2023) are the subject of a wider literature stream. However, with in total of 877 research results (see Figure 3), it is still an

underdeveloped literature stream. One reason for this extensive research compared to covenants that integratively consider all three dimensions of the TBL could be the extensive focus of government agencies on climate goals and sustainable development goals.

Social or value covenants are morally binding and inherent norms, values, and trust, e.g., the Armed Forces Covenant of the UK Ministry of Defence (Equality and Human Rights Commission, 2022). In a business context, they can be seen as a stakeholder-centric perspective where the company forms a bilateral informal agreement through promises and trust with its stakeholders. This can be expressed through the company's communication with its customers indirectly, e.g., corporate behavior, culture, and strategy, or directly, e.g., marketing, customer services, and public statements (Biraghi & Gambetti, 2013). The social dimension is highly intangible and a new research field in the sustainability management literature. This could explain why search results are lower compared to environmental covenants (see Figure 3).

Nowadays, sustainability in the finance sector is often considered under the framework of ESG – Environmental, Social, and Governance (Abhayawansa & Tyagi, 2021). ESG ratings are a new measure from financial institutions like banks to rate a corporation's sustainability performance and adjust, e.g., their interest rate towards the rating results (Jha & Rangarajan, 2020; Kaplan & Ramanna, 2021). This is brought further through sustainability-linked loans, which connect determinants of loans such as interest rates towards, e.g., the CO₂ emissions of a company (Carrizosa & Ghosh, 2022; Guthrie, 2022). Therefore, the interest rate will increase if the company emits more than the agreed CO₂ emissions in the loan contract. Regarding the importance of sustainability-linked loans, one could assume that literature deals extensively with this term. Nevertheless, regarding Figure 3, only 477 search results could be discovered, which is way under the search terms environmental and social covenants. As covenants are part of loans, search results for sustainability-linked loans were assumed to be higher. However, sustainability-linked loans are a new research field, whereas sustainability covenants have been elaborated on since 2002 in literature, according to the literature analysis.

However, this study examines the status quo and development of sustainability covenants in literature and praxis through literature analysis. Regarding the found literature, sustainability covenants can be distinguished on the one hand as – most of the times – voluntary governmental agreements and, on the other hand, additional clauses in financial contracts. They inherit as well affirmative covenants and quantitative indicators, which are non-financial.

Moreover, a third stream of literature was also discovered in the framework of this study. This one relates to the etymological foundation of the term covenant from Christian theology, which defines a covenant as an agreement, commitment, or promise between god and man (Otubanjo et al., 2010). In the framework of the literature analysis, this sort of literature and definitions were not considered and excluded. However, the combination of this literature stream with the thoughts of sustainability was discovered in a publication by Bosselmann et al. (2008). They define democratic ecological covenants as an obligation to ourselves and the earth or even a greater dimension like the universe (Bosselmann et al., 2008), which also relates to the bilateral agreement explored in social covenants (Biraghi & Gambetti, 2013).

However, this study focuses on the first two mentioned literature streams and adds the publication of Bosselmann et al. (2008) in the literature analysis for a holistic view but clearly distinguishes that this is not the focus of this article.

According to the literature on sustainability covenants, 79 search results could be determined (see Figure 3). It is mentionable that the definition is based on the financial definition of covenants, which are additional agreements in any business contract, e.g., in loan contracts. Furthermore, due to distinguishing between affirmative and financial covenants, sustainability covenants are a measure for both governments and financial institutions. As the term sustainability suggests, an integrative approach to environmental, social, and economic aspects

of literature is very scarce in this field. Moreover, sustainability is often associated with sustainable development goals or sustainable development, which are essential frameworks on a national level.

Therefore, sustainability covenants can be defined in a governmental context as additional voluntary agreements between a government or a government agency with a covenant partner (e.g., companies, public authorities, NGOs, industry associations, and other organizations) (Cary et al., 2004; Gunningham, 2017). The goal is that the company can improve its environmental impact and act as an environmental innovator in the regional or national community (Cary et al., 2004). The state can foster environmental innovations (Shinn & Polsky, 2002).

Furthermore, the covenant partner can receive funds from the government agency to achieve a sustainable transition. In this context, the Environment Protection Authority (EPA) in Victoria, Australia, signed a sustainability covenant with SAM Indexes GmbH to support the expansion of Australia's sustainable investment market, provide a sustainability benchmark for investors, and offer an incentive for companies to achieve constant improvement. The company agreed to affirmative, positive covenants to receive EPA funding (SAM Indexes GmbH, 2007).

Concerning the literature analysis, more results were discovered using sustainability covenants as an agreement between government agencies and the covenant partners. The identified governmental actors with their covenant programs are listed in Table 1.

TABLE 1. Governmental actors and their established covenants

Governmental actor	Covenant
<p>Environment Protection Authority (EPA) in Victoria, Australia Victoria's Voluntary Sustainability Covenant model (VSC) was introduced with Section 49AA–49AC, Environment Protection Act 1970.</p>	<p><i>“Sustainability covenants are voluntary agreements between EPA and a ‘person or% body’. They seek to improve resource use, and promote best practice to advance social and economic development. They are established by the EP Act2, which provides for agreements:</i></p> <ul style="list-style-type: none"> <i>• to increase the efficiency with which the person or body uses resources to produce products or services</i> <i>• to reduce the ecological impact of the production of services and the processes by which they are produced.”</i> (Krgan, 2011)
<p>Québec government, Canada Framework agreement with the Aluminium Association of Canada</p>	<p>Covenants targeting Greenhouse Gas emission reductions are signed with individual aluminium companies voluntarily. Covenant with the Rouyn-Noranda, Canada Magnolia production facility, forcing a requirement to reduce SF6 emissions. Introducing voluntary covenants with the aluminium industry. (Bramley et al., 2002)</p>
<p>Australian Packaging Covenant Organisation (APCO): founded as National Packaging Covenant (NPC) in 1999 Collective Impact Framework, Australia (see for further information APCO, 2022)</p>	<p><i>“The covenant was established to minimize the environmental impacts of consumer packaging waste throughout the entire life cycle of the packaging product by closing the recycling loop, developing economically viable and sustainable recycling collection systems and ensuring that the voluntary process continues.”</i> <i>“Signatories to the Covenant recognize that a cooperative approach between industry and government is the best method of achieving consistency in the management of packaging and paper.”</i> (Beyer, 2002)</p>
<p>New Jersey Department of Environmental Protection (NJDEP), USA</p>	<p>Signing of sustainability covenants with some of New Jersey's most prominent companies according to New Jersey's Greenhouse Gas Action Plan (Shinn & Polsky, 2002) Signing the sustainability covenant by all 56 presidents of New Jersey's state colleges (Shinn & Polsky, 2002)</p>

New Jersey's Sustainability Greenhouse Gas Action Plan	For example, Rowan University agreed to reduce its greenhouse gas emissions to 3.5% between 1990 and 2005 (Hollar & Sukumaran, 2002)
Office of Commonwealth Games Co-ordination (OCGC) , Australia Sustainability Covenants according to the Commonwealth Games Environment Strategy	Construction firms signed sustainability covenants for constructing the major Games infrastructure and incorporating water- and energy-saving technologies and design elements. For example, one covenant was signed with the Village Park Consortium to fulfil construction regulations for rainwater collection, water treatment, and recycling. (Harris, 2010)
EU Covenant of Mayors for Climate & Energy , Belgium Voluntary covenants through a Sustainability Action Plan	Voluntary covenants were established 2008 for local governments to implement the EU climate and energy objectives. The initiative gathers more than 9,000 local and regional authorities across 57 countries. Based on this success, the Global Covenant of Mayors was established. (EU Covenant of Mayors, 2022) The Covenant of Mayors provides information about several indicators related to the emissions reduction plans of those cities that have signed the Covenant. (Pablo-Romero et al., 2015)
City of Kalamazoo, USA Regional Sustainability Covenant	<i>"The city of Kalamazoo has decided to collaborate with the greater southwest Michigan area by being a signatory to a regional Sustainability Covenant. The covenant introduced environmental-related indicators referring to waste management/recycling, water usage, and transportation."</i> (Geiger, 2010)
Netherlands Government, Ministry of Environment Voluntary covenants based on the National Environmental Policy Plan (NEPP)	Establishment of Voluntary covenants as agreements between the state and licensing authorities and industry sectors The covenants inherit emission reduction targets The signing companies agree to transmit corporate environmental plans to enhance the quality of the environmental management (Chapman, 2003; Suurland, 1994)
Tasmanian Environment Minister, Australia Voluntary Conservation Covenants	<i>"A conservation covenant is a voluntary, legally binding agreement made between a landowner and the Tasmanian Environment Minister that aims to protect and enhance the natural, cultural and scientific values of private property. Conservation covenants are made under Part 5 of the Nature Conservation Act 2002 (NC Act)."</i> <i>"The terms of conservation covenants will vary, depending on the values present on the land and the conditions agreed between the Tasmanian Minister and the landowner (and, in some circumstances, the Commonwealth Minister). The terms may require compliance with a detailed management plan for the covenanted land or the terms may be imposed by the covenant itself."</i> (EDO Tasmania, 2017)
<i>Source: derived by authors according to references</i>	

The other discovered literature stream regards sustainability covenants as additional agreements to a loan and uses them in the sustainable finance framework as a monitoring and enforcement tool. In this regard, covenants can be a powerful tool and critical mechanism for banks to monitor the sustainability performance of the borrower and incentivize them to take specific sustainability actions (Jouffray et al., 2019; Sumalia et al., 2020). Moreover, they can be used as a steering mechanism to close information asymmetries regarding sustainability reporting and enhance the sustainability performance of the borrower (Sumalia et al., 2020); (see for steering mechanisms of covenants: Zirkler et al., 2020). However, specific tailoring is needed for these sustainability covenants to fit specific industry sectors (Sumalia et al., 2020).

The literature directly related to sustainability covenants is very scarce and focuses on contracts between governmental agencies and stakeholders. Sustainability covenants are a comprehensive spread governmental tool, especially in Australia, to protect nature, avoid water pollution, reduce waste, and therefore focus on the ecological dimension of sustainability. Literature reports positively on the usage of non-financial sustainability covenants and introduces them as a measure to enhance governmental activities in the field of ecological sustainability.

Furthermore, no existing literature review was found, but the topic has been present in the literature since 2002 (see Figure 4). Moreover, one of the first discovered sustainability covenants was established in 1970 –Victoria’s Voluntary Sustainability Covenant model. The literature examined this model and reported on the implications for the region and businesses. As can be seen in Table 1, this article discovered nine governmental actors from the literature review, which set sustainability covenants into force. However, this contributes to the literature and shows how the topic developed since 2002, which new sustainability covenants were set into force, how they developed, and which implications on sustainability performance can be derived. Collecting over 20 years of research is a crucial step to enhance the importance of the topic and shape further research in this field, as sustainability is an omnipresent research topic of our time.

In addition, the recent literature focuses on integrating ecological and social drivers through non-financial covenants into loan contracts. Therefore, the financial dimension can be addressed with sustainability covenants as well. This literature does not consider the existing literature on sustainability covenants in the governmental area. Therefore, this literature review is essential to show synergies and development lines between those two literature streams. Furthermore, as sustainability-linked loans are used more often nowadays, it is striking that the existing literature on sustainability covenants in business and finance is scarce. This article discovers the status quo and introduces further research possibilities on sustainability covenants in loan contracts to enhance the sustainability performance of companies.

3. METHODOLOGY AND DATA

Considering the classic literature on financial covenants, the dimension of sustainability or environmental and social indicators is missing in the standard research literature. However, with the current man-made depletion of our planet, sustainability aspects need to be integrated into the economic dimension. Moreover, sustainability-linked loans or ESG ratings are regarded as new financial tools to implement sustainability drivers and objectives as financial measures and monitor a company's sustainability performance. In addition, the fundamental hypothesis of this article argues that the approach of integrating ecological and social objectives and drivers through non-financial covenants is underrepresented in economic and business literature and corporate practice. However, the implementation of sustainability covenants can be a powerful financial tool to enhance the sustainability performance of lenders and borrowers.

Therefore, a systematic literature review as qualitative research method was conducted from October 2022 until July 2023 to firstly identify the status quo of sustainability covenants in literature, secondly analyze their importance in enhancing the sustainability performance of the agreed parties and thirdly present further research directions. The review was based on two databases – Google Scholar (<http://www.scholar.google.com>) and Scopus (<http://scopus.com>) – following a systematic and replicable procedure.

The systematic literature review is an established and well-known research approach in management literature. This article uses the main advantages of a literature review to collect and condense information about the status quo of sustainability covenants, analyse future research lines and develop a contextual theory towards sustainability covenants, as existing research is scarce (Sauer & Seuring, 2023).

In this article, the literature review and analysis used theoretical scientific research, synthesis, and deduction methods with an integrative and ongoing analysis. Firstly, quality- and content-related inclusion and exclusion criteria were determined. Regarding qualitative aspects, only articles in journals, books and conference proceedings were included. Grey literature and bachelor and master theses were excluded. Moreover, literature towards the religious definition of covenants and where specific covenants like the EPA covenants were mentioned only as an example (see for further information: Engel, 2006; Lodhia, 2015; Therivel, 2017) were excluded. However, literature on sustainability covenants is very scarce, and to show research potentials, also doctoral thesis was included.

As the subject of sustainability can be divided into closely related sub-areas, like environmental and social, and concerning the finance sector in ESG and sustainability-linked loans, which would lead to an enormous amount of results, the authors agreed to focus in this study on the term sustainability as content-related criteria. In addition, articles only focusing on the economic dimension of covenants were excluded. Furthermore, only English articles were included, and the review scope was not limited due to the manageable amount of discovered literature.

As search keywords in Scopus, only the search term “sustainability covenant*” led to results in a total of three, which could all be used for the analysis process. Considering the research in Google Scholar, the following literature landscape evolved:

“sustainability covenant”	–	79 results
“sustainability covenants”	–	63 results
“sustainable-linked covenant”	–	0 results
“sustainability-linked covenant”	–	1 result
“sustainability-linked covenants”	–	4 results
“sustainable covenant”	–	8 results
“sustainable covenants”	–	4 results

After applying the inclusion and exclusion criteria and screening the text, using the search terms “sustainability covenant*”, “sustainable-linked covenant*”, “sustainability-linked covenant*”, and “sustainable covenant*” in titles, abstracts and keywords, 41 articles remained to analyze the complete text, especially covenant-related text passages. The remaining literature was analyzed in an extensive procedure towards the contribution, covenants usage, definition, and publication parameters. Following the screening procedure, 28 articles remained for the literature analysis (see Table 2).

TABLE 2. Literature selection procedure for the analysis section

Scanned Object/Source	Number of papers
Results in Scopus	3
Results in Scholar	146
Excluding duplicates, grey literature, off-topic	./ 105
Complete-text screening	Σ 41
Removing non-relevant articles	./ 13
Remaining articles for the analysis	Σ 28
Source: created by authors based on source Mukatova et al. (2022)	

To provide a holistic view of the literature, we categorized the publications according to year, Governmental actors and the used form of covenants, Governmental actors and the number of publications referring to them, and usage of sustainability covenants.

4. ANALYSIS AND RESULTS

The first publication identified is from 2002, and most of the analyzed literature (16 publications) was written from 2002 to 2009 (see Figure 4). Due to adding the search term “sustainability-linked covenant*”, three publications from the last three years could be identified. This could relate to recent literature from the financial field, where the term sustainability-linked loans is used more often (Carrizosa & Ghosh, 2022).

Furthermore, the results (see Figure 4) show that the topic of sustainability covenants is not a new invention.

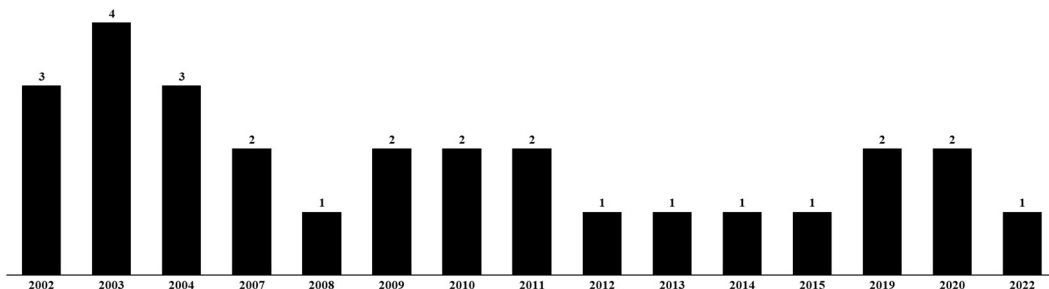


FIGURE 4. Distribution of publications by year

Source: compiled by authors

Despite the increasing research towards sustainability, the number of publications decreased or remained stable. This can be related to the governmental actors that develop and juristically agree on the sustainability covenants. Therefore, the literature on sustainability covenants is primarily from 2002 to 2004 when there was first evidence on Victoria’s Voluntary Sustainability Covenant model, the Framework agreement with the Aluminium Association of Canada and the Australian Packaging Covenant. The signing of sustainability covenants with some of New Jersey’s most prominent companies, according to New Jersey’s Greenhouse Gas Action Plan and the voluntary covenants based on the National Environmental Policy Plan of the Netherlands, led to a further increase in the publications on sustainability covenants. Furthermore, the covenants released by the EPA are elaborated on most in the literature. As it is one of the best practical examples of existing sustainability covenants, which are also determined as sustainability covenants by the Australian state.

Further research is necessary to identify if other terms, like environmental covenants, ESG covenants, or sustainability-linked loans, are used more often in literature and why. However, this research is necessary because the literature suggests that sustainability-linked covenants in financial contracts effectively steer sustainability performance (Jouffray et al., 2019; Loorbach, 2020).

Surprisingly, even if covenants are considered as often used in financial contracts such as loans (Prilmeier, 2017), sustainability covenants are used more often by governmental agencies, especially in Australia and the Netherlands (see, for example, Cary et al., 2004; Chapman, 2003; McConvill & Joy, 2003). This offers an exciting research field where governmental agencies are ahead of the finance sector, which is seen as one key actor in fostering sustainable development (Nykvist & Maltais, 2022).

In the framework of the literature analysis, the following governmental actors and their implemented covenants could be identified (see Table 3).

TABLE 3. Governmental actors and the used form of covenants

Governmental Actor	Covenant	Country
Environment Protection Authority (EPA)	Voluntary non-financial Covenants Environmental indicators	Australia
Australian Packaging Covenant Organisation (APCO)	Voluntary non-financial Covenants Environmental indicators	Australia
Tasmanian Environment Minister (TEM)	Conservation Covenant Non-financial Negative Covenants	Australia
Netherlands Government, Ministry of Environment (MoE)	Voluntary non-financial Covenants Environmental indicators	Netherland
New Jersey Department of Environmental Protection (NJDEP)	Voluntary non-financial Covenants Environmental indicators	USA
City of Kalamazoo	Voluntary non-financial Covenants Environmental indicators	USA
Covenant of Mayors (CoM)	Voluntary non-financial Covenants Environmental indicators	European Union (EU)
Québec Government	Voluntary non-financial Covenants Environmental indicators	Canada

Source: Created by the authors according to the data

The presented covenants are already discussed in the literature review in Table 1. However, according to the literature analysis, the EPA and NJDEP covenants, as most referred to covenants of the publications, are explained in more detail (see Figure 5).

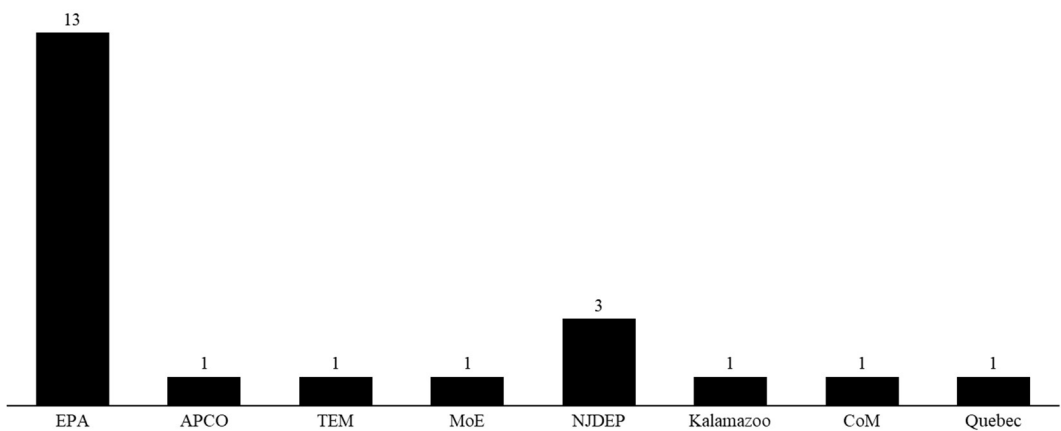


FIGURE 5. Governmental actors and the number of publications referring to them

Source: compiled by authors

Moreover, as described before, sustainability covenants are additional affirmative or non-financial covenants mostly agreed between a governmental agency and a stakeholder as a covenant partner. Therefore, this article identifies and examines the critical governmental actors according to the number of publications referring to them (see Figure 5). The statistical

distribution presented in Figure 5 shows a clear focus on the EPA actor. Their use sustainability covenant model can explain this. They are the first authority to invent and promote a sustainability covenant framework with this terminology. In addition, most of the publications deal with the implications and development of this sustainability covenant model. Furthermore, it is presented as an example of a sustainability covenant and its impacts on the environment and businesses. The New Jersey Department of Environmental Protection (NJDEP) is the second largest governmental actor. They were the first who set up a sustainability covenant in the United States and signed them with all New Jersey's state colleges in 2002 and New Jersey's most prominent companies. According to the impact and the used terminology as sustainability covenant, the search results were higher than on the other remaining governmental actors.

The Environment Protection Authority (EPA) in Victoria, Australia, added a sustainability covenant model within Section 49AA–49AC of the Environment Protection Act in 2002 (Horne et al., 2009). The covenants are established between EPA and critical organizations from different industry sectors or an industry as a whole, therefore, function as a policy instrument. By signing the voluntary sustainability covenants, companies can increase their sustainability performance and environmental impact. Furthermore, they can receive funds from EPA to accomplish sustainability-related investments. The funds or other benefits are agreed with the covenants but are not written in the Environmental Protection Act (Kazaglis et al., 2007; Krpan, 2011; McConvill & Joy, 2003; Newton, 2004).

The aims are to foster sustainable development, increase resource efficiency, reduce the ecological impact of products and services and create a commitment to environmental protection. Furthermore, they foster partnerships between the EPA as a governmental organization and industries (Kazaglis et al., 2007; Krpan, 2011; McConvill & Joy, 2003).

The analyzed literature supports the concept of sustainability covenants. It regards them as a powerful policy instrument that will enhance sustainable development and increase the sustainability performance of the contracted parties and the region (see, for example, Dampthey, 2011; Gunningham, 2017; Kazaglis et al., 2007; McConvill & Joy, 2003).

In 2011 Krpan (2011) reviewed that there exist 24 established covenants. They cover a wide variety of organizations. One such covenant exists with a significant water drinking production utility in Melbourne, the public sector, to reach a net zero goal on GHG emissions (Ananda, 2018). Furthermore, the Plastics and Chemicals Industry Association implemented a zero-waste goal to reduce their environmental impact by deteriorating the environment with plastic waste (Smith, 2009). Also, banks agreed to covenants to increase their sustainability performance (Lodthia, 2015). VicSuper Pty Ltd (a significant public service provider for superannuation funds) wants to enhance its sustainability performance with this agreement, which enhances sustainability investments, establishes a sustainability reporting system, and includes further information covenants to inform stakeholders. On the contrary, EPA agrees to support the superannuation industry's sustainability transition (Cary et al., 2004). Moreover, the Victorian Trucking Association (VTA) established a covenant with EPA to improve resource efficiency within the logistics industry. Therefore, they discover joint projects and work on specific sustainability initiatives like carbon footprint reduction (Markey et al., 2014).

The New Jersey Department of Environmental Protection (NJDEP) covered the Dutch model of sustainability covenants and used them as a measure to accomplish its Sustainability Greenhouse Gas Action Plan and reduce GHG emissions (Bramley et al., 2002; Engel, 2006; Shinn & Polsky, 2002). NJDEP developed environmental indicators to measure the state's sustainability goal achievement and used them as sustainability covenants with its local organizations (Engel, 2006; Shinn & Polsky, 2002;).

A meaningful achievement was signing all 56 presidents of the New Jersey state's colleges in February 2001 and some of the region's most prominent companies, implementing GHG emission

reduction strategies (Bramley et al., 2002; Shinn & Polsky, 2002). The colleges agreed to reduce their GHG emissions by 3,5 % until 2005 and received support from NJDEP (Bramley et al., 2002; Hollar & Sukumaran, 2002).

To summarize, sustainability covenants are currently used more as a policy instrument than in financial loan contracts. However, the literature analysis also identified five articles that focus on the usage and implementation of sustainability key performance indicators and sustainability regulations as covenants in their contracts (see Figure 6).

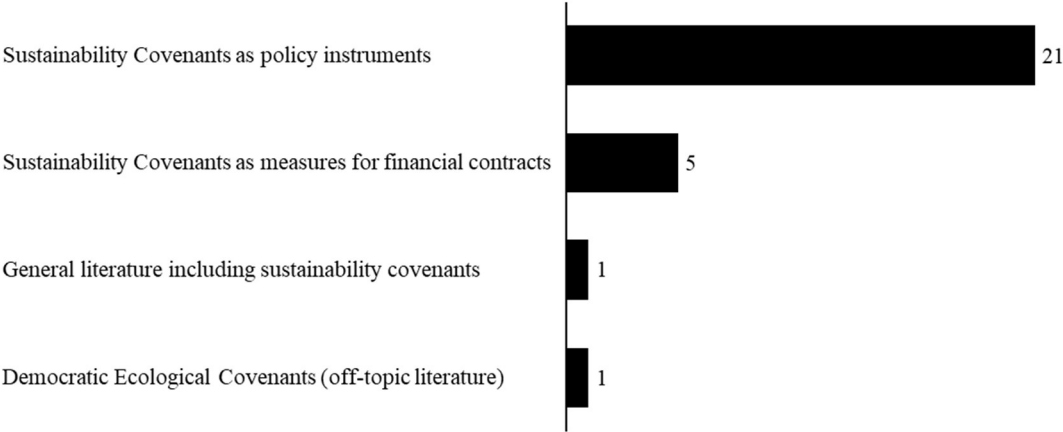


FIGURE 6. Usage of sustainability covenants

Source: Created by the authors according to the data

As described in the paragraphs before, governmental actors use sustainability covenants as terminology more often. Each additional agreement between a government agency and a covenant party, regarding primarily ecological regulations, is considered a sustainability covenant. The EPA (as an example) is famous for its sustainability covenant model and, therefore, influences the literature review and presents evidence of using sustainability covenants as policy instruments (see Figure 6). In one dissertation from Prest (2003), restrictive covenants in the sustainable usage of borrowed land and forestry are discussed. They show a practical example of sustainability regulations as affirmative covenants to preserve forests and nature. Furthermore, examples of sustainability covenants, like the EPA model or as part of an environmental management system, are given and present a first attempt to consider sustainability covenants in general. However, this is not the book's central issue, and elaborations are very scarce. This article evaluated the publication to support further research on sustainability covenants and show an exciting research field of sustainability covenants as policy instruments.

More important for the research on covenants as a measure to enhance the sustainability performance of companies are the five publications which consider sustainability covenants as a measure in financial contracts (see Figure 6). The financial literature stream regards sustainability covenants as essential measures for the finance industry to increase the sustainability performance of its borrowers (Jouffray et al., 2019; Thomae et al., 2019). This literature stream includes articles from the last three years and can be considered new.

Furthermore, the publications suggest transforming financial instruments to implement sustainability indicators and aspects (Jouffray et al., 2019; Loorbach et al., 2020). However, practical examples are scarce in the discovered literature. The Principles for Investment in

Sustainable Wild-Caught Fisheries are one example, where nine principles function as a basis for voluntary sustainability-linked covenant usage (Jouffray et al., 2019; Sumalia, 2020).

Furthermore, Hoepner & Schneider (2022) explain how investors can influence healthy behavior by using sustainability key performance indicators as covenants. In the analyzed investment case, covenants were used before by the investor and were adjusted toward sustainability indicators (Hoepner & Schneider, 2022).

Nevertheless, sustainability-linked covenants are regarded as powerful tools for the finance sector, but the literature focuses more on sustainability improvement loans, green bonds, ESG investments, and sustainability-linked loans (Thomae et al., 2019).

5. CONCLUSIONS

This article enriches the literature on sustainability covenants with a systematic literature review. Furthermore, this article introduces the necessity to conduct future research on sustainability-linked covenants for financial contracts as they can increase the borrower's sustainability performance.

According to the covenant literature, covenants can be used as financial or non-financial/affirmative covenants (Woehe et al., 2013). Regarding this definition, sustainability covenants would count as non-financial covenants establishing positive (allow specific actions) and negative (restrict or prohibit actions) covenants. However, this definition's specific nature of non-financial indicators is not regarded in the classification made by literature. Sustainability performance indicators express the ecological and social impact of the borrower and are linked to financial investment or loan criteria. Therefore, the financial sphere and non-financial sphere are combined in one contract.

Non-financial Covenants in loan contracts function similarly but focus on regulations concerning preparing and reporting financial statements or prohibitions like the negative pledge, pari-passu agreement, and the cross-default clause. Therefore, they do not measure non-financial indicators, distinguishing them from sustainability covenants.

Surprisingly, the identified literature on sustainability covenants focuses on using them as policy tools. Few publications discuss them as instruments for financial contracts without practical evidence. All of them see the potential of sustainability covenants to steer and monitor the sustainability performance of a borrower and recommend the usage in practice.

In addition, the topic of sustainability covenants seems to be an exciting research field, providing an essential measure for financial institutions to foster the sustainability performance of their clients. Furthermore, covenants reduce risks and information asymmetries in loan contracts. Therefore, using sustainability covenants in loan contracts can reduce information asymmetries towards the sustainability performance of the borrower, and moral hazard approaches like greenwashing can be identified. This is essential information for stakeholders and ESG investors.

Considering the scarce existing research on sustainability covenants, further empirical research is needed. A follow-up study could extend the literature review and also search for the terms “environmental covenant”, “ESG covenant*”, and “sustainability-linked loans” to have a more diversified view on the topic and develop strategies for action.

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