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External Public Audit and Contemporary Challenges: Promoting an Integrated Framework for Performance, Resilience, and Sustainability

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Abstract

External public audit, as an independent activity designed to assess the legality, regularity, and performance of public fund management, faces multiple and complex challenges today. Coming from both external and internal environments, these challenges fuel paradigm shifts and changes in external public audit practices, which have moved beyond their traditional role of financial verification towards compliance and performance assessments.

Over the past two decades, performance auditing has gradually established itself as a distinct practice, regulated at both the international and national levels. The authors put forward the idea that, in the context of current global changes, marked by natural disasters, global warming, international conflicts, political instability, and crises that weaken public institutions, the performance paradigm is, if not outdated, at least limited from an epistemic and operational point of view. Organizational resilience and the persistence of natural and human systems in equilibrium form the foundation of the new paradigm of sustainability, which has become a major concern at both the national and international levels. Initiatives such as Agenda 2030, the Green Deal for Europe, and the European regulatory and normative framework on sustainability are concrete examples of this new direction.

Promoting a framework for integrating the performance-resilience-sustainability (PRS) triad into external public audit is the guiding thread of this research, starting from a central question: what is the perspective of external public audit in the context of the new requirements for resilience and sustainability?

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The article proposes the conceptual development of the PRD triad, in particular its emerging dimensions, with the aim of enriching the theoretical and methodological framework of external public audit. It also aims to validate one of the two possible hypotheses regarding the promotion of the PRD triad in external public audit: its integration into current forms of audit or the institutionalization of a new form of audit focused on sustainability, following the model used in the private sector. The research methodology used for this purpose included: documentary analysis (specialized literature, national and European legislation, INTOSAI documents, audit reports, etc.), content analysis and secondary analysis of relevant scientific studies, as well as qualitative research based on the focus group technique.

Key words: *performance; sustainability; resilience; audit; risk; taxonomy;*

JEL Classification: *M41, M42, Q52*

Introduction

The accelerated pace of change in the public sphere, reflected, among other things, in recurring climate and social crises, global strategic reconfigurations, institutional instability, and intensifying regulatory and normative pressures, calls for a thorough reconceptualization of the framework for managing and evaluating public resources. In this complex context, external public audit cannot remain focused exclusively on legality and financial performance, but must respond to emerging challenges related to resilience and sustainability. This article explores these issues from an integrated perspective, providing a conceptual and empirical analysis relevant to researchers, practitioners, and decision-makers.

The structure of the paper is as follows:

1. The epistemological and methodological framework of the research
2. The "performance-resilience-sustainability" (PRS) triad in an integrated approach
3. The Supreme Audit Institutions (SAIs) vision on sustainable development
4. European regulations on sustainability – a source of innovation for SAIs
5. Research results and discussions
6. Limitations and perspectives of the research.

1. Epistemological and methodological framework of the research

Reflection on the stakes of external public audit in the face of contemporary challenges is of growing interest today, in the context of the international commitments made through the 2030 Agenda, but especially in light of recent European policies and regulations on sustainability. This reflection has the potential to contribute to strengthening the theoretical framework of external public audit and to stimulating interdisciplinary research in the broader field of sustainable development.

Given the complexity of the issues raised by this reflection, the authors have chosen as their guiding thread the promotion of an integrated framework for addressing the triad of "performance-resilience-sustainability" (PRS) in external public audit. The approach starts from the premise that, in the current context of global change, marked by natural disasters, global warming, international conflicts, political instability, and crises that weaken public institutions, the performance paradigm is, if not outdated, at least limited from an epistemological and operational point of view. Organizational resilience and the persistence of natural and human systems in equilibrium form the foundation of the new sustainability paradigm, which has become a major focus of interest at both the national and international levels.

The central research question: *what is the outlook for external public audit in the context of the new requirements for resilience and sustainability?* This raises numerous secondary questions, of which we have identified three significant ones:

- How are resilience and sustainability dimensions currently integrated into external audit, particularly performance audit?
- To what extent can the European regulatory framework on sustainability and sustainability auditing be a source of innovation for the public sector?

– What is the perception of practitioners regarding the institutionalization of a new form of external public audit focused on resilience and sustainability?

The research has a constructivist epistemological stance, considering that the act of auditing is a subjective social construction of the auditor, influenced by their perceptions, interactions, and practices, which is given local meanings in specific audit contexts (Berger & Luckmann, 1966; Niculescu & Galabov, 2021).

The paper is based on rigorous documentary research, using academic sources, databases, secondary sources from international and European bodies and national SAIs on sustainable development, sustainability and resilience, etc. The authors have conducted an in-depth analysis of the latest European regulations on sustainability, pursuing two main objectives:

– identifying legal innovations relevant to the public sector;
– identifying conceptual and methodological innovations applied in the private sector that can serve as sources of inspiration for external public audit.

These include, in particular: the EU Taxonomy Regulation, the CSRD (Corporate Sustainability Reporting Directive), the CSDDD (Corporate Sustainability Due Diligence Directive), the SFDR (Sustainable Finance Disclosure Regulation) etc. The documentary research was supplemented, where necessary, by content analysis. The article is also inspired by a series of informal exchanges with experts in the field. To validate the theoretical assumptions, the authors used the qualitative focus group method.

The complexity of the subject explains the diversity of theories mobilized in the research: development theories, organizational performance theories, organizational resilience theories, etc. These provide an integrative framework for reflection on sustainable, inclusive, and resilient policies and practices, which are indispensable in the face of current global challenges.

Development theories have evolved from linear economic models to complex, integrated paradigms. In the context of recurring crises, recent theories integrate the constraints of the Anthropocene era and promote development within ecosystem boundaries. The planetary boundaries theory (Rockström et al., 2009) outlines an ecological "safety space," and the Donut model (Raworth, 2007) proposes a balance between the social foundation and planetary boundaries.

In the performance approach, agency theory and stakeholder theory are fundamental. Agency theory (Jensen and Meckling, 1976) highlights the challenges of aligning interests in situations where ownership and control are separated. Complementary to this, stakeholder theory (Freeman, 1984) extends organizational responsibility beyond shareholders, including all actors affected by the organization's decisions, such as employees, communities, and the environment. In the public sector and in the context of sustainable development, this perspective supports performance assessment in terms of the impact, resilience, and sustainability of economic and social systems, as well as the value created for multiple categories of actors.

Organizational resilience has become a key concept in management literature, approached from multiple theoretical perspectives. Among the most influential are the capabilities perspective (Duchek, 2020), the process perspective (Lengnick-Hall et al., 2011), the theory of high-reliability organizations (Weick & Sutcliffe, 2007), and the dynamic capabilities theory (Teece, 2007).

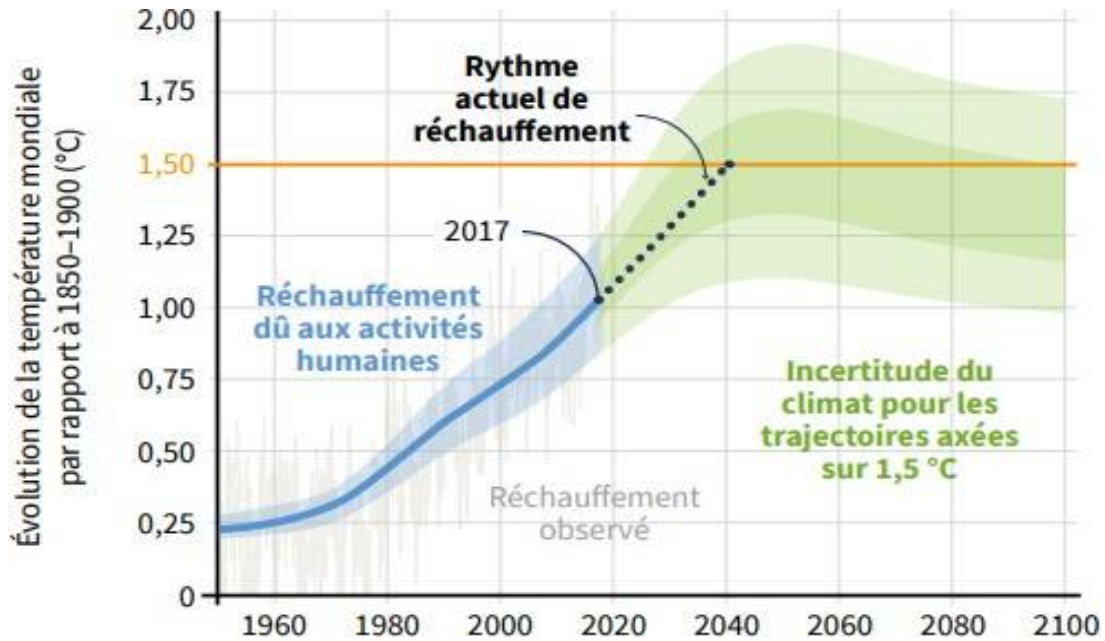
Given this complexity, the article does not aim to provide an exhaustive approach or full empirical validation, but rather to open up avenues for reflection and action.

2. The "performance-resilience-sustainability" (PRS) triad in an integrated approach

"The entire face of the Earth today bears the imprint of human power"[1], stated Buffon in 1778. The relevance of his observation is striking today, as human control over the natural environment has increased considerably throughout the Anthropocene, taking on dimensions and forms unimaginable in his time. Extensive scientific data on the Anthropocene, including that of the IPCC (Intergovernmental Panel on Climate Change), according to which warming due to human activities was +1°C above pre-industrial levels in 2017, shows that at this rate, global temperatures will rise by 1.5°C around 2040, as shown in **Figure no. 1**.

[1] Georges-Louis Leclerc de Buffon (1707-1788), French naturalist, mathematician, biologist, cosmologist, philosopher, and writer, made this remark in *Les Époques de la* Naturem, quoted by Maria Niculescu in *La transparence des entreprises dans un monde plus chaud - des questionnements novateurs dans la recherche de gestion.*

Figure no. 1. Global warming trend



Source: extract from GIEC (2019), Réchauffement planétaire de 1,5°C, p. 5

In this context, the question of the resilience of economic and social systems in a world undergoing profound change, whose projections vary according to the urgency, rigor, and scope of the measures that society will adopt, arises legitimately in, particularly in the field of climate and of resource management. The integration of the triad

"performance-resilience-sustainability" (PRS) into development doctrine and empirical models is becoming a necessity and involves the mobilization of a variety of concepts and scientific fields.

The concept of performance has been the subject of numerous studies and publications. However, there is no single definition that has stood the test of time, given the complexity of the subject, the multitude of underlying theories, and the diversity of measurement indicators. Without achieving unanimity, the acceptance of performance as "the ability of an enterprise to achieve its objectives, regardless of their nature and variety" is one of the most frequently mentioned. Over time, countless other meanings of performance have been proposed. The definition according to which "performance is a level of unstable potentialities of the enterprise, achieved through everything that has contributed to optimising the value-cost ratio and maintaining the sustainable competitiveness of the enterprise in its strategic segments" (Lavalette, G., Niculescu, M., 1999) has the merit of establishing a link between value creation and the sustainability of a company. After 2000, the evaluation of business performance had to integrate criteria relating to social and environmental value creation, proposed by international or regional bodies (GRI, European Commission etc.).

European sustainability regulations, in particular the EU Taxonomy, CSRD, and SFDR, have brought major innovations in terms of the meaning of sustainability performance, the definition of indicators and targets, and its complementarity with financial performance. In the spirit of these reference documents, sustainability performance refers to a company's ability to integrate environmental, social, and governance aspects into its strategy, business model, and operations in order to prevent or mitigate its significant negative impacts, manage the risks associated with its impacts and dependencies, to seize opportunities related to the sustainable transition, while ensuring its financial viability.

This perspective is based on the principles of double materiality and "DNSH" (do no significant harm) and on the effectiveness of reasonable diligence.

The resilience of natural, economic, and social systems to shocks, i.e., their ability to respond to disruptions while maintaining their identity, original functions, and capacity

to adapt, learn, and transform, is now a major concern for decision-makers at all levels. Our research places the Supreme Audit Institutions' approach to resilience in the context of European regulation on global warming and sustainability.

The concept of "*resilience,*" derived from the Latin word *"resilire,"* means the ability of a person or system to withstand crises, adapt to change, and recover from external shocks. Resilience is a complex, multidimensional, multifactorial process. The issue of resilience can be addressed at different levels: that of a person, a product, an activity, an organization, an ecosystem, a human community, a territorial community, an economy (national, regional), etc. The growing interest in resilience at the conceptual and empirical levels is due to recurring economic, social, and environmental crises, shocks that affect society as a whole, generating risk and uncertainty. The multitude of disruptive factors, on the one hand, and the elements vulnerable to their action, on the other, have led to the decline of the general concept into organizational resilience, economic resilience, ecological resilience, climate resilience, social resilience etc.

Management research has focused particularly on organizational resilience, without arriving at a common, universal definition. For some, resilience is "*the intrinsic capacity of an organization to maintain or regain a stable state that allows it to continue its activities after a major accident and/or in the presence of continuous stress" (*Weick, 2015). For others, it means "*the ability of an organization to continue, recover, and resist failures, incidents, crises, and periods of disruption, as well as to be flexible enough to adapt to changing markets and environments and to be prepared for the future"* (van Maaren I, 2022). The key words in these academic definitions are "continuity," "resilience," and "ability to recover."

The concept of organizational resilience is often associated with that of organizational performance, even though their nature is different but not contradictory. Performance refers to an organization's ability to manage its resources appropriately and achieve its objectives efficiently and effectively, while resilience refers to an organization's ability to cope with adversity, protect its resources, withstand shocks, and recover from them. However, an organization can be very successful in the short term but not resilient to crises. There are many reasons for this: strategic fragility (heavy dependence on a single market or supplier or on a passing fad), organizational rigidity, climate hazards, etc. In such cases, an unforeseen event such as a trade war, a disruption in the supply chain, or a natural disaster can cause it to collapse. An organization is both high-performing and resilient if it controls its financial situation while ensuring room for maneuver to secure itself against unforeseen events (Niculescu, M., Burlaud, A., 2025).

Resilience is a recurring concern for international bodies, development agencies, and European institutions, which has become more evident since the COVID crisis. Their approach to resilience incorporates new dimensions, such as the "shock preparedness" mentioned by the World Bank, according to which resilience is "*the ability to prepare for disruptions, recover from shocks, and develop after a disruptive experience"* (World Bank Group, 2021). More recently, the World Bank has proposed a definition and methodology for assessing resilience to the level of an investment project, with the aim of better informing investors, host countries, and other stakeholders about the projects concerned. It has developed a model for assessing the resilience of a project based on confidence in its ability "*to integrate appropriate adaptation measures (...) to avoid financial, environmental, and social underperformance relative to expectations"* and promoting projects "*capable of strengthening the climate resilience of the sector and the project beneficiaries" (*World Bank Group, 2021). This methodology, even if not required by European standards, can serve as a basis for reflection by analysts and auditors and as a guide for institutions and actors in the public and private sectors.

In the IPCC approach, resilience is *"the capacity of social, economic, and environmental systems to cope with change, disturbances, or hazardous events, allowing them to respond to them or reorganize themselves in ways that maintain their function, identity, and fundamental structure, while maintaining the capacity for adaptation, learning, and transformation"* (IPCC, 2024). This definition, inspired by the Arctic Council, enriches the approach with two innovative aspects relating to: the capacity of systems to reorganise after a disruption in order to maintain their function, identity and fundamental structure; and the capacity of systems to maintain their capacity to adapt, learn and transform (Niculescu, M., Burlaud, A., 2025).

The European Commission has broadened and refined the scope of the concept by introducing an important axiological variable relating to social fairness and inclusion: *"the ability to cope with economic, social, and environmental shocks or structural changes in a fair,*

sustainable, and inclusive manner." (Regulation (EU) 2021/241 of the European Parliament and of the Council). The axiological component is in line with the European commitment to put citizens first and ensure sustainable and inclusive growth. This approach is also incorporated in the Recovery and Resilience Facility, which aims, among other things, to make Member States more resilient, sustainable, and better prepared for the challenges and opportunities of the green and digital transitions and to achieve the EU's goal of climate neutrality by 2050. (Regulation (EU) 2021/241 of the European Parliament and of the Council).

Today, the approach to organizational resilience cannot ignore climate resilience, due to the risks posed by climate hazards and transition risks. An entity's climate performance is determined by its ability to control risks, take advantage of climate-related opportunities, and ensure the continuity of its activities and, ultimately, its resilience. The definition of climate resilience given by the European legislator is a technical definition that summarizes three interconnected dimensions of interest to both the private and public sectors:

- substantial - climate resilience means the ability of an enterprise to adapt to climate change and to changes or uncertainties related to climate change;
- functional - climate resilience implies the ability to manage climate-related risks in Scope 1 and to take advantage of climate-related opportunities, including the ability to respond and adapt to physical and transition risks;
- Structural - climate resilience includes both strategic and operational resilience to climate change, climate change developments, or climate change uncertainties.

These include measures to mitigate and adapt to climate change in line with global commitments, including the 2015 Paris Agreement (Corrigendum to Delegated Regulation 2023/2772). The strategic dimension involves integrating material sustainability aspects into an organization's strategy, taking into account its strategic vulnerabilities and capabilities, based on rigorous documentation. It is about its ability to understand challenges (development in general or climate issues), anticipate and prepare to address risks, and seize opportunities in a restrictive context. The operational dimension refers to its ability to act in terms of management, evaluation, and monitoring of progress.

Examining the actions designed and implemented to mitigate vulnerabilities and strengthen resilience, the consistency between policies, actions, and resources mobilized, flexibility, and margins for change provides the external auditor with an overview of the organization's capacity for transformation and the evolution of its resilience (Niculescu, M., Burlaud, A., 2025).

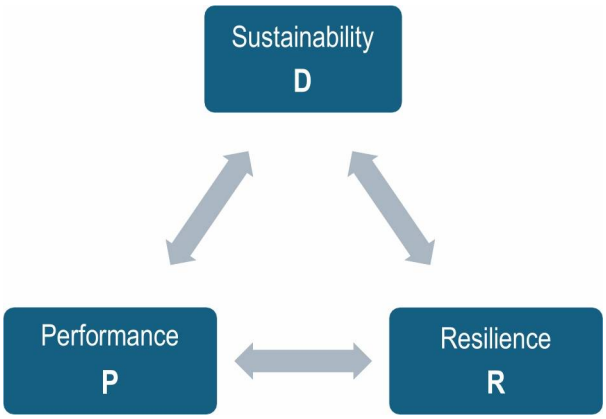
The concept of sustainability has been introduced into specialized literature and economic practice more recently. While we have a universal conceptual definition of "sustainable development," inspired by the Brundtland report, the conceptualization of "sustainability" is more nuanced. Sustainable development involves meeting the needs of the present without compromising the ability of future generations to meet their own needs.

"Sustainability" has become the central pivot of SDG commitments, the founding concept of certain legal instruments, and the watchword for information to be disclosed by companies and financial actors. However, its meaning and definition are extremely diverse, both due to its complexity and the multitude of perceptions, and due to the diversity of objectives and requirements of different standardization and sustainable development promotion bodies. This creates some conceptual confusion, accentuated by the replacement, in various contexts, of the concept of 'sustainability' by other terms such as sustainable development, corporate social responsibility, ESG (environmental, social, and governance) responsibility, corporate responsibility, non-financial responsibility of companies, etc., without necessarily covering the same realities.

Sustainability does not have its own legal definition. In the absence of a specific definition of sustainability, the legislator has chosen to define more precisely certain phrases that use the terms "sustainability" or "sustainable," thus making it possible to deduce or extend, through interpretation, a specific definition for sustainability: sustainable economic activity, sustainable finance, sustainable investment, sustainability factors, sustainability aspects, etc. Performance, resilience, and sustainability are intrinsically linked and influence each other, as suggested by **Figure no. 2**.

This PRD triad diagram reflects a functional and causal relationship that underlies all complex systems, whether technical, ecological, or organizational. The interdependence between performance and resilience determines not only the stability of current functioning, but also the persistence of the system's qualities over the long term, i.e., its sustainability.

Figure no. 2. Relational diagram of the PRD triad



Source: the authors

On the one hand, performance improvement optimizes short-term activity, but without resilient mechanisms, any external shock or disruption leads to operational decline or even functional collapse. On the other hand, increased resilience without adequate performance can lead to the preservation of inefficiency or stagnation. Only the integration of these two dimensions ensures the system's ability to absorb shocks, quickly return to normal operating parameters, and capitalize on the lessons learned from disruptions.

Sustainability thus emerges as an integrating dimension, generated by the balance and synergy between performance and resilience. Any engineering, management, or design decision that favors one dimension over the other will ultimately compromise sustainability. From this perspective, the PRD triad becomes the conceptual model indispensable to any structural assessment or sustainability strategy.

In conclusion, when integrated systemically, performance, resilience, and sustainability contribute to the achievement of sustainable development commitments, both at the entity level and globally (Niculescu, M., Burlaud, A., 2025).

3. The Supreme Audit Institutions (SAIs) vision on sustainable development

The considerable cost of measures to protect against shocks, especially those related to climate change, requires the mobilization of enormous resources, both public and private. Investments in the energy sector alone have been estimated by the TCFD (Task Force on Climate-related Financial Disclosures) at hundreds of billions of dollars annually. According to this working group's estimates, investments in the energy sector between 2016 and 2050 would increase by an average of approximately $830 billion (2010 EU dollars) per year above the cost of climate policies already in place (reference scenario) (TCFD/IPCC, 2019). Supreme Audit Institutions play a major role, through their control mission, in the formation, management, and use of public financial resources geared towards climate objectives and, more generally, towards the SDGs. This role was recently reaffirmed at the UN General Assembly, in December 2024, which adopted Resolution 79/231 *"Promoting and fostering the efficiency, accountability, effectiveness, and transparency of public administration by strengthening supreme audit institutions."*[1] The resolution emphasizes the role of Supreme Audit Institutions in promoting the efficiency, accountability, effectiveness, and transparency of public administration in achieving national development goals and priorities, as well as sustainable development goals. It recognizes the role of Supreme Audit Institutions in complying with international agreements and commitments, including those related to climate.

Extending the role of external public audit by adopting an integrated framework for performance, resilience, and sustainability is part of this innovative vision adopted at the international level.

In this context, INTOSAI launched the Climate Scanner initiative, a tool that enables independent assessments of government action on climate change, which many European countries have joined. All European Union countries, including Romania, have made a series of climate commitments that have become legally binding in the context of the 2030 Agenda, the 2015 Paris Agreement, the European Green Deal, the "Ready for 55" climate package, and the NRRPs.

Romania ratified the Paris Agreement through Law No. 57 of 2017. Supreme Audit Institutions play an important role in achieving the commitments made by contributing to governments' efforts to address climate change by providing independent and objective assessments of national action in this area, namely by assessing the

[1] https://www.intosai.org/fileadmin/downloads/documents/open_access/intosai_and_united_nations/79_231_2024/EN_UN_Resol_79_231.pdf

effectiveness of the implementation of public policies related to the environment and climate, assessing the effectiveness of resource allocation and use, and promoting transparency and good governance.

At the national level, initiatives related to policies for supporting, allocating, and using financial resources for SDGs and climate change adaptation have multiplied. In France, the second chamber of the Court of Auditors, entitled "Energy, Transport, Environment, Energy, and the Sea," covers key areas of SDGs and climate change mitigation and adaptation, focusing on the ecological transition. The ecological transition community created within it is a means of communication between experts, exchange of experience, and pooling of knowledge. Austria has integrated climate change considerations into its 2020-2024 stability program. The Spanish Ministry of Finance published an annual report in 2021 and 2022 on the adaptation of the budget to the sustainable development goals of the UN's 2030 Agenda, which includes a specific chapter on the "green budget." Such reports have also been produced in other countries such as Norway, Lithuania, the United Kingdom etc.

Romania has regulated green budgeting through Government Emergency Ordinance No. 75/2024 and Decision No. 1,074 of August 28, 2024, approving the methodological norms for implementing the provisions of Government Emergency Ordinance No. 75/2024 on the regulation of the labeling of budgetary and tax expenditures for green budgeting, as well as the Regulation on the organization, functioning, and powers of the Interministerial Committee for the labeling of budgetary and tax expenditures. These aim to ensure the responsible management of financial resources that contribute to environmental protection and the fight against climate change. Thus, budgetary expenditure and tax expenditure can be classified into the following categories: "green" expenditure, "brown" expenditure, "mixed" expenditure, "neutral" expenditure, "unlabeled" expenditure, from the most favorable effect, i.e., "green expenditure," to the least favorable effect, i.e., "brown expenditure."

These examples of national approaches highlight a significant evolution in the role of SAIs in modern public governance, positioning them as facilitators of the transition to sustainability and catalysts for aligning financial strategies with sustainable development goals.

4. European sustainability regulations – a source of innovation for SAIs

Sustainable development has long been at the heart of the European Union's policies and development initiatives, with their social and environmental dimensions included in the Union's treaties from the outset. In accordance with Article 11 of the Treaty on the Functioning of the European Union: "*Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development.*" (TFEU, 2012). With regard to social aspects, a number of articles refer to fundamental social rights and respect for the European Social Charter (Turin, 1962), the Charter of Fundamental Rights of the European Union (2012) etc.

European institutions have repeatedly expressed their concern about the increasingly harmful consequences of climate change and resource depletion for our societies. In recent years, particularly in the context of the COVID-19 crisis, they have mobilized to promote development that meets the needs of current and future generations, commitments that are the guiding principle of European policies and strategies[1] (EC, COM (2021) 390 final).

The EU has committed to becoming the first climate-neutral continent by 2050, to reducing its greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels, to strengthening its resilience to climate change, to reversing biodiversity loss and the overall degradation of the environment, leave no one behind in this process, and contribute to the achievement of the Sustainable Development Goals.

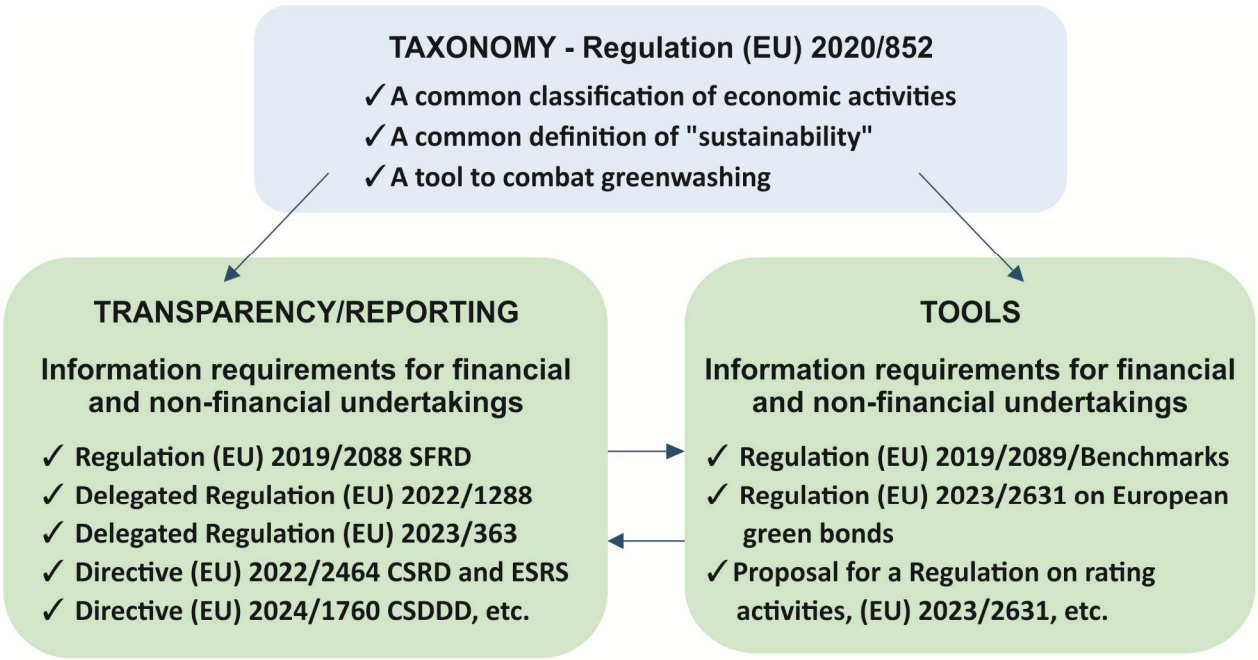
The main documents guiding sustainable development policies are:

- Action Plan - Financing Sustainable Growth (2018);
- Green Deal for Europe (2019);
- Strategy for Financing the Transition to a Sustainable Economy (2021).

These were followed by a set of legislative acts grouped around the term "sustainable finance." Some of these are summarized in the **Figure no. 3**.

[1] European Commission, COM (2021) 390 final, *Financing the transition to a sustainable economy,* p. 1

Figure no. 3. Elements of the European regulatory framework on sustainability



Art. 2, 5, 6, 7, 8, 18 Taxonomy
Recitals: 19, 20, 36, 55 Taxonomy

Source: Niculescu, M., Burlaud, A., 2025

As can be seen, the European regulatory and legislative framework reflects a complex approach, based on scientific evidence and proportionate to the current challenges of sustainability. It integrates numerous innovative elements, marking a significant break with previous regulations and, in particular, with voluntary standards.

These are legal acts with societal implications, the implementation of which should lead to profound changes in the way society produces and consumes. Strengthening resilience to climate change is a cross-cutting objective of all these regulations and is a European and national priority.

European regulations on sustainability and resilience are, or should be, benchmarks for Supreme Audit Institutions. The Taxonomy Regulation establishes criteria for determining whether an economic activity qualifies as environmentally sustainable for the purpose of establishing the extent to which an investment is environmentally sustainable. These are of interest to the public sector, especially in the context of green budgeting. National legislative frameworks should comply with the general principles and environmental objectives set out in the European Taxonomy in Article 9 when labeling budgetary expenditures, namely: climate change mitigation; adaptation to climate change; sustainable use and protection of water and marine resources; transition to a circular economy; prevention and control of pollution; protection and restoration of biodiversity and ecosystems.

The Regulation on sustainability-related information in the financial services sector (SFRD) also establishes a framework for directing investment flows towards sustainable activities/sectors, thereby contributing to strengthening the resilience of the real economy and the stability of the financial system. The CSRD goes further by introducing a number of conceptual and substantive innovations in the field of sustainability and organizational resilience (Niculescu M., Burlaud A., 2023). The Directive requires public and private companies to analyze and publish in their sustainability statements information on the resilience of their business model and strategy to risks associated with sustainability factors, in particular climate factors. Furthermore, this Directive introduced the requirement for sustainability statements to be audited by

an external auditor based on accredited auditing standards. This is in line with the European legislator's ambition to put sustainability information on an equal footing with financial reporting. This innovation brought about by the CSRD strengthens the credibility of sustainability information vis-à-vis capital market participants (investors), the workforce (employees), goods or services (consumers and users), and communities (Burlaud A., Niculescu, M., Predescu, L., 2024).

While the CSRD sets out the conceptual framework and general principles for sustainability-related information to be reported by economic and financial actors, the Delegated Implementing Regulation on European Sustainability Reporting Standards (ESRS) defines the precise technical rules for the preparation and presentation of these reports. The ESRS standards are an indisputable source of innovation, including for the public sector, providing a number of reference points, including the following: rigorous conceptual clarifications; rigorous methodological recommendations on setting and validating sustainability objectives and targets; a scientifically based methodology for assessing and monitoring performance in the areas of environmental, social, and governance (ESG) factors; a coherent set of relevant indicators capable of accurately reflecting progress over time; and the formalization of key internal processes to ensure transparency, such as double materiality analysis and the conduct of *due diligence.*

The transposition of these requirements into practice varies from region to region and from country to country, depending on specific circumstances, the efficiency of the public bodies responsible, and the capacity of the professional and academic organizations concerned to mobilize. This diversity is understandable given the fact that there is no single path to climate and social transition, nor is there a single way to monitor progress towards a resilient and sustainable future.

5. Research results and discussions

The presentation of the main research findings on how the PRD triad is integrated into current external public audit practice, as well as the outlook for external public audit in the context of new resilience and sustainability requirements is structured as follows:

- Results of documentary research on the integration of resilience and sustainability into external public audit;
- Prospects for strengthening external public audit through an integrated approach to PRD;
- Validation of research results.

5.1 Results of documentary research on the integration of resilience and sustainability into external public audit

The main findings resulting from the analysis of the regulatory, institutional and operational framework on how resilience and sustainability requirements are reflected in external public audit work (both in reference documents and in audit practice) focused on the standards and guidelines issued by INTOSAI, on national reference documents at national level (regulations and public policies), as well as on the performance audit reports carried out by the Romanian Court of Accounts (CCR).

INTOSAI regulations and guidelines generally recommend that SAIs address performance, resilience, and sustainability issues by including them, in particular, in performance or public policy audits. Where necessary, these issues may be linked to financial and compliance audits, given the financial impact of environmental or resource management hazards and risks. To better understand the current situation regarding the integration of the PRD triad into external public audit, we conducted a lexical analysis (see **Appendix 1**), combined with a content analysis of recent INTOSAI guidelines and standards in force.

The main conclusions of the analysis are:

a) The concept of performance (P) dominates all major guidelines and standards (e.g., GUIDELINE 4910, GUIDELINE 9020, GUIDELINE 5200, etc.), confirming that performance assessment (efficiency, effectiveness, economy) remains the center of gravity in external public audit doctrine. In many cases, it remains limited to technical and financial dimensions, without integrating social or environmental dimensions. ISSAI Standard 3000 - "Performance Audit Standard" defines performance audit as an independent evaluation of the economy, efficiency, and effectiveness of public activities. The document's lexicon frequently uses related terms such as "efficiency", "objective", "performance audit", "audit criteria", "results", "evaluation" and "quality." Content analysis shows that the standard promotes performance as a central objective, structuring audit processes based on performance indicators and

clearly articulated objectives. At the same time, performance is not an isolated goal, but is linked to the efficient use of resources, the quality of management, public value, and transparency.

b) The concept of resilience (R) is rarely used and is mainly associated with disaster auditing and public policy evaluation (e.g., GUIDELINE 5330, GUIDELINE 9020). Recent INTOSAI standards and guidelines deal with resilience mainly from the perspective of risk management and emergency response (GUIDELINE 5330). In fact, Guideline 5330 "Disaster Management Audit" is the only one that addresses resilience issues. Lexical analysis shows that the central terms are "adaptation", "prevention", "institutional capacity", "continuity" and "crisis." The approach to resilience is often sectoral, failing to fully integrate the systemic, anticipatory component required by current challenges (e.g., climate change, digitalization, socio-economic shocks). Key aspects such as innovation capacity, institutional adaptation, and proactive management of uncertainty are not sufficiently addressed.

c) The concept of sustainability (D) appears more frequently than that of resilience, especially in guidelines on environmental and development audits (GUIDELINE 5202, GUIDELINE 5330), and is often linked to concepts such as: "sustainability", "natural resources", "long-term impact", "environmental policies", "intergenerational equity." The content analysis highlights a structured framework for auditing activities with an environmental impact, evaluating development policies, and engaging in socio-ecological responsibility. However, despite the complex lexical structure, sustainability remains insufficiently integrated into the full audit cycle. It is often not directly linked to performance indicators or resilience mechanisms, and the link to generational balance and global sustainable development goals (SDGs) could be strengthened.

In conclusion, the performance–resilience–sustainability (PRS) triad is not (yet) integrated in a structured and systemic way into INTOSAI's official regulations: performance dominates the current framework, but in a classical form; sustainability is emerging; resilience is very little present, which indicates a key area for institutional and methodological innovation.

This analysis suggests that there are avenues for innovation in terms of expanding and deepening approaches to sustainability and resilience as essential pillars of external public audit in the face of the challenges of the 21st century.

If we refer to the national legislative framework, namely public policy documents and regulations implementing the national strategies adopted by the Government in the process of achieving the SDGs, the lexical analysis (see **Appendix 2**) combined with content analysis reveals a significant evolution towards the multidimensional integration of the concepts of performance, resilience, and sustainability (PRD) in strategic and regulatory discourse. The term "performance" continues to be central, associated with efficiency, competitiveness and impact on development, but gradually it is shifting from an exclusively technical and financial focus to a more comprehensive approach, in which social and environmental impact is becoming indispensable. "Resilience" is gaining ground as a defining element of adaptability, risk management, and policy continuity, and is increasingly linked to urban transformation processes and climate strategies. At the same time, "sustainability" is firmly establishing itself as a lexical and conceptual pillar, frequently appearing in the titles, objectives, actions, and indicators of documents, reinforcing the discourse focused on sustainability, the circular economy, and generational responsibility. This semantic density indicates a progressive maturation of the regulatory and linguistic framework, reflecting both anthropocene pressures and the demands for alignment with international sustainable development standards and indicators.

A correlated synthesis shows that INTOSAI standards prioritize performance (classic), followed by sustainability and, to some extent, resilience, while national regulations reflect a much more balanced integration of the PRD triad, especially in climate, urban, and environmental strategies, in the face of contemporary challenges.

The analysis was also deepened at the SAI level using the example of the Romanian Court of Auditors, based on performance audit reports from 2023-2024 (**Appendix 3**). A lexical analysis of these reports reveals a clear predominance of the concept of "performance," reflected both in the high frequency of the term and in the focus on efficiency, effectiveness, and quality in the evaluation of public services (e.g., water services, renewable energy, agriculture, and investments in natural gas). The lexicon is mainly focused on outcome indicators, competitiveness, resource efficiency, and the achievement of strategic objectives. "Resilience" appears sporadically in the reports, being associated with risk prevention actions, responses to floods or climate change, but is rarely

treated as a systemic principle or as a separate pillar of the audit. The concept of "sustainability" is mainly linked to issues related to natural resources, energy independence, and equitable access to services.

Compared to the international and national regulations analysed above, the CCR reports focus on performance in the traditional sense, with some openings towards sustainability at sectoral level and a limited approach to resilience. This lexical and content structure confirms the need to expand and deepen the integration of the PRD triad into external public audit and suggests the direction of its evolution: from classic performance to complex, proactive, and sustainable assessments, in line with the requirements of the Anthropocene and global strategies.

5.2 Prospects for strengthening external public audit through an integrated approach to PRD

The European legislative framework on sustainability, represented by the EU Taxonomy Regulation, the SFRD Regulation, the CSRD Directive, and the CSDDD Directive, primarily targets the private sector and financial markets. The fundamental objective of these legal instruments is to increase corporate transparency on sustainability aspects by establishing a standardized and harmonized reporting framework, coupled with independent assurance requirements, aimed at strengthening stakeholder confidence.

Through the conceptual and regulatory innovations they introduce, these regulations establish the European Union as a global leader in promoting sustainability. Despite the controversy generated by some recent changes proposed in the so-called Omnibus Directive, the European legislative architecture on sustainability remains a reference framework for both international economic and financial practice and scientific research.

Although Supreme Audit Institutions (SAIs) are not directly covered by these regulations, the scale of the changes they entail, together with the increasing emphasis on performance, resilience, sustainability, and accountability, create the conditions for a strategically sound integration of the principles promoted by this framework into external public audit work. In this context, the European regulatory framework is a catalyst for the transformation of external public audit practices, contributing to the strengthening of the quality of financial governance and public fund management.

Our research has identified the following avenues for strengthening external public audit through the integration of the PRD triad:

a) *Generalizing the use of the EU Taxonomy in the ex-ante and ex-post evaluation of public policies related to sustainability factors*

The Taxonomy Reference (Taxonomy Regulation and delegated regulations) is a global reference for creating a common language for sustainability and a common understanding of the criteria that define an environmentally sustainable activity (Niculescu M., Voicu C., 2024). Its cognitive and operational value and its role as a driving force in achieving green finance objectives make it an effective tool for assessing the effectiveness of public policy implementation in relation to the environment and climate change. It can be used to support impact studies of environmental public policies, both *ex-ante* to support their development and *ex-post* to assess the consequences of public action on the environment and climate change. This is because the Taxonomy methodology is based on rigorous technical screening criteria (TSCs) that define the levels of performance that an economic activity must achieve in order to qualify as an activity that makes a substantial contribution to one of the "climate" or "environment" objectives.

CTEs enable the identification of the most relevant potential contributions to the environmental objective in question, taking into account both the short-term and long-term impact of a given economic activity. The criteria of the Taxonomy are based, where appropriate, on existing EU legislation, best practices, standards, and methodologies, as well as on established standards, practices, and methodologies developed by public bodies internationally recognized. They shall take into account, as far as possible, sustainability indicators, Union labeling and certification schemes, Union statistical classifications, and any relevant legislation in force. The use of the principles and criteria of the EU Taxonomy in the preparation of public budgets and the management of financial flows at national level is an area with considerable potential for innovation for Supreme Audit Institutions (SAIs).

b) *Systemic integration of resilience and sustainability requirements into performance auditing*

The performance audit manual contains a series of suggestions for environment-related tests. These can be significantly enhanced by including requirements related to resilience and sustainability, inspired by ESRS standards, as suggested in **Table no. 1**.

Table no. 1. Examples of complementarity between performance auditing and resilience/sustainability dimensions

Topics for performance audit*	Suggested topics from ESRS standards
Quality of objectives and target setting	Quality of objectives and target setting for climate change adaptation *NB/ The CSRD Delegated Regulation includes rules for setting climate targets and objectives (international commitments, scientific evidence, etc.).*
Audit of organizational risk control systems	Audit of climate risk control systems Audit of organizational risk control systems related to corruption, bribery, and lobbying in relation to environmental issues
Environment, climate change, and sustainable development	Audit of innovative aspects raised by environmental standards: ESRS E1 Climate change ESRS E2 Pollution ESRS E3 Water and marine resources ESRS E4 Biodiversity and ecosystems ESRS E5 Resource use and circular economy

** According to the Performance Audit Manual, CCR, 2023 and CSRD/ESRS*

Source: the authors

c) *Strengthening current forms of audit by introducing topics related to climate risk control*

As the content analysis showed, *INTOSAI Guideline 5330 Guidance on Disaster Management Audit* is the most focused on resilience. It could be updated by taking into account the classification of climate, physical, and transition hazards proposed by the European Taxonomy, which is more suited to the current context and the state of global warming. In its 2017 recommendations, *the Task Force on Climate-Related Financial Disclosures* (TCFD), established under the auspices of the G20 Financial Stability Board, has identified two categories of climate risks: *physical risks,* i.e. risks resulting from damage caused directly by weather and climate events, and *transition risks,* i.e. risks resulting from the effects of implementing a low-carbon economic model. The TCFD distinguishes *between acute* and *chronic risks. Acute risks* are triggered by events such as natural disasters, the frequency and severity of which could increase: storms, hurricanes, floods, etc. *Chronic risks* are related to long-term changes in climate patterns, such as rising temperatures, with the following consequences: sea level rise, chronic heat, changing precipitation patterns and increased variability, disappearance of certain resources, etc.

According to the TCFD, *transition risks* cover the following four categories of risk: regulatory and legal, technological, market, and reputational. *Regulatory and legal risks* are related to a change in public policy on climate change mitigation or adaptation, or to losses and damages resulting from such a change. This category of risks is of concern to any type of organization, given the dynamics of public policy in this area and the climate change we are currently experiencing. *Technological risks* are generated by technological innovations and discoveries that contribute to combating climate change (new technologies in renewable energy, energy storage, carbon capture, etc.). They are also growing rapidly, impacting the structure of public and private assets through the emergence of stranded assets and their resilience.

Reputational risks arise from changes in stakeholders' perceptions of an organization's contribution to the transition to a low-carbon economy. This classification, which served as the basis for the EU Taxonomy, provides a direction for improving risk analysis in external public audit.

d) *Promoting transparency and good governance related to sustainability issues in the public sector*

The quality of the audit depends largely on the availability and quality of information. These conditions are not always met in public institutions. In the private sector, the obligation to publish a sustainability statement based on standards applicable to certain types of companies (exceeding a certain volume of activity), in accordance

with the CSRD Directive and its implementing rules, is a real step forward. Companies are required to disclose the information necessary to understand the impact of their activities on sustainability aspects and the information necessary to understand how sustainability aspects affect the company's development, performance, and position. The main impacts, risks, and opportunities are identified and reported on the basis of the double materiality principle, providing credible sources for sustainability auditing, including on resilience aspects. Sustainability reporting requirements are therefore much more rigorous in the private sector than in the public sector, where such extra-financial statements are not required. This asymmetry requires finding solutions to promote transparency and good governance related to climate and resilience issues in the public sector.

e) *Introducing a new form of external public audit as a "sustainability audit"* Although still in its infancy, the idea of public institutions producing sustainability reports or statements is increasingly emerging as a possible future obligation, in line with European trends towards extending non-financial reporting requirements in the public sector. Such a perspective paves the way for a new form of audit, "sustainability audit," similar to that recently introduced in the private sector.

5.3 Validation of research results

To validate the research results, the authors used two methods:

- focus group method;
- comparing the results of documentary research with examples of good practices in the integrated approach to the PRD triad in external public audit.

A. Focus group method

The main objective of the qualitative research was to explore the perceptions, experiences, and opinions of specialists on the integration of resilience and sustainability dimensions into external public audit. The research also aimed to validate proposals for integrating the PRD triad (performance, resilience, sustainability) into current external public audit practices.

The focus group brought together 20 professionals, and data was collected through exchanges of ideas (lasting 60 minutes) structured around three open-ended questions designed to capture the complexity of the topic under analysis:

- To what extent do current forms of external public audit integrate resilience and sustainability components?
- What is your opinion on strengthening current audit practices by explicitly including the dimensions of resilience and sustainability?
- How do you assess the opportunity to introduce a distinct form of sustainability audit, inspired by the model established by the CSRD Directive for the private sector?

a) *Conclusions on the current perception of external public audit*

Participants pointed out that, in practice, external public audit is still predominantly focused on domestic regulations and INTOSAI standards, without clear integration of the European regulatory framework on sustainability. There is a lack of familiarity with recent European tools and methodologies (e.g., the Taxonomy Regulation), and terms such as "sustainability" and "sustainable development" are used interchangeably, without conceptual clarity.

b) *Conclusions on the integration of resilience and sustainability requirements in external public audit*

Most participants considered that integrating resilience and sustainability into performance auditing is possible without developing a new, distinct type of sustainability audit in the public sector. However, reservations were expressed about the current institutional capacity to address these new dimensions, particularly in terms of professional skills and the necessary methodological framework.

c) *Conclusions on the prospect of a distinct form of external public audit*

Majority opinion: the need for a separate sustainability audit in the public sector is not supported at this stage, with an integrated approach within performance audit being preferred. Arguments put forward include: methodological redundancy, lack of a clear regulatory framework, risks of institutional fragmentation.

In conclusion, the perspectives identified through documentary research, in a broad sense, were only partially validated by the focus group method. The proposal to introduce a new form of external public audit, in the form of sustainability auditing, did not meet with the consensus of the participants, being considered, at this stage, premature or difficult to apply in practice.

B. Method of comparing the results of the documentary analysis with good practices in the field

The method of comparing the results of documentary analysis with good practices is frequently found in the literature (Manes-Rossi, F., Cohen, S., Caperchione, E., & Brusca, I. 2020), Veltri, S., De Luca, F., & Silvestri, A. (2022). In order to make this comparison, we conducted extensive research on the websites of SAIs in European Union member states.

The first general finding is that the ways in which SAIs in EU Member States respond to these challenges vary significantly, depending on administrative tradition, institutional capacity, the mobilization of professional accounting and auditing bodies, the level of higher education and research, the degree of openness to innovation, etc. A review of publicly available sources shows that some countries, like Austria, Germany, France, Italy, Hungary, and Poland, are already at different stages of putting parts of the European framework for sustainability in public external audit into action. This paper does not aim to provide an exhaustive mapping of this process, but it does highlight some illustrative examples of SAIs that are making their mark through innovative approaches that are demonstrative in the context of the transition to sustainable public governance.

The comparative analysis highlights that certain Supreme Audit Institutions (SAIs), such as the Austrian Court of Audit, carry out thematic missions focused on assessing the efficiency of the use of public funds for projects with an environmental impact, as well as on verifying their compliance with the criteria set out in the European Union Taxonomy, both at the budget execution and investment levels. At the same time, the institution assesses the implementation process of the CSRD, including the degree of compliance of large companies and public-interest entities with the updated sustainability reporting requirements. Starting 2025, the ESRS standards are adopted as a methodological benchmark for verifying the quality, completeness, and accuracy of non-financial information included in audited sustainability reports.

A similar approach can be found in the work of the Italian Court of Auditors, which carries out thematic audits focused on analyzing the degree of implementation of sustainability initiatives, evaluating public environmental policies, examining budget allocations, and monitoring their compliance with national legislation and strategies linked to the European regulatory framework. A particularly relevant aspect in the context of the research is the audit of the degree of alignment with the EU Taxonomy for green public and state expenditure and investment. As part of the monitoring process for measures associated with *the National Recovery and Resilience Plan,* the compliance of public investments with the requirements of the EU Taxonomy, with the objectives of the green transition, and with the DNSH (Do No Significant Harm) criteria stipulated by the delegated regulations of the European Union Taxonomy is assessed.

The integration of European sustainability regulations into external public auditing is making remarkable progress in Germany, where the Federal Court of Auditors (Bundesrechnungshof), as the supreme audit institution, is seeking to integrate the European regulatory framework on sustainability into both its external audit practice and its methodology for assessing public policies with an impact on the environment and sustainability. External public audit focuses, on the one hand, on the implementation of these standards at government level and, on the other hand, on the compliance of public entities with reporting and transparency requirements.

Since 2021, the German SAI has published a report to the Bundestag Budget Committee ("Bericht an den Haushaltsausschuss des Deutschen Bundestages, 2021") on the implementation of the EU Taxonomy and its impact on sustainable financing measures in Germany. The Federal Court of Auditors assesses the correlation between sustainability reports prepared on the basis of ESRS/CSRD and national budget reports, highlighting risks of non-compliance and proposing procedural and legislative adjustments where necessary. Among its most relevant initiatives, the institution also issues detailed recommendations for methodological and operational alignment with European requirements, strengthening the capacity of public structures to integrate sustainability criteria into the management and reporting of public funds.

France is a great example of a member state that's really into integrating the European framework for sustainability in external public audits, setting the bar for the rest of the European Union. The French Court of Auditors directly uses the EU Taxonomy as a "common grammar" for classifying economic activities and green finance, both at government level and for public budget flows. The Court of Auditors' official reports highlight that, although the ESRS/CSRD taxonomy and standards are primarily aimed at the private sector, the methodology is also recommended for public institutions of a certain size. The Court recommends that, from 2025, all relevant public

entities apply the classification of expenditure according to the "green budget" criteria (based on the EU Taxonomy) and adopt reporting systems compatible with the CSRD and ESRS requirements.

In Poland, the Court of Auditors integrates European regulations, including the EU Taxonomy, CSRD, and ESRS, into its methodology, practice, and external public audit topics, with a focus on compliance, transparency, efficiency, and the assessment of the sustainability impact on public resources and government policies. Auditing in accordance with these regulations is already part of this institution's work program and recent public reports.

The Hungarian Court of Audit is adapting its external public audit methodology to the new European requirements. As such, official reports, audit methodology, topics covered, and summaries published after 2024 will explicitly refer to the EU Taxonomy, the CSRD, and the ESRS. Its role is focused on verifying compliance, assessing transparency and double materiality, and making recommendations for structural improvements in public and private sustainability reporting.

The integration of European sustainability regulations into the external public audit at the Romanian Court of Accounts is in the procedural preparation phase, with ongoing efforts aimed at revising audit methodologies to align them with the requirements of European sustainability regulations.

The correlation between the proposals developed in the research and examples of existing good practices in the field contributes to strengthening the methodological validity of the approach and confirms its scientific relevance in the context of extending the function of external public audit to dimensions related to sustainability and resilience.

6. Limitations and perspectives of the research

The authors are aware of the inherent limitations of this work, mainly due to the complexity and high degree of technicality of the subject matter. The breadth of the research field has required certain compromises regarding the depth of analysis of some dimensions, despite their obvious scientific and practical importance.

The volume and diversity of documentation sources in the field of sustainable development, as well as in related segments such as climate, environmental, and social policies, are significant. Framing and interpreting these sources through the PRD triad (performance-resilience-sustainability) proved to be a novel and challenging methodological approach. The results of our research have only been partially validated. However, this research has made conceptual and substantial contributions of major interest to national theory and practice, while also providing a relevant framework for formulating new research questions. It opens up relevant directions for future research, including for young researchers interested in the field:

- How can normative and procedural equity between the public and private sectors be ensured in terms of resilience and sustainability?
- To what extent can internationally recognized INTOSAI standards integrate the innovations promoted by the European Union – a global leader in sustainability regulation?
- Is it appropriate and feasible for the state or public institutions to publish an auditable sustainability report equivalent to the sustainability statement in the private sector?
- How can the coherence of national governance in the field of sustainability be guaranteed?

The answers to these questions require a collective effort of reflection and action, involving the coordinated mobilization of institutional and non-institutional actors: professionals in the field, researchers, decision-makers, civil society, and other stakeholders affected by or able to influence the transition to sustainable public governance.

Appendix

Appendix 1 – Results of the lexical analysis of selected INTOSAI documents

Audit regulations for SAIs	Year of revision	Frequency of concept		
		P	R	D
INTOSAI P 12 *The value and benefits of supreme audit institutions in making a difference in the lives of citizens*	2019	6	0	0
INTOSAI P 20 *Principles of transparency and accountability*	2019	5	0	0
ISSAI 3000 *Performance Audit Standard*	2019	101	0	0
ISSAI 4000 *Standard on compliance assurance*	2019	1	0	0
GUIDANCE 3910 *Core concepts for performance auditing*	2019	125	0	0
GUIDELINE 3920 *The performance audit process*	2019	134	0	0
GUIDANCE 4900 *Relevant regulations and criteria to consider when examining aspects of regularity/correctness in compliance audits*	2020	0	0	1
GUIDE 5090 *Audit of international institutions*	2019	11	0	0
GUIDELINE 5100 *Audit of information systems*	2019	18	0	0
GUIDE 5200 *Activities with an environmental perspective*	2019	74	0	23
GUIDE 5201 *Environmental auditing in the context of FA and CA*	2019	25	0	26
GUIDELINE 5202 *Sustainable development: The role of SAIs*	2019	39	0	273
GUIDANCE 5203 *Cooperation in audits of international environmental agreements*	2019	4	0	9
GUIDANCE 5250 *Guidance on the audit of public debt*	2020	42	0	41
GUID 5330 *Guidance on disaster management audit*	2020	12	14	9
GUIDE 9020 *Public policy evaluation*	2016	30	0	0
GUIDELINE 9040 *Good practices on transparency of SAIs*	2019	22	0	1

Source: authors' processing

Appendix 2 – Results of the lexical analysis of documents on national policies and regulations

National regulations	Year of revision	Frequency of the concept		
		P	R	D
SNDDR adopted by Government Decision No. 877 of November 9, 2018	2018	11	15	6
National Action Plan for the implementation of the SNDDR	2022	2	3	120
National Action Plan for the implementation of the National Strategy on Adaptation to Climate Change for the period 2023-2030	2023	4	12	2
Government Decision No. 1010 of August 14, 2024, approving the National Strategy on Adaptation to Climate Change for the period 2024-2030, with a view to 2050	2024	2	226	16
Government Decision No. 1215 of November 29, 2023, approving Romania's Long-Term Strategy for Reducing greenhouse gas emissions - Romania Neutral in 2050	2023	0	38	9
Government Decision No. 1172 of September 21, 2022, approving the National Strategy on the Circular Economy	2022	27	5	42
Government Emergency Ordinance No. 108 of June 30, 2022 on the decarbonization of the energy sector	2022	0	5	0
Government Decision No. 1575 of December 28, 2022, approving the National Strategy for Integrated Urban Development for Resilient, Green, Inclusive, and Competitive Cities 2022-2035 -- Romania's urban policy	2022	18	54	27

National regulations	Year of revision	Frequency of the concept		
		P	R	D
Government Decision No. 1034 of November 27, 2020, approving the National Long-Term Renovation Strategy to support the renovation of the national stock of residential and non-residential buildings, both public and private, and its gradual transformation into a highly energy-efficient and decarbonized building stock by 2050	2020	113	5	3
Government Decision No. 1076 of October 4 approving the National Integrated Energy and Climate Change Plan 2021-2030	2021	89	34	13
National Integrated Energy and Climate Plan 2025-2030 – updated in October 2024[1]	2024	14	7	13
METHODOLOGICAL RULES of 28 August 2024 for the implementation of the provisions of Government Emergency Ordinance No. 75/2024 on the regulation of the labeling of budgetary expenditures and fiscal expenditures for green budgeting	2024	0	1	1
REGULATION of August 28, 2024 on the organization, functioning, and powers of the Interministerial Committee for the labeling of budgetary and fiscal expenditures	2024	0	0	2

Source: authors' processing

Appendix 3 – Results of the lexical analysis of selected performance audit reports

Performance audit reports	Year	Frequency of the concept		
		P	R	D
Public policies in the field of public water and sanitation services. Equity vs. disparity in access to these services for the population.	2024	20	5	9
Renewable energy and its contribution to ensuring energy independence energy	2023	3	5	1
Assessment of the efficiency and effectiveness of programs, actions, and measures taken to prevent flood risk, respond to and recover from the effects of floods products manufactured by them in Romania between 2014 and 2021	2023	18	1	0
Performance in implementing strategies and policies in the field of natural gas investment and production	2023	74	0	0
Prevention and combating the effects of climate change in Romanian agriculture	2023	24	6	4
Assessment of the efficiency and effectiveness of programs, actions, and measures taken to prevent the risk of floods, response and recovery from their effects in Romania during 2014-2021	2023	15	0	0

Source: authors' processing

[1] Under public debate on the website www.gov.ro

Appendix 4 - Classification of climate-related hazards				
	Temperature-related risks	**Risks related to wind**	**Water-related risks**	**Risks related to solid mass**
Chronic	Temperature change (air, fresh water, sea water)	Wind regime change	Change precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Thermal stress		Precipitation or hydrological variability	Soil degradation
	Variability of temperature		Ocean acidification	Soil erosion
	Permafrost melting		Saltwater intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricanes, typhoons	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards and dust and sand storms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Forest fire	Tornado	Flood (coastal, river, rainfall, underground)	Subsidence
			Sudden emptying of glacial lakes	

Source: TCFD - Task Force on Climate-related Financial Disclosures.

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Legislation

1. Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on establishing a framework for sustainable investment and amending the Regulation (EU) 2019/2088 (Taxonomy Regulation);
2. Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council with technical review criteria for determining whether an economic activity can be considered to substantially contribute to climate change mitigation or adaptation and whether the economic activity does not significantly harm any of the other environmental objectives (Climate Delegated Regulation);
3. Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector / SFDR (Sustainable Finance Disclosure Regulation);
4. Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014 and Directives 2004/109/EC, 2006/43/EC and 2013/34/EU as regards disclosure of sustainability information by companies / CSRD (Corporate Sustainability Reporting Directive);
5. Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859/CS3D.
6. Commission Delegated Regulation (EU) 2023/2772 of 31 July 2023 supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards;
7. Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards Union benchmarks for climate transition, Union benchmarks for the Paris Agreement and the disclosure of sustainability information for benchmarks;
8. Regulation (EU) 2023/2631 of the European Parliament and of the Council of 22 November 2023 on European green bonds and optional disclosure of information for bonds marketed as environmentally sustainable bonds and for sustainable bonds;
9. Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility;
10. Decision No. 1,074 of August 28, 2024, approving the methodological norms for implementing the provisions of Government Emergency Ordinance No. 75/2024 on regulating the labeling of budgetary expenditures and fiscal expenditures for green budgeting, as well as the Regulation on the organization, functioning and the powers of the Interministerial Committee for the labeling of budgetary and fiscal expenditures;
11. Emergency Ordinance No. 75 of June 21, 2024, on the regulation of the labeling of budgetary and fiscal expenditures for green budgeting