

# ESG INTEGRATION IN EVALUATING AND FINANCING LOCAL GOVERNMENT: A NEW PROSPECTS FOR LOCAL GOVERNMENTS AND MODERN SOCIETIES

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### **Abstract**

The discourse on Environmental, Social and Governance (ESG) factors in the financial markets brings a prime opportunity for local governments to the fore. This opportunity pertains to their efforts to reduce their environmental impact, improve the living conditions of local communities and reform their decision-making processes. This paper is an attempt to capture the said perspective of the Local Government through the critical overview of the relevant theoretical background and much more of the existing successful practices. The supreme challenge is to find the optimal ratio between economic growth, socially fair development and the preservation of natural resources. In this equation, one could argue that the independent variables are human resources, finite natural resources, the institutional framework (that should set limits to depletion), as well as the financing of activities aimed at Sustainable Development. Urban sustainability derived from ESG factors can provide a more comprehensive approach to the above equation by challenging the central authority to establish appropriate rules and approve good practices and the markets to further insist on sustainable investments. In order to perform comprehensive research for the synergies ESG criteria in the Local Government, we chose to use the systematic literature review's guidelines. Furthermore, the purpose of this paper is to shape an ESG integration model for Greek local authorities by utilizing the existing literature.

**Keywords:** Sustainable Finance, Environmental Social and Governance (ESG), Sustainable Regions, Sustainable Cities, Municipal Green Bonds

**JEL classification:** R10, Q01, Q50, G10, G30, H10, H30, H70

## **1. Introduction**

Sustainable development (Nijkamp, 2011; Almeida et al., 2017; Amoiradis et al., 2021) and inclusive development literature shows that achieving sustainability in the local government, without making trade-offs between economic, social and environmental goals, is rare. Politics tends to make compromises in favor of the economy (Kokkinou et al., 2018; Constantin, 2021; Koudoumakis et al., 2021), at the expense of social and ecological issues. Therefore, while sustainable development in the local communities has environmental, social and economic aspects, the difficulties in optimizing all three aspects for current and future generations have led to the emergence of schemes that usually combine two of the three elements, such as "green growth", "green society", "inclusive growth". Although, Turok (2010) suggests that regional approaches to development provide multiple benefits for

inclusive growth: (1) allow new approaches to inclusive development to be developed and tested in a local area, with successful actions and good practices in local communities and then used in other regions with a relevant level of development; (2) the focus of inclusive development policies on local communities at (urban-urban level) allows for a consolidation of actions and an approach with different local actors dealing with a unified objective, (3) also allows better targeting to social groups that may not have benefited from the increased standard of living of the region, (4) identifies the development potential of the local community, (5) and allows coordination of the political agenda of inclusive development at local community level, and (6) because the composition of development tends to be at local social level, they delimit development and actions for local development by adaptations of development policy in a specific local context.

However, the concept that should be particularly emphasized is that of inclusive sustainable development in the local communities. Such a notion must be redefined, as “a dynamic process of interaction between employment policies and social policies at the regional and local level, which adopts a basic postulate: economic growth does not always benefit all citizens and does not prevent phenomena of poverty and social exclusion, especially in underdeveloped areas. The benefits of economic growth are not channeled holistically to all groups of the population, while in several cases the gap between specific categories widens”.

About 6.25 billion people will live in urban areas by 2050 (Ritchie and Roser, 2018). At national and regional level, horizontal sustainable development policies are likely to contribute to processes of social exclusion and environmental degradation at regional and national level, if multilateral impacts and the multidimensional nature of local communities are not taken into account. Although that, widespread concern about social inequality, local policymakers often have limited powers to directly address the problem and improve policies for inclusive growth (Lee et al., 2016). Until today, green growth and inclusive growth have prevailed as the two most dominant dualities. A similar concern is anchored in the political and scientific agendas to promote sustainable development goals at national and regional level. Scholte in 2019 also points out the contradiction that even as ideas of liberal globalization and institutions of global governance are attacked by populist nationalism and local communities, the actual processes of globalized production, distribution and consumption continue. Therefore, he argues that the dynamics produced by globalization and its results feed the new realistic upheavals at global, national, and regional level and affect in a direct or indirect way the development of local communities. In such a political context, giving up on the struggle to preserve and improve the ideals and institutions of global governance would be nonsense. Only when the benefits of globalisation can be expressed in a more understandable human way, and demonstrated in a fairer and more sustainable way at national, regional and local level, will it be possible to convince those left behind that globalisation can be good and become a guide to mitigate nationalist populism in local communities (Scholte, 2019).

However, it should be stressed that while regions and cities clearly have an important role to play in developing new ideas (Kokkinou et al., 2018; Napolskikh and Yalyalieva, 2019) and applied operational strategies (Ruxho and Ladas, 2022a,b) for inclusive local development, this role is inevitably limited compared to the role of policies at national government level. It should be pointed out that local development policy makers have more responsibilities and may be responsible and framed by the relevant powers to stimulate growth in local communities and the sustainable development agenda is also an important scope of investment development strategies at local level to address broader societal challenges. Investment strategies (Alexiadis and Ladas, 2011; Myakshin and Petrov, 2019) and economic local development (Pedrana, 2013), productivity, skills, employment regulation and wages must be an integral part of efforts to achieve greater justice and social inclusion in the local community.

In this context of investment development strategies, the acronym ESG criteria or factors encodes the ever-increasing international trend within the Sustainable Financial Market to evaluate listed companies in terms of how they manage issues related to the Environment, Society and Governance, focusing on value they can generate in the long term. This trend is part of the need of strategic investors for as transparent and reliable information as possible

on the actions undertaken by companies internationally. Environmental criteria (E) may relate to the entity's energy use, waste, pollution, management of potential environmental risks, etc. The social criteria (S) mainly examine the operation of the entity in terms of the subjects that do business with it (collaboration with suppliers who share the same values, donations, voluntary actions, safety or anti-discrimination policies towards employees, etc.). Regarding the criteria of governance (G), useful information is mainly whether the company uses accurate and transparent accounting methods, if conflicts of interest are avoided for the selection of board members, as well as their involvement in illegal practices. Depending on the information available, a company will receive more or less favorable treatment in financing from a Sustainable Capital Market. In that context a suggestion definition of *Sustainable Capital Market* is as “*the capital market that promotes Sustainable Development by implementing mandatory or voluntary sustainable management policies*”. These policies are effective when designed horizontally-holistically and determined with the basic idea of not causing asymmetric information and permanent oligopolistic conditions (Sepetis, 2020).

In view of the debate on Environmental, Social and Corporate Governance (ESG) factors in financial markets, a first-class opportunity arises for Local Authorities to reduce their environmental impact, improve the living conditions of local communities and reform decision-making processes. Today, more than ever, it is recognized that although the application of ESG criteria at company level is necessary, it is not sufficient. It is necessary to implement them at the level of central public administration as well as local government. The proximity, in particular, of local government to the natural environment and local communities makes it a protagonist in environmental protection, inclusive growth and transparency/accountability when making the relevant decisions. Regarding that a main Research Question (RQ) arise: Does the regions and cities sustainability resulting from ESG factors can provide a more integrated approach to the above equation, challenging both central governments to establish appropriate rules and adopt good practices and markets to further insist on sustainable investments?

This study is an attempt to capture this perspective of Local Government related to the Environment, Society and Governance criteria through Critical review of the relevant theoretical background and much more of the existing successful practices. This study analyzes, the global approach in terms, as well as the existing position Local Government of Greece towards this specific group. Furthermore, it sets out steps and actions to shape an ESG integration model for Greek municipalities and regions by utilizing the existing literature and successful case studies that have been taken or need to be taken in the future out to this direction, in relation to the perspectives and the benefits for the Greek Local economy. To achieve the above objectives basic research systematic peer review of the accessible literature of papers on subjects related to the areas of Social and Legal Sciences and Economic Sciences published in Web of Science, Scopus, Google Scholar, EconPapers, Ecolin, etc, which contains journal articles as well as “gray literature,” such as conference proceedings and reports. The search was performed using the following terms, keywords, and abbreviations: Sustainable Finance and Sustainable Region-Cities, ESG and Sustainable Region-Cities, ESG and Local Authorities Sustainable Regions, Sustainable Cities, Municipal Green Bonds, etc.

The following of the paper is classified in five sections. The second section investigates the way in which Local Government interacts with the tripartite environment-society-governance, connecting this interaction with the need for sustainable and smart cities. Moving on to the more technical part, the third section examines – through successful examples – various models of evaluating the ESG performance of local authorities, while the fourth section lays out the growth of green bond market, explaining the reasons they are widely used as a key financing tool for local governments across the world. The fifth section presents the prospects for ESG integration in the Greek Local Government, by describing the relevant current political and social status, the main financing tools for local governments and the alliances (both existing and potential) with critical social partners. Having examined all the above parameters, the last section is an attempt of designing a model for ESG integration in Greek Local Government.

## **2. Interaction of Local Government with the Environment, Society and Governance**

### **2.1. The Environmental Dimension in the Sustainability of Local Societies**

Local Government, especially since the 2009 recession, is considered, according to Davey (2011), the key player in addressing climate change and rising energy prices. The following are considered key tasks for local government: improving the energy efficiency of municipal buildings, increasing the use of renewable energy sources, reforming transport, increasing storm water drainage capacity (Davey, 2011). The required actions for the protection of the urban environment and/or its restoration are divided into two categories. As Bithas notes (2001), the state takes direct and indirect environmental actions. Examples of direct actions are the reform of urban planning, the prohibition of activities with a negative environmental impact (e.g. open burning of materials, water pollution, etc.) and some “green benefits” of the State (e.g. creation of green areas, parks etc.). More indirect actions include tax charges (e.g. plastic bag charge) or incentives (subsidies for replacing old electrical appliances).

According to literature review of the ‘sustainable city’ is the most frequently occurring category and, in a map of keyword co-occurrences, by far the largest and most interconnected node, linked closely to the ‘eco city’ and ‘green city’ concepts. Recently, the more narrow concepts of ‘low carbon city’ and ‘smart city’ have been on the rise, judging by their frequency of occurrence in academic journals; the latter in particular appears to have become an increasingly dominant category of urban modernization policy. On their part, ‘resilient city’ and ‘knowledge city’ represent distinct concepts, albeit with comparatively low frequency. Overall, the findings point to the need for rigor and nuance in the use of these terms, not least if one wishes to comprehend their implications for urban development and regeneration policy and practice. Bibri and Krogstie conclude that the applied theoretical inquiry into smart sustainable cities of the future is deemed of high pertinence and importance—given that the research in the field is still in its early stages, and that the subject matter draws upon contemporary and influential theories with practical applications (Bibri and Krogstie, 2017).

### **2.2. The Social Dimension in the Sustainability of Local Societies**

The urbanization of modern societies transferred social problems to the cities, making imperative the adoption of holistic approaches. Even supranational phenomena, such as the global financial crisis, highlighted pathologies in public administration, such as corruption (arbitrariness in urban planning, excessive public procurement, etc.). As Yarimoglu et al. (2015) summarize the main difference between the private and public sector is that social responsibility activities can be more charitable in municipalities since their main goal is not profit and also their tasks are almost the same as the nature of social responsibility activities. Furthermore, Rani and Hooda (2013) emphasized that the goal of government social activities is to establish integrity between business and society, by developing “social municipality management”.

Gupta and colleagues add to the concept of inclusive sustainable development the "development that involves marginalized people, sectors and countries in social, political and economic processes for increased human well-being, social and environmental sustainability and empowerment" (Gupta et al., 2015). Without a strong countervailing force, a vicious circle is created where resources are concentrated in the hands of the already powerful few (Gupta & Vegelin, 2016). Lupton and Hughes in 2016 propose to define the concept that "the basic idea is that if we want to have societies that are more equal citizens and have less poverty, we need to focus on the economy and the relationships between economic and social policies at the regional level" (Lupton and Hughes, 2016). Similarly, allowing more people to participate fully in economic activity must be fundamental to local development in prosperous and sustainable economies. Within this concept, Lupton and Hughes argue that there are different perspectives on "what" inclusive growth involves and on "what" it actually is at the local community level, and emphasizes that for some scientists this identifies, a "growth plus" model (Lupton and Hughes 2016; Lupton et al., 2017).

### 2.3. The Dimension of Governance in the Sustainability of Local Societies

Many countries, especially the more developed ones, have carried out public administration reforms in order to make their government more transparent, efficient, productive and responsive. This conversion brings governance into the equation as a factor in restoring citizens' trust in public administration. For example in Spain, since 2010, the Autonomous Community of Extremadura has focused on building a good “brand” based on Social Responsibility. Rakitovac and Bencic (2020) recently stated that municipal social responsibility is a permanent commitment of local authorities to transparently provide public services that will improve the quality of life of their citizens and enhance sustainable competitiveness by co-creating a supportive business environment.

The sustainability and social responsibility orientation of municipalities has different elements, according to the UN, which has identified three elements as part of the fundamental principles of public administration: transparency, accountability, efficiency (Lawton and Doig, 2006). The academic literature has also considered transparency as a key element for good governance. Authors such as Nevado-Gil et al. (2013) dealt with mechanisms of administrative transparency, such as public information through websites, while others (Gibson et al., 2005), linked accountability to transparency arguing that it serves as a control measure to determine how power is exercised and to what extent the general interest is reflected during decision making. Furthermore, several theorists concluded that good governance also requires the consistency of applied policies, and the fact that a public organization does not by nature participate in market competition, does not mean that it should not be concerned with improving its efficiency (Hendriks & Tops, 1999).

Kim et al. (2005) measured the attractiveness of the municipality (citizens' belief in the responsibility of the municipality, preeminence among other municipalities, responsiveness). Similarly, Gremler and Gwinner (2000) investigated citizens' personal connection with the municipality (satisfaction with service, quality of relationship between citizens and employees, general municipality-citizen relationship), while Mael and Ashforth (1992) examined people's emotional identification with the municipality (feeling offended when the municipality is criticized, concern for others' beliefs about the municipality, identification with its successes, discomfort from negative publicity in the media). Finally Yoon et al. (2004) investigated participation (if the citizens make proposals to improve the services provided or if they request immediate resolution of the municipality's failures).

### 2.4. The Connection of ESG Factors with the Need for “Smart & Sustainable” Cities

In the light of the seventeen Sustainable Development Goals of the United Nations (SDGs) that have been adopted by the member-states, cities are called upon to develop respecting future generations (ICLEI, 2015)<sup>1</sup>. The 11th Goal speaks of sustainable cities and communities, including affordable housing, protection from natural disasters, reduction of waste and air pollution, green spaces, stronger links between urban and rural areas and protection of cultural and natural heritage. The SDGs were also included in the legal order of the European Union under the “European Green Deal”. The importance of data and Information & Communication Technology (ICT) in smart sustainable cities is great. Measuring water and air pollution with sensors, monitoring seawater quality and generally collecting environmental, economic, geospatial, administrative and transportation data accelerate the transformation into a smart and sustainable city, favoring its positive assessment in the light of ESG criteria. The need for smart cities is inherent to the ESG discourse and essentially includes balanced economic, social and environmental development and a commitment to democratic processes and participatory governance (Yeh, 2017).

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<sup>1</sup> For more information Word Bank (2023). ICLEI (2015). Cities and the Sustainable Development Goals (K. Brekke, & M. Woodbridge). <https://www.local2030.org/library/232/ICLEI-Briefing-Sheets-02-Cities-and-the-Sustainable-Development-Goals.pdf> (Assessed 12 December 2022)

In the light of the above, the two demands for smart and sustainable cities seem to have merged into one. The key aspects of transforming a city into a smart and sustainable one has already been captured in the recent literature (Bibri and Krogstie, 2017).

### **3. ESG Performance Evaluation in Local Government and its Impact**

The efforts of the developed capital markets for the disclosure of ESG factors are considered fragmentary and not part of a single, holistic and properly designed strategy (Sepetis, 2020). The OECD published in 2012 the working paper “Defining and Measuring Green Investments”, which provides a comprehensive review of concepts and definitions related to “green” investments. In the same vein, the United Nations (UNEP FI) published the Principles of Responsible Investment (entitled “*Fiduciary Duty in the 21st Century Programme*”) urging investors on integrating ESG factors into investment analysis and decision-making processes. Moreover, the UN also developed the *Sustainable Stock Exchanges Initiative*, which in 2018 published a progress report on how securities regulators can support sustainable development goals by sharing information.

In Europe, the Commission published the *Regulation 2020/852/EU (Taxonomy)* which defines when an economic activity is characterized as environmentally sustainable and, subsequently, the *Climate Delegated Act*, the *Disclosure Delegated Act* and the *Environmental Delegated Act*. It has also published the *Non-Financial Reporting Directive (2014/95/EU)* and the *Sustainable Finance Disclosure Regulation (2019/2088/EU)*, obliging large companies to include in their public reports a non-financial report about the impact of their activities on the environment, society, labor, human rights, corruption and bribery (Brühl, 2022).

ESG factors are mostly used to assess the sustainability and ethical impact of companies. However, as demonstrated by the analysis of the previous section, Local Government interacts in an increasingly emphatic way with the concepts of environment, society and governance. Regarding the ESG criteria, these can be evaluated in a similar way to the companies, taking as a model methodologies based on international standards (SASB, GRI, etc.) and regulations. The ideal disclosure approach should focus on data quality, impartiality, broad scope, management involvement in determining ESG strategies, accuracy of information and easy accessibility on ESG information (Athens Exchange Group, 2022). The ESG evaluation of a local authority implies the need to use publicly available data for the grading and ranking of the Municipalities and Regions. The aim here – just like companies – is to provide investors with quantitative, qualitative, extensive, accurate and unbiased information on sustainability. The following five case studies are representative of ESG ranking issues, when it comes to congener entities.

The recent study by Caldeira dos Santos and Pereira (2022) comparing the performance of three ports (Bremen, Santos, Barcelona) with similar characteristics (cargo and tonnage throughput and the importance of the primary hinterland) shows that ranking could be one of the best strategies for creating a comparison table suitable for use by prospective investors. Caldeira dos Santos and Pereira concluded that environmental impact is one of the first elements that investors consider when deciding to allocate resources to high-polluting entities such as port organizations. Respectively, indicators, such as “Regional Dialogue” reflect investors' demand for positive social impact, while indicators such as “Management” and “Board” reflect investors' demands for good governance.

Similarly, the study by Paz et al. (2021), although not directly dealing with ESG criteria, attempted to use a multi-criteria approach to a set of 31 sustainability indicators and develop a dashboard to contribute to the dynamic and comparative analysis of 217 municipalities of Maranhao, a Brazilian region. The Microsoft Power BI tool was used for the data analysis and visualization, while the research methodology was based on qualitative and quantitative evidence, as it is considered less prone to bias. The TOPSIS method was also used for data classification. The output consists of graphs showing overall comparisons between municipalities, comparisons based on the ranking on social themes (using coefficients of Education, Infrastructure, Population and Health), as well as more direct comparisons based on speedometer graphs. This study concludes that the approach will help governments meet

the real needs of each region, as it allows the identification of the strengths and weaknesses of each region, pushing for the appropriate policies that will gradually eliminate the large inter-municipal inequalities.

Elgert (2018) investigated how municipal performance metrics have influenced sustainability policies. The study drew some interesting conclusions about how evaluations shape the knowledge-policy interaction. As part of this research, *STAR Communities (Sustainability Tools for Assessing and Rating communities)* was studied. STAR is an urban sustainability assessment system that was launched in 2007, to rank municipalities in the U.S.A. A city, town, or county can be signed up for the program by a “sustainability director” or other city official, who then coordinates the data collection and reporting procedure through an online reporting tool. STAR has seven goal areas (built environment, climate-energy, education etc), refined into 44 strategic objectives, which are in turn assessed by more than 500 individual indicators. Points from the indicators are tallied and cities receive a score. The conclusion reached by the interviewees (officials, investors) is that thanks to such a rating system, “high-quality” residents, businesses and investments can be attracted. However, some negative aspects were also found, such as difficulty in collecting data, data inadequacy for every single indicator and a tendency for superficial and uncontentious policies, so as to be rewarded with more points.

Bruno and Henisz (2022) attempted to assess the interaction between a series of ESG indicators and US municipal credit risk over two decades. Having carefully reviewed the relevant literature, they demonstrate that ESG variables are associated with shifts in the economic health (e.g. changes in population, income or median housing values) and fiscal health (e.g. fiscal balance, operating balance, revenue per capita, debt ratio and pension funded ratio). They concluded that the elimination of environmental problems and social inequalities ends up being rewarded by the market with favorable municipal bond yields.

Similarly, Rashidi et al. (2019) examined whether the creditworthiness of local governments can be positively affected by the adoption of energy and climate change mitigation policies. Semi-structured interviews were conducted with decision makers (municipal officials, investors, rating agency executives) in cities of developed economies, specifically in Europe and North America. The results of the interviews showed that rating agencies do take environmental and climate considerations into account in their rating processes, giving value to all three concepts raised by the researchers: financial benefits, regulatory risk management, global environmental benefits.

#### **4. The Financing of Local Government in the Light of ESG Factors**

##### **4.1. The Emergence of Green Bonds at International Level**

A major turning point in the green movement came in 2015, the year the Paris Agreement was adopted. In particular, this treaty provided a global framework for limiting global warming to below two degrees Celsius relative to pre-industrial levels, and ultimately for limiting this increase to one and a half degrees Celsius. As of July 2021, 191 UN members had signed the agreement. Issuance of green bonds increased exponentially after the Paris Agreement.

Green bonds are debt instruments issued by governments or corporations to finance environmentally friendly projects. They are the main funding tool for ESG policies. In recent years, the use of green bonds in the municipal market has gained increasing attention as municipalities around the world seek to finance the transition to a more sustainable and resilient future. The groundwork was laid in 2007 when the Intergovernmental Panel on Climate Change (a body of the United Nations) published a report linking human activity to global warming, urging key players in the financial system (such as the World Bank) to be part of the solution (CBI, 2021)<sup>2</sup>.

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<sup>2</sup> For more information Climate Bonds Initiative (2021). Sustainable Debt Global State of the Market 2020, <https://www.climatebonds.net/resources/reports/sustainable-debt-global-state-market-2020> (Assessed 16 January 2023)

First, it is important to understand the concept of green bonds and how they differ from traditional bonds. Green bonds are similar to traditional bonds in that they are issued by governments or corporations to raise capital, and investors receive regular interest payments and principal repayment. However, green bonds require a specific use of the funds which must be invested in appropriate projects, such as renewable energy, energy saving or sustainable transport – which is why they are a vital part of what is called *socially responsible investing* (SRI). Sustainable debt includes projects that are financed along with green bonds, either with social or sustainability bonds (GSS bonds). Social bonds are used to finance projects that contribute to achieving positive social outcomes, e.g. projects that provide access to basic services (e.g. health, education, affordable housing). According to Word Bank (2023)<sup>3</sup> the cumulative amount of GSS bonds issued reached USD 3.8 trillion at the end of 2022. Green bonds represent 64% and emerging market issuances 16% of the total amount. In 2022, GSS bond issuances reached USD 948 billion, a 19% decrease compared to 2021. Across all labels, social bonds saw the largest decline in volume (-39%) in 2022 compared to 2021.

Many municipalities around the world face challenges such as climate change, air and water pollution, and natural disasters, thus green bonds can be a source of financing for projects that address these challenges (ICMA, 2021<sup>4</sup>). One of the main benefits of using green bonds in the municipal market is the ability to raise funds for environmentally friendly projects without increasing the burden on taxpayers. In addition, the use of green bonds can help promote transparency and accountability in the municipal market, as green bonds are subject to strict eligibility criteria and reporting requirements. This can help strengthen the credibility and attractiveness of green bonds, as well as increase public confidence in municipalities. In the US, in addition to the government and corporate bond categories, municipal bonds (often referred to as munis or muni bonds) are quite widespread.

In a survey conducted by Bloomberg<sup>5</sup> (Hirtenstein and Husband, 2018) the green bond boom in the US also affected the financial sector of local governments, boosting the issuance of municipal green bonds, for the period 2007-2018. Their total dollar value has been steadily increasing from 2011 to 2018, reaching an all-time high of \$11.2 billion in 2017. In that year, municipal green bonds accounted for 2.6% of the total bond market. The main issuers are New York (\$8 billion), California (\$7.8 billion) and Massachusetts (\$3.1 billion). Together, they account for around 63% of all green bonds (Flammer, 2020). Compared to conventional bonds, municipal green bonds on average worth more (\$6.3 million compared to \$2.4 million), have longer durations (11.8 years compared to 9.5 years), and they have a higher credit rating (40.4% of municipal green bonds have a AAA rating, compared to just 16.6% of conventional bonds). According to SIFMA (2022) the muni bond market is one of the largest and most liquid sub-sovereign bond markets in the world, measured at US\$4trn in 2022.

Recently two study for UN PRI<sup>6</sup> with title “ESG Integration in Sub-Sovereign Debt: The US Municipal Bond Market (2021)” and “The thematic ESG approach in US municipal bonds (2023) concluding that across many fixed income asset classes, muni bond investors have

<sup>3</sup> For more information Word Bank (2023). Green, Social, and Sustainability (GSS) Bonds Market Update. <https://thedocs.worldbank.org/en/doc/98c3baab0ea4fc3da4de0e528a5c0bed-0340012023/original/GSS-Quarterly-Newsletter-Issue-No-2.pdf>

<sup>4</sup> For more information International Capital Market Association (2021). Green Bonds Principles, [https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principlesgbp/#:~:text=The%20Green%20Bond%20Principles%20\(GBP,credentials%20alongside%20an%20investment%20opportunity](https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principlesgbp/#:~:text=The%20Green%20Bond%20Principles%20(GBP,credentials%20alongside%20an%20investment%20opportunity) (Assessed 3 February 2023)

<sup>5</sup> For more information Hirtenstein, A., Husband, S. (2018). Security That Triggered a Recession Reworked to Green the Earth, Bloomberg, <https://www.bloomberg.com/news/articles/2018-10-09/security-that-triggered-a-recession-reworked-to-green-the-earth> (Assessed 15 January 2023)

<sup>6</sup> For more information UN PRI ESG Integration in Sub-Sovereign Debt: The US Municipal Bond Market (2021). <https://www.unpri.org/sub-sovereign-debt/the-thematic-esg-approach-in-us-municipal-bonds/10851.article> and The thematic ESG approach in US municipal bonds (2023) <https://www.unpri.org/sub-sovereign-debt/the-thematic-esg-approach-in-us-municipal-bonds/10851.article>



started to address ESG factors more explicitly to mitigate risk in their portfolios. Some have also gone beyond seeking better risk-adjusted investment performance to adopt an ESG thematic strategy, which involves allocating capital to themes or assets that are tied to certain environmental or social outcomes. This approach, and more broadly weighing the real-world outcomes of muni bond holdings (both positive and negative), is less common than the risk mitigation approach, but momentum is building. The two approaches are not necessarily mutually exclusive and could deploy the same techniques (for example exclusion or engagement). If anything, the US muni bond market is well suited to embracing both ESG strategies simultaneously, given the many public benefits funded by proceeds.

According Capital monitor<sup>7</sup> in Europe there is not much data on the green bond market or on the reasons why this market develops at a different pace from country to country. To date, the issuance of such bonds by European local authorities occupies a small part of the relevant market (GSS bonds). European municipalities and regions are responsible for just 0.8% of total European sustainable bond issuance between the beginning of 2019 and the end of the first quarter of 2022, raising \$7.4 billion. Sweden has the highest number of issuers over this time period, followed by Germany, closely followed by Switzerland, Russia, France, Iceland, Spain, Norway and Finland.

To distinguish between certified and non-certified green bonds, the certification information provided in the CBI database is accompanied by the identity of the certification body (Sustainalytics, Vigeo Eiris, Ernst & Young, CICERO, etc.). The two leading standards that ensure the integrity of the green bond label are the Green Bond Principles (GBP) and the Climate Bond Standards (CBS). In short, the certification process is divided into two phases. At the pre-issuance phase, the certifier verifies that (i) the projects to be financed are eligible according to the specified certification standards and (ii) the issuer has established internal procedures and audits to monitor how these proceeds are used (e.g. by submitting annual reports). In the post-issuance phase, the certifier verifies that the proceeds have been allocated to green projects according to the standards (Flammer, 2020). To performance, the coupon is on average lower for green bonds (3.3% vs. 3.5% for conventional bonds), as Zerbib (2019) points out. This difference is more difficult to interpret because of the many factors that affect green bond yields. In his analysis of green bond yields, Zerbib (2019) compares the yield to maturity of green bonds against conventional bonds that have similar characteristics (maturity, credit risk, liquidity, etc.). He finds that green bonds have a lower yield to maturity – that is, investors demand a lower yield – although the difference is relatively small. Finally, they tend to be safer, as 30.3% of green bonds have a triple-A rating (compared to 8.5% for conventional bonds), according to Bloomberg's Composite Credit Rating (Flammer, 2020). According the empirical research of Rizzi (2022) shows that natural capital loss affects financial markets and municipalities' borrowing costs. Municipal bond markets price natural capital loss risk following extreme weather events. on local tax revenue, and farming communities.

## **5. The Prospects for the Integration of ESG Factors in the Greek Local Government**

### **5.1. The Political and Social Context for the ESG Integration**

The special international circumstances that have arisen in recent years (climate crisis, war in Ukraine, independence of the EU from Russian energy, etc.) have directed mainly the private sector to intensive efforts of sustainable economic activity. However, in most countries the public sector has a large environmental and social impact, as it is the largest economic factor. In addition to being a provider of basic services (safety, health, transport, waste management) it is naturally a point of reference for the application of regulatory standards.

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<sup>7</sup> For more information Capital monitor (2023). Where Europe's cities are putting their green money

In 2021, the Chartered Institute of Public Finance and Accountancy (CIPFA)<sup>8</sup> carried out the study “*Evolving Climate Accountability*”, which examined the prospect of sustainability reporting in the public sector, to the standards of the private. The need to disclose sustainability data has been deemed even more imperative in the public sector, as the public interest underlying environmental, social and governance issues increases public attention and justifies the demand for full transparency. Therefore, such disclosures create a regime of accountability for leadership on these issues. The main problem is that so far there is no agreed standard of disclosure in the public sector, while the lack of data and the lack of skills and knowledge in collecting sustainability data and drafting the relevant policies are causing difficulties.

So far only ninety (90) municipalities have started the implementation of the ministerial plan. The important role that local governments are called to play in the effort for sustainability is not only evident from the above facts. Moreover, Greek public opinion considers that Municipalities and Regions are more connected to citizens than any other public body, as revealed by Data Consultants' research, on behalf of the *Regional Policy Monitor*<sup>9</sup> (47.4% of the sample considers that the mayor and deputy mayors represent the citizens more than anyone). According to the research, the most important problems of Greeks, in relation to the area they live in, are the condition of the road network (39.4%), the lack of cleanliness of public spaces (22.2%), poverty and unemployment (14.3%), the problems in waste collection (13.8%), the quality of public transport (10.8%), the lack of green spaces (10.2%) and the traffic (10.2%).

## 5.2. The Green Financing of Local Government in Greece

Based on international experience, ESG Local Government financing is linked to the issuance of municipal green bonds, as well as social and sustainability bonds (GSS). In Greece, the issuance of municipal bonds has not progressed, as the local authorities have not understood the advantages and risks involved. As Gekas (2020) notes, although municipal bonds are mainly used by regions, federal states or very large municipalities, they can also be issued by smaller municipalities, through inter-municipal partnerships. In any case, there is the legal possibility of issuing municipal bonds (as L. 3463/2006 dictates, “*Municipalities may issue bonds, to actualize the purposes of their competence, after approval by the Capital Market Commission*”)<sup>10</sup>.

The funding sources of Greek municipalities (Central Autonomous Funds, Public Investment Programs, grants in the form of co-financing from the EU and borrowing) play a critical role in the implementation of environmental and social policies. Due to the fiscal crisis, government funding was significantly reduced and new resources were sought through tools such as Jessica and Jeremie, Public-Private Partnerships (PPPs) and raising funds from the European Investment Bank.

The Hellenic Deposits and Loans Fund also includes several financial tools for local authorities, such as the “*Antonis Tritsis*”<sup>11</sup> Program (co-financed by the EIB) aimed at Municipalities and Regions of the country, in order to develop and upgrade their infrastructure, with total budget for the entire programming period (2020-2023), €2.5 billion. This program envisages lending to local authorities to modernize their

<sup>8</sup> For more information CIPFA (2021), *Evolving Climate Accountability: A Global Review of Public Sector Environmental Reporting*, London, July 2021

<sup>9</sup> For more information Data Consultants (2022). *The quality of life of Greeks & their perceptions of local authorities*. *Regional Policy Monitor*. <https://regionalpolicymonitor.org> (Assessed 14 March 2023)

<sup>10</sup> For more information Gekas, P. (2020). *Municipal Bonds: Solution or problem?* <https://kede.gr/dimotika-omologa-lysi-i-provlima/> (Assessed 12 December 2022)

<sup>11</sup> For more information TDP (2022), “*ANTONIS TRITSIS*” Development Program <https://www.tpd.gr/eidiko-anaptyksiako-programma-antonis-tritsis2/> (Assessed 6 March 2023) TDP (2022). *Electricity production in local infrastructure facilities* [https://www.tpd.gr/wp-content/uploads/net\\_metering.pdf](https://www.tpd.gr/wp-content/uploads/net_metering.pdf) (Assessed 6 March 2023)

basic infrastructure, mitigate the social consequences of the recent pandemic, strengthen their social structures and digital services, and modernize local civil protection.

The ELECTRA Program also enables public bodies to borrow from the Deposits and Loans Fund for energy upgrade projects of public buildings until December 31, 2025, with the possibility of extension. The buildings included in the Program should be upgraded at least to class B, while as defined in the announcement “*the subsidized actions concern the shell, the heating/cooling systems, the energy management systems and the autonomous systems*”. The categories of municipal buildings entitled to these interventions are educational and healthcare buildings (kindergartens, health centers, etc.), offices and other facilities (e.g. sports facilities, cultural event centers, etc.).

The Net Metering Program stipulates the installation of photovoltaic stations in municipal buildings in order to cover part of the energy needs of local governments (street lighting, water supply, sewerage) through energy production and energy offset. The resources of the Deposits and Loans Fund also come from the EIB, while the development of the program was assisted by the *Center for Renewable Energy Sources* (CRES). Conditions for financing through this program are the title deed or the legal lease of the space where the local authority wishes to install a photovoltaic station, the payment of all previous electricity bills, the connection of the photovoltaic station with a meter and the completion of the installation until the end of 2023.

In addition to the Deposits and Loans Fund, the **Green Fund**<sup>12</sup> also finances efforts to preserve or restore the environment and generally deal with climate change in the country. The Greek Green Fund (founded in 2010) publishes calls for proposals and may finance programs prepared by Ministries, decentralized administrations, and local governments, after first examining the adequacy of their resources (human, financial, etc.), the sustainability of the program, the social benefit, and the coherence of the action with national and community policies. The most characteristic programs of the Green Fund concerning Local Government are: i) the Program for the Protection of the Marine Environment (3 million €), ii) the Program for the Natural Environment with Innovative Actions (6 million €), iii) the Environmental Balance Program (28.7 million €) and iv) the Program for Ongoing Projects (20.5 million €).

There are also cases of multiple-sources financing, to address emergency local needs, such as the recent example of the *Reconstruction Plan for Northern Evia* for the reconstruction of the area after the wildfires of August 2021. The program is expected to be completed in 2030, while the budget amounts to € 381,642,000 and will be distributed to 71 projects related to infrastructure, the new forest, agri-food, human resources, health and welfare networks, special urban plans, tourism and marketing, culture and education, digitalization and innovation.

The implementing body will be the institution of Integrated Territorial Investment (ITI), with sources of funding the NSRF 2021-2027, the RRF, the Green Fund, the “Antonis Tritsis” Program, sponsorships and donations. The abovementioned master plan, which the head of the “DIAZOMA” union, Stavros Benos, undertook to prepare, has as its first pillar the creation of the new road axis Chalkida-Istiaia for the inclusive development of the area and as its second pillar the forest regeneration with the resin collectors and beekeepers – who have been active all these years in the wider area – as a point of reference.

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<sup>12</sup>For more information Green Fund (2022). Programs and Beneficiaries, <https://prasinoameio.gr/programmata/> (Assessed 12 December 2022)

### 5.3. Alliances with Social Partners: Current Status and Prospects

The **Social Solidarity Economy** (SSE) is a mechanism offered for Local Government partnerships with social agencies. As the *Hellenic Agency for Local Development and Local Government*<sup>13</sup> states in its annual report (2021), the social economy model focuses by its nature on the various daily issues that concern the local population, the provision of public services, and the involvement of citizens in solving local problems.

As far as the area of the Social Solidarity Economy is concerned, according to the Law 4430/2016, local governments also have the institutional/legal possibility to cooperate with the SSE organizations. In particular, the SSE organizations may implement public contracts in cooperation with local authorities (art. 4). Correspondingly, the latter are entitled to assign real estate and movable property (art. 4, par. 3) to the former, while these actions can also be financed by the EU and/or the national budget, as well as by the local governments themselves (e.g. by participating in *Social Cooperative Enterprises*, art. 13, par. 5).

Social Cooperative Enterprises (SCE) are characterized by autonomy, therefore local authorities can strengthen them and monitor the results of each action, without interfering in their administrative model, use of their proceeds, recruitment of staff, etc. Local governments, in the context of cooperation with SCE, could focus on the implementation of welfare schemes (e.g., social grocery stores, food distribution and exchanges), on educational services (student transportation, tutoring, scholarships), on the consolidation of ethical trade (peer-to-peer economy, with local products and gastronomy), in the organization of sports activities/structures and in the solid-waste collection and utilization.

Furthermore, the Centre for Renewable Energy Sources and Saving (CRES) deals with sustainable development, RES and energy saving, according to the dictates of the EU and national legislation. Its mission is to implement innovative actions for the consolidation and dissemination of new energy technologies, being a guide for the local governments throughout the territory. In addition to this, the Center generally supports the path of the municipalities towards sustainability, guiding them in matters of environmental protection, energy production from RES, green growth of the local economy, etc.

Through the BEACON Program (Bridging European and Local Climate Action), CRES supported five Greek municipalities (Agios Dimitrios, Kalamata, Ermoupoli, Farsala and Dorida) in actions concerning, according to the official press release, city collaborations for the climate (p (e.g. cooperation between the municipalities of Agios Dimitrios and Bottrop in Germany), transnational workshops for the exchange of experiences on sustainability policies between Greek and Portuguese municipalities, European municipal conferences on climate action and expert support for low carbon footprint measures.

In addition, Greece has established a transparent framework for the operation of energy communities in the country. Energy communities are essentially “urban cooperatives with an exclusive purpose”, which enable citizens and legal entities (such as local governments) to get involved in the production and utilization of clean energy sources. More specifically, municipalities or regions, as members of an energy community, can operate RES facilities with storage capacity, photovoltaic parks for solar social policy, wind farms for sale or self-production of electricity, biogas or biomass plants, municipal greenhouses with cogeneration units and desalination plants with renewable energy sources. Local government can therefore use energy communities as a tool to tackle energy poverty, by implementing a social policy to reduce energy costs. Also, it can function at the local level as a facilitator of collaborations and partnerships between citizens, small and medium enterprises and local authorities, giving prospects for innovation and employment.

## 6. Proposed Model of ESG Integration in the Greek Local Government

According to what was examined in the previous sections of this paper, the models for the evaluation and integration of ESG factors in Local Government include four main elements, each of which has its own autonomy and value. Therefore, when planning such a service in

<sup>13</sup> For more information EETAA (2021). Local Government and Social Solidarity Economy (S.S.E.), Hellenic Agency for Local Development and Local Government

our country, it is considered more appropriate to divide the project into four (4) phases. Each phase should be carefully standardized, aiming for a homogeneous application of the model. The proposed phases are summarized in Table 1.

**Table 1: Phases of ESG integration service in the Greek Local Government**

Phase	Description	Tool
1st: Reporting Phase	Creation of a questionnaire with ESG indicators, to be completed by local authorities	ESG Questionnaire
2nd: Scoring Phase	Rating the responses and deriving an average	Scoring Methodology
3rd: Evaluation Phase	Written performance evaluation per indicator (steps of progress, shortfalls, etc.)	ESG Evaluation
4th: Ranking Phase	Using a model to compare two or more entities	TOPSIS & Power BI

**1. Reporting Phase:** At this stage, it is important to standardize the reporting methodology of the information that is deemed useful for capturing the “ESG profile” of the evaluated organization. The Report is divided into three sections: *Environment* (E), *Society* (S), *Governance* (G). Each section includes indicators (*E1, E2, E3 etc., S1, S2, etc. G1, G2 etc.*), while each indicator contains a small group of questions. The completion of the Questionnaire can be done either by the competent staff of the municipality/region or (preferably) by the evaluator, in the form of interviews and evaluation of any physical and/or electronic documentation that will be provided.

The creation of the indicators was based on the requirements set by the regulations and international standards, on which other evaluation models have been based. In particular, this model was based on the Global Reporting Initiative (GRI), the IR framework of the International Integrated Reporting Council (IIRC), the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the CDP, the implementing laws of the General Data Protection Regulation (GDPR) and the Whistleblowing Directive, the guidelines of the Ministry of Environment and the National Energy and Climate Plan. Based on these standards, a small group of questions is developed for each indicator, which aims to obtain quantitative and qualitative data. If necessary, the ESG questionnaire will be updated.

**2. Scoring Phase:** At this stage, an attempt is made to evaluate the answers given to the questions of the ESG Questionnaire, with the individual grading of each indicator and, subsequently, the general grade of each section and the final overall score of the organization. Regarding the scoring methodology, among the methods used by the various models, the CDP Cities Scoring Methodology (with some elements from the STAR Rating System) was qualified. Local governments could be evaluated in four scoring bands that represent the levels of ESG integration in their operation. From lowest to highest, the scoring bands are:

D- or D: The organization at this level has just begun to organize how it will measure and record ESG data, but does not yet have the infrastructure, resources or structured plan to obtain the required information. At best, it can make estimates of potential risks or the impact of each issue {*disclosure scoring band*}.

C- or C: The organization at this level is already in the process of assessing the risks and impact of each issue. It has already started to apply measurement methodologies and has taken the first steps to manage each individual issue {*awareness scoring band*}.

B- or B: The organization at this level has managed to collect data successfully and is already working to mitigate risks and negative consequences in each issue. Partnerships with stakeholders and well-organized plans/policies are also taken into account here {*management scoring band*}.

A- or A: The organization at this level demonstrates best practice for each issue, sets ambitious goals and is making significant progress in achieving them. Any implemented holistic strategies that absolutely ensure that the organization's actions will reduce negative environmental, social and governance impact are taken into account here {*leadership scoring band*}.

Each question of each indicator will give either 0 points (in case of no data provision or a negative answer) or 1 point (in case of incomplete data provision or insufficient measures) or

2 points (in case of complete data provision or adequate measures) or 3 points (for answers that reveal integrated design, certified metrics, regularly updated data/practices, multiple safeguards).

Therefore, the score that the index will receive will result from the sum of the points of the questions it includes, taking into account the relevance of the answers both within the index and between the indicators. The average score of each section is proposed to be obtained as a result of the weighted average ( $\sum w_{ixi}/\sum w_i$ ) of the graded indicators. The weighting will be decided after the evaluator's proposal to the organization, depending on the weight (%) that they will judge that each indicator has per municipality.

**3. Evaluation Phase:** At this stage, the final report is drawn up that captures the level of ESG integration, according to the conclusions obtained from the questionnaire and the score. The structure of the "ESG Evaluation" includes the *Introduction*, which briefly describes the process followed from the beginning to the writing of the final report, as well as the general targeting of the organization through the process in the reporting period. This is followed by the *Evaluation of ESG Indicators*, where the central objective per indicator is listed, the commentary on its overall performance, the progress but also the room for improvement per indicator, as well as any notable achievement in the specific reporting period (if any).

In the last part of the ESG Evaluation, the general conclusions will be presented, i.e. limitations in data collection, the ESG course of the organization during the reporting period, the key findings of this final report and the proposed high priority actions for the near future (e.g. adoption of GHG Emissions Report, drafting and publication of a Sustainability Policy, social activities, regulatory compliance with the GDPR, etc.). Optionally at this stage, it can be discussed between the evaluator and the organization the possibility of the latter being supported by the former in the implementation of some of the proposed actions. In any case, the ESG Evaluation should be published on the organization's official website or wherever else public access is considered easy.

**4. Ranking Phase:** At this stage, the comparability of the ESG performance of the evaluated local governments is attempted. The case of Maranhao's model showed that multi-criteria decision-making with the *TOPSIS* (Technique for Order of Preference by Similarity to Ideal Solution) method is quite effective when one is asked to analyze a set of sustainability indicators, with the aim of creating a table for comparative analyses. These tables contribute to the identification of points for improvement for each organization, thereby helping investment decisions. According to Niu et al. (2018), this method reduces subjectivity in the evaluation process. After all, many studies have used the TOPSIS method as a tool to analyze sustainability at different scales, such as regions, countries, states and cities. To visualize and analyze the results generated dynamically after applying the TOPSIS method, it is recommended to create tables using Microsoft Power BI. Thus, by using a table, there is the possibility of applying many filters and comparisons contributing to the critical analysis of the results.

## **7. Conclusion**

This paper examined the issue of ESG integration in the Local Government. It was already established from the theoretical part, that the idea of Sustainability placed limitations on the insatiable economic development and depletion of natural resources. As it has been analyzed, cities gather the largest percentage of the world's population, exerting enormous environmental pressures on the planet. In addition, the intensifying and diverse social problems per region compel them to take immediate action for inclusive local growth. In the same vein, literature shows that local societies have become much more demanding in terms of transparency, accountability and efficiency of local authorities. The above dimensions of urban sustainability come to be reinforced by the demand for smart cities, again with environment, society and governance being the final recipients.

The study highlighted that there are several examples of ESG performance assessment, some of which are already being implemented in Local Government. The ESG model of the ports of Bremen, Santos and Barcelona was examined, while we also presented the ranking model of the municipalities of Maranhao, Brazil. Both models provide accurate and comparable data which helps investors make appropriate decisions for these areas. In the same vein, the STAR Communities model of US municipalities was cited.

Studies find that good municipal performance is rewarded by the market with favorable bond yields, although many municipalities tend to adopt easy and short-term sustainability solutions in order to get a favorable rating. In looking at sustainable finance, we saw that green bonds are a key tool. Since 2007, when they began to be issued, they have experienced immense growth, while in recent years there has been an increased issuance of municipal green bonds, which are issued by municipalities to finance infrastructure and services.

In Greece, the political and social conditions for the integration of ESG factors in Local Government they seem more mature than ever. The country's heavy public sector is extremely energy-intensive and it remains to be seen whether recent efforts by the Ministry of Environment to reduce consumption in public infrastructure will bear fruit. Apart from the Ministry, citizens also expect a lot from local authorities, as evidenced by recent research data, because they are closer to local communities than any other public body. Therefore, the challenge for local authorities is firstly to make the most of the available green funding and secondly to collaborate effectively with every social partner (SSE organizations, CRES, energy communities), to achieve a sustainable inclusive growth.

Such a necessity led this study to design a ESG integration model, customized for Greek municipalities and regions. Utilizing the knowledge of all the previous research, a service was designed that includes the collection of ESG data, the grading of their performance, the disclosure of these results and the comparison of performance between the organizations. Inevitably, a large field for future investigation is opened up, which includes the practical application of the proposed model in the country's Local Government and the findings from this application.

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The author declares no conflicts of interest regarding the publication of this paper.

## **8. References**

- Alexiadis, S., & Ladias, Christos, Ap. (2011). Optimal allocation of investment and regional disparities. *Regional Science Inquiry Journal*, 3(2), 45-59.
- Almeida, Z., Scheuneman, I., Sequeira, T., & Diniz, F. (2017). Challenges of a sustained and sustainable development: A study-case. *Regional Science Inquiry IX (2)*, 243-50.
- Amoiradis, C., Stankova, M., Velissariou, E., & Ladias, Christos. Ap. (2021). Sustainability analysis of Greece's promotion as a tourism destination. *Regional Science Inquiry*, 13(2), 227-238.
- Bibri, S. E., Krogstie J, (2017) "Smart sustainable cities of the future: An extensive interdisciplinary literature review", *Sustainable Cities and Society*, 31, pp. 183-212.
- Bithas, K. P., (2001) The Creation of a System of Sustainable Development Indicators for Greek Local Government Organizations (LGOs). In Bithas, K. P. *Sustainable Cities Theory-Politics*, Tipothito.
- Brühl, V., (2021) "Green Finance in Europe — Strategy, Regulation and Instruments" *Intereconomics*, 56, pp. 323–330 <https://doi.org/10.1007/s10272-021-1011-8>
- Caldeira dos Santos, M., Pereira, F. H., (2022) "ESG performance scoring method to support responsible investments in port operations" *Case Studies on Transport Policy*, 10(1), pp. 664-673.
- Constantin, D. L. (2021). Addressing spatial justice at lower territorial levels. some insights from the central and east European countries' perspective. *Regional Science Inquiry*, 13(2), 315-326.
- Davey, K., (2011). Local Government in Critical Times: Policies for Crisis, Recovery and a Sustainable Future. Council of Europe: France <https://rm.coe.int/16807472af>
- Elgert, L., (2018) "Rating the sustainable city: 'Measurementality', transparency, and unexpected outcomes at the knowledge-policy interface", *Environmental Science and Policy*, 79, pp.16-24.
- Flammer, C., (2020) "Green Bonds: Effectiveness and Implications for Public Policy", *National Bureau of Economic Research*, 101
- Gibson P. D., Lacy D. P., Dougherty M. J. (2005) "Improving performance and accountability in local government with citizen participation" *Innovation Journal: The Public Sector Innovation Journal*, 10, pp. 1-12.
- Gremler, D. D., Gwinner, K. P., (2000). "Customer-Employee Rapport in Service Relationships". *Journal of Service Research*, 3(1), pp. 82-104. <https://doi.org/10.1177/109467050031006>

- Gupta J. Pouw, N., Tonen, R M., (2015) ‘Towards an Elaborated Theory of Inclusive Development’, *The European Journal of Development Research*, 27 (4), pp. 541–559.
- Gupta, J., Vegelin, C., (2016) ‘Sustainable development goals and inclusive development’, *International Environmental Agreements*, 16, pp. 433–448.
- Hendriks, F., Tops, P., (1999) ‘Between democracy and efficiency: Trends in local government reform in the Netherlands and Germany’ *Public Administration*, 77, pp. 133-153.
- Kim, P.S., Halligan, J., Cho, N., Oh, C.H., Eikenberry, A.M. (2005) ‘Toward Participatory and Transparent Governance: Report on the Sixth Global Forum on Reinventing Government’, *Public Administration*, 65, pp. 646–654.
- Kokkinou, A., Ladas, Christos, Ap. Papanis, E., & Dionysopoulou, P. (2018). Innovation policy in European Union from a supply chain perspective. *Regional Science Inquiry*, 10(1), 141-147.
- Koudoumakis, P., Botzoris, G., & Protopapas, A. (2021). The Contribution of Cohesion Policy to the Development and Convergence of the Regions of the European Union. *Regional Science Inquiry*, 13(2), 277-290.
- Lawton, A., Doig, A., (2006), ‘Researching Ethics for Public Service Organizations: The View From Europe’, *Public Integrity*, 8 (1), pp.11-33.
- Lee, N., Sissons, P. Jones, K., (2016): ‘The geography of wage inequality in British cities’, *Regional Studies*, 50(10), pp. 1714–1727
- Lupton R. Rafferty A. Hughes C. (2016) Inclusive growth: Opportunities and challenges for Greater Manchester, Inclusive Growth Analysis Unit, University of Manchester
- Lupton, R. and Hughes, C., (2016) Achieving inclusive growth in Greater Manchester: What can be done? Inclusive Growth Analysis Unit, University of Manchester.
- Myakshin, V., & Petrov, V. (2019). Evaluating the investment attractiveness of a region based on the balanced scorecard approach. *Regional Science Inquiry*, 11(1), 55-64.
- Nam, T., Pardo, T. A. (2011) Conceptualizing Smart City with Dimensions of Technology, People, and Institutions in Bertot J., *Proceedings of the 12th Annual International Digital Government Research Conference: Digital Government Innovation in Challenging Times*. College Park, MD, US
- Napolskikh, D., & Yalyalieva, T. V. (2019). Modeling of regional economic development based on innovative clusters. *Regional Science Inquiry*, 11(2), 73-81.
- Nijkamp, P. (2011). The role of evaluation in supporting a human sustainable development: a cosmologic perspective. *Regional Science Inquiry Journal*, 3(1), 13-22.
- Painter, M., (2020) ‘An inconvenient cost: The effects of climate change on municipal bonds’, *Journal of Financial Economics*, 135, (2), pp. 468-48.
- Paz, T., Caiado, R., Quelhas, O., Gavião, L.O., Lima, G. (2021). Assessment of sustainable development through a multi-criteria approach: Application in Brazilian municipalities, *Journal of Environmental Management*, 282, DOI: 10.1016/j.jenvman.2021.111954
- Pedrana, M. (2013). Local economic development policies and tourism: An approach to sustainability and culture. *Regional Science Inquiry Journal*, 5(1), 91-99.
- Rakitovac, K.A., Bencic, M.T., (2020) *Municipal Social Responsibility, Economic and Social Development: Book of Proceedings, Proceedings of the 51st International Scientific Conference on Economic and Social Development*, Rabat, Morocco.
- Rani, G., Hooda, K., (2013) ‘Corporate Social Responsibility: Review of Literature’, *International Journal of Social Science & Interdisciplinary Research*, 2
- Rashidi, K., Stadelmann, M., Patt, A. (2019) ‘Creditworthiness and climate: Identifying a hidden financial co-benefit of municipal climate adaptation and mitigation policies’, *Energy Research & Social Science*, 48
- Rizzi, C., (2022) ‘Nature as a Defense from Disasters: Natural Capital and Municipal Bond Yields’ Available at SSRN: <https://ssrn.com/abstract=4038371> or <http://dx.doi.org/10.2139/ssrn.4038371>
- Ruxho, F., & Ladas, C. A. (2022b). Increasing funding for the regional industry of Kosovo and the impact on economic growth. *Regional Science Inquiry*, 14(1), 117-126.
- Ruxho, F., & Ladas, Christos. Ap. (2022a). The logistic drivers as a powerful performance indicator in the development of regional companies of Kosovo. *Regional Science Inquiry*, 14(2), 95-106.
- Scholte J. A. (2019) ‘After liberal global democracy: new methodology for new praxis’, *Fudan Journal of Humanities and Social Science*, 13, pp 67-92.
- Sepetis Anastasios (2020) ‘A holistic Sustainable finance model for the sustainable capital market. *Journal of Financial Risk Management (JFRM)* 9, (2), 99-125 doi: 10.4236/jfrm.2020.92006.
- Torvanger, A., Maltas, A., Marginean, I., (2021) ‘Green bonds in Sweden and Norway: what are the success factors?’, *Journal Clean Production*, 324, pp.1-11.
- Turok, I., (2010) *Inclusive growth: Meaningful goal or mirage?* By A. Pike, A. Rodríguez-Pose, & J. Tomaney (Eds.), *Handbook of local and regional development* pp. 74–86. London: Routledge.
- UNEP., (2011) *Towards a green economy: Pathways to sustainable development and poverty*. Nairobi: UNEP και World Bank (2012). *Inclusive green growth. The pathway to sustainable development*. Washington, DC: The World Bank



- Yarimoglu, E.K., Hacıoglu, F., Gencturk, S., Kamali Celik, Y., Sayginer C.A. (2015) “A Qualitative Research on Municipalities’ Social Responsibility Practices in Izmir City”, *Journal of Yasar University*, 10, pp. 75-92.
- Yeh, H., (2017) “The effects of successful ICT-based smart city services: From citizens' perspectives” *Government Information Quarterly*, 34 (3), pp. 556-565.
- Yoon, M.H, Seo, J.H., Yoon, T.S., (2004) “Effects of contact employee supports on critical employee responses and customer service evaluation”. *Journal of Services Marketing* 18, pp. 395–412
- Zerbib, O. D., (2019) “The Effect of Pro-Environmental Preferences on Bond Prices: Evidence from Green Bonds” *Journal of Banking and Finance* 98 (1), pp. 39–60.