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ESG factors in pensions funds regulations: why, how far have they gone and what is the potential for improvement?[**]

Resumo: Vários países e organizações regionais vêm desenvolvendo regulação e directrizes mais ou menos rígidas, abrangentes e flexíveis, específicas para fundos de pensão e gestores de activos, no que diz respeito à integração de considerações ESG nas suas políticas de investimento. Assim, queremos entender quais são suas limitações e oportunidades considerando a natureza e função específicas dos fundos de pensão, a sua real extensão e o seu potencial de melhoria.

Palavras-Chave: (i) Fundos de pensões; (ii) Gestores de activos; (iii) Factores ESG; (iv) Clima; e (v) Regulação.

Abstract: *Several countries and regional organizations have been developing more or less hard, comprehensive and flexible regulations and guidelines, specific to pension funds and asset managers, regarding the integration of ESG*

[*] With thanks to Luciane Moessa for her contribution and support in the collection and treatment of the main regulations and her critical notes on this paper. See, for all, her repository of worldwide ESG financial regulations, including for pension funds: http://www.sisctm.com.br/en/esg-financial-regulations/

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considerations into their investment policies. Therefore, we want to understand what are their limitations and opportunities considering the particular nature and function of pension funds, their actual extension and their potential for improvement.

Keywords: *(i) Pension Funds; (ii) Asset managers; (iii) ESG factors; (iv) Climate; and (v) Regulation.*

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1. Introduction

According to Mercer's latest report on sustainable investment in pension funds[1], the vast majority of European and British funds currently include ESG considerations in their investments, having reinforced this trend with the pandemic and in relation to concerns about climate change, which becomes, together with governance, a key area of fiduciary scrutiny. Furthermore, the data collected reveal that the main driver is the regulatory dimension (67%), although it has been losing importance compared to previous years (85%), followed by the weighting of the financial materiality of risks (40%), reputational risks (35%), alignment with sponsor's corporate responsibility strategy (26%), individuals on the trustee board (14%) and pressure from plan members (13%).[2] Thus, although pension funds are beginning to consider, on their own, the value associated

[1] Mercer, European Asset Allocation Insights 2021, Sustainable Investment Survey, 2021. https://www.mercer.com/content/dam/mercer/attachments/global/gl-2021-sustainable-investment-survey-investing-in-the-future.pdf

[2] The respondents could choose multiple drivers.

with the weighting of ESG factors in their structure and activities, regulation does not cease to play a key role in the paradigm shift.

Indeed, several (developed and developing) countries and regional organizations, such as the EU, have been developing more or less hard, comprehensive and flexible regulations and guidelines, specific to pension funds and asset managers, regarding the integration of ESG considerations into their investment policies.

Thus, in the following pages, more than answering the question whether pension funds should meet ESG issues, since the (inter) national principle of integration associated with sustainability imposes it, we seek, on the one hand, to understand what are their limitations and opportunities considering the particular nature and function of pension funds. On the other hand, it will be seen how it is being carried out by regulators all over the world, in order to leave some policy recommendations at the end, given the potential for improvement. To this end, we will only look here at the regulatory production of financial supervisors, leaving aside self-regulation, despite recognizing its value, especially for softly open the way for harder, more systematic (and public) measures.

2. Conceptually sustainable

The development of ESG factors associated with investment and, in particular, financial markets, including pension funds, appears as a natural evolution of the principle of integration underlying sustainability, which has been extended to all areas of the economy. However, the massive and indiscriminate use of the term sustainable, whether or not associated with development, and now to SDG and ESG, as if it had the magic power of solving civilizational problems and aligning economic activity with environmental, social and cultural protection, has been eroding what should be understood by sustainability and sustainable development. Therefore, this raises the question of whether these are mere terminological strongholds that serve as an umbrella to a complex reality (conceptual, interstitial, principiological and normative) or if they have a conceptual and normative nature and substance of their own. Now, since the

ESG criteria are an extension of sustainability in the corporate and financial universe, it is appropriate to delimit them it in order to understand their impact, in particular legal and in the scope of their application to pension funds, especially given the regulatory growing, both soft and hard. It is all the more necessary as their attractiveness lies in the subtle suggestion of a paradigm shift without specifying how, thus allowing the business as usual model to continue with a lighter conscience due to the ethical and moral character it contains.

At the economic level, sustainability is related to the continued, long-lasting and stable production of goods and services in order to ensure at least the satisfaction of needs and avoid situations of extreme imbalances that could affect economic activity.[3] According to neoclassical thinking, and in a simplified way, sustainability is defined by maximizing the utility derived from consumption over time, which is associated with an efficient allocation of resources and a discount rate.[4]

The delimitation of the economic sustainability rule depends on the *a priori* adoption of a stronger or weaker concept of sustainability and the acceptance of a greater or lesser fungibility of natural capital and the eventual determination of a minimum safety threshold. From Daly's thesis to Hartwick's rule, positions vary, revealing a greater or lesser sensitivity to moral and ethical imperatives and to arguments referring to a corrective and guarantor intervention by the State. However, even the theses that are intended to be neutral cannot escape a normative element related to the underlying appraisal value (judgement value)[5] and the establishment of a sustainability objective with not merely economic characteristics that calls for a multidisciplinary analysis.[6]

[3] C. Wolf, *Intergenerational Justice*, *in* R. G. Frey & Christopher Heath Wellman (eds.), *A Companion to Applied Ethics*, Blackwell, (2003) 291-292.
[4] J. M. Harris, *Basic Principles of Sustainable Development*, Global Development and Environment Institute, Working Paper n.º 00-04, Tufts University, Medford, MA, (2000) 8.
[5] J. Pezzey, M. Toman, *Making Sense of "Sustainability"*, RFF, Issue Brief n.º 02-25, Washington, DC, (2002) 3.
[6] J. M. Harris (2000) 11.

Financially, moreover on the pensions topic, sustainability also entails an abiding and steady dimension of ensuring the future fulfilment of needs.

In fact, in this matter, due to its intergenerational dimension and the trade-off between present and future (paying now for a delayed benefit), what is at stake is to ensure, on the one hand, that the exaggerated preference for the present associated with a hyperbolic discount is overcome and we save for later. On the other hand, in the "non-productive" and possibly in our most fragile phase as human beings, we have access to the means putted aside, which are expected to have been correctly managed and optimized (privately or publicly), to cover the costs of this period. Thus, much of the ideologically biased discussion centres around the financial sustainability of pension systems, that is, whether contributions will be sufficient to pay pensions in the future. [7] In this line of thought, "*the OECD Core Principles of Private Pension Regulation state that the duty of pension providers is to manage the assets in the best interests of their members and beneficiaries [with] the objectives of investment undertaken on behalf of pension fund members traditionally [being] defined by governing bodies and asset managers in financial terms: pension funds are typically expected to maximise the risk-adjusted returns/retirement benefits or to preserve the real value of pension assets/retirement benefits. They do so by focusing on financial risks*."[8] Therefore, in terms of the general regulation of pension fund investment, we verify that the overriding requirement is for the trustees to act in the long-term best interests of beneficiaries, mainly financially. This fiduciary duty also guides the approach to investment, even where there are few specific requirements, for example, in relation to ESG issues and climate change.

However, increasingly, in the wake of OECD reports[9], the concept has been extended to a more social dimension of "social

[7] A. Moreira (coord.), *Sustentabilidade do sistema de pensões português*, FFMS, (2019a) 14.
[8] IOPS, *IOPS Supervisory Guidelines on the Integration of ESG Factors in the Investment and Risk Management of Pension Funds*, IOPS (2019) 19.
[9] OECD, *OECD Reviews of Pension Systems: Portugal*, Paris, OECD Publishing (2019); OECD, *Pensions at a Glance 2015: OECD and G20 indicators*, OECD Publishing, Paris

adequacy”[10]. In other words: will pension systems be able to ensure an adequate standard of living for pensioners, especially by protecting them of an abrupt drop in income and of the risk of poverty?[11] This implies the consideration of specific indicators and measures for the social sustainability of pension systems, with consequent impacts on the governance of the funds, which may include:

i) to ensure an adequate level of income in retirement, considering the evolution of the Pension Benefit, which compares the average value of pensions in the system with the average value of wages;
ii) to prevent sudden drops in income in the transition to retirement, the Gross Old-Age Pensions Replacement Rate will be measured, which establishes the average value of new pensions as a percentage of the last salary of individuals;
iii) to prevent the risk of poverty, it is important to check the evolution of the Poverty Rate in this group, which measures the percentage of pensioners, aged 65 or over, with incomes below the poverty threshold.[12]

However, as Moreira (coord) recalls, “*contrary to the measurement of the financial sustainability of the system, this type of indicators does not lend itself to clear judgments about its (un)sustainability. It is rather about assessing whether the social sustainability of the system will improve or regress*.”[13] In other words, despite the quantitative dimension of the indicators, their assessment will be subjective and contextual, focusing on trends.

(2015); S, Scarpetta, A. Blundell-Wignall, *The next frontier for pension policy: Focusing more on social sustainability,* OECD (2015); M. Queisser, E. Whitehouse, *Pensions at a glance: public policies across OECD countries,* OECD, DELSA (2005).

[10] M. Queisser, E. Whitehouse (2005) 16.

[11] A. Moreira (coord.) (2019) 14, 69; A. Moreira (coord.), *Financial and Social Sustainability of the Portuguese Pension System*, FFMS, (2019b) 75 ss..

[12] A. Moreira (coord.) (2019a) 70-71; A. Moreira (coord.) (2019b) 120 ss..

[13] A. Moreira (coord.) (2019a) 71.

This concern with the social dimension in pension systems, that has not been addressed much as the aforementioned consecutive OECD reports and the studies by Moreira (coord.) point out, and which is of interest here for pension funds, is actually broader and older. Indeed, as Aubry et al. state: "*public pension funds have engaged in social investing since the early 1970s, when several states passed laws to screen out "sin" stocks, such as tobacco, alcohol, and gambling. The practice was broadened in the early 1980s in the wake of a major campaign to encourage pension funds and others to divest from companies doing business in South Africa. States have also aimed to achieve domestic goals, such as promoting union workers, economic development, and homeownership. In the mid-2000s, the focus shifted to "terror-free" investing in response to the Darfur genocide and to weapons proliferation in Iran. And, after mass shootings in Aurora, CO and Newtown, CT, some public funds shed their holdings in gun manufacturers. In the last few years, state legislation has renewed the call to divest from Iran and has increasingly targeted fossil fuels to combat climate change*".[14]

This trend[15], not only in public but also in private pension funds, has been extending to the so-called ESG factors, normally classified as non-financial[16], either through (more or less disinterested) voluntary commitments, or gradually, through regulatory means, all over the world, translating into different approaches, such as eco-

[14] J.-P. Aubry, et al., *ESG investing and public pension funds: An update*, Center for Retirement Research, Issue in Brief, (2020) 1.

[15] In the US, however, during the Trump Administration, the social dimension suffered a setback, since retirement-plan fiduciaries were held to a "pecuniary" standard when selecting plan investment options, therefore questioning the adequacy of social investing in defined-benefit plans covered by the Employee Retirement Income Security Act of 1974. The Biden administration has suspended enforcement of that policy and a new rule "Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights" has been proposed, establishing that when considering projected returns, a fiduciary's duty of prudence may often require an assessment of the economic effects of ESG and climate factors on the investment.

[16] IOPS (2019) 19-20, nevertheless, classifies ESG factors as financial ones, since they may materially impact the long-term risk and return of investments, a company's valuation and reputational risk, as well as its operational efficiency (governance).

nomically targeted investments, shareholder advocacy, and more commonly stock selection (screening out undesirable companies or, more recently, investing in "good" firms).

Now, this paradigm shift forces us to consider the underlying materiality, in its various dimensions (ESG but also financial) and in its intimate relationship with sustainability, considering, however, that not all ESG issues matter equally, since their relevance varies industry to industry, firm by firm, which forces ESG scores to be more tailor-made.[17]

In these terms, in an attempt to make the sustainability-ESG-materiality relationship more concrete for pension funds, some national regulations try to delimit ESG topics, generally or by sector or geographical criteria. For instance, the Australian, Malaysian and Indonesian (which comprises key performance indicators, as the Japanese guidance issued by the TCFD Consortium) regulations incorporate, for example, environmental issues such as climate change, GHG emissions, air and water pollution, waste and effluents management, water scarcity, biodiversity or deforestation; social dimensions such as diversity, labour standards (including forced and child labour), human (and particularly, indigenous) rights; and governance topics such as business ethics, anti-competitive behaviour, corruption, board composition or executive compensation schemes.

Of these specific regulatory examples of an attempt to achieve ESG materiality, we may observe that its treatment is still incipient but growing, in order to overcome the many criticisms of lack of clarity in its delimitation, classification and densification[18], even due to the underlying complexity and multifactoriality, since that ESG categories are diverse and, in many cases, very distinct from one another. In fact, it is significant that the effort around taxonomy has not yet been carried out by the specific regulators of pension

[17] E. Steinbarth, S. Bennett, *Materiality Matters: Targeting the ESG Issues that Impact Performance*, Harvard Law School Forum on Corporate Governance (2018).
[18] J.-P. Aubry, et al. (2020) 4.

funds, but worked transversally or by banking or capital markets regulators (in non-monist or twin peaks systems).

In sum, in respect to sustainability for pensions funds, two factors might converge:

i) the financial sustainability; and
ii) ii) ESG issues.

Nevertheless, in the end, the main goal is to provide the beneficiaries their pensions and, lately, also to ensure a "social adequate" life to them. This means that ESG factors or any other risks should be considered by the funds' governing bodies or asset managers as any other substantial factor that can financially impact a pension fund, and therefore be integrate ESG concerns into their risk and investment management process. In other words, pension fiduciaries should consider what ESG issues may be important to the exercise of their prudential duty to meet the pension promise.[19] This does not mean, however, that pension funds should assume themselves as motors of ESG sustainable change of the economy and have as a primordial goal the financing of ESG initiatives. In other words, there is a supremacy of the meta-interest of the beneficiaries over ESG generic concerns, which both the pension fund managers and sectorial regulators should not forget. That is, the integration of ESG issues in the structure and activities of the pension funds should be conditioned to an ESG financial sustainability.

3. Integrating ESG standards in pension funds

3.1. Linkage between pension funds and ESG concerns: Advantages and disadvantages

Given their long-term obligations, pension funds are in a comfortable position to assess long-term risks to their portfolios, and

[19] J. Sarra, *Enhancing Effective ESG and Climate Governance in Pension Fund Oversight*, Canada Climate Law Initiative (2022).

the intergenerational nature of their business model tends to open them to other intergenerational issues, such as ESG, SDGs or climate concerns. Subsequently, some of these institutional investors have realized that ESG factors represent important material risks in terms of the (financial) sustainability of their investments. Simultaneously, as "universal owners"[20] with large and diversified shareholdings, these funds might play an essential role in advocating the integration of ESG factors along their investment chains through active and responsible ownership. Or as the EIPOA states: "*Given their role as society's risk managers and important long-term investors, insurers and pension funds have a unique opportunity and responsibility to address sustainability-related challenges and facilitate the transition to a more sustainable and resilient economy*."[21]

A plethora of studies[22] already exist seeking to determine whether there is a relationship between the financial performance and the ESG performance, with an overall conclusion for positive correlation. That is: sustainable investments, especially ESG indexes, behave alike or even better than conventional investments.

[20] On the universal owner theory, see, for all, S. Lachance, J. C. Stroehle, *The Origins of ESG in Pensions: Strategies and Outcomes*, Prepared for presentation at the Pension Research Council Symposium, April 29-30, 2021 'Sustainable Investment in Retirement Plans: Challenges and Opportunities', (2021) 3-5.

[21] https://www.eiopa.europa.eu/browse/sustainable-finance_en

[22] For example, E. Albertini, *Does environmental management improve financial performance? A meta-analytical review*, Organization & Environment, 26(4) (2013); S. Brammer, C. Brooks, S. Pavelin, *Corporate social performance and stock returns: Uk evidence from disaggregate measures*, Financial Management, 35(3) (2006) 97–116; T. Busch, G Friede, *The robustness of the corporate social and financial performance relation: A second-order meta-analysis*, Corporate Social Responsibility and Environmental Management, 25, (2018) 583–608; C. Flammer, *Does corporate social responsibility lead to superior financial performance? a regression discontinuity approach*, Articles in Advance, (2015) 1–20; G. Friede, T. Busch, A. Bassen, *Esg and financial performance: Aggregated evidence from more than 2000 empirical studies*, Journal of Sustainable Finance & Investment, 5(4) (2015) 210–233; J. Margolis, H. Elfenbein, J. Walsh, *Does it pay to be good...and does it matter? a meta-analysis of the relationship between corporate social and financial performance*, SSRN Electronic Journal, (2009) 403–441. Defending and proving a negative correlation, at least for public pension funds, J.-P. Aubry, et al. (2020) 8.

However, as Lachance and Stroehle rightfully recall, "*the particular structure of pension funds creates both a set of advantages and disadvantages for the adoption of sustainable finance practices, compared with other institutional investors. While asset owners in general are often hailed as the ultimate enablers of a sustainable transition on the financial market, pension funds often do not live up to that expectation. Although there is an assumption that because of their long-term focus, pensions can take a more systemic perspective than conventional investment products, many feel restricted in integrating ESG due to their fiduciary duty to secure the financial returns of their beneficiaries and related, restraining regulation.*"[23] In other words, their "*social origins*"[24], as a combination of the historical and structural characteristics of pensions funds, may help explaining the tension around their organizational and institutional enablers and inhibiters of integrating ESG considerations into their structure and activities, mainly attending to three major factors.

Firstly, there is an agency problem at two different levels when considering integrating ESG-driven investments:

i) decision-makers and shareholders do not coincide, trustees on one side, beneficiaries on the other, with asymmetric information;
ii) decision-makers and the stakeholders are different. The first ones are either the fund board or the state legislature/regulator, or a combination of the two, where "*the stakeholders are tomorrow's beneficiaries and/or taxpayers. If social investing produces losses either through higher administrative costs or lower returns, future retirees will receive lower benefits or tomorrow's taxpayers will have to ante up. The welfare of these future actors is not well represented in the decision-making process*"[25],

[23] S. Lachance, J. C. Stroehle (2021) 1-2.

[24] S. Lachance, J. C. Stroehle (2021).

[25] J.-P. Aubry, et al. (2020) 7.

which, at the end, means that the people who are deciding are not the ones who will bear the burden of any miscalculations attending ESG concerns (mainly in their portfolios and risk management).

Furthermore, the beneficiaries are not necessarily a homogeneous group and may present diverse levels of ESG-sensitivity and valuing. Given distinct inclinations, it would be hard for pension funds to fully integrate the value of ESG factors for all beneficiaries, especially when their preferences (and attitudes) may shift over time.

Secondly, and as pointed along this paper, there could be a divergence between the fiduciary duties and ESG investment considerations, which is the more true if we attend to the implications of pensions being between Public Interest and Private Markets. As a result, there is wide consensus that pension funds must both serve the financial interests of their members and act as institutions of public interest, which creates an opportunity to extend their objectives to ESG issues but also makes them vulnerable to become political instruments.[26]

After all, "*there are five characteristics of pension funds which have an important impact on whether and how they can integrate ESG. The historical origins of funds and their regulatory embeddedness, their mandate and legal structure, the importance of corporate governance and leadership at the funds, their investment strategies and asset mix, and finally, pensions' ability to engage in collaborative and advocacy activities. In reviewing these characteristics, we emphasize that pension funds are not a homogenous community, as they have different mandates, face distinct legal environments, and have different governance structures. Despite this diversity, pension funds share a common objective, which is to identify the best investments or investment strategies to generate investment returns to be able to pay pensions to their beneficiaries. In doing so, the inherent long-term investment time horizon and the diversified portfolio structures are two of the principle enablers of ESG at pension*

[26] S. Lachance, J. C. Stroehle (2021) 5-8.

funds."[27] Consequently, on the one hand, one-size-does-not-fit-all, that is the integration of ESG factors in pension funds must attend their concrete and characteristic specificities; on the other, sustainable opportunities may arise from the linkage between pension funds organization and structure and ESG investments, especially when adequately attending to specific ESG factors as materially and financially relevant.

Finally, one major challenge to thoroughly integrate ESG factors in an investment model of pension funds is the barrier around the access to consistent, complete, and comparable ESG information. The growing of a truly digital society with Big Data and crossing and intelligent algorithms and the development of regulated ESG rating agencies may help the trustees to better assess the financial materiality of ESG concerns and the fidelity and validity of the information around the market agents proclamations about their sustainable practices. Additionally, asset owners and asset managers will need to be better prepared in terms of ESG issues, opportunities and pitfalls, when they take a long-term investment horizon. In other words, they need to increase their ESG literacy, either by contracting and integrating experts and advisers or by investing in their own skills or both.

3.2. From the mission to the governance structure and measures for ESG factors integration

The first step in the journey of integration of ESG standards in pension funds begins with reorienting their vision to make sustainability a core element of the fund's long-term mission, which ensures, or at least frames, that the strategy, business planning, activities and the governance structure encompass ESG considerations, mainly by committing to integrate ESG concerns in all investment decisions and risk management and to adopt long-termism as a guiding principle of fund investments to safeguard

[27] S. Lachance, J. C. Stroehle (2021) 27-28.

and create sustainable value and "healthy returns"[28]. This is all the more important, since the German regulator remembers, in what seems a truism attending to transparency and loyalty duties and competition fairness, that, if the financial institution adheres to self-regulatory ESG initiatives as a voluntary self-commitment (above all when integrated in its mission) they should be echoed in its strategies and guidelines. This ruling opens the door, in case of non-alignment, to possible sanctioning by the fund´s supervisor, especially because it may reflect greenwashing practices and a breach of the trustees duties.

Along with the mission statement and probably more relevant, in reality, the governance structure (i.e. oversight structures, processes and systems regarding an organization's sustainable investment decision making and implementation) should incorporate ESG considerations, in order to ensure their effectiveness. Therefore, good governance is the result of having adequate structures and processes in place and conducting continuous monitoring to ensure that they are aligned with the objectives and needs of the funds.[29] This involves not only commitment from the top and across all the structure but also executive leadership and a dedicated sustainable investment team, or at least some personnel with ESG investment knowledge and skills.

The regulators are watchful of the importance of the governance structure for ESG integration in pensions funds. For instance, the Austrian, German and Singaporean regulators want clear definitions of roles and responsibilities and refer to appropriate staff, budget allocation, and capacity-building. Going even further, the Australian pension funds regulation, in an unique example across the world, includes gender diversity in the fund's Board. Moreover, with regards to the governance structure, the German regulator states an important principle that should be accounted for in other countries regulations: the granularity level of the incorporation of

[28] UNCTAD, *How public pension and sovereign wealth funds mainstream sustainability Practices of the frontrunners and a proposed integration framework*, UN (2020) 12.
[29] UNCTAD (2020) 13.

ESG factors in the governance of pension funds should be subject to proportionality, since, for example, smaller pension funds that outsource investment management activities may find it, at least at the beginning, more difficult and costly to integrate these factors into their structure and procedures.

In this line, some regulatory authorities are trying to align interests of the governance structure with ESG considerations by establishing rules or guidelines on the selection and monitoring of service providers and the integration of ESG factors into compensation schemes of asset managers and governing bodies. The Directive (EU) 2017/828, for instance, states that "*performance should be assessed using both financial and non-financial performance criteria, including, where appropriate, environmental, social and governance factors*." Its article 3H establishes the terms of the alignment of the investment strategy of institutional investors and arrangements with asset managers. In Japan, the regulator suggests that remuneration schemes should be constructed in order to nudge sustainable growth in the long-run.

More broadly in terms of governance structure, the Directive (EU) 2016/2341 on the activities and supervision of institutions for occupational retirement provision (IORPs), in its article 25 n. 2 g), determines that the risk-management system shall cover, according to the proportionality principle, risks which can occur in IORPs or in undertakings to which tasks or activities of an IORP have been outsourced, where applicable, *environmental, social and governance risks relating to the investment portfolio and the management thereof*." Furthermore, once again attending to proportionality, risk assessment, according to article 28 n. 2 h), should include where ESG factors are considered in investment decisions, "*an assessment of new or emerging risks, including risks related to climate change, use of resources and the environment, social risks and risks related to the depreciation of assets due to regulatory change*."

Despite the EU regulation, some Member-States also provide for more ruling and guidance on ESG considerations on pension funds. For instance, in Spain, the Royal Legislative Decree 1/2002 determines, in its articles 16 n. 8, 27 n. 1 and 30 bis, that, in the case of employment pension funds, it must be indicated whether

the socially responsible investment criteria (including ESG) that affect the different assets of the pension fund are taken into account in the investment decisions, and, if so, how it is reflected in the governance structure according to the provisions of the declaration of the principles of the investment policy, and in the risk management system. Similarly, the Italian Resolution of March 16, 2012, establishes, in article 5 n. 2 c) 5, that, with reference to contractual and pre-existing pension funds with legal subjectivity, the finance function involved in the investment process checks periodically, with support of the consultant for ethical investments (if present), compliance by the parties in charge of the management of the indications given in relation to the principles and criteria of sustainable and responsible investment, where provided for within the implementation criteria of the investment policy.

On the other hand, giving article 214 n. 12 of the French Monetary and Financial Code, asset managers should mention in their annual report and in the documents intended for the information of their subscribers the methods of integrating in their investment policy the criteria relating to the respect of ESG objectives. They should specify the nature of these criteria and the way in which they apply them. Furthermore, they should indicate how they exercise the voting rights attached to the financial instruments resulting from these choices. Similarly, article Art. 42.(§ 1) n. 2 of the Belgian Law on supplementary pensions and their tax regime and certain supplementary social security benefits, of April 28th 2003, requires that pension funds draws up an annual report on the management of the pension commitment, which is made available to the organizer, who communicates it on request to the affiliates. The report should contain information on the long-term and short-term investment strategy and the extent to which social, ethical and environmental aspects are taken into account.

Still in terms of the governance structure, the UK Stewardship Code, in its Principle 1, asks asset owners and asset managers to explain their purpose, investment beliefs, strategy, and culture enabling stewardship that creates long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society. They should also explain their gover-

nance, resources and incentives support stewardship, their conflicts policy, how they identify and respond to market-wide and systemic risk, and how they review their policies, ensure their processes and assess the effectiveness of their activities, according, respectively, to Principles 2 to 5. The Draft of the UK Code of Practice (which is expected during 2022) is expected to set more specific requirements on how trustees should approach ESG issues and climate risk (even for schemes not directly subject to the TCFD regulations) in the investment strategy and how trustees and managers evaluate them.

Other regulators, such as the Brazilian[30], South African[31] and Japanese[32], demand, or at least recommend, that ESG considerations should be included in the pension funds' investment policies, and in Australia[33], that the pension funds should have a ESG risk management policy and strategy, including procedures and diligences, duly disclosed to their members.

Finally, and more generically, Principle 5 of the Malaysian Code for Institutional Investors establishes that they should incorporate corporate governance and sustainability considerations, including ESG matters, into the investment decision-making process, since they are expected to deliver sustainable returns in the long-term interest of their beneficiaries or clients.

3.3. Pension fiduciary duties

It is well-recognized, both in Civil and Common Law, that pension plan administrators are fiduciaries and their fiduciary duty comes close to imposing an ethical conduct because of the legal requirements to act in good faith and to avoid conflicts of interest.

[30] Resolution n. 4.661, 25th May 2018, Brazil Central Bank.

[31] Financial Sector Conduct Authority Guidance note 1 of 2019 (PFA).

[32] Japan's Stewardship Code, Principles for Responsible Institutional Investors – To promote sustainable growth of companies through investment and dialogue.

[33] FSC Standards (n. 20).

Fiduciaries primary duty is to take into account financial risks and opportunities when managing plan assets in order to optimize the beneficiaries interests. Trustees, in their prudential obligation, should act with the standard of care, diligence, and skill in the administration and investment of the pension fund of a person of ordinary prudence in dealing with the property of others (a somewhat more elevated than the reasonable person standard of care applied to negligence or contract cases). The duty of loyalty, translating into standards of honesty, good faith and impartiality, requires them to behave in the best interests of plan members, and to avoid conflicts of interest. They should also ensure even manoeuvrability in dealing with different classes of beneficiaries. Therefore, "*pension fiduciaries have a duty to acquire an understanding of, and then balance their decisions in respect of, current and future intergenerational risk and return over periods that potentially exceed human lifetimes. Pension funds are large diversified institutional investors with long-term investment horizons, so they cannot diversify away from systemic risk such as climate change and income inequality, and that system-level investment lens needs to be keenly attuned to intergenerational responsibilities as part of their fiduciary duties*."[34] In other words, the fiduciary duties of loyalty and prudence require the incorporation of ESG issues, since they can be financially material, a source of investment value, and a mark of prudent investment.[35] Moreover, integrating ESG concerns is becoming an investment norm globally, especially in big pension funds; and regulatory frameworks are changing in order to consider and require ESG factors incorporation as a long-term value driver.[36]

In sum, as put before, governing bodies and trustees should defend the beneficiaries interest, above all maximizing their pensions and ensuring them periodic payments after retirement and until death in respect of their service as employees, which should involve the assessment of financial risks and also, on the one hand,

[34] J. Sarra (2022) 3.

[35] R. Bauslaugh, *Climate Change Legal Implications for Canadian Pension Plan Fiduciaries and Policy-Makers*, McCarthy Tétrault (2021) 6 ss..

[36] UNEP FI, PRI, *Fiduciary Duty in the 21st Century – Final Report*, (2019); Sarra (2022) 3.

the impact of ESG factors into the performance of the fund investments. In other words, ESG considerations can (and should, under fiduciary duties) be taken into account in the pension scheme investment decision-making when they are financially material, in a sort of "governance duty" that implies obtaining information on ESG factors, assess, consider and balance it with other factors, and develop adequate expertise in doing so.[37] If they are not financially material or based in wider non-financial concerns they should meet additional tests before being integrated in the investment strategy[38].

On the other hand, trustees should attend to the (expressed and revealed) preferences, attitudes and will of the beneficiaries, including on ESG topics. This raises the question around engagement activities and voting policies on ESG issues.

The Directive (EU) 2017/828 on the encouragement of long-term shareholder engagement stipulates that institutional investors and asset managers should be transparent on the drivers of their investment strategies, including ESG factors. After all effective and sustainable shareholder engagement is a cornerstone of the corporate governance model of listed companies and one of the levers that can help improve the financial and non-financial performance of companies, including as regards ESG factors. Therefore, according to article 3G, n. 1 a), they "shall develop and publicly disclose an engagement policy that describes how they integrate shareholder engagement in their investment strategy. The policy shall describe how they monitor investee companies on relevant matters, including strategy, financial and non-financial performance and risk, capital structure, social and environmental impact and corporate governance, conduct dialogues with investee companies, exercise voting rights and other rights attached to shares, cooperate with other shareholders, communicate with relevant stakeholders of the investee companies and manage actual and potential conflicts

[37] A. Lewis, J. Gilmour, *ESG Law: ESG and UK pension schemes: a matter of governance?*, ICLG (2022).

[38] In the UK, additional very demanding legal tests are required and were partially considered by the Supreme Court in R (Palestine Solidarity Campaign Ldt and another) v Secretary of State for Housing, Communities and Local Government (2020) UKSC 16.

of interests in relation to their engagement." Therefore, the asset manager should also inform the institutional investor whether and, if so, how he makes investment decisions on the basis of an evaluation of the medium to long-term performance of the investee company, including its non-financial performance and ESG matters.

Some regulators, in line with European guidance, such as the British, Australian and Japanese, recommend collaborative engagement with other investors for scaling purposes and require the disclosure of the policies for the exercise of voting rights.

The question to be asked is what could happen if the pension trustees break their " new extended" fiduciary duties, including to identify and address ESG and climate-related financial risks? If they fail to act to address material ESG and climate-related risk, might they be personally liable for breaching their fiduciary obligation?

Concerning the EU, in relation to failing to meet the ESG requirements under the IORP II Regulations, the Pensions Authority has full monitoring and supervisory powers. Furthermore, Member States must ensure that the competent authorities[39], monitor compliance with SFDR requirements under its Article 14, with its n. 2 also declaring that the competent authorities shall have all the necessary supervisory and investigatory powers that are for the exercise of their functions under the SFDR Regulation.

In the UK, breaches of the new requirements can cause trustees to be subjected to discretionary penalties and compliance notices by the supervisor. The existing disclosure penalty regime will apply if trustees fail to inform members where they can find the TCFD report. Fiduciaries may also be subjected to mandatory penalties, for not publishing a TCFD report on a publicly available website. In addition, compliance notices can be issued against third parties where the supervisory authority considers that they are wholly or partly responsible for a breach.

In Canada, any breach of the duties set out in pension legislation is an offence under that framework, which may include the

[39] Designated in accordance with the sectoral legislation referred to in Article 6(3) of SFDR and Directive 2013/36/EU.

application of administrative monetary penalties. Additionally, offences may as well be subject to prosecution by the competent regulatory authority resulting in fines. Common Law also provides for civil remedies including payment to plan beneficiaries and/or the pension fund for breach of fiduciary duties.

In Australia, on the contrary, there are no mandatory rules, and consequently no penalties imposed in relation to the consideration of climate change risks by fiduciaries. However, there is growing interest in whether consideration of climate concerns is required under the general fiduciary duties, as presaged in the ruling of McVeigh v Retails Employees Superannuation Trust[40], where, in 2019, a member of an Australian pension plan sued pension fiduciaries for failure to identify, manage and disclose climate risks. The case was settled with "*the trustees acknowledging that climate change is a material, direct and current financial risk to the fund across many risk categories; committing to actively identifying and managing these issues, and to develop systems, policies and processes to ensure that the financial risks of climate change for assets and the fund's portfolio as a whole are addressed; and ensuring that investment managers take active steps to consider, measure and manage financial risks posed by climate change and other relevant ESG risks*."[41]

In the UK, a lawsuit is now pending against trustees of the British largest private pension scheme, for alleged breach of fiduciary duties, conflicts of interest, and failure to create a credible plan for disinvestment from fossil fuel investments.[42] Also, a member of the Shell Contributory Pension Fund filed an (unsuccessful) complaint

[40] Mark McVeigh v Retail Employees Superannuation Pty Limited ACN 001 987 739, NSD 1333 of 2018, Concise Statement filed September 21, 2019, McVeigh v. Retail Employees Superannuation Trust – Climate Change Litigation (climatecasechart.com)

[41] J. Sarra (2022) 9. See also, on this case, R. Bauslaugh (2021) 6ss; Mark McVeigh v Retail Employees Superannuation Pty Limited settlement statement, (2020), Microsoft Word – Statement from Rest 2 November 2020.docx (climatecasechart.com)

[42] McGaughey et al v Universities Superannuation Scheme Limited and individuals listed, Claim form, USS, 20211027_14857_petition.pdf (climatecasechart.com).

to the Pensions Ombudsman in the UK concerning the information provided to him on climate risks.[43]

Some litigation over ESG concerns on pension funds is already popping. *Alea jacta est*.

4. ESG risk management

"*When pursuing financial returns, pension fund governing bodies and asset managers should consider all substantial factors that can financially impact a pension fund. However, prudential regulations or rules should not make a separate case for ESG factors or any other emerging risks* (…) *but encourage pension funds' governing bodies or asset managers to fully integrate ESG factors into their risk management and investment management process. Governing bodies should therefore integrate risk factors that are relevant for a pension fund and its members and beneficiaries, and have them implemented in the overall investment process*."[44]

Therefore, the IOPS Guideline 5 states that: "*Supervisory authorities should require that a governing body and the asset managers involved in the development and implementation of a pension funds' investment policy integrate ESG factors, along with all substantial financial factors, into their investment strategies (analysis and decision-making process)* (…) [and that they] *should also request that in case these factors are not integrated in investment and risk management process, a governing body and the asset managers provide explanations*." Nevertheless, the IOPS alerts to the level of adequate granularity of the public rulings and guidelines, considering that the "*Supervisory authorities should avoid being overly prescriptive on how governing bodies should deal with ESG factors but rather emphasize the need to document the ways a particular governing body is treating such factors.* (…) *Integration of*

[43] Failure to provide information – The case study of Mr D | The Pensions Ombudsman (pensions-ombudsman.org.uk)
[44] IOPS (2019) 23.

ESG factors may be subject to the principle of proportionality, i.e. the scale of the pension funds and complexity of its governing structure."

Assuming the virtue of the IOPS' guideline, the question to ask now is: how have the national and regional regulators ruled the ESG risk management in pension funds? Too little or too much?

For instance, the compliance with Principle 7 of the UK Stewardship Code in the perspective of asset owners and asset managers (on them systematically integrating stewardship and investment, including material ESG issues, and climate change, to fulfil their responsibilities) requires as an outcome that they "*should explain how information gathered through stewardship has informed acquisition, monitoring and exit decisions, either directly or on their behalf*'. For service providers, as stated in their Principle 5 (on them support clients' integration of stewardship and investment, taking into account, material ESG issues, and communicating what activities they have undertaken), they "*should explain: how they have taken account of clients' views and feedback in the provision of their services; and the effectiveness of their chosen methods for communicating with clients and understanding their needs, and how they evaluated their effectiveness*."

In terms of target-setting or other strategies at portfolio-level, the Austrian, German and Singaporean orientations from the regulator recommend management, including stress tests and short and long-term scenario analysis, especially for climate risks, similarly to the EU and British[45] regulatory guidelines. The EIOPA, through its Opinion on the supervision of the use of climate change risk scenarios in ORSA[46], incorporates quantitative and qualitative mat-

[45] Trustees of schemes in scope must, as far as their abilities go, perform scenario analysis assessing the impact on the scheme's assets and liabilities, the resilience of the scheme's investment strategy and (where it has one) the scheme's funding strategy for at least two scenarios – one of which corresponds to a below 2°C temperature rise consistent with the Paris Agreement and one above. Scenario analysis must be carried out in the first year in which the requirements apply to the scheme, and at least every three years thereafter.

[46] EIOPA-BoS-21-127, 19 April 2021. opinion-on-climate-change-risk-scenarios-in-orsa.pdf (europa.eu)

ters regarding the portfolio's climate risk analysis and into ORSA – Own Risk and Solvency Assessment.

5. Disclosure and stewardship of investments

5.1. Disclosure

In the sake of transparency, accountability and more importantly of the confidence required between trustees and beneficiaries, disclosure duties are essential and it should be expected, as the IOPS points out in its Guideline 7, that the "*Supervisory authorities should require that a governing body or the asset managers involved in the development and implementation of the pension fund's investment policy will report to supervisory authorities how they integrate ESG factors in their investment and risk management process*." Moreover, as in IOPS' Guideline 8 and 9 respectively, "*Supervisory authorities should issue regulations, rules or guidelines on how a pension fund's governing body or the asset managers, when setting up their investment policy, should report to its members and stakeholders on substantial financial factors, including ESG factors* " and they "*should require that, in their investment policy statement, a governing body or the asset managers of a pension fund disclose to members and stakeholders information about the pension fund's investment policies in relation to long-term sustainability, including ESG factors, stewardship and non-financial factors. Where appropriate, pension funds should also regularly provide reports on their engagement with investees as well as request companies in which they invest to disclose their ESG-related policies*."

In sum, the regulators should regulate or establish guidance on disclosure on the integration of ESG factors in pension funds considering not only the markets, the stakeholders, the investees and the supervisors, but also the members and beneficiaries of the pension funds. But how are real world regulators dealing with this topic?

The EU has been investing in this topic and presents several rulings that enforce disclosure on the integration of ESG factors.

Firstly, the Regulation (EU) 2019/2088 on sustainability-related disclosures in the financial services sector (SFDR)[47][48] requires pensions funds to disclose:

i) their policies on the integration of sustainability risks in their investment decision-making process (article 3);
ii) their remuneration policies information on how those policies are consistent with the integration of sustainability risks (article 5);
iii) the manner in which sustainability risks are integrated into their investment decisions, and the results of the assessment of the likely impacts of sustainability risks on the returns of the financial products they make available (article 6); and
iv) the adverse sustainability impacts at financial product level (article 7).

Where a financial product promotes, among other characteristics, environmental or social characteristics, or a combination of those characteristics, provided that the companies in which the investments are made follow good governance practices, the information to be disclosed pursuant to Article 6(1) and (3) shall include, in accordance to article 8, information on how those characteristics are met, and if an index has been selected as a reference benchmark, information on if and how this index is coherent with those characteristics. On the other hand, attending to article 9, where a financial product has sustainable investment as its objective and:

[47] Although this Regulation does not cover national social security schemes covered by Regulations (EC) n. 883/2004 and (EC) n. 987/2009, considering that Member States are opening up parts of the management of compulsory pension schemes to financial market participants or other entities, and since they are exposed to sustainability risks and might consider adverse sustainability impacts, or ESG investment, Member States should have the option to apply this Regulation with regard to such schemes in order to mitigate information asymmetries.
[48] In Portugal, see Circular n. 1/2021 of February 26th, of the ASF.

i) an index has been designated as a reference benchmark, the disclosure should also include information on how the designated index is aligned with that objective, and an explanation as to why and how the designated index aligned with that objective differs from a broad market index;
ii) no index has been selected, the disclosure should include an explanation on how that objective is to be attained.

If a financial product has a reduction in carbon emissions as its objective, the disclosure requirement includes the objective of low carbon emission exposure in view of achieving the long-term global warming objectives of the Paris Agreement and a detailed explanation of how the continued effort of attaining the objective of reducing carbon emissions is ensured.

Furthermore, if the pension fund has more than 500 employees, considering article 4 n. 2, 3, 4 and the underlying principle of proportionality, it should disclose information about its policies on the identification and prioritisation of principal adverse sustainability impacts and indicators; a description of the principal adverse sustainability impacts and of any actions in relation thereto taken or, where relevant, planned; brief summaries of engagement policies; a reference to its adherence to responsible business conduct codes and internationally recognised standards for due diligence and reporting and, where relevant, the degree of its alignment with the objectives of the Paris Agreement.

Secondly, the forementioned Directive (EU) 2017/828 asks institutional investors and asset managers to publicly disclose information about the implementation of their engagement policy and in particular how they have exercised their voting rights. The asset managers disclosure should cover, according to article 3i n. 1, reporting on the key material medium to long-term risks associated with the portfolio investments and its composition, including corporate governance matters and other medium to long-term risks, on the use of proxy advisors for the purpose of engagement activities and their policy on securities lending and how it is applied to fulfil its engagement activities if applicable. The asset manager should also inform the institutional investor whether and, if so, how the

former makes investment decisions on the basis of an evaluation of the medium to long-term performance of the investee company, including its non-financial performance, and on whether and, if so, which conflicts of interests have arisen in connection with engagements activities and how the asset managers have dealt with them. Furthermore, proxy advisors shall publicly disclose (on website) on an annual at least all the information in relation to the preparation of their research, advice and voting recommendations demanded in article 3j n. 2

Thirdly, the Commission Delegated Directive (EU) 2021/1270 of 21 April 2021 amending Directive 2010/43/EU as regards the sustainability risks and sustainability factors to be taken into account for Undertakings for Collective Investment in Transferable Securities (UCITS) requires the ordinary integration of sustainability risks into the management of investment funds.

In the antipodes, the Australian capital markets regulator issued, in its Regulatory Guide 65, disclosure guidelines for investment products (S1013DA) on "*how labour standards or environmental, social or ethical considerations are taken into account in selecting, retaining or realising an investment*" if the financial products claim their integration. Therefore, the guidelines focus especially on the standards, methodologies and weighting system used.

5.2. Stewardship of Investments

According to the UK Stewardship Code (2020), which establishes high stewardship standards aimed at those responsible for investing the assets of UK savers and pensioners, and those who support them, "*Stewardship is the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society*." Although the voluntary nature of this code, it represents a significant shift of the traditional paradigm, where the main aim for fiduciaries was typically phrased as the maximization of investment returns for beneficiaries, commensurate with an acceptable degree of risk. The long-term, environmental and social

considerations introduce a change and mark a concern with the impact of business on the planet and society.

In regard to legislation concerning stewardship, the EU SRD II Directive will increase disclosure of investment management activities. But apart from this, there is little legislation in this area, but voluntary stewardship codes have been developed in Australia, India, Japan, Switzerland and the UK and have received widespread support.[49]

The Australian Asset Owner Stewardship Code constitutes a comprehensive guide to the reporting requirements of its signatories, who are required to make annual reports publicly available, including ESG integration into investment processes and engagement with management (with no specificities for climate change). The code has a broad application, but pension funds seam to be the main drivers.

6. Final remarks

6.1. In a nutshell

Our overall conclusion is that, apart from voluntary commitments and self-regulation, the integration of ESG factors in pensions funds and asset managers regulations is still limited in many parts of the globe, especially when compared to banking regulations. Nevertheless, it is increasing rapidly, particularly in Europe, which means that, on the one hand, pension fund investments are coming under more granular scrutiny, and, on the other, supervisory authorities have a margin to evolve. Hence, actuaries involved with pension funds must be conscious of these trends in order to ensure that their clients or employers address the challenges timely and adequately.

[49] P. Meins, et al, *Pension Fund Environmental, Social and Governance Risk Disclosures: Developing Global Practice*, Discussion Paper, Resource and Environment Working Group, International Actuarial Association (2020) 13.

6.2. Policy recommendations

Considering our description and analysis of ESG factors in pension funds regulations around the globe, the time as come to try to establish policy recommendations to governments (in general) and pension fund regulatory and supervisory authorities (in particular) for them to support the involvement of pension funds in ESG initiatives:

1. Regulatory and supervisory authorities should consider and assess: i) what is the best regulation tool for each specific purpose in ESG regulation: commands, economic instrument, nudges?; ii) what is the adequate level of the regulation intensity: harder or softer?; iii) should there be (or not) sanctions for governing bodies, trustees and property owners who do not comply?; and more importantly, iv) how to align the sometimes divergent interests of an increasingly disintermediated structure of corporate ownership with trustees, consultants, external asset managers, beneficiaries and also the community?;
2. We recommend clear, well communicated, consistent and long-term policies and regulations so that strategic and financial players have the confidence to integrate ESG considerations in their business model. For instance, regulatory sludges and barriers and contradictory policy signals must me tackled, such as the removing of fossil fuel subsidies, quantitative and qualitative investment obstacles in pensions regulations, namely in terms of scaling by, for example, pooling resources to invest jointly. After all, nudging pension funds to move their assets towards ESG initiatives will need stable and secure conditions, such as guarantees, public financing mechanisms, tax incentives or the help of investment banks. This is the more true since this strategic shift involves risks and costs that may be difficult to the pension funds, especially in the beginning , to assess or to hedge;[50]

[50] R. Della Croce, C. Kaminker, F. Stewart, *The Role of Pension Funds in Financing Green Growth Initiatives*, OECD Publishing, Paris (2011) 61-64.

3. In order to ensure clear and transparent criteria and standards, and consequently their monitoring and evaluation, governments or regional organizations should consider sponsoring a rating agency or a standard setter to endorse ESG projects;
4. Governments, regulators and supervisors should also promote both financial and ESG literacy of the governing bodies but also of the beneficiaries and consider to require the appointment of trustees with experience of these sectors – particularly where investments are intended to be undertaken in-house, which would improve pension fund governance and oversight; [51]
5. In order to encourage institutional investors to be active, long-term investors, the regulatory and supervisory authorities should more often consider to remove obstacles to active ownership and voting (such as taxation, takeover rules, length of mandates given to external managers, the turnover of funds, fees paid), to create incentives (such as requiring voting disclosure), and to encourage collaboration initiatives;[52]
6. Supervisors should embrace the principle of proportionality in its triple test (adequacy, necessity and not excessive) to regulate and control the integration of ESG factors in pension funds: i) by not forgetting that the main objective of pension funds is ensuring pensions to beneficiaries and not promoting ESG investments *per se*; ii) by recognising very different types, sizes and structures of pension funds, so one-size-regulation-does-not-fit-all, which entails for a more granular approach across all the ESG regulations;
7. Imposing (proportional) external auditing should be regarded as essential for sustainability reporting, once it can ensure quality and reliability (preventing greenwashing), while helping to enhance reporting skills and capacities through best practice sharing;
8. Attending to International Law evolution, voluntary commitment trends and the development of taxonomies (e.g. green, social, SDGs), regulators may go beyond ESG concerns and build invest-

[51] R. Della Croce, C. Kaminker, F. Stewart (2011) 64.
[52] R. Della Croce, C. Kaminker, F. Stewart (2011) 65.

ment strategies around broader environmental or developmental objectives such as the SDGs;

9. The regulators should be clear on the asset classes to be evaluated;
10. The involvement of stakeholders in the elaboration and enforcement of the Sustainability/ESG policies regarding risk management and positive impact investments should be endorsed by the regulators and supervisory authorities, who should also look at the more detailed regulatory solutions for risk management in banking as a benchmark for pension funds and asset managers;
11. The regulators should also be more assertive in the definition and establishment of ESG risk assessment criteria and in guiding risk mitigation strategies;
12. Climate risks identification, monitoring and disclosure should be emplaced, since there are presently no specific requirements concerning pensions funds' climate change risks, contrarian to the spirit of the recommended disclosures from the of the Financial Stability Board (FSB) Task Force on Climate-related Financial Disclosures (TCFD);
13. The regulators should also consider to establish the disclosure of the proportion of the level of sustainability and of positive impact of the investment portfolio, considering contextual and granular characteristics (e.g. sector, size, level of disclosed engagement);
14. Procedures and criteria to prevent and combat greenwashing should be strengthened;
15. Finally, tracing and assessing financial returns according to ESG classification should be contemplated, not only for ensuring the goodness of the strategy and activities of the pension funds but also for aligning interests with the trustees, mainly through impacts on their remuneration schemes.

6.3. What does the future hold?

Covid-19, as a syndemy, has shown, in a very salient way, the close interconnections between environmental (including climate), social, governance, economic and financial issues. If its brutal and unequal distributive impact rises hope in a more holistic, inte-

grated, strengthened and strategic approach to these concerns, and therefore in a new breath to integrating ESG factors in financial regulation, in particular concerning pensions funds, the ongoing war in Europe, with growing preoccupations associated to inflation and food security, seems to be deviating the attentions.

Nevertheless, even with a war, some challenges are long-lasting, such as climate change, environmental decline, social inequality and aging. Also ESG risks will remain of crucial concern for pension funds and their advisers. Therefore, and attending to trends in financial and environmental regulations and the persuasive and the almost subliminal drive of soft law, self-regulations and voluntary commitments, it is most likely that their "hoft" power[53] will frame, influence and change public ESG regulations of pension funds.

Furthermore, the development of digital governments and regulators, with an increasing integration of technology in policy, law and regulation making, opens the door to more precise, calibrated and rapidly updated ESG regulations of pension funds and to new (technical, political, legal and ethical) challenges, namely concerning transparency, the quantity and quality of the data used (including their assessment and validation), the design of algorithms and their determinist and narrowing potential.[54] In other words, the use of technology, especially big data and AI (machine-learning and intelligent algorithms) may help in this (crude) personalization of the regulation and of its definition of objective ESG indicators, making it more effective and fair. Also, RegTech, SuperTech, machine-consumable and self-executing regulations may also improve compliance, especially in terms of disclosure, by decreasing the translation gap between the making and the consumption of regulation.

[53] *Hoft law* as soft law with hard effects. L. Catarino*, O Direito Administrativo Global na Regulação Financeira Europeia: Alguns Problemas*, Revista do Ministério Público 131 (2012); L. Catarino*, A "Agencificação" na Regulação Financeira da União Europeia: Novo meio de regulação?*, Revista de Concorrência e regulação, n.º 9 (2012) 158.

[54] For all, see R. Saraiva, *Segurança Social, Direito e Tecnologia: entre rule-as-code e a personalização*, RFDUL, special number, (Forthcoming).