
Polish citizens' pension investment preferences in the context of their awareness of climate change

Climate change and the level of future pension benefits are challenges for the next generations. One of the answers to both problems is to push capital savings towards sustainable ESG (Environment, Social, Governance) investments. At the same time, most studies show that the lack of so-called green products in the investment market is caused by a lack of demand. It will probably change, both due to the growing awareness of climate change, and thus the pressure of retail investors and mainly due to regulations introduced by public institutions, especially by the European Union. The article aims to verify whether Polish individual investors and people with additional capital pension insurance can create significant pressure on fund managers, to increase the share of the green investments in their investment portfolio. In this context, I assume that shareholders (who care about financial profit) are also stakeholders (so they do not want to feel the negative effects of corporate actions on the climate and will take it into account when investing). Using statistical analysis of data collected as part of a nationwide survey on a representative sample of Poles ($N = 2416$), I answer the following questions: are people who believe that the anthropogenic climate crisis is an important problem more willing to invest in ESG, and if such investments would combine with less profit, would they have decided to so anyway?

Key words: climate change, ESG, pension funds, pension investment, pensions

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Introduction

The future life of pensioners' depends not only on the structure of the retirement system and its coverage but also on the consequences of climate change. Thus, on the one hand, the construction of the pension system and the financial decisions of citizens are crucial for the pension benefits of the upcoming generations and will have an impact on the level of future benefits.¹ While on the other hand, even if someone receives adequate pension benefit they could be endangered in old age by the risk of different natural hazards caused by climate change.² Therefore, there is a need for two-track actions, to ensure an appropriate structure for the pension system and to tend to a significant reduction in the pace of climate change. Environmentally sustainable investments may be the way to, at least partially, achieve these goals. This fits in with the new discourse and trends that are becoming stronger in investments, so-called green finance. Green or in a broader sense sustainable investment is both a new ethos in finance and a shift brought about by policy decisions and, in some cases, bottom-up pressure from pension funds members. Currently, there are more and more products that value environmental, social, and corporate governance (ESG) investment in the global markets.³ "Green transition" requires capital that is allocated also in the pension funds. In this context, it should be remembered that pension funds are very important players in the capital markets. Assets under the management of global pension funds are currently over 50 trillion USD.⁴ Therefore, pension funds investment strategies could mitigate or accelerate the climate crisis.⁵ Whereas the European Union (EU) implements the European Green Deal intending to become the world's first climate-neutral continent by 2050, the role of mostly privately funded occupational pension plans in achieving this goal is growing. Moreover, the Sustainable Finance Disclosure Regulation EU 2019/2088 (SFDR) is a central element of the European Commission's 2018 Action Plan for financing sustainable growth. This regulation will provide transparency on the degree of ESG investments of financial products and includes requirements on sustainable investments in economic activities that contribute to environmental or social objectives. Financial products have to disclose information

1 R. Thaler, H. Shefrin, *An economic theory of self-control*, "Journal of Political Economy" 1981, Vol. 89; R. Thaler, S. Benartzi, *Save More Tomorrow™: using behavioral economics to increase employee saving*, "Journal of Political Economy" 2005, Vol. 112, No. S1; G. Adams, B. Rau, *Putting off tomorrow to do what you want today. Planning for retirement*, "American Psychologist" 2011, Vol. 66, pp. 180–192.

2 P. Gardoni, M. Colleen, A. Rowell, *Risk Analysis of Natural Hazards Interdisciplinary Challenges and Integrated Solutions*, Switzerland 2016.

3 M. Sherwood, J. Pollard, *Responsible investing. An introduction to environmental, social and governance investments*, London, New York 2019.

4 Organisation for Economic Co-operation and Development, *Pension Markets in Focus 2020*, 2020, www.oecd.org/finance/pensionmarketsinfocus.htm (online access: 1.7.2021).

5 Z. Yunker, J. Dempsey, J. Rowe, *Pensions, Climate Change and a Just Energy Transition, Austerity and its Alternatives*, 2020.

on ESG investments in pre-contractual documents as well as in periodic reports. In the above-mentioned documents and legal acts, the greatest emphasis is placed on disclosure and reporting. This means that the role of individual investors, reading the reports as well as their pressure to change the investment policy into a more pro-climate one, may remain important to meet the goal of green investment of pension and investment funds. The level of public consciousness about this global challenge may influence the pro-environmental policies, including financial sector regulations. There is a lot of research on people's awareness about the anthropogenic cause of climate change in the world. It is proven that the level of climate change awareness may have a positive impact on behavioural change of managers in the industry⁶ and enhance adaptive capacity.⁷ Research also shows that institutional investors take two steps: on the one hand, they resign from investing in industries with high CO₂ emissions, but on the other they forget and ignore the other carbon risk which are indirect emissions like the consumption of purchased electricity or heat.⁸ Studies conducted in the UK over the period 1990–2005 show that even though the institutional investors' managers awareness about climate change is rising, it has a small impact on their investment policy. One of the main reasons being the lack of market demand.⁹ This is confirmed by the research conducted in 2015 and 2017 among portfolio managers and research analysts. When asked why they did not take any ESG issues into consideration in their investment analysis or decisions 47% of them (twice, in 2015 and 2017) answered that it was because of a lack of demand on the part of clients and investors.¹⁰ Individual investors' interest in ESG seems, however, to be growing. The study conducted among 800 individual investors in the US shows that their interest in sustainable investing has increased from 71% in 2015 to 85% in 2019 and among the youngest – from 84% to 95%.¹¹ However, the authors of a study about climate change awareness in 119 countries, which represent over 90% of the world's population, show that the level of climate awareness, risk perceptions and support for pro-climate policies varies greatly across the world.¹² Another issue is whether retail investors are willing to give up some of their profits for the sake of sustainability. An experiment held in

6 I.R. Halady, P.H. Rao, *Does awareness to climate change lead to behavioral change?*, "International Journal of Climate Change Strategies and Management" 2010, Vol. 2, No. 1, pp. 6–22.

7 N.A. Marshall, S. Park *et al.*, *Climate change awareness is associated with enhanced adaptive capacity*, "Agricultural Systems" May 2013, Vol. 117, pp. 30–34.

8 P. Bolton, M. Kacperczyk, *Do investors care about carbon risk?*, "Journal of Financial Economics" 2021, Vol. 142(2), <https://doi.org/10.1016/j.jfineco.2021.05.008>.

9 S. Pfeifer, R. Sullivan, *Public policy, institutional investors and climate change: a UK case-study*, "Climatic Change" 2008, Vol. 89, pp. 245–262.

10 CFA Institute, *Environmental, Social and Governance survey*, 2017, <https://www.cfainstitute.org/-/media/documents/survey/esg-survey-report-2017.ashx> (online access: 1.7.2021).

11 Morgan Stanley, *Sustainable Signals: Individual Investor Interest Driven by Impact, Conviction and Choice*, 2019, https://www.morganstanley.com/content/dam/msdotcom/infographics/sustainable-investing/Sustainable_Signals_Individual_Investor_White_Paper_Final.pdf (online access: 1.7.2021).

12 T.M. Lee, E.M. Markowitz *et al.*, *Predictors of public climate change awareness and risk perception around the world*, "Nature Climate Change" November 2015, Vol. 5.

the Netherlands shows that the average pro-socially motivated investor indeed expects lower performance and is prepared to pay higher fees for SRI (socially responsible investments).¹³ Research shows that this decision may depend on investor core values. A survey conducted among academics show that altruistic values are positively associated with the decision to invest responsibly. In turn, egoistic individuals are willing to invest responsibly only if it brings with it a high investment rate.¹⁴ This article examines Polish citizens' pension investment decisions in the context of their awareness of climate change. Poland was chosen because it started to implement Employee Capital Plans (*pracownicze plany kapitałowe*, PPK) in 2019 and the possibility to put pressure on pension and other investment funds in the field of assets allocation may be growing in the future.¹⁵ By combining stakeholder and shareholder theory, I check whether the awareness of climate change has an impact on the expectations of certain behaviours from an investment fund. In this sense, shareholders threatened by climate change go far beyond the purely economic goals of maximizing profit and might put pressure on sustainable investments. Although the discussion and analysis of ESG investment returns is still ongoing,¹⁶ using quantitative data, I analyse whether individual investors in Poland perceive climate change as significant and are ready to resign from higher returns for ESG. So are individual investors willing to put pressure on pension fund managers by forcing them to offer green investment products?

Conceptual framework ESG: from shareholder to stakeholder

There is no one definition of ESG investment. Depending on the times and region different authors put attention to different aspects of this kind of economic activity. In the subject literature, ESG is also called ethical, sustainable or responsible investment.¹⁷ For the purpose of this article, I have elaborated and simplified the definition of ESG from art. 2 p. 17 of the SFDR directive which I used in the research survey to explain this term to respondents. The definition is as follows: ESG investment is a type of investment that

¹³ A. Riedl, P. Smeets, *Why Do Investors Hold Socially Responsible Mutual Funds?*, "The Journal of Finance" 2017, Vol. LXXII, No. 6.

¹⁴ D. Brodback, N. Guenster, D. Mezger, *Altruism and egoism in investment decisions*, "Review of Financial Economics" January 2018, Vol. 37(1), pp. 118–148.

¹⁵ S. Jakubowski, *Gromadzenie środków w pracowniczym planie kapitałowym*, „Zeszyty Naukowe Politechniki Poznańskiej. Organizacja i Zarządzanie” 2019, Vol. 80, pp. 85–98.

¹⁶ G.L. Clarck, A. Feiner, M. Viehs, *From the stockholder to the stakeholder. How sustainability can drive financial out-performance*, 2015; T. Czerwińska, P. Kaźmierkiewicz, *ESG Rating in Investment Risk Analysis of Companies Listed on the Public Market in Poland*, "Economic Notes" 2015, Vol. 44, No. 2, pp. 211–247; F. Alessandrini, E. Jondeau, *ESG Investing: From Sin Stocks to Smart Beta*, "The Journal of Portfolio Management Ethical Investing" 2020, Vol. 46, Issue 3, pp. 75–94.

¹⁷ N.S. Eccles, S. Viviers, *The Origins and Meanings of Names Describing Investment Practices that Integrate a Consideration of ESG Issues in the Academic Literature*, "Journal of Business Ethics" 2011, Vol. 104, pp. 389–402.

contributes to environmental, social and good governance objectives. It means that assets are invested in economic activity as measured, for example, by key resource efficiency indicators on the use of energy, renewable energy, raw materials, water and land, on the production of waste, and greenhouse gas emissions or economic activity that contributes to tackling inequalities or that fosters social integration and cohesion as well as economic activity with respect to sound management structures, employee relations, remuneration of staff and tax compliance.

To ESG one can look using the lens of shareholder and stakeholder theories, operating within the agency theory. The premise of the former is that the only goal for the manager (that we can call an agent) is to increase the return on an investor's investment (principal). The only social responsibility in business is increasing the financial profits.¹⁸ Therefore, the main assumption of this theory is that people buy shares strictly to earn the maximum possible return on their funds and managers have only one ethical duty to the owners – to generate significant value. In such a context ESG investment is considered as good and ethical only if it gives higher return interests.

The stakeholder theory is broader because the principal can be defined as all (or many on clearly defined terms) parties that are in any way affected by the economic activity of the organization. The interests of shareowners are therefore important, but managers should take into account also the interests of other groups. For this reason, the agent must consider the consequences of its activity in a broader sense and is responsible to all stakeholders, even at the expense of financial benefits.¹⁹ The term “stakeholder” is very broad and considered differently by scholars and practitioners.²⁰ It is difficult to identify some stakeholders and their importance. As Thomas Donaldson and Lee Preston state, the stakeholder theory does not imply that all the stakeholders should be involved in the decision process on the same basis. Therefore, it is necessary to distinguish these groups on the basis of specific criteria.²¹ Ronald Mitchell, Bradley Agle and Donna Wood²² state that sometimes the stakeholders can be invisible for managers if they do not have one or more of those three characteristics: power, legitimacy or urgency. The power is the ability to bring about the outcomes a stakeholder desires, regardless of resistance. That means that a stakeholder has a physical, material or symbolic resource. Legitimacy refers to the socially accepted and expected structure or behaviour. This often goes together with power, but not always do legitimate stakeholders have power. The urgency is

18 M. Friedman, *The social responsibility of business is to increase its profits*, “The New York Times Magazine” 13 September 1970.

19 E.M. Dodd, *For whom corporate managers trustees?*, “Harvard Law Review” 1932, Vol. 45, No. 7, p. 1145.

20 R. Phillips, R.E. Freeman, A.C. Wicks, *What Stakeholder Theory Is Not*, “Business Ethics Quarterly” 2003, Vol. 13, No. 4, pp. 479–502.

21 T. Donaldson, L.E. Preston, *The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications*, “The Academy of Management Review” January 1995, Vol. 20, No. 1, pp. 65–91.

22 R.K. Mitchell, B.R. Agle, D.J. Wood, *Toward a theory of stakeholder identification and salience: defining the principle of how and what really counts*, “Academy of Management Review” 1997, Vol. 22, No. 4.

the degree to which stakeholders claim immediate action or attention. This division allows structuring not only in the number but also in the role of stakeholders, dividing them depending on whether they have some or all of the attributes into: latent, expectant and highly salient.²³ Andrew Friedman and Samantha Miles, in turn, define the type of stakeholder on the basis of the type of contract that connects them with the organization. Their role depends on how strong this contract is: recognized or not, explicit or implicit or even no contract.²⁴ Therefore, stakeholder theory shows that more groups to a different extent are affected by the economic activity of different organizations (corporations, investment funds and others). In such a context, ESG investing are fulfilling stakeholders needs – we are all affected by climate change that could be fostered or stopped by companies. Managers should take this into account, even though the financial results of the shareowner could be lowered. A lot of analysis shows, however, that ESG investing brings about results as good as investing in instruments without taking ESG factors into account.²⁵ From the point of view of R. Mitchell *et al.* both the importance of climate issues as well as the green actions of many international institutions mean that stakeholders insisting on this issue have all three characteristics: power, legitimacy and urgency.²⁶ The subject literature emphasizes the need to mobilize all other stakeholders across society to turn the economy onto a green track.²⁷ Although not always, stakeholders have the appropriate knowledge about the necessity of action and their role in this.²⁸ In the context of ESG one can say, that often stakeholders and shareholders' interests are the same. Partially, if ESG means lower returns (however a better climate is good for all, including shareowners) or fully if the manager is investing in ESG and at the same time the return rate is at least as high as other investment returns.

23 *Ibid.*, pp. 853–886.

24 A.L. Friedman, S. Miles, *Developing stakeholder theory*, "Journal of Management Studies" January 2002, Vol. 39, p. 1.

25 D. Peiris, J. Evans, *The relationship between environmental social governance factors and US stock performance*, "Journal of Investing" 2010, Vol. 19(3), pp. 104–112; B. Hoffman, T. Armangue, J.T. Parrado, *The Business Case for ESG Investing for Pension and Sovereign Wealth Funds*, Inter-American Development Bank, Policy Brief No. IDB-PB-338, 2020; A. Kempf, P. Oshtoff, *The effect of socially responsible investing on portfolio performance*, "European Financial Management" 2007, Vol. 13(5), pp. 908–922; M. Statman, D. Glushkov, *The wages of social responsibility*, "Financial Analysts Journal" 2009, Vol. 65(4), pp. 33–46; C. Flammer, *Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach*, "Articles in Advance" 2015, pp. 1–2.

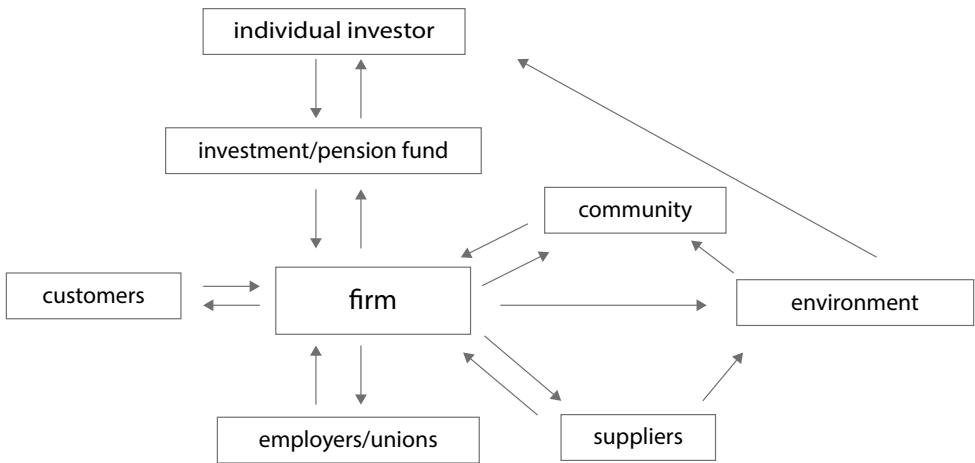
26 R.K. Mitchell, B.R. Agle, D.J. Wood, *op. cit.*, pp. 853–886.

27 C.S. De Silva Lokuwaduge, K. Heenetigala, *Integrating Environmental, Social and Governance (ESG) Disclosure for a Sustainable Development: An Australian Study*, "Business Strategy and the Environment" 2017, Vol. 26, pp. 438–450; F. Lamperti, M. Mazzucato, A. Roventini, G. Semieniuk, *The Green Transition: Public Policy, Finance, and the Role of the State*, "Vierteljahrshefte zur Wirtschaftsforschung" 2019, Vol. 88, Issue 2, pp. 73–88; M. Mazzucato, *Stakeholder Capitalism is Urgently Needed – and the COVID-19 Crisis Shows Us Why*, WEF blog 2020, <https://www.weforum.org/agenda/2020/04/mariana-mazzucato-covid19-stakeholder-capitalism/> (online access: 1.7.2021).

28 J. Sachs, G. Schmidt-Traub *et al.*, *Six Transformations to Achieve the SDGs*, "Nature Sustainability" 2019, doi:10.1038/s41893-019-0352-9.

Climate change affects all already born as well as subsequent generations. Therefore, it seems that for individual investors, especially people who save for their retirement, the self-interest is not only to get a high-interest rate but also for such investments to be ones that will at least contribute to slowing down negative climate changes. In this sense, a high rate of return is no longer the only goal of the future pensioner. Moreover, in the long term, ESG risks are more likely to materialize, therefore the costs of unsustainable practices are likely to negatively impact not only financial returns but also the quality of life. Thus, adjusting the model presented by T. Donaldson and L. Preston to our times, the relationship between shareholders and stakeholders resembles a system of interconnected vessels.

Figure 1. The stakeholder model with environment



Source: own elaboration

Starting from the shareholder and stakeholder theory, I point to the convergence of the interests of these groups. Therefore, I propose in this article a hypothesis that people who perceive the problem of climate change as being significant are more likely to invest their savings in ESG pension funds. I verify this hypothesis on the basis of a representative survey among Polish citizens.

Data and method

For the purpose of this research, I use data from two waves of the omnibus survey which provides a representative database for Poland for January and February 2021. Surveys were conducted twice, week after week, with randomly selected nationally representative samples of people aged 16 and over. The first sample consisted

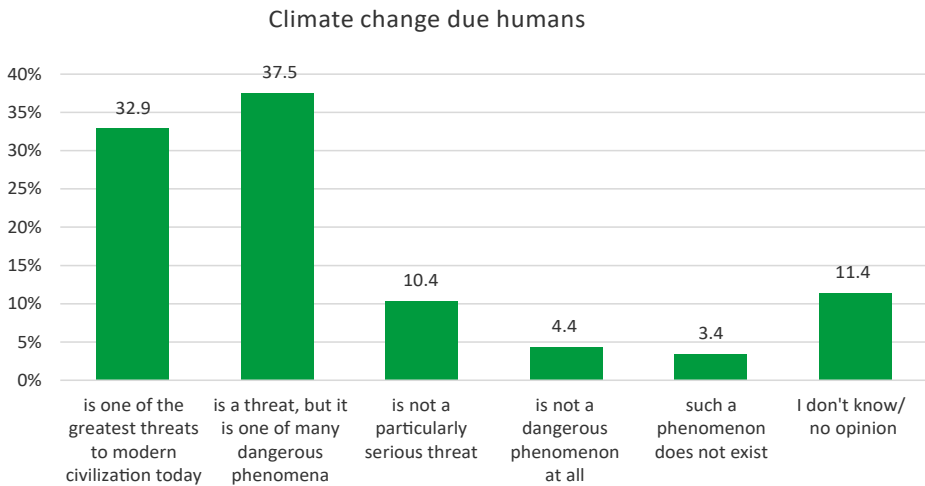
of $N = 1215$ respondents (649 women and 566 men) and the second sample of $N = 1201$ respondents (650 women and 551 men). The two waves of this omnibus survey consisted of the same five questions. To measure climate change awareness, participants were asked whether they considered anthropogenic climate change to be an important phenomenon. Then the questions concerned the following issues: whether and how they invested money, and how they saved in pension funds; which aspects of ESG (environmental, social and governance) were important to them and to what extent (rating on a scale); and whether they would join a supplementary pension scheme if they knew the scheme was investing in ESG. Finally, the questions concerned their attitude to the return rates. Would they agree to get lower returns as long as the fund invests in line with the ESG or do they expect at least the same or a higher financial performance? The whole merged sample consists of $N = 2416$ respondents (1117 men and 1299 women), but a part of the analysis is done on a sample of $N = 2094$ people. This part of the detailed analysis excluded from the sample those who do not have and do not want to have any savings on capital markets, so their answers were irrelevant for the research. Research is based on statistical analysis in relation to the research questions. It is founded on frequencies and a dependence hypothesis based on a test chi-square. To compare data with other nationally representative surveys I have also used reports from the Centre for Public Opinion Research (Centrum Badań Opinii Społecznej, CBOS) on climate change attitude as well as the Financial Supervision Authority (Komisja Nadzoru Finansowego, KNF) for data about pension funds.

Results

The analysis should begin by looking at the question about the attitude to climate change. According to the hypothesis, people for whom this problem is the most important or at least a significant civilization challenge – will be more likely to choose funds that invest in accordance with ESG. For the majority of the surveyed population, climate change is a severe problem of civilization. 32.9% think that climate change is one of the greatest threats to civilization. 37.5% state that it is one of the most important threats from among many dangerous phenomena. Therefore, as can be seen in the chart below, 70.4% of respondents find the anthropogenic change of the climate to be important. This is consistent with the CBOS research from 2018, where, in total, 84% of respondents saw threats related to ecology – environmental pollution or climate change and the concern about the state of the natural environment, as dangerous phenomena. Moreover, when compared to 2014 and 2016, the perception of climate-related threats as being important ones has increased significantly.²⁹

²⁹ Centrum Badań Opinii Społecznej, *Polacy wobec zmian klimatu, komunikat z badań*, No. 158/2018, 2018.

Chart 1. Attitude toward anthropogenic climate change, $N = 2416$



Source: own elaboration

We can assume that a part of those people can be considered to be stakeholders and here not only because they are citizens who perceive climate problems as important. Their role as stakeholders may increase if they are individual pension investors, and therefore, to some extent, they can exert pressure on managers. Hence, the next question was whether respondents have savings, and if so, where do they invest them (or where they would like to invest). The answers to this question show how many of the respondents perceive the capital market as a place to invest money.

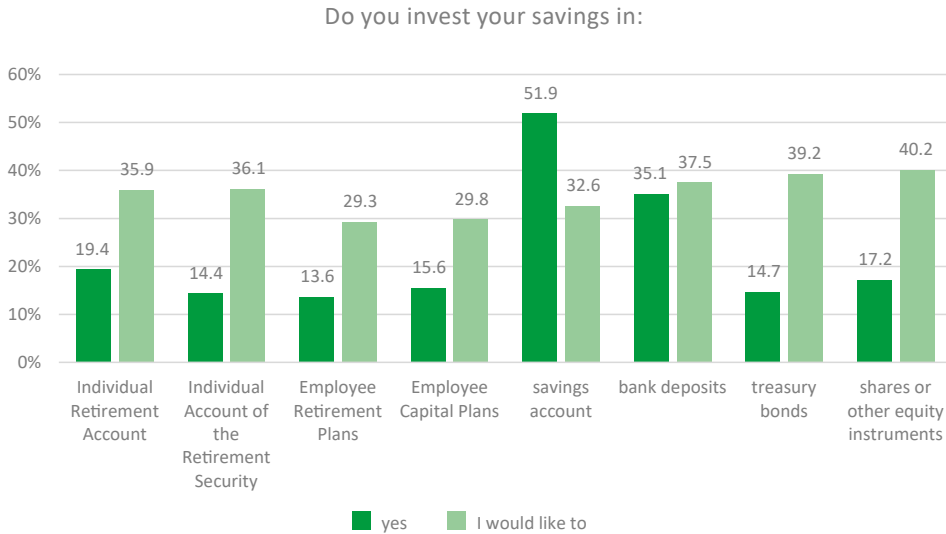
It should be noted that investment in the capital market, including in pension funds is still not widespread in Poland: the answers show that the most popular form of saving among respondents are bank deposits and savings accounts. Poland is a country where saving for retirement under the third pillar is developing.³⁰ Implementation of a new form of saving for retirement which is Employee Capital Plans in 2019–2021 may slightly improve the statistics in this regard, but one should not expect widespread membership in the system.³¹ The third pillar of retirement insurance in Poland invests the savings of insured persons in the capital market. This means that participants of both individual as well as group forms of retirement provision invest in the capital market. The third pillar of the pension system creates the biggest opportunities to put pressure on ESG investment in Poland. Analysis of the collected data shows that even if a small percentage of respondents have an account under the third pillar or invest in other instruments of the capital market, many others declare that they would like to do it. Official data from the Polish Financial Supervision Authority differs from the respondents' declarations:

³⁰ M. Dybał, *Czynniki rozwoju prywatnych planów emerytalnych* [in:] *Długoterminowe oszczędzanie: postawy, strategie i wyzwania*, ed. J. Rutecka-Góra, Warszawa 2016.

³¹ Komisja Nadzoru Finansowego, *Informacja dotycząca pracowniczych planów kapitałowych (PPK) – IV kwartał 2020 roku*, 2021, https://www.knf.gov.pl/?articleId=73073&cp_id=18 (online access: 1.10.2021).

fewer people have an individual pension plan with more having an Employee Capital Plan than those who declared it in the survey. Due to the planned reform and liquidation of Open Pension Funds (OPF) (*otwarte fundusze emerytalne*, OFE), no questions were asked about them. Active and inactive participants of this scheme currently constitute the majority of people of working age, *i.e.* 15,670,000.³²

Chart 2. Allocation (or willingness to) of savings of respondents



Source: own elaboration

To answer the research questions, it is necessary to analyse the attitude of people who already have money in the capital market or would like to have it invested in ESG. This group consist of 2094 respondents, under the third pillar of retirement, including individual as well as group accounts or those who invest in treasury bonds and shares. Among them, 70.2% consider environmental investment to be very or fairly important when choosing funds. In turn, 70.7% of people who invest or would like to invest in capital markets would be guided by social values and 55% by governance when choosing a fund. This is a definite advantage over people who do not have an opinion on it or for whom it does not matter (see Table 1).

To verify the hypothesis put forward in this study, it is necessary to check whether there is a statistical dependence between people who believe that climate change is an important issue and the support for environmentally-friendly investments. To analyse that I divided the respondents who invest (or would like to) in the capital market into three main groups in the context of climate change considerations (is important, not important, I don't know/hard to say) and attitudes towards environmental investments (those who chose funds

³² Komisja Nadzoru Finansowego, *The retirement market in Poland*, state as of the end of 2019, 2020, https://www.knf.gov.pl/knf/pl/komponenty/img/Raport_emerytalny_2019_v2.pdf (online access: 1.10.2021).

incorporating environmental indicators in their investment policy, those who are only slightly or not interested in that and those who do not know or for whom it is hard to say). The analysis supports the hypothesis that there is a statistically significant dependence between attitudes toward climate change and any tendency to choose funds with pro-environmental investments. The more important climate change is, the more important the environmental issues are for the respondents when investing, with $\chi^2 = 77.875a$, $p = 0.00$. This association is weak however, with a Cramer's V at the level of 0.136.

Table 1. Importance of environment, social and governance considerations while choosing a fund

| How important environmental/ social responsibility/ governance considerations would be if you were to choose a investment fund | | | | | | |
|--|---------------|------------|-----------------------|------------|------------|------------|
| | environmental | | social responsibility | | governance | |
| | frequency | percentage | frequency | percentage | frequency | percentage |
| Not at all important | 35 | 1.7 | 34 | 1.6 | 54 | 2.6 |
| Slightly important | 106 | 5.1 | 99 | 4.7 | 162 | 7.7 |
| I don't know/ hard to say | 485 | 23.2 | 482 | 23.0 | 728 | 34.8 |
| Fairly important | 935 | 44.7 | 1015 | 48.5 | 868 | 41.5 |
| Very important | 533 | 25.5 | 464 | 22.2 | 282 | 13.5 |
| Total | 2094 | 100.0 | 2094 | 100.0 | 2094 | 100.0 |

Source: own elaboration

Table 2. Dependence between attitudes toward climate change and any tendency to choose funds with pro-environmental investments

| | | Environmental issues are not important for me when investing | I don't know/ hard to say | Environmental issues are important for me when investing | Total |
|---|----------------------|--|---------------------------|--|--------|
| Climate change is an important problem | count | 95 | 291 | 1128 | 1514 |
| | expected count | 101.9 | 350.7 | 1061.4 | 1514.0 |
| Climate change is not a problem/ does not exist | count | 39 | 110 | 243 | 392 |
| | expected count | 26.4 | 90.8 | 274.8 | 392.0 |
| I don't know/ hard to say | count | 7 | 84 | 97 | 188 |
| | expected count | 12.7 | 43.5 | 131.8 | 188.0 |
| Total | observed frequencies | 141 | 485 | 1468 | 2094 |
| | expected count | 141.0 | 485.0 | 1468.0 | 2094.0 |

Source: own elaboration

Table 3. Chi-square, dependence between attitudes toward climate change and any tendency to choose funds with pro-environmental investments

| | Value | df | Asymptotic Significance (2-sided) |
|--------------------|---------|----|-----------------------------------|
| Pearson Chi-square | 77.875* | 4 | 0.000 |
| N of valid cases | 2094 | | |

* 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 12.66

Source: own elaboration

Table 4. Symmetric measures dependence between attitudes toward climate change and any tendency to choose funds with pro-environmental investments

| | | Value | Approximate significance |
|--------------------|----------|-------|--------------------------|
| Nominal by nominal | Phi | 0.193 | 0.000 |
| | V Cramer | 0.136 | 0.000 |
| N of valid cases | | 2094 | |

Source: own elaboration

However, when it turns out that ESG may be associated with an increased investment risk, the respondents would be less willing to decide on this type of investment. The analysis shows that many people are willing to invest according to climate and social needs, but only if this does not entail a lower return on their individual financial results. 61.3% of respondents who invest (or would willingly do it) would choose to allocate their money in line with ESG purposes only if they guarantee at least the same or better results than classic investments. 13.7% always prefer traditional funds. 9.4% would decide to do it when the likely return on investment would be lower than for traditional investments. It may seem that people are not willing to make sacrifices on their part.

As with all, ESG investments also involve investment risk. If you had the option to choose a fund, when would you decide to make such investments?

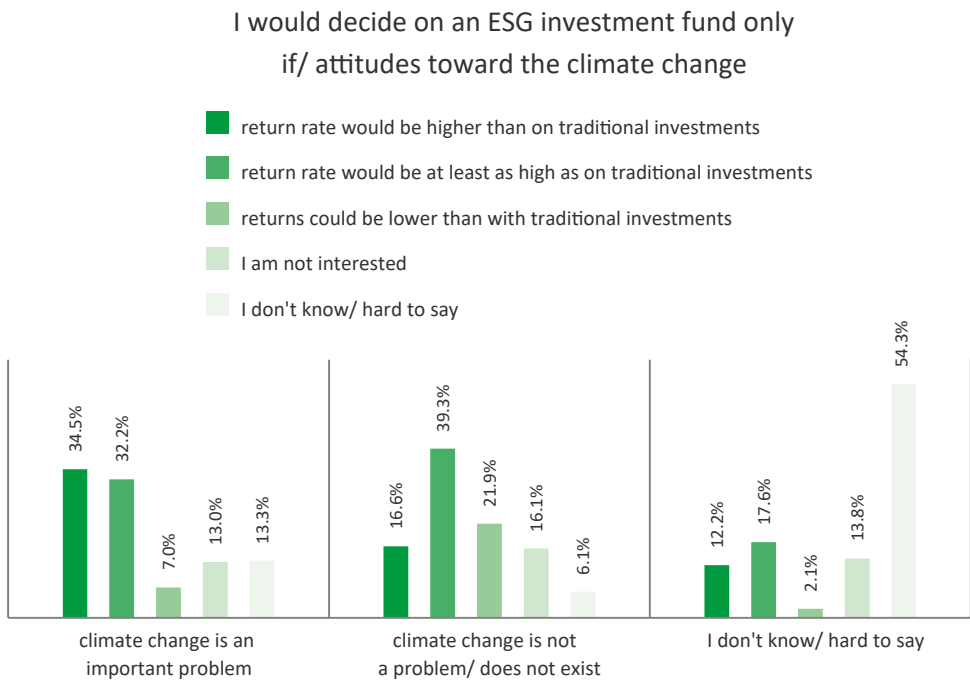
Table 5. Willingness to accept a different return rate from an ESG fund

| | Frequency | Percent |
|---|-----------|---------|
| Only if the likely return on the investment would be higher than the average return on traditional investments | 610 | 29.1 |
| Only if the likely return on the investment would be at least at the level of return on traditional investments | 674 | 32.2 |
| Also, when the likely returns on the investment would be lower than with traditional investments | 196 | 9.4 |
| I am not interested in this type of investment, I prefer traditional funds | 286 | 13.7 |
| I don't know/ hard to say | 328 | 15.7 |
| Total | 2094 | 100.0 |

Source: own elaboration

The question arises as to whether, among people who perceive climate change as significant and have (or would like to have) savings on the capital market, the tendency to make financial decisions in line with ESG will remain high. The analysis shows that people declaring that climate change is a significant challenge for the world would much less often decide on an ESG fund if it entailed a lower rate of return than on traditional investments than would those who do not perceive climate change as important.

Chart 3. Attitude toward climate change and accepted ESG investments return rates



Source: own elaboration

This could mean that the propensity to sacrifice part of the risk is more related to the social or governance aspect. However, people who declare that social and governance aspects are important to them while investing also choose investments that guarantee at least the same or higher returns than traditional investments.

Regardless of the attitude towards climate change, or the recognition that social and governance factors are important, the percentage of people declaring that they could give up part of the environmental return rate is low, varying around 7–10%. The only exception are people who declare that climate change caused by man is not an important phenomenon, and at the same time, the largest group among them declares a readiness to give up part of the profit for ESG investments.

Table 6. Importance of social and governance factors when investing and accepted ESG investments return rates

| | Return rate would be higher than on traditional investments | Return rate would be at least as high as on traditional investments | Return rate could be lower than with traditional investments | I am not interested | I don't know/ hard to say |
|---|---|---|--|---------------------|---------------------------|
| Social issues are important for me when investing | 30.8% | 34.6% | 9.7% | 12.5% | 12.4% |
| Social issues are not important for me when investing | 31.6% | 26.3% | 8.3% | 14.7% | 10.5% |
| I don't know/ hard to say | 23.2% | 26.6% | 8.3% | 14.7% | 27.2% |
| Good governance factors are important for me when investing | 31.8% | 36.2% | 10.3% | 10.6% | 11.0% |
| Good governance factors are not important for me when investing | 32.4% | 27.8% | 9.3% | 20.4% | 10.2% |
| I don't know/ hard to say | 23.9% | 27.2% | 7.8% | 16.5% | 24.6% |

Source: own elaboration

Conclusions

Research on a representative group of Poles confirms that issues related to anthropogenic climate change are important for the majority of the surveyed population. In the article, I also confirm the hypothesis that people who perceive climate change as significant would more willingly decide to invest in ESG, although the association is weak. The Polish capital market is not as developed as the markets of Western Europe, most of the respondents had savings in savings accounts, but the vast majority declared participation (or a willingness to participate) in an additional pension capital system. Perhaps the development of Employee Capital Plans and low-interest rates will have an impact on the increase in the number of Polish investors, and thus – the growing number of stakeholders. Will they favour pro-environmental investments? The results are not conclusive. As already indicated, the belief in anthropogenic climate change increases the propensity to invest in ESG, but the result of this research is surprising in the context of the possible lower investment rates in favour of sustainable investments. The respondents were not informed about the research which shows that profit from an ESG does not have to be lower than from traditional investments. They were only informed about the

possible investment risk. It turned out that people who consider climate change to be important are definitely less likely than others to resign from profit for the sake of the climate, social and good corporate governance investments. These results require further analysis due to the insufficient number of explanatory variables in the study. This may mean that other factors are more important. Studies show that in Poland the readiness for sustainable investments increases when it is connected to a similar return than on traditional investments.³³ On the more mature capital markets, the development of ethical investments was due to investors being more sensitive to environmental, social labour and human rights issues. The Polish, like other post-communist markets, was at the early stage of development at this time. Therefore, the Polish market does not offer this type of funds at a sufficient level; something which constitutes a barrier to the influx of new investors and a change in their attitudes.³⁴ Another possible hypothesis for further research is that a certain group of people is characterized by the so-called ecological hypocrisy, about which Zofia Bieńkowska, Piotr Drygas and Przemysław Sadura wrote in their analyses.³⁵ According to their research, a certain part of the middle class, in declaring a high concern for the condition of the Earth and climate change – the burdens and sacrifices that mankind, must make a decision, and have preferred to throw these burdens on other social groups.

The Polish capital market is likely to face an influx of new investors. Perhaps the growing awareness of climate change will contribute to an awareness of the possible way to prevent it *via* investment policies. For now, however, research shows that in the case of the private capital investments of Poles it is still financial profit that remains the most important.

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Emerytalne preferencje inwestycyjne Polaków w kontekście ich świadomości zmian klimatu

Zmiany klimatyczne oraz poziom przyszłych świadczeń emerytalnych są istotnymi wyzwaniami dla kolejnych pokoleń. Jedną z odpowiedzi na oba problemy jest kierowanie oszczędności kapitałowych ku zrównoważonym inwestycjom ESG (*Environment, Social, Governance*). Jednocześnie większość badań wskazuje, że brak tzw. zielonych produktów na rynku inwestycyjnym wynika z braku popytu. Zapewne będzie się to zmieniać, zarówno ze względu na rosnącą świadomość dotyczącą zmian klimatu, a więc i presję inwestorów indywidualnych na zarządzających, jak i przede wszystkim z powodu regulacji wprowadzanych przez instytucje publiczne, szczególnie Unii Europejskiej, w zakresie zrównoważonych inwestycji. Celem artykułu jest weryfikacja, czy polscy inwestorzy indywidualni oraz osoby posiadające dodatkowe kapitałowe ubezpieczenie emerytalne mogą stworzyć istotną presję na zarządzających funduszami, tak by zwiększyć udział zielonych inwestycji w swoim portfelu inwestycyjnym. W tym kontekście wychodzę z założenia, że akcjonariusze (którym zależy na zysku finansowym) są także interesariuszami (a więc nie chcą odczuwać negatywnych skutków dla klimatu działań korporacji i będą brać to pod uwagę przy inwestycjach). Stosując analizę statystyczną danych zebranych w ramach ogólnokrajowego sondażu na reprezentatywnej próbie Polaków ($N = 2416$), odpowiadam na pytania: czy osoby uważające, że kryzys klimatyczny spowodowany przez człowieka jest ważnym problemem, są w większej mierze skłonne inwestować w ESG oraz czy i tak by się na to zdecydowały, jeśli takie inwestycje łączyłyby się z mniejszym zyskiem.

Słowa kluczowe: zmiany klimatyczne, ESG, fundusze emerytalne, inwestycje emerytalne, emerytura