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Are Z Generation young people potential investors in sustainable finance?

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Résumé

Etant donné les montants en jeu pour rendre la planète plus durable dans les prochaines années, tout au moins au niveau européen, l'investissement public ne suffira certainement pas à canaliser les sommes nécessaires. Il semble donc indispensable d'orienter les flux financiers privés dans des activités compatibles avec la direction générale prise. Nous avons voulu alors interroger la capacité des jeunes français de la génération Z, qui sont les investisseurs de demain, à endosser le rôle de futur investisseur durable.

Nous avons mis en exergue 3 groupes d'individus, ayant des connaissances et postures différentes face à l'investissement classique et à l'investissement durable. L'un de ces groupes, représentant plus de la moitié des répondants, comporte les individus ayant la posture la plus favorable face à l'investissement durable, mais des connaissances faibles en investissement et une posture plutôt négative face à l'investissement classique. Ces résultats nous conduisent à nous interroger sur les origines de cette posture face à l'investissement durable.

Mots-clés

culture financière, finance durable, génération Z

Summary

Given the amounts at stake to make the planet more sustainable in the coming years, at least at the European level, public investment will certainly not be sufficient to channel the necessary sums. It therefore seems essential to direct private financial flows into activities that are compatible with the general direction taken. We wanted to question the capacity of young French people of Z Generation, who are the investors of tomorrow, to take on the role of future sustainable investors.

We highlighted three groups of individuals with different knowledge and attitudes towards traditional and sustainable investment. One of these groups, representing more than half of the respondents, includes individuals with the most favorable attitude towards sustainable investment, but with little knowledge of investment and a rather negative attitude towards traditional investment. These results lead us to wonder about the origins of this attitude towards sustainable investment.

Key words

financial literacy, sustainable finance, Z generation

JEL code: G53

1. Introduction

The European Union has adopted a plan to reduce its greenhouse gas emissions that should lead to "carbon neutrality" by 2050, with an intermediate milestone of -55% in 2030 compared to 1990 levels. In the impact study of its climate plan¹, the value of the annual investment required to achieve this objective amounts to €350 billion. This amount is recalled in the "strategy for financing the transition to a sustainable economy", alongside the €130 billion annual investment needed to achieve its other environmental goals. Public investment

may not be sufficient to channel such sums, and there is therefore a need to redirect private financial flows into activities compatible with the general direction taken, i.e. into sustainable financial products.

France is the country with the largest number of sustainable investment labels in the world. However, when asked about the views of citizens in a large number of countries regarding sustainable investment, the French appear to be very mixed compared to citizens in other countries. As the financial literacy of French people is evaluated in numerous studies as average or

¹https://eur-lex.europa.eu/resource.html?uri=cellar:749e04bb-f8c5-11ea-991b-01aa75ed71a1.0001.02/DOC_1&format=PDF

even weak, the link between financial literacy and sustainability investment literacy can legitimately be asked.

We then asked ourselves about the financial investment literacy of French people on the one hand, and their sustainability investment literacy on the other hand. As today's young people are tomorrow's investors, we focused our study on them, and more specifically on Z Generation.

The second part of our study is devoted to a short state of the art on the notions of traditional and sustainability investment literacies. The third part presents the hypotheses and methodology of the research. The fourth part presents the results followed by a discussion of these results, before concluding.

2. The components of financial literacy and sustainable investment literacy

2.1. Financial investment literacy

The definition of financial literacy in the academic literature is far from universal. Depending on the author, financial literacy encompasses different concepts.

According to Kim (2001), financial literacy is a body of knowledge that people need to survive in a modern society. Similarly, Bowen (2002) and Courchane (2005) define financial literacy as the understanding of key financial terms and concepts needed to function in society on a daily basis. All three of these authors really only refer to the notion of knowledge when defining financial literacy.

The definitions used by Vitt et al. (2000), Cude et al. (2006), and Rahmandoust et al. (2011) also include the notion of competence, including reading, analyzing, and communicating about various financial items, and the ability to define a desired income level. More recently, Kurihara (2013) referred to financial literacy as akin to the knowledge and skills that enable individuals to make rational and effective decisions about their financial and economic resources.

The OECD's definition of financial literacy (OECD, 2013) refers to the knowledge and understanding of financial concepts and risks, as well as the motivation and confidence to use that knowledge and understanding to make sound decisions in a wide range of financial contexts, to improve the financial well-being of individuals and society, and to engage in economic life. Thus, financial knowledge is an integral part of, but not equivalent to, financial literacy. Financial literacy implies that an individual must have the motivation and confidence to use financial knowledge to make financial decisions. In addition to financial knowledge, therefore, the notions of skills and attitude (motivation and confidence being considered here as attitudes) come into play. Remund (2010) also takes up this notion of confidence. With regard to skills, the summary document of the results of the 2018 Pisa survey (OECD,

2019) specifies that financial skills include basic mathematical literacy skills such as performing elementary calculations, calculating a percentage or converting from one currency to another, and language skills such as the ability to read and interpret advertising and contractual texts.

An additional concept that is often included in the definition of financial literacy is the concept of behavior. Thus Pavković et al. (2018) associate financial literacy with knowledge, attitudes, and practical knowledge that we will equate with skills, but also with behaviors.

Financial behavior refers to the actual financial decisions consumers make, related to their levels of saving, debt, and spending (Rootman & Antoni, 2015). For DeBondt et al. (2010), financial behavior describes how consumers make financial decisions and how they behave when they make them.

Other authors show how the different concepts involved in the definition of financial literacy can relate to each other. For example, Sebstad et al (2006) define financial literacy as the level of knowledge of basic financial concepts and the skills and attitudes related to translating that knowledge into behaviors that improve financial outcomes. Improved knowledge, skills and attitudes contribute to the formation of financial behavior. This model is formalized in the document describing the Access Africa program for financial literacy support in Africa, developed by Care International². It is also included in the study by Dewi et al (2020).

2.2. Sustainability investment literacy

The literature on the demand for sustainable financial products is well documented, both from observations of actual investments (Anderson & Robinson, 2019; Bauer et al., 2021; Døskeland & Pedersen, 2016; Gutsche et al., 2021; Riedl & Smeets, 2017) and from hypothetical choice experiments (Barreda-Tarrazona et al., 2011; Gutsche & Zwergel, 2020; Heeb et al., 2022; Rossi et al., 2019)

Knowledge related to sustainable finance includes knowledge of classic terms (such as green finance, socially responsible investment, etc.), knowledge of the existence of sustainable financial products, types of sustainable financial products, as well as their characteristics in terms of supply evolution, performance, risk...

Being aware of the existence of sustainable financial products is not necessarily sufficient to decide to invest in this type of product. A number of studies have shown that pro-social attitudes and behaviors are positively related to the ownership of sustainable financial products. (Gutsche et al., 2016; Nilsson, 2008; Wins & Zwergel, 2016). However, holding sustainable financial products may be, for other citizens, simply a way to ease their conscience (Coayla, 2020; Lehtonen, 2018; Mahn, 2016; Paetzold & Busch, 2014, Radu & Mihaela, 2011;

²

<https://www.ids.ac.uk/download.php?file=files/dmfile/Graduationconferencepaper-Niyibizi.pdf>

Sparkes, 2003), without making their daily attitudes and behaviors particularly pro-sustainable. Others believe that the risk-adjusted performance of sustainable financial products is no different, and sometimes even higher than for traditional financial products, and this is what drives them to invest in these types of products (Arjaliès, 2010; Bauer & Smeets, 2015; Boffo, R. & Patalan R, 2020; Hartzmark & Sussman, 2019; Jansson & Biel, 2011, 2014).

The above-cited studies encourage addressing sustainability investment literacy along several dimensions as well, as knowledge, attitude, and behavior regarding sustainability investment are not necessarily correlated.

3. Research hypothesis and methodology

We focused our study on the population of French young adults, and in particular young adults of Z Generation. This one includes individuals born between 1995 and 2010 (Gentina & Delécluse, 2018; Lewi Georges, 2018; Soulié Élisabeth, 2020), the vast majority of whom were born to X Generation parents. Thus, young adults of Z Generation are, in 2022, between 18 and 27 years old. We have narrowed this population by focusing our study on a specific part of this population, which is the population of students engaged in higher education.

3.1. Research hypothesis

Some studies conducted over the last ten years have shown that the financial literacy of French citizens is average or even rather low (depending on the study), at least in comparison with other Western countries, although it has increased over the last ten years (Bigot et al., 2011; Klapper et al., n.d.; Nicolini, 2019; Nicolini & Haupt, 2019; Stolper & Walter, 2017). Moreover, as shown by other studies (including Lusardi et al., 2010; Young, 2013), financial literacy in younger populations is lower than in older ones (note that U-shaped curves are evoked in some studies, but the inversion is generally noted for ages above 65, and is generally explained by individuals' declining cognitive abilities) (Korniotis & Kumar, 2011; Lusardi et al., 2014; Lusardi & Mitchell, 2007).

Values play a key role in the financial behavior of Z Generation and Millennials (Y Generation), who are more interested in aligning their investments with causes they care. A U.S. study shows that renewable energy, education and animal welfare are among the top causes for individuals in these two generations. They are also supporters of movements such as racial justice and the promotion of diverse leaders. In addition, a JP Morgan study released in January 2022³ shows that in the US, 57% of Y and Z Generation investors are aware of sustainable investing, compared to 11% of Baby Boomers, and 36% would be interested in incorporating it into their portfolios. A Czech study, specifically focused on Generation Z, shows that young people in this generation are willing to pay more for goods and services

produced by environmentally friendly companies (Pelikánová & MacGregor, 2020).

Being financially literate and interested in finance is often perceived as being in opposition to a strong sensitivity to sustainability. The roots of this antagonism are likely to be found in part in political science, which associates finance with capitalism and typically "right-wing" politics, and sustainable development largely with ecology, a concern more often emphasized by "left-wing" politicians, in a large number of countries. A few scientific studies have examined this issue. Kaustia and Torstilla (2011) put forward the fact that participation in the stock market is strongly associated with political orientation after controlling for income, wealth, education level and other relevant factors. This stock market participation is, according to Van Rooij et al (2011) also strongly positively related to the financial literacy of individuals. Riedl and Smeets (2017), meanwhile, show that investors' investment knowledge is negatively related to their social preferences.

Thus, in view of the studies previously mentioned above, we make the following assumptions:

Hypothesis 1: Z Generation individuals have a low to average financial literacy⁴.

Hypothesis 2: Z Generation individuals have a high motivation to invest in sustainable finance⁵.

Hypothesis 3: The individuals of Z Generation that are the most motivated by sustainable finance are those with the weakest investment knowledge and the most unfavorable attitude towards traditional investment.

3.2. The methodology

Using a widely distributed questionnaire, we surveyed Z Generation students at one of the largest universities in France, the University of Lorraine. In this article, we will not present all of the questions in this questionnaire, but only those that are of direct interest to us in the context of our problem.

3.2.1. The development of the questionnaire

The first part of the questionnaire is devoted to questions relating to the social profile of the respondents, the second part is composed of questions relating to traditional financial investment, and the third part of questions relating to sustainable investment.

The creation of the questionnaire based on an extensive review of the literature on the topics addressed. The table in Appendix 1 indicates the literature sources used.

The topic of financial literacy was broken down into knowledge, attitude and behavior. For the topic of sustainable investment, it seemed to us that questions

³ J.P. Morgan Chase Insights, "Sustainable Investing Research Summary" (January 2022)

⁴ Given the scoring configuration of the financial literacy components (ranging from 1 to 5), a "low to average" financial literacy would be associated with an average score of 3 or less for its components.

⁵ Given the scoring configuration of the motivation to invest in sustainable finance (ranging from 1 to 5), high motivation would be associated with an average score above 3.

relating to behavior were not relevant: in fact, few students behave like investors in general (this being essentially linked to limited financial means), so it seems that evaluating specific investor behavior for such a population would probably not have provided any interpretable results. However, we have broken down the attitude dimension into confidence and motivation.

The attached table summarizes the structure of the questionnaire (the complete questionnaire is included in Appendix 1):

Topics	Categories	Name of questions	Number of questions
Personal information		genre ; age ; language ; cursus ; childhood_place ; money_source ; living_place ; money_available ; parents_education ; finance_speaking ; bank_account ; bank_type ; bank_chosse ; economics_studies ; fi_info_sources	16
	Knowledge	FI_K_1 to FI_K_11	11
Financial literacy	Attitude	FI_A_1 to FI_A_4	4
	Behaviour	FI_B_1 to FI_B_6	6
Sustainable investment literacy	Knowledge	SI_K_1 to SI_K_10	10
	Attitude_Trust	SI_A_T_1 to SI_A_T_2	2
	Attitude_Motivation	SI_A_M_1 to SI_A_M_10	10

Tableau 1. Structure of the questionnaire

3.2.2. The administration of the questionnaire

We administered the questionnaire using the online software LimeSurvey between January and May 2022 by three times, by email (one original administration and two reminders) and once on the university's newspaper.

The survey was introduced by an explanatory text and a one-minute cartoon video. In order to encourage respondents to participate in the survey, we have implemented two incentives in the administration process: respondents' knowledge of the topics covered was evaluated and their score was reported at the end of the questionnaire. This allowed respondents to assess themselves on these topics. In addition, the video provided a few suspenseful elements, which promised to be revealed in a final two-minute video, automatically broadcast when the fully completed questionnaire was sent.

For the academic year 2021-2022, the University of Lorraine had approximately 62,000 registered students. We contacted only students in initial training and aged 27 years or less at the time of the administration of the questionnaire⁶, i.e. 49210 students in total.

3.2.3. Data processing

We conducted three mailings of the questionnaire, each time spaced several weeks apart, in the spring of 2022. In total, we collected 2431 responses, a return rate of 4.94%, of which 1179 were only partially completed. Of the 1527 fully completed questionnaires, we discarded 98 because the respondents were not native speakers of French (and therefore likely to have received a non-French education) and, after controlling for the overall time taken to complete the questionnaire, we discarded another 250 respondents who had answered all the questions in a time that we felt was clearly too short⁷.

The following table shows the various selections made to arrive at the final sample of responses retained and studied:

Raw data	2431
Partially completed questionnaires	- 1179
Questionnaires completed by students whose first language is not French	- 98
Questionnaires completed in less than 12 minutes	- 250
Questionnaires selected for our study	904

Table 2. Summary of the selections made to obtain the final sample

In order to evaluate the respondents' levels of knowledge, attitude and behavior regarding traditional investment, and their levels of knowledge, confidence and motivation regarding sustainability investment, we retained the questionnaire's ordinal-like variables for these dimensions. After coding these variables from 1 to 5 (cf. Appendix 1), we calculated new synthetic variables allowing us to evaluate an overall level for each dimension of the themes studied (level of financial knowledge, attitude towards financial investment, etc.). Thus, 6 variables emerged from these calculations, which we present in the following table:

Topics	Categories	Synthetic variable	Calculation of synthetic variables
Financial literacy	Knowledge	FI_K	MEAN (FI_K_2 to FI_K_11)
	Attitude	FI_A	MEAN (FI_A_1 to FI_A_4)
	Behaviour	FI_B	MEAN (FI_B_1 to FI_B_4)
Sustainable investment literacy	Knowledge	SI_K	MEAN (SI_K_1 to SI_K_10)
	Attitude_Trust	SI_A_T	MEAN (SI_A_T_1; SI_A_T_2)
	Attitude_Motivation	FI_A_M	MEAN (SI_A_M_1 to SI_A_M_5; SI_A_M_8; SI_A_M_9)

Table 3. Summary of synthetic variables

4. Results and discussion

4.1. Descriptive analysis of the data

For each of the synthetic variables, we calculated descriptive synthetic indicators, such as the mean, standard deviation, median and quartiles:

	N	Mean	Median	Standard deviation	Minimum	Maximum	Percentiles		
							25	50	75
FI_K	904	3,28	3,4	0,82	1,4	5	2,6	3,4	3,8
FI_A	904	2,89	2,75	0,6	1	5	2,5	2,75	3,25
FI_B	904	2,64	2,5	0,89	1	5	2	2,5	3
SI_K	904	2,42	2,2	1	1	5	1,8	2,2	3
SI_A_T	904	2,76	3	0,77	1	5	2,5	3	3
SI_A_M	904	3,42	3,43	0,63	1,14	5	3	3,43	3,86

Table 4. Descriptive statistics of synthetic variables

It can be noted that the knowledge of financial investment is slightly higher than the theoretical average (of 3), on the other hand the attitude and behavior have a relatively low average for this theme. Since the population studied is a student population, most of whom have very limited financial means, this may explain the finding that they are on average not very active in terms of financial investment. In any case, this study corroborates previous studies on the subject, namely that the financial literacy of French people is rather average (and even rather low if we compare it to Western countries with an equivalent level of development). **We can consider that our first hypothesis is validated:** indeed, while the financial knowledge dimension has an average score above theoretical average, the average

⁶ his choice was made in order to maintain a greater homogeneity of life experiences, as continuing education students are often older than 27 years of age on the one hand, and on the other hand, they already have professional experience which could bias their answers

⁷ In answering this self-developed questionnaire ourselves, we took nine minutes; it seemed to us that it was impossible for a student to answer this questionnaire in a serious way in less than twelve minutes (i.e. 1/3 more time than our response time).

scores of the other two dimensions of financial literacy are below theoretical average.

Regarding the literature on sustainability investment, the results show that while French students seem to be globally motivated by sustainability investment, their knowledge on the subject is low, as is their confidence in sustainable financial products. Thus, **our second hypothesis** (Z Generation individuals have on average a high motivation to invest in sustainable finance) **is validated**.

4.2. Multidimensional data analysis

Our third hypothesis relates investment knowledge, posture towards traditional investment and motivation to invest in sustainable finance. The multidimensional aspect of the hypothesis led us to conduct a multidimensional study of the data.

First, using a principal component analysis (PCA), we narrowed the scope of the variables based on the similarities between them. The PCA allowed us to identify 3 principal components explaining more than 70% of the total variance explained (see Appendix 2).

The Kaiser-Meyer-Olkin (KMO) index⁸ allows us to answer the question: Is it possible to find an interesting factorization of the data? The starting point is the correlation, the KMO index indicates how much the variables are correlated after reduction of the model with a significance level. In our case, the KMO of 0.608 indicates that the correlations between the variables are of poor quality, but that the model is acceptable. In addition, Bartlett's test of sphericity⁹ allows us to verify the null hypothesis according to which all the correlations of the variables of the reduced model would be equal to zero, in other words, the non-existence of a relationship between the variables of the model, with a significance level < 0.05 . In our case, Bartlett's significance equal to $0 < 0.01$. We can therefore reject the null hypothesis that our data come from an identity matrix. This proves that the new composition of the model is significant and that there is a relationship between the three selected components. On the other hand, the quality of representation of each variable in the PCA factor space is good (at least equal to 0.6) (see Appendix 3).

The rotation of the component matrix is as follows:

Rotation of the component matrix ^a			
	Component		
	1	2	3
SI_K	0,808	0,179	0,165
FI_K	0,795	0,107	-0,149
FI_A		0,876	
FI_B	0,434	0,710	
SI_A_M	0,112	-0,234	0,813
SI_A_T	-0,115	0,212	0,758

a. Convergence of the rotation in 4 iterations.

Tableau 5 : Rotation de la matrice des composantes

Thus the first axis is essentially formed by the variables SI_K and FI_K, it is a factor representing the knowledge in terms of investment (classic as well as sustainability investment). We will call it the "Investment Knowledge" factor.

The second axis is mainly formed by the variables FI_A and FI_B. It is a factor representing attitude and behavior in terms of financial investment. We will call it the "Posture towards traditional investment" factor.

The third axis is mainly formed by the variables SI_T and SI_M. It is a factor representing confidence in sustainability investment and motivation to invest in sustainable finance. We will call it the "Posture towards sustainability investment" factor.

In a second step, we performed a hierarchical ascending classification¹⁰ (HAC) using Ward's method¹¹, first on the variables, in order to check the findings of the PCA. The classification indicates a clear division into two types of variables, a first type concerning the knowledge (in traditional investment and in sustainable investment) as well as the attitude and the behavior of traditional financial investor, and a second type concerning the confidence towards, and the motivation to sustainability investment. However, a second division into three clusters appears possible in which the variables SI_K and FI_K form a first cluster, the variables FI_A and FI_B form a second, and the variables SI_T and SI_M a third. We decided to keep this division, which is the closest to the results of the PCA (see the dendrogram of the AHC on variables in Appendix 4).

We then performed an HAC on the observations, and kept a division into three clusters. We projected the individuals onto the axes formed by the three factors from the PCA (graph 1).

⁸ The KMO-index measures sampling adequacy for each variable in the model and for the complete model. The statistic is a measure of the proportion of variance among variables that might be common variance. The lower the proportion, the more suited data is to Factor Analysis. KMO returns values between 0 and 1.

⁹ Bartlett's test of sphericity compares an observed correlation matrix to the identity matrix. Essentially, it checks to see if there is some redundancy between the variables that can be summarized with a few number of factors.

¹⁰ Hierarchical ascending classification (HAC) is a method of grouping objects or data points into a hierarchy of nested clusters based on their similarities. In this approach, the algorithm iteratively merges pairs of clusters that are most similar until all objects are grouped into a single cluster.

¹¹ Ward's distance is the most commonly used method because it was designed to maximize inter-class inertia and minimize intra-class inertia. It will tend to produce clusters of relatively similar size.

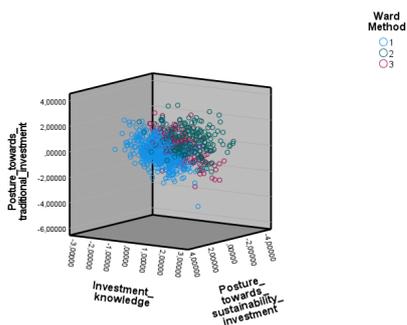


Figure 1. Projection of individuals on the first 3 factorial axes from the PCA¹²

A group of individuals (cluster 2, comprising 171 individuals) has both good investment knowledge in general, and rather positive posture related to sustainability investment. However, this group is in the minority. Cluster 3 (225 individuals), includes individuals with average knowledge of investment, but who have little inclination to invest either in traditional finance or in sustainable finance. Finally, the individuals in cluster 1 (508 individuals), have low to average investment knowledge, a rather negative posture towards traditional investment, but have the most positive overall posture towards sustainable investment.

The descriptive statistics of the studied variables, by cluster, are as follows:

		FI_K	SI_K	FI_A	FI_B	SI_A_T	SI_A_M
Cluster 1	Moyenne	2,8929	2,1614	2,7392	2,2746	2,9026	3,6547
	N	508	508	508	508	508	508
	Ecart type	0,71888	0,84420	0,53329	0,56734	0,67999	0,52462
	Médiane	3,0000	2,2000	2,7500	2,2500	3,0000	3,7143
Cluster 2	Moyenne	4,1766	3,5988	3,4123	3,7120	2,9532	3,4252
	N	171	171	171	171	171	171
	Ecart type	0,52907	0,80746	0,55603	0,80669	0,89155	0,60251
	Médiane	4,2000	3,8000	3,2500	3,5000	3,0000	3,4286
Cluster 3	Moyenne	3,4853	2,1004	2,8444	2,6578	2,2844	2,9054
	N	225	225	225	225	225	225
	Ecart type	0,59627	0,79824	0,54252	0,88110	0,67247	0,54568
	Médiane	3,4000	1,8000	2,7500	2,7500	2,0000	2,8571

Table 6. Descriptive statistics by cluster of synthetic variables from the questionnaire

Thus, the individuals that are the most motivated by sustainable finance (cluster 1) are those who have both the lowest overall investment knowledge and the most unfavorable posture towards traditional investment. **Our third hypothesis** (The Z generation individuals who are the most motivated by sustainable finance are those with the weakest investment knowledge and the most unfavorable attitude towards traditional investment) **is also validated**. However, if these individuals have a low average knowledge of traditional investment, we can note that their knowledge of sustainability investment (SI_K), although low, is still slightly higher than that of individuals in cluster 3 (i.e. individuals with average

knowledge of financial investment), as shown by both the mean and the median (we note, however, that the difference between the means is not statistically significant). The favorable posture towards sustainable finance of individuals in cluster 1 is however mainly due to their motivation, as the confidence of these individuals towards sustainable investment (SI_T) is relatively low.

Individuals in cluster 2, those with good knowledge of traditional and sustainability investment, have a posture towards sustainable investment close to that of cluster 1 (relatively low confidence - although higher than those in cluster 1 - and high motivation, but lower than that of cluster 1). Thus, sustainable investing also motivates individuals with good investment knowledge. These people are also the most active investors (or at least potential investors).

The above findings lead to the following conclusion: while more than 75% of the surveyed individuals are globally motivated by sustainable financial investment (share of individuals in clusters 1 and 2), almost 75% of them (individuals in cluster 1) have, on average, rather low financial knowledge, a factor that could prevent them, at least partially, from being truly active investors. However, before concluding that better financial education for young people might be enough to encourage a greater proportion of them to become investors, it seems important to explore the socio-economic origins of high motivation and low confidence in sustainability investing.

4.3. Socio-economic origins of high motivation and low confidence in sustainability investing

Using ANOVAs (see Appendix 6), we sought to assess the impact of respondents' socioeconomic attributes on the two components of posture toward sustainability investment, namely trust (SI_T) and motivation (SI_M). The only significant explanatory element for confidence in sustainability investment is gender: a significant difference in confidence is indeed noted between men and women, with a higher trust score for women than for men.

Several socio-economic variables explain the motivation to invest in sustainable financial products: gender plays a role (women are more motivated than men), but also awareness of financial and economic issues, which has a negative impact on motivation. Indeed, respondents who have taken a significant number of hours of economics and/or management courses (more than 200 hours), regardless of the type of study they are pursuing at the time of the study (economics/management or not), have a lower motivation score than those who have never or only slightly taken economics/management courses (less than 200 hours). Respondents who assess having a good knowledge of finance and those who regularly read economic and financial information also have a lower motivation score than those who feel their knowledge is

¹² The 3 graphs showing these same projections on two dimensional graphs can be found in Appendix 5

low and those who read economic and financial information infrequently.

We controlled for the previous results by the structure of the population according to two variables: gender and the amount of time spent in economics and management courses. It turns out that, on the one hand, the population of respondents is relatively balanced regarding the gender distribution: 48.7% are men, 50% are women, and 1.3% are "other". On the other hand, a Chi-square test indicates that there is no link between the number of hours of courses in economics/management and gender (Appendix 7).

Thus, it seems that the higher the respondents' knowledge and interest in finance, the lower their motivation to invest in sustainable finance. We finally tested, using binomial logistic regression, whether financial investment knowledge (FI_K) had an impact on the reasons for investing in sustainable financial products, for those interested in this type of investment (questions SI-A_M_6a to SI-A_M_6e) (Appendix 8). Only one significant link was found, between investment knowledge and social pressure for responsible behavior, and this link was negative: thus, the respondents who are most inclined to invest in sustainable financial products because of social pressure are those with the lowest level of financial knowledge. Conversely, those with the highest financial knowledge are those for whom the pressure is felt to be the lowest.

It seems that the more financially literate respondents are (those with a good knowledge of the subject, and/or those who have taken a significant number of hours of economics/management courses, and/or those who regularly inform themselves on the subject), the less motivated they are to make sustainable investments. However, the gender of the respondents is of fundamental importance: indeed if (as has already been pointed out), there is no link between the gender of the respondents and the volume of hours of courses taken in economics/management, we were able to establish a link between the level of financial knowledge (FI_K) and gender (Appendix 9), with men having a significantly higher level of knowledge about financial investment than women. Furthermore, a Chi-square test shows that men are significantly more likely to be knowledgeable about financial information than women (Appendix 10).

5. Conclusion

This study, conducted in the spring of 2022 among 904 young French Z Generation, shows that their financial literacy is rather average, even weak for most of them. However, most of them are slightly motivated by sustainability investment, even if their trust in this type of investment is relatively low. The multidimensional studies indicate that individuals who have the least investment knowledge (a group that represents more than half of our sample) and who present the least favorable posture towards traditional investment, prove to be the most motivated by sustainable investment. This result leads us to wonder if the reasons for motivation and lack of trust of respondents are linked to individual characteristics, and if so, which ones?

It turns out that gender seems to play a fundamental role, with women being more motivated than men by sustainable investment and having more confidence in it. This could be related to the fact that, compared to men, women show higher interest in topics related to community and social welfare (Campbell & Winters, 2008), and they tend towards deontological values (Friesdorf et al., 2015). Studies have also shown that women vote slightly more often left-wing than men in occidental countries (Achin & Lévêque, 2018; Sineau, 2006, 2007). Interest in finance also has an impact: the more interested and knowledgeable respondents are in financial investment, the lower their motivation for sustainability investment. It should also be noted that, overall, women are less interested in and knowledgeable about (traditional) financial investments than men (this has already been demonstrated in numerous studies, e.g. Chen & Volpe, 2002; Lusardi & Mitchell, 2008; Bucher-Koenen et al., 2017; Blaschke, 2022)

In conclusion, this study addresses a topic that has previously received little attention in the academic literature, namely sustainability investment literacy. It opens up new questions: indeed, if the people with the lowest motivation for sustainable investment are those with the highest financial literacy (mostly men), what should be done to enable them to increase their motivation? And on the other hand, for those who are motivated by sustainable investment, but who have a low overall financial culture (mostly women), could there be a risk that their increased financial literacy will reduce their motivation to invest in sustainable finance? In-depth studies, among others in the form of interviews, should be necessary to gain an in-depth understanding of the reasons (possibly beyond the gender gap) for the motivation (and non-motivation) of members of generation Z for sustainable investment.

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Appendix 1: Questionnaire

Personal information

Question code	Question	Possible answers	Question coding	Literary source
genre	You consider yourself to be:	<input type="radio"/> a man <input type="radio"/> a woman <input type="radio"/> other	1 for "a man", 2 for "other", 3 for "a woman"	Personal question
age	Age	<input type="radio"/> below 20 <input type="radio"/> 20-22 <input type="radio"/> 23 -25 <input type="radio"/> above 25	1 for "below 20" to 4 for "above 25"	Personal question
language	What is your maternel language ?	<input type="radio"/> french <input type="radio"/> other (please specify, optional) :	1 for "french", 2 for "other"	Personal question
cursus	What type of course are you currently studying?	<input type="radio"/> Bachelors degree <input type="radio"/> Masters degree <input type="radio"/> Doctorate (PhD) <input type="radio"/> other (please specify, optional) :	1 for "Bachelors degree" to 3 for "Doctorate (PhD)". For other, a reclassification has been made, according to the type of diploma and age	Personal question
childhood_place	Did you grow in ...?	<input type="radio"/> a city center <input type="radio"/> a suburb <input type="radio"/> a rural area <input type="radio"/> other (please specify, optional) :	1 for "a rural area", 2 for "a suburb" and 3 for "a city center". For "other", a reclassification has been made, according to the answer	Personal question
income_source	Do you get money from any of these sources?	<input type="radio"/> Financial aid from parent(s) or guardian(s) <input type="radio"/> a social or merit scholarship <input type="radio"/> an educational credit program or other credit <input type="radio"/> employment outside of school <input type="radio"/> other (please specify, optional) :	/	Personal question
living_place	Do you live...?	<input type="radio"/> with your parents or a family member <input type="radio"/> in your own apartment or in a shared apartment <input type="radio"/> other (please specify, optional) :	/	Personal question
income_available	How much money do you have to live on each month?	<input type="radio"/> less than 300€ <input type="radio"/> from 300€ to less than 450€ <input type="radio"/> from 450€ to less than 600€ <input type="radio"/> from 600€ to less than 800€ <input type="radio"/> more than 800€	1 for "less than 300€" to 5 for "more tan"	Personal question
parents_education	What is the education level of your parents?	<input type="radio"/> Middle school level without obtaining "the brevet des collèges" (diploma at the end of Middle school) <input type="radio"/> "brevet des collèges" (diploma at the end of Middle school)) <input type="radio"/> "CAP/BEP" (French diplomas of professional aptitude) <input type="radio"/> Professional Baccaulaurate <input type="radio"/> Technical or general baccaulaurate or equivalent <input type="radio"/> Bachelor Level Education <input type="radio"/> Masters Level Education <input type="radio"/> Doctorate or more than Masters Level education <input type="radio"/> other (please specify, optional) :	/	Personal question

finance_speaking	In your family, do we ever talk about money, family expenses, family budget, etc.?	<input type="radio"/> no never <input type="radio"/> yes, but rarely (on average less than 3 times a year) <input type="radio"/> yes, sometimes (average of 3 to 12 times per year) <input type="radio"/> yes, often (average of 1 to 5 times per month) <input type="radio"/> yes, very often (average of 6 or more times per month)	Likert 5 (1: no never ... 5: yes, very often (average of 6 or more times per month))	Personal question
investment_speaking	Does your family ever talk about investing or saving?	<input type="radio"/> no never <input type="radio"/> yes, but rarely (on average less than 3 times a year) <input type="radio"/> yes, sometimes (average of 3 to 12 times per year) <input type="radio"/> yes, often (average of 1 to 5 times per month) <input type="radio"/> yes, very often (average of 6 or more times per month)	Likert 5 (1: no never ... 5: yes, very often (average of 6 or more times per month))	Personal question
bank_account	Do you have a bank account in your name?	<input type="radio"/> yes <input type="radio"/> no	1 for "no", 2 for "yes"	Personal question
bank_type	What type of bank do you have an account with?	<input type="radio"/> An online bank (without physical counters) <input type="radio"/> A traditional bank (with physical counters) <input type="radio"/> Both types of banks "online bank" and "traditional bank"	/	Personal question
bank_choice	What were the determining factors in choosing your bank(s)?	<input type="radio"/> no/low account maintenance fees <input type="radio"/> a good ATM network <input type="radio"/> the possibility of ethical investments <input type="radio"/> low cost cash withdrawal worldwide <input type="radio"/> trust <input type="radio"/> my parents are in the same bank <input type="radio"/> services offered <input type="radio"/> other (please specify, optional) :	/	Personal question
economics_studies	Have you ever had teaching modules in economics and/or management?	<input type="radio"/> no, I have never taken an economics and/or management course <input type="radio"/> yes, but less than 30 hours <input type="radio"/> yes, between 30 and 100 hours <input type="radio"/> yes, more than 100 hours, but economics and/or management is not my field of study <input type="radio"/> yes, more than 100 hours, and economics and/or management is my field of study	1 for "yes, but less than 30 hours" to 5 for "yes, more than 100 hours, and economics and/or management is my field of study"	Personal question
fi_info_sources	What is/are the primary source(s) you use to obtain financial information (you may choose up to 3 choices)	<input type="radio"/> Social media (e.g. Twitter, Facebook, Instagram, Snapchat, YouTube) <input type="radio"/> Search engines (e.g. Google, Bing, Yahoo, Ask ... etc.) <input type="radio"/> Specialized websites (e.g. Bloomberg, Reuters, MarketWatch, Forbes, Financial Times, etc.) <input type="radio"/> TV, radio, newspapers <input type="radio"/> Formal sources (e.g., university professors, seminars, workshops, conferences) <input type="radio"/> Personal sources (e.g. family, relatives, friends) <input type="radio"/> Private sources (e.g., bank advisor, financial advisor, financial consulting firm, etc.)	/	Personal question

Financial Investment literacy questions

Question code	Question	Possible answers	Question coding	Literary source
<i>Financial Investment Knowledge</i>				
FI_K_1	How would you rate your investment knowledge?	<input type="radio"/> very poor <input type="radio"/> poor <input type="radio"/> average <input type="radio"/> good <input type="radio"/> very good	1 for "a man", 2 for "other", 3 for "a woman"	Personal question
FI_K_2	Suppose you had €100 in a savings account and the interest rate is 2% per year. After 1 year, how much do you think you would have in the account if you left the money grow?	<input type="radio"/> 100 € <input type="radio"/> Less than 102 € <input type="radio"/> exactly €102 <input type="radio"/> more than 102 €.	1 for "below 20" to 4 for "above 25"	Lusardi & Mitchell (2008)
FI_K_3	Let's say you have €100 in a savings account, the interest rate is 20% per year and you never withdraw money or make interest payments. never withdraw any money. After 5 years, how much money would you have in this account in total?	<input type="radio"/> 100 € <input type="radio"/> Less than 102 €. <input type="radio"/> exactly €102 <input type="radio"/> more than 102 €.	1 for "french", 2 for "other"	Lusardi & Mitchell (2008)
FI_K_4	Imagine that the interest rate on your savings account is 1% per year and inflation is 2% per year. After 1 year, how much would you be able to buy with the money in this account?	<input type="radio"/> less than today <input type="radio"/> exactly the same as today <input type="radio"/> more than today	1 for "Bachelors degree" to 3 for "Doctorate (PhD)". For other, a reclassification has been made, according to the type of diploma and age	Lusardi & Mitchell (2008)
FI_K_5	Which of the following statements is correct? If somebody buys the stock of firm B in the stock market	<input type="radio"/> he owns a part of firm B <input type="radio"/> he has lent money to firm B <input type="radio"/> he is liable for firm B's debts <input type="radio"/> none of the above	1 for "a rural area", 2 for "a suburb" and 3 for "a city center". For other, a reclassification has been made, according to the answer	van Rooij, M., Lusardi, A., & Alessie, R. (2011)
FI_K_6	Which of the following statements is correct? If somebody buys a bond of firm B	<input type="radio"/> he owns a part of firm B <input type="radio"/> he has lent money to firm B <input type="radio"/> he is liable for firm B's debts <input type="radio"/> none of the above	5 for right answer (he has lent money to firm B) and 1 for any other (wrong) answer	van Rooij, M., Lusardi, A., & Alessie, R. (2011)
FI_K_7	If the interest rate falls, what should happen to bond prices?	<input type="radio"/> decrease <input type="radio"/> stay the same <input type="radio"/> increase <input type="radio"/> none of the above <input type="radio"/> increase	5 for right answer (decrease) and 1 for any other (wrong) answer	Lusardi (2015)
FI_K_8	Stocks are normally riskier than bonds.	<input type="radio"/> less than 300€ <input type="radio"/> from 300€ to less than 450€ <input type="radio"/> from 450€ to less than 600€ <input type="radio"/> from 600€ to less than 800€ <input type="radio"/> more than 800€	1 for "less than 300€" to 5 for "more tan 800€"	Lusardi (2015)
FI_K_9	Considering a long time period (e.g. 10 or 20 years), which asset normally gives the highest return?	<input type="radio"/> savings accounts <input type="radio"/> bonds <input type="radio"/> stocks	5 for right answer (stocks) and 1 for any other (wrong) answer	Lusardi (2015)
FI_K_10	When an investor spreads his money among different assets, does the risk of losing money:	<input type="radio"/> no never <input type="radio"/> yes, but rarely (on average less than 3 times a year) <input type="radio"/> yes, sometimes (average of 3 to 12 times per year) <input type="radio"/> yes, often (average of 1 to 5 times per month) <input type="radio"/> yes, very often (average of 6 or more times per month)	Likert 5 (1: no never ... 5: yes, very often (average of 6 or more times per month))	van Rooij, M., Lusardi, A., & Alessie, R. (2011)
FI_K_11	Buying a company stock usually provides a safer return than a stock mutual fund	<input type="radio"/> true <input type="radio"/> false	Likert 5 (1: no never ... 5: yes, very often (average of 6 or more times per month))	van Rooij, M., Lusardi, A., & Alessie, R. (2011)

Financial Investment Attitude				
FI_A_1	Money is there to be spent	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> strongly agree	Likert 5 (1: strongy disagree ... 5: strongly agree)	OECD (2020)
FI_A_2	I worry if I have no or too little money set aside (especially for unexpected situations)	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> strongly agree	Likert 5 (1: strongy disagree ... 5: strongly agree)	Personal question
FI_A_3	I am interested in economic matters and financial markets	<input type="radio"/> no, I have never taken an economics and/or management course <input type="radio"/> yes, but less than 30 hours <input type="radio"/> yes, between 30 and 100 hours <input type="radio"/> yes, more than 100 hours, but economics and/or management is not my field of study <input type="radio"/> yes, more than 100 hours, and economics and/or management is my field of study	1 for "yes, but less tan 30 hours" to 5 for "yes, more than 100 hours, and economics and/or management is my field of study "	Hermansson & Jonsson (2021)
FI_A_4	If there is an investment opportunity where you pay \$1000 and get the capital and profits in one year, what level of risk and return would you prefer?	<input type="radio"/> You pay 1000 € now and you get back 1100 € in one year with a probability of success of the investment of 95%. <input type="radio"/> You pay €1000 now and get back €1250 in one year with a 75% probability of success. <input type="radio"/> You pay €1000 now and you get back €1500 in one year with a 50% probability of success of the investment. <input type="radio"/> You pay €1000 now and get back €1750 in one year with a 25% probability of investment success. <input type="radio"/> You pay € 1000 now and you get back € 2000 in one year with a probability of success of the investment of 5%.	1: You pay 1000 € now and you get back 1100 € in one year with a probability of success of the investment of 95%. 2: You pay €1000 now and get back €1250 in one year with a 75% probability of success. 3: You pay €1000 now and you get back €1500 in one year with a 50% probability of success of the investment. 4: You pay €1000 now and get back €1750 in one year with a 25% probability of investment success. 5: You pay € 1000 now and you get back € 2000 in one year with a probability of success of the investment of 5%.	inspired by Hilary & Hui (2009)
Financial Investment Behavior				
FI_B_1	How often do you read (or listen to) financial news?	<input type="radio"/> I never read (or listen to) financial news <input type="radio"/> at least once a year <input type="radio"/> at least once a month <input type="radio"/> at least once a week <input type="radio"/> every day or almost	Likert 5 (1: never... 5: every day or almost)	Personal question
FI_B_2	I set goals to guide my financial decisions	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> strongly agree	Likert 5 (1: strongy disagree ... 5: strongly agree)	Vieira et al. (2020)
FI_B_3	I save my money regularly to achieve long-term financial goals	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> strongly agree	Likert 5 (1: strongy disagree ... 5: strongly agree)	Vieira et al. (2020)
FI_B_4	Have you already investing ?	<input type="radio"/> yes <input type="radio"/> no	1: no ; 5 : yes	Personal question
FI_B_5	If yes, in what kind of products ?	<input type="radio"/> bonds <input type="radio"/> stocks <input type="radio"/> mutual funds <input type="radio"/> crypto-currency <input type="radio"/> real estate <input type="radio"/> other(s) (please specify):	/	Personal question
FI_B_6	If no, what type of financial product(s) would interest you most? (please select a maximum of 2 answers)	<input type="radio"/> bonds <input type="radio"/> stocks <input type="radio"/> mutual funds <input type="radio"/> crypto-currency <input type="radio"/> real estate <input type="radio"/> other(s) (please specify):	/	Personal question

Sustainable Investment literacy questions

Question code	Question	Possible answers	Question coding	Literary source
<i>Sustainable investment knowledge</i>				
Do you know any of these terms ?				
SI_K_1	Sustainable Finance	<input type="radio"/> yes <input type="radio"/> no	1 for "below 20" to 4 for "above 25"	Personal question
SI_K_2	Green Finance	<input type="radio"/> yes <input type="radio"/> no	1 for "french", 2 for "other"	Personal question
SI_K_3	Socially responsible Investing	<input type="radio"/> yes <input type="radio"/> no	1 for "Bachelors degree" to 3 for "Doctorate (PhD)". For other, a reclassification has been made, according to the type of diploma and age	Personal question
SI_K_4	ESG investing	<input type="radio"/> yes <input type="radio"/> no	1 for "a rural area", 2 for "a suburb" and 3 for "a city center". For other, a reclassification has been made, according to the answer	Personal question
Have you ever heard of the 3 following terms before this survey?				
SI_K_5	sustainable investments (e.g., socially responsible mutual funds, i.e., market investments that are concerned with social, ethical, and environmental aspects in addition to financial returns)	<input type="radio"/> yes <input type="radio"/> no	1: no ; 5 : yes	Brodback et al. (2019)
SI_K_6	stock market indices for sustainable investments?	<input type="radio"/> less than 300€ <input type="radio"/> from 300€ to less than 450€ <input type="radio"/> from 450€ to less than 600€ <input type="radio"/> from 600€ to less than 800€ <input type="radio"/> more than 800€	1 for "less than 300€" to 5 for "more than 800€"	Personal question
SI_K_7	sustainability analysis agencies for companies and financial products?	<input type="radio"/> yes <input type="radio"/> no	1: no ; 5 : yes	Personal question
SI_K_8	What do you think is the current trend in France for sustainable investments?	<input type="radio"/> a decrease in demand <input type="radio"/> no change from recent years <input type="radio"/> an increase in demand <input type="radio"/> I don't know		Personal question
SI_K_9	In your opinion, when comparing sustainable investment funds in the long run with traditional investment funds, sustainable investment funds are:	<input type="radio"/> less risky <input type="radio"/> similar risk <input type="radio"/> more risky <input type="radio"/> I don't know	1 for "no", 2 for "yes"	Escrig-Olmedo et al. (2013)
SI_K_10	In your opinion, when comparing sustainable investment funds in the long run with traditional investment funds, sustainable investment funds offer:	<input type="radio"/> lower returns <input type="radio"/> similar returns <input type="radio"/> better returns <input type="radio"/> I don't know	5 for right answer (similar returns) and 1 for any other answer	Escrig-Olmedo et al. (2013)

Sustainable Investment Attitude_Trust

Please indicate the extent to which you agree or disagree with the 2 following statements

SI_A_T_1	I do not trust that providers of sustainable financial products follow the sustainability guidelines that they represent in their investment information.	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> totally agree	Likert 5 reversed (1: strongly agree ... 5: strongly disagree)	Gutsche & Zwergel (2020)
SI_A_T_2	Sustainable financial products are only a marketing tool for banks (to attract investors' money)	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> totally agree	Likert 5 reversed (1: strongly agree ... 5: strongly disagree)	Escrig-Olmedo et al. (2013)

Sustainable Investment Attitude_Motivation

SI_A_M_1	If you decided to invest in a financial product, which criteria would be most important to you?	<input type="radio"/> The return and risk of the investment <input type="radio"/> The social, ethical and environmental implication of the investment	1: The return and risk of the investment ; 5: The social, ethical and environmental implication of the investment	Personal question, inspired by Brodback et al. (2019)
SI_A_M_2	Every person has the power to influence social problems by investing in sustainable financial products	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> totally agree	Likert 5 reversed (1: strongly agree ... 5: strongly disagree)	Brodback et al. (2019)
SI_A_M_3	It does not matter if I invest in sustainable financial products since one person acting alone cannot make a difference	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> totally agree	Likert 5 reversed (1: strongly agree ... 5: strongly disagree)	Brodback et al. (2019)
SI_A_M_4	Investing in sustainable financial products is a way to ease my conscience	<input type="radio"/> strongly disagree <input type="radio"/> disagree <input type="radio"/> indifferent <input type="radio"/> agree <input type="radio"/> totally agree	Likert 5 reversed (1: strongly agree ... 5: strongly disagree)	Brodback et al. (2019)
SI_A_M_5	Would you be interested in investing in projects that take into account social, ethical and environmental aspects in addition to financial returns?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> I don't know	1: no ; 3: I don't know ; 5:yes	Personal question
SI_A_M_6	If yes, why would you choose a financial product that includes social and environmental variables?	<input type="radio"/> high return <input type="radio"/> the security of investing in sustainable products <input type="radio"/> advice from a banker <input type="radio"/> ethical or religious reasons <input type="radio"/> social pressure to behave more responsibly <input type="radio"/> other (specify)	/	Personal question
SI_A_M_7	If not, can you explain in a few words (if you wish) why you would not choose a financial product that includes social and environmental features?	Open answer	/	Personal question

Please indicate for the 2 next questions, how important you consider the following aspects in (your) investment decisions:

SI_A_M_8	Social issues (e.g. animal testing, child labor, human rights)	<input type="radio"/> not important at all <input type="radio"/> slightly important <input type="radio"/> indifferent <input type="radio"/> important <input type="radio"/> very important	Likert 5 reversed (1: not important at all... 5: very important)	Brodback et al. (2019)
SI_A_M_9	Environmental issues (e.g. nuclear power, genetic engineering, pollution, climate change)	<input type="radio"/> not important at all <input type="radio"/> slightly important <input type="radio"/> indifferent <input type="radio"/> important <input type="radio"/> very important	Likert 5 reversed (1: not important at all... 5: very important)	Brodback et al. (2019)
SI_A_M_10	If you decided to invest in sustainable financial products, what would be the 3 most important criteria for you? (Please choose a maximum of 3 answers)	<input type="radio"/> well-being at work <input type="radio"/> Biodiversity <input type="radio"/> climate change <input type="radio"/> Local economic development <input type="radio"/> human rights <input type="radio"/> Gender equality (between men, women, various...) <input type="radio"/> Employment <input type="radio"/> poverty <input type="radio"/> Pollution (air, soil, water...) <input type="radio"/> other (please specify)	/	List compiled from the criteria most mentioned by investors in the study by Escrig-Olmedo et al. (2013)

Appendix 2: Total explained variance in PCA

Composante	Initial eigenvalues			Sums extracted from the load square			Rotation sums of the load square		
	Total	% of variance	% cumulative	Total	% of variance	% cumulative	Total	% of variance	% cumulative
1	2,002	33,364	33,364	2,002	33,364	33,364	1,502	25,031	25,031
2	1,295	21,583	54,947	1,295	21,583	54,947	1,414	23,570	48,602
3	0,916	15,261	70,208	0,916	15,261	70,208	1,296	21,607	70,208
4	0,779	12,988	83,196						
5	0,537	8,957	92,153						
6	0,471	7,847	100,000						

Appendix 3: Significance tests and Quality of PCA representation

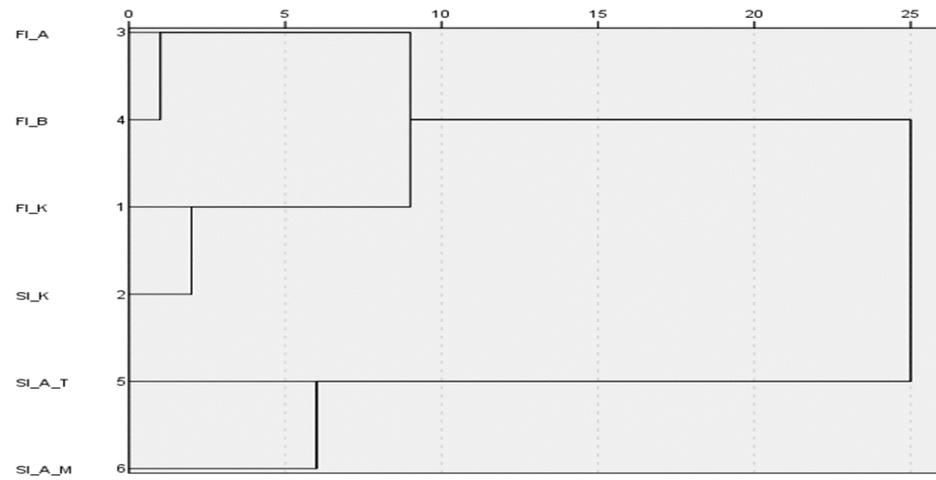
Kaiser-Meyer-Olkin index for measuring sampling quality		0,608
Bartlett's sphericity test	approx.Chi-square	683,403
	df.	15
	Significance	<0,01

Graph A3a. Significance tests of the PCA

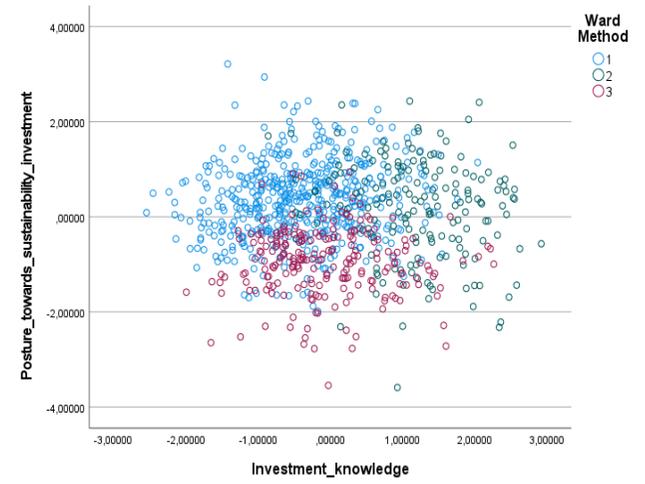
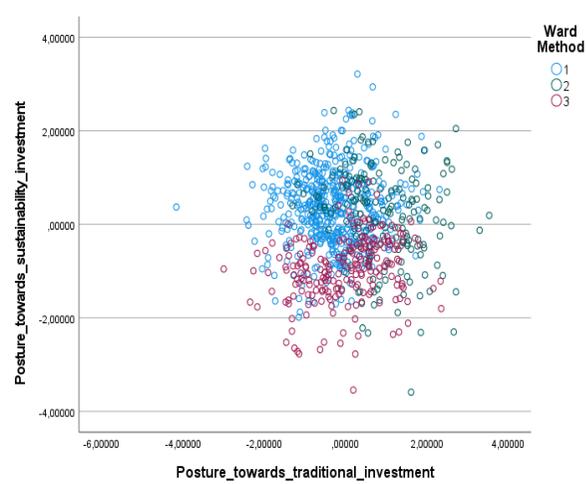
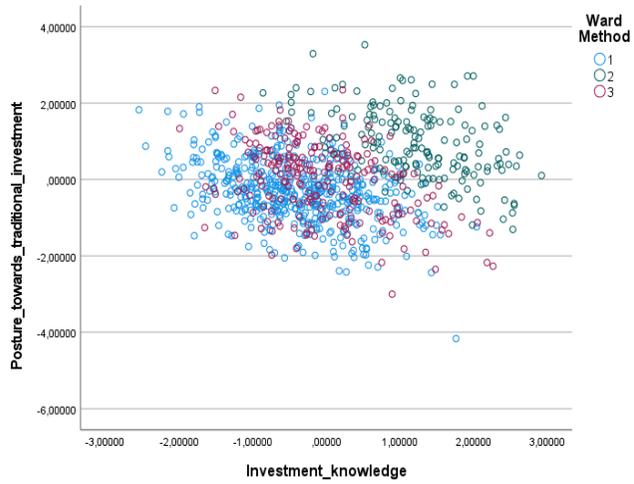
	Initiales	Extraction
FI_K	1,000	0,665
SI_K	1,000	0,712
FI_A	1,000	0,774
FI_B	1,000	0,701
SI_A_T	1,000	0,633
SI_A_M	1,000	0,728

Graph A3b. Quality of representation of the PCA variables

Appendix 4: HAC dendrogram on variables



Appendix 5: Graphs of the projection of the individuals on the factorial axes from the PCA



Appendix 6: ANOVAs on SI_A_T (Mean score of trust in sustainable finance) and SI_A_M, ((Mean score of motivation to invest in sustainable finance), dependent variables being socio-economic attributes of respondents

Dependant variable: SI_A_T (Mean score of trust in sustainability finance)

		SS	df	MS	F	P	
genre	Between Groups	6,384	2	3,192	5,405	0,005*	Women's confidence score (2.84) towards sustainable investment is significantly higher than men's (2.69)
	Within Groups	532,054	901	0,591			
	Total	538,438	903				
age	Between Groups	1,381	3	0,46	0,771	0,51	
	Within Groups	537,057	900	0,597			
	Total	538,438	903				
cursus	Between Groups	4,315	2	2,157	3,639	0,027*	The confidence score of Master's students (2.67) towards sustainable investment is significantly lower than that of Bachelor's students (2.81) or PhD students (2.84) (however, PhD students represent only 1.4% of respondents)
	Within Groups	534,123	901	0,593			
	Total	538,438	903				
childhood place	Between Groups	0,248	2	0,124	0,208	0,812	
	Within Groups	538,19	901	0,597			
	Total	538,438	903				
income available	Between Groups	1,26	4	0,315	0,527	0,716	
	Within Groups	537,178	899	0,598			
	Total	538,438	903				
parents education Max	Between Groups	0,544	5	0,109	0,182	0,97	
	Within Groups	537,894	898	0,599			
	Total	538,438	903				
parents education Sum	Between Groups	4,429	10	0,443	0,741	0,686	
	Within Groups	534,009	893	0,598			
	Total	538,438	903				
finance speaking	Between Groups	2,605	4	0,651	1,093	0,359	
	Within Groups	535,832	899	0,596			
	Total	538,438	903				
investment speaking	Between Groups	3,559	4	0,89	1,495	0,202	
	Within Groups	534,879	899	0,595			
	Total	538,438	903				
bank account	Between Groups	0,73	1	0,73	1,225	0,269	
	Within Groups	537,707	902	0,596			
	Total	538,438	903				
bank-type	Between Groups	1,084	2	0,542	0,91	0,403	
	Within Groups	495,877	832	0,596			
	Total	496,961	834				
economics studies	Between Groups	3,067	4	0,767	1,287	0,273	
	Within Groups	535,371	899	0,596			
	Total	538,438	903				
FI_K_1 (how would you rate your investment knowledge ?)	Between Groups	2,256	4	0,564	0,946	0,437	
	Within Groups	536,181	899	0,596			
	Total	538,438	903				
FI_B_1 (how often do you read or listen financial news ?)	Between Groups	4,524	4	1,131	1,904	0,108	
	Within Groups	533,914	899	0,594			
	Total	538,438	903				

n=904

*Sig. Leel : p<0.05

Dependant variable: SI_A_M (Mean score of motivation to invest in sustainability finance)

		SS	df	MS	F	P	
genre	Between Groups	16,438	2	8,219	21,841	<,001*	Women's motivation score (3.56) towards sustainable investment is significantly higher than that of men (3.29)
	Within Groups	339,059	901	0,376			
	Total	355,497	903				
age	Between Groups	1,945	3	0,648	1,651	0,176	
	Within Groups	353,552	900	0,393			
	Total	355,497	903				
cursus	Between Groups	0,55	2	0,275	0,698	0,498	
	Within Groups	354,947	901	0,394			
	Total	355,497	903				
childhood place	Between Groups	0,274	2	0,137	0,347	0,707	
	Within Groups	355,223	901	0,394			
	Total	355,497	903				
income available	Between Groups	0,637	4	0,159	0,403	0,806	
	Within Groups	354,86	899	0,395			
	Total	355,497	903				
parents education Max	Between Groups	2,877	5	0,575	1,465	0,199	
	Within Groups	352,62	898	0,393			
	Total	355,497	903				
parents education Sum	Between Groups	4,207	10	0,421	1,069	0,383	
	Within Groups	351,291	893	0,393			
	Total	355,497	903				
finance speaking	Between Groups	0,563	4	0,141	0,356	0,84	
	Within Groups	354,934	899	0,395			
	Total	355,497	903				
investment speaking	Between Groups	3,754	4	0,939	2,399	0,051	
	Within Groups	351,743	899	0,391			
	Total	355,497	903				
bank account	Between Groups	0,001	1	0,001	0,003	0,958	
	Within Groups	355,496	902	0,394			
	Total	355,497	903				
bank-type	Between Groups	1,185	2	0,593	1,554	0,212	
	Within Groups	317,331	832	0,381			
	Total	318,517	834				
economics studies	Between Groups	4,689	4	1,172	3,004	0,018*	Respondents who have taken more than 200 hours of economics/management courses have significantly lower sustainable investment motivation scores (3.27) than those who have never or less than 200 hours of economics/management courses (3.45)
	Within Groups	350,808	899	0,39			
	Total	355,497	903				
FI_K_1 (how would you rate your investment knowledge ?)	Between Groups	6,746	4	1,686	4,347	0,002*	The self-assessed level of investment knowledge evolves inversely with motivation: respondents rating their investment knowledge as very good have a motivation score of 2.9, while those rating their knowledge as very poor have a score of 3.49
	Within Groups	348,752	899	0,388			
	Total	355,497	903				
FI_B_1 (how often do you read or listen financial news ?)	Between Groups	11,466	4	2,866	7,49	<,001*	The frequency of reading or listening to financial information is inversely related to motivation: respondents who read or listen to financial information on a daily basis have a motivation score of 3.03, while those who never listen to financial information have a score of 3.47
	Within Groups	344,031	899	0,383			
	Total	355,497	903				

n=904

*Sig. Leel : p<0.05

Appendix 7: Chi-square between the gender and the volume of courses in economics/management

	Value	df	Asymptotic significance (bilateral)
Chi-square Pearson	7,634a	8	0,47
Likelihood ratio	9,052	8	0,338
N of valid observations	904		

*Sig. Level : p<0.05

Appendix 8: Results of binomial logistic regressions between the independent variables FI_K (knowledge of conventional investment) and SI_K (knowledge of sustainable investment), and the variables indicating the possible reasons for investing in sustainable finance (modalities of the question A_M_6)

Why would you choose a financial product that includes social and environmental variables? (question A_M_6)

Dependent variable: high return (0: no; 1: yes)

		B	St. Dev.	Wald	df	Sig.	Exp(B)
Variables	FI_K	0,08	0,157	0,258	1	0,612	1,083
	SI_K	0,109	0,127	0,736	1	0,391	1,115

Dependent variable: investment security (0: no; 1: yes)

		B	St. Dev.	Wald	df	Sig.	Exp(B)
Variables	FI_K	-0,012	0,135	0,007	1	0,932	0,988
	SI_K	0,044	0,109	0,161	1	0,688	1,045

Dependent variable: advice from a banker or financial advisor (0: no; 1: yes)

		B	St. Dev.	Wald	df	Sig.	Exp(B)
Variables	FI_K	0,001	0,183	0	1	0,995	1,001
	SI_K	0,117	0,148	0,626	1	0,429	1,125

Dependent variable: ethical or religious reasons (0: no; 1: yes)

		B	St. Dev.	Wald	df	Sig.	Exp(B)
Variables	FI_K	0,037	0,136	0,075	1	0,785	1,038
	SI_K	-0,034	0,11	0,098	1	0,754	0,966

Dependent variable: social pressure for more responsible behavior (0: no; 1: yes)

		B	St. Dev.	Wald	df	Sig.	Exp(B)
Variables	FI_K	-0,497	0,189	6,904	1	0,009*	0,608
	SI_K	0,003	0,153	0	1	0,984	1,003

n=383

*Sig. Level : p<0.05

Appendix 9: Descriptive statistics and ANOVA between the variable gender and the variables SI_K (knowledge of traditional financial investment) and SI_K (knowledge of sustainable financial investment)

Descriptive statistics

		N	Mean	St. Dev.	St. Err.	95% confidence interval for the mean		Minimum	Maximum
						lower bound	upper bound		
FI_K	men	439	3,5403	0,81133	0,03872	3,4642	3,6164	1,4	5
	divers	13	2,7846	0,74145	0,20564	2,3366	3,2327	1,8	4,2
	women	452	3,0478	0,7594	0,03572	2,9776	3,118	1,4	5
	Total	904	3,2832	0,82345	0,02739	3,2294	3,3369	1,4	5
SI_K	men	439	2,5927	1,04157	0,04971	2,495	2,6904	1	5
	divers	13	2,0462	0,70311	0,19501	1,6213	2,471	1	3
	women	452	2,2593	0,94385	0,04439	2,172	2,3465	1	5
	Total	904	2,4181	1,00357	0,03338	2,3526	2,4836	1	5

ANOVA

		SS	df	MS	F	P
FI_K	Between Groups	57,303	2	28,652	46,514	<,001*
	Within Groups	555,001	901	0,616		
	Total	612,304	903			
SI_K	Between Groups	26,583	2	13,291	13,564	<,001*
	Within Groups	882,88	901	0,98		
	Total	909,462	903			

n=904

*Sig. Leel : p<0.05

Appendix 10: Descriptive statistics and Chi-square test between the variable gender and the variable FI_B_1 (How often do you read (or listen to) financial news?)

Descriptive statistics

How often do you read (or listen to) financial news?

	Never	At least one a year	At least one a month	At least one a week	every day or almost	Total
men	118	94	110	77	40	439
divers	6	2	4	1	0	13
women	223	127	74	22	6	452
Total	347	223	188	100	46	904

Chi-square Pearson

	Value	df	Asymptotic significance (bilateral)
Chi-square Pearson	102,328	8	<,001*
Likelihood ratio	107,976	8	<,001
linear association by linear	97,569	1	<,001
N of valid observations	904		

n=904

*Sig. Leel : p<0.05