

Does the Right to Information on their Pension Introduced by the 2003 Reform Make the French Better Informed and Less Concerned about their Future Pension?

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Abstract – We study the impact of the policy of sending policyholders personalised information regarding their pension, which was introduced by the 2003 reform (the right to information, *Droit à l'information* – DAI), on improving their knowledge of their pension entitlements and on the changes in their level of concern regarding their future pension amount. By using data from the 2012 and 2020 waves of the PATÉR survey, we show that knowledge of pension entitlements improved and that concern regarding pension amounts fell between 2012 and 2020. The impact of sending information as part of the DAI is difficult to isolate from the impact of the change in the general context between 2012 and 2020. However, the results obtained suggest that the first documents sent under the DAI policy have a slight positive effect on knowledge and an indirect impact on reducing concern by improving knowledge.

JEL: H55, I20, J26

Keywords: retirement, provision of information, financial literacy, pension expectations

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This research was supported by the Cepremap (CEntre Pour la Recherche ÉconoMique et ses APplications) “Économie publique et redistribution” research programme. The Institut Europlace de Finance (IEF) has also provided financial support for this work. We would like to thank the two reviewers as well as: the organisers and participants of the 2021 International Retirement and Ageing Symposium (co-organised by the Institut des politiques publiques (IPP), the Social Economics, Protection and Society (ESoPS) chair at the University of Paris 1 Pantheon-Sorbonne and the CDC); Izabela Jelovac, Florence Jusot, Aurore Pélissier and Lise Rochaix for their comments at the 2022 Annual AFSE Conference. We would also like to thank Anne Lavigne, Frédérique Nortier-Ribordy and Pierre-Louis Bras and the members of the Secretariat-General of the Conseil d'orientation des retraites (Pension Advisory Board, COR) for their remarks and comments. Finally, we would like to thank Ronan Mahieu for his invaluable proofreading, comments and suggestions.

Received in January 2022, accepted in February 2023. Translated from “Le droit à l'information sur la retraite introduit par la réforme de 2003 rend-il les Français mieux informés et moins inquiets quant à leur future retraite ?”.

The views and opinions expressed by the authors are their own and do not necessarily reflect those of the institutions to which they belong or of INSEE itself.

Citation: Arrondel, L., Gautier, L., Lemonnier, A. & Soulat, L. (2023). Does the Right to Information on their Pension Introduced by the 2003 Reform Make the French Better Informed and Less Concerned about their Future Pension? *Economie et Statistique / Economics and Statistics*, 538, 69–87. doi: 10.24187/ecostat.2023.538.2093

Recurring debates on the best way to ensure the financial balance of pension systems, within a context of marked population ageing, focus primarily on pension levels and the retirement age. To explain pension savings behaviour, the standard model used is the life-cycle model and its extensions (Modigliani & Brumberg, 1954). The basic idea behind this model is simple: individuals save for their pension throughout their working life and then use the savings accrued in this way in old age. If there is a public pension system that provides a life annuity, any savings held by the individual will be reduced by that amount. The savings (private and pension entitlements) are used to match the schedule of needs with the schedule of resources, which exhibit systematic variations (entry into retirement) and random shocks or fluctuations. However, in the light of the empirical data, this “standard rationality” presents several puzzles, including, in terms of pensions, the inadequacy of saving for a proportion of the population, and the low spread of savings plans with life annuities (annuity puzzle), even after the age of 50 (Davidoff *et al.*, 2005).

To address these shortcomings of the standard model, “non-standard” models of behavioural economics can be used. These reconsider the saver’s rationality hypothesis (Gomes *et al.*, 2021) whether in terms of their choices, their beliefs, or even the processes by which they make their decisions (DellaVigna, 2009). For example, disaffection for life annuities could be explained by “an aversion to ambiguity” (which relates to choices in an uncertain environment rather than a risky environment as explained by Knight – Ellsberg, 1961) exhibited by individuals in times of uncertainty regarding their longevity (Guiso & Sodini, 2013). Questioning the hypothesis of rational expectations, and in particular, the homogeneity of beliefs, also seems to be an interesting research pathway. Lastly, the standard model implicitly assumes that, in making their decisions, savers are familiar with economic and financial concepts such as discounting, inflation, interest calculation, etc., and that they have a certain level of information about the economic environment, in particular the pension systems and their entitlements. The research programmes on information, financial literacy or cognitive ability tend to show that these hypotheses are not always true (Lusardi & Mitchell, 2014).

For example, savers may suffer from a lack of financial education (“financial illiteracy”) or limited cognitive ability (Lusardi, 2009;

Guiso & Sodini, 2013). They may not be familiar with the economic principles required (rational formation of expectations, discounting calculation, valuation of assets, etc.) or may not have sufficient knowledge of financial products or the economic environment (interest rates, stock markets, pension system, etc.). They may make all sorts of “errors”, for example of calculation, of strategy, and also expectation errors, in obtaining and processing information or establishing their beliefs. They may be victims of “emotions” that run counter to their own interests (impulsiveness, excess self-confidence, unjustified regret or disappointment, etc.). These various “biases” could therefore be behind inadequate preparation for retirement.

From this perspective, this article focuses on the knowledge that French people have of their personal pension entitlements and their concern in terms of their future pension, which have more financial aspects. More specifically, we are looking at how their knowledge and concern changed following the implementation of a mechanism for the systematic provision of information to policyholders throughout their careers by public actors and pension schemes. The 2003 pension reform tasked the *GIP-Info retraite* (the Retirement Information Public Interest Group, which became the *GIP-Union retraite* (Retirement Union Public Interest Group) following the 2014 reform) with implementing the right to information (*Droit à l’information*, DAI). This right is reflected in the sending of consolidated information to non-retired members, every five years from the age of 35, regarding their entitlements under the various mandatory pension schemes. Here, we direct our attention more specifically to the intention-to-treat (ITT) assessment of this policy, i.e. on the fact that it is the individuals who are the target of this DAI document provision policy and not on the circumstance of having actually received a right to information (for more details on the DAI policy and on measuring ITT, see Box 1).

According to several studies, “lack of money” for retirement is the main source of concern for future pensioners (Arrondel & Soulat, 2017). We therefore consider it to be useful to take a look at the extent to which the DAI can improve the confidence of individuals in having sufficient income once retired. The DAI policy is indeed also likely to have an impact on the level of concern regarding personal pension amounts, in addition to its direct effect on the level of awareness of personal entitlements. We therefore examine the effects of exposure to the DAI

Box 1 – Right to Information (*Droit à l'information* – DAI)

The 2003 pension reform tasked the GIP-Info retraite (the Retirement Information Public Interest Group), which became the GIP-Union retraite (Retirement Union Public Interest Group Union) in 2014, with sending consolidated information to non-retired members, every five years from the age of 35, regarding their entitlements under the various mandatory pension schemes: the sending of this information constitutes the right to information on retirement (*Droit à l'information* – DAI). Before the age of 55, this takes the form of an individual pension entitlements statement (*Relevé individuel de situation* – RIS) followed by an overall indicative estimate (*Estimation indicative globale* – EIG), which provides an assessment of the total pension amount based on a number of assumptions concerning retirement age and end-of-career status (COR, 2008). The DAI was implemented gradually from 2007 onwards. If we take account of the information sent up until 2019 for the 2020 wave of the PATÉR survey, the generation born between 1975 and 1984 received the RIS upon reaching the age of 35 from 2010 onwards; the generation born between 1969 and 1974 received the RIS upon reaching the age of 40 from 2009 onwards; the generation born between 1963 and 1968 received the RIS upon reaching the age of 45 from 2008 onwards; and the generation born between 1957 and 1967 received the RIS upon reaching the age of 50 from 2008 onwards. The sending of EIGs to those aged 55, 60 and 65 was also increased gradually. The schedule for scaling up the scheme for the first generation of beneficiaries may have resulted in several DAI being received more frequently than every five years. The first beneficiaries, born in 1949, were 58 years old in 2007, with those born before 1949 not being targeted as recipients. Finally, the sending of information within the scope of the DAI ceases upon the liquidation of pension entitlements.

In this study, we are interested in exposure to the sending of RIS or EIG within the framework of the DAI and not the actual receipt of these documents. Such exposure is entirely determined by the year of birth, since the schedule for sending the information is dependent on that year of birth. It is therefore an assessment of the “intention to treat” (ITT). This measure may overestimate the number of people who have actually received a document within the scope of the DAI, since sending may have been suspended for technical reasons or may not have reached the policyholder due to an incorrect address, for example.

$DAI_{i,t}$ is the total number of documents sent in theory before date t to person i . For the 2012 wave, it therefore relates to the total number of documents sent between 2007 and 2011 and, for the 2020 wave, the total number of documents sent between 2007 and 2019. It is assumed that the people targeted by the sending of information during the survey year (2012 or 2020) did not receive the document until after they had completed the survey. It is a measure of the intensity of the sending of DAI.

If we take the example of respondent i , born in 1957 and retired in 2019 at the age of 62, $DAI_{i,t=2012} = 1$ since they were only sent a single RIS when they turned 50 years old in 2007 (at which date i had not yet retired), and $DAI_{i,t=2020} = DAI_{i,t=2012} + 2 = 3$ with the additional sending of an EIG when they reached 55 years of age in 2012 and a further EIG when they reached 60 years of age in 2017 (at which dates the individual had not yet retired).

In 2012, 45.9% of respondents had, in theory, received a document within the framework of the DAI, with 6.4% having theoretically received two documents; in 2020, 11.0% had, in principle, received a single document within the framework of the DAI, 46.7% had received two and 14.3% had received at least three (Table A).

Table A – Proportion of individuals targeted by the sending of DAI according to the number sent (as a %)

Age	2012 DAI=0	2012 DAI=1	2012 DAI=2	2020 DAI=0	2020 DAI=1	2020 DAI=2	2020 DAI=at least 3
All respondents (N=3895)							
Under 35	100.0	0.0	0.0	100.0	0.0	0.0	0.0
35-49	41.1	58.9	0.0	4.7	30.8	64.5	0.0
50 and over	11.0	70.1	18.8	0.3	0.3	62.1	37.4
Total	47.7	45.9	6.4	28.0	11.0	46.7	14.3
Respondents included in both waves (N=444)							
Under 35	100.0	0.0	0.0	100.0	0.0	0.0	0.0
35-49	42.9	57.1	0.0	3.1	22.6	74.2	0.0
50 and over	17.9	78.6	3.6	0.0	0.0	64.7	35.3
Total	49.5	49.5	0.9	11.0	8.1	61.7	19.1

Source and coverage: PATÉR-2012 and PATÉR-2020. Non-retired respondents.

on the level of and increase in knowledge of personal entitlements, on the level of and change in concern regarding personal pension entitlements, and on the relationship between the levels of knowledge and concern.

To that end, we use data from the 2012 and 2020 waves of the PATÉR survey (*PATrimoine*

et Préférences vis-à-vis du TEmps et du Risque – Savings and preferences regarding time and risk), the only waves that have a module on French expectations and preferences regarding retirement. One group of respondents is included in both waves. We offer an analysis of the factors determining the levels and changes between 2012 and 2020 in both the knowledge

of personal pension entitlements and concern regarding personal entitlements.

In the first section, we present the PATÉR survey. In the second section, we provide details on the construction of the indicators for knowledge and concern regarding personal pension entitlements, before describing the levels of knowledge and concern regarding pension entitlements by exposure to the DAI policy (with all other things being equal). In the third section, we attempt to explain the changes in knowledge and concern between 2012 and 2020.

1. The PATÉR Survey: Panel Information on Retirement Expectations and Preferences

The PATÉR survey aims to analyse the savings and asset accumulation behaviour of French people based on their preferences, in particular with regard to risk (risk aversion) and time (preference for the present). It has seven waves (2002, 2007, 2009, 2011, 2012, 2014 and 2020) partly in panel. This study is based on the 2012 and 2020 waves,¹ which are the only ones to contain a module on pension preferences and expectations.

They were conducted by post by Kantar (the first between 10 September and 12 October 2012 and the second between 19 March and 8 June 2020) on a representative sample of the French population aged 18 and over.

To measure the level and change in knowledge and concern between 2012 and 2020, and the role that the sending of DAI documents may have played, we only include individuals concerned with their future pension entitlements. Those who are already pensioners are therefore excluded from the study.

The sample chosen for the 2012 wave comprises 1,835 non-pensioners, and that of the 2020 wave comprises 2,060 non-pensioners, 444 of whom are included in both waves. Table A1-1 in Appendix 1 shows some of the characteristics of the respondents. The 2012 and 2020 waves differ in particular in the ageing of the respondents, which is, on average, around 1 year and 8 months. The sample that is common to both waves has aged mechanically by 7 years and 9 months (the time period between the two waves).

The two waves also stand out due to the increase in the provision of DAI information: the proportion of respondents sent at least one DAI document increased by 19.7 points between 2012 and 2020, and by 38.5 points for those respondents common to both waves.

One specific feature of the 2020 wave that was not anticipated was that the respondents completed their questionnaire during the first lockdown imposed due to the COVID-19 health crisis,² which may have affected their preferences (risk aversion, preference for leisure, etc.) or their knowledge and concerns regarding the pension system and their entitlements.

There are several empirical studies seeking to test whether preferences can be altered by life events (health problems, death of relatives, unemployment, financial losses, etc.) and structural shocks (natural disasters, wars, economic crises, etc.) faced by the individuals. Chuang & Schechter (2015) identify studies on the impact that these shocks have on risk aversion, preference for the present and social preferences. The results are mixed, with the effects not always moving in the same direction. Schildberg-Hörisch (2018) is unable to reach any conclusive results by studying preferences when faced with risk: the results depend on the source of the shocks, the methodology used to measure preferences (experience, survey) and the nature of the questions asked (lottery, scale, score, etc.). Regarding the effects of the COVID-19 pandemic, there is no consensus on how the health shock and the economic shock that followed impacted individual preferences: see, in particular, Goossens & Knoef (2022) on the Netherlands, Müller & Rau (2021) on German households, Shachat *et al.* (2020) on Wuhan province in China, Drichoutis & Nayga (2022) on Greece, and Angrisani *et al.* (2020) on the behaviour of a group of traders and students in the USA.

Furthermore, it seems unlikely that, in the case of France, the responses to the PATÉR survey were significantly affected by the suspension of the planned pension reform as a result of the lockdown.³ As such, the health crisis may have led to a shift in people's concerns, which may have focused more on health issues, leading

1. The 2012 and 2020 waves are the result of collaborative efforts between the managers of the PATÉR survey, Luc Arrondel (PSE-CNRS), André Masson (PSE-CNRS) and the Caisse des Dépôts.

2. The first lockdown ran from 17 March to 11 May 2020; only 2% of questionnaire responses were received after 11 May 2020.

3. The suspension of the planned pension reform should a priori lead to an increase in concern regarding personal entitlements for people in favour of the reform, and a decrease in concerns regarding personal entitlements for those who are against it. Between 2012 and 2020, the average concern score fell by 7.9% for people in favour of the reform and by 6.2% for those against it. In the same way, with this suspension, people over the age of 50, whose pension entitlements are not subject to the planned reform, could be expected to experience a lower drop in their concern regarding their pension entitlements than those under the age of 50, whose entitlements may have been affected by the reform. However, concern regarding personal pension entitlements fell by 7.9% between 2012 and 2020 for people aged 50 and over in 2020, while it fell by only 6.3% for those aged under 50 in 2020.

to a reduction in concern for personal pension entitlements (Brodeur *et al.*, 2021).

Furthermore, the levels and changes in knowledge and concern regarding pension entitlements may *a priori* be attributable to at least three distinct causes, including the context in which respondents were interviewed. For example, the levels in 2020, when compared to those of 2012, may firstly be the consequence of the ageing of the population interviewed between the two waves, which was 7 years and 9 months for those common to both waves: as retirement age approaches, respondents' knowledge of their entitlements improves (because they take a greater interest in their pension or will seek information about their entitlements) and their concern regarding any unwelcome surprises in terms of the entitlements acquired reduces (reduction in the likelihood of a new reform that would apply to them, reduction in uncertainty regarding reference salary and the length of insurance acquired to receive a full pension).

Secondly, the changes in the scores may reflect the impact of the provision of information with the ramp-up in the sending of DAI documents. Thus, the increase in the total number of documents sent under the DAI should directly improve knowledge of pension entitlements and, possibly, reduce concern about these entitlements.

Thirdly, the changes in knowledge and concern scores may also be the consequence of a more general change in the interview context between 2012 and 2020, irrespective of respondent characteristics. The 2020 wave was carried out just after the national debate on the French pension system (the citizens' consultation on pensions), the publication of the report "*Pour un système universel de retraite*" [For a universal pension system] (Delevoye, 2019), and then the tabling of a systemic reform bill that caused major social movements in late 2019 and early 2020. This context improved the information available on the functioning of the pension system in general (and in particular on the methods of calculating pension entitlements) for all French people, and led a significant number of them to consider their own pension situation more closely. Conversely, it is conceivable that the universal system reform bill could have increased the perception that the current pension system is complex and thereby increased concern compared with the 2012 wave.

The 2012 wave also took place in a context of various interlocking reforms relating to both the length of insurance required to receive a full pension (2003 reform) and the increase

in the legal age of entitlement (2010 reform). This interlocking of reforms could have caused confusion between the two mechanisms postponing retirement (age and length of insurance) for those surveyed during the 2012 wave, a confusion that probably lessened over time, such that it would be less widespread in 2020. Lastly, the improvement in knowledge and the reduction in concern may also be seen as the consequence of the progressive increase in importance of the issue of pensions in the public debate: over the last 30 years, the reports (notably following the creation of the *Conseil d'orientation des retraites* – Pension Advisory Board, COR) and reforms have built up, while efforts to provide education and information have intensified (DAI, pension simulators, etc.).

With only two survey waves, it is, however, difficult to distinguish the impact of these various factors on the change in knowledge and concern that French people have about their pension entitlements.

2. Scores for Measuring Knowledge and Concern Regarding Personal Pension Entitlements

Relying on the responses to a single survey question taken in isolation in order to assess the level of knowledge of pension entitlements and concern about future pensions can lead to bias. This is why we have preferred the use of scores (or synthetic indicators) that simultaneously use the responses to several questions each addressing the issue concerned in a slightly different way.⁴

2.1. Greater Knowledge of Personal Pension Entitlements Among People to Whom the DAI Documentation Is Sent

The knowledge score for personal pension entitlements is calculated using a quiz with three questions: about the knowledge that the person has regarding the number of quarters already accrued, the number of quarters still to be accrued to receive a full pension, and retirement age. The "correct" answers to the last two questions are calculated based on the respondent's characteristics: year of birth, status (possibility of early retirement due to "*catégorie active*" (active category) status for civil servants), number of quarters already accrued (for assessing age of entry onto the job market and

4. For more details on the development of the knowledge and concern scores for the 2012 wave, see Arrondel *et al.* (2013); for the 2020 wave and a comparison between 2012 and 2020, see Arrondel *et al.* (2021). Box 2 discusses the questions used to build the scores.

the possibility of early retirement due to a long career), number of children (for assessing the possible increase in length of insurance) (Soulat, 2017). Each correct answer gives 1 point, each incorrect answer gives 0. The score is the total points. It varies between 0 and 3, where 0 means zero knowledge, 1 limited knowledge, 2 good knowledge and 3 very good knowledge of pension entitlements.

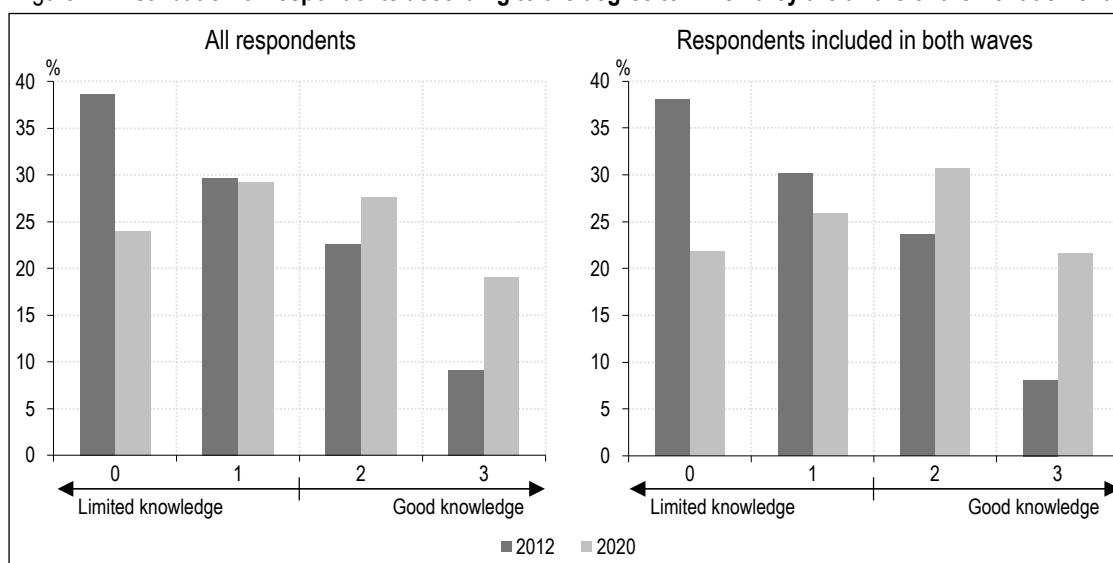
In 2020, a little under half of the people surveyed (46.8%) had good or very good knowledge of their personal entitlements (Figure I). The majority of respondents know the number of

quarters already accrued and the age at which they are entitled to pension benefits, although fewer are aware of the length of insurance that will allow them to avoid a reduction, which depends on their year of birth.

The higher the number of documents supposed to have been sent to the respondent under the DAI,⁵ the higher the level of knowledge

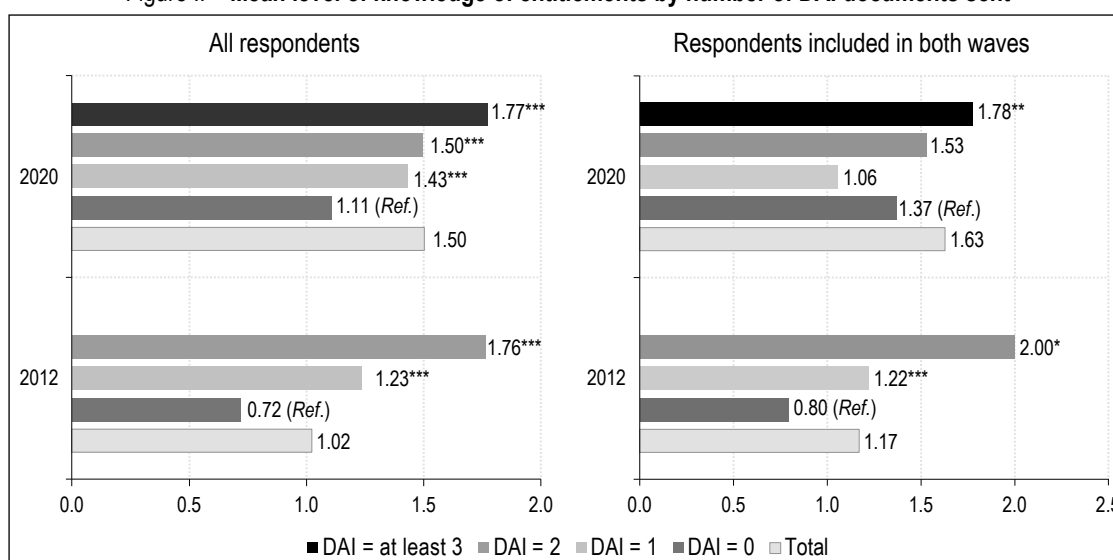
5. Among the population of respondents common to both waves, the average knowledge score in 2020 for people having never been targeted to receive a DAI document is however higher than that of people having been targeted to receive exactly one DAI document.

Figure I – Distribution of respondents according to the degree to which they are aware of their entitlements



Reading note: In 2020, 27.7% of all respondents have a knowledge score of two out of three, and 30.6% of the respondents included in both waves have this score.
Source and coverage: PATÉR-2012 and PATÉR-2020. Non-retired respondents.

Figure II – Mean level of knowledge of entitlements by number of DAI documents sent



Notes: * Indicates that the difference compared to the reference (no DAI sent) is significant at the 10% level, ** at the 5% level, *** at the 1% level.
Reading note: In 2020, the mean knowledge score of respondents who were sent at least three DAI documents was 1.77 (left-hand graph), which differs significantly at the 1% level of the mean score of 1.11 observed for those who had not been sent any documents.
Source and coverage: PATÉR-2012 and PATÉR-2020. Non-retired respondents.

on the whole (Figure II). It increases with age, and is lower among women than men (see Table A2-1 of Appendix 2 for the detailed descriptive statistics). Income level also seems to play a discriminating role with, in 2020, a gap of 0.8 between the average knowledge score of people with a net annual income of at least €30,000 and those earning less than €12,000. We also see that people who are not retired and not working seem to be less informed of their pension entitlements (probably because they have acquired fewer entitlements) than those in employment, especially in comparison with civil servants, who seem to be the best informed. People who have had breaks in their careers or those who lack financial foresight have a lower level of knowledge.

Between 2012 and 2020, the average score for knowledge of personal entitlements increased by 0.5 points for all non-retired respondents (and for those individuals common to both waves). The improvement can be seen across all three of the questions that comprise the score: number of quarters already accrued, age of entitlement (depending on year of birth) and, to a lesser extent, the length of insurance required to access

a full pension (also depending on year of birth). The increase in the average knowledge level between 2012 and 2020 can be seen across all age ranges: it is more marked for those aged under 49 (+0.5 points) than for those aged 50 and over (+0.3 points); this result should be compared against the fact that the knowledge score for those aged 50 and above was, on average, considerably higher than that of the younger group in 2012. The improvement is also greater for women, civil servants, people with dependent children and people in good health. It is also greater for people on middle and higher incomes (above €12,000), but also for people not targeted to receive DAI documents, a sign that the improvement in knowledge of personal entitlements between the two waves is definitely not attributable solely to the DAI.

2.2. Respondents with Good Knowledge of their Personal Entitlements Are Less Concerned about their Entitlements

The score for concern regarding personal pension entitlements is based on four questions, each scored from 0 to 2, with 0 corresponding to confidence in pension entitlements and

Box 2 – Questions asked for the construction of the knowledge and concern scores

The coding and values taken by each of the questions making up the scores in both 2012 and 2020 are described in detail in Arrondel *et al.* (2013 and 2021).

The knowledge score for personal pension entitlements is calculated on the basis of three questions:

- (i) *“Do you know how many quarters or years you have accrued to date or that you will have accrued at the time of your retirement?” This is a declarative question with the option of responding either “yes” or “no”. The question is supplemented by an additional question as to the number of quarters or years already credited, which allows a consistency check to be carried out between the response given and the theoretical age of entry onto the labour market if the person has not experienced any breaks in their career.*
- (ii) *“How many quarters do you think you need or needed to accrue (in total) in order to receive the full-rate pension entitlement?”*
- (iii) *“What is the minimum age at which you could or were able to retire?”*

Each correct response is assigned a value of 1, each incorrect response equals 0. The score is the total points.

The concern score for personal pension entitlements is calculated based on four questions, each scored from 0 to 2, with 0 corresponding to greater confidence in pension entitlements and 2 to concern; 1 represents an intermediate or neutral position:

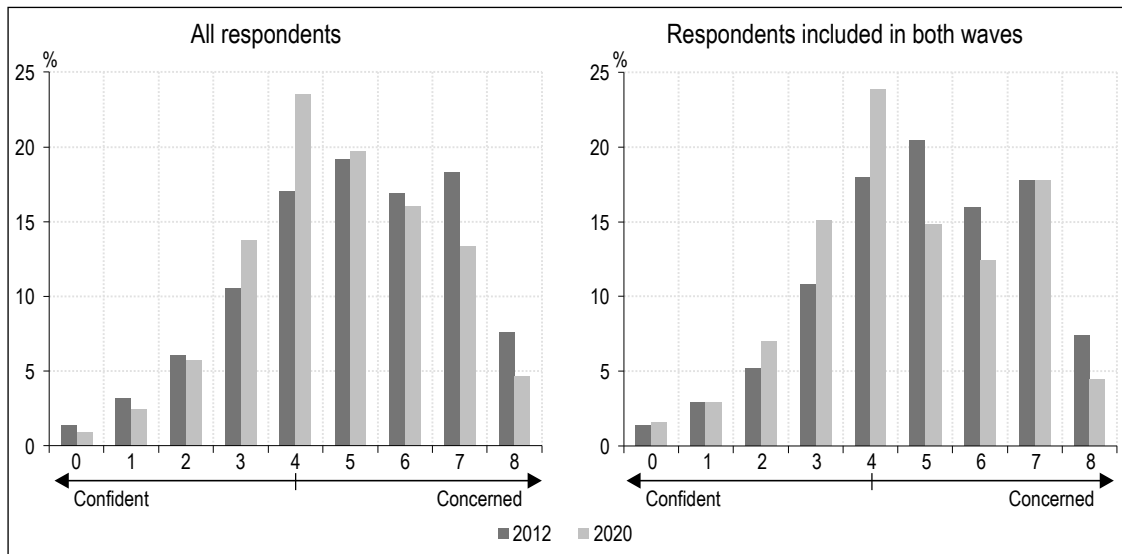
- (i) *“Which of the following best describes your view of your financial situation during your retirement? I will be able to or I am able to enjoy my retirement without having to worry about money (score of 0); I will need to or I need to keep an eye on my outgoings, but I will be able to or I am able to live comfortably (score of 0); I have not thought about it, but I am confident (score of 0); I will have or I have difficulty making ends meet (score of +2); I will have or I have real money worries (score of +2); I have not thought about it, but I am concerned (score of +2); I do not know (score of +1).”*
- (ii) *“All being well, do you think that your retirement pension will be sufficient (or is sufficient if you are already retired) to meet your needs? yes (score of 0); no, it will not quite be enough (it is not quite enough) (score of +1); no it will be (is) far too low (score of +2); I do not know (score of +1).”*
- (iii) *“When you retire or if you are already retired, do you think you will be able to afford accommodation in a retirement home with your personal pension? yes (score of 0); no (score of +2); I do not know (score of +1).”*
- (iv) *“In your opinion, by the time you retire, what is the probability, from 0 to 100, that the amount of your pension will be lower than the pension received by somebody with the same career as you retiring today (from 0 to 30 score of 0, from 31 to 69 score of +1 and between 70 and 100 score of +2)?”*

The concern score is the sum of the scores for the four questions.

2 to concern; 1 represents an intermediate or neutral feeling. The concern score is the sum of the scores for the four questions, meaning that it can vary between 0 and 8. It measures both the respondent's fear of not having a sufficient pension and their uncertainty regarding the amount of their future pension, or, in other words, the level of ambiguity surrounding their future pension. If we consider that an individual is concerned about their pension entitlements once their concern score is strictly above 4, then in 2020, 53.7% of non-retired respondents stated that they were concerned (Figure III).

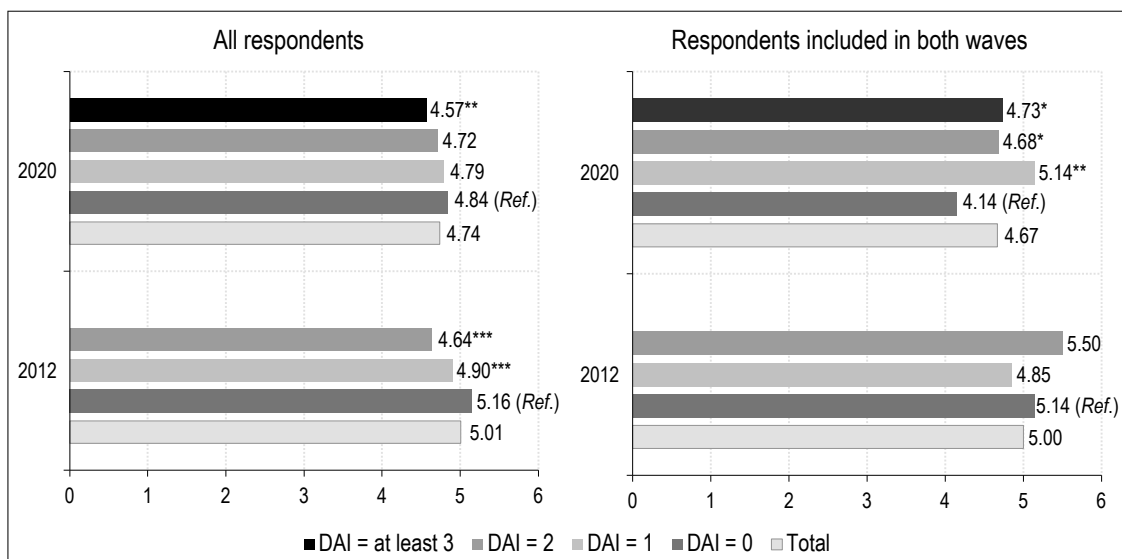
Overall, people who have specifically been targeted to be sent one or more DAI documents have more confidence (Figure IV), both in 2012 and 2020, even if the differences between the average concern scores based on the number of documents sent are not always significant. Respondents who have good or very good knowledge of their personal pension entitlements have more confidence (see Table A2-2 in Appendix 2 for detailed descriptive statistics). Concern falls from aged 50 onwards, probably due to increased knowledge of the entitlements acquired over time, and a reduction in the risk of

Figure III – Distribution of respondents by level of concern with regard to their entitlements



Reading note: In 2020, 19.7% of all respondents had a concern score of five out of eight, and 14.9% of respondents to both waves had this score. Source and coverage: PATeR-2012 and PATeR-2020. Non-retired respondents.

Figure IV – Mean level of concern with regard to entitlements according to the number of DAI documents sent



Notes: * Indicates that the difference compared to the reference (no DAI sent) is significant at the 10% level, ** at the 5% level, *** at the 1% level. Reading note: In 2020, the mean concern score of respondents who were sent at least three DAI documents was 4.57, which differs significantly at the 5% level of the mean score of 4.84 observed for those who had not been sent any documents. Source and coverage: PATeR-2012 and PATeR-2020. Non-retired respondents.

being affected by different, less beneficial rules as retirement approaches. Men are less concerned than women. The higher the income, the lower the concern about entitlements. Concern is, on average, lower for civil servants, those with higher education qualifications, people who are less risk-averse, those with financial foresight,⁶ married people, people without dependent children, people in good health, and people with regular careers without breaks.

Between 2012 and 2020, concern regarding personal pension entitlements fell on average by 0.3 points. The reduction is greater for women, for younger people (under 50), for those with middle incomes (between €12,000 and 20,000), for those with financial foresight and for those who are risk-averse, for people who have good or very good knowledge of their own entitlements, for people who had not been sent any DAI documents or for those who have had regular careers without interruption.

3. Levels of and Changes in Knowledge and Concern Regarding their Personal Entitlements

3.1. The First DAI Documents Sent Have an Impact on Knowledge of Entitlements but their Impact on Concern with Regard to Entitlements Is Uncertain

We will now attempt to assess the impact of sending DAI information (DAI_{it}) to respondent i in year t ($t=2012$ or $t=2020$) on the level of knowledge of their personal entitlements (Y_{i1}) and on the level of concern regarding their personal entitlements (Y_{i2}), by controlling individual characteristics (X_{it}):

$$Y_{it} = \alpha + \beta DAI_{it} + \gamma X_{it} + \varepsilon_{it}$$

We are not taking into consideration the panel dimension of the data, and are simply collating the data from the two waves. The analysis focuses on respondents who were not retired in 2012 or in 2020.

Several specifications were tested:

(1) with only the theoretical number of DAI documents sent (this variable, between 0 and 4, with linear relationship), the year and age groups (under 35, 35-49 and 50 and over) as the baseline estimate;

(2) by adding control variables to baseline estimate (1): gender, professional status (public sector, private sector, self-employed, not working), net income groups, completion of higher education, preference parameters (risk

aversion and financial foresight), family situation (couple, dependent children), health status and career irregularities and breaks;

(3) specification (2) but discretising the theoretical number of DAI documents sent into four groups to identify any non-linearities;

(4) specification (3) but replacing age groups with a quadratic function of age as a continuous variable;

(5) specification identical to (2) for the level of concern but adding the score for knowledge of pension entitlements in order to see whether a lower concern score is due more to the provision of DAI information or if respondents with better knowledge of their pension entitlements are less concerned about their future pension.⁷

The variables explained are discrete variables. However, we have preferred linear estimates rather than ordered logit estimates in order to make it easier to make comparisons with the estimate presented in the sub-section below. The main results are given in Table 1 and those relating to the control variables are given in Table A3-1 of Appendix 3.

Overall, the number of DAI documents sent does not seem to have a significant impact on the level of knowledge of personal entitlements once the survey context is taken into consideration, using a response year indicator – estimates (1) and (2). Conversely, if we examine possible non-linearities, the impact of the DAI documents on the knowledge score is significant for the first document sent, but not when several are sent – estimates (3) and (4). With given characteristics, and once the number of DAI documents potentially received has been taken into account, the respondents' level of knowledge of their pension entitlements is significantly higher in 2020 than in 2012.

In a relatively logical way, the level of knowledge increases with age, from the age of 31, improving as the respondent approaches the date on which they will receive those pension entitlements. The greater knowledge possessed by the older age group (50 and over) is undoubtedly

6. Risk aversion and financial foresight are measured on a scale from 0 to 10 in each survey wave. For example, for risk aversion, the following question is asked: "on a scale from 0–10, do you generally consider yourself to be a cautious person who keeps risks to a minimum or, conversely, someone who likes taking risks, who likes adventure and seeks new things and challenges? 0 represents a very cautious person, 10 a person who likes to take risks."

7. The inverse correlation between good knowledge of personal pension entitlements (score ≥ 2) and concern regarding those entitlements (score > 4) was also tested using a bivariate probit model. However, so as not to overburden this article, the results are not given here but can be provided by the authors on request.

Table 1 – Estimated knowledge and concern scores for personal entitlements

	Knowledge score for personal entitlements				Concern score for personal entitlements				
	Base	With control variables	DAI in brackets	Age (continuous)	Base	With control variables	DAI in brackets	Age (continuous)	With knowledge of entitlements
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(5)
Number of DAI	0.016 (0.030)	0.006 (0.029)	-	-	-0.002 (0.054)	-0.006 (0.050)	-	-	-0.005 (0.050)
Discretised DAI (<i>Ref.: No DAI sent</i>)									
1 DAI sent	-	-	0.094* (0.054)	0.120** (0.049)	-	-	-0.044 (0.107)	-0.012 (0.095)	-
2 DAI sent	-	-	0.021 (0.066)	-0.064 (0.066)	-	-	-0.017 (0.121)	0.097 (0.118)	-
At least 3 DAI sent	-	-	0.060 (0.093)	-0.123 (0.095)	-	-	-0.025 (0.162)	0.175 (0.162)	-
Response in 2020 (<i>Ref.: Response in 2012</i>)	0.358*** (0.039)	0.306*** (0.038)	0.327*** (0.039)	0.360*** (0.039)	-0.249*** (0.070)	-0.059 (0.066)	-0.070 (0.068)	-0.099 (0.069)	-0.025 (0.067)
Age in brackets (<i>Ref.: 50 and over</i>)									
Under 35	-0.723*** (0.064)	-0.661*** (0.063)	-0.620*** (0.067)	-	0.344*** (0.124)	0.299** (0.120)	0.283** (0.132)	-	0.225* (0.121)
35-49 years	-0.384*** (0.043)	-0.438*** (0.043)	-0.440*** (0.043)	-	0.329*** (0.078)	0.440*** (0.079)	0.443*** (0.079)	-	0.391*** (0.080)
Age (continuous)									
Age	-	-	-	-0.065*** (0.011)	-	-	-	0.109*** (0.023)	-
Age ²	-	-	-	0.00104*** (0.0001)	-	-	-	-0.00145*** (0.0003)	-
Knowledge score for personal entitlements	-	-	-	-	-	-	-	-	-0.112*** (0.029)
Gender (<i>Ref.: Male</i>)									
Female	-	-0.117*** (0.032)	-0.116*** (0.032)	-0.121*** (0.032)	-	0.246*** (0.060)	0.245*** (0.060)	0.247*** (0.060)	0.232*** (0.060)
Control variables ^(a)									
	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Constant	1.363*** (0.052)	1.156*** (0.078)	1.102*** (0.083)	1.418*** (0.227)	4.786*** (0.096)	4.822*** (0.141)	4.845*** (0.155)	3.303*** (0.458)	4.951*** (0.143)
Adjusted R ²	0.118	0.208	0.208	0.225	0.012	0.158	0.158	0.162	0.161
Statistical F	130.9***	52.1***	47.6***	52.3***	13.3***	37.6***	34.2***	35.3***	36.6***

^(a) Status, income, educational level, preferences, marital status, health status, career irregularities.

Notes: Estimate of a linear model using the ordinary least squares method. Standard errors are in parentheses. * indicates that the coefficient is significant at the 10% level; ** at the 5% level; *** at the 1% level.

Source and coverage: PATÉR surveys 2012 and 2020. Excluding retired people, i.e. 3,895 observations.

reinforced by the fact that we have made no distinction between the sending of individual pension entitlement statements before the age of 55 and the sending of overall indicative estimates, which are more detailed, after the age of 55.

With all other characteristics being the same, employees in the public sector have greater knowledge of their personal pension entitlements than those working in the private sector and the self-employed. Those who are not working (but are not retired), and who probably have fewer entitlements, have an even more limited knowledge. The knowledge score is positively correlated to income level,

completion of higher education and good health. It is significantly lower for women, single people (although not significant for all specifications), and those with dependent children (maybe due to poor knowledge of increases in pension and length of insurance linked to children). People with irregular careers also seem to be less informed of their entitlements. Finally, those who lack financial foresight also have a lower knowledge score.

The theoretical number of DAI documents sent does not have a significant effect on the level of concern regarding personal entitlements, whether we consider the effect to be

proportional to the number of documents sent or to be potentially different for each number of documents sent. The specificity of the survey context does not significantly influence the level of concern once the particular characteristics of the respondents are taken into consideration, i.e. once the respondent structural effects have been controlled. Conversely, the level of concern regarding future pensions is negatively correlated to the level of knowledge of pension entitlements – estimate (5).

The level of concern is highest at intermediate ages and lowest among older people as they approach retirement age, with a peak at around the age of 38 – estimate (4). Concern seems to be significantly lower among public sector employees.

Concern regarding personal pension entitlements is partly linked to expectations of the future pension level from contributory schemes. For example, people with a lower annual income (less than €12,000) have a higher level of concern regarding their future pension than people with an intermediate income (between €12,000 and €20,000), and those with a higher annual income (above €20,000) have a lower level of concern regarding their future pension. With given characteristics and, in particular, a given income level, people who have completed higher education have a lower level of concern than others, which may be linked to a greater capacity to plan for their future retirement. In terms of preferences, people with greater financial foresight and those who are more averse to risk are more concerned about their personal pension entitlements. People who have had a more bumpy career or breaks in their careers due to unemployment also have higher levels of concern. Finally, with all other characteristics the same, women, people with dependent children and those living alone are more concerned about their future pension than men, people without dependent children and those who live in a couple. In other words, people who have experienced less favourable job-market situations or more difficult life situations tend to be more concerned.

Therefore, overall, the sending of information on pension entitlements and the different survey context seem to directly improve the knowledge of French people, while concern regarding future pension reduces for people as they approach retirement (those aged 50 and over). The magnitude of the effects on the level of knowledge remains low (around 0.1 point for the first DAI document sent).

3.2. Change in Knowledge and Concern Regarding Personal Entitlements

We will now analyse the extent to which the changes in individual characteristics between 2012 and 2020 can be correlated to the change in knowledge or concern between the two waves, using the panel dimension of the survey. Regressions are established based solely on the individuals common to both waves, and pensioners continue to be excluded. We have estimated the following linear model:⁸

$$Y_{i,t} = \alpha_i + \beta DAI_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t}$$

This gives in first difference:

$$Y_{i,2020} - Y_{i,2012} = (\alpha_i - \alpha_i) + \beta(DAI_{i,2020} - DAI_{i,2012}) + \gamma(X_{i,2020} - X_{i,2012}) + (\varepsilon_{i,2020} - \varepsilon_{i,2012})$$

$$\text{either, } \Delta Y_{i,t} = \beta \Delta DAI_{i,t} + \gamma \Delta X_{i,t} + \Delta \varepsilon_{i,t}$$

where Δ is the operator difference between 2012 and 2020, $DAI_{i,t}$ the number of DAI documents sent before date t to individual i , and $X_{i,t}$ the individual characteristics of i on t . Lastly, $Y_{i,t}$ is, successively, knowledge of personal pension entitlements (the results of the regressions are given in Table 2 and Table A3-2 of Appendix 3 for the control variables) and concern regarding personal pension entitlements (the results are given in Table 3 and in Table A3-3 of Appendix 3 for the control variables) for individual i on t . This estimate in first difference makes it possible to control for all the individual characteristics of i constant over time (α_i).

Several alternative specifications were tested; these were identical to those given in Section 3.1, but in first difference.

For the respondents included in both waves, even more so than for all respondents, the improvement in knowledge between 2012 and 2020 seems, above all, to be the result of the differences in the context of the survey waves rather than of the increase in DAI documentation. The sending of additional DAI documents between 2012 and 2020 seems, instead, to have had a downward effect on the level of knowledge between the two waves, all other things being equal – estimates (1) and (2) in Table 2. This marginally significant negative effect can be seen if we consider the effect of the DAI information to be potentially different for each additional document sent – estimate (3). This result, which is somewhat different from that obtained for

8. The variables explained are discrete ordered variables. Panel ordered logit regressions with fixed effects (Baetschmann et al., 2020) have therefore been created and the results are substantially similar. While these estimates are a priori more appropriate, the effects are less directly clear. As a result, they are also not given here.

Table 2 – Estimated change in the knowledge score for personal entitlements between 2012 and 2020

	Base	With control variables	DAI in brackets
	(1)	(2)	(3)
Number of DAI	-0.144* (0.083)	-0.124 (0.088)	-
Discretised DAI (<i>Ref.: No DAI sent</i>)			
1 DAI sent	-	-	-0.220* (0.128)
2 DAI sent	-	-	-0.243 (0.200)
At least 3 DAI sent	-	-	-0.332 (0.272)
Age (<i>Ref.: 50 and over</i>)			
Under 35	0.343 (0.218)	0.308 (0.214)	0.220 (0.247)
35-49 years	0.240** (0.120)	0.240** (0.121)	0.270** (0.124)
Control variables ^(a)	No	Yes	Yes
Response in 2020	0.783*** (0.134)	0.738*** (0.145)	0.680*** (0.177)
Adjusted R ²	0.012	0.022	0.020
Statistical F	2.8**	1.7*	1.6*

^(a) Status, income, educational level, preferences, marital status, health status, career irregularities.

Notes: Estimate of a linear, first-difference model. The regressions are run with R using the "plm" procedure, the "fd" (first difference) model specification and a correction of the variance of the residuals with the Arellano method. Robust standard errors are in parentheses. * indicates that the coefficient is significant at the 10% level; ** at the 5% level; *** at the 1% level.

Source and coverage: PATeR surveys 2012 and 2020. Respondents common to the two waves, excluding retired people, i.e. 444 observations.

Table 3 – Estimated change in the concern score for personal entitlements between 2012 and 2020

	Base	With control variables	DAI in brackets	With knowledge
	(1)	(2)	(3)	(4)
ΔDAI	0.040 (0.132)	0.030 (0.134)		0.011 (0.132)
Discretised DAI (<i>Ref.: No DAI sent</i>)				
1 DAI sent	-	-	-0.089 (0.222)	-
2 DAI sent	-	-	0.063 (0.284)	-
At least 3 DAI sent	-	-	0.142 (0.414)	-
Age (<i>Ref.: 50 and over</i>)				
Under 35	-0.400 (0.371)	-0.410 (0.382)	-0.518 (0.417)	-0.361 (0.387)
35-49 years	-0.052 (0.206)	-0.019 (0.206)	0.019 (0.212)	0.019 (0.210)
Knowledge score for personal entitlements				-0.160* (0.093)
Control variables ^(a)	No	Yes	Yes	Yes
Constant	-0.448** (0.201)	-0.456** (0.221)	-0.527** (0.244)	-0.338 (0.226)
Adjusted R ²	-0.003	0.005	0.001	0.011
Statistical F	0.6	1.1	1.0	1.3

^(a) Status, income, educational level, preferences, marital status, health status, career irregularities.

Notes: Estimate of a linear, first-difference model. The regressions are run with R using the "plm" procedure, the "fd" (first difference) model specification and a correction of the variance of the residuals with the Arellano method. Robust standard errors are in parentheses. * indicates that the coefficient is significant at the 10% level; ** at the 5% level; *** at the 1% level.

Source and coverage: PATeR surveys 2012 and 2020. Respondents common to the two waves, excluding retired people, i.e. 444 observations.

the complete sample for the two surveys, is potentially linked to the specifics of the sample included in both waves (see Table A1-1 in the Appendix). This result is consistent with the fact that it is the generations who reached the age of 35 between 2012 and 2020 (age at which the first document is sent) who experienced the greatest increase in knowledge regarding their entitlements between the two waves.

In terms of concern regarding personal entitlements, the additional sending of DAI documents between 2012 and 2020 has no significant impact on the change in concern regarding personal entitlements, in any specification (see Table 3).

With other given individual characteristics, the fall in concern seems to be a result of the differences in context between the two survey waves. This trend can be seen in the results of the survey "*Les Français, l'épargne et la retraite*" [The French, savings and pensions] carried out for the association *Cercle des Épargnants*: in 2021, 60% of people surveyed stated that they were concerned,⁹ compared with 73% in 2018, this proportion having fallen steadily. This survey also shows this reduction across all age groups.

9. For more details, see: <https://www.cercladesepargnants.com/wp-content/uploads/2021/02/Barometre2021VFLes-Franc%CC%A7ais-e%CC%81pargne-et-retraiteCercladesEpargnants-Diffusion.pdf>.

Finally, the respondents whose knowledge of personal entitlements improved between 2012 and 2020 also show a reduction in concern regarding their personal entitlements over the same period: their concern score fell by around 0.16 points for every one-point increase in their entitlement knowledge score – estimate (4). The potential inverse effect of increased knowledge of pension entitlements on confidence in terms of future pension can be interpreted as a reduction in the ambiguity regarding respondents' expectations of their future pension amount. This leads us to think that the provision of information associated with the DAI, in particular the first document sent, and the context, specifically public debates on pensions, directly improve individuals' knowledge of their pension entitlements and indirectly reduce concerns regarding the future amount of that pension.

We can see that the low significance of certain coefficients of estimates in first difference and the overall lack of significance of concern estimates are primarily the result of the small size of the sample of respondents included in both waves. The use of a bootstrap method to increase the sample by means of a random draw with replacement would have made it possible to reduce these limitations. The significance of the effects of the provision of information on knowledge (direct) and concern (indirect) is weak, depending on the specifications, the scopes of the population surveyed and the survey context of those surveyed, which is consistent with the results of numerous studies in the area of Financial Literacy. We can, however, consider that the people who are best informed about their entitlements will have better expectations regarding their future pension and that they will adjust their retirement age and level of savings if they expect a reduction in their replacement rate (Arrondel *et al.*, 2020; 2023).

* *
*

We can see that the higher the number of DAI documents sent to individuals, the higher their score for knowledge of personal pension entitlements. We can also see that, on average, knowledge of pension entitlements increased between 2012 and 2020, while concern regarding future pension amounts fell over the same period.

The econometric analysis makes it possible to distinguish between the effects of age, sending of DAI documents, and the specific contexts of the years 2012 and 2020 on the level of knowledge. We show that only the first documents sent as part of the DAI seem to improve knowledge of personal pension entitlements. We also show that knowledge is, for the most part, linked to age and context: all things being equal, older people have better knowledge of their entitlements, and knowledge is better in 2020 than in 2012. Lastly, the improvement in knowledge of entitlements between 2012 and 2020 seems to have indirectly fostered the reduction in concern regarding future pension entitlements by reducing the ambiguity regarding future pensions.

However, with only two survey waves, it is not possible to identify with certainty the different factors likely to explain the differences in context: consequences of the debate in late 2019 and reform bill in early 2020 seeking to introduce a universal pension system; less confusion in 2020 than in 2012 between the two mechanisms for increasing the retirement age (extending the length of insurance and raising the age at which people are entitled to pension benefits); regular reports and reforms on pension issues that took place between 2012 and 2020; shift towards other causes of concern due to the health crisis, etc. □

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STATISTICS ON RESPONDENTS FROM THE 2012 AND 2020 WAVES OF THE PATÉR SURVEY

Table A1-1 – Characteristics of respondents to the 2012 and 2020 PATÉR surveys

		PATÉR 2012		PATÉR 2020	
		Total	Included in both waves	Total	Included in both waves
Number of respondents		1,835	444	2,060	444
Gender	Proportion of women (%)	52.4	52.5	52.5	52.5
Age	Mean age	42.4	41.8	44.1	49.5
	Proportion aged under 35 (%)	28.6	22.7	26.3	9.9
	Proportion aged 35-49 (%)	37.3	52.0	35.4	35.8
	Proportion aged 50 and over (%)	34.1	25.2	38.3	54.3
Status	Proportion of employees (%)	61.4	59.5	60.2	60.6
	Proportion of civil servants (%)	20.8	25.5	22.0	28.2
	Proportion of self-employed (%)	7.2	5.4	6.7	8.1
	Proportion of jobseekers and non-workers (excluding pensioners) (%)	10.5	9.7	11.0	3.2
Income	Proportion earning under €12,000 (%)	28.5	22.5	23.7	20.5
	Proportion earning €12,000-19,999 (%)	28.1	31.1	24.4	25.5
	Proportion earning €20,000-29,999 (%)	23.5	27.5	26.2	30.0
	Proportion earning €30,000 and over (%)	14.2	12.2	22.2	20.5
	Proportion of non-responses (%)	5.6	6.8	3.4	3.6
Studies	Proportion of individuals having completed higher education (%)	44.5	43.2	52.8	43.0
Preferences	Proportion of individuals willing to take risks (%)	9.8	7.0	17.1	13.3
	Proportion of individuals who lack foresight (%)	11.4	11.7	10.5	9.7
In a couple	Proportion of individuals who are married, cohabiting, in a civil partnership (%)	64.1	61.5	59.5	65.8
Children	Proportion of individuals with at least one dependent child (%)	45.0	52.7	43.7	47.7
Health	Proportion of individuals in good health (%)	88.4	89.6	90.3	89.0
Career	Proportion of individuals who have had an irregular career (%)	26.9	23.4	18.5	20.7
	Proportion of individuals whose careers have been interrupted by unemployment (%)	53.4	55.2	49.6	53.8
	Proportion of individuals who have experienced other career interruptions (%)	28.8	25.5	30.9	34.0
Theoretical sending of DAI	Proportion of individuals sent one DAI (DAI=1) (%)	45.9	49.5	11.0	8.1
	Proportion of individuals sent two DAI (DAI=2) (%)	6.4	0.9	46.7	61.7
	Proportion of individuals sent at least three DAI (DAI=3+) (%)	0.0	0.0	14.3	19.1

Reading note: 28.6% of non-pensioners interviewed in 2012 were under 35, compared with 26.3% of those interviewed in 2020. Among those interviewed in both waves, 22.7% were under 35 in 2012, compared with 9.9% in 2020.

Source and coverage: PATÉR-2012 and PATÉR-2020. Non-retired respondents.

DESCRIPTIVE STATISTICS FOR KNOWLEDGE AND CONCERN

Table A2-1 – Mean knowledge scores for personal entitlements

		PATÉR 2012		PATÉR 2020	
		Total	Included in both waves	Total	Included in both waves
Total		1.02	1.17	1.50	1.63
Gender	Female (<i>Ref.</i>)	0.91	0.84	1.33	1.40
	Men	1.14***	1.22***	1.52***	1.65***
Age	Under 35 (<i>Ref.</i>)	0.57	0.56	1.07	1.30
	35-49	0.93***	1.03***	1.42***	1.31
	50 and over	1.50***	1.40***	1.66***	1.70**
Status	Employees (<i>Ref.</i>)	1.05	1.03	1.33	1.39
	Civil servants	1.25***	1.23*	1.94***	1.9***
	Self-employed	1.08	1.33	1.28	1.44
	Jobseekers and non-workers (excluding pensioners)	0.36***	0.21***	0.96***	0.86*
Income	Less than €12,000	0.73***	0.65***	0.94***	0.96***
	€12,000-19,999 (<i>Ref.</i>)	1.02	1.04	1.38	1.47
	€20,000-29,999	1.22***	1.27**	1.68***	1.83***
	€30,000 and above	1.43***	1.31*	1.78***	1.79**
	Non-response (difference not tested)	0.70	0.60	0.67	0.94
Studies	No higher education (<i>Ref.</i>)	1.00	0.96	1.29	1.47
	Higher education	1.05	1.10	1.53***	1.59
Preferences	Risk averse (<i>Ref.</i>)	1.02	1.03	1.42	1.52
	Risk taker	1.07	0.84	1.40	1.51
	Persons with foresight (<i>Ref.</i>)	1.05	1.05	1.45	1.56
	Persons without foresight	0.82***	0.75**	1.17***	1.19**
Marital status	Single, divorced, widowed (<i>Ref.</i>)	0.97	0.99	1.37	1.51
	Married, cohabiting, in a civil partnership	1.05*	1.04	1.45*	1.52
Children	No dependent children (<i>Ref.</i>)	1.11	1.09	1.44	1.60
	Dependent children	0.91***	0.95	1.39	1.43*
Health	In poor health (<i>Ref.</i>)	0.97	1.09	0.99	0.96
	In good health	1.03	1.01	1.46***	1.59***
Career	Without irregular career (<i>Ref.</i>)	1.06	1.08	1.50	1.65
	With irregular career	0.93**	0.82**	1.07***	1.03***
	Without breaks due to unemployment (<i>Ref.</i>)	1.03	0.95	1.48	1.66
	With breaks due to unemployment	1.02	1.07	1.35***	1.4***
	Without other breaks (<i>Ref.</i>)	1.03	1.06	1.50	1.70
	With other breaks	1.00	0.89	1.23***	1.17***

Notes: The average score for individuals sharing a characteristic is compared to the average score of individuals with the reference characteristic and belonging to the same field on the same date. *** indicates that the difference between the two mean scores is significant at the 1% level, ** at the 5% level, * at the 10% level.

Reading note: Non-retired respondents have a mean knowledge score for their pension entitlements of 1.02 in 2012 and 1.50 in 2020.

Source and coverage: PATÉR-2012 and PATÉR-2020. Non-retired respondents.

Table A2-2 – Mean concern scores for personal entitlements

		PATeR 2012		PATeR 2020	
		Total	Included in both waves	Total	Included in both waves
Total		5.01	4.88	4.62	4.52
Gender	Female (<i>Ref.</i>)	5.23	5.21	4.94	4.86
	Men	4.76***	4.78**	4.52***	4.46**
Age	Under 35 (<i>Ref.</i>)	5.16	4.83	4.85	4.11
	35-49	5.12	5.15	4.85	5.00***
	50 and over	4.75***	4.86	4.56***	4.55
Status	Employees (<i>Ref.</i>)	5.10	5.19	4.79	4.80
	Civil servants	4.58***	4.58***	4.36***	4.26***
	Self-employed	5.15	4.88	4.94	4.94
	Jobseekers and non-workers (excluding pensioners)	5.21	5.07	5.07**	5.21
Income	Less than €12,000	5.56	5.65	5.44***	5.73***
	€12,000-19,999 (<i>Ref.</i>)	5.48	5.38	5.03	4.73
	€20,000-29,999	4.58***	4.70***	4.55***	4.36**
	€30,000 and above	3.78***	3.76***	3.87***	3.92***
	Non-responses (difference not tested)	4.72	4.53	4.93	5.06
Studies	No higher education (<i>Ref.</i>)	5.24	5.24	5.00	4.87
	Higher education	4.72***	4.69***	4.51***	4.40***
Preferences	Risk averse (<i>Ref.</i>)	5.04	5.01	4.77	4.69
	Risk taker	4.72*	4.90	4.61	4.53
	Persons with foresight (<i>Ref.</i>)	4.94	4.96	4.66	4.56
	Persons without foresight	5.56***	5.31	5.39***	5.7***
Marital status	Single, divorced, widowed (<i>Ref.</i>)	5.08	4.98	4.85	4.73
	Married, cohabiting, in a civil partnership	4.96	5.02	4.67**	4.64
Children	No dependent children (<i>Ref.</i>)	4.92	4.89	4.67	4.54
	Dependent children	5.11**	5.10	4.83**	4.81
Health	In poor health (<i>Ref.</i>)	5.32	5.43	5.24	5.41
	In good health	4.96***	4.95*	4.69***	4.58***
Career	Without irregular career (<i>Ref.</i>)	4.79	4.80	4.55	4.38
	With irregular career	5.6***	5.66***	5.57***	5.77***
	Without breaks due to unemployment (<i>Ref.</i>)	4.66	4.67	4.44	4.22
	With breaks due to unemployment	5.30***	5.27***	5.05***	5.05***
	Without other breaks (<i>Ref.</i>)	4.90	4.91	4.56	4.51
	With other breaks	5.27***	5.27*	5.14***	4.98**
Knowledge of their entitlements	Poor knowledge (score < 2) (<i>Ref.</i>)	5.15	5.17	5.07	5.13
	Good knowledge (score ≥ 2)	4.69***	4.65***	4.36***	4.25***

Notes: The average score for individuals sharing a characteristic is compared to the average score of individuals with the reference characteristic and belonging to the same field on the same date. *** indicates that the difference between the two mean scores is significant at the 1% level, ** at the 5% level, * at the 10% level.

Reading note: Non-retired respondents have a mean concern score for their personal pension entitlements of 5.01 in 2012 and 4.62 in 2020.

Source and coverage: PATeR-2012 and PATeR-2020. Non-retired respondents in the 2012 and 2020 waves.

COMPLEMENTARY RESULTS OF REGRESSIONS FOR THE CONTROL VARIABLES

Table A3-1 – Estimated knowledge and concern scores for personal entitlements

	Knowledge score for personal entitlements			Concern score for personal entitlements			
	With control variables	DAI in brackets	Age (continuous)	With control variables	DAI in brackets	Age (continuous)	With knowledge
	(2)	(3)	(4)	(2)	(3)	(4)	(5)
<i>Status (Ref.: Private status)</i>							
Public	0.275*** (0.040)	0.277*** (0.040)	0.288*** (0.039)	-0.162** (0.078)	-0.163** (0.078)	-0.176** (0.078)	-0.132* (0.079)
Self-employed	-0.011 (0.067)	-0.010 (0.067)	-0.034 (0.066)	0.069 (0.113)	0.068 (0.113)	0.092 (0.113)	0.068 (0.113)
Jobseekers and non-workers	-0.180*** (0.056)	-0.181*** (0.056)	-0.268*** (0.060)	-0.023 (0.099)	-0.024 (0.099)	0.149 (0.111)	-0.044 (0.100)
<i>Net annual income (Ref.: €12,000-19,999 or not specified)</i>							
< €12,000	-0.151*** (0.042)	-0.152*** (0.042)	-0.168*** (0.041)	0.186** (0.072)	0.186** (0.072)	0.204*** (0.072)	0.169** (0.072)
€20,000-29,999	0.176*** (0.044)	0.175*** (0.044)	0.189*** (0.044)	-0.425*** (0.077)	-0.425*** (0.077)	-0.450*** (0.077)	-0.405*** (0.077)
€30,000 and above	0.283*** (0.049)	0.282*** (0.049)	0.286*** (0.049)	-1.038*** (0.094)	-1.037*** (0.094)	-1.053*** (0.094)	-1.006*** (0.094)
Has completed higher education	0.126*** (0.034)	0.127*** (0.034)	0.144*** (0.034)	-0.200*** (0.064)	-0.201*** (0.064)	-0.208*** (0.064)	-0.186*** (0.064)
Risk-taker	0.026 (0.043)	0.027 (0.043)	0.023 (0.043)	-0.154* (0.081)	-0.154* (0.081)	-0.145* (0.081)	-0.151* (0.081)
Person without foresight	-0.087* (0.047)	-0.085* (0.047)	-0.083* (0.046)	0.388*** (0.088)	0.388*** (0.088)	0.393*** (0.088)	0.378*** (0.087)
In a couple	0.063* (0.036)	0.061* (0.036)	0.055 (0.036)	-0.146** (0.062)	-0.145** (0.062)	-0.160** (0.063)	-0.139** (0.062)
Has dependent children	-0.131*** (0.037)	-0.129*** (0.037)	-0.057 (0.037)	0.185*** (0.066)	0.184*** (0.066)	0.129* (0.067)	0.170*** (0.066)
Is in good health	0.238*** (0.049)	0.238*** (0.049)	0.255*** (0.049)	-0.182** (0.088)	-0.182** (0.088)	-0.196** (0.088)	-0.155* (0.089)
Irregular career	-0.124*** (0.040)	-0.124*** (0.040)	-0.112*** (0.040)	0.461*** (0.072)	0.461*** (0.072)	0.442*** (0.072)	0.447*** (0.072)
Has experienced breaks in career due to unemployment	0.012 (0.034)	0.014 (0.034)	0.025 (0.034)	0.286*** (0.062)	0.285*** (0.062)	0.263*** (0.062)	0.287*** (0.062)
Has experienced breaks in career for other reasons	-0.044 (0.038)	-0.043 (0.038)	-0.060 (0.038)	-0.035 (0.067)	-0.035 (0.067)	-0.024 (0.067)	-0.040 (0.067)

Notes: Estimate of a linear model using the ordinary least squares method. The standard errors are in parentheses. * indicates that the coefficient is significant at the 10% level; ** at the 5% level; *** at the 1% level.

Source and coverage: PAT€R surveys 2012 and 2020. Excluding retired people, i.e. 3,895 observations.

Table A3-2 – Estimated change in the knowledge score for personal entitlements

	Without age (1)	Without constant (2)	DAI in brackets (3)
<i>Ref.: Net annual income: €12,000-19,999 and income not specified</i>			
Net annual income: < €12,000	-0.116 (0.120)	-0.098 (0.126)	-0.182 (0.133)
Net annual income: €20,000-29,999	0.069 (0.119)	0.111 (0.120)	0.153 (0.120)
Net annual income: €30,000 and above	0.029 (0.174)	0.074 (0.176)	0.091 (0.175)
Risk-taker	-0.148 (0.130)	-0.099 (0.137)	-0.132 (0.137)
Person without foresight	-0.142 (0.152)	-0.161 (0.152)	-0.219 (0.150)
In a couple	0.353*** (0.131)	0.435*** (0.134)	0.501*** (0.142)
Has dependent children	-0.156 (0.127)	-0.178 (0.133)	-0.088 (0.134)
Is in good health	0.059 (0.160)	0.013 (0.151)	0.005 (0.154)
Irregular career	-0.141 (0.102)	-0.114 (0.106)	-0.119 (0.106)
Has experienced breaks in career due to unemployment	0.121 (0.111)	0.146 (0.115)	0.147 (0.115)
Has experienced breaks in career for other reasons	-0.163 (0.124)	-0.067 (0.127)	-0.015 (0.127)

Notes: Estimate of a linear, first-difference model. The regressions are run with R using the "plm" procedure, the "fd" (first difference) model specification and a correction of the variance of the residuals with the Arellano method. Robust standard errors are in parentheses. * indicates that the coefficient is significant at the 10% level; ** at the 5% level; *** at the 1% level.

Source and coverage: PATÉR surveys 2012 and 2020. Respondents common to the two waves, excluding retired people, i.e. 444 observations.

Table A3-3 – Estimated change in the concern score for personal entitlements

	Without age (1)	Without constant (2)	DAI in brackets (3)	With knowledge (4)
<i>Ref.: Net annual income: €12,000-19,999 and income not specified</i>				
Net annual income: < €12,000	0.262 (0.197)	0.278 (0.200)	0.295 (0.201)	0.259 (0.195)
Net annual income: €20,000-29,999	0.068 (0.183)	0.041 (0.184)	0.038 (0.184)	0.061 (0.183)
Net annual income: €30,000 and above	0.280 (0.250)	0.282 (0.255)	0.269 (0.252)	0.296 (0.253)
Risk-taker	0.329 (0.273)	0.331 (0.274)	0.364 (0.273)	0.313 (0.274)
Person without foresight	0.069 (0.282)	0.110 (0.278)	0.101 (0.280)	0.080 (0.281)
In a couple	-0.460** (0.234)	-0.512** (0.228)	-0.546** (0.230)	-0.431* (0.235)
Has dependent children	0.033 (0.189)	0.013 (0.192)	0.005 (0.188)	-0.020 (0.191)
Is in good health	-0.029 (0.280)	-0.018 (0.280)	-0.019 (0.280)	-0.016 (0.276)
Irregular career	0.335 (0.221)	0.347 (0.221)	0.335 (0.222)	0.326 (0.221)
Has experienced breaks in career due to unemployment	0.191 (0.235)	0.160 (0.233)	0.186 (0.233)	0.188 (0.233)
Has experienced breaks in career for other reasons	0.163 (0.203)	0.084 (0.201)	0.110 (0.199)	0.072 (0.202)

Notes: Estimate of a linear, first-difference model. The regressions are run with R using the "plm" procedure, the "fd" (first difference) model specification and a correction of the variance of the residuals with the Arellano method. Robust standard errors are in parentheses. * indicates that the coefficient is significant at the 10% level; ** at the 5% level; *** at the 1% level.

Source and coverage: PATÉR surveys 2012 and 2020. Respondents common to the two waves, excluding retired people, i.e. 444 observation.