



**Consumer testing services -
Retail investors' preferred option
regarding performance scenarios and
past performance information within
the Key Information Document under
the PRIIPs framework**

FISMA/2019/016/C

Final Report

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Abstract

The overall aim of this consumer test is to improve the effectiveness of presented information to retail investors within the PRIIPs (Packaged Retail and Insurance-based Investment Products) framework. An online consumer test with 7,684 participants in 5 countries was conducted using different versions of the key information document (KID) for funds, structured and insurance products. These versions included future performance scenarios, past performance information and illustrative scenarios. Two thirds of participants selected the *optimal investment product* for all types of products and KID versions. Although *probabilistic information* was correctly understood by only 10% of participants, versions including this information improved product identification based on product features. Performance scenarios with *Probabilistic information* also improved answers to understandability questions for funds and insurance products. Participants seemed to understand that *past performance information* was not a predictor of future performance. The effects of past performance versions of the KID were mixed. They improved the identification of products that guaranteed certain conditions, and helped consumers answer the understandability questions. However, the cognitive load of the most complex versions, which included probabilistic information and past performance with three elements, seemed to have a negative impact. The inclusion of *illustrative scenarios* had no notable impact.

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1. Introduction

This document presents the Final Report of the project *Consumer testing services - Retail investors' preferred option regarding performance scenarios and past performance information within the Key Information Document under the PRIIPs framework - FISMA/2019/016/C*. The final report is a formal deliverable of the contract.

This document is structured in seven Chapters. For the sake of completeness, Chapters 2 and 3 present the background and purpose of the contract and the methodology applied to achieve them, respectively. The results of the analysis are presented in Chapter 4 (impact of the KID version on the understanding questions), Chapter 5 (impact of the KID version on the selection and identification of products of the same type) and Chapter 6 (impact of the KID version on the selection and identification of products of different types). Chapter 7 discusses the main findings of the consumer test and their implications for potential changes in the design of the KID.

A series of annexes including additional information are presented in separate documents. Annex I presents detailed statistical tables showing the socio-demographic profile of the respondents, the results of the financial literacy test and the distributions of all the items in the consumer test with a break down for each profile variable (gender, age, education and country of residence). Annex II includes the questionnaire of the consumer test, the description of the software used to implement it, the databases, the screenshots of the software test and the codebook of the database with the individual answers of the consumers participating in the test. Annex III presents the information of example products using the different version of the KIDs. Finally, Annex IV includes the R scripts and the data sets used for the analysis.

2. General background and purpose of the consumer test

Regulation (EU) No 1286/2014¹ on key information documents for packaged retail and insurance-based investment products ('PRIIPs Regulation') and its implementing measures laid down in the Commission Delegated Regulation (EU) 2017/653² ('PRIIPs Delegated Regulation') determines the format, the content and the calculation methodologies of the Key Information Document (KID) for packaged retail and insurance-based investment products (PRIIPs) to be made available to retail investors. These rules apply from 1 January 2018. The KID should provide information on the PRIIPs main features, as well as the risks and costs associated with investment in that PRIIP. It has to follow a common standard as regards structure, content and presentation and shall be a brief, concise document of maximum three A4-size sides.

In 2015, as part of the development of the implementing measures, the European Commission, in close cooperation with the three European Supervisory Authorities (ESAs)³, initiated a consumer testing study on the format and content of the PRIIPs

¹ Regulation (EU) No 1286/2014 of the European Parliament and of the Council of 26 November 2014 on key information documents for packaged retail and insurance-based investment products (PRIIPs), OJ L 325 of 9.12.2014, p.1.

² Commission Delegated Regulation (EU) 2017/653 of 8 March 2017 supplementing Regulation (EU) No 1286/2014 of the European Parliament and of the Council on key information documents for packaged retail and insurance-based investment products (PRIIPs) by laying down regulatory technical standards with regard to the presentation, content, review and revision of key information documents and the conditions for fulfilling the requirement to provide such documents, OJ L 100 of 12.4.2017, p.1.

³ European Banking Authority (EBA), European Insurance and Occupational Pensions Authority (EIOPA), European Securities and Markets Authority (ESMA).

KID⁴. This testing looked at how to approach the design of the KID sections on risks, performance and costs and tested different ways of presenting these sections of the KID, as well as different formats of the KID as a whole. This study sought to identify the most user-friendly format to be used to give retail investors the information needed to compare and choose the products best-suited to their investment needs. During that study, data was collected across a representative sample of countries in the European Union (EU) using both larger scale quantitative surveys and qualitative testing with focus groups. The final contents of the KID, which is set out in the PRIIPs Delegated Regulation, reflects the outcome of this 2015 consumer testing study regarding the types of formats and approaches that performed better with consumers. However, there has not yet been consumer testing of the final format that is currently contained within the PRIIPs Delegated Regulation.

During the second half of 2018⁵, the ESAs initiated a review of the PRIIPs Delegated Regulation in order to address the most pressing issues arising from the PRIIPs KID implementation since 1 January 2018, especially concerning performance scenarios.

Under Article 8(3) of the PRIIPs Regulation, the KID must present information on "What are the risks and what could I get in return?". This section shall include 'appropriate performance scenarios, and the assumptions made to produce them'. The PRIIPs Delegated Regulation specifies the format of these performance scenarios and the methodology to be used to generate the figures presented.

According to the feedback from various stakeholders, including market participants and Member States, the existing performance scenarios might provide retail investors with inappropriate expectations about the possible returns they may receive. In particular, based on the recent economic environment, the scenarios could provide an overly positive outlook for potential future returns if they are taken to be best estimate forecasts.

In this context, the ESAs are assessing if changes to the content and format of the performance scenarios are necessary. As part of this, they are also assessing how and to what extent the inclusion of information on past performance in the PRIIPs KID can be relevant for retail investors when making investment decisions. It is therefore important to gather evidence on how retail investors interpret the figures presented to them and the most appropriate ways to communicate the limitations of, or assumptions underlying, these figures.

With the overall aim of improving the effectiveness of the PRIIPs KID, i.e. retail investors' understanding of information provided in the KID as well as product comparison between and selection of different investment products, the European Commission, in close cooperation with the ESAs, have proposed different options for the presentation of performance scenarios within the PRIIPs KID. To that end, the European Commission is looking for evidence as to the effectiveness of these different options, i.e. different ways of presenting this information that will increase its benefit for retail investors in comparing and selecting the best PRIIPs for their investment needs.

In this respect, the Commission has asked DevStat's assistance in carrying out consumer testing on the proposed options for three different types of PRIIPs (investment funds, structured product and IBIPs). This demographically-representative consumer testing has been based in a survey conducted with retail investors. The work has involved examining the effectiveness of these different options. The consumer

⁴ "Consumer testing study of the possible new format and content for retail disclosures of packaged retail and insurance-based investment products" available at https://ec.europa.eu/info/publications/consumer-testing-study-key-information-documents-priips_en

⁵ Information concerning this review can be found in the ESAs Report of 8 February 2019 (https://eiopa.europa.eu/Publications/Reports/2019-02-08%20Final_Report_PRIIPs_KID_targeted_amendments%20%28JC%202019%206.2%29.pdf).

testing has been carried out on the basis of materials provided by Commission services (in relevant languages) to DevStat, prior to the launch of the testing exercise.

The results of this consumer testing in relation to the performance scenarios in the KID will feed into the ESAs' work on the review of the PRIIPs Delegated Regulation and will be used as important evidence to be taken into account during the review of the PRIIPs Delegated Regulation. It will form part of the assessment of how to improve the existing PRIIPs KID.

Consequently, the **general objective** of this project is to test the effectiveness of different contents and formats of presenting information on past performance and potential future performance (performance scenarios) of PRIIPs so that this information is most useful and well understood by retail investors. Effectiveness has been assessed in relation to:

- The level of comprehension of the retail investor of the intended messages to be conveyed and the avoidance of misunderstandings by the retail investor;
- Aiding accurate comparisons between different PRIIPs.

The **specific objectives** are represented by:

- Testing whether alternative presentations of potential future performance are better understood by the retail investor than the existing format of the PRIIPs KID, in particular simplified approaches and the use of more prominent warnings as to the limitations of the figures shown;
- Testing how information on past performance should be shown so that it is best understood that it is not a guide to future performance and that there are differences between the information on past performance and potential future performance;
- Testing whether these alternative presentations have an impact on the ability of the retail investor to compare between different PRIIPs in terms of what are the risks of the product and what they might get back in return.

3. Methodology

This chapter presents the methodology applied for the design, implementation and analysis of the online consumer test. Section 3.1 introduces the main elements of the test: the types of products, the KID version and the example products, Section 3.2 presents the setup of the consumer test. Section 3.3 discusses the target population and recruiting methods and section 3.4 describes the demographic profile and financial literacy of the participants. The software and the database used in the implementation of the test are presented in Annex II.

3.1 Types of products, versions of the KID and example products

The consumer test covered **3 different types of products**, namely funds, structured investment products and insurance-based products (IBIPs). The test included **11 different examples of products** of these types (3 funds, 4 structured product and 4 IBIPs). The example products were presented using **10 different versions of the KIDs** (3 versions for funds, 3 versions for structured products and 4 versions for IBIPs). Therefore, the test involved up to 37 different combinations of example product and versions of the KID ($3 \times 3 = 9$ for funds, $3 \times 4 = 12$ for structured products and $4 \times 4 = 16$ for IBIPs). The detailed description of these 37 combinations are presented in Annex III.

The 10 versions of the KID are labelled according to the following rule: the first letter in the label refers to the type of product (F=fund, S=structured product and I=IBIP) and

the lowercase word refers to the KID version. The 10 different versions applied in the test are given by:

- Three KID versions for funds (Figure 1).
 - Current KID (*Fcurrent*). This version shows four performance scenarios (stress, unfavourable, moderate and favourable) over three intermediate time periods. The longest period is the recommended holding period.
 - Probabilistic approach (*Fprobabilistic*). This version shows four performance scenarios (minimum, unfavourable, moderate and favourable) over the recommended holding period and the estimated likelihood of the unfavourable, moderate and favourable scenarios.
 - Past performance (*Fpast*). This version shows the same information that the probabilistic approach version. Moreover, it adds a graph with the product performance as the percentage loss or gain per year over last 10 years against a benchmark index.

Figure 1. Example of the KID versions applied to funds.

Investment: EUR 10.000

Scenarios		1 year	3 years	5 years (Recommended holding period)
Stress Scenario	What you might get back after costs	3.501 €	4.065 €	3.000 €
	Average return each year	-64.99%	-25.92%	-21.40%
Unfavourable Scenario	What you might get back after costs	7.934 €	6.684 €	5.933 €
	Average return each year	-20.66%	-12.57%	-9.91%
Moderate Scenario	What you might get back after costs	9.999 €	9.955 €	9.918 €
	Average return each year	-0.06%	-0.15%	-0.16%
Favourable Scenario	What you might get back after costs	12.541 €	14.779 €	16.528 €
	Average return each year	25.41%	13.91%	10.57%

Current KID

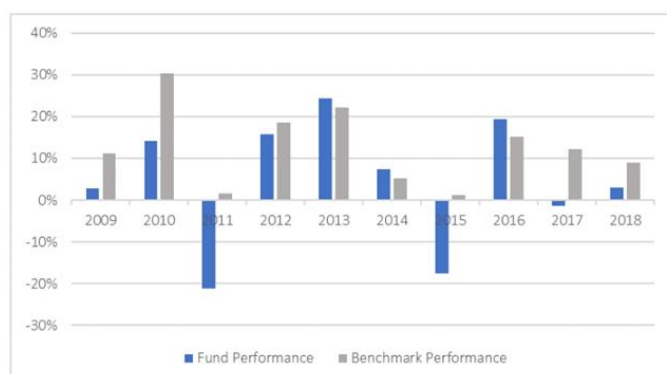
- Shows 4 performance scenarios over 3 periods
- Longest period is the recommended holding period

Example investment: EUR 10.000
Recommended holding period: 5 years

Scenarios	What you might get back after costs after 5 years	Average return per year	Estimated chance this scenario occurs
Minimum	There is no minimum guaranteed return. You could lose some or all of your investment.		
Unfavourable	5.933 €	-9.91%	10 in 100 chance you do worse
Moderate	9.918 €	-0.16%	50 in 100 chance you do worse
Favourable	16.528 €	10.57%	90 in 100 chance you do worse

Probabilistic approach

- Shows 4 performance scenarios over the recommended holding period
- Shows the estimated chance each scenario occurs



Past Performance

- Shows the product performance as the percentage loss or gain per year over last 10 years against a benchmark index

- Three KID versions for structured products (Figure 2).
 - Current KID (*Scurrent*). This version shows four performance scenarios (stress, unfavourable, moderate and favourable) over three intermediate time periods. The longest period is the recommended holding period.

- Probabilistic approach (*Sprobabilistic*). This version shows four performance scenarios (minimum, unfavourable, moderate and favourable) over the recommended holding period and the estimated likelihood of the unfavourable, moderate and favourable scenarios
- Illustrative scenarios (*Sillustrative*). This version shows the same information that the probabilistic approach version. Additionally, it shows examples of positive and negative performance scenarios over the recommended holding period.

Figure 2. Example of the KID versions applied to structured products.

Investment: EUR 10.000		1 year	3 years	5 years (Recommended holding period)
Stress Scenario	What you might get back after costs	6.513 €	5.116 €	3.566 €
	Average return each year	-35,0%	-20,0%	-18,6%
Unfavourable Scenario	What you might get back after costs	9.291 €	8.537 €	10.000 €
	Average return each year	-7,1%	-5,1%	0,0%
Moderate Scenario	What you might get back after costs	10.233 €	10.103 €	10.800 €
	Average return each year	2,3%	0,3%	1,6%
Favourable Scenario	What you might get back after costs	10.800 €	10.800 €	12.400 €
	Average return each year	8,0%	2,6%	4,4%

Current KID

- Shows 4 performance scenarios over 3 periods
- Longest period is the recommended holding period

Example investment: EUR 10.000 Recommended holding period: 5 years			
Scenarios	What you might get back after costs	Average return per year	Estimated chance this scenario occurs
Minimum	There is no minimum guaranteed return. You could lose some or all of your investment.		
Unfavourable	10.000 €	0,0%	10 in 100 chance you do worse
Moderate	10.800 €	8,0%	50 in 100 chance you do worse
Favourable	12.400 €	7,4%	90 in 100 chance you do worse

Probabilistic approach

- Shows 4 performance scenarios over the recommended holding period
- Shows the estimated chance each scenario occurs

Scenarios		What you might get back after costs	Average return per year
Negative scenario 1	Reference Index falls and after 5 years is down 50%	5.000 €	-13,0%
Negative scenario 2	Reference Index falls and after 5 years is down by 5%	10.000 €	0,0%
Positive scenario 1	Reference Index increases 5% in the first year and product automatically ends.	10.800 €	8,0%
Positive scenario 2	Reference Index falls in first two years, but is up 5% after the 3rd year when product automatically ends.	12.400 €	7,4%

Illustrative scenarios

- Shows 2 negative and 2 positive performance scenarios over the recommended holding period

- Four KID versions for IBIPs (Figure 3)
 - Current KID (*Icurrent*). This version shows four performance scenarios (stress, unfavourable, moderate and favourable) over three intermediate time periods. The longest period is the recommended holding period.
 - Probabilistic approach (*Iprobabilistic*). This version shows four performance scenarios (minimum, unfavourable, moderate and favourable) over the recommended holding period and the estimated likelihood of the unfavourable, moderate and favourable scenarios.
 - Past performance with two elements (*Ipast2*). This version shows the same information that the probabilistic approach version. Moreover, it adds a graph with the minimum annual bonuses over 10 years against and a benchmark of the return on government bonds.
 - Past performance with three elements (*Ipast3*). This version shows the same information that the probabilistic approach version. Moreover, it adds a graph with the investment returns per year of Fund B; the minimum annual bonuses; and the returns of government bonds as a benchmark.

Figure 3. Example of the KID versions applied to IBIPS.

Investment: EUR 10.000
Insurance premium: EUR 300

Scenarios		1 year	8 years	15 years (Recommended holding period)
Survival Scenarios				
Stress Scenario	What you might get back after costs		5.668 €	10.681 €
	Average return each year	-	-6,85%	0,44%
Unfavourable Scenario	What you might get back after costs		6.158 €	11.853 €
	Average return each year	-	-5,88%	1,14%
Moderate Scenario	What you might get back after costs		6.447 €	13.399 €
	Average return each year	-	-5,34%	1,97%
Favourable Scenario	What you might get back after costs		6.781 €	14.168 €
	Average return each year	-	-4,74%	2,35%
Death Scenario				
	What your beneficiaries might get back after costs	10.800 €	10.710 €	14.068 €

Current KID

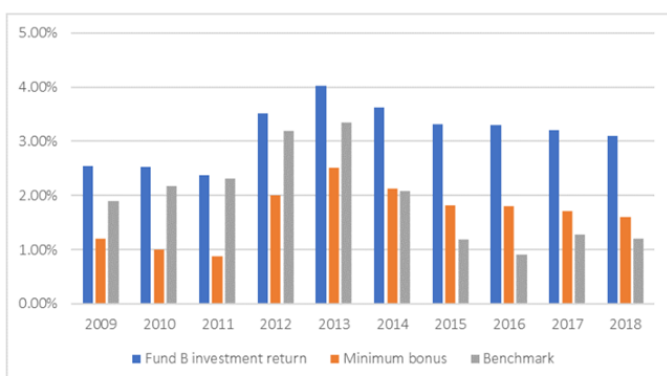
- Shows 4 performance scenarios over 3 periods
- Longest period is the recommended holding period

Example investment: EUR 10.000
Example insurance premium: EUR 300
Recommended holding period: 15 years

Scenarios	What you might get back after costs after 15 years	Average return per year	Estimated chance this scenario occurs
Survival Scenarios			
Minimum	10.000 €	0,00%	
Unfavourable	11.853 €	1,14%	10 in 100 chance you do worse
Moderate	13.399 €	1,97%	50 in 100 chance you do worse
Favourable	14.168 €	2,35%	90 in 100 chance you do worse
	What your beneficiaries might get back after costs		
Death Scenario			
Moderate	14.068 €	2,30%	50 in 100 chance they will do worse

Probabilistic approach

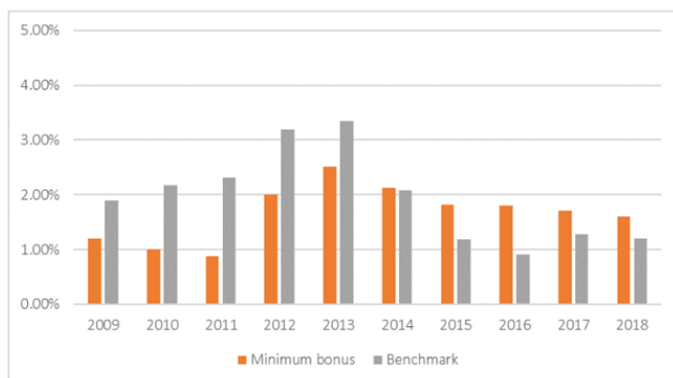
- Shows 4 performance scenarios over the recommended holding period
- Shows the estimated chance each scenario occurs



Past Performance 3 elements

The graph shows over last 10 years:

- The investment returns per year of Fund B
- The minimum annual bonuses
- The returns of government bonds as a benchmark



Past Performance 2 elements

- The graph shows the minimum annual bonuses over 10 years against a benchmark of the return on government bonds

3.2 Set-up of the consumer test

The consumer test was implemented according to the questionnaire presented in Annex II and consisted of the following sequential steps:

1. After recruitment and explicit acceptance to participate of each consumer, a *primary combination* of product type and KID version was randomly assigned to her/him⁶.
2. A *secondary combination* of product type and KID version was also randomly assigned to this participant. The random assignment of this secondary combination was done under the following constrains:
 - The product type in the secondary combination needs to be different of the product type in the primary combination.
 - If the KID version in the primary combination is the current KID, the KID version in the secondary combination needs to be also the current KID;
 - If the KID version in the primary combination is not the current KID, the KID version in the secondary combination cannot be the current KID.
3. After the assignment of her/his two combinations, each participant was asked to complete the following tasks:
 - a. Completing the socio-demographic questionnaire.
 - b. Comparison of two example products of the type of product in the primary combination. Both example products were presented applying the KID version in the primary combination.
 - c. Comparison of two example products of the type of product in the secondary combination. Both example products were presented applying the KID version in the secondary combination.
 - d. Comparison of an example product of the type of product in the primary combination with an example product from the type of product in the secondary combination. The products in each group will be selected uniformly at random among the products that have not been previously used in the within-group comparisons in (b) and (c). Both example products can be presented applying the same or different KID versions, depending on the versions in the primary and secondary combinations.
 - e. Answering to a set of questions to test the level of understanding of the information for an example product and KID version in the primary combination.
 - f. Answering to a set of questions to test the level of understanding of the information for an example product and KID version in the secondary combination.
 - g. Completing a financial literacy and an investment experience questionnaire.

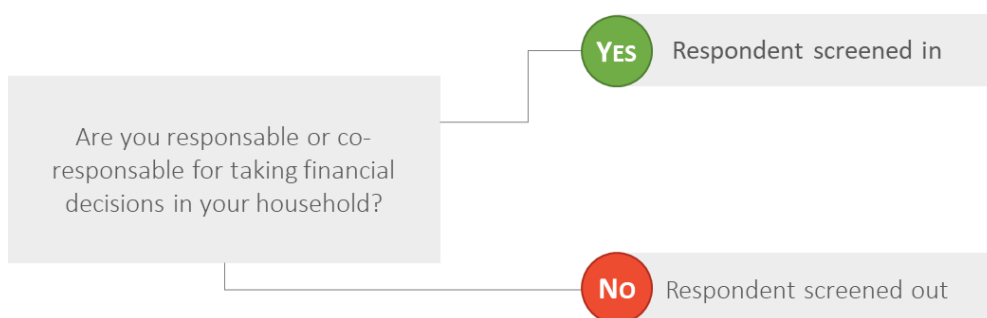
In this report, we refer to steps b, c and d as '*selection and identification of financial products*' or Task 1. Steps e and f are referred as '*understandability questions*' or Task2.

⁶ This assignation splits the sample into 10 subsamples of different sizes, each subsample corresponding to a combination of a product type and a version of the KID. The combinations of type of product and version of the KIDs were assigned to satisfy the quotas by country, sex, age and education.

3.3 Target population, recruiting and final sample

As specified in the ToR, participants in the test were responsible or co-responsible for financial decision-making in their households. To guarantee the compliance with this critical requirement, consumers were screened according to the process in Figure 4. The test covered the five countries suggested in the ToR, namely France, Germany, Italy, Poland and Sweden. This selection of countries guarantees a balanced representation of Member States covering retail investors from different regions in the EU (Nordic, Eastern-European, Central-European and Mediterranean).

Figure 4. Screening process for recruitment.



The recruitment procedure was implemented in the following steps:

- Participants were randomly selected from BDI Online panels. This selection satisfied the profile requirements established in the sample design (residents in the country, minimum 18 years, quotas of sex, age, education level and in the market for PRIIPs, etc.)
- BDI sent an invitation email to each selected participant. The email introduced the study, as well as the funding and implementing institutions. The invitation mail also contained information in compliance with the GDPR requirements and that they will remain anonymous and their data will remain private and only used for the purpose of this research. Participants were informed of the estimated duration of the test and that they can freely quit the survey at any moment, with no adverse consequences.
- After providing all the information, each consumer was asked for her or his explicit and voluntary consent to participate in the consumer test.
- The participants were assigned an anonymous code and diverted to the landing welcome page of the online software. This anonymous code, which does not allow for identifying the identity of the participants, was generated by BDI and delivered to DevStat. From this moment on, participants were only identified through their codes.

Speeders (i. e. participants completing the experiment in less than 30% of the median duration) were eliminated and replaced with other participants with the same sex, age and education level. Discontinued participation was considered invalid.

A total of 12,647 participants accessed to the consumer test, out of these, 9,603 completed the experiment. During data cleaning, 4,678 speeders and 85 participants who completed the survey in a non-continued way were identified and removed from the effective sample. On average, and after the elimination of speeders, the average duration of the test was 22.7 minutes.

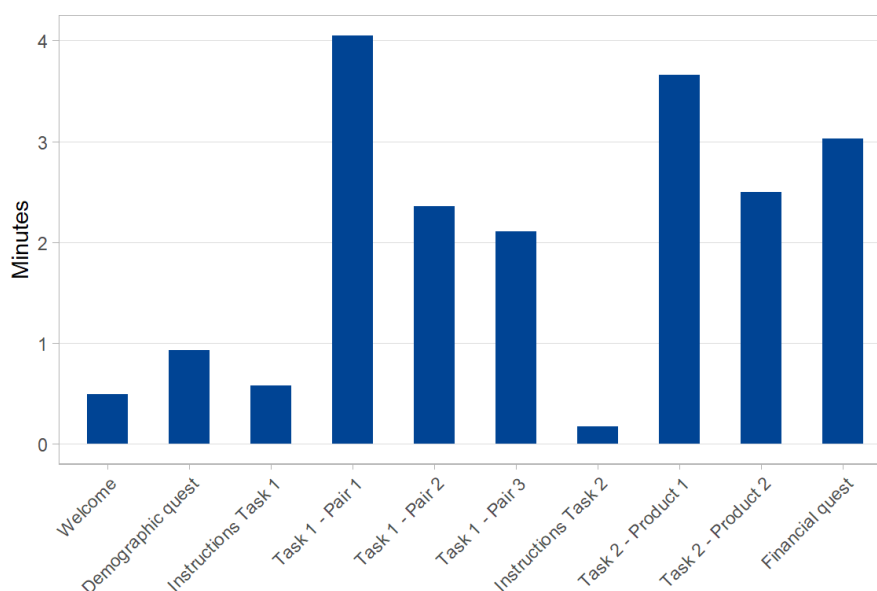
Table 1 and Figure 5 show the time spent at each step of the consumer test. The most time-consuming step is the first product selection and identification (4.1 minutes),

followed by the understandability questions for the first product (3.7 minutes). As a consequence of the learning effect, the time required to complete the tasks decreases with their repetition.

Table 1. Time (minutes) spent at each step of consumer test

Screen	Minimum	Maximum	Average	Median
Welcome	0.0	966.2	0.5	0.1
Socio-demographic questionnaire	0.1	611.8	0.9	0.5
Instructions (product selection and identification – Task 1)	0.0	1326.1	0.6	0.1
First product selection and identification (same type of products)	0.1	1364.7	4.1	2.0
Second product selection and identification (same type of products)	0.1	838.2	2.4	1.1
Third product selection and identification (different types of products)	0.1	1061.6	2.1	0.9
Instructions (understandability questions -Task 2)	0.0	46.8	0.2	0.1
Understandability questions: first product	0.2	259.4	3.7	2.5
Understandability questions: second product	0.2	643.1	2.5	1.3
Financial questionnaire	0.2	907.8	3.0	2.4
Total	5.0	1369.7	22.7	15.3

Figure 5. Average time (minutes) spent at each step of the consumer test



The final number of subjects participating in the consumer test has been **7,684**, with more than 1,500 per country (Table 2). The socio-demographic profile of the participants is shown in Table 3.

Table 2. Number of participants per country

	France	Germany	Italy	Poland	Sweden
Participants	1,541	1,531	1,539	1,536	1,537

Table 3. Sample distribution by sex, age and education level (%)

Profile	France	Germany	Italy	Poland	Sweden
< 35	27.45	27.63	23.00	36.39	28.43
≥ 35	72.55	72.37	77.00	63.61	71.57
Man	44.91	50.16	48.47	49.22	53.16
Woman	55.09	49.84	51.53	50.78	46.84
Primary	16.22	17.96	31.64	12.57	10.21
Secondary	46.92	55.45	46.26	60.35	47.89
Tertiary	36.86	26.58	22.09	27.08	41.90

The distribution of the consumers among the different combinations of type of products and versions of the KID is shown in Table 4. Recall that the first letter in the name of the combination refers to the type of product (F=fund, S=structured product and I=IBIP) and the lowercase word refers to the KID version, as described in section 3.1.

Table 4. Final sample sizes by combinations of type of product and KID version

Primary combination	Secondary combination	n	%
Fcurrent	Scurrent	404	16.58
Fprobabilistic	Sprobabilistic	493	20.24
Fprobabilistic	Sillustrative	514	21.10
Fpast	Sprobabilistic	518	21.26
Fpast	Sillustrative	507	20.81
Fcurrent	Icurrent	413	15.87
Fprobabilistic	Iprobabilistic	419	16.10
Fprobabilistic	Ipast3	348	13.37
Fprobabilistic	Ipast2	346	13.29
Fpast	Iprobabilistic	356	13.68
Fpast	Ipast3	349	13.41
Fpast	Ipast2	372	14.29
Scurrent	Icurrent	406	15.35
Sprobabilistic	Iprobabilistic	388	14.67
Sprobabilistic	Ipast3	377	14.25
Sprobabilistic	Ipast2	383	14.48
Sillustrative	Iprobabilistic	360	13.61
Sillustrative	Ipast3	376	14.22
Sillustrative	Ipast2	355	13.42

3.4 Demographic profile and financial literacy of the participants.

3.4.1 Demographic questionnaire

The final sample was well balanced in terms of sex, with 50.2 of female participants. The most common profile is that of an employed person (50.2%), married (47.9%) and saving for specific goals (74.0%).

Table 5. Socio-demographic profile (% of participants)

Question	Answer	%
<i>QD.1. Are you a...</i>		
QD.1	Woman	50.17
	Man	49.66
	Prefer not to say	0.17
<i>QD.2. Which of the following best describes your current work status?</i>		
QD.2	Employed	58.63
	Self-employed	9.06
	Unemployed	8.47
	Long-term sick	2.24
	Housewife/Houseworker	6.70
	Retired	9.03
	Student	5.87
<i>QD.3. Which of the following best describes your situation?</i>		
QD.3	Married or living in a registered partnership	47.93
	Not married living with a partner	17.95
	Single	31.09
	Other	3.03
<i>QD.4. What are your main saving goals? (multiple entries are possible)</i>		
QD.4	I save for retirement	37.32
	I save to buy/build a house	22.27
	I save to have a safety net	51.26
	I save to buy durables (e.g. car, TV etc.)	32.09
	I save for my children and grandchildren	27.67
	I save for other reasons	6.36
	I do not have any explicit saving goals	10.41
	I do not earn enough money to be able to save	15.63
<i>QF.11. Please indicate in which of the categories below your net household income usually falls into⁷</i>		
QF.11	Up to [Country minimum] a month	13.60
	Between [Country minimum] and [Country maximum]	25.26
	[Country maximum] or more a month	43.69
	Don't know	9.34
	Refused	8.11
<i>QF.12. If you lost your main source of income, how long could you continue to cover your living expenses, without borrowing any money or moving house?</i>		
QF.11	Less than a week	7.82
	At least a week, but not one month	10.96
	At least one month, but not three months	17.48
	At least three months, but not six months	14.26
	Six months or more	25.72
	Don't know	17.5
	Refused	6.26

⁷ France: (1) Up to 1,381 € a month; (2) Between 1,381 € and 2,302 €; (3) 2,302 € or more a month
Germany: (1) Up to 1,369 € a month; (2) Between 1,369 € and 2,282 €; (3) 2,282 € or more a month
Italy: (1) Up to 1,034 € a month; (2) Between 1,034 € and 1,723 €; (3) 1,723 € or more a month
Poland: (1) Up to 1,625 zł a month; (2) Between 1,625 zł; (3) 2,709 zł or more a month
Sweden: (1) Up to 15,029 kr a month; (2) Between 15,029 kr and 25,049 kr; (3) 25,049 kr or more a month

3.4.2 Financial literacy of the sample

The questionnaire of the consumer test includes a set of instrumental items to measure the financial literacy of the respondents, including self-assessed risk attitude and loss aversion applied for the analysis of investment decisions in Chapter 6.

Around one third of the participants have experience with financial products or are considering buying them. The self-assessment of the financial literacy of the consumers seems to be lower than their actual skills to manage basic concepts such as interest rate or effects of diversification. Specifically, only 9% of the participants declared to be very knowledgeable with financial products (answers 6 or 7 to question QF3) and only 16% of them declare needing no advice when buying this type of products (QF4). However, around half of them provided a correct answer for the financial literacy questions on interest rate (QF8), inflation (QF9) and safety of funds versus company stocks (QF10).

The following tables presents the detailed results of the financial questionnaire:

Figure 6. Purchase of financial product (% of participants)

QF.1. Do you have any experience in buying financial products or financial instruments? Please tick all the categories that are relevant.

QF.2. Have you ever considered purchasing other than the financial product(s) or financial instruments that you currently own? Please tick all the categories that are relevant.

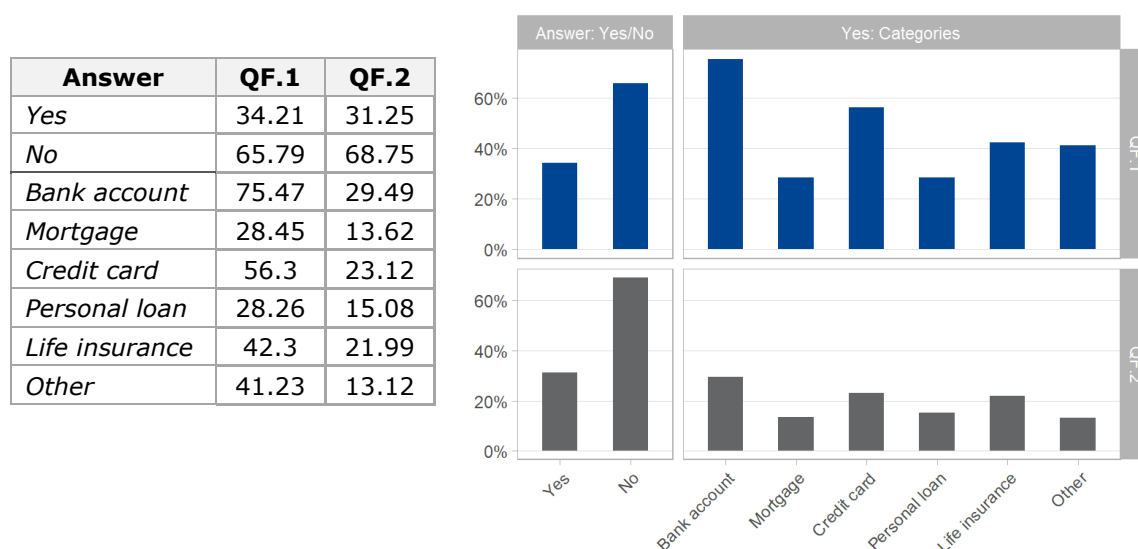


Figure 7. Self-assessment of financial literacy (% of participants; 1 means very low and 7 means very high).

QF.3. How knowledgeable do you feel about financial products or financial instruments? (1 means very low and 7 means very high)

Answer	%
1	25.01
2	17.63
3	16.31
4	19.86
5	12.6
6	5.53
7	3.06

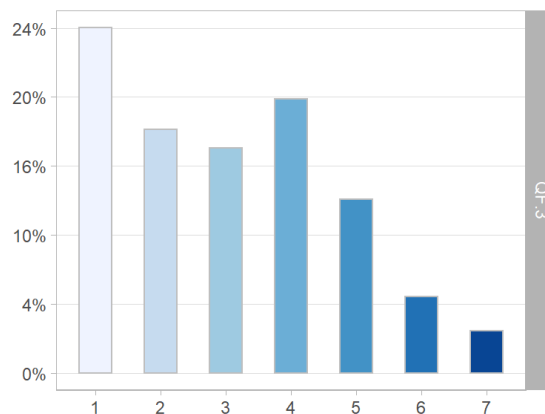


Figure 8. Requirement of financial advice (% of participants).

QF.4. Which of the following statements best applies to you when making decisions about financial products or financial instruments?

Answer	%
a. When purchasing financial products/instruments, I like to make my own choices, and do not need any advice from others	15.96
b. I consider the advice of financial advisers when choosing financial products/instruments, but like to make the decisions myself	42.63
c. I generally rely on the advice of financial advisers about which financial products/instruments are best for me	26.13
d. I generally rely on the advice of friends or relatives about which financial products/instruments and services are best for me	15.28

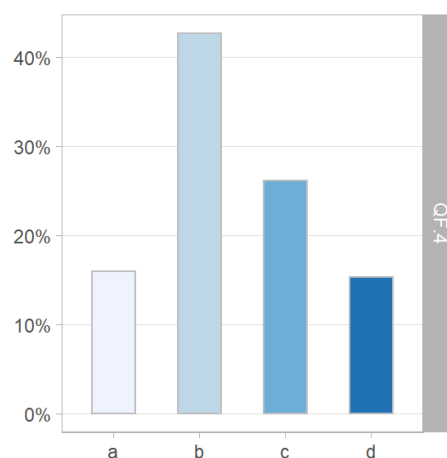


Figure 9. Risk attitude and loss aversion (% of participants).

QF.5. How do you see your willingness to take risks in financial matters? 1 - Not at all willing to take risks; 7 - Very willing to take risk

QF.6. Do you agree with the following statement: "I'm very afraid of losses"? 1 - Strongly disagree; 7 - Strongly agree

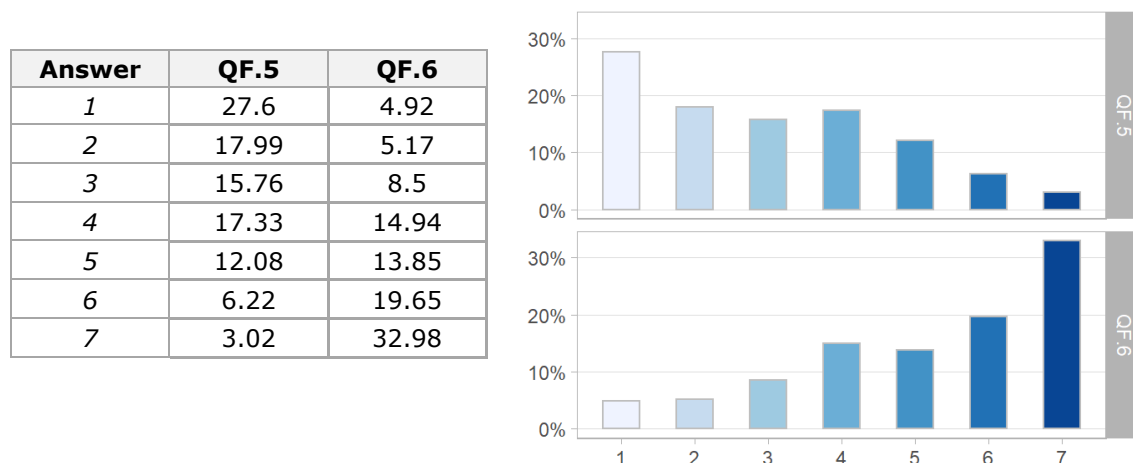


Figure 10. Preferences on skewness (% of participants).

QF.7. Suppose you had 10.000 EUR in total to invest with. You can choose to invest it in one of the following lotteries. Which lottery do you choose - a), b) or c)?

Answer	%
a. With a chance of 1/2 (50%) the lottery will 'succeed' and you will earn an additional 1.300 EUR, for a total of 11.300 EUR. With a chance of 1/2 (50%) the lottery will 'fail' and you will lose 700 EUR, for a total of 9.300 EUR.	26.33
b. With a chance of 4/5 (80%) the lottery will 'succeed' and you will earn an additional 800 EUR, for a total of 10.800 EUR. With a chance of 1/5 (20%) the lottery will 'fail' and you will lose 1.700 EUR, for a total of 8.300 EUR.	40.03
c. With a chance of 1/5 (20%) the lottery will 'succeed' and you will earn an additional 2.300 EUR, for a total of 12.300 EUR. With a chance of 4/5 (80%) the lottery will 'fail' and you will lose 200 EUR, for a total of 9.800 EUR.	33.64

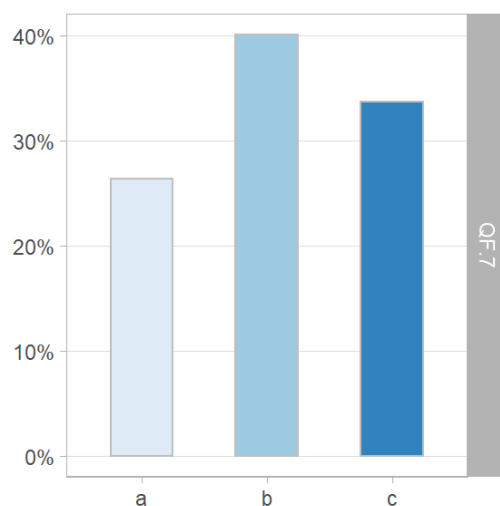


Figure 11. Understanding of the interest rate (% of participants).

QF.8. Suppose you had 10.000 € in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

	Answer	%
a.	More than 10.200 EUR	56.83
b.	Exactly 10.200 EUR	20.65
c.	Less than 10.200 EUR	8.15
d.	Do not know	14.37

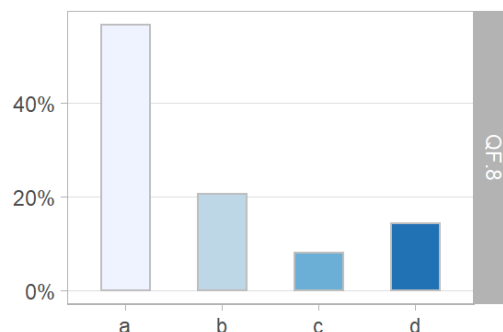


Figure 12. Understanding of inflation (% of participants)

QF.9. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

	Answer	%
a.	More than today	11.23
b.	Exactly the same	16.28
c.	Less than today	51.33
d.	Do not know	21.16

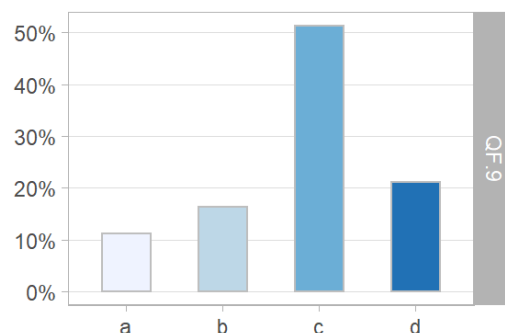
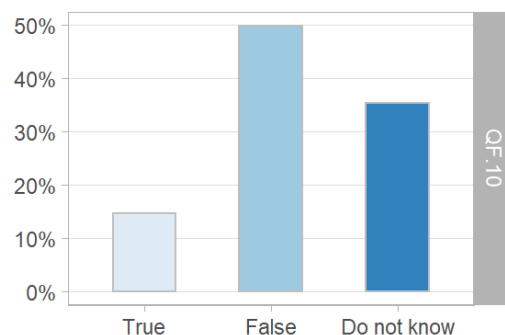


Figure 13. Understanding of safety of stocks and funds (% of participants)

QF.10. If this statement is true or false: "Buying a single company's stock usually provides a safer return than a stock investment fund."

	Answer	%
	True	14.68
	False	49.93
	Do not know	35.39



4. Impact of the KID version on the understandability questions (Task 2)

This chapter analyses whether the probability approach, past performance and illustrative scenario versions of the KID facilitate or not the understanding of the features of retail investment products. The chapter is structured in three sections. Each section presents the results obtained a type of products and is divided in two subsections:

- Impact of the KID version on information understandability. For each version of the KID, this subsection presents the percentage of consumers who provided a right answer, a wrong answer or considered that the information was not clear enough to answer each understandability question.

Pearson's chi-squared test is used to determine whether there is a statistically significant difference (a difference which cannot be attributed to chance fluctuations) between the distribution of answers under to different versions of the KID. The tables in this subsection present the distribution of answer and the p-values⁸ for the Pearson's chi-squared tests. Note that, although questions QT2.1 to QT2.5 are asked for all product and version of the KID, the other questions are only asked for specific combinations of type of product and version of the KID.

- Effects of gender, age, education and country. In this section, and for the sake of interpretability, the answers to all the understandability questions of each subject have been summarised in two aggregated variables:
 - *Accuracy of answers:* proportion of understandability questions in Task 2 which have been correctly answered. For each participant, this first aggregated variable takes values between 0 (if all her/his answers were wrong) and 1 (if all her/his answers were right).
 - *Clarity of information:* proportion of items in Task 2 for which the consumer found the provided information clear enough to answer the understandability question. For each participant, this second aggregated variable takes values between 0 (if she/he found the information clear for none of the questions) and 1 (if she/he found the information clear for all questions). Note that a high value of the clarity variable for a consumer does not imply that she/he has been able to answer questions in Task 2 properly. It only means that she/he was confident enough with her/his understanding of the information to answer the questions.

To complete this aggregate analysis, Annex I presents the breakdown of all the understandability questions by the four profile variables

Analysis of variance (ANOVA⁹) provides a straightforward method to quantify the effect of the alternative versions of the KID on these two aggregated variables. Following this approach, a series of ANOVA models have been estimated for *Accuracy of answers* and

⁸ In statistical hypothesis testing, the p-value or probability value is the probability of obtaining test results at least as extreme as the results actually observed, assuming that the null hypothesis is correct. In simple terms, the p-value helps differentiate results purely from chance related to sampling, from results which are statistically significant. The smaller the p-value, the higher the significance because it tells the investigator that the hypothesis under consideration may not adequately explain the observation. For our analysis, we consider 5% as significance level of the test, therefore the null hypothesis will be rejected when $p < 0.05$ and not rejected when $p > 0.05$.

⁹ Analysis of variance (ANOVA) is a collection of statistical models and their associated estimation procedures used to analyse the differences among group means in a sample. The ANOVA is based on the law of total variance, where the observed variance in a particular variable is partitioned into components attributable to different sources of variation. In its simplest form, ANOVA provides a statistical test of whether two or more population means are equal.

Clarity of information as dependent variables. This model included the following independent variables: the KID version; the control variables gender, age, education, country; and the interactions of the KID versions with the control variables.

For each type of product, the second subsection presents:

- The result of the Analysis of Variance associated to each model. This information is used for the statistical test of which are the independent variables affecting to *Accuracy of answers* and *Clarity of information*.
- The estimation of the ANOVA model, including interactions only in these cases in which they are significant. These models provided information on the direction of the effect of the independent variables, when statistically significant.

A figure presenting the average values of *Accuracy of answers* and *Clarity of information*, as well as their confidence intervals at confidence level of 0.95, for the breakdowns in terms of the independent variables.

4.1 Understandability questions for funds

4.1.1 Impact of the KID version

A relevant change in the probabilistic approach and past performance KID versions (*Fprobabilistic* and *Fpast*) with respect to the current version of the KID (*Fcurrent*) is the inclusion of probabilistic information on the likelihood of the unfavourable, moderate and favourable performance scenarios at the end of the recommended holding period.

A clear way to assess the level of understanding of this new information is the analysis of the understandability questions on the number out of 100 times that the value of the investment is expected to be below the unfavourable scenario and above the favourable scenario, respectively (Questions QT2.1 and QT2.3). However, consumers' answers to both questions (shown in Table 6) should be considered with caution, since:

- The current KID version does not include the probabilistic information required to answer these two understandability questions properly. In fact, the most accurate answer with the current KID is that the information provided is not clear enough to answer the questions. In this context, the number of times of the final investment being above/below the respective scenarios can be identified only by chance or inference. However, these random correct answers (12%-14% of the participants) need to be considered as a baseline in our analysis: the impact of *Fprobabilistic* and *Fpast* KID versions are given by the differences of the proportion of participants providing the correct answer with those versions and the current KID version (*Fcurrent*).
- The probabilistic approach and past performance KID versions provide the information of the number out of 100 times that the final investment will be below the unfavourable, moderate and favourable scenarios. Note that QT2.1 is worded in the same way as the information in the KID (number times below the unfavourable scenario), meanwhile QT2.3 is worded in the opposite way (number of times above the favourable scenario). Therefore, even if the former question could be properly answered just but identifying a pattern in the probabilistic information in the KID, a correct answer to the latter requires additional understanding of the meaning of the probabilistic information provided in the KID.

With these clarifications, we can consider the differences in the percentage of correct answers to QT2.3 as a proxy estimation of the proportion of participants who have properly understood the meaning of the probabilistic information. The correct answers to QT2.3 with both the *Fprobabilistic* and *Fpast* are around 9 percentage points higher

than with the current KID. Therefore, we could consider that around 9% of the participants are capable of understanding and manipulating the probabilistic information as presented in the probabilistic KID version.

No significant statistically significant differences were found between adding the past performance information to the probabilistic information in the KID version (*Fprobabilistic* vs *Fpast*).

Table 6. Distribution of answers to the understandability questions on the likelihood of the performance scenarios (% of participants and p-value).

Question	KID version	Correct*	Incorrect	Not clear
<i>QT2.1. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be below the unfavourable scenario?</i>				
QT2.1	Fcurrent	11.75	64.75	23.50
	Fprobabilistic	28.02	57.83	14.15
	Fpast	27.35	58.18	14.46
Fcurrent vs Fprobabilistic: 0.000 Fcurrent vs Fpast: 0.000 Fprobabilistic vs Fpast: 0.877				
<i>QT2.3. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be above the favourable scenario?</i>				
QT2.3	Fcurrent	13.71	64.38	21.91
	Fprobabilistic	22.92	62.88	14.20
	Fpast	22.65	61.99	15.37
Fcurrent vs Fprobabilistic: 0.000 Fcurrent vs Fpast: 0.000 Fprobabilistic vs Fpast: 0.564				

* Correct answer for the probabilistic and past performance KID versions.

The understanding of what happens if the investment is ended before the end of the recommended holding period is not affected by the KID version in a statistically significant way. For the three KID versions considered in the test, around 40% of the consumers are capable to answer properly to the question on possible additional costs arising (QT2.4a), although only around 23% of them answer the question QT2.4b properly. Note that the information on additional costs (QT2.4a) is included in the description of the product in all the version of the KID, which explain the lack of impact of the KID version for this question.

Table 7. Distribution of answers to the understandability questions on the condition of anticipated exiting (% of participants and p-value).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.4. If you exit or end your investment before the end of the recommended holding period, which of the following statements do you think is true or false</i>				
<i>QT2.4a. You will have to pay additional costs or charges than if you had held the investment until the end of the recommended holding period</i>				
QT2.4a	Fcurrent	40.27	29.74	29.99
	Fprobabilistic	41.08	29.53	29.39
	Fpast	39.11	31.54	29.35
Fcurrent vs Fprobabilistic: 0.915 Fcurrent vs Fpast: 0.639 Fprobabilistic vs Fpast: 0.296				
<i>QT2.4b. Your return may be lower than if you had held the investment until the end of the recommended holding period, due to the loss of a guarantee or other benefits</i>				
QT2.4b	Fcurrent	24.11	42.11	33.78
	Fprobabilistic	22.59	44.67	32.74
	Fpast	22.07	47.10	30.83
Fcurrent vs Fprobabilistic: 0.434 Fcurrent vs Fpast: 0.052 Fprobabilistic vs Fpast: 0.260				

The implications of a bankruptcy of the manufacturer is properly understood by the 40% of the participants, with no statistically significant impact of the KID version. Around one third of the participants consider that the answer was not clear from the information shown in the KID.

Table 8. Distribution of answers to the understandability questions on bankruptcy (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.5. Imagine that the company goes bankrupt (they are not able to pay their investors). In this case, how much money, if any, can you expect to get back?</i>				
QT2.5	Fcurrent	39.17	29.13	31.70
	Fprobabilistic	41.65	25.33	33.02
	Fpast	41.25	27.45	31.30
Fcurrent vs Fprobabilistic: 0.109 Fcurrent vs Fpast: 0.535 Fprobabilistic vs Fpast: 0.246				

Only a quarter of participants who were presented with the current KID, were able to describe the stress scenario properly.

Table 9. Distribution of answers to the understandability questions on the stress scenario (% of participants).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.6. Please select the statement below which you think best describes the stress scenario</i>				
QT2.6	Fcurrent	25.7	43.45	30.84

The test included specific questions to evaluate the understanding of the past performance information and which were not asked for the current and probabilistic

approach KID versions. The responses to these questions show that participants used past information with caution and, therefore, the presentation of past and future information together does not seem to raise issues. Specifically, when provided with information on past performance (*F_{past}* KID version), more than 65% of the participants declare that it is not possible to predict accurately the future returns of the investment product from its past performance. However, when we asked more specifically about the connection between past and future, a significant proportion of participants indicated that they made a connection between projected past performance and the future performance. Almost 40% of consumers thought that the probability of having a positive return is conditioned by the last 10 years performance and more than one third of these participants believe that the return is more likely to be closer to the most recent return (the return in 2018).

Table 10. Distribution of answers to the understandability questions on projection of past performance to the future (% of participants).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.8. Please indicate whether the following statements are true or false:</i>				
<i>QT2.8a. Since the product has experienced a positive return in [number of years with positive return] out of the last 10 years there is an above average chance I will make money if I invest</i>				
QT2.8a	F _{past}	31.78	38.63	29.59
<i>QT2.8b. The performance of the product at the end of the year is more likely to be [return % for 2018] (i.e. the performance in 2018) than [return % for 2013] (i.e. the performance in 2013)</i>				
QT2.8b	F _{past}	24.93	36.68	38.39
<i>QT2.8c. It is not possible to accurately predict the likelihood of future returns as the future can be different to the past</i>				
QT2.8c	F _{past}	65.94	11.61	22.45

QT2.2 is the most difficult question for the participants, probably due to the complex concepts, which translates in a difficult wording of this item. No matter the KID version or the type of product, only 7.6% or less are capable to provide the appropriate forecast of the future value of the investment after the recommended holding period based on the information shown, with the actual future value of the investment laying with equal probability above or below the forecast.

Table 11. Distribution of answers to the understandability questions on the moderate scenario (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.2. Imagine you invest 10.000 € in this product. According to the information provided, what is the most probable value of your investment at the end of the recommended holding period?</i>				
QT2.2	F _{current}	6.98	93.02	-
	F _{probabilistic}	7.59	92.41	-
	F _{past}	7.09	92.91	-
F _{current} vs F _{probabilistic} : 0.567 F _{current} vs F _{past} : 0.916 F _{probabilistic} vs F _{past} : 0.529				

4.1.2 Effects of gender, age, education and country

A first ANOVA model was estimated to measure the effects of the KID versions, the control variables and their interaction on the understandability questions. The estimation of the model (Table 12) shows that there are no statically significant interactions between the profile variables and KID version. This result implies that the different KID versions have the same impact on the understandability, no matter the profile of the respondent. For these reasons, interactions have been excluded and a second ANOVA model estimated to analyse the effects of KID version and control variables in understandability (Table 13).

Table 12. Analysis of variance for the aggregated variables.

	Df	Accuracy of answers			Clarity of information		
		Sum Sq	Mean Sq	Pr(>F)	Sum Sq	Mean Sq	Pr(>F)
KID	2	4.153	2.077	0.000	0.971	0.485	0.002
Gender	1	0.495	0.495	0.001	0.273	0.273	0.057
Age	1	1.126	1.126	0.000	5.084	5.084	0.000
Education	2	3.001	1.500	0.000	0.264	0.132	0.173
Country	4	2.625	0.656	0.000	1.586	0.397	0.000
KID - Gender	2	0.064	0.032	0.475	0.055	0.028	0.693
KID - Age	2	0.139	0.069	0.201	0.051	0.025	0.715
KID - Education	4	0.165	0.041	0.432	0.301	0.075	0.406
KID - Country	8	0.482	0.060	0.193	0.547	0.068	0.507
Residuals	5012	216.494	0.043	-	376.965	0.075	-

Note that the signs of the estimated coefficients Table 13 indicate if a given alternative version of the KID improves (positive sign) or makes worse (negative sign) the *Accuracy of answers* and the *Clarity of information* with respect to the current ($F_{current}$) version of the KID. Therefore, Table 13 shows that the application of both $F_{probabilistic}$ and F_{past} KID versions increase the values of the aggregated variables *Accuracy of answers* and *Clarity of information*. Moreover, the addition of past performance information increases the accuracy level achieved with the inclusion of the probabilistic information, although reduces the *Clarity of information*.

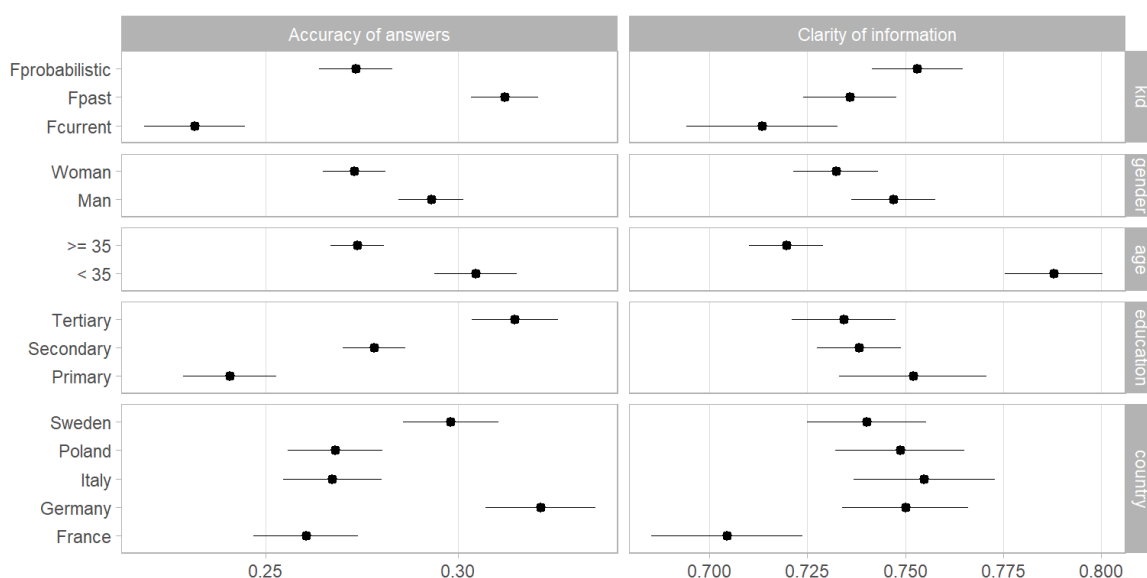
Women and older participants present lower values of the variables *Accuracy of answers* and *Clarity of information*. Consumers with higher level of studies have a better level of accuracy although the education level does not affect the *Clarity of information*. Finally, participants for France find the information unclear and respondents from Germany, Sweden and Italy have a higher level of accuracy.

Figure 14 shows the average answers by KID version and control variables.

Table 13. Estimation of the ANOVA model for the aggregated variables.

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
(Intercept)	0.199	0.013	0.000	0.748	0.017	0.000
KID: Fprobabilistic	0.042	0.009	0.000	0.042	0.011	0.000
KID: Fpast	0.080	0.009	0.000	0.025	0.011	0.028
Gender: Woman	-0.020	0.006	0.001	-0.017	0.008	0.028
Age: >= 35	-0.032	0.007	0.000	-0.071	0.009	0.000
Education: Secondary	0.036	0.008	0.000	-0.010	0.011	0.336
Education: Tertiary	0.073	0.009	0.000	-0.016	0.012	0.171
Country: Germany	0.065	0.009	0.000	0.044	0.012	0.000
Country: Italy	0.019	0.009	0.040	0.052	0.012	0.000
Country: Poland	0.007	0.009	0.480	0.037	0.012	0.002
Country: Sweden	0.032	0.009	0.001	0.034	0.012	0.005

Figure 14. Average values and confidence intervals (confidence level of 95%) of the aggregated variables Accuracy of answers and Clarity of information by Kid version and profile of the participant.



4.2 Understandability questions for structured products

4.2.1 Impact of the KID version

As discussed in the previous section, only participants provided with the KID versions including the probabilistic approach (*Sprobabilistic* and *Sillustrative*) do have information on the likelihood on the unfavourable, moderate and favourable scenarios. Despite this fact, only a quarter of participants considered that the provided information is not clear enough to answer to QT2.1 and QT2.3 for the current version of the KID (*Icurrent*). When the information of these likelihoods is included in the KID version, around 20% of the consumers are able to answer QT2.1 properly. However, when the wording is reversed (QT2.3), the percentage of right answers reduces to 13% - 14%. No significant statistical differences are found between the distribution of answer when the KID versions *Sprobabilistic* or *Sillustrative* are applied.

Table 14. Distribution of answers to the understandability questions on the likelihood of the performance scenarios (% of participants and p-value).

Question	KID version	Correct*	Incorrect	Not clear
<i>QT2.1. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be below the unfavourable scenario?</i>				
QT2.1	Scurrent	11.23	65.80	22.96
	Sprobabilistic	19.22	67.86	12.92
	Sillustrative	17.47	67.90	14.63
Scurrent vs Sprobabilistic: 0.000 Scurrent vs Sillustrative: 0.000 Sprobabilistic vs Sillustrative: 0.132				
<i>QT2.3. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be above the favourable scenario?</i>				
QT2.3	Scurrent	8.64	69.26	22.10
	Sprobabilistic	12.51	72.77	14.73
	Sillustrative	14.06	70.36	15.58
Scurrent vs Sprobabilistic: 0.000 Scurrent vs Sillustrative: 0.000 Sprobabilistic vs Sillustrative: 0.190				

* Correct answer for the probabilistic and illustrative scenarios KID versions.

The KID version does not affect the understanding of the implications of the investment being ended before the end of the recommended holding period. Around 29% of the consumers answered properly the question about additional costs (QT2.4a), no matter the version of the KID. On the other hand, only 20% of the consumers properly answered question QT2.4b.

Table 15. Distribution of answers to the understandability questions on the condition of anticipated exiting (% of participants and p-value).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.4. If you exit or end your investment before the end of the recommended holding period, which of the following statements do you think is true or false</i>				
<i>QT2.4a. You will have to pay additional costs or charges than if you had held the investment until the end of the recommended holding period</i>				
QT2.4a	Scurrent	28.40	35.06	36.54
	Sprobabilistic	29.78	33.40	36.82
	Sillustrative	27.37	35.13	37.50
Scurrent vs Sprobabilistic: 0.644 Scurrent vs Sillustrative: 0.832 Sprobabilistic vs Sillustrative: 0.197				
<i>QT2.4b. Your return may be lower than if you had held the investment until the end of the recommended holding period, due to the loss of a guarantee or other benefits</i>				
QT2.4b	Scurrent	20.74	48.15	31.11
	Sprobabilistic	19.45	48.77	31.77
	Sillustrative	19.46	50.52	30.02
Scurrent vs Sprobabilistic: 0.733 Scurrent vs Sillustrative: 0.503 Sprobabilistic vs Sillustrative: 0.423				

The implications of a bankruptcy of the manufacturer is properly understood by 35% of the participants, independently of the KID version. A third of them considered that the right answer cannot be not clearly obtained from the information shown in the KID.

Table 16. Distribution of answers to the understandability questions on bankruptcy (% of participants and p-value).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.5. Imagine that the company goes bankrupt (they are not able to pay their investors). In this case, how much money, if any, can you expect to get back?</i>				
QT2.5	Scurrent	35.31	35.80	28.89
	Sprobabilistic	35.11	33.16	31.73
	Sillustrative	33.76	34.14	32.10
Scurrent vs Sprobabilistic: 0.253 Scurrent vs Sillustrative: 0.245 Sprobabilistic vs Sillustrative: 0.634				

When the current KID version is applied (*Scurrent*), around one third of the participants can describe the stress scenario properly.

Table 17. Distribution of answers to the understandability questions on the stress scenario (% of participants).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.6. Please select the statement below which you think best describes the stress scenario</i>				
QT2.6	Scurrent	29.38	35.93	34.69

For all the KID versions, around 40% of consumers were able to identify their maximum return at the end of the recommended holding period. More than a fifth of the participants considered that the information was not clear enough to answer QT2.7.

Table 18. Distribution of answers to the understandability questions on maximum returns (% of participants).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.7. What is the maximum amount that you could get out of this product at the recommended holding period?</i>				
QT2.7	Scurrent	40.37	37.28	22.35
	Sprobabilistic	38.77	38.81	22.42
	Sillustrative	39.35	36.88	23.77
Scurrent vs Sprobabilistic: 0.689 Scurrent vs Sillustrative: 0.709 Sprobabilistic vs Sillustrative: 0.370				

Again, QT2.2. presents difficulties for the participants. Only around 9% of them could provide an unbiased forecast of the future value the investment. This percentage does not depend on the KID version applied to show the information.

Table 19. Distribution of answers to the understandability questions on the moderate scenario (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.2. Imagine you invest 10.000 € in this product. According to the information provided, what is the most probable value of your investment at the end of the recommended holding period?</i>				
QT2.2	Scurrent	9.26	90.74	–
	Sprobabilistic	9.40	90.60	–
	Sillustrative	8.62	91.38	–
Scurrent vs Sprobabilistic: 0.905 Scurrent vs Sillustrative: 0.583 Sprobabilistic vs Sillustrative: 0.370				

4.2.2 Effects of gender, age, education and country

A first ANOVA model was estimated to measure the effects of KID versions, control variables and their interactions (Table 20). Since we observe that the interaction effects between control variables and KID version are not statistically significant, a second ANOVA model was estimated after removing these interactions (Table 21).

Table 20. Analysis of variance for the aggregated variables.

	Df	Accuracy of answers			Clarity of information		
		Sum Sq	Mean Sq	Pr(>F)	Sum Sq	Mean Sq	Pr(>F)
KID	2	0.046	0.023	0.479	0.639	0.320	0.011
Gender	1	0.438	0.438	0.000	0.305	0.305	0.039
Age	1	1.299	1.299	0.000	5.541	5.541	0.000
Education	2	0.867	0.434	0.000	0.310	0.155	0.114
Country	4	1.474	0.368	0.000	3.191	0.798	0.000
KID – Gender	2	0.005	0.003	0.918	0.037	0.018	0.773
KID – Age	2	0.029	0.015	0.629	0.073	0.037	0.598
KID – Education	4	0.180	0.045	0.218	0.200	0.050	0.590
KID – Country	8	0.098	0.012	0.925	0.119	0.015	0.989
Residuals	5054	157.946	0.031	–	360.172	0.071	–

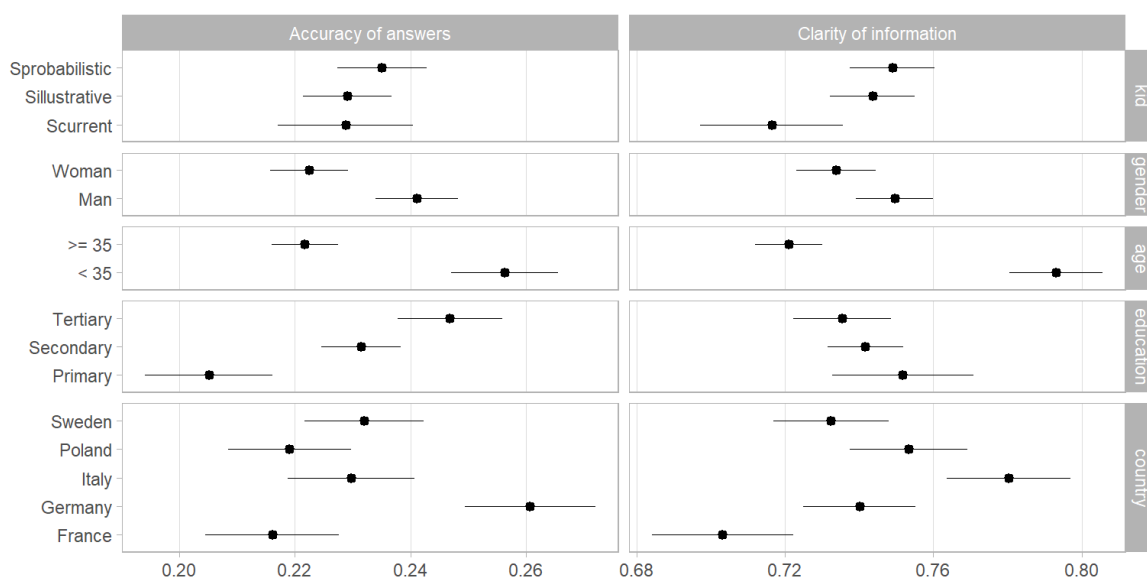
The estimation of this second model without interactions is presented in Table 21. It shows that the KID version has no statistically significant impact on the aggregated variable *Accuracy of answers*. However, the inclusion of the probabilistic approach and the illustrative scenarios improve the values of the variable *Clarity of information*.

We can observe that women and older participants present lower values of both *Accuracy of answers* and *Clarity of information*. More educated participants rank better in *Accuracy on the answers*, although the education level does not affect to the Clarity of information. Participants for France seem to find the information more unclear and respondents from Germany, Sweden and Italy exhibit higher values of *Accuracy of answers*. Figure 15 shows the average answers by KID version and control variables.

Table 21. Estimation of the ANOVA model for the aggregated variables.

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
(Intercept)	0.219	0.011	0.000	0.745	0.016	0.000
KID: Sprobabilistic	0.006	0.007	0.382	0.034	0.011	0.002
KID: Sillustrative	0.001	0.007	0.877	0.028	0.011	0.011
Gender: Woman	-0.020	0.005	0.000	-0.018	0.008	0.019
Age: >= 35	-0.035	0.006	0.000	-0.076	0.008	0.000
Education: Secondary	0.029	0.007	0.000	-0.001	0.011	0.888
Education: Tertiary	0.043	0.008	0.000	-0.009	0.012	0.412
Country: Germany	0.046	0.008	0.000	0.036	0.012	0.003
Country: Italy	0.022	0.008	0.006	0.079	0.012	0.000
Country: Poland	0.000	0.008	0.992	0.043	0.012	0.000
Country: Sweden	0.024	0.009	0.008	0.034	0.012	0.005

Figure 15. Average values and confidence intervals (confidence level of 95%) of the aggregated variables Accuracy of answers and Clarity of information by Kid version and profile of the participant.



4.3 Understandability questions for IBIPs

4.3.1 Impact of the KID version

As discussed in the previous sections, all the alternatives to the current KID version (*Iprobabilistic*, *Ipast2* and *Ipast3*) include probabilistic information of the likelihood of the unfavourable, moderate and favourable performance scenarios. When either of the alternative versions is applied, and the question is worded in the same way as the information in the KID (QT2.1: likelihood of obtaining a performance below that of the unfavourable scenario), around 26% of the consumers are capable to report the likelihood properly. However, if the wording is reversed (QT2.3: likelihood of obtaining a performance above that of the favourable scenario), correct answers reduce to around 23%.

The addition of the past performance information (with 2 or 3 elements) did not increase the percentages of correct answers. Moreover, the addition of the more complex graph including the three graph elements reduces the percentage of correct answer in a statistically significant way (*Iprobabilistic* vs *Ipast3*). Notice that although the information to identify the likelihoods is not included in the current KID version, only a quarter of participants considered that the provided information is not clear enough to answer QT2.1 and QT2.3.

Table 22. Distribution of answers to the understandability questions on the likelihood of the performance scenarios (% of participants and p-value).

Question	KID version	Correct*	Incorrect	Not clear
<i>QT2.1. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be below the unfavourable scenario?</i>				
QT2.1	Icurrent	10.87	66.91	22.22
	Iprobabilistic	26.99	61.39	11.62
	Ipast3	26.34	59.93	13.72
	Ipast2	26.17	60.37	13.46
Icurrent vs Iprobabilistic: 0.000 Icurrent vs Ipast3: 0.000 Icurrent vs Ipast2: 0.000 Iprobabilistic vs Ipast3: 0.226 Iprobabilistic vs Ipast2: 0.312 Ipast3 vs Ipast2: 0.966				
<i>QT2.3. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be above the favourable scenario?</i>				
QT2.3	Icurrent	11.11	68.25	20.63
	Iprobabilistic	22.46	65.27	12.28
	Ipast3	23.52	61.24	15.24
	Ipast2	23.01	63.53	13.46
Icurrent vs Iprobabilistic: 0.000 Icurrent vs Ipast3: 0.000 Icurrent vs Ipast2: 0.000 Iprobabilistic vs Ipast3: 0.030 Iprobabilistic vs Ipast2: 0.533 Ipast3 vs Ipast2: 0.317				

* Correct answer for the probabilistic and past performance KID versions.

The version of the KID does not affect the distributions of answer to QT2.4 (existing conditions) in a statistically significant way. No matter the version applied, around 45% of the consumers can properly answer the question on potential additional cost. Moreover, almost half of the consumers know if their return would be lower in case of anticipated exit.

Table 23. Distribution of answers to the understandability questions on the condition of anticipated exiting (% of participants and p-value).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.4. If you exit or end your investment before the end of the recommended holding period, which of the following statements do you think is true or false</i>				
<i>QT2.4a. You will have to pay additional costs or charges than if you had held the investment until the end of the recommended holding period</i>				
QT2.4a	Icurrent	45.30	24.18	30.53
	Iprobabilistic	45.50	24.43	30.07
	Ipast3	46.90	23.86	29.24
	Ipast2	45.47	24.04	30.49
Icurrent vs Iprobabilistic: 0.973 Icurrent vs Ipast3: 0.741 Icurrent vs Ipast2: 0.996 Iprobabilistic vs Ipast3: 0.747 Iprobabilistic vs Ipast2: 0.956 Ipast3 vs Ipast2: 0.700				
<i>QT2.4b. Your return may be lower than if you had held the investment until the end of the recommended holding period, due to the loss of a guarantee or other benefits</i>				
QT2.4b	Icurrent	47.99	22.34	29.67
	Iprobabilistic	47.14	24.36	28.50
	Ipast3	49.38	21.24	29.38
	Ipast2	48.01	21.70	30.29
Icurrent vs Iprobabilistic: 0.536 Icurrent vs Ipast3: 0.772 Icurrent vs Ipast2: 0.921 Iprobabilistic vs Ipast3: 0.127 Iprobabilistic vs Ipast2: 0.201 Ipast3 vs Ipast2: 0.758				

The implications of a bankruptcy of the manufacturer is properly understood by 40% of the participants, with independence of the KID. A third of the participants consider that the right answer is not clear from the information shown.

Table 24. Distribution of answers to the understandability questions on bankruptcy (% of participants and p-value).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.5. Imagine that the company goes bankrupt (they are not able to pay their investors). In this case, how much money, if any, can you expect to get back?</i>				
QT2.5	Icurrent	30.53	34.80	34.68
	Iprobabilistic	28.56	38.15	33.29
	Ipast3	28.21	35.45	36.34
	Ipast2	25.96	37.16	36.88
Icurrent vs Iprobabilistic: 0.270 Icurrent vs Ipast3: 0.487 Icurrent vs Ipast2: 0.065 Iprobabilistic vs Ipast3: 0.174 Iprobabilistic vs Ipast2: 0.092 Ipast3 vs Ipast2: 0.369				

Consumers were invited to answer specific questions the past performance versions with 2 and 3 elements. The responses to these questions show that participants used past information with caution and, therefore, the presentation of past and future information together does not seem to raise issues: more than three quarters of participants observing the KID version with information on past performance with three elements

(*Ipast3*) consider that is not possible to accurately predict the likelihood of future returns based on the past performance. However, when we asked more specifically about the connection between past and future, a significant proportion of participants indicated that they made a connection between projected past performance and the future performance. Specifically, 40% of these participants think that there is an above average chance of getting a future return above the minimum bonus of the last 10 years. In addition, more than a third of the respondents believe that the investment is more likely to have future return similar to that in 2018 than to that in 2013.

Table 25. Distribution of answers to the understandability questions on projection of past performance to the future (% of participants).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.9. Please indicate whether the following statements are true or false:</i>				
<i>QT2.9a. Since the minimum bonus has been above [value of minimum bonus] in number of years minimum bonus above previous value] out of the last 10 years there is an above average chance I will get a return above [value of minimum bonus] if I invest in this product</i>				
QT2.9a	<i>Ipast3</i>	26.83	40.48	32.69
<i>QT2.9b. The minimum bonus to be paid at the end of this year (i.e. for 2019) is more likely to be [minimum bonus level in 2018] (i.e. the minimum bonus in 2018) than [minimum bonus level in 2013] (i.e. the minimum bonus in 2013)</i>				
QT2.9b	<i>Ipast3</i>	22.55	38.28	39.17
<i>QT2.9c. Since the investment returns have been above [PROG: investment return values] for the last 10 years there is an above average chance that I will get a return of above [investment return values] if I invest in this product</i>				
QT2.9c	<i>Ipast3</i>	30.41	35.72	33.86
<i>QT2.9d. It is not possible to accurately predict the likelihood of future returns as the future can be different to the past</i>				
QT2.9d	<i>Ipast3</i>	62.97	11.10	25.93

When the KID version with information on past performance with two elements (*Ipast2*) is presented, we observe percentages of right answers similar to those with version *Ipast3*. For this version, 64% of the participants consider that is not possible to accurately predict the likelihood of future returns based on the past performance.

Table 26. Distribution of answers to the understandability questions on projection of past performance to the future (% of participants).

Question	KID version	Correct	Incorrect	Not clear
<i>QT2.10. Please indicate whether the following statements are true or false:</i>				
<i>QT2.10a. Since the minimum bonus has been above [value of minimum bonus] in [number of years minimum bonus above previous value] out of the last 10 years there is an above average chance I will get a return above [value of minimum bonus] if I invest in this product</i>				
QT2.10a	<i>Ipast2</i>	29.05	37.23	33.72
<i>QT2.10b. The minimum bonus to be paid at the end of this year (i.e. for 2019) is more likely to be [minimum bonus level in 2018] (i.e. the minimum bonus in 2018) than [minimum bonus level in 2013] (i.e. the minimum bonus in 2013)</i>				
QT2.10b	<i>Ipast2</i>	23.56	36.47	39.97
<i>QT2.10c. It is not possible to accurately predict the likelihood of future returns as the future can be different to the past</i>				
QT2.10c	<i>Ipast2</i>	63.80	11.54	24.66

Only around 6% of the consumers are capable to provide a proper forecast of the future value the investment after the recommended holding period, with the actual future value

of the investment laying with equal probability above or below your forecast. No KID version is capable to improve this percentage in a statistically significant way.

Table 27. Distribution of answers to the understandability questions on the moderate scenario (% of participants and p-value).

Question	KID version	Correct	Incorrect	Not clear
QT2.2. Imagine you invest 10.000 € in this product. According to the information provided, what is the most probable value of your investment at the end of the recommended holding period?				
QT2.2	Icurrent	6.84	93.16	–
	Iprobabilistic	6.11	93.89	–
	Ipast3	6.00	94.00	–
Icurrent vs Iprobabilistic: 0.489 Icurrent vs Ipast3: 0.430 Icurrent vs Ipast2: 0.378 Iprobabilistic vs Ipast3: 0.903 Iprobabilistic vs Ipast2: 0.819 Ipast3 vs Ipast2: 0.915				

4.3.2 Effects of gender, age, education and country

A first ANOVA model was estimated to measure the effects of KID versions, control variables and their interaction (Table 28). Since interaction effects between control variables and KID version are not statistically significant, a second ANOVA model was estimated after removing such interactions (Table 29).

Table 28. Analysis of variance for the aggregated variables.

	Df	Accuracy of answers			Clarity of information		
		Sum Sq	Mean Sq	Pr(>F)	Sum Sq	Mean Sq	Pr(>F)
KID	3	3.147	1.049	0.000	2.536	0.845	0.000
Gender	1	0.628	0.628	0.000	0.579	0.579	0.007
Age	1	0.528	0.528	0.001	4.678	4.678	0.000
Education	2	1.699	0.849	0.000	0.181	0.090	0.324
Country	4	1.940	0.485	0.000	2.454	0.614	0.000
KID - Gender	3	0.163	0.054	0.296	0.472	0.157	0.118
KID - Age	3	0.022	0.007	0.921	0.265	0.088	0.347
KID - Education	6	0.259	0.043	0.436	0.614	0.102	0.265
KID - Country	12	0.769	0.064	0.133	1.205	0.100	0.241
Residuals	5212	229.205	0.044	–	418.311	0.080	–

Recall that the sign of the estimated coefficient corresponding to a KID version indicates if such a version increases (positive sign) or reduces (negative sign) the value of the aggregated variable with respect to the current version of the KID. Therefore, Table 29 shows how the application of the KID versions including probabilistic information (*Iprobabilistic*, *Ipast2* and *Ipast3*) increases the value of *Accuracy of answers*. Although the addition of information on past performance (*Ipast2* and *Ipast3*) slightly increase the Accuracy of answers with respect to the *Iprobabilistic* version, they do not contribute to improve the *Clarity of information*.

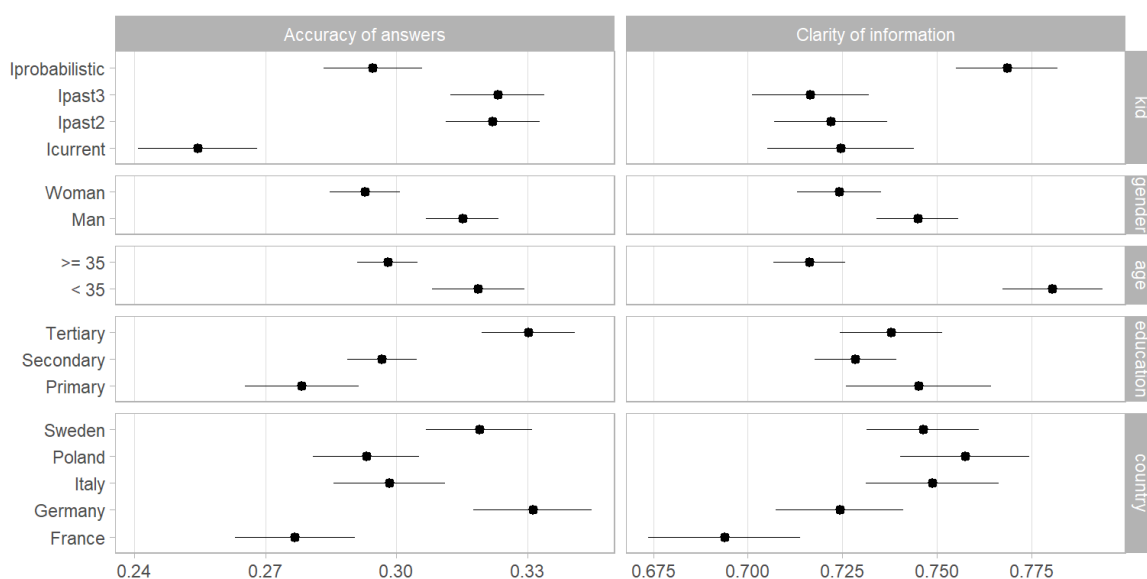
In addition, we can observe that women and older participants exhibit a lower level of accuracy in their responses. Answers by consumers with a higher level of studies also exhibit a higher level of accuracy, although the education level does not affect the *Clarity*

of information. Participants for France find the information unclear and respondents from Germany and Sweden have a higher level of accuracy. Figure 16 shows the average answers by KID version and control variables.

Table 29. Estimation of the ANOVA model for the aggregated variables.

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
(Intercept)	0.228	0.013	0.000	0.753	0.017	0.000
KID: Iprobabilistic	0.040	0.009	0.000	0.045	0.012	0.000
KID: Ipast3	0.068	0.009	0.000	-0.008	0.012	0.545
KID: Ipast2	0.066	0.009	0.000	-0.004	0.012	0.729
Gender: Woman	-0.022	0.006	0.000	-0.023	0.008	0.004
Age: >= 35	-0.021	0.006	0.001	-0.065	0.009	0.000
Education: Secondary	0.018	0.008	0.023	-0.015	0.011	0.160
Education: Tertiary	0.051	0.009	0.000	-0.007	0.012	0.579
Country: Germany	0.057	0.009	0.000	0.029	0.013	0.021
Country: Italy	0.028	0.009	0.003	0.055	0.012	0.000
Country: Poland	0.016	0.009	0.096	0.058	0.013	0.000
Country: Sweden	0.037	0.009	0.000	0.051	0.012	0.000

Figure 16. Average values and confidence intervals (confidence level of 95%) of the aggregated variables Accuracy of answers and Clarity of information by Kid version and profile of the participant.



5. Impact of the KID version on the selection and identification for products of the same type

Chapter 5 focuses on the analysis of the impact of the KID version on the selection and identification of retail investment products (Task 1). In this task, participants are invited to select a product out of a pair of products of the same type according to two different criteria: (i) a product to invest 10,000 Euros and (ii) a product with some specific feature (more unpredictable returns, higher expected returns or guaranteed conditions at the end of the recommended holding period).

For each question in Task 1, and when the products are of the same type, there is always an objectively optimal investment product (QT1.1) or a correct selection in terms of the feature of the product considered in each question (QT1.2 to QT1.4). We will refer to this optimal option as the *correct* answer to the question. The impact assessment of a KID version is measured by the percentages of correct answers when the information is presented using this version.

The chapter is structured in three sections, each of them presenting the results of the analysis of the selection of funds, structured products and IBIPs. Each section includes two subsections:

- *Impact of the KID version.* The distributions of product selection for each item in Task 1 and each version of the KID are presented in this subsection. Pearson's chi-squared test is used to determine whether there is a statistically significant difference (i.e., a difference which clearly is not just due to chance fluctuations) between the distributions of selections in each pair of KID versions. The tables also provide the p-value for such tests.
- *Gender, age, education and country effects.* This subsection presents the analysis of two aggregated variables summarising participant's product identification:
 - *Accuracy of answers:* proportion of items in Task 1 for which the consumer identified the correct financial product. This aggregated variable takes values between 0 (if all the identifications are wrong) and 1 (if all the identifications are properly done).
 - *Clarity of information:* proportion of items in Task 1 for which the consumer found the provided information clear enough to identify a financial product. This aggregated variable takes values between 0 (if the information is not clear for any of the questions) and 1 (if the information is clear for all questions). Note that clarity does not imply that consumers are able to properly identify the product, but that they were confident enough with the provided information to identify it.

To complete this aggregate analysis, Annex I presents the breakdown of all the product selection by the four profile variables.

Analysis of variance (ANOVA¹⁰) provides a straightforward method to quantify the effect of the alternative versions of the KID on these two aggregated variables. Following this approach, a series of ANOVA models have been estimated for *Accuracy of answers* and *Clarity of information* as dependent variables. This model included the following independent variables: the KID version; the control variables gender, age, education, country; and the interactions of the KID versions with the control variables.

¹⁰ Analysis of variance (ANOVA) is a collection of statistical models and their associated estimation procedures used to analyse the differences among group means in a sample. The ANOVA is based on the law of total variance, where the observed variance in a particular variable is partitioned into components attributable to different sources of variation. In its simplest form, ANOVA provides a statistical test of whether two or more population means are equal.

For each type of product, the second subsection presents:

- The result of the Analysis of Variance associated to each model. This information is used for the statistical test of which are the independent variables affecting to the *Accuracy of answers* and *Clarity of information*.
- The estimation of the ANOVA model, including interactions only in these cases in which they are significant. These models provided information on the direction of the effect of the independent variables, when statistically significant.
- A figure presenting the average values of *Accuracy of answers* and *Clarity of information*, as well as their confidence intervals at confidence level of 0.95, for the breakdowns in terms of the independent variables.

5.1 Selection and identification funds

5.1.1 Impact of the KID version

The percentage of participants making the right investment decision is high, with 72-75% of the participants choosing the optimal option. The investment decision is not affected by the KID version in a statistically significant way.

Table 30. Selection of the investment product (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.1. Imagine you have 10.000 EUR to invest in the following two products. To decide in which product to invest, you receive the information depicted above. Please read the information carefully and then decide if you invest in Product A or Product B.</i>				
QT1.1	Fcurrent	72.34	27.66	–
	Fprobabilistic	75.14	24.86	–
	Fpast	73.26	26.74	–
Fcurrent vs Fprobabilistic: 0.119 Fcurrent vs Fpast: 0.613 Fprobabilistic vs Fpast: 0.163				

However, it seems to be difficult for the participants to identify the product with more unpredictable returns. Specifically, only a quarter of them are able to identify such a product properly. The percentage of correct identifications is higher (although not statistically significant) with the current KID version.

Table 31. Identification of the product with more unpredictable returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.2. In your opinion which of these products has more unpredictable returns at the end of the recommended holding period? By "more unpredictable returns", we mean that the money you could earn by investing in this product is more uncertain.</i>				
QT1.2	Fcurrent	29.13	58.75	12.12
	Fprobabilistic	25.24	61.89	12.88
	Fpast	25.31	60.94	13.75
Fcurrent vs Fprobabilistic: 0.099 Fcurrent vs Fpast: 0.086 Fprobabilistic vs Fpast: 0.685				

More than half of participants are able to identify the product with higher expected returns at the end of the recommended holding period. The application of the KID version including both probabilistic and past performance information (F_{past}) reduces this percentage by around 3 percentage points with respect to the application of the current KID version ($F_{current}$).

Table 32. Identification of the product with higher expected returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.3. In your opinion, with which of these products could your expected return be higher at the end of the recommended holding period? By 'expected return', we mean the return one could achieve by investing in this product.</i>				
QT1.3	F _{current}	56.55	34.52	8.94
	F _{probabilistic}	56.13	31.51	12.36
	F _{past}	53.43	35.11	11.47
F _{current} vs F _{probabilistic} : 0.021 F _{current} vs F _{past} : 0.099 F _{probabilistic} vs F _{past} : 0.044				

Consumers participating in the test seem to have more problems to identify which are the guaranteed conditions of a product at the end of the holding period when the current KID version is applied (QT14.a). Specifically, only 24% of the consumer are able to identify the products with a positive return at the end of the recommended holding period with the current KID. This percentage increases to 30% when the alternative versions of the KID were used ($F_{probabilistic}$ and F_{past}). These differences are statistically significant. The percentage of right answers is the same for probabilistic and past performance. Similar results are obtained for question QT1.4b, where participants are asked to identify which products guarantees to get back the invested money at the end of the recommended holding period.

Table 33. Identification of the product guaranteeing specific conditions (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get</i>				
<i>QT1.4a. a positive return at the end of the recommended holding period (that is, an amount in addition to what you invested)</i>				
QT1.4a	F _{current}	23.75	67.56	8.69
	F _{probabilistic}	30.90	58.68	10.42
	F _{past}	30.64	59.90	9.47
F _{current} vs F _{probabilistic} : 0.000 F _{current} vs F _{past} : 0.000 F _{probabilistic} vs F _{past} : 0.533				
<i>QT1.4b. back the money you invested at the end of the recommended holding period</i>				
QT1.4b	F _{current}	23.99	65.85	10.16
	F _{probabilistic}	32.31	55.00	12.69
	F _{past}	29.83	58.56	11.61
F _{current} vs F _{probabilistic} : 0.000 F _{current} vs F _{past} : 0.001 F _{probabilistic} vs F _{past} : 0.065				

5.1.2 Effects of gender, age, education and country

A first ANOVA model was estimated to measure the effects of KID versions, control variables and their interactions (Table 34). We observe that there are no statistically significant interaction effects between control variables and KID version, therefore a second ANOVA model was estimated removing these interactions and calculating the estimators to study deeply the effects of KID version and control variables (Table 35).

Table 34. Analysis of variance for the aggregated variables

	Df	Accuracy of answers			Clarity of information		
		Sum Sq	Mean Sq	Pr(>F)	Sum Sq	Mean Sq	Pr(>F)
KID	2	0.52	0.258	0.011	0.26	0.132	0.078
Gender	1	0.27	0.270	0.030	0.34	0.336	0.011
Age	1	0.64	0.638	0.001	1.79	1.794	0.000
Education	2	6.67	3.336	0.000	0.31	0.157	0.048
Country	4	5.90	1.476	0.000	1.35	0.337	0.000
Understanding	1	25.04	25.036	0.000	45.33	45.332	0.000
KID - Gender	2	0.09	0.043	0.478	0.13	0.064	0.291
KID - Age	2	0.27	0.133	0.100	0.01	0.004	0.930
KID - Education	4	0.22	0.056	0.423	0.23	0.057	0.349
KID - Country	8	0.89	0.111	0.052	0.25	0.031	0.777
Residuals	5011	288.47	0.058	-	258.88	0.052	-

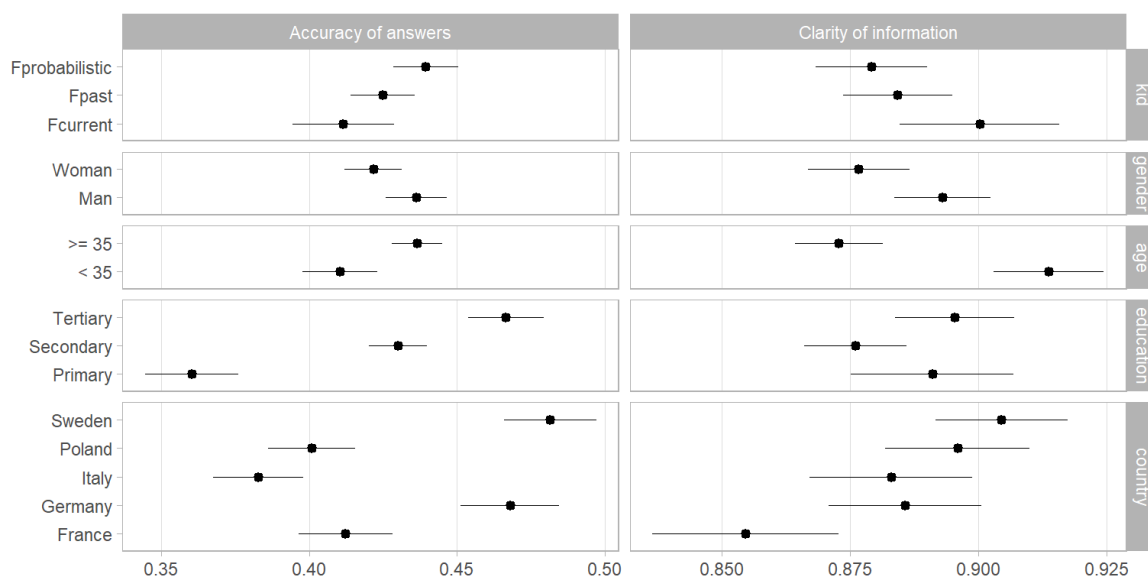
The estimation in Table 35 shows that there is no statistically significant impact of the KID on the aggregated variable *Accuracy of answers*. However, the inclusion of probabilistic or past performance information seems to reduce the value of the variable *Clarity of information*.

We can observe that older participants present a higher value in *Accuracy of response* and *Clarity of information* than younger participants. Consumers with a higher level of studies provide also more accurate answers, although the education level does not affect to the Clarity of information. Figure 17 shows the average answers by KID version and control variables.

Table 35. Estimation of the ANOVA model for the aggregated variables

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
(Intercept)	0.251	0.015	0.000	0.655	0.016	0.000
KID: Fprobabilistic	0.011	0.010	0.281	-0.035	0.009	0.000
KID: Fpast	-0.017	0.010	0.095	-0.023	0.009	0.013
Gender: Woman	-0.004	0.007	0.546	-0.011	0.006	0.096
Age: >= 35	0.038	0.008	0.000	-0.015	0.007	0.038
Education: Secondary	0.051	0.009	0.000	-0.013	0.009	0.143
Education: Tertiary	0.073	0.010	0.000	0.006	0.010	0.515
Country: Germany	0.037	0.011	0.001	0.017	0.010	0.100
Country: Italy	-0.024	0.011	0.027	0.012	0.010	0.249
Country: Poland	-0.011	0.011	0.296	0.027	0.010	0.008
Country: Sweden	0.052	0.011	0.000	0.036	0.010	0.000
Understanding	0.339	0.016	0.000	0.346	0.012	0.000

Figure 17. Average values and confidence intervals (confidence level of 95%) of the aggregated variables Accuracy of answers and Clarity of information by Kid version and profile of the participant



5.2 Selection and identification questions for structured products

5.2.1 Impact of the KID version

The percentage of participants selecting the optimal investment decision is high (68% - 71% of the consumers). The highest percentage of optimal investment is achieved with the KID version including probabilistic information. The inclusion of the illustrative scenarios in the KID (*Sillustrative*) decreases the share of optimal investment decision by 3 percentage points and the difference is statistically significant.

Table 36. Selection of the investment product (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
QT1.1. Imagine you have 10.000 EUR to invest in the following two products. To decide in which product to invest, you receive the information depicted above. Please read the information carefully and then decide if you invest in Product A or Product B.				
QT1.1	Scurrent	69.38	30.62	-
	Sprobabilistic	70.87	29.13	-
	Sillustrative	67.52	32.48	-
Scurrent vs Sprobabilistic: 0.430 Scurrent vs Sillustrative: 0.334 Sprobabilistic vs Sillustrative: 0.018				

However, it seems to be difficult for the participants to identify the product with unpredictable returns: around 50% of them are not able to do it, no matter the KID version.

Table 37. Identification of the product with more unpredictable returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.2. In your opinion which of these products has more unpredictable returns at the end of the recommended holding period? By "more unpredictable returns", we mean that the money you could earn by investing in this product is more uncertain.</i>				
QT1.2	Scurrent	37.65	49.75	12.59
	Sprobabilistic	35.11	53.27	11.63
	Sillustrative	37.07	50.71	12.22
Scurrent vs Sprobabilistic: 0.232 Scurrent vs Sillustrative: 0.893 Sprobabilistic vs Sillustrative: 0.247				

More than half of the participants (around 55%) are able to identify the product with higher expected return at the end of the recommended holding period. This result is not affected by the KID version used to present the information.

Table 38. Identification of the product with higher expected returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.3. In your opinion, with which of these products could your expected return be higher at the end of the recommended holding period? By 'expected return', we mean the return one could achieve by investing in this product.</i>				
QT1.3	Scurrent	55.80	33.95	10.25
	Sprobabilistic	54.65	34.00	11.35
	Sillustrative	55.87	34.52	9.61
Scurrent vs Sprobabilistic: 0.674 Scurrent vs Sillustrative: 0.862 Sprobabilistic vs Sillustrative: 0.179				

Consumers in the test seem to have problems to identify products in terms of their guaranteed conditions at the end of the holding period. For all the three KID versions, only one fourth of the participants (25% - 27%) can identify the products with a positive return at the end of the recommended holding period. For the question on which product guarantee to give back the invested money at the end of the recommended holding period (QT1.4b), the percentages of right answers are similar (24% - 29%), the better results induced by the inclusion of the illustrative scenarios in the KID.

Table 39. Identification of the product guaranteeing specific conditions (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get</i>				
<i>QT1.4a. a positive return at the end of the recommended holding period (that is, an amount in addition to what you invested)</i>				
QT1.4a	Scurrent	25.06	65.19	9.75
	Sprobabilistic	27.47	62.76	9.77
	Sillustrative	26.99	64.63	8.38
Scurrent vs Sprobabilistic: 0.403 Scurrent vs Sillustrative: 0.349 Sprobabilistic vs Sillustrative: 0.228				
<i>QT1.4b. back the money you invested at the end of the recommended holding period</i>				
QT1.4b	Scurrent	24.07	65.80	10.12
	Sprobabilistic	27.28	61.56	11.16
	Sillustrative	28.69	62.17	9.14
Scurrent vs Sprobabilistic: 0.102 Scurrent vs Sillustrative: 0.041 Sprobabilistic vs Sillustrative: 0.077				

5.2.2 Effects of gender, age, education and country

A first ANOVA analysis was performed to measure the effects of KID versions, control variables and their interaction (Table 40).

Table 40. Analysis of variance for the aggregated variables

	Df	Accuracy of answers			Clarity of information		
		Sum Sq	Mean Sq	Pr(>F)	Sum Sq	Mean Sq	Pr(>F)
KID	2	0.04	0.021	0.705	0.14	0.072	0.223
Gender	1	0.70	0.701	0.001	0.57	0.574	0.001
Age	1	0.04	0.044	0.389	2.24	2.238	0.000
Education	2	4.75	2.373	0.000	0.07	0.036	0.471
Country	4	5.35	1.337	0.000	2.18	0.546	0.000
Understanding	1	15.87	15.875	0.000	43.90	43.904	0.000
KID - Gender	2	0.30	0.152	0.077	0.09	0.043	0.404
KID - Age	2	0.27	0.134	0.106	0.00	0.002	0.949
KID - Education	4	0.85	0.212	0.007	0.14	0.035	0.573
KID - Country	8	0.95	0.119	0.043	0.38	0.047	0.443
Residuals	5053	300.29	0.059	-	242.17	0.048	-

A second ANOVA model with no interactions¹¹ was estimated to quantify the effects of the KID version and control variables (Table 41). This model shows that the probabilistic approach KID does not affect any of the two aggregated variables. In addition, we can observe that men and older participants present a higher value in *Accuracy of answers*

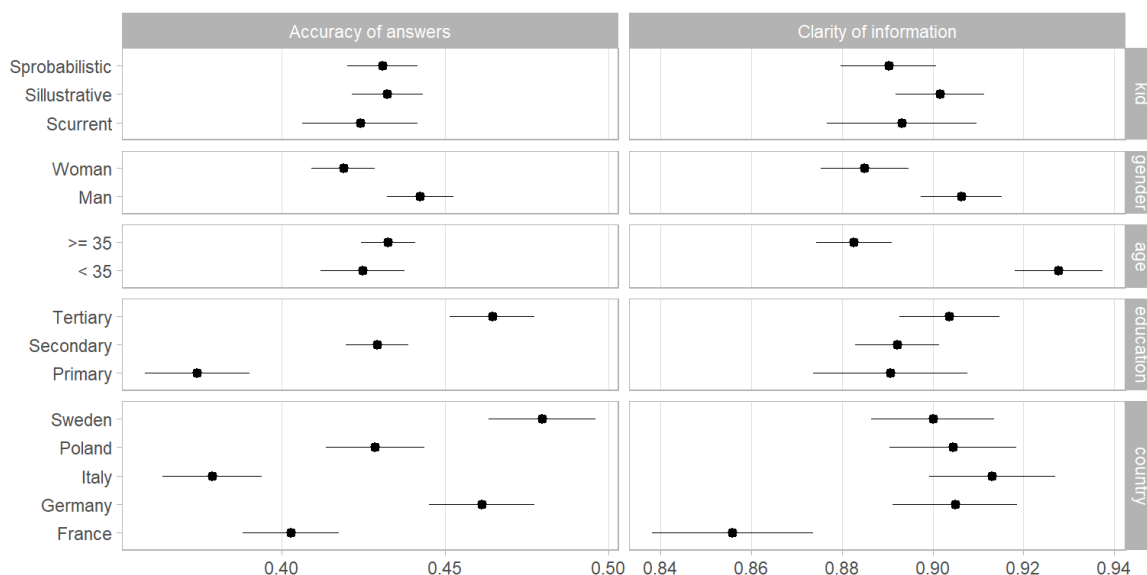
¹¹ Note that, in this case, the ANOVA analysis supports the existence of a statically significant interaction of the KID version and education and country. To check this, a new complete ANOVA model including these interactions was estimated. However, all levels of the interactions in the complete model were not statistically significant and have been removed from the final model discussed here.

and *Clarity of information* than women and younger participants. Consumers with higher level of studies rank better in *Accuracy of answers*. Participants from France find the information unclear and respondents from Germany, Sweden and Poland have a higher level of accuracy. Figure 18, shows the average answers by KID version and control variables.

Table 41. Estimation of the ANOVA model for the aggregated variables

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
(Intercept)	0.280	0.016	0.000	0.629	0.016	0.000
KID: Sprobabilistic	0.004	0.010	0.695	-0.014	0.009	0.121
KID: Sillustrative	0.009	0.010	0.395	-0.001	0.009	0.938
Gender: Woman	-0.015	0.007	0.030	-0.016	0.006	0.011
Age: >= 35	0.024	0.008	0.002	-0.020	0.007	0.005
Education: Secondary	0.035	0.010	0.000	0.006	0.009	0.459
Education: Tertiary	0.065	0.011	0.000	0.020	0.009	0.032
Country: Germany	0.047	0.011	0.000	0.037	0.010	0.000
Country: Italy	-0.020	0.011	0.076	0.034	0.010	0.001
Country: Poland	0.028	0.011	0.010	0.030	0.010	0.002
Country: Sweden	0.068	0.011	0.000	0.032	0.010	0.001
Understanding	0.317	0.019	0.000	0.349	0.012	0.000

Figure 18. Average values and confidence intervals (confidence level of 95%) of the aggregated variables Accuracy of answers and Clarity of information by Kid version and profile of the participant



5.3 Selection and identification questions for n IBIPs

5.3.1 Impact of the KID version

Most consumers participating in the test (70% - 75%) selected the optimal investment product (QT1.1). Although the differences are not in general statistically significant, the percentage of optimal selections is higher for the probabilistic KID version (*Iprobabilistic*). On the other hand, the inclusion of the more complex information on past performance (*Ipast3*) decreases the rate of optimal investment by 5 percentage points with respect to the probabilistic version of the KID (*Iprobabilistic*). This results suggest that the past performance version with 2 elements is more helpful to make investment decisions than the version with 3 elements.

Table 42. Selection of the investment product (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.1. Imagine you have 10.000 EUR to invest in the following two products. To decide in which product to invest, you receive the information depicted above. Please read the information carefully and then decide if you invest in Product A or Product B.</i>				
QT1.1	Icurrent	71.31	28.69	–
	Iprobabilistic	74.79	25.21	–
	Ipast3	70.28	29.72	–
	Ipast2	72.25	27.75	–
Icurrent vs Iprobabilistic: 0.069 Icurrent vs Ipast3: 0.605 Icurrent vs Ipast2: 0.630 Iprobabilistic vs Ipast3: 0.006 Iprobabilistic vs Ipast2: 0.117 Ipast3 vs Ipast2: 0.239				

It was difficult for the participants to identify a product in terms of its unpredictability of the returns: only a third of participants were able to identify the product whose returns are more unpredictable.

Table 43. Identification of the product with more unpredictable returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.2. In your opinion which of these products has more unpredictable returns at the end of the recommended holding period? By "more unpredictable returns", we mean that the money you could earn by investing in this product is more uncertain.</i>				
QT1.2	Icurrent	30.53	55.56	13.92
	Iprobabilistic	34.80	52.33	12.87
	Ipast3	35.59	52.21	12.21
	Ipast2	33.31	54.53	12.16
Icurrent vs Iprobabilistic: 0.111 Icurrent vs Ipast3: 0.044 Icurrent vs Ipast2: 0.268 Iprobabilistic vs Ipast3: 0.822 Iprobabilistic vs Ipast2: 0.481 Ipast3 vs Ipast2: 0.400				

Almost half of participants (44%-51%) properly identified the product with higher expected return (QT1.3). The application of the KID version with the probabilistic approach improves correct identification in a statistically significant way.

Table 44. Identification of the product with higher expected returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.3. In your opinion, with which of these products could your expected return be higher at the end of the recommended holding period? By 'expected return', we mean the return one could achieve by investing in this product.</i>				
QT1.3	Icurrent	44.44	45.79	9.77
	Iprobabilistic	51.02	40.18	8.80
	Ipast3	45.72	43.10	11.17
	Ipast2	48.83	40.45	10.71
Icurrent vs Iprobabilistic: 0.010 Icurrent vs Ipast3: 0.366 Icurrent vs Ipast2: 0.047 Iprobabilistic vs Ipast3: 0.007 Iprobabilistic vs Ipast2: 0.171 Ipast3 vs Ipast2: 0.241				

Identifying products according to their guaranteed conditions seems to be challenging for the participants, especially with the current version of the KID (*Icurrent*). In this case, only a 23% of the consumers properly identified the products with a positive return. This percentage increases until 28% when the probabilistic and the simpler instance of past performance information are included (KID version *Ipast2*). The level of correct identifications regarding the guarantee to get the invested money back are higher (36% - 42%).

Table 45. Identification of the product guaranteeing specific conditions (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get</i>				
<i>QT1.4a. a positive return at the end of the recommended holding period (that is, an amount in addition to what you invested)</i>				
QT1.4a	Icurrent	22.71	69.35	7.94
	Iprobabilistic	28.23	63.76	8.01
	Ipast3	29.86	60.69	9.45
	Ipast2	32.21	59.20	8.59
Icurrent vs Iprobabilistic: 0.013 Icurrent vs Ipast3: 0.000 Icurrent vs Ipast2: 0.000 Iprobabilistic vs Ipast3: 0.168 Iprobabilistic vs Ipast2: 0.035 Ipast3 vs Ipast2: 0.340				
<i>QT1.4b. back the money you invested at the end of the recommended holding period</i>				
QT1.4b	Icurrent	42.25	49.82	7.94
	Iprobabilistic	40.45	50.30	9.26
	Ipast3	35.93	53.72	10.34
	Ipast2	37.09	52.27	10.65
Icurrent vs Iprobabilistic: 0.472 Icurrent vs Ipast3: 0.006 Icurrent vs Ipast2: 0.017 Iprobabilistic vs Ipast3: 0.038 Iprobabilistic vs Ipast2: 0.124 Ipast3 vs Ipast2: 0.733				

5.3.2 Effects of gender, age, education and country

A first ANOVA model has been estimated to measure the effects of KID versions, control variables and their interactions (Table 46) on the aggregated variables *Accuracy of answers* and *Clarity of information* defined at the beginning of Chapter 5. We observe that there are no interaction effects between control variables and KID version, therefore a second ANOVA model has been estimated after removing these interactions.

Table 46. Analysis of variance for the aggregated variables

	Df	Accuracy of answers			Clarity of information		
		Sum Sq	Mean Sq	Pr(>F)	Sum Sq	Mean Sq	Pr(>F)
KID	3	0.84	0.280	0.003	0.10	0.035	0.535
Gender	1	0.25	0.252	0.042	0.57	0.573	0.001
Age	1	0.36	0.358	0.015	1.75	1.752	0.000
Education	2	2.57	1.283	0.000	0.06	0.030	0.536
Country	4	2.56	0.639	0.000	2.45	0.613	0.000
Understanding	1	15.89	15.890	0.000	47.37	47.369	0.000
KID - Gender	3	0.12	0.040	0.580	0.27	0.090	0.131
KID - Age	3	0.19	0.063	0.380	0.08	0.026	0.647
KID - Education	6	0.45	0.075	0.287	0.23	0.039	0.565
KID - Country	12	1.05	0.087	0.145	0.36	0.030	0.824
Residuals	5211	317.95	0.061	-	250.02	0.048	-

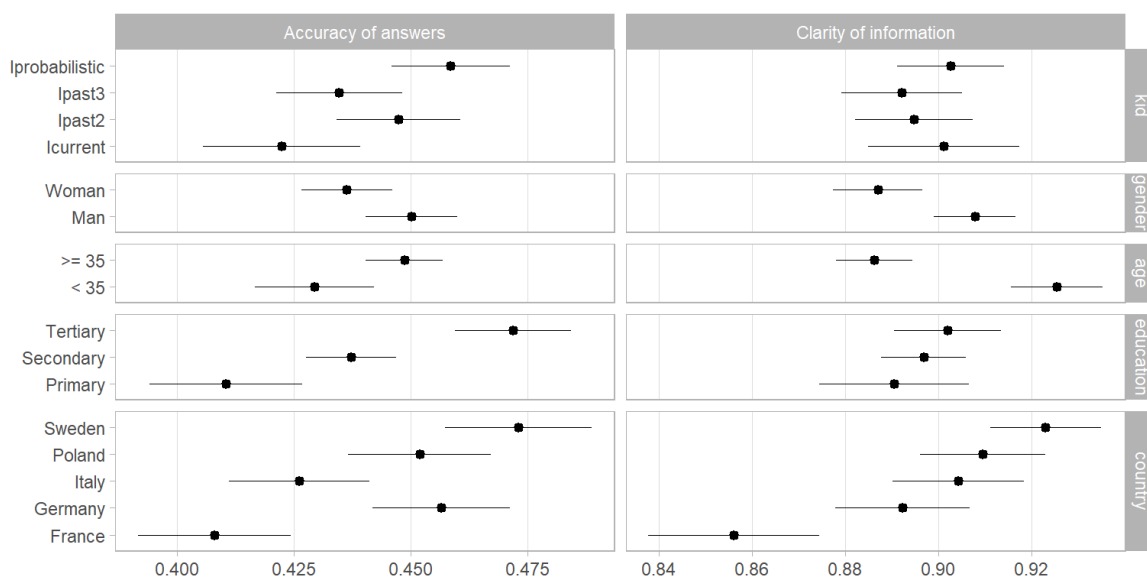
Table 47 presents the estimated coefficients of the models assessing the impact of the alternative KID versions on both aggregated variables. Note that the sign of the coefficients indicates if a given alternative version of the KID improves (positive sign) or makes worse (negative sign) *Accuracy of answers* and *Clarity of information*. Table 47 shows that there is only one statistically significant impact of the KID versions on the aggregated variables. Such an impact is given by the significant increment of the value of the *Accuracy of the responses* when the probabilistic approach KID version (*Iprobabilistic*) is applied.

The values of *Accuracy of answers* and *Clarity of information* are lower for younger participants. Moreover, women rank lower in *Clarity of information*. Figure 19, shows the average answers by KID version and control variables.

Table 47. Estimation of the ANOVA model for the aggregated variables

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
(Intercept)	0.285	0.016	0.000	0.641	0.016	0.000
KID: Iprobabilistic	0.026	0.011	0.017	-0.013	0.010	0.182
KID: Ipast3	-0.007	0.011	0.530	-0.006	0.010	0.514
KID: Ipast2	0.007	0.011	0.519	-0.006	0.010	0.505
Gender: Woman	-0.005	0.007	0.464	-0.013	0.006	0.029
Age: >= 35	0.029	0.008	0.000	-0.018	0.007	0.009
Education: Secondary	0.017	0.010	0.079	0.011	0.008	0.175
Education: Tertiary	0.045	0.010	0.000	0.013	0.009	0.172
Country: Germany	0.037	0.011	0.001	0.025	0.010	0.009
Country: Italy	0.018	0.011	0.093	0.032	0.010	0.001
Country: Poland	0.045	0.011	0.000	0.029	0.010	0.003
Country: Sweden	0.052	0.011	0.000	0.047	0.010	0.000
Understanding	0.263	0.016	0.000	0.335	0.011	0.000

Figure 19. Average values and confidence intervals (confidence level of 95%) of the aggregated variables Accuracy of answers and Clarity of information by Kid version and profile of the participant



6. Impact of the KID version on the selection and identification for products of different types

This chapter analyses the impact of the version of the KIDs in the selection of investment products of two different types (Task 1). This analysis is more complex than that presented in Chapter 5, since participants need to compare two products of different types, and both products can be presented using different KID versions. Therefore, the number of combinations of product type and KID versions is larger than in the previous chapter. For the sake of readability, tables in Chapter 6 present only the p-values for those test that are statistically significant ($p\text{-value} < 0.05$). Moreover, no ANOVA model has been produced, since the number of variables and interactions is too large in the case of products of different types.

The analysis of the investment question QT1.1 (*Imagine you have 10.000 EUR to invest in the following two products. To decide in which product to invest, you receive the information depicted above. Please read the information carefully and then decide if you invest in Product A or Product B*) presented in Chapter 6 deserves a clarification. Note that there is no optimal investment decision when the types of the products to be compared are different. In this case, both products may have very different financial features such as volatility, loss probability and skewness. Therefore, the best investment decision of each participant will depend on the matching between the features of products and participant's risk attitude, level of loss aversion and skewness preferences. For this reason, the impact of the KID versions presented in this chapter focuses in the variations of the accuracy of this matching in terms of the versions of the KIDs applied to present each product.

In the consumer test, participant's preferences are measured through the following three questions:

- **RISK ATTITUDE:** How do you see your willingness to take risks in financial matters?

Not at all willing to take risks 1 2 3 4 5 6 7 Very willing to take risk

- **LOSS AVERSION:** Do you agree with the following statement: "I'm very afraid of losses?"

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

- **SKEWNESS PREFERENCES:** Suppose you had 10.000 € in total to invest with. You can choose to invest it in one of the following lotteries. Which lottery do you choose: a), b) or c)?

a) With a chance of 1/2 (50%) the lottery will "succeed" and you will earn an additional 1.300 €, for a total of 11.300 €.

With a chance of 1/2 (50%) the lottery will "fail" and you will lose 700 €, for a total of 9.300 €.

b) With a chance of 4/5 (80%) the lottery will "succeed" and you will earn an additional 800 €, for a total of 10.800 €.

With a chance of 1/5 (20%) the lottery will "fail" and you will lose 1.700 €, for a total of 8.300 €.

- c) With a chance of 1/5 (20%) the lottery will "succeed" and you will earn an additional 2.300 €, for a total of 12.300 €.
With a chance of 4/5 (80%) the lottery will "fail" and you will lose 200 €, for a total of 9.800 €.

According to their answers to these three questions, subjects can be classified as:

- Risk averse (risk attitude 1-3), risk neutral (risk attitude 4) o risk seeking (risk attitude 5-7)
- Low loss aversion (loss aversion 1-3), medium loss aversion (loss aversion 4 4) o high loss aversion (loss aversion 5-7)
- Skewness averse (option b in the skewness preference question), skewness neutral (option a in the skewness preference question) o skewness seeking (option c in the skewness preference question)

The impact of the different KID versions can then be assessed by comparing the percentage of subjects choosing the product with the higher volatility, loss probability and skewness in the segments of subjects defined by their risk, losses and skewness preferences. The analysis presented in Chapter 6 follows this approach. However, it must be highlighted that the results of this analysis should be considered with caution, since the measurement of the risk attitude, loss aversion and skewness preferences are based in several self-assessment questions and therefore cannot be considered to be extremely robust.

Chapter 6 is structured in three sections, presenting the results of the comparison of each two types of product that can be compared: (i) funds and structures products, (ii) funds and IBIPs and (iii) IBIPs and structured products.

6.1 Selection and identification questions for funds and structured products

6.1.1 Investment decision

This subsection assesses the matching level between the features of the products and the preferences of the participants. To this end, the following tables present the percentage of subjects choosing the product with the higher volatility, loss probability and skewness in terms of the consumer's risk attitude, level of loss aversion and skewness preferences, respectively. An additional column shows the differences between these percentage.

Table 48 shows that the inclusion of the probabilistic information and the elimination of the information for intermediate periods (KIDs versions *Fprobabilistic* and *Sprobabilistic*) reduces the understanding of the volatility. Specifically, the application of these versions inverts the proper relation between volatility and risk attitude. With these KID versions, the percentage of risk averse subjects choosing the product with higher volatility is 10 percentage points higher than that in the risk seeking subjects. However, the addition of information on the past performance of the fund or the illustrative scenarios seem to solve this difficulty. It must be highlighted that 57% - 66% of the risk averse subjects select the product with the higher volatility.

Table 48. Percentage of participants selecting the product with higher volatility by risk attitude

KIDs	(1) Risk averse	(2) Risk neutral	(3) Risk seeker	(3) – (1)
Fcurrent & Scurrent	63.18	64.00	67.78	4.60
Fprobabilistic & Sprobabilistic	66.45	56.18	55.67	-10.78
Fpast & Sillustrative	57.48	62.79	66.93	9.45
Fprobabilistic & Sillustrative	65.61	55.95	53.45	-12.16
Fpast & Sprobabilistic	61.32	56.16	63.78	2.46

However, the KID version with a probabilistic approach helps the participants to make decisions that are more according to their loss aversion than other KID versions. When the KID versions *Fprobabilistic* and *Sprobabilistic* are applied, the percentage of subject choosing the product with higher loss probability is 14 percentage points lower among subjects with high loss aversion than among subjects with low loss aversion. Such a high level of coherence between product loss probability and loss aversion is not achieved with any other KID versions.

Table 49. Percentage of participants selecting the product with higher loss probability by loss aversion

KIDs	(1) Low loss aversion	(2) Medium loss aversion	(3) High loss aversion	(3) – (1)
Fcurrent & Scurrent	39.39	44.83	34.29	-5.10
Fprobabilistic & Sprobabilistic	40.74	31.34	26.67	-14.07
Fpast & Sillustrative	34.07	33.71	31.80	-2.27
Fprobabilistic & Sillustrative	37.10	33.73	32.90	-4.20
Fpast & Sprobabilistic	30.08	43.08	33.64	3.56

Finally, the current version of the KID facilitates making the investment decision coherently with consumer's skewness preferences. Specifically, 67% of skewness seekers versus the 56% of skewness averse participants select the product with the higher skewness when the current versions are applied.

Table 50. Percentage of participants selecting the product with higher skewness by skewness preference

KIDs	(1) Skewness averse	(2) Skewness Neutral	(3) Skewness seeker	(3)- (1)
Fcurrent & Scurrent	55.56	66.99	66.91	11.35
Fprobabilistic & Sprobabilistic	55.84	57.26	59.88	4.04
Fpast & Sillustrative	59.42	60.29	62.80	3.38
Fprobabilistic & Sillustrative	61.11	54.61	58.54	-2.57
Fpast & Sprobabilistic	57.84	60.45	59.44	1.60

6.1.2 Product identification

It is possible to determine the correct identification of a product for questions QT1.2 to QT1.4, even when products of two different types are compared. Therefore, the analysis of these question presented in Chapter 6 is based in the impact of the KID versions on the percentage of right answers to each of these questions.

When comparing funds and structured products, 39% - 45% of the participants identified the product with more unpredictable results. The percentage of correct

identifications is higher when the information of both products is presented using the same version of the KID (43% - 45%), than when the versions are different (39% - 42%). Specifically, the most accurate answers are obtained when both products are presented using the current version of the KID.

Table 51. Identification of the product with more unpredictable returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.2. In your opinion which of these products has more unpredictable returns at the end of the recommended holding period? By "more unpredictable returns", we mean that the money you could earn by investing in this product is more uncertain.</i>				
QT1.2	Fcurrent & Scurrent	44.80	48.02	7.18
	Fprobabilistic & Sprobabilistic	43.41	45.84	10.75
	Fpast & Sillustrative	41.62	47.73	10.65
	Fprobabilistic & Sillustrative	38.52	52.92	8.56
	Fpast & Sprobabilistic	39.19	48.84	11.97
<i>P-values lower than 0.05: Fcurrent & Scurrent vs Fpast & Sprobabilistic: 0.030</i>				

The results obtained for the identification of the product with higher expected returns (QT1.3) are similar. The percentages of correct identifications are also higher when both products are presented with the same KID version, especially the current version (*Fcurrent* and *Scurrent*).

Table 52. Identification of the product with higher expected returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.3. In your opinion, with which of these products could your expected return be higher at the end of the recommended holding period? By 'expected return', we mean the return one could achieve by investing in this product.</i>				
QT1.3	Fcurrent & Scurrent	47.52	44.06	8.42
	Fprobabilistic & Sprobabilistic	46.86	41.78	11.36
	Fpast & Sillustrative	42.21	46.35	11.44
	Fprobabilistic & Sillustrative	44.16	44.94	10.89
	Fpast & Sprobabilistic	43.44	41.31	15.25
<i>P-values lower than 0.05: Fcurrent & Scurrent vs Fpast & Sprobabilistic: 0.007</i>				

The percentages of correct selections are smaller when consumers are asked to identify a product in terms of its guaranteed conditions. Less than 30% of the participants can identify the product guaranteeing a positive return or getting back all the invested money at the end of the recommended holding period. There are not statistically significant differences in the distribution of correct identifications in terms of the version of the KID.

Table 53. Identification of the product guaranteeing specific conditions (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get</i>				
<i>QT1.4a. a positive return at the end of the recommended holding period (that is, an amount in addition to what you invested)</i>				
QT1.4a	Fcurrent & Scurrent	23.51	68.32	8.17
	Fprobabilistic & Sprobabilistic	28.60	61.66	9.74
	Fpast & Sillustrative	30.37	61.14	8.48
	Fprobabilistic & Sillustrative	26.26	64.40	9.34
	Fpast & Sprobabilistic	27.41	61.58	11.00
<i>P-values lower than 0.05: None</i>				
<i>QT1.4b. back the money you invested at the end of the recommended holding period</i>				
QT1.4b	Fcurrent & Scurrent	23.27	68.81	7.92
	Fprobabilistic & Sprobabilistic	29.82	59.63	10.55
	Fpast & Sillustrative	28.99	60.75	10.26
	Fprobabilistic & Sillustrative	26.46	62.26	11.28
	Fpast & Sprobabilistic	24.32	63.71	11.97
<i>P-values lower than 0.05: None</i>				

6.2 Selection and identification questions for funds and IBIPs

6.2.1 Investment decision

The following tables present the percentage of subjects selecting the product with the higher volatility, loss probability and skewness in terms of the risk attitude, loss aversion and skewness preferences of the participants, respectively.

Table 54 shows that 31%-49% of the subjects that are risk averse selected the product with higher volatility. This percentage is maximum when both products are presented using the current version of the KID.

Table 54. Percentage of participants selecting the product with higher volatility by risk attitude

KIDs	(1) Risk averse	(2) Risk neutral	(3) Risk seeker	(3) – (1)
Fcurrent & Icurrent	48.50	55.42	48.44	-0.06
Fprobabilistic & Iprobabilistic	40.42	35.44	41.00	0.58
Fpast & Ipast3	30.77	26.32	40.48	9.71
Fpast & Ipast2	37.55	47.37	44.19	6.64
Fprobabilistic & Ipast3	32.24	35.29	45.78	13.54
Fprobabilistic & Ipast2	35.38	40.79	24.14	-11.24
Fpast & Iprobabilistic	39.81	41.94	37.18	-2.63

The lowest level of coherence between the loss probability of the product and the loss aversion of the participants is achieved when the fund and the IBIP are presented using the current version of the KID. In this case, more than half (55%) of the participants with high loss aversion select the product with higher loss probability, this percentage being 17 percentage points higher than in the segment of participants with low loss aversion.

Table 55. Percentage of participants selecting the product with higher loss probability by loss aversion

KIDs	(1) Low loss aversion	(2) Medium loss aversion	(3) High loss aversion	(3) - (1)
Fcurrent & Icurrent	37.50	43.48	54.78	17.28
Fprobabilistic & Iprobabilistic	35.21	43.84	39.64	4.43
Fpast & Ipast3	35.38	41.27	28.96	-6.42
Fpast & Ipast2	41.67	44.90	39.44	-2.23
Fprobabilistic & Ipast3	25.42	43.40	36.86	11.44
Fprobabilistic & Ipast2	38.24	38.89	32.59	-5.65
Fpast & Iprobabilistic	45.31	46.81	36.73	-8.58

Table 56 shows no relation between the skewness of the product and the skewness preferences of the participants obtained from their answers to the financial questionnaire.

Table 56. Percentage of participants selecting the product with higher skewness by skewness preference

KIDs	(1) Skewness averse	(2) Skewness neutral	(3) Skewness seeker	(3)- (1)
Fcurrent & Icurrent	59.28	59.65	56.06	-3.22
Fprobabilistic & Iprobabilistic	59.88	63.72	59.70	-0.18
Fpast & Ipast3	57.34	54.35	59.65	2.31
Fpast & Ipast2	52.73	53.19	46.02	-6.71
Fprobabilistic & Ipast3	51.45	49.49	51.35	-0.10
Fprobabilistic & Ipast2	50.00	60.44	52.10	2.10
Fpast & Iprobabilistic	58.57	56.04	50.40	-8.17

6.2.2 Product identification

The probabilistic versions of the KID (*Fprobabilistic* and *Iprobabilistic*) achieve the highest percentage of correct identifications for QT2.1 (49.2% of the participants), 10 percentage points higher than when the current version of the KID is applied to the fund and the IBIP, the difference being statistically significant.

Table 57. Identification of the product with more unpredictable returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
QT1.2. In your opinion which of these products has more unpredictable returns at the end of the recommended holding period? By "more unpredictable returns", we mean that the money you could earn by investing in this product is more uncertain.				
QT1.2	Fcurrent & Icurrent	40.68	50.12	9.20
	Fprobabilistic & Iprobabilistic	49.16	40.57	10.26
	Fpast & Ipast3	46.42	46.70	6.88
	Fpast & Ipast2	47.04	44.09	8.87
	Fprobabilistic & Ipast3	48.28	41.38	10.34
	Fprobabilistic & Ipast2	46.53	44.51	8.96
	Fpast & Iprobabilistic	48.03	42.98	8.99
P-values lower than 0.05: Fcurrent & Icurrent vs Fprobabilistic & Iprobabilistic: 0.021				

The product with higher expected return at the end of the recommended holding period has been properly identified by 33% - 42% of the participants. The highest shares of correct identifications are achieved when the version of the KID for the IBIP includes information on past performance with three elements (*Ipast3*). In this case, the differences are statistically significant.

Table 58. Identification of the product with higher expected returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.3. In your opinion, with which of these products could your expected return be higher at the end of the recommended holding period? By 'expected return', we mean the return one could achieve by investing in this product.</i>				
QT1.3	Fcurrent & Icurrent	33.66	56.66	9.69
	Fprobabilistic & Iprobabilistic	33.65	54.65	11.69
	Fpast & Ipast3	41.55	48.71	9.74
	Fpast & Ipast2	34.14	52.15	13.71
	Fprobabilistic & Ipast3	39.08	48.56	12.36
	Fprobabilistic & Ipast2	37.57	50.00	12.43
	Fpast & Iprobabilistic	32.58	58.15	9.27
<i>P-values lower than 0.05: Fpast & Ipast3 vs Fpast & Iprobabilistic: 0.033 Fpast & Iprobabilistic vs Fprobabilistic & Ipast3: 0.036</i>				

Consumers seem to face some difficulties to identify the product in question QT1.4, referring to the guaranteed conditions at the end of the recommended holding period. Around 20% of the consumers can identify the products with positive return, no matter the KID versions. Although the differences are not statistically significant, the percentage of correct identifications to QT14.b varies with the version of the KID from the 22% of the current version to the 33% of the versions including information on past performance (*Fpast* and *Ipast3*).

Table 59. Identification of the product guaranteeing specific conditions (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get</i>				
<i>QT1.4a. a positive return at the end of the recommended holding period (that is, an amount in addition to what you invested)</i>				
QT1.4a	Fcurrent & Icurrent	19.13	72.88	7.99
	Fprobabilistic & Iprobabilistic	22.91	68.02	9.07
	Fpast & Ipast3	20.06	72.78	7.16
	Fpast & Ipast2	20.70	70.16	9.14
	Fprobabilistic & Ipast3	20.69	69.25	10.06
	Fprobabilistic & Ipast2	21.68	67.05	11.27
	Fpast & Iprobabilistic	22.75	68.82	8.43
<i>P-values lower than 0.05: None</i>				
<i>QT1.4b. back the money you invested at the end of the recommended holding period</i>				
QT1.4b	Fcurrent & Icurrent	22.28	69.25	8.47
	Fprobabilistic & Iprobabilistic	28.64	61.81	9.55
	Fpast & Ipast3	32.95	59.03	8.02
	Fpast & Ipast2	27.96	61.83	10.22
	Fprobabilistic & Ipast3	30.17	60.06	9.77
	Fprobabilistic & Ipast2	25.72	61.27	13.01
	Fpast & Iprobabilistic	30.34	60.67	8.99
<i>P-values lower than 0.05: None</i>				

6.3 Selection and identification questions for structured products and IBIPs

6.3.1 Investment decision

The following tables present the percentage of subjects selecting the product with the higher volatility, loss probability and skewness in terms of the risk attitude, loss aversion and skewness preferences of the participants, respectively.

As shown in Table 60, more participants choose the product with higher volatility when the current KID version is used, no matter their risk attitude. The inclusion of past information with the three elements (*Ipast3*) seems to help participants to discriminate volatility levels. Specifically, with this KID version, the percentage of risk averse participants selecting the most volatile product are the lowest (41% and 44%). Moreover, this percentage increases with the risk appetite of the respondents.

Table 60. Percentage of participants selecting the product with higher volatility by risk attitude

KIDs	(1) Risk averse	(2) Risk neutral	(3) Risk seeker	(3) – (1)
Scurrent & Icurrent	56.20	49.30	57.14	0.94
Sprobabilistic & Iprobabilistic	45.38	47.69	43.53	-1.85
Sillustrative & Ipast3	44.07	57.14	58.57	14.50
Sillustrative & Ipast2	49.56	51.67	49.28	-0.28
Sprobabilistic & Ipast3	41.32	41.67	48.00	6.68
Sprobabilistic & Ipast2	46.32	50.70	46.91	0.59
Sillustrative & Iprobabilistic	49.12	57.14	56.34	7.22

As in the comparison of funds and IBIPs, the current version of the KIDs presents the worst results for structured products and IBIPs. When both products are presented using the current version of the KID, the level of coherence between the loss probability of the product and the loss aversion of the participants is lower than for the other versions. With the current KID, more than half (57%) of the participants having high loss aversion select the product with the higher loss probability. Moreover, the current KID version inverts the proper relation between loss probability and loss aversion (current KID version presents the only positive value in the last column of Table 61).

Table 61. Percentage of participants selecting the product with higher loss probability by loss aversion

KIDs	(1) Low loss aversion	(2) Medium loss aversion	(3) High loss aversion	(3) – (1)
Scurrent & Icurrent	56.41	42.55	56.94	0.53
Sprobabilistic & Iprobabilistic	48.53	46.77	44.19	-4.34
Sillustrative & Ipast3	50.88	55.36	47.53	-3.35
Sillustrative & Ipast2	54.69	53.57	47.66	-7.03
Sprobabilistic & Ipast3	44.74	41.67	42.29	-2.45
Sprobabilistic & Ipast2	53.12	51.56	44.71	-8.41
Sillustrative & Iprobabilistic	63.08	48.89	49.60	-13.48

Finally, the versions of the KIDs with a probabilistic approach (*Sprobabilistic* and *Iprobabilistic*) seem to be the more effective in the skewness analysis. With these versions, the percentage of skewness averse participants choosing the product with the higher skewness is the lowest. Moreover, the selection of the product with the higher skewness is more common among skewness neutral and skewness seeking participants.

Table 62. Percentage of participants selecting the product with higher skewness by skewness preference

KIDs	(1) Skewness averse	(2) Skewness Neutral	(3) Skewness seeker	(3)- (1)
Scurrent & Icurrent	60.38	64.55	63.50	3.12
Sprobabilistic & Iprobabilistic	50.91	54.64	57.94	7.03
Sillustrative & Ipast3	55.10	46.53	53.12	-1.98
Sillustrative & Ipast2	56.29	48.19	52.07	-4.22
Sprobabilistic & Ipast3	61.97	50.55	56.25	-5.72
Sprobabilistic & Ipast2	53.33	52.04	50.37	-2.96
Sillustrative & Iprobabilistic	54.14	64.00	53.54	-0.60

6.3.2 Product identification

There are no statistically significant differences in the distribution of the correct identifications for QT1.2 to QT1.4 in terms of the KID version. It is in general difficult for the participants to identify the product with more unpredictable results. Less than half of the respondents have been able to identify this product properly. The higher level of correct identifications (47%-48%) for these questions is achieved when IBIP is presented using the probabilistic approach version.

Table 63. Identification of the product with more unpredictable returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.2. In your opinion which of these products has more unpredictable returns at the end of the recommended holding period? By "more unpredictable returns", we mean that the money you could earn by investing in this product is more uncertain.</i>				
QT1.2	Scurrent & Icurrent	43.60	45.07	11.33
	Sprobabilistic & Iprobabilistic	46.91	44.33	8.76
	Sillustrative & Ipast3	44.95	44.41	10.64
	Sillustrative & Ipast2	45.07	45.07	9.86
	Sprobabilistic & Ipast3	43.77	45.36	10.88
	Sprobabilistic & Ipast2	40.99	48.56	10.44
	Sillustrative & Iprobabilistic	48.33	42.22	9.44
<i>P-values lower than 0.05: None</i>				

Between 35% and 41% of the participants properly identified the product with higher expected return. Although the differences are small and not statistically significant, the worst results are achieved with the current version of the KID, and the best ones with the probabilistic approach versions with no past performance.

Table 64. Identification of the product with higher expected returns (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.3. In your opinion, with which of these products could your expected return be higher at the end of the recommended holding period? By "expected return", we mean the return one could achieve by investing in this product.</i>				
QT1.3	Scurrent & Icurrent	34.73	51.97	13.30
	Sprobabilistic & Iprobabilistic	41.24	46.65	12.11
	Sillustrative & Ipast3	35.90	51.60	12.50
	Sillustrative & Ipast2	39.72	50.99	9.30
	Sprobabilistic & Ipast3	36.87	49.87	13.26
	Sprobabilistic & Ipast2	39.95	49.61	10.44
	Sillustrative & Iprobabilistic	40.56	48.89	10.56
<i>P-values lower than 0.05: None</i>				

Participants in the test seem to face some difficulties to identify products in terms of their guaranteed conditions. Less than one fourth (20%-26%) of them are able to identify the product with a positive return. The percentage of participants able to identify the products that guarantee getting back the invested money are slightly higher (around one third).

Table 65. Identification of the product guaranteeing specific conditions (% of participants and p-value)

Question	KID version	Correct	Incorrect	Not clear
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get</i>				
<i>QT1.4a. a positive return at the end of the recommended holding period (that is, an amount in addition to what you invested)</i>				
QT1.4a	Scurrent & Icurrent	19.46	70.44	10.10
	Sprobabilistic & Iprobabilistic	25.52	64.43	10.05
	Sillustrative & Ipast3	21.54	68.09	10.37
	Sillustrative & Ipast2	22.82	67.89	9.30
	Sprobabilistic & Ipast3	24.14	64.19	11.67
	Sprobabilistic & Ipast2	25.33	65.80	8.88
	Sillustrative & Iprobabilistic	23.33	68.89	7.78
<i>P-values lower than 0.05: None</i>				
<i>QT1.4b. back the money you invested at the end of the recommended holding period</i>				
QT1.4b	Scurrent & Icurrent	36.70	53.20	10.10
	Sprobabilistic & Iprobabilistic	35.31	56.19	8.51
	Sillustrative & Ipast3	35.37	52.93	11.70
	Sillustrative & Ipast2	37.18	53.52	9.30
	Sprobabilistic & Ipast3	38.20	49.34	12.47
	Sprobabilistic & Ipast2	39.16	50.39	10.44
	Sillustrative & Iprobabilistic	35.00	57.50	7.50
<i>P-values lower than 0.05: None</i>				

7. Main findings of the consumer test and conclusions

This final chapter presents the main findings of the consumer test of investment product selection and understanding of information provided. It also answers the three key research questions of this project.

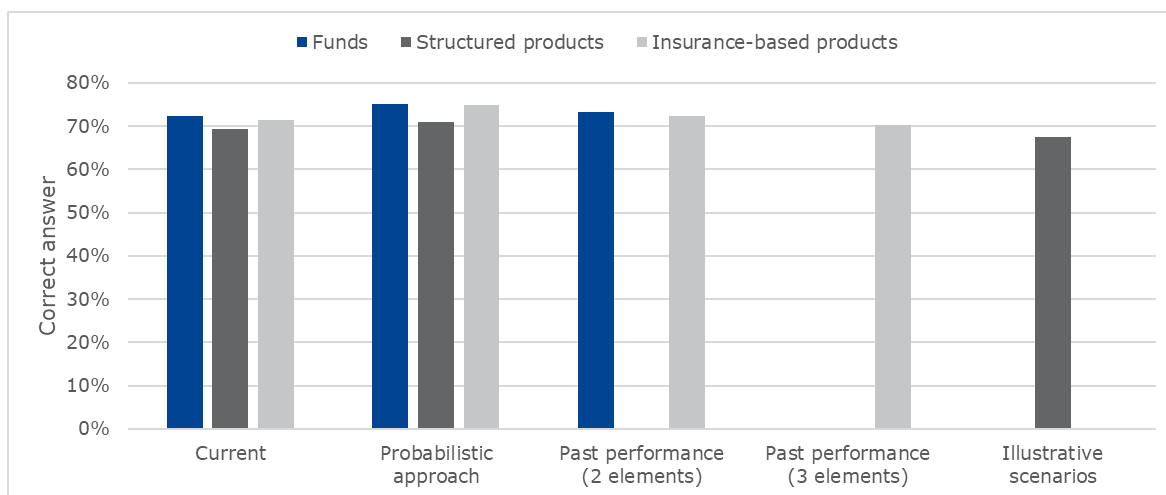
- Does the probabilistic approach version of the KID perform better than the current version of the KID? (Section 7.1)?
- Is it helpful to include past performance in the KID for funds and insurance products? (Section 7.2)?
- Is it helpful to include illustrative scenarios in the KID for structured products? (Section 7.3)?

Before entering into a detailed discussion of the impact of the different versions of the KID, it is worth noting that the consumers who participated in the test generally made good investment decisions. Specifically, more than two thirds of participants selected the optimal investment product from pairs of products of the same type¹². This result holds for all types of products and versions of the KID. Investment decisions were slightly better for funds (72–75% of participants selected the optimal fund) and IBIPs

¹² When participants were asked to select an investment product from a pair of products of different types, it was not possible to identify the optimal selection.

(71–75%) than for structured products (68–71%). Figure 20 shows the percentage of correct selections of investment products by KID and type of product.

Figure 20. Selection of the optimal investment product by KID and type of product



Despite the high percentage of optimal investment decisions, the participants seemed to struggle to select a product based on specific features or to answer the understandability questions correctly. For all KID versions and product types, with few exceptions, less than half of the respondents were able to select the product with the most unpredictable returns, with the highest expected returns or with a guarantee of a positive return or a guarantee that investors would get their money back. This low proportion of correct selection was observed when comparing products of the same type and products of two different types. Moreover, with just a few exceptions, less than half of the participants correctly answered the understandability questions.

7.1 Impact of the probabilistic approach (funds, structured products and IBIPs)

The probabilistic approach assessed in this consumer test consisted of:

- eliminating the information on the performance of the product at *intermediate periods* as appropriate (1 year and half the recommended holding period), as presented in the current version of the KIDs;
- adding *probabilistic information* on the likelihood of three performance scenarios at the end of the recommended holding period (unfavourable, moderate and favourable);
- replacing the stress scenario with a minimum scenario.

All alternatives to the current version of the KID included the three changes described in these points. The difference between the probabilistic approach version and the other tested versions (past performance and illustrative scenarios) is that the past performance version and the illustrative scenario version combined these changes with additional information on past performance and illustrative scenarios, respectively.

7.1.1 Selection and identification of financial products

Selection of an investment product

Presenting the information using the current version or the probabilistic approach version of the KID had no statistically significant impact on the selection of investment products of the same type. Thus, consumer investment decisions were essentially the same when the current KID was shown using either of these two versions.

Although it is not possible to identify an objectively optimal investment decision when products of different types are compared, we can assess how the inclusion of probabilistic information affects the correlations between the features of the selected product (volatility, probability of loss and skewness) and consumer preferences (risk attitude, loss aversion and skewness preferences). Although this analysis reveals no general trends regarding the impact of including probabilistic information, some specific findings should be highlighted. As discussed in Chapter 6, when the probabilistic approach version of the KID (including no additional information on past performance or illustrative scenarios) was applied to funds and structured products, risk aversion was positively correlated with the selection of more volatile investment products. Hence, for funds and structured products, the probabilistic approach version seems to make the selection of the investment product according to its volatility more difficult than the current version does. This is not the case for the selection of IBIPs. On the other hand, probabilistic information seems to aid the understanding of the probability of losses when comparing funds with IBIPs and structured products with IBIPs. In these cases, the inclusion of probabilistic information seems to improve investment decisions in terms of loss aversion, because this approach was observed to reduce the percentage of loss-averse consumers who selected the product with the higher loss probability. No clear conclusion can be reached regarding the impact of skewness preferences.

Identification of a financial product based on its features

In some cases, the application of the probabilistic approach version of the KID improved product identification based on specific features. These results are observed when comparing products of the same type or of different types. Probabilistic information had no negative impact on the proportion of participants who correctly identified a product. Additionally, probabilistic information helped consumers identify the product with the most unpredictable returns when comparing a fund and an IBIP (Table 57) and the product with the highest expected returns when comparing two IBIPs (Table 44).

It is worth noting that the probabilistic approach version of the KID introduced information on the minimum performance scenario, which is not present in the current version of the KID¹³. The level of understanding of this information can be assessed through consumers' identification of products based on the guaranteed returns at the end of the holding period (Table 66). The table shows that the inclusion of the minimum scenario improved the identification of financial products in terms of their guaranteed returns¹⁴.

¹³ The current version of the KID does not include the minimum scenario in the table of performance scenarios. However, for IBIPs only, the current version of the KID includes a minimum guaranteed return in the description of the features of the financial product. Note that the minimum scenario is introduced together with the information on the likelihood of the unfavourable, moderate and favourable scenarios. Therefore, from a statistical viewpoint, it is impossible to isolate a specific piece of information of the alternative KID version after a change in consumers' product selections.

¹⁴ Although not statistically significant, the only case where the probabilistic approach version reduced the accuracy of the product selection in the table was that of the IBIPs. As highlighted in a previous footnote, IBIPs are the only products for which the current KID version provides information on guaranteed return.

Table 66. Impact of the probabilistic approach version on product identification in terms of guaranteed returns at the end of the holding period*

Question	Type of product	(1) % of correct answers with the current KID	(2) % of correct answers with the probabilistic approach KID	Percentage point difference in the % of correct answers with each version (2) - (1)
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion, with which product are you guaranteed that you get...</i>				
<i>QT1.4a. ...a positive return at the end of the recommended holding period (i.e. an amount in addition to what you invested)?</i>				
QT1.4a	Funds	23.75	30.94	7.19
	Structured products	25.06	27.47	2.41
	IBIPs	22.71	28.23	5.52
<i>QT1.4b. ...back the money you invested at the end of the recommended holding period?</i>				
QT1.4b	Funds	23.99	32.31	8.32
	Structured products	24.07	27.28	3.21
	IBIPs	42.25	40.45	-1.8

*Bold numbers for statistically significant differences with p -value < 0.05 .

As presented at the beginning of Chapter 5, the analysis covered two aggregate variables summarising consumers' product identification when comparing products of the same type.

- *Accuracy of answers* refers to the proportion of items in Task 1 for which the consumer identified the correct financial product. This aggregate variable took values between 0 (if all identifications were wrong) and 1 (if all identifications were correct).
- *Clarity of information* refers to the proportion of items in Task 1 for which the consumer found the provided information to be clear enough to identify a financial product. This aggregate variable took values between 0 (if the information was clear in no questions) and 1 (if the information was clear in all questions). Clarity does not imply that consumers could correctly identify a product, but that they were confident enough with the information provided to identify a product.

Table 67 summarises the estimated coefficients of the models to assess the impact of the alternative versions of the KID on both aggregate variables (see Chapter 5 for details of the specification and a list of control variables in the models). The sign of the coefficients indicates whether a given alternative version of the KID improved (positive sign) or worsened (negative sign) the Accuracy of answers and the Clarity of information. Table 67 shows that the only statistically significant impact of an alternative version of the KID was the probabilistic version when comparing two IBIPs. In this case, the probabilistic approach improved the Accuracy of answers. Conversely, the inclusion of probabilistic information reduced the of the information when comparing two funds, although it had no negative impact on the accuracy of answers.

Table 67. Estimated coefficients of the models for product identification*

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
KID: Fprobabilistic	0.011	0.01	0.281	-0.035	0.009	0.000
KID: Fpast	-0.017	0.01	0.095	-0.023	0.009	0.013
KID: Sprprobabilistic	0.004	0.01	0.695	-0.014	0.009	0.121
KID: Sillustrative	0.009	0.01	0.395	-0.001	0.009	0.938
KID: Iprobabilistic	0.026	0.011	0.017	-0.013	0.01	0.182
KID: Ipast3	-0.007	0.011	0.530	-0.006	0.01	0.514
KID: Ipast2	0.007	0.011	0.519	-0.006	0.01	0.505

*Bold numbers for statistically significant coefficients with p -value < 0.05. The values in the table were obtained from ANOVA model estimation using accuracy of answers and Clarity of information as dependent variables and version of the KID and consumer profile (age, gender, education level and country of origin) as independent variables.

7.1.2 Understandability questions

The impact of the probabilistic information on the understandability questions was greater than the impact on product selection.

One of the key changes with respect to the current version of the KID is the inclusion of probabilistic information on the likelihood of the unfavourable, moderate and favourable performance scenarios at the end of the holding period. A clear way to assess the level of understanding of this new information is the analysis of the understandability questions about the number of times out of 100 that the value of the investment will be below the unfavourable scenario and above the favourable scenario, respectively. However, consumers' answers to both questions (shown in Table 68) should be considered with caution for certain reasons.

- The current version of the KID does not include the probabilistic information required to answer these two understandability questions properly. In fact, the most accurate answer with the current KID is that the information provided is not clear enough to answer these questions. Thus, the correct number of times that the final investment is above or below each scenario can be identified only by chance or inference. These random correct answers should be taken as a baseline in this analysis. The impact of the probabilistic approach is therefore given by the difference between the proportion of participants who answered correctly when the probabilistic information was presented and the proportion of random correct answers when the required information was unavailable (current KID version). This difference is shown in the last column of Table 68. The percentage of random answers varied from 9% to 14%, depending on the type of product.
- The probabilistic approach version of the KID provides information on the number of times out of 100 that the final investment will be below the unfavourable, moderate and favourable scenarios. The first question is worded in the same way as the information in the KID appears (number of times *below* the unfavourable scenario). In contrast, the second question is worded in the opposite way (number of times *above* the favourable scenario). Therefore, even though the former question could be answered correctly just by identifying a pattern in the probabilistic information in the KID, correctly answering the latter requires additional understanding of the meaning of this probabilistic information.

Given these considerations, the differences presented in the last column of Table 68 for the second question (number of times out of 100 that the value of the investment will be above the favourable scenario) can be taken as a proxy of the proportion of participants who correctly understood the meaning of the probabilistic information. This proportion can thus be estimated as 11% for IBIPs, 9% for funds and 4% for structured products. Finally, both the proportion of correct answers and the impact of the

probabilistic information were lower for structured products, probably because of the higher cognitive load generated by the greater complexity of these products.

Table 68. Impact of the probabilistic approach on the understanding of the likelihood of the performance scenarios*

Question	Type of product	(1) % of correct answers with the current KID	(2) % of correct answers with the probabilistic approach KID	Percentage point difference in the % of correct answers with each version (2) – (1)
QT2.1. Imagine you invest 10,000 € in this product repeatedly at 100 independent points of time. In how many out of 100 will the value of the investment at the end of the recommended holding period be below the unfavourable scenario?				
QT2.1	Funds	11.75	28.02	16.27
	Structured products	11.23	19.22	7.99
	IBIPs	10.87	26.99	16.12
QT2.3. Imagine you invest 10,000 € in this product repeatedly at 100 independent points in time. In how many out of 100 will the value of the investment at the end of the recommended holding period be above the favourable scenario?				
QT2.3	Funds	13.71	22.92	9.21
	Structured products	8.64	12.51	3.87
	IBIPs	11.11	22.46	11.35

*Bold numbers for statistically significant differences with p-value < 0.05.

The current version of the KID includes information on the stress scenario, which is not included in the probabilistic approach version. Removing this information seems to be supported by the small percentage of consumers who were capable of understanding this information: the understandability question for the stress scenario was correctly answered by only 26% and 29% of the participants for funds and structured products, respectively¹⁵.

The impact of the probabilistic information on the understandability questions, explained in Section 4, can be summarised by two aggregate variables.

- *Accuracy of answers* refers to the proportion of correctly answered understandability questions in Task 2. This aggregate variable took values between 0 (if all answers were wrong) and 1 (if all answers were correct).
- *Clarity of information* refers to the proportion of items in Task 2 for which the consumer found the provided information to be clear enough to answer the question. This aggregate variable took values between 0 (if the information was clear in no questions) and 1 (if the information was clear in all questions). Clarity does not imply that consumers were able to answer a question correctly, but that they were confident enough with the information to answer the question.

Table 69 presents the estimated coefficients of the models to assess the impact of the alternative KID versions on these two aggregate variables (see Chapter 4 for details of the specification and a list of control variables in the models). The sign of the coefficients indicates whether a given alternative version of the KID improved (positive sign) or worsened (negative sign) the *Accuracy of answers* and the *Clarity of information*. For ease of comprehension, statistically significant coefficients appear in bold and are represented in Figure 21.

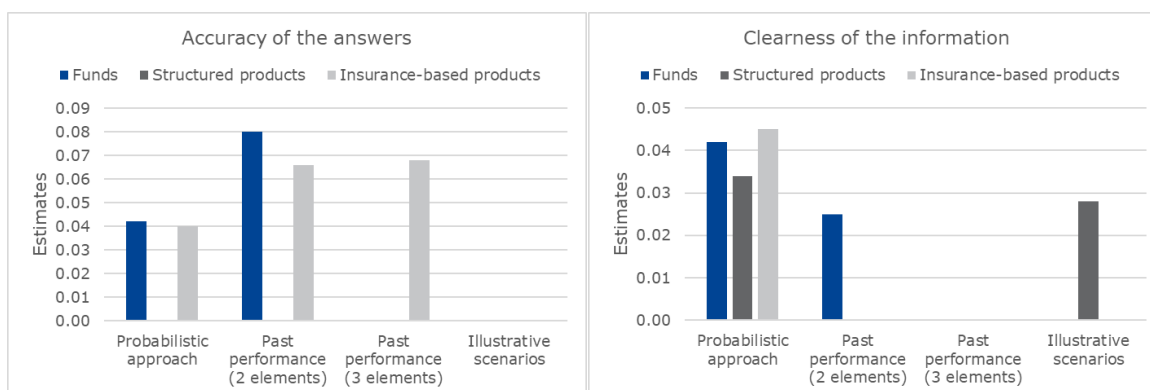
¹⁵ This question was not answered for IBIPs.

Table 69. Estimated coefficients of the models for understandability questions*

	Accuracy of answers			Clarity of information		
	Estimate	Std. Error	Pr(> t)	Estimate	Std. Error	Pr(> t)
KID: Fprobabilistic	0.042	0.009	0.000	0.042	0.011	0.000
KID: Fpast	0.080	0.009	0.000	0.025	0.011	0.028
KID: Sprobabilistic	0.006	0.007	0.382	0.034	0.011	0.002
KID: Sillustrative	0.001	0.007	0.877	0.028	0.011	0.011
KID: Iprobabilistic	0.040	0.009	0.000	0.045	0.012	0.000
KID: Ipast3	0.068	0.009	0.000	-0.008	0.012	0.545
KID: Ipast2	0.066	0.009	0.000	-0.004	0.012	0.729

*Bold numbers for statistically significant coefficients with p -value < 0.05 . The values in the table were obtained from ANOVA model estimation using accuracy of answers and Clarity of information as dependent variables and version of the KID and consumer profile (age, gender, education level and country of origin) as independent variables.

Figure 21. Estimated coefficients of models for understandability questions*



*Only statically significant coefficients (p -value < 0.05) appear in the figure. The values in the figure were obtained from ANOVA model estimation using Accuracy of answers and Clarity of information as dependent variables and version of the KID and consumer profile (age, gender, education level and country of origin) as independent variables.

As shown in Table 69, probabilistic information (with or without additional information on past performance or illustrative scenarios) generally had a positive impact on understandability for funds and IBIPs. For both types of products, all alternative scenarios that included this information increased the *Accuracy of answers* to the understandability questions. Moreover, all alternative versions of the KIDs maintained or improved the *Clarity of information* for all three types of products.

Finally, the interactions between the profile variables and the versions of the KID were not statistically significant. This result suggests that the impact of the probabilistic approach would be similar across all sociodemographic segments of consumers.

7.2 Impact of the information on past performance (funds and IBIPs)

In the consumer test, the information on past performance was not presented in isolation. All the KID versions containing past performance information also included the probabilistic information on the unfavourable, moderate and favourable performance scenarios (as in the probabilistic version of the KID). Moreover, they presented no information on the performance of the product in intermediate periods for these four scenarios (as in the current version of the KID). In the past performance version, the stress scenario was also removed, and the minimum scenario was included.

For funds, only one past performance version of the KID was considered. This version included the annual percentage of losses or gains over the last 10 years against a benchmark index. In the case of IBIPs, two different past performance versions of the

KID were tested. The first, referred to in this report as *past performance with two elements*, presented information on past performance over the last 10 years of the minimum annual bonuses and the return on government bonds. The second version, referred to in this report as *past performance with three elements*, included the performance over 10 years of the fund, the minimum annual bonuses and the government bonds as benchmarks.

7.2.1 Selection and identification of financial products

Selection of an investment product

Presenting the product information with the current version or the past performance versions of the KID had no statistically significant impact on the selection of optimal investment products of the same type.

For products of different types, the impact of the past performance information can only be assessed through the analysis of the relationship between the features of the selected product and consumer preferences. Although this analysis reveals no general trend, some specific findings should be highlighted with regard to the comparison of funds and IBIPs using past performance versions. First, the percentage of risk-averse consumers who selected the product with the higher volatility was smaller with the past performance versions (31-38%) than with the current version (49%). Moreover, when the past performance versions were used to present the features of both the fund and the IBIP, 29% to 39% of consumers with high loss aversion selected the product with the higher loss probability. When the current versions were applied, this percentage was 55%. These results suggest that the past performance versions of the KID may help consumers select funds and IBIPs according to their risk and loss preferences.

Identification of a financial product based on its features

The inclusion of information on past performance affected the identification of products based on the guaranteed performance of the investment at the end of the recommended holding period for both funds and IBIPs (Table 70). As the table shows, the percentage of correct identifications of a fund guaranteeing a positive return and ensuring that investors received their money back was higher when the past performance versions were applied. The same result holds for IBIPs. However, the impact of the past performance versions of the KID on the identification of a product in terms of its guaranteed conditions was mixed for IBIPs, since it improved the identification in terms of the guaranteed positive returns but not in terms of getting the invested money back.

Table 70. Impact of past performance versions on product identification in terms of guaranteed returns at the end of the recommended holding period*

Question	Type of product (KID version)	(1) % of correct answers with the current KID	(2) % of correct answers with the past performance KID	Percentage point difference in the % of correct answers with each version (2) – (1)
<i>QT1.4. Looking at the information sheets above for Product A and Product B, in your opinion with which product are you guaranteed that you get...</i>				
<i>QT1.4a. ...a positive return at the end of the recommended holding period (i.e. an amount in addition to what you invested)?</i>				
QT1.4a	Funds (past performance)	23.75	30.64	6.89
	IBIPs (past performance with 2 elements)	22.71	32.21	9.5
	IBIPs (past performance with 3 elements)	22.71	29.86	7.15
<i>QT1.4b. ...back the money you invested at the end of the recommended holding period?</i>				
QT1.4b	Funds (past performance)	23.99	29.83	5.84
	IBIPs (past performance with 2 elements)	42.25	37.09	-5.16
	IBIPs (past performance with 3 elements)	42.25	35.93	-6.32

*Bold numbers for statistically significant differences with p-value < 0.05.

Finally, for the specific case of IBIPs, the inclusion of past performance information with three elements reduced the percentage of consumers who identified the optimal investment product by 4.5 percentage points with respect to the percentage when the probabilistic approach version was applied. Similar reductions can be observed for the identification of the product with the highest expected returns (5.3 percentage points) and the product guaranteeing investors their money back (4.5 percentage points).

7.2.2 Understandability questions

The test included specific questions to be asked for each past performance version. The responses to these questions (Table 71) show that participants used past information with caution and, therefore, the presentation of past and future information together does not seem to raise issues. Around two thirds of the respondents considered that it is not possible to predict the likelihood of future returns accurately because the future may differ from the past (66% for funds; 63% - 64% for IBIPs when past performance information was presented with two and three elements, respectively).

Table 71. Understandability of past performance information

Question	Funds (past performance)	IBIPs (past performance with 2 elements)	IBIPs (past performance with 3 elements)
<i>QT2.8/9/10. Please indicate whether the following statements are true or false:</i>			
<i>Since the product has experienced a positive return in [number of years with positive return] out of the last 10 years there is an above average chance I will make money if I invest.</i>			
% of correct answers	31.78	29.05	26.83
<i>The performance of the product at the end of the year is more likely to be [return % for 2018] (i.e. the performance in 2018) than [return % for 2013] (i.e. the performance in 2013).</i>			
% of correct answers	24.93	23.56	22.55
<i>It is not possible to accurately predict the likelihood of future returns as the future can be different to the past</i>			
% of correct answers	65.94	63.80	62.97

Despite this result, participants nonetheless made connections between the past performance and potential future returns, as shown in Table 71. Less than one third of consumers in the test answered correctly when asked about the relevance of the past performance when assessing potential future returns.

The past performance version also included information on the likelihood of the unfavourable, moderate and favourable scenarios. As shown in Table 72, the inclusion of the past performance information did not harm consumers' understanding of the probabilistic information. This conclusion is deduced from the comparison with Table 68, which presents similar differences in the percentage of correct answers with respect to the current KID version.

Table 72. Impact of the past performance KID version on understanding of the likelihood of performance scenarios*

Question	Type of product (KID version)	(1) % of correct answers with the current KID	(2) % of correct answers with the past performance KID	Percentage point difference in the % of correct answers with each version (2) – (1)
<i>QT2.1. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be below the unfavourable scenario?</i>				
QT2.1	Funds (past performance)	11.75	27.35	15.6
	IBIPs (past performance with 2 elements)	10.87	26.17	15.3
	IBIPs (past information with 3 elements)	10.87	26.34	15.47
<i>QT2.3. Imagine you invest 10,000 € in this product repeatedly at 100 independent points of time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be above the favourable scenario?</i>				
QT2.3	Funds (past performance)	13.71	22.65	8.94
	IBIPs (past performance with 2 elements)	11.11	23.01	11.9
	IBIPs (past performance with 3 elements)	11.11	23.52	12.41

*Bold numbers for statistically significant differences with p-value < 0.05.

The impact of the past performance version of the KID on the understandability questions can be analysed using Table 69. This table presents the estimated coefficients of the models to assess the impact of all alternative KID versions on the aggregate variables *Accuracy of answers* and *Clarity of information*. The sign of the coefficient indicates whether a given alternative version of the KID improved (positive sign) or worsened (negative sign) the accuracy of answers and the clarity of information. As shown in Table 69, the past performance version statistically significantly improved both accuracy and clarity with respect to the current version of the KID.

7.3 Impact of the illustrative scenarios (structured products)

The illustrative scenario version of the KID also included probabilistic information on the unfavourable, moderate and favourable performance scenarios (as in the probabilistic version of the KID) and presented no information on the performance of the product in intermediate periods for these four scenarios (as in the current version of the KID). In the illustrative scenario version of the KID, the stress scenario was replaced by the minimum scenario, as in all other alternatives to the current KID.

As a general conclusion, given the greater complexity of structured products, the inclusion of the additional information on illustrative scenarios did not seem to be processed or used by the consumers when dealing with these structured products.

7.3.1 Selection and identification of financial products

Selection of an investment product

As shown in Figure 20, the percentage of consumers who selected the optimal structured product for investment (68-71%) was slightly (although not statistically significantly) lower with the illustrative scenario version than the percentage with the current or probabilistic versions of the KID. No general trends were observed regarding the impact of the illustrative scenario version on the selection between a structured product and a fund or IBIP.

Identification of a financial product in terms of its features

As shown in Table 67, when the current and illustrative scenario versions of the KID were applied, there were no statistically significant differences in the aggregate variables *Accuracy of answers* and *Clarity of information* in the product identification questions. This result is because of the lack of identification differences between the two versions of the KID in all individual items in Task 1 (product selection and identification). In fact, just a small difference was detected in the percentage of participants who identified the structured product that guaranteed they would get their money back (24% of correct identifications with the current version versus 29% of correct identifications with the illustrative scenario version).

7.3.2 Understandability questions

Figure 21 shows that the illustrative scenario version of the KID had no statistically significant impact on the Accuracy of answers to the understandability questions overall. The only items for which the percentage of correct answers was statistically significantly higher with the illustrative scenario version of the KID than with the current version of the KID were the questions on the likelihood of the performance scenarios (Table 73). Since the illustrative scenario version of the KID also included probabilistic information, the improvement in these answers may be attributed to the inclusion of the probabilistic information and not the illustrative scenarios.

Table 73. Impact of the illustrative scenario version of the KID on the understanding of the likelihood of the performance scenarios*

Question	Type of product	(1) % of correct answers with the current KID	(2) % of correct answers with the illustrative scenarios KID	Percentage point difference in the % of correct answers with each version (2) – (1)
<i>QT2.1. Imagine you invest 10.000 € in this product repeatedly at 100 independent points in time. In how many out of 100 times will the value of the investment at the end of the recommended holding period be below the unfavourable scenario?</i>				
QT2.1	Structured products	11.23	17.49	6.26
<i>QT2.3. Imagine you invest 10.000 € in this product repeatedly at 100 independent points of time. In how many times out of 100 times will the value of the investment at the end of the recommended holding period be above the favourable scenario?</i>				
QT2.3	Structured products	8.64	14.06	5.42

*Bold numbers for statistically significant differences with p -value < 0.05.

7.4 Conclusions

Although the results of this consumer test suggest that the final investment decision is not affected by the version of the KID, the results show that the design of the KID can play an important role in aiding consumers' understanding of the features of the retail investment products and in contributing to better informed financial decision-making.

The consumer test implemented in this project has certain limitations. Most are associated with the complexity of the setup and questionnaire. This complexity was required to cover all potential versions of the KID and products and to check the understandability of the specific financial features of each product. Despite these limitations, the test provides empirical evidence to answer the three research questions presented at the beginning of this section. The key findings in relation to these questions are now summarised.

Question 1. *Does the probabilistic approach version of the KID perform better than the current version of the KID?*

Although only a small segment of consumers seemed to understand the probabilistic information on the likelihood of different scenarios, the inclusion of this information in the KID increased the percentage of correct answers to relevant questions on product identification. Therefore, it may be beneficial to incorporate in the KID features from the probabilistic approach. However, because the percentage of consumers who seemed to understand the probabilistic information presented in the KID was small, it may be advisable to consider alternative ways of framing this probabilistic information.

Question 2. *Is it helpful to add information on the past performance of funds and insurance products?*

The application of the past performance version of the KID, which also included probabilistic information, improved the Accuracy of answers in the consumer test when the current version of the KID was applied. Moreover, participants seemed to distinguish between past and future performance of the products and understand that future performance cannot be accurately predicted by information on the past. However, the impact of past performance was not tested independently of the probabilistic information, which makes it difficult to discriminate between the relative contribution of each type of information. The test provides evidence that the inclusion of past performance information has no negative effect regarding funds and, when the simpler

(two-element) version is considered, regarding IBIPs. However, the addition of more complex past performance information (i.e. past performance with three elements for IBIPs) may have negative implications, probably because of the increase in the cognitive load placed on respondents.

Question 3. *Is it helpful to add illustrative scenarios for structured products?*

The test provides no significant evidence to support the inclusion of illustrative scenarios. Despite some improvements in consumers' understanding of product features when applying the illustrative scenario version of the KID, these improvements could reasonably be attributed to the probabilistic information also included in this version of the KID.

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